FINAL

Remedial Investigation Report

ZZ007, TU008, and TU009 at Schenectady Air National Guard Base
Scotia, New York

National Guard Bureau,
Logistics and Installations Directorate, Operations Division,
Restoration Branch
NGB/A4OR

Compliance Restoration Program
Project No. ANG2015NEWENGLAND

Contract No. W9133L-14-D-0008, DO 0005

June 2017

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SCOTIA, NEW YORK

Prepared for:

National Guard Bureau,
Logistics and Installations Directorate,
Operations Division, Restoration Branch
NGB/A4OR

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Contract Number W9133L-14-D-0008, Delivery Order 0005

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LIST OF ACRONYMS

ºF	degrees Fahrenheit
ºC	degrees Celsius
%	percent
%R	percent recovery
µg/L	microgram per liter
95UCL	95th percentile upper confidence limit
AFCEC	Air Force Civil Engineer Center
amsl	above mean sea level
Aneptek	Aneptek Corporation
ANG	Air National Guard
ANGB	Air National Guard Base
ARAR	Applicable or Relevant and Appropriate Requirement
ASL	above screening level
ATSDR	Agency for Toxic Substances and Disease Registry
BBV	below background value
BEM Systems	Balanced Environmental Management Systems
bgs	below ground surface
BHHRA	baseline human health risk assessment
BSL	below screening level
BTOC	below top of casing
CAS	Chemical Abstracts Services
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
cm^2	square centimeter
COC	chemical of concern
COPC	chemical of potential concern
CP	Commissioner Policy
CRP	Compliance Restoration Program
CSF	cancer slope factor
CVOC	chlorinated volatile organic compound
DD	Decision Document

LIST OF ACRONYMS (CONTINUED)

DERP	Defense Environmental Restoration Program
DGM	digital geophysical mapping
DO	delivery order
DoD	Department of Defense
DOT	Department of Transportation
DPT	direct push technology
ECL	Environmental Conservation Law
EDD	electronic data deliverable
Eh	redox potential
ELAP	Environmental Laboratory Accreditation Program
EOS	Edible Oil Substrate
EPC	exposure point concentration
ERPIMS	Environmental Resources Program Information Management System
EVO	emulsified vegetable oil
FER	Final Engineering Report
FS	Feasibility Study
ft	feet
HEAST	Health Effects Assessment Summary Tables
HI	hazard index
HSA	hollow stem auger
ID	identification
IDW	investigation-derived waste
IRA	Interim Remedial Action
IRIS	Integrated Risk Information System
IRP	Installation Restoration Program
IS	internal standard
ISCO	in situ chemical oxidation
IUR	inhalation unit risk
L	liter
LCS	laboratory control sample
LCSD	laboratory control sample duplicate
LOD	limit of detection

LIST OF ACRONYMS (CONTINUED)

LOQ	limit of quantitation
LTM	Long-Term Management
LUC	land use control
MCL	Maximum Contaminant Level
mg/kg	milligram per kilogram
MNA	Monitored Natural Attenuation
MS	matrix spike
MSD	matrix spike duplicate
MW	monitoring well
NCP	National Oil and Hazardous Substances Pollution Contingency Plan
NFA	No Further Action
NFRAP	No Further Response Action Planned
NGB	National Guard Bureau
NGB/A4OR	National Guard Bureau Logistics and Installations Directorate, Operations Division, Restoration Branch
NP	not published
NPDW	National Primary Drinking Water
NPDWR	National Primary Drinking Water Regulations
NPL	National Priorities List
NRCS	Natural Resources Conservation Service
NYANG	New York Air National Guard
NYCRR	New York Codes, Rules, and Regulations
NYSDEC	New York State Department of Environmental Conservation
ORP	oxidation-reduction potential
PA	Preliminary Assessment
PAL	project action limit
PCB	polychlorinated biphenyl
PID	photoionization detector
ppb	part per billion
ppm	part per million
PPRTV	Provisional Peer Reviewed Toxicity Values
PVC	polyvinyl chloride

LIST OF ACRONYMS (CONTINUED)

QA	quality assurance
QC	quality control
QSM	Quality Systems Manual
RA	Remedial Action
RA-C	Remedial Action-Construction
RAC	Remedial Action Completion
RACR	Remedial Action Completion Report
RAGS	Risk Assessment Guidance for Superfund
RA-O	Remedial Action-Operation
RC	Remedy Complete
RCRA	Resource Conservation and Recovery Act
RD	Remedial Design
RfD	reference dose
RI	Remedial Investigation
RIP	Remedy in Place
RME	reasonable maximum exposure
ROD	Record of Decision
RPD	relative percent difference
RSL	Regional Screening Level
Rural Survey	Statewide Rural Surface Soil Survey
SA	surface area
SC	Site Closeout
SCO	Soil Cleanup Objective
SDG	sample delivery group
SDWA	Safe Drinking Water Act
SI	Site Inspection
SL	screening level
SOP	standard operating procedure
SSCO	Supplemental Soil Cleanup Objective
SVOC	semivolatile organic compound
TAGM	Technical and Administrative Guidance Memorandum
TBC	To Be Considered

LIST OF ACRONYMS (CONTINUED)

TEC-Weston JV	TEC-Weston Joint Venture
TestAmerica	TestAmerica Laboratories, Inc.
THQ	target hazard quotient
TOC	top of casing
TR	target risk
TSD	Technical Support Document
UFP-QAPP	Uniform Federal Policy Quality Assurance Project Plan
USDA	United States Department of Agriculture
USEPA	United States Environmental Protection Agency
USFWS	United States Fish and Wildlife Service
UST	underground storage tank
UU/UE	unlimited use and unrestricted exposure
VOC	volatile organic compound
WWTP	Waste Water Treatment Plant
yd^3	cubic yard

EXECUTIVE SUMMARY

This Remedial Investigation (RI) Report presents the results for the RI conducted at the Schenectady Air National Guard Base (ANGB), located at the Schenectady County Airport in Scotia, New York, by the TEC-Weston Joint Venture (TEC-Weston JV). This project is contracted by National Guard Bureau, Logistics and Installations Directorate, Operations Division, Restoration Branch (NGB/A4OR) under Contract W9133L-14-D-0008, Delivery Order (DO) 0005, in support of the Compliance Restoration Program (CRP).

Site Description and Environmental Background

A Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Site Inspection (SI) was conducted in 2013 and 2014 by AECOM at six areas of concern at the Schenectady ANGB (AECOM, 2015). Based on the results of the SI, the following three potential contaminated sites were evaluated and recommended for further action:

- ZZ007: Former Building 13 Area
- TU008: Former Heating Oil Underground Storage Tank (UST) #41 at Former Building 4
- TU009: Waste Water Treatment Plant (WWTP) Bypass UST near Installation Restoration Program (IRP) Site 6

Current Remedial Investigation Activities

The National Guard Bureau (NGB) contracted an RI to be conducted at Schenectady ANGB, which is the subject of this report. Following preliminary research and development of planning documents (TEC-Weston JV, 2016), the RI field investigation was conducted from May 31 through June 8, and November 7 through 10, 2016. It included utility clearance, photoionization detector (PID) monitoring, soil sampling, monitoring well (MW) installation, MW development, MW survey, groundwater sampling, investigation-derived waste (IDW) management, data management, and document and record keeping.

Former Building 13 Area (ZZ007) Results and Conclusions

ZZ007 includes the area of Former Building 13 where hazardous materials were used and hazardous waste was generated. Former Building 13 was utilized as a maintenance facility at times

with drum storage. Building 13 was demolished in the mid-1990s, and no building has been constructed in its place. Preliminary plans to construct a building within the Former Building 13 footprint are in progress. Closure sampling documentation is not available for Former Building 13.

A limited number of groundwater sample results from a previous CERCLA SI exceeded regulatory screening levels for metals (AECOM, 2015). During the RI, seven soil (six normal samples and one duplicate sample) were collected from three boreholes and analyzed for metals. In addition, three borings were completed as temporary groundwater MWs. Three normal samples and one duplicate sample were collected from the three MWs and analyzed for metals during one sampling event.

Soil and groundwater analytical results were compared to regulatory screening levels. Soil project action limits (PALs) selected were the minimum value (i.e., most stringent) of the following:

- Unrestricted Use Soil Cleanup Objectives (SCOs) as specified in 6 New York Codes, Rules, and Regulations (NYCRR) Part 375.
- New York State Department of Environmental Conservation (NYSDEC) Commissioner Policy (CP)-51 Residential Supplemental SCOs (SSCO).
- United States Environmental Protection Agency (USEPA) May 2016 Residential Regional Screening Levels (RSLs) based on target hazard quotient (THQ) of 1 and target risk (TR) of 1E-06 were used as the PAL for analytes that do not have a published SCO.

Groundwater PALs selected were the minimum value (i.e., most stringent) of the following:

- NYSDEC Class GA (source of drinking water, groundwater) Water Quality Standards as specified in 6 NYCRR Part 703.
- USEPA National Primary Drinking Water Regulations (i.e., maximum contaminant levels [MCLs]).
- USEPA May 2016 tap water RSLs based on THQ of 1 and TR of 1E-06 were used as the PAL for analytes that do not have a published NYSDEC Water Quality Standard or MCL.

In soil collected at ZZ007 during the SI and RI, five metals (arsenic, iron, nickel, thallium, and zinc) were detected at concentrations exceeding PALs. Iron concentrations are within Eastern United States background levels. Arsenic, nickel, and zinc concentrations exceeded the NYSDEC

Unrestricted Use SCOs based on ecological resources but did not exceed Residential Use SCOs. Metals present in soil at ZZ007 are likely naturally occurring because there is no evidence of a source area or release.

In groundwater collected at ZZ007 during the RI, total metals (aluminum, arsenic, barium, beryllium, cadmium, chromium, cobalt, copper, iron, lead, magnesium, manganese, nickel, sodium, thallium, and vanadium) and dissolved metals (cobalt, magnesium, manganese, and sodium) were detected at concentrations exceeding PALs.

The results of the baseline human health risk assessment (BHHRA) indicated cancer risks and noncancer health effects for Site ZZ007 soils are below or within USEPA's respective risk management range (1E-04 to 1E-06) for cancer and below the USEPA's THQ threshold (1.0) for noncancer effects, do not pose a risk to current or future residents or commercial/industrial workers, and are suitable for unlimited use and unrestricted exposure (UU/UE).

The results of the BHHRA indicated ZZ007 groundwater noncancer health effects yielded risks above USEPA's THQ threshold (1.0) for noncancer effects for the residential and commercial/industrial worker scenarios. The hazard index risk from groundwater for the residential and industrial scenarios are 14 and 2, respectively, mainly from dissolved manganese and, to a lesser extent, dissolved cobalt. The presence of metals in groundwater, however, is not likely to be a result of a release from the Former Building 13 Area. Soil samples indicate that a source area of contamination is not present at the Former Building 13 Area. Cobalt and manganese are present in upgradient MW SC-ZZ007-MW001. Former IRP Site 2 was located in the same area as Site ZZ007 and metals were detected at similar concentrations in groundwater during the Site 2 RI. Dissolved cobalt was detected in groundwater at concentrations up to 37.5 micrograms per liter (µg/L) and dissolved manganese was detected at concentrations up to 4,820 µg/L during the Site 2 RI. Dissolved cobalt was detected in groundwater at concentrations up to 19 µg/L and dissolved manganese was detected at concentrations up to 4,700 µg/L during the ZZ007 RI.

Former Heating Oil UST #41 at Former Building 4 (TU008) Results and Conclusions

TU008 includes Former Building 4, which was a vehicle maintenance facility, and the associated UST #41, which was a 6,000-gallon heating oil tank. Building 4 was demolished in 1995. UST

#41 was likely removed at the time of building demolition; however, records of removal and/or sampling of the tank pit during removal are not available.

Grab groundwater sample results from a previous CERCLA SI exceeded regulatory screening levels for four volatile organic compounds (VOCs) (naphthalene, n-butylbenzene, sec-butylbenzene, and tert-butylbenzene) and two semivolatile organic compounds (SVOCs) [bis(2-ethylhexyl) phthalate and naphthalene] (AECOM, 2015). Detected chemicals in soil samples collected during the SI did not exceed regulatory screening levels. During the RI, nine soil (eight normal samples and one duplicate sample) were collected from four boreholes and analyzed for VOCs and SVOCs. In addition, three borings were completed as permanent groundwater MWs and one borehole was completed as a temporary groundwater MW during the first sampling event. Two borings were completed as permanent groundwater MWs during the second sampling event. Four normal samples and one duplicate sample were collected from three permanent and one temporary MW during the first sampling event and analyzed for VOCs and SVOCs. Four normal samples and one duplicate sample were collected from four permanent MWs during the second sampling event and analyzed for VOCs and SVOCs.

Acetone was the only chemical detected in soil at a concentration above the PAL. The detected concentration exceeds the NYSDEC Unrestricted Use SCO based on protection of groundwater but does not exceed the Residential Use SCO. Acetone was not detected above the PAL in the deeper soil sample collected from the same boring (SC-TU008-MW004), nor was it detected above PALs in any of the other soil samples collected from borings advanced closer to and downgradient of the footprint of the former UST. Acetone was not detected in groundwater at SC-TU008-MW004 above the groundwater PAL, indicating that acetone in soil is not impacting groundwater.

Five VOCs (2-butanone, acetone, 1,2,4-trichlorobenzene, 1,2-dichlorobenzene, and 2,4,6-trichlorophenol) were detected at concentrations exceeding PALs in groundwater at TU008. The chemicals 2-butanone and acetone were only detected above PALs at SC-TU008-MW003. SC-TU008-MW003 was a temporary MW that was not developed, the well had only a few inches of water in the column and the sample was very turbid. A second MW (SC-TU008-MW005) was installed during the second field event to obtain another groundwater sample in this area. A saturated zone was not identified, indicating that very little groundwater is present. As a result of

the poor quality of the sample and because both 2-butanone and acetone are common laboratory contaminants, these chemicals were not identified as chemicals of potential concern (COPCs).

The chemicals 1,2,4-trichlorobenzene and 1,2-dichlorobenzene were only detected in the upgradient MW (SC-TU008-MW001) during the June 2016 sampling event. The chemicals 1,2,4-trichlorobenzene and 1,2-dichlorobenzene are chemicals analyzed as part of the VOC and SVOC lists and were only detected as SVOCs at SC-TU008-MW001 at estimated concentrations. These chemicals were not detected in groundwater during the subsequent sampling event in November 2016. The chemical 2,4,6-trichlorophenol was detected at two MWs during the June 2016 event, but was not detected during the subsequent event conducted in November 2016.

The results of the BHHRA indicated cancer risks and noncancer health effects for TU008 soils and groundwater are below or within the USEPA risk management range (1E-04 to 1E-06) for cancer and below the USEPA THQ threshold (1.0) for noncancer effects. Soil and groundwater at Site TU008 do not pose a risk to current or future residents or commercial/industrial workers, and are suitable for UU/UE.

WWTP Bypass UST near IRP Site 6 (TU009) Results and Conclusion

TU009 includes a 7,000-gallon UST used by the WWTP as a bypass during 1982 and 1983. The WWTP was demolished in 2002, but the UST remains in place and is reported to be partially filled with sand. Site 6 (Suspected Spill Site), an active remediation site, is located immediately adjacent to Site TU009 and consists of an area of contaminated soil and groundwater.

Grab groundwater sample results from a previous CERCLA SI at TU009 exceeded regulatory screening levels for four SVOCs [benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, and bis(2-ethylhexyl)phthalate] and several total and dissolved metals (AECOM, 2015). Detected chemicals in soil samples collected during the SI did not exceed regulatory screening levels. During the RI, seven soil (six normal samples and one duplicate sample) were collected from three boreholes and analyzed for SVOCs and metals. In addition, one boring was completed as a permanent groundwater MW. Three normal samples and one duplicate sample were collected from the one new MW and two existing IRP Site 6 MWs and analyzed for SVOCs during one sampling event. One additional normal sample was collected from the one new MW during a second sampling event and analyzed for metals.

Arsenic, copper, iron, nickel, thallium, and zinc were detected during the SI and RI soil samples at concentrations above the PALs. Concentrations of iron are within the Eastern United States background levels for iron, suggesting that iron is naturally occurring in the soils at Site TU009. Arsenic, copper, nickel, and zinc were detected at concentrations exceeding Unrestricted Use SCOs based on ecological protection but do not exceed Residential Use SCOs. Because of the limited size and quality of vegetation, limited exposure to ecological receptors exists at TU009.

Groundwater analytical results for total metals revealed cobalt, iron, magnesium, manganese, nickel, sodium, and thallium at concentrations above the PALs. Dissolved metals sample results revealed arsenic, cobalt, iron, magnesium, manganese, nickel, and sodium at concentrations exceeding PALs.

The results of the BHHRA indicated cancer risks and noncancer health effects for TU009 soils are below the USEPA risk management range (1E-04 to 1E-06) for cancer and the USEPA THQ threshold (1.0) for noncancer effects for the commercial/industrial worker scenario. Although the cancer risks for the residential scenario were below the USEPA risk management range (1E-04 to 1E-06), noncancer health effects exceeded the USEPA THQ threshold of 1. Thallium was the only chemical of concern (COC) in soil to exceed the hazard index (HI) of 1. Thallium was only detected at one soil sampling location, SC-TU009-MW001 located to the west (crossgradient) to the WWTP Bypass UST area. Thallium was not detected in the deeper sample collected at this location. Thallium present in soil at this isolated location is not likely attributed to a release from the WWTP Bypass UST.

The results of the BHHRA indicated noncancer health effects for TU009 above the USEPA THQ threshold (1.0) for noncancer effects for the residential and commercial/industrial worker scenarios as a result of noncancer health effects from manganese. The presence of manganese in groundwater is not a result of a release from the WWTP Bypass UST area. In accordance with the Remedial Action Completion Report (RACR) for Site 6, iron and manganese are present at high concentrations in groundwater at Site 6 and adjacent Site TU009 as a result of abiotic transformation occurring because of amendments added to the groundwater as part of the Site 6 remedial actions.

Recommendations

No Further Response Action Planned (NFRAP) is recommended at Site ZZ007 based on the absence of significant COCs, the presence of metals in groundwater upgradient of the site, the perched groundwater underlying Site ZZ007 is not a source of drinking water, and current and anticipated future land use as an airport facility.

NFRAP is recommended at Site TU008 based on the absence of evidence of a release from the former UST, the fact that COPCs were not identified in soil, the fact that COPCs detected in groundwater during the first sampling event were not detected during the second sampling event, because the BBHRA did not identify unacceptable risks to residential or commercial/industrial worker receptors, current and anticipated future land use as an airport facility.

NFRAP is recommended at Site TU009 based on the absence of evidence of a release from the WWTP Bypass UST; the fact that the only COC identified in soil based on the BHHRA is thallium located crossgradient to the UST area in an isolated area; the fact that the only COC identified in groundwater is manganese, which is likely present in groundwater as a result of remedial activity at the adjacent Site 6; perched groundwater underlying Site TU009 is not a source of drinking water, and current and anticipated future land use as an airport facility.

The recommendation for NFRAP is proposed to be documented in a combined Decision Document (DD) for Sites ZZ007, TU008, and TU009.

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1. INTRODUCTION

This Remedial Investigation (RI) Report presents the results of the RI activities conducted at the Schenectady Air National Guard Base (ANGB), located at the Schenectady County Airport in Scotia, New York. The RI was conducted by the TEC-Weston Joint Venture (TEC-Weston JV) for National Guard Bureau, Logistics and Installations Directorate, Operations Division, Restoration Branch (NGB/A4OR). The RI was conducted in accordance with the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). The RI was conducted under Contract W9133L-14-D-0008, Delivery Order (DO) 0005 in support of the Compliance Restoration Program (CRP).

1.1 PROJECT SCOPE AND OBJECTIVES

All activities under this contract were conducted in accordance with the Department of Defense (DoD) Defense Environmental Restoration Program (DERP) Management Manual (DoD, 2012) and the Air National Guard (ANG) Environmental Restoration Program Investigation Guidance (ANG, 2009).

The objectives of the RI are to define the extent of contamination at the sites, quantify the risk associated with chemicals that have been released into the environment, and determine whether those risks are acceptable in accordance with CERCLA and regulations of the New York State Department of Environmental Conservation (NYSDEC). If the risks are acceptable, the RI will recommend a No Further Response Action Planned (NFRAP) decision. If the risks are not acceptable, the RI will recommend the development of remedial alternatives in a CERCLA Feasibility Study (FS).

1.2 INSTALLATION RESTORATION PROGRAM DESCRIPTION

NGB/A4OR primarily conducts environmental restoration activities in accordance with the DERP and CERCLA. NGB/A4OR may also conduct activities in accordance with Resource Conservation and Recovery Act (RCRA) and other applicable federal, state, interstate, and local requirements. In accordance with 2701(b) of Title 10 United States Code, the Installation Restoration Program (IRP) and DERP include the following:

- The identification, investigation, research and development, and cleanup of contamination from hazardous substances and pollutants or contaminants;

- The correction of other environmental damage (such as detection and disposal of unexploded ordnance), which creates an imminent and substantial endangerment to the public health or welfare or to the environment; and

- Response actions to correct this damage shall normally be conducted in accordance with CERCLA, National Oil and Hazardous Substances Pollution Contingency Plan (NCP), and Executive Order 12580, Superfund Implementation, January 23, 1987, as amended.

Specific DERP regulations are documented in the DERP Manual (DoD, 2012). The primary phases of the IRP process are as follows:

- **Site Discovery** – NGB/A4OR will perform record searches and visual inspections to determine which candidate sites warrant further investigation.

- **Preliminary Assessment (PA)/Site Inspection (SI)** – During the PA, NGB/A4OR will review existing information and off- or on-site reconnaissance, as appropriate, to determine whether a hazardous substance or pollutant or contaminant release requires additional investigation or action. NGB/A4OR will augment the data collected in the PA with an on-site investigation during the SI. The SI will typically involve sampling environmental media and collecting and analyzing other data to determine the need for further action.

- **RI/FS** – During the RI/FS, NGB/A4OR will characterize the site and evaluate various alternatives for remediation of the site. Once NGB/A4OR initiates the FS phase, the site will continue through the selection of the remedial option, the development of a Proposed Plan, and the signing of the Decision Document (DD).

- **Remedial Design (RD)** – During the RD, NGB/A4OR will develop the design plans and specifications of the selected alternative. The RD may include a Land Use Control (LUC) implementation plan, if such LUCs are a required element of the selected remedial action (RA).

- **RA** – During the RA, NGB/A4OR will incorporate a Remedial Action-Construction (RA-C) phase in which the infrastructure for the RA is constructed on-site and tested. Once the infrastructure is on-site and working, the Remedy in Place (RIP) milestone is reached. For remedies that include long-term actions, RIP will be followed by Remedial Action-Operation (RA-O) in which NGB/A4OR will operate, maintain, and monitor actions for the remediation system and site, including Monitored Natural Attenuation (MNA), until remedial action objectives in the DD are achieved, known as Remedy Complete (RC). For sites that are not on the National Priorities List (NPL), NGB/A4OR will formally document achieving the RC milestone at non-NPL sites and will seek written regulatory agreement for its RC determinations.

- **Long-Term Management (LTM)** – If an LTM phase is required, NGB/A4OR will monitor the long-term protectiveness of the remedy following RC. The LTM phase is required when the remedial action objectives do not allow unrestricted use of the property. Actions during this phase may involve monitoring site conditions, implementing and managing LUCs, and performing five-year reviews.

- **Site Closeout (SC)** – At the completion of the RC or LTM phase, NGB/A4OR will complete SC, which will include the removal of infrastructure for the RA/LTM phases and the return of the property to its most beneficial use.

Contract W9133L-14-D-0008, DO 0005 includes the RI/FS phase detailed above. Subsequent phases of the IRP process would be covered under separate contracts.

1.3 GENERAL INVESTIGATION APPROACH

TEC-Weston JV conducted the RI (including baseline human health and ecological evaluation) in accordance with applicable DERP, CERCLA, NCP, RCRA, and ANG Environmental Restoration Program Investigation Guidance and additional supplemental A4OR guidance. In addition, this RI was conducted with guidance and input from the NYSDEC.

The activities performed to accomplish the RI at Sites ZZ007, TU008, and TU009 were conducted in accordance with the *Final Remedial Investigation Work Plan, Uniform Federal Policy Quality Assurance Project Plan (UFP-QAPP), ZZ007, TU008, and TU009 at Schenectady Air National Guard Base, Scotia, New York* (TEC-Weston JV, 2016).

1.4 RI REPORT STRUCTURE

The remainder of this RI report is divided into the following sections:

- **Section 2, Installation Background** provides the installation description, site descriptions, and previous investigations conducted at the sites.
- **Section 3, Environmental Setting** provides a summary of the regional climate as well as regional and local topography, geology, soils, surface water hydrology, hydrogeology, critical habitat, and threatened and endangered species within the study area.
- **Section 4, Field Program Methods** presents the site-specific media sampling and analytical program conducted for the project.
- **Section 5, Investigation Findings** presents the nature and extent of contamination from the RI field events.
- **Section 6, Applicable or Relevant and Appropriate Requirement**s (ARARs) introduces the ARARs and To Be Considered (TBC) criteria.
- **Section 7, Contaminant Fate and Transport** presents the potential routes of migration, environmental fate, and rate of migration.

- **Section 8, Risk Assessment** presents the methodology and approach used to conduct the human health and ecological risk assessment.

- **Section 9, Conclusions** summarizes the conclusions of the investigation findings and human health and ecological risk assessment.

- **Section 10, Recommendations** presents recommendations for each site, which will consist of either an FS if risks are unacceptable, or a NFRAP DD.

- **Section 11, References** presents the list of references for documents cited in this report.

2. INSTALLATION BACKGROUND

2.1 INSTALLATION DESCRIPTION

Schenectady ANGB is located at the Schenectady County Airport in Scotia, New York, approximately 2 miles northeast of Scotia and 3 miles north of Schenectady, New York (**Figure 2-1**). The ANGB occupies 124 acres in the southeast portion of Schenectady County Airport and is separated into two sections: New York Air National Guard (NYANG) Main Parcel and NYANG South Parcel (ANG, 2006). The ANG is a tenant (by lease agreement) of the County of Schenectady and is responsible only for the operation and maintenance of the ANGB.

2.2 INSTALLATION HISTORY

Schenectady ANGB began operating at the Schenectady County Airport in 1948 as the 109th Fighter Squadron. The organization was converted to a transport group during 1958 and was activated to full-time status in 1961, flying regular missions to Southeast Asia in support of active duty forces in Vietnam. The 109th Airlift Group received its first C-130s during 1971 and began supporting scientific research programs in 1975. In 1988, they began augmenting the U.S. Navy's support of the U.S. Antarctic Program by supporting operations at the McMurdo and Palmer stations, Antarctica, as well as at other research stations located in Antarctica and Greenland (ECATS, 2003; Hueber et al., 1997, as cited in AECOM, 2015). In 1996, the 109th Airlift Group was re-assigned as an Airlift Wing (ECATS, 2003, as cited in AECOM, 2015).

The main purpose of Schenectady ANGB is to provide organizational and maintenance support to the 109th Airlift Wing, which flies C-130H and ski-equipped LC-130H aircraft to support the Air Mobility Command and polar airlift missions. The major support operations include aircraft fueling, aircraft deicing, aircraft maintenance, aerospace ground equipment maintenance, ground vehicle maintenance, fueling of ground vehicles, and facilities maintenance (ANG, 2006).

The facility also provides general airlift support throughout the ANGB and Air Mobility Command passenger/cargo systems. The unit services other polar customers, such as the North American Aerospace Defense and the Navy, in addition to polar rescue operations. The unit also has a mission to assist New York State in the event of disaster emergencies and civil disturbances. Currently, there are approximately 468 full-time personnel at Schenectady ANGB and approximately 703 part-time personnel (ANG, 2014).

In 2012, ANG began an environmental CRP that initiated revisiting ANG installations, evaluating records for areas that were previously excluded from the original Environmental Restoration Program to ensure that all potential environmental sites at the facility had been properly addressed. PA activities were conducted at Schenectady ANGB on November 12, 2013 at six areas of concern. The project objective was to determine the presence or absence of contamination and either (1) obtain a NFRAP decision for the areas of concern at Schenectady ANGB with regulatory concurrence from the NYSDEC; or (2) identify the data quality objectives required for conducting a follow-on RI at the areas of concern that did not meet the criteria for No Further Action (NFA).

Based on recommendations from previous investigations and the PA, additional SI activities were not warranted for one area of concern, and SI activities, including soil and groundwater sampling, were conducted in 2014 for the five remaining areas of concern. Based on the results of the SI, the following three sites, which are the subject of this RI, were recommended for further action:

- ZZ007: Former Building 13 Area
- TU008: Former Heating Oil Underground Storage Tank (UST) #41 at Former Building 4
- TU009: Waste Water Treatment Plant (WWTP) Bypass UST near IRP Site 6

2.3 SITE DESCRIPTIONS

2.3.1 ZZ007 – Former Building 13 Area

ZZ007 includes the area of Former Building 13 where hazardous materials were used and hazardous waste was generated (**Figure 2-2**). Former Building 13 was utilized as a maintenance facility at times with drum storage. Building 13 was demolished in the mid-1990s, and no building has been constructed in its place (AECOM, 2015). Preliminary plans to construct a building within the Former Building 13 footprint are in progress. Closure sampling documentation is not available for Former Building 13 (BB&E, 2011). Former Building 13 was located near the current Building 12.

2.3.2 TU008 - Former Heating Oil UST #41 at Former Building 4

TU008 includes Former Building 4, which was a vehicle maintenance facility, and the associated UST #41, which was a 6,000-gallon heating oil tank (**Figure 2-3**). Building 4 was demolished in 1995. UST #41 was likely removed at the time of building demolition; however, records of removal and/or sampling of the tank pit during removal are not available (AECOM, 2015).

2.3.3 TU009 - WWTP Bypass UST near IRP Site 6

TU009 includes a 7,000-gallon UST used by the WWTP as a bypass during 1982 and 1983 (**Figure 2-4**). The WWTP was demolished in 2002, but the UST remains in place and is reported to be partially filled with sand.

2.4 PREVIOUS INVESTIGATIONS

The sections below describe the previous investigations and activities conducted at or in the nearby vicinity of ZZ007, TU008 and TU009. These activities were performed to characterize the sites, and included records review, on-site reconnaissance, and soil and groundwater sampling.

2.4.1 ZZ007 – Former Building 13 Area

2.4.1.1 2013/2014 Preliminary Assessment/Site Inspection

A PA was conducted at ZZ007 by AECOM in November 2013. During the PA, sampling and closure information for ZZ007 was not identified. Soil and groundwater sampling was recommended to assess potential contamination (AECOM, 2015).

The SI was conducted in November 2014. During the SI, five soil borings (ZZ07SB01 through ZZ07SB05) were advanced at Site ZZ007 in the area of Former Building 13. The borings were advanced to refusal, which occurred between 7.5 and 9 feet (ft) below ground surface (bgs). One soil sample was collected from the dry soils above the water table interface in borings (ZZ07SB02 and ZZ07SB05) where groundwater samples were also collected. Two soil samples were collected from the remaining three borings; one from the upper portion of the borehole and one from the bottom of each boring. No visual, olfactory, or photoionization detector (PID) evidence of contamination was identified in any of the borings. All soil samples were analyzed for volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs), and metals. Twenty-three metals, 20 VOCs, and two SVOCs were detected in the samples. Detected VOCs and SVOCs did not exceed NYSDEC Unrestricted Use Soil Cleanup Objectives (SCO). Arsenic, nickel, and zinc were detected in at least one soil sample at concentrations slightly exceeding NYSDEC Unrestricted Use SCOs. The detected concentrations did not exceed NYSDEC Residential Use SCOs. Iron was detected in soil at 31,000 to 47,000 milligrams per kilogram (mg/kg), which exceeds the NYSDEC Commissioner Policy (CP)-51 Residential Supplemental SCOs (SSCO) (NYSDEC, 2010). Appendix A of the NYSDEC Technical and Administrative Guidance

Memorandum (TAGM) 4046 (NYSDEC, 1994; updated 2000) includes Eastern United States background levels for iron of 2,000 to 550,000 mg/kg. Metals may be naturally occurring in the soils because there is no evidence of a source area or release.

Groundwater was encountered at 2 to 3 ft bgs in two of the borings (ZZ07SB02 and ZZ07SB05) and was not encountered in the other three borings or the two additional offset borings. The site groundwater appeared to be perched and intermittent. Fourteen metals in both total and dissolved forms (arsenic, barium, beryllium, chromium, copper, iron, lead, magnesium, manganese, mercury, nickel, sodium, thallium, and zinc), one metal in total form only (cadmium), and one metal in dissolved form only (selenium) exceeded project action limits (PALs) in one or more samples. Groundwater samples collected were turbid. It was concluded that groundwater samples from permanent wells may have lower concentrations of metals (AECOM, 2015). Further investigation was recommended to address metals in soil and groundwater.

2.4.1.2 Site 2 Investigations

IRP Site 2 was a former drum storage area located outside the southeast wall of Building 2, between Buildings 2 and 12. Former Building 13 was located between Buildings 2 and 12 (**Figure 2-2**). Drums containing new and used solvents were stored on an earthen area at this location in the 1950s. Incidental spillage of drum contents during daily activities may have resulted in contamination of soils at this site. The entire surface area of Site 2 was paved in 1958 and is currently paved with asphalt. The area is relatively flat, with a gentle slope to the southeast (Aneptek Corporation [Aneptek], 2000).

Site 2 was identified as a potential site of concern during a PA conducted in 1988, and an SI was performed between 1991 and 1994 (BB Environmental Services, 1996). Soil and groundwater investigation activities were performed during the SI at Site 2 which included installation of soil borings and overburden groundwater monitoring wells (MW) (2MW-01 and 2MW-02) and collection of surface and subsurface soil samples and groundwater samples for analysis of VOCs, SVOCs, and metals. No VOCs were detected in the SI surface or subsurface soil samples; however, several SVOCs, were detected in surface and subsurface soil samples at concentrations exceeding the screening criteria. Inorganic compounds (beryllium, calcium, lead, magnesium, and sodium) were also detected in surface and subsurface soil samples at concentrations exceeding screening

criteria. Nickel was detected in surface soils only at concentrations exceeding screening criteria (BB Environmental Services, 1996).

No SVOCs were detected in groundwater samples collected during the SI. However, analytical results of SI groundwater samples included several VOCs and metals (iron, manganese, and nickel) at concentrations exceeding drinking water maximum contaminant levels (MCLs) (BB Environmental Services, 1996).

Based on the results of the SI, an RI was initiated at Site 2 in 1998 and completed in 2000 (Aneptek Corporation [Aneptek], 2000). RI activities at Site 2 included installation of two soil borings which were converted to permanent groundwater MWs (2MW-03 and 2MW-04). 2MW-04 was advanced upgradient of Site 2 (near the northeast corner of Building 2). 2MW-03 was advanced downgradient of Site 2 in the grassy area east of Building 12 and southeast (downgradient of Site ZZ007). 2MW-3 is identified as MWUNK in the PA/SI associated with Site ZZ007 (AECOM, 2015), and is identified as SC-ZZ007-MWUNK within the associated text and figures within this RI Report.

Two rounds of groundwater samples were collected from the Site 2 MWs (2MW-01, 2MW-02, 2MW-03 and 2MW-04) during the RI for analysis of VOCs, SVOCs, metals, total organic carbon, pesticides, polychlorinated biphenyls (PCBs), herbicides, and propylene glycol. Analytical results for SVOCs, pesticides, PCBs, herbicides and propylene glycol were all reported as not detected above the laboratory practical quantitation limit, and results of groundwater samples for VOCs and SVOCs were all detected at concentrations less than NYSDEC groundwater standards (Aneptek, 2000).

High levels of turbidity were encountered in groundwater samples collected during the first round of RI sampling, and the turbidity did not decrease during development/purging activities. Corresponding high concentrations of inorganic constituents exceeding the NYSDEC drinking water standards were detected in the turbid groundwater samples collected during the RI, with the highest concentrations shown in unfiltered groundwater samples collected at 2MW-03 (as SC-ZZ007-MUNK) which included arsenic (47 micrograms per liter [µg/L]), barium (2,430 µg/L), beryllium (15.8 µg/L), chromium (512 µg/L), cobalt (238 µg/L), iron (536,000 µg/L), lead (185 µg/L), magnesium (181,000 µg/L), manganese (8,290 µg/L), mercury (0.92 µg/L), nickel (596 µg/L), sodium (124,000 µg/L), and thallium (16.5 µg/L). Inorganic constituents detected in

upgradient MW 2MW-04 at concentrations exceeding NYSDEC drinking water standards included magnesium (41,200 µg/L), manganese (349 µg/L), sodium, (104,000 µg/L), and iron (8,290 µg/L) (Aneptek, 2000).

High turbidity levels were not present during the second round of RI groundwater sampling at Site 2, and groundwater sample results at concentrations exceeding the NYSDEC drinking water standards included antimony (29.3 µg/L), nickel (118 µg/L), and manganese (1680 µg/L). As a result, the RI concluded that the high levels of inorganic constituents in groundwater were likely attributed to residual fines deposited in the annular space of the sand pack during installation of the wells, resultant of the drilling assembly within the weathered shale bedrock, and were not indicative of the actual condition of the aquifer in the area of Site 2. The RI conclusion was supported by the dramatic reduction in the concentration of total inorganics detected in the groundwater samples collected during the second sampling event, which were less turbid (Aneptek, 2000).

The Risk Assessment performed as part of the RI at Site 2 identified only inorganic analytes, the majority of which occurred only during the initial groundwater sampling event and were attributed to the turbid groundwater samples. Antimony, manganese, and nickel, although detected above regulatory limits, were present upgradient of the site and were believed to be naturally occurring. The RI recommended no further action for Site 2, based on the absence of significant chemicals of concern (COCs), the presence of metals in groundwater upgradient of the site, and the fact that the aquifer underlying Site 2 is not a source of drinking water (Aneptek, 2000).

2.4.2 TU008 - Former Heating Oil UST #41 at Former Building 4

2.4.2.1 2013/2014 Preliminary Assessment/Site Inspection

A PA was conducted at TU008 by AECOM in November 2013. During the PA, sampling and closure information for TU008 was not identified. Former Building 4 was utilized as a vehicle maintenance facility before its removal in the early 1995. UST #41 was a 6,000-gallon heating oil tank associated with the building. Records of removal and/or sampling of the tank pit during removal are not available. Soil and groundwater sampling was recommended to assess potential contamination (AECOM, 2015).

The SI was conducted in November 2014. Digital geophysical mapping (DGM) was used to confirm the absence of the former heating oil UST prior to field sampling. Five borings were advanced until refusal, which occurred between 7 and 9 ft bgs in each boring. One soil sample was collected from each boring in the dry soils above the water table interface. There was no visual, olfactory, or PID evidence of contamination in three of the borings. Odors and elevated PID measurements were detected in borings TU08SB08 (peak of 178 parts per million [ppm] at 5 ft bgs) and TU08SB09 (peak of 97.1 ppm at 4 ft bgs); measurements decreased with depth in each boring. Samples were analyzed for VOCs and SVOCs. Twenty-one VOCs and 17 SVOCs were detected in the samples. Detected chemicals did not exceed PALs.

One groundwater sample was collected from each boring from 5 to 10 ft bgs. Groundwater samples were analyzed for VOCs and SVOCs with the exception of TU08GW10. SVOCs were not collected at TU08GW10 as a result of the lack of sufficient groundwater volume. Eleven VOCs and 15 SVOCs were detected in the samples. Four VOCs (naphthalene, n-butylbenzene, sec-butylbenzene, and tert-butylbenzene) and two SVOCs [bis(2-ethylhexyl) phthalate and naphthalene] exceeded PALs in one or more samples.

Further investigation was recommended to address VOCs and SVOCs in groundwater. Although PA/SI soil sample results were below screening criteria, additional soil sampling was recommended to verify groundwater results are related to TU008 and not influenced or impacted by unknown soil impacts beyond the UST footprint.

2.4.3 TU009 - WWTP Bypass UST near IRP Site 6

2.4.3.1 2013/2014 Preliminary Assessment/Site Inspection

A PA at TU009 was conducted by AECOM in November 2013. During the PA, sampling and closure information for TU009 was not identified. A 7,000-gallon UST was utilized by the WWTP for bypass during 1982 and 1983 when the lagoons were being emptied for cleaning. The tank had one inlet pipe and was pumped out daily. The WWTP was demolished in 2002. According to Schenectady ANG personnel, the UST is still in place and partially filled with sand (AECOM, 2015).

The SI was conducted in November 2014. DGM was used to locate the outline of the WWTP Bypass UST at TU009 prior to field sampling. The geophysical survey concluded that a single

location of a large metal object of representative size of the WWTP Bypass UST was identified, along with two manholes associated with the structure (Appendix C of AECOM, 2015). Four borings (TU09SB11 through TU09SB14) were advanced until refusal was met, which occurred between 7.5 and 8.5 ft bgs. The groundwater table was encountered between 5 to 5.5 ft bgs in two borings only (TU09SB12 and TU09SB13). One soil sample was collected from the dry soils above the water table interface in borings where groundwater was encountered. Two soil samples were collected from the remaining two dry borings (TU09SB11 and TU09SB14), one from the upper portion of the borehole and one from the bottom of each boring. There was no visual, olfactory, or PID evidence of contamination in any of the borings. Soil samples were analyzed for VOCs, SVOCs, and metals. Fifteen VOCs, 12 SVOCs, and 23 metals were detected in the samples. Detected VOCs and SVOCs did not exceed NYSDEC Unrestricted Use SCOs. Arsenic, copper, nickel, and zinc concentrations exceeded PALs in at least one soil sample. The detected concentrations did not exceed residential soil cleanup goals. Iron was detected at 24,000 to 55,000 mg/kg in soil which exceeds the NYSDEC CP-51 Residential SSCO (NYSDEC, 2010). Appendix A of NYSDEC TAGM 4046 (NYSDEC, 1994; updated 2000) lists Eastern United States background levels for iron of 2,000 to 550,000 mg/kg. Metals may be naturally occurring in the soils because there is no evidence of a source area or release.

Groundwater samples were collected from the two boring where water was encountered. Samples were analyzed for VOCs, SVOCs, and metals. Four SVOCs [benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, and bis(2-ethylhexyl)phthalate], four metals in both total and dissolved forms (iron, magnesium, manganese, and sodium), and nine metals in total form only (arsenic, barium, beryllium, chromium, copper, lead, nickel, thallium, and mercury) exceeded PALs in one or more samples.

Further investigation was recommended to address SVOCs and metals groundwater and metals in soil.

2.4.3.2 Remedial Actions, Site 6

Site 6 (Suspected Spill Site), an active remediation site, is located immediately adjacent to Site TU009 and consists of an area of contaminated soil and groundwater located northwest of the former WWTP and sand filter. Site 6 covers an area of approximately 0.96 acre. Soil and groundwater have been impacted at this site by past releases from aircraft fueling, maintenance,

operation activities, and training exercises. Investigations and remedial actions have occurred since 1999 at Site 6 as summarized in the following subsection.

2.4.3.2.1 Interim Remedial Action

An Interim Remedial Action (IRA) was conducted at Site 6 between May and September 2007 (Earth Tech Northeast, 2007). Site 6 soils that were previously identified as being in the chlorinated VOC (CVOC) groundwater 50 parts per billion (ppb) plume were excavated. The objectives of the IRA were to remove and treat all unconsolidated material and perform an in situ pilot test to evaluate the use of enhanced bioremediation to treat the CVOC plume at Site 6.

All of the soil in the area was removed from the ground surface to the top of competent bedrock, which was encountered at a depth interval of 5 to 7 ft bgs and field screened. The total volume of soil excavated in Site 6 for field screening of CVOCs was 4,790 cubic yards (yd^3). All 4,790 yd^3 of stockpiled soils were screened; sampled; and returned to the excavation as backfill based on the analytical results, which indicated all analyzed CVOCs were below NYSDEC SCOs.

During the soil removal activities at Site 6, a horizontal infusion gallery was constructed to perform in situ chemical oxidation (ISCO) injections. An enhanced bioremediation pilot test was conducted at Site 6 on August 8, 2007. Edible Oil Substrate (EOS) and Vitamin B12 supplement were gravity-fed sequentially into each of the 12 vertical riser pipes of the infusion gallery constructed as part of the Site 6 IRA. The objectives of the pilot test were to decrease concentrations of VOCs in the groundwater and prevent CVOC plume migration through increased biological activity through enhanced MNA (Earth Tech Northeast, 2007). The Site 6 excavation areas are shown on **Figure 2-4.** The excavation areas include the area up to the edge of Former Heating Oil UST #41. Documentation from the removal activities encounter neither a UST nor a vault. The soil adjacent to and downgradient of Site TU009 WWTP Bypass UST area has been removed and replaced with soil from the larger excavation area.

After soil removal activities, five groundwater monitoring events were performed to assess groundwater quality. One round of groundwater samples were collected prior to the infusion activities, and four quarterly rounds of groundwater samples were collected post-infusion. The overall conclusions were that the injection of EOS and the Vitamin B12 Supplement had a beneficial effect on decreasing the concentration of CVOCs in the groundwater at Site 6.

Final Record of Decision (ROD) 447022 was issued by the ANG on March 14, 2012 for the remediation of soils and groundwater at Site 6 (Balanced Environmental Management Systems [BEM Systems], 2012a). A Remedial Action Work Plan (BEM Systems, 2013) and associated Addendum (BEM Systems, 2014) were produced for cleanup of CVOC impacted groundwater and tetrachloroethene-impacted soils at Site 6.

2.4.3.2.2 Remedial Action (2013 through 2015)

A Remedial Action Completion/Final Engineering Report (RAC/FER) was completed to document remedial and sampling activities conducted between June 10, 2013 and January 13, 2015 (BEM Systems, 2016a).

A data gap investigation was conducted in 2011 (BEM Systems, 2012b), to delineate the soil at Site 6 impacted with VOCs above screening criteria that would require future excavation. Site 6 delineation results indicated that soil samples obtained from two of the five boring locations were reported above the NYSDEC Unrestricted Use SCO for VOCs in soil.

Soils contaminated with chlorinated VOCs on the western portion of Site 6 and along the eastern bank of the drainage ditch were removed on June 13, 2013. This excavation area was to the west of the 2007 excavation area. All soils were removed down to bedrock (approximately 5 ft bgs) within the extent of the excavation. Approximately 73.3 tons of soil was stockpiled for 5 days until it was loaded into trucks and taken offsite for thermal treatment prior to disposal. The excavation was filled with imported, clean backfill and restored to pre-existing conditions after post-removal confirmation samples were collected. ANG requested NFA for site soil in March 2015, which was approved by NYSDEC in April 2015 (NYSDEC, 2015).

The remediation action for groundwater included chemical injection of sodium permanganate and groundwater monitoring. The first injection event took place from June 17, 2013 to June 20, 2013 consisting of 9,712 gallons of sodium permanganate injection. Of the 9,712 gallons, 9,012 gallons were injected at a 10% concentration of sodium permanganate into the injection gallery. The remaining 700 gallons was injected at a 5% solution via direct push. The second injection event occurred from May 5, 2014 to May 8, 2014 in which 7,504 gallons of sodium permanganate was injected at a 5% concentration.

Two groundwater performance sampling events were conducted 3 months after the injections. In addition, five monthly groundwater monitoring rounds were conducted. The groundwater monitoring data support the conclusion that the permanganate injected at Site 6 appears to have reduced site contamination. Based on the results of the remedial action and groundwater monitoring samples collected at Site 6, groundwater contamination is still present at Site 6 above NYSDEC Groundwater Criteria for Unrestricted Use levels.

Metals were also collected from select wells within the groundwater plume and injection area during the performance groundwater monitoring events. Iron and manganese were present at high concentrations in the MWs sampled, which demonstrates that abiotic transformation may be occurring as the dechlorination reactions would be enhanced in the presence of metal amendments, especially iron.

The last groundwater sampling event, which occurred in January 2015, showed some evidence of rebound in VOC concentrations. Groundwater remediation is not complete for Site 6; therefore, a Site Management Plan has been prepared to address the remaining contamination (BEM Systems, 2016b).

2.4.3.2.3 Remedial Action (2016)

RA-O activities were performed at Site 6 in 2016 which included baseline groundwater sampling to establish current contaminant conditions, installation of permanent injection wells and an interceptor trench, a pilot study, and groundwater treatment using biostimulation and bioaugmentation injections. Field activities are documented in the Final Remedial Action Completion Report (RACR) and are summarized in the following paragraphs (Leidos, 2017).

A baseline groundwater sampling event was conducted on May 11 and 12, 2016. The baseline sampling event showed a decline in VOC contaminant concentrations in wells 6MW-22 and 6MW-23 (Leidos, 2017).

A total of 13 permanent injection wells were installed at Site 6 between June 28 and 30, 2016. In addition, an interceptor trench was installed between the Site 6 injection network and a drainage ditch running parallel to the western edge of Site 6. A pilot test was conducted during which a dye tracer was injected into the newly installed injection wells, and the adjacent MWs, interceptor

trench, and drainage ditch were monitored for signs of dye. No dye was observed in any of the wells, interceptor trench, or ditch (Leidos, 2017).

Biostimulation and bioaugmentation injections were performed between July 25 and 29, 2016. Between 600 and 750 gallons of emulsified vegetable oil (EVO) mixed with water were injected at each of the 13 new injection wells, and approximately 300 gallons were injected at 5 infusion points in the existing horizontal infusion network. The EVO injections were followed with 2 liters (L) of KB-1 Dechlorinator™ in injection wells and 1 L in infusion points to encourage growth of bacteria, increasing the likelihood of complete degradation of the chlorinated solvents in groundwater.

In accordance with the RACR, Site 6 groundwater will continue to be monitored, with additional bioaccumulation or bioaugmentation injections performed as recommended in subsequent reports (Leidos, 2017).

3. ENVIRONMENTAL SETTING

The following sections contain general information relative to the environmental setting at Schenectady ANGB. The following basewide environmental setting information is summarized from the previously completed July 2015 Final PA/SI Report (AECOM, 2015).

3.1 CLIMATE

The climate in Schenectady County is classified as "Moist Continental Mid-Latitude Climate" and is characterized by warm to cool summers and cold winters. Winters are potentially severe with snow storms, strong winds, and extreme cold from Continental Polar or Arctic air masses. Average minimum temperatures range from 13 degrees Fahrenheit (°F) (-9 degrees Celsius [°C]) in January to 60 °F (15 °C) in July; average maximum temperatures range from 31°F (-1 °C) in January to 83°F (28 °C) in July. Average annual precipitation is approximately 36 inches and is dispersed throughout the year (ANG, 2006).

The average number of days with any measurable precipitation a year is 125. On average, there are 177 sunny days per year in Schenectady.

3.2 TOPOGRAPHY

Topographic features in the area include the foothills of the Adirondack Mountains to the north and the Helderberg Escarpment, the northern extreme of the Allegheny Plateau, to the south. Area landforms are relatively flat adjacent to the Mohawk River, where elevations are approximately 210 ft above mean sea level (amsl) along the riverbanks. The elevations at Schenectady ANGB range from approximately 300 to 390 ft amsl. The land on the Base has been predominantly cleared, leveled with little topographic relief, and developed (ANG, 2006).

3.3 GEOLOGY

Bedrock units beneath Schenectady ANGB are encountered as shallow as 7.5 ft bgs. The ANGB is underlain by the Ordovician Schenectady Formation and Canajoharie Shale, which is shale interbedded with siltstones and sandstones. There are several linear bedrock ridges, aligned in a northeast-southwest direction, located in the vicinity of the ANGB. Glacial till covers bedrock over much of the ANGB and the surrounding area, which is a gray to dark gray, compact, tough, stony, silty to sandy clay with some cobbles and boulders. There are limited areas of thin sand and

gravel lenses scattered within the till unit. The overall thickness of the till deposits over the ANGB ranges between approximately 10 and 30 ft where the thickest areas correspond to the depressions in the bedrock surface. Lake Albany sands and silts, ranging between approximately 45 and 130 ft thick, overlie the till deposits on the southern and southwestern portion of the ANGB (ANG, 2006).

3.4 SOILS

Most of the naturally occurring soils at and around Schenectady ANGB have been disturbed and/or removed, making soil classification difficult because of the variable characteristics and alteration from natural conditions. According to the U.S. Department of Agriculture (USDA) Soil Conservation Service, the majority of the soils at Schenectady ANGB are composed of cut and fill material and *Urban Land - Colonie Complex*. This soil type consists of 70 percent (%) urban land, soils under structures or pavements, and 30% Colonie soils. These soils are predominately underlain by sandy material with variable permeability. The Colonie soils are deep, well drained to excessively drained, sandy soils. The other mapped soils beneath the ANGB consist of the following soils (USDA, 2015):

- *Lordstown Gravelly Silt Loam* A moderately deep, well drained, medium textured soil on hilltops with slopes of 3 to 8%.
- *Hornells Silt Loam* A moderately deep, moderately well drained, medium textured soil on bedrock controlled uplands with slopes of 3 to 8%.
- *Tuller-Brockport Complex* Consists of 60% Tuller soils and 40% Brockport soils. The Tuller soils are shallow and somewhat poorly drained to poorly drained with a moderate permeability. The Brockport soils are moderately deep and somewhat poorly drained.
- *Burdette-Scriba Soils* Consists of 65% Burdette soils and 35% Scriba soils. The Burdette soils are moderately deep, somewhat poorly drained, and medium texture. The Scriba soils are deep, somewhat poorly drained, and medium textured.
- *Nunda Soils* These soils are deep, moderately well drained, sloping, medium textured, and extremely stony on calcareous glacial till plains.

3.5 SURFACE WATER HYDROLOGY

Schenectady ANGB is located north of the Mohawk River in the Mohawk River Valley. The Mohawk River runs in a general northwest to southeast direction through the area. The Mohawk River drains approximately 65% of Schenectady County. Surface water is channeled from Schenectady ANGB through a drainage system of culverts, ditches, and pipes that runs south and east, and eventually drains into the Mohawk River via an unnamed tributary and the river's

tributary, Alplaus Kill. The Alplaus Kill flows for approximately 0.75 mile along Glenville's eastern boundary before emptying into the Mohawk River (ANG, 2006). The river's flow is regulated during the navigational season by a series of locks, as part of the New York State Barge Canal System.

3.6 HYDROGEOLOGY

Schenectady ANGB does not have high potential availability of large groundwater resources, although it lies close to the recharge zone of the Schenectady-Niskayuna Aquifer System. The Schenectady Aquifer consists of a complex and extensive bed of stratified drift and glacial outwash gravel deposits underlying the Mohawk River channel. These aquifer deposits are underlain by glacial till. Bedrock formations in the Schenectady area have a low permeability. The groundwater in the bedrock primarily flows within the fractures and joints in the rock and in the weathered or fractured zone within the upper few feet of the bedrock surface.

The Schenectady Aquifer supplies potable water to approximately 84% of the population of Schenectady County through municipal and private wells. Groundwater depths reported in MWs screened at the soil/bedrock interface ranged between 6 and 11 ft bgs. Hydraulic conductivity tests conducted in MWs at the Base reported groundwater flow velocities estimated between 2 and 25 ft per year consistent with typical groundwater flow velocities found in fractured bedrock (BEM Systems, 2012b) or a silt/clayey fine sand. Groundwater underlying the Base is perched and intermittent and is not a viable aquifer. The water table in the Schenectady area generally mimics the topography of the land surface and; therefore, groundwater moves in the direction of land-surface slope. Regional groundwater flow at the ANGB is south and southeast toward the Mohawk River (ANG, 2006).

3.7 CRITICAL HABITATS AND ENDANGERED/THREATENED SPECIES

Site ZZ007 is paved and a building is planned for the footprint of Former Building 13. Vegetation at TU008 and TU009 is limited to landscaped areas with grass. A ditch located directly west of IRP Site 6 to the west of TU009 is a designated trout stream according to the NYSDEC. Any remedial activities will be coordinated with NYSDEC as to not adversely affect the habitat of the ditch.

According to the U.S. Fish and Wildlife Service (USFWS), there are two endangered species found in Schenectady County: one insect (the karner blue butterfly, *Lycaeides melissa samuelis*) and one mammal (the northern long-eared bat, *Myotis septentrionalis*) (USFWS, 2017). The karner blue butterfly is listed as having endangered status, whereas the northern log-eared bat is listed as threatened. Because the area around the Base is developed, and both species have specific forested habitat requirements, it is unlikely that either of these species would be found in the project area.

4. FIELD PROGRAM METHODS

4.1 SUMMARY

The activities performed to accomplish the RI at Sites ZZ007, TU008, and TU009 are summarized in this section. The RI field activities included acquiring Base access and digging permits, utility clearance, soil sampling, MW installation; groundwater sampling; water level gauging; investigation-derived waste (IDW) staging, management and disposal; surveying; PID monitoring; data management, and document and record keeping. These activities were conducted in accordance with project-specific Standard Operating Procedures (SOPs) that were developed to cover all aspects of field operations, environmental sampling, field measurements, and record keeping as presented in the *Final RI Work Plan, UFP-QAPP* (TEC-Weston JV, 2016). Field work was conducted from May 31 through June 8, and November 7 through November 10, 2016.

The RI sample locations are shown on **Figures 4-1**, **4-2**, and **4-3** for ZZ007, TU008 and TU009, respectively, and are discussed in the following subsections.

4.2 DEVIATIONS FROM THE WORK PLAN

4.2.1 ZZ007 – Former Building 13 Area

In the *Final RI Work Plan, UFP-QAPP* (TEC-Weston JV, 2016), on Worksheet #17, three permanent groundwater MWs were planned for installation. Instead, a total of six soil borings were installed at Site ZZ007. Temporary MWs were installed in lieu of permanent groundwater MWs because of the Installation's request that permanent MWs would interfere with the construction of a new building planned for installation within the footprint of the Former Building 13. Three of the six borings were converted to shallow temporary MWs, and the other three were attempted locations for the placement of MW SC-ZZ007-MW001. As a result of the absence of a saturated zone at proposed SC-ZZ007-MW001 locations, temporary wells were installed to determine whether perched groundwater would be available for sampling. Step-out borings were advanced until groundwater was observed in the boring. Soil samples were collected only from the three borings correlated with the three shallow MW locations.

Groundwater samples were to be collected from the three MWs, and from the existing MW (SC-ZZ007-MWUNK [a.k.a. 2MW-3]) at the site. Instead, groundwater samples were collected from two of the new temporary MWs (SC-ZZ007-MW001 and SC-ZZ007-MW002) and the one existing MW (SC-ZZ007-MWUNK [a.k.a. 2MW-3]) at Site ZZ007. MW SC-ZZ007-MW003 was

effectively dry and could not be sampled. The site groundwater is perched and intermittent. MWs were not able to be completely developed; water levels were checked for several days after installation and very little water accumulated in the MWs. The MWs were sampled 5 days after installation and purged dry several times during sampling prior to collection of a grab sample from each MW. All temporary MWs were abandoned at the completion of the field event.

4.2.2 TU008 - Former Heating Oil UST #41 at Former Building 4

In the *Final RI Work Plan, UFP-QAPP* (TEC-Weston JV, 2016), on Worksheet #17, four permanent MWs were to be installed at Site TU008. Instead, a total of four soil borings were installed at Site TU008, three of which were converted to shallow permanent MWs. As a result of the absence of a saturated zone at boring location SC-TU008-MW003, a temporary well was installed rather than a permanent well. It was planned that the well would be converted to a permanent well if sufficient groundwater entered the well. SC-TU008-MW003 did not produce adequate water and was not able to be developed; very little water accumulated in the MW. It was planned that groundwater samples were to be analyzed for VOCs and SVOCs at all MWs. A VOC sample was collected from SC-TU008-MW003; however, the well had only a few inches of water. It ran dry during sampling, and the sample was very turbid. SVOCs were not collected at SC-TU008-MW003 because of the lack of sufficient groundwater volume and the temporary MW was abandoned at the completion of the field event.

MWs SC-TU008-MW005 and SC-TU008-MW006 installed during the second field event in November 2016 did not produce adequate water to be completely developed. A grab groundwater sample was collected from SC-TU008-MW006 as planned but SC-TU008-MW005 was dry and was not able to be sampled.

4.2.3 TU009 - WWTP Bypass UST near IRP Site 6

In the *Final RI Work Plan, UFP-QAPP* (TEC-Weston JV, 2016), three permanent MWs were proposed in the area of Site TU009. Instead, a total of three soil borings (SC-TU009-MW001 through –MW003) were installed at Site TU009, one of which (SC-TU009-MW003) was converted to a shallow permanent MW. A saturated zone was not encountered at proposed MW locations SC-TU009-MW001 and SC-TU009-MW002.

Groundwater samples were proposed for collection from the three new MWs and existing Site 6 MW 6MW24 for analysis of SVOCs and metals. Instead, because a saturated zone was not encountered at proposed MW locations SC-TU009-MW001 and SC-TU009-MW002, groundwater samples were collected from the new permanent MW (SC-TU009-MW003) and two existing MWs (6MW22 and 6MW24) at Site TU009.

MW boring SC-TU009-MW001 was advanced in the location as proposed in the *Final RI Work Plan, UFP-QAPP* (TEC-Weston JV, 2016). However, the MW is located on the west side (crossgradient) of the WWTP Bypass UST area instead of upgradient as described in the *Final RI Work Plan, UFP-QAPP*. DGM was used during the PA/SI (AECOM, 2015) to locate the outline of the WWTP Bypass UST at TU009 prior to PA/SI field sampling. The geophysical survey identified that a single location of a large metal object of representative size of the WWTP Bypass UST, along with two manholes associated with the structure. The location of the former UST area was provided on figures and coordinates were provided of the PA/SI locations. However, the location of the WWTP Bypass UST was not accurately depicted on figures provided in the PA/SI and the PA/SI sampling locations were not surveyed. The two manhole covers were identified during the RI and surveyed for vertical and horizontal location by a state-licensed surveyor, with precision/accuracy of ± 0.1 ft horizontal and ± 0.01 ft vertical. The RI field team was not aware that the manholes were the same as those identified during the PA/SI DGM survey until after the field work was complete. Consequently, SC-TU009-MW001 was advanced crossgradient rather than upgradient to the WWTP Bypass UST Area. The location of the former UST area has been adjusted to be centered over the manholes as shown in the figures provided in this RI Report.

4.3 REMEDIAL INVESTIGATION ACTIVITIES

4.3.1 Soil Sampling

4.3.1.1 ZZ007 – Former Building 13 Area

Two soil samples were collected from each of three temporary MW soil borings at ZZ007 as follows:

- MW boring SC-ZZ007-MW001 – Installed on the north (upgradient) side of Former Building 13 to determine presence of metals.

- MW boring SC-ZZ007-MW002 – Installed near PA/SI groundwater sampling locations ZZ07SB05/ZZ07GW05 and ZZ07SB02/ZZ07GW02 in the central area of Former Building 13 to determine presence of metals.

- MW boring SC-ZZ007-MW003 – Installed downgradient to the southeast of Former Building 13 approximately 50 ft downgradient of the existing MW (MWUNK) to determine presence of and potential migration of metals.

Soil cores were logged for lithology and headspace using a field PID, and data were recorded on soil boring logs (**Appendix A**). The samples were containerized, labeled, and preserved in a sampling cooler for laboratory analysis for metals. Analyses of samples were performed by TestAmerica Laboratories, Inc. (TestAmerica) in Denver, CO. A comprehensive inventory of soil samples collected at ZZ007 and their associated analyses is provided as **Table 4-1**.

4.3.1.2 TU008 - Former Heating Oil UST #41 at Former Building 4

Two soil samples were collected from each of four soil borings at TU008 as follows:

- MW boring SC-TU008-MW001 – Installed upgradient (northwest) of the Former Heating Oil UST #41 Area, to determine the presence of VOCs and SVOCs.

- MW boring SC-TU008-MW002 – Installed within the Former Heating Oil UST #41 Area to determine the presence of VOCs and SVOCs.

- MW boring SC-TU008-MW003 – Installed downgradient (southeast) of the Former Heating Oil UST #41 Area, to determine the presence of and potential migration of VOCs and SVOCs.

- MW boring SC-TU008-MW004 – Installed downgradient (southwest) of the Former Heating Oil UST #41 Area, to determine the presence of and potential migration of VOCs and SVOCs.

Soil cores were logged for lithology and headspace using a field PID, and data were recorded on soil boring logs (**Appendix A**). The samples were containerized, labeled, and preserved in a sampling cooler for laboratory analysis for VOCs and SVOCs. Analyses of samples was performed by TestAmerica. TestAmerica-Denver performed SVOC analyses and TestAmerica-St. Louis performed VOC analyses. A comprehensive inventory of soil samples collected at TU008 and their associated analyses is provided as **Table 4-2**.

4.3.1.3 TU009 - WWTP Bypass UST near IRP Site 6

Two soil samples were collected from each of three soil borings at TU009 as follows:

- MW boring SC-TU009-MW001 – Installed upgradient of the former UST area to determine the presence of SVOCs and metals.
- MW boring SC-TU009-MW002 – Installed in the vicinity of the former UST area to determine the presence of SVOCs and metals.
- MW boring SC-TU009-MW003 – Installed downgradient (southwest) of the former UST area and PA/SI sampling locations, to determine the presence of and potential migration of SVOCs and metals.

Soil cores were logged for lithology and headspace using a field PID, and data were recorded on soil boring logs (**Appendix A**). The samples were containerized, labeled, and preserved in a sampling cooler for laboratory analysis for SVOCs and metals. Analyses of samples was performed by TestAmerica. TestAmerica-Denver performed SVOC and metals analyses. A comprehensive inventory of soil samples collected at TU009 and their associated analyses is provided as **Table 4-3**.

4.3.2 Groundwater Monitoring Well Installation

Temporary and permanent MWs were installed in accordance with the SOPs presented in Appendix C of the, *Final RI Work Plan, UFP-QAPP* (TEC-Weston JV, 2016). Temporary MWs were installed using direct push technology (DPT) and permanent MWs were installed using hollow stem auger (HSA) techniques.

All MWs were screened in the shallow saturated zone of the surficial aquifer. MW installation construction and development logs were completed for each well (**Appendix B**). Temporary MWs were abandoned at the completion of the field events. All permanent MWs were installed as follows:

- Completed as flush mounts.
- Constructed with 2-inch, schedule 40 polyvinyl chloride (PVC) blank casing and 5 to 10-ft long, 0.010-slot size screen, and #1 silica sand for the filter pack. Due to the shallow bedrock present at the Base, screen length was dependent upon the depth of the well as shown on the monitoring well construction logs included in **Appendix B**.
- Screened in the shallow saturated zone of the surficial aquifer.

- Developed to remove sediments and ensure representative aquifer samples.
- Surveyed for vertical and horizontal location by a state-licensed surveyor, including a groundwater measurement datum located at the north point of the top of casing, with precision/accuracy of ± 0.1 ft horizontal and ± 0.01 ft vertical. Temporary MWs were also surveyed prior to abandonment.

Temporary and permanent MWs were installed at ZZ007, TU008, and TU009 as detailed in the following subsections.

4.3.2.1 ZZ007 – Former Building 13 Area

Three shallow temporary MWs were installed at ZZ007 as follows:

- Temporary MW SC-ZZ007-MW001 – Installed on the north (upgradient) side of Former Building 13 to determine presence of metals.
- Temporary MW SC-ZZ007-MW002 – Installed near PA/SI groundwater sampling locations ZZ07SB05/ZZ07GW05 and ZZ07SB02/ZZ07GW02 in the central area of Former Building to determine presence of metals.
- Temporary MW SC-ZZ007-MW003 – Installed downgradient to the southeast of Former Building 13 approximately 50-ft downgradient of the existing MW (MWUNK) to determine presence of and potential migration of metals.

4.3.2.2 TU008 - Former Heating Oil UST #41, Former Building 4

Six shallow MWs (five permanent and one temporary) were installed at Site TU008 as follows:

- Permanent MW SC-TU008-MW001 – Installed upgradient (northwest) of the Former Heating Oil UST #41 Area, to determine the presence of VOCs and SVOCs.
- Permanent MW SC-TU008-MW002 – installed within the Former Heating Oil UST #41 Area to determine the presence of VOCs and SVOCs.
- Temporary MW SC-TU008-MW003 – Installed downgradient (southeast) of the Former Heating Oil UST #41 Area, to determine the presence of and potential migration of VOCs and SVOCs.
- Permanent MW SC-TU008-MW004 – Installed downgradient (southwest) of the Former Heating Oil UST #41 Area, to determine the presence of and potential migration of VOCs and SVOCs.
- Permanent MW SC-TU008-MW005 – Installed during a second field event near temporary MW SC-TU008-MW003 to confirm the presence of VOCs.

- Permanent MW SC-TU008-MW006 – Installed further downgradient (southeast) of temporary MW SC-TU008-MW003 to determine the presence and potential migration of VOCs.

4.3.2.3 TU009 - WWTP Bypass UST near IRP Site 6

One shallow permanent MW was installed at TU009 as follows:

- Permanent MW SC-TU009-MW003 – Installed downgradient (southwest) of the former UST area and PA/SI sampling locations, to determine the presence of and potential migration of SVOCs and metals.

4.3.3 Groundwater Elevation Measurements

Groundwater elevations were measured at each groundwater MW on the date of each sampling event [June 7, 2016 (ZZ007), June 8 and November 7, 2016 (TU008), and June 8 and November 7, 2016 (TU009)] immediately before well purging, following release of cap pressure and before any sampling activities that would have the potential to affect water levels within the well to render them unrepresentative of the surrounding static water level of the aquifer. Site-specific hydrogeology is discussed in Section 5.1.

4.3.4 Groundwater Sampling

New and existing groundwater MWs at ZZ007, TU008, and TU009 were purged and sampled in accordance with the SOPs presented in the *Final RI Work Plan, UFP-QAPP* (TEC-Weston JV, 2016), using low-flow techniques with a variable-speed submersible pump with an adjustable flow rate. In each well, the pump was positioned within the middle of the well screen interval. The purge water discharge was monitored for the water quality indicator parameters of temperature, pH, specific conductivity, turbidity, oxidation-reduction potential (ORP), and dissolved oxygen through use of a flow-through cell. Samples were collected after water quality parameters stabilized. For each well, the water quality readings for parameter stabilization were recorded on groundwater purge and sample forms (**Appendix C**). Groundwater samples were collected as follows:

- Groundwater samples were collected from two of the new temporary MWs, SC-ZZ007-MW001 and SC-ZZ007-MW002, and the one existing MW, SC-ZZ007-MWUNK, at Site ZZ007 on June 7, 2016 for analysis of total and dissolved metals. MW SC-ZZ007-MW003 was effectively dry and could not be sampled.

- Groundwater samples were collected from the three new permanent MWs, SC-TU008-MW001, SC-TU008-MW002, and SC-TU008-MW004, during two RI sampling events conducted at Site TU008 on June 8, 2016 and November 7, 2016 for analysis of VOCs and SVOCs. A groundwater sample was also collected from temporary MW SC-TU008-MW003 during the first RI sampling event on June 8, 2016. As previously mentioned, only a VOC sample was collected from MW SC-TU008-MW003; SVOCs were not collected as a result of the lack of sufficient groundwater volume. In addition, a groundwater sample was collected from new permanent MW SC-TU008-006 during the second RI sampling event on November 10, 2016 for analysis of VOCs and SVOCs. New MW SC-TU008-005 was effectively dry and could not be sampled.

- Groundwater samples were collected from the new permanent MW, SC-TU009-MW003, and two existing MWs, 6MW22 and 6MW24, during the first RI sampling event at Site TU009 on June 8, 2016 for analysis of SVOCs and total and dissolved metals. Due to high turbidity at new MW SC-TU009-MW003 during the first RI sampling event in June 2016, a groundwater sample was collected at MW SC-TU009-MW003 during the second RI sampling event on November 7, 2016 for analysis of total and dissolved metals.

Groundwater samples were containerized, labeled, preserved, and shipped in a sampling cooler for fixed-based laboratory analysis as described above. TestAmerica-Denver performed SVOC and metals analyses and TestAmerica-St. Louis performed VOC analyses. TestAmerica holds DoD Environmental Laboratory Accreditation Program (ELAP) accreditation and certification in the State of New York as provided in Appendix F of the *Final RI Work Plan, UFP-QAPP* (TEC-Weston JV, 2016). A comprehensive inventory of groundwater samples collected at ZZ007, TU008, and TU009 and their associated analyses are respectively provided as **Table 4-4, Table 4-5,** and **Table 4-6,** respectively.

4.4 INVESTIGATION-DERIVED WASTE MANAGEMENT

IDW management was conducted in accordance with the SOP for handling and sampling IDW as provided in Appendix C of the *Final RI Work Plan, UFP-QAPP* (TEC-Weston JV, 2016). An IDW Drum Tracking Form was used to document all IDW that was marshalled on-site for analysis before disposal during sampling events. Appropriate IDW management documentation, such as IDW Drum Tracking Form, IDW sampling results, and transport and disposal manifest, is provided in **Appendix D**.

IDW was containerized in Department of Transportation (DOT)-approved steel 55-gallon drums and temporarily stored at each site prior to transportation for off-site disposal at the approved IDW disposal facility, Spring Grove Resource Recovery, Inc., located in Cincinnati, Ohio. IDW was

segregated at the site according to matrix (solid or liquid) and as to how it was derived (drill cuttings, drilling fluid, decontamination fluids, and purged groundwater).

Following collection, drums containing soil cuttings generated during soil sampling were sampled and analyzed in accordance with disposal facility requirements. Laboratory analytical data (**Appendix E**) collected as part of the groundwater investigation were used for disposal facility requirements to characterize MW purge/development water. The IDW Drum Tracking Form in **Appendix D** contains the name of the sample associated with each drum where appropriate. The results of the soil cuttings IDW analyses are provided in **Appendix D**.

The IDW sample analytical data were reviewed to determine whether the waste exhibits a hazardous waste characteristic as identified at 40 Code of Federal Regulations (CFR), Part 261, Subpart C and to determine a disposal option. The waste characterization data were provided to the Installation Environmental Manager to sign the final waste manifests. Completed waste manifests are provided in **Appendix D**. Completed waste manifests track each drum from creation to final disposition.

4.5 INFORMATION MANAGEMENT

Information regarding field activity tasks was recorded on site field logs in accordance with the SOP for field documentation as provided in Appendix C of the *Final RI Work Plan, UFP-QAPP* (TEC-Weston JV, 2016). Project records, including data collection sheets, laboratory reports, survey deliverables, boring logs, well construction diagrams, and other related information, are stored on dedicated file servers, and field forms are provided in **Appendix C**.

The data and information collected during the RI were electronically scanned, or otherwise duplicated, and archived in the project electronic file. Electronic data and documents are stored on secure file servers that are backed up daily. Laboratory data were received as electronic data deliverables (EDDs) and downloaded to an ERPToolsX database for preparation of an electronic Environmental Resources Program Information Management System (ERPIMS) deliverable and accessed for preparation of reporting tables and figures. During data validation, a data validator entered the data validation qualifiers to the ERPToolsX database electronic file. The database records are stored as part of the permanent project data file as indicated above.

Analytical and sampling data collected as part of this RI was uploaded to ERPIMS on August 17, 2016 and January 18, 2017 and submitted to the Air Force Civil Engineer Center (AFCEC) in accordance with the provisions outlined in the *Final RI Work Plan, UFP-QAPP* (TEC-Weston JV, 2016).

5. INVESTIGATION FINDINGS

This section summarizes the results of the RI field investigation and includes the presentation of the nature and extent of contamination in soil and groundwater at each site.

5.1 GEOLOGIC AND HYDROLOGIC INVESTIGATION RESULTS

Site-specific information on geology and hydrogeology was obtained during drilling of soil borings and MWs during previous investigations and the 2016 RI field work performed at the sites. The RI findings regarding geology and hydrogeology at ZZ007, TU008 and TU009 are consistent with previous investigations (AECOM, 2015; ANG, 2006; BEM, 2012).

Soil boring logs are provided in **Appendix A**. The geology at ZZ007, TU008 and TU009 is primarily comprised of clay soils with varying quantities of weathered shale with fine and coarse sands, and gravels.

Groundwater was not encountered during the soil boring operations at ZZ007. Groundwater was encountered at site TU008 in two soil borings (SC-TU008-MW001 and SC0TU008-MW003) at depths ranging from approximately 10 to 12 ft bgs and 4 to 5 ft bgs, respectively. Groundwater was encountered at site TU009 in two soil borings (SC-TU009-MW002 and SC-TU009-MW003) at depths ranging from approximately 5 to 7 ft bgs. Water level measurements are provided in **Table 5-1** and on the static groundwater level measurement forms provided in **Appendix C.** A basewide potentiometric surface map is included as **Figure 5-1** based on groundwater elevation data collected in June 2016. Based on the water levels obtained from the new MWs, groundwater flow in the vicinity of ZZ007 and TU008 in the northern portion of the ANGB has a south-southeast component toward the Mohawk River. Groundwater flow in the southern portion of the ANGB and TU009 is south and slightly southwest toward the Mohawk River.

5.2 PROJECT ACTION LIMITS

Regulatory screening levels considered in development of soil and groundwater PALs were derived from the following United States Environmental Protection Agency (USEPA) and NYSDEC screening level sources. Soil PALs selected were the minimum value (i.e., most stringent) of the following:

- Unrestricted Use SCOs as specified in 6 New York Codes, Rules, and Regulations (NYCRR) Part 375.

- NYSDEC CP-51 Residential SSCOs (NYSDEC, 2006a and 2010).
- USEPA May 2016 Residential Regional Screening Levels (RSLs) based on target hazard quotient (THQ) of 1 and target risk (TR) of 1E-06 (USEPA, 2016a) were used as the PAL for analytes that do not have a published SCO.

Additionally, NYSDEC rural soil background concentrations (NYSDEC, 2006b) and Eastern United States background levels for iron (Appendix A of the NYSDEC TAGM 4046 [NYSDEC, 1994; updated 2000]) were considered for data comparisons.

Groundwater PALs selected were the minimum value (i.e., most stringent) of the following:

- NYSDEC Class GA (source of drinking water, groundwater) Water Quality Standards as specified in 6 NYCRR Part 703 (NYSDEC, 1998).
- USEPA National Primary Drinking Water Regulations (i.e., MCLs) (USEPA, 2016b).
- USEPA May 2016 tap water RSLs based on THQ of 1 and TR of 1E-06 (USEPA, 2016a) were used as the PAL for analytes that do not have a published NYSDEC Water Quality Standard or MCL.

All PAL exceedance results are summarized in the following sections for Sites ZZ007, TU008, and TU009. Chemicals that exceed PALs are retained for fate and transport (Section 7) and risk assessment (Section 8) analysis, and are considered preliminary COPCs.

5.3 ZZ007 ANALYTICAL RESULTS

5.3.1 Soils

The analytical results of soil data collected for the RI and the PA/SI at ZZ007 are discussed below. **Table 5-2** presents the ZZ007 RI soil analytical data compared to the soil PALs. Refer to Table 5-1 of the Final PA/SI Report for the PA/SI soil data (AECOM, 2015). **Figure 5-2** presents COPC concentrations in RI and PA/SI soil samples collected at ZZ007 exceeding soil PALs for metals.

During the PA/SI, arsenic, nickel, and zinc were detected in at least one soil sample at concentrations slightly exceeding NYSDEC Unrestricted Use SCOs. The detected concentrations did not exceed Residential SCOs. Iron was detected in soil at 31,000 to 47,000 mg/kg, which exceeds the NYSDEC CP-51 Residential SSCO.

As presented in **Table 5-2**, three metals, iron, nickel and thallium, were detected in RI soil samples at concentrations above PALs. Similar to the SI data, iron concentrations in soil ranged from

24,000 mg/kg (in SC-ZZ007-MW003-S0002 collected from 0 to 2 ft bgs) to 35,000 mg/kg (in SC-ZZ007-MW001-S0506 collected from 5 to 6 ft bgs). PAL exceedances for metals in soil were also compared to Eastern United States background levels as published in Appendix A of the NYSDEC TAGM 4046 (NYSDEC, 1994; updated 2000). The concentrations of iron in PA/SI and RI soil samples are within the Eastern United States background levels for iron of 2,000 to 550,000 mg/kg, suggesting that iron is naturally occurring in the soils at ZZ007. Concentrations of nickel ranged from 33 mg/kg (in SC-ZZ007-MW003-S0204 and duplicate sample SC-ZZ007-MW003-S0204-D collected from 2 to 4 ft bgs) to 47 mg/kg (in SC-ZZ007-MW001-S0506 collected from 5 to 6 ft bgs). These concentrations of nickel exceed the NYSDEC Unrestricted Use SCO of 30 mg/kg based on protection of ecological resources but do not exceed the residential direct contact objective of 140 mg/kg. Thallium concentrations ranged from 0.82 mg/kg (in SC-ZZ007-MW003-S0002 collected from 0 to 2 ft bgs) to 1.3 mg/kg (in SC-ZZ007-MW002-S0607 collected from 6 to 7 ft bgs). Sample results for thallium are reported as flagged with a “J” indicating that the sample concentrations are estimated. These sample results exceeded the USEPA residential RSL of 0.78 mg/kg. NYSDEC does not have a published Unrestricted Use SCO. Concentrations of arsenic (detected above the PALs in one PA/SI soil sample) and zinc (detected above PALs in two PA/SI soil samples) were not repeated in any of the other soil samples collected at site ZZ007 and a pattern of occurrence was not established. The detected concentrations of arsenic and zinc during the PA/SI exceeded the NYSDEC SCO based on ecological resources but did not exceed Residential Use SCOs.

No elevated PID headspace readings or visual and olfactory evidence of contamination was encountered in the soil borings at ZZ007. PID readings and observations are recorded on the soil boring logs included in **Appendix A**. Based on the results of the PA/SI and RI, metals appear to be low level or naturally occurring in the soils at site ZZ007 because there is no evidence of a source area or release.

5.3.2 Groundwater

The analytical results of groundwater data collected for the PA/SI and RI are discussed below. **Table 5-3** presents the RI groundwater analytical data at Site ZZ007 compared to the groundwater PALs. **Figure 5-3** presents COPC concentrations in RI groundwater samples collected at ZZ007 exceeding groundwater PALs for metals.

As presented in **Table 5-3** and **Figure 5-3**, concentrations of metals were detected in all three MWs sampled during the RI (SC-ZZ007-MW001, SC-ZZ007-MW002, and SC-ZZ007-MWUNK). The highest concentrations of metals (aluminum, arsenic, barium, beryllium, cadmium, chromium, cobalt, copper, iron, lead, magnesium, manganese, nickel, and vanadium) detected above PALs were at MW SC-ZZ007-MW001, located upgradient of the Former Building 13 area. The groundwater in the area of Site ZZ007 is perched and intermittent. Temporary MW SC-ZZ007-MW001 ran dry during sampling and the sample collected was turbid. Therefore, groundwater samples from all MWs at Site ZZ007 were field filtered with data presented as both total and dissolved metals on **Table 5-3**. Groundwater results for dissolved metals from upgradient MW SC-ZZ007-MW001 were all non-detect or below PALs with the exception of cobalt (17 µg/L) and manganese (3,800 µg/L). Cobalt (19 µg/L), magnesium (72,000 µg/L), manganese (4,700 µg/L), and sodium (39,000 µg/L) were the only metals detected above PALs in the filtered groundwater sample at SC-ZZ007-MW002. Sodium (39,000 µg/L) was the only dissolved metal detected above the PAL in both the normal and duplicate filtered samples collected from SC-ZZ007-MWUNK. Magnesium and sodium are essential human nutrients. Concentrations of metals in groundwater at Former Building 13 Area and downgradient MWs are consistent with or less than those in upgradient MW SC-ZZ007-MW001; therefore, metals present in groundwater are not indicative of a release of hazardous substances at site ZZ007.

The presence of metals in groundwater is not likely to be a result of a release from the Former Building 13 Area. The highest concentrations of metals are present in upgradient MW SC-ZZ007-MW001 with fewer metals at lesser concentrations occurring at locations both within and downgradient of the site. Former IRP Site 2 was located in the same area as Site ZZ007 and metals were detected at similar concentrations in groundwater during the Site 2 RI. Dissolved cobalt was detected in groundwater at concentrations up to 37.5 µg/L and dissolved manganese was detected at concentrations up to 4,820 µg/L during the Site 2 RI. NFA was recommended for Site 2, based on the absence of significant COCs, the presence of metals in groundwater upgradient of the site, and the fact that the aquifer underlying Site 2 is not a source of drinking water (Aneptek, 2000).

5.4 TU008 ANALYTICAL RESULTS

5.4.1 Soils

The analytical results of soil data collected for the PA/SI and RI at TU008 are discussed in the subsections below. **Table 5-4** presents the TU008 RI soil analytical data compared to the soil PALs. Refer to Table 5-3 of the Final PA/SI Report for the 2015 PA/SI soil data (AECOM, 2015). **Figure 5-4** presents COPC concentrations in PA/SI and RI soil samples collected at TU008 exceeding soil PALs.

A petroleum-like odor was observed in soils between 2 and 6 ft bgs in soil boring SC-TU008-MW002, advanced in the area of the Former Heating Oil UST #41 Area (**Figure 5-4**). However, no elevated PID headspace readings or visual evidence of contamination were encountered in soil boring SC-TU008-MW002. A slight petroleum odor and staining was observed in soil at 5 ft bgs in downgradient soil boring SC-TU008-MW006. However, no elevated PID headspace readings above background were noted in this boring. Slight petroleum odors were also observed in soils between 4.5 and 5.5 ft bgs in downgradient soil borings SC-TU008-MW005 and SC-TU008-MW006. No elevated PID headspace readings above background were encountered, and no visual or olfactory evidence of contamination was encountered in upgradient soil boring SC-TU008-MW001 or in downgradient soil borings SC-TU008-MW003 and SC-TU008-MW004. PID readings and observations are recorded on the soil boring logs included in **Appendix A**.

5.4.1.1 Volatile Organic Compounds

As presented in **Table 5-4** and **Figure 5-4**, only one VOC (acetone) was detected above the PAL in soil at Site TU008. Acetone (0.093 mg/kg) was detected above the PAL in sample SC-TU008-MW004-S0305 collected from 3 to 5 ft bgs. This concentration of acetone is flagged with a “J+” by the laboratory, indicating the sample result is an estimated concentration and is biased high. The detected concentration exceeds the NYSDEC Unrestricted Use SCO of 0.05 mg/kg based on protection of groundwater but does not exceed the Residential Use SCO of 100 mg/kg. Acetone was not detected above the PAL in the soil sample collected from the same boring (SC-TU008-MW004) at 5 to 7 ft bgs, nor was it detected above PALs in any of the other soil samples collected from borings advanced closer to and downgradient of the footprint of the former UST. Acetone was not detected in groundwater at SC-TU008-MW004 above the groundwater PAL indicating that acetone in soil is not impacting groundwater.

5.4.1.2 Semivolatile Organic Compounds

No SVOCs were detected in RI soil samples at concentrations exceeding soil PALs as summarized on **Table 5-4**.

5.4.2 Groundwater

The analytical results of groundwater data collected for the RI are discussed below. **Table 5-5** presents the TU008 RI groundwater analytical data compared to the groundwater PALs. **Figure 5-5** presents COPC concentrations in RI groundwater samples collected at TU008 exceeding PALs.

5.4.2.1 Volatile Organic Compounds

As presented in **Table 5-5** and **Figure 5-5**, VOCs 2-butanone (130 µg/L) and acetone (110 µg/L) were detected at concentrations above PALs at downgradient temporary MW SC-TU008-MW003. The laboratory results of 2-butanone and acetone were flagged with a J+, indicating concentrations are estimated and biased high.

No VOCs were detected above PALs during the second round of groundwater sampling conducted at permanent MWs SC-TU008-MW001, SC-TU008-MW002, and SC-TU008-MW004. In addition, no VOCs were detected above PALs in the additional MW, SC-TU008-MW006, installed further downgradient of the site, thus delineating any COPCs at concentrations above PALs.

5.4.2.2 Semivolatile Organic Compounds

As presented in **Table 5-5** and **Figure 5-5**, SVOCs 1,2,4-trichlorobenzene (130 µg/L) and 1,2-dichlorobenzene (25 µg/L) were detected in groundwater at upgradient MW SC-TU008-MW001 at concentrations above PALs. One SVOC, 2,4,6-trichlorophenol, was detected in both the normal (14 µg/L) and duplicate (11 µg/L) groundwater samples collected at MW SC-TU008-MW002, located near the Former Heating Oil UST #41 area, and also in crossgradient MW SC-TU008-MW004 (23 µg/L) at concentrations above the PAL.

No SVOCs were detected above PALs during the second round of groundwater sampling conducted at permanent MWs SC-TU008-MW001, SC-TU008-MW002, and SC-TU008-MW004. In addition, no SVOCs were detected above PALs in the additional MW, SC-TU008-MW006,

installed further downgradient of the site, thus delineating any COPCs at concentrations above PALs.

5.5 TU009 ANALYTICAL RESULTS

5.5.1 Soils

The analytical results of soil data collected for the PA/SI and RI at TU009 are discussed in the subsections below. **Table 5-6** presents the TU009 RI soil analytical data compared to the soil PALs. Refer to Table 5-5 of the Final PA/SI Report for the 2015 PA/SI soil data (AECOM, 2015). **Figure 5-6** presents COPC concentrations in RI and PA/SI soil samples collected at TU009 exceeding soil PALs.

No elevated PID headspace readings or visual and olfactory evidence of contamination was encountered in the soil borings. PID readings and observations are recorded on the soil boring logs included in **Appendix A**.

5.5.1.1 Metals

As illustrated on **Figure 5-6,** arsenic, copper, nickel and zinc concentrations exceeded PALs in at least one soil sample collected during the PA/SI. Iron was also detected in soil during the PA/SI at concentrations ranging from 24,000 mg/kg to 55,000 mg/kg, which exceed the NYSDEC CP-51 Residential SSCO. As illustrated on **Figure 5-6** and summarized on **Table 5-6,** copper, nickel, and thallium were detected in at least one RI soil sample at concentrations above PALs. Iron was detected in all of the RI soil samples (30,000 mg/kg to 39,000 mg/kg) at concentrations exceeding the PAL. Similar to Site ZZ007, the concentrations of iron in PA/SI and RI soil samples are within the Eastern United States background levels for iron of 2,000 to 550,000 mg/kg, suggesting that iron is naturally occurring in the soils at Site TU009 and is likely not a result of a release.

Arsenic was detected at PA/SI sampling location TU09SB14 in the sample collected from 7 to 8 ft bgs at 15 mg/kg exceeding NYSDEC Unrestricted Use SCO of 13 mg/kg based on protection of ecological resources but does not exceed the residential direct contact objective of 16 mg/kg. Copper (52 mg/kg at 6 to 8 ft bgs), nickel (33 mg/kg at 3 to 5 ft bgs and 46 mg/kg at 6 to 8 ft bgs), and thallium (3.7 mg/kg at 3 to 5 ft bgs) were detected in samples collected at boring SC-TU009-MW001 advanced upgradient of the site at concentrations above their respective PALs. Nickel was detected above the PAL at 31 mg/kg from the original sample and at 37 mg/kg in the duplicate

soil sample collected from boring SC-TU009-MW002 at 5 to 7 ft bgs. Similar concentrations of nickel (38 mg/kg at 3 to 5 ft bgs and 40 mg/kg at 5 to 7 ft bgs) exceeded the PAL in the soil samples collected at SC-TU009-MW003.

Copper and nickel concentrations exceed NYSDEC Unrestricted SCOs based on protection of ecological resources (50 mg/kg and 30 mg/kg, respectively) but do not exceed Residential Use SCOs (270 and 140 mg/kg, respectively). Thallium concentrations exceeded the USEPA residential RSL of 0.78 mg/kg; NYSDEC does not have a published Unrestricted Use SCO for thallium.

Concentrations of metals in soil are not indicative of a release of hazardous substances at site TU009. Also, the Site 6 excavation areas include the area up to the edge of the WWTP Bypass UST. The soil adjacent to and downgradient of Site TU009, WWTP Bypass UST area has been removed and replaced with soil from the larger excavation area.

5.5.1.2 Semivolatile Organic Compounds

No SVOCs were detected in RI soil samples at concentrations exceeding soil PALs as summarized on **Table 5-6**.

5.5.2 Groundwater

The analytical results of groundwater data collected for the RI are discussed below. **Table 5-7** presents the TU009 RI groundwater analytical data compared to the groundwater PALs. **Figure 5-7** presents COPC concentrations in RI groundwater samples collected at TU009 exceeding PALs.

5.5.2.1 Metals

It was not possible to collect groundwater samples from locations SC-TU009-MW001 and SC-TU009-MW002 because no saturated zone was encountered. Groundwater samples were collected from the three MWs downgradient of the WWTP Bypass UST area. Cobalt, iron, magnesium, manganese, nickel, and sodium were detected in both total and dissolved groundwater samples collected at newly installed MW SC-TU009-MW003 at concentrations exceeding the PALs during the initial sampling event in June 2016. Magnesium, manganese, and sodium were detected in both total and dissolved groundwater samples collected from existing downgradient IRP Site 6 wells at

concentrations exceeding the PALs. Iron was detected in the groundwater sampled for total metals from well SC-TU009-6MW24 at a concentration exceeding the PAL, but was not detected in the dissolved metals sample.

The presence of cobalt and nickel was not confirmed above the PALs during the second round of groundwater sampling at newly installed well SC-TU009-MW003. Both total and dissolved sample results for cobalt were non-detect, and total and dissolved concentrations of nickel were detected below PALs. Arsenic (dissolved) and thallium (total) were also detected at SC-TU009-MW003 at concentrations above PALs. Arsenic and thallium were not detected at IRP Site 6 well 6MW22 located downgradient of SC-TU009-MW003.

According to the RACR for Site 6, iron and manganese were present at high concentrations in the MWs sampled, which demonstrates that abiotic transformation may be occurring because the dechlorination reactions would be enhanced in the presence of metal amendments, especially iron.

5.5.2.2 Semivolatile Organic Compounds

No SVOCs were detected in RI groundwater samples at concentrations exceeding groundwater PALs as summarized on **Table 5-7**.

5.6 DATA ANALYSES, VALIDATION, AND USABILITY ASSESSMENT

Sample analyses, data validation, and data evaluation was performed as part of the RI activities in accordance with the *Final RI Work Plan, UFP-QAPP* (TEC-Weston JV, 2016). Information regarding specific analytical methods, validation, and data reporting is included in the following subsections.

5.6.1 Sample Analyses

As part of the ZZ007 RI, seven soil (six normal samples and one duplicate sample) and four groundwater (three normal samples and one duplicate sample) were collected. During the TU008 RI field activities, nine soil samples (eight normal samples and one duplicate sample) and ten groundwater samples (eight normal samples and two duplicate samples) were collected. During the TU009 RI field activities, seven soil samples (six normal samples and one duplicate sample), and five groundwater samples (four normal samples and one duplicate sample) were collected. Samples were analyzed by TestAmerica for VOCs by USEPA SW-846 Method 8260C (site

TU008), for SVOCs by USEPA SW-846 Method 8270D (sites TU008 and TU009), and metals by USEPA Method SW-6010C and Method 7470A (sites ZZ007 and TU009). Copies of TestAmerica analytical data packages and chain-of-custody forms are included in **Appendix E**.

5.6.2 Data Validation

Laboratory Data Consultants, Inc., located in Carlsbad, California, performed Stage 2 data validation in accordance with USEPA National Functional Guidelines (USEPA, 2016d) on the TestAmerica sample delivery groups (SDGs). Data validation was completed to identify quality assurance (QA)/quality control (QC) problems in an effort to determine the usability of the data. The QA/QC criteria considered included the following:

- Holding times, sample preservation, and storage.
- Instrument performance checks.
- Instrument calibration, initial and continuing calibration verification.
- Laboratory and field blanks.
- System monitoring compound (surrogate) spike recoveries.
- Matrix spike (MS)/matrix spike duplicate (MSD).
- Laboratory control sample (LCS) and/or laboratory control sample duplicate (LCSD).
- Field duplicate.

Validation reports were created for each laboratory SDG to document the validation process and findings. The data validation on the samples indicated that results in some samples were qualified due to the analytical QC parameters not meeting acceptance criteria. Details on data qualification and usability for these samples are presented in the validation reports, which are included in **Appendix F**.

5.6.3 Data Usability Assessment

This section evaluates the data quality indicators (precision, accuracy, representativeness, completeness, comparability, and sensitivity parameters) of the data set from the field sampling events.

The deviations were reviewed to determine whether the data were impacted. No major deviations from the planned data collection field event were encountered; therefore, the usability of the data was not impacted. Some laboratory data were rejected through the validation process

(**Appendix F**). With the exception of the rejected data, the data for the project were determined to be usable for their intended purposes.

Field QC samples, including blanks, duplicates, and MS/MSDs, were collected at the frequency specified in the *Final RI Work Plan, UFP-QAPP* (TEC-Weston JV, 2016). Trip blanks were collected at a rate of one per cooler with VOC samples. Equipment blanks were collected at a rate of one per event per site. Field duplicates were collected at or exceeding the 10% frequency of collection criterion. MS/MSDs were collected at or exceeding the 10% frequency of collection criterion.

5.6.3.1 Precision

Precision is evaluated by calculating the relative percent difference (RPD) between field sample pairs (e.g., investigative and field duplicate samples) and laboratory duplicate pairs (e.g., MS/MSD, LCS/LCSD, and laboratory duplicate analysis). RPDs are calculated for each analyte whose original and duplicate values are both greater than or equal to the limit of quantitation (LOQ). The following analytes exceeded the RPD criteria and resulted in qualified results:

- The RPDs for isopropylbenzene and tert-butylbenzene and the differences for 1,1,2-trichloroethane and 4-methyl-2-pentanone exceeded the QC limits in the parent and field duplicate soil samples SC-TU008-MW002-S0406 and SC-TU008-MW002-S0406-D. The detected results for these four analytes in the parent and field duplicate were qualified as estimated (J) and the undetected results were qualified as nondetected estimated (UJ) based on field duplicate imprecision.

- The RPD for fluoranthene exceeded 20% in the MS/MSD pair associated with groundwater sample SC-TU009-6MW22-G-1. The detected result for fluoranthene was qualified as estimated (J) in this sample as a result of poor laboratory precision.

- The RPDs for cadmium, cobalt, lead, manganese, selenium, sodium, thallium, arsenic, and silver exceeded 20% in the MS/MSD pair associated with soil sample SC-TU009-MW001-S0305. The detected results for cobalt, lead, manganese, thallium, and arsenic were qualified as estimated (J) and the undetected results for cadmium, selenium, silver, and sodium were qualified as nondetected estimated (UJ) in this sample as a result of poor laboratory precision.

- The RPDs for calcium, magnesium, and mercury exceeded the QC limit in the parent and field duplicate soil samples SC-ZZ007-MW003-S0204 and SC-ZZ007-MW003-S0204-D. The results for these three analytes in the parent and field duplicate were qualified as estimated (J) based on field duplicate imprecision.

5.6.3.2 Accuracy/Bias and Contamination

Accuracy/bias is evaluated by reviewing the percent recovery (%R) for surrogates, LCS/LCSD samples, MS/MSD samples, instrument calibration, serial dilution, and internal standard recoveries. These parameters are further discussed in the data validation reports (**Appendix F**).

5.6.3.2.1 Surrogates

Surrogate spikes were within the QC limits with the exception of the following:

- Detected results in five groundwater VOC samples were qualified as estimated with a high bias (J+) because of elevated surrogate spike recoveries for one or more VOC surrogates. Affected VOC samples included SC-TU008-MW001-G-1, SC-TU008-MW002-G-1, SC-TU008-MW002-G-1-D, SC-TU008-MW004-G-1, and SC-TU008-MW003-G-1.

- Detected results in eight soil VOC samples were qualified as estimated with a high bias (J+) because of elevated surrogate spike recoveries for one or more VOC surrogates. Affected VOC samples included samples SC-TU008-MW001-S0002, SC-TU008-MW002-S0406, SC-TU008-MW002-S0406-D, SC-TU008-MW002-S0002, SC-TU008-MW003-S0204, SC-TU008-MW003-S0405, SC-TU008-MW004-S0507, and SC-TU008-MW004-S0305.

- Nondetected results in two groundwater SVOC samples were qualified as rejected (R) because of low surrogate spike recoveries for two or more SVOC surrogates. Affected SVOC samples included samples SC-TU009-6MW22-G-1 and SC-TU009-6MW22-G-1-D.

5.6.3.2.2 LCS/LCSD

- The recovery for chloroethane in the LCSD associated with groundwater samples SC-TU008-MW002-G-2, SC-TU008-MW002-G-2-D, SC-TU008-MW004-G-2, and SC-TU008-MW001-G-2 was 53%R. The non-detected results in these five samples were qualified as nondetected estimated (UJ).

- The LCS associated with four groundwater samples was not spiked with N-Nitrosopyrrolidine as required by the DoD Quality Systems Manual (QSM) 5.0 (DoD, 2013). The non-detected results for N-Nitrosopyrrolidine were qualified as rejected (R) in samples SC-TU008-MW001-G-1, SC-TU008-MW002-G-1, SC-TU008-MW002-G-1-D, and SC-TU008-MW004-G-1.

- The LCS associated with nine soil samples was not spiked with N-Nitrosopyrrolidine as required by the DoD QSM 5.0 (DoD, 2013). The non-detected results for N-Nitrosopyrrolidine were qualified as rejected (R) in samples SC-TU008-MW001-S0002, SC-TU008-MW001-S1012, SC-TU008-MW002-S0406, SC-TU008-MW002-S0406-D, SC-TU008-MW002-S0002, SC-TU008-MW003-S0204, SC-TU008-MW003-S0405, SC-TU008-MW004-S0507, and SC-TU008-MW004-S0305.

- The LCS associated with seven soil samples and four groundwater samples was not spiked with N-Nitrosopyrrolidine as required by the DoD QSM 5.0 (DoD, 2013). The non-detected results for N-Nitrosopyrrolidine were qualified as rejected (R) in soil samples SC-TU009-MW001-S0305, SC-TU009-MW001-S0608, SC-TU009-MW002-S0507, SC-TU009-MW002-S0305, SC-TU009-MW002-S0507-D, SC-TU009-MW003-S0507, and SC-TU009-MW003-S0305 and groundwater samples SC-TU009-MW003-G-1, SC-TU009-6MW24-G-1, SC-TU009-6MW22-G-1, and SC-TU009-6MW22-G-1-D.

- The recovery for benzidine in the LCS associated with groundwater samples SC-TU008-MW001-G-1, SC-TU008-MW002-G-1, SC-TU008-MW002-G-1-D, and SC-TU008-MW004-G-1 was 0%. The non-detected results in these four samples were qualified as rejected (R) as a result of extremely poor spike recovery.

- The recovery for benzidine in the LCS associated with soil samples SC-TU008-MW001-S0002, SC-TU008-MW001-S1012, SC-TU008-MW002-S0406, SC-TU008-MW002-S0406-D, SC-TU008-MW002-S0002, SC-TU008-MW003-S0204, SC-TU008-MW003-S0405, SC-TU008-MW004-S0507, and SC-TU008-MW004-S0305 was 0%. The non-detected results in these nine samples were qualified as rejected (R) as a result of extremely poor spike recovery.

- The recovery for benzidine in the LCS associated with soil samples SC-TU009-MW001-S0305, SC-TU009-MW001-S0608, SC-TU009-MW002-S0507, SC-TU009-MW002-S0305, SC-TU009-MW002-S0507-D, SC-TU009-MW003-S0507, and SC-TU009-MW003-S0305 and groundwater samples SC-TU009-MW003-G-1, SC-TU009-6MW24-G-1, SC-TU009-6MW22-G-1, and SC-TU009-6MW22-G-1-D was 0%. The non-detected results in these seven soil and four groundwater samples were qualified as rejected (R) as a result of extremely poor spike recovery.

- The recovery for benzidine in the LCS associated with groundwater samples SC-TU008-MW002-G-2, SC-TU008-MW002-G-2-D, SC-TU008-MW004-G-2, and SC-TU008-MW001-G-2 was 0%. The non-detected results in these four samples were qualified as rejected (R) as a result of extremely poor spike recovery.

- The recovery for benzidine in the LCS/LCSD associated with groundwater sample SC-TU008-MW006-G-1 was 0%. The non-detected result in the sample was qualified as rejected (R) as a result of extremely poor spike recovery.

5.6.3.2.3 MS/MSD

- Spike recoveries for chloroethane (59%R in the MS and 55%R in the MSD) in the MS/MSD prepared from groundwater sample SC-TU008-MW001-G-2 were less than the lower QC limit. The non-detected result for chloroethane in unspiked groundwater sample SC-TU008-MW001-G-2 was qualified as nondetected estimated (UJ).

- The MS/MSD prepared from groundwater sample SC-TU008-MW001-G-1 were not spiked with N-Nitrosopyrrolidine as required by the DoD QSM 5.0 (DoD, 2013). The non-detected result for N-Nitrosopyrrolidine in unspiked groundwater sample SC-TU008-MW001-G-1 was qualified as rejected (R).

- The MS/MSD prepared from soil sample SC-TU008-MW001-S1012 were not spiked with N-Nitrosopyrrolidine as required by the DoD QSM 5.0 (DoD, 2013). The non-detected result for N-Nitrosopyrrolidine in unspiked soil sample SC-TU008-MW001-S1012 was qualified as rejected (R).

- The MS/MSD prepared from groundwater sample SC-TU009-6MW22-G-1 and soil sample SC-TU009-MW001-S0305 were not spiked with N-Nitrosopyrrolidine as required by the DoD QSM 5.0 (DoD, 2013). The non-detected results for N-Nitrosopyrrolidine in unspiked groundwater sample SC-TU009-6MW22-G-1 and soil sample SC-TU009-MW001-S0305 were qualified rejected (R).

- Spike recoveries for benzidine and hexachlorocyclopentadiene in the MS/MSD prepared from soil sample SC-TU008-MW001-S1012 were 0%R in the MS and 8%R in the MSD for benzidine, and 8%R in the MS and 11%R in the MSD for hexachlorocyclopentadiene. The non-detected results for benzidine and hexachlorocyclopentadiene in unspiked soil sample SC-TU008-MW001-S1012 were qualified as rejected (R) as a result of extremely poor spike recovery.

- Spike recoveries for benzidine in the MS/MSD prepared from soil sample SC-TU009-MW001-S0305 were 0%Rs. The non-detected results were qualified as rejected (R) as a result of extremely poor spike recovery.

- Spike recoveries for benzidine, 2,4,6-trichlorophenol, 2,4-dichlorophenol, 2,4-dimethylphenol, 2,6-dichlorophenol, 2-chlorophenol, 2-methylphenol, 3,4-methylphenol, 3,3'-dichlorobenzidine, 3-nitroaniline, 4-chloroaniline, pentachlorophenol, and phenol for the MS/MSD prepared from groundwater sample SC-TU009-6MW22-G-1 were extremely less than the lower QC limit. The non-detected results for benzidine, 2,4,6-trichlorophenol, 2,4-dichlorophenol, 2,4-dimethylphenol, 2,6-dichlorophenol, 2-chlorophenol, 2-methylphenol, 3,4-methylphenol, 3,3'-dichlorobenzidine, 3-nitroaniline, 4-chloroaniline, pentachlorophenol, and phenol in unspiked samples SC-TU009-6MW22-G-1 and SC-TU009-6MW22-G-1-D were qualified as rejected (R) as a result of extremely poor spike recovery.

- Spike recoveries for 2,4,5-trichlorophenol, 4-nitroaniline, acenaphthene, acenaphthylene, anthracene, carbazole, N-Nitrosodiphenylamine, and pyrene for the MS/ MSD prepared from groundwater sample SC-TU009-6MW22-G-1 were less than the lower QC limit. The non-detected result for 2,4,5-trichlorophenol, 4-nitroaniline, acenaphthene, acenaphthylene, anthracene, carbazole, N-Nitrosodiphenylamine, and pyrene in unspiked groundwater samples SC-TU009-6MW22-G-1 and SC-TU009-6MW22-G-1-D were qualified as nondetected estimated (UJ).

- Spike recoveries for benzidine in the MS/MSD prepared from groundwater sample SC-TU008-MW001-G-2 were 0%R. The non-detected result for benzidine in unspiked groundwater sample SC-TU008-MW001-G-2 was qualified as rejected (R).

- Spike recovery for phenol in the MS/MSD prepared from groundwater sample SC-TU008-MW001-G-2 was 58%R in the MS. The detected result for phenol in unspiked groundwater sample SC-TU008-MW001-G-2 was qualified as estimated (J).

- Spike recoveries for calcium in the MS/MSD prepared from groundwater sample SC-TU009-6MW22-G-1 were less than the lower QC limit. The detected results for calcium in unspiked samples SC-TU009-6MW22-G-1 and SC-TU009-6MW22-G-1-D were qualified as estimated with a low bias (J-).

- Spike recoveries for antimony and silver were less than the lower QC limit, and spike recoveries for chromium, potassium, and vanadium were more than the higher QC limit for the MS/MSD prepared from soil sample SC-TU009-MW001-S0305. The non-detected results for antimony and silver in unspiked sample SC-TU009-MW001-S0305 were qualified as nondetected estimated (UJ) and the detected results for chromium, potassium, and vanadium were qualified as estimated (J).

In addition to the calculated %R, an evaluation of calibration was performed; all initial and continuing calibrations were reviewed. Internal standard (IS) recoveries were also reviewed to assess accuracy in sample quantitation. Serial dilution percent differences were reviewed for matrix effect.

5.6.3.2.4 Instrument Calibration

Instrument calibrations were within the QC limits with the exception of the following:

- The percent differences for dichlorodifluoromethane (21.6%D) and bromomethane (22.4%D) in the continuing calibration associated with soil samples SC-TU008-MW001-S0002, SC-TU008-MW001-S1012, SC-TU008-MW002-S0406, SC-TU008-MW002-S0406-D, SC-TU008-MW002-S0002, SC-TU008-MW003-S0204, SC-TU008-MW003-S0405, SC-TU008-MW004-S0507, and SC-TU008-MW004-S0305 were more than the QC limit. The non-detected results in these nine soil samples were qualified as nondetected estimated (UJ).

- The percent differences for vinyl chloride (20.5%D), bromomethane (39.2%D), chloroethane (45.1%D), and trichlorofluoromethane (24.6%D) in the continuing calibration associated with groundwater samples SC-TU008-MW002-G-2, SC-TU008-MW002-G-2-D, SC-TU008-MW004-G-2, and SC-TU008-MW001-G-2 were more than the QC limit. The non-detected results in these four groundwater samples were qualified as nondetected estimated (UJ).

5.6.3.2.5 Serial Dilution

Serial dilutions were within the QC limits with the exception of the following:

- The percent difference for aluminum in the serial dilution associated with soil sample SC-TU009-MW001-S0305 was 11%. The detected result in the sample was qualified as estimated (J).

The majority of the data were within accuracy QC limits. All results are usable or usable as qualified for their intended purpose with the exception of the rejected results as noted above, which are unusable.

5.6.3.2.6 Accuracy/Bias (Contamination)

Sample contamination is evaluated by laboratory and field blanks (e.g., method, calibration, trip, and equipment blanks). The following compounds were detected in a blank and resulted in qualified soil or groundwater sample results:

- Bromomethane and chloroethane were detected in the trip blank and 2-butanone and chloroethane were detected in the equipment blank associated with four groundwater samples. The detected chloroethane and 2-butanone results in groundwater samples SC-TU008-MW001-G-1, SC-TU008-MW002-G-1, SC-TU008-MW002-G-1-D, and SC-TU008-MW004-G-1 and the detected bromomethane results in groundwater samples SC-TU008-MW001-G-1 and SC-TU008-MW002-G-1-D were qualified as undetected (U) with the results being raised to the LOQ.

- The method blank associated with three groundwater samples was contaminated with benzyl alcohol and bis(2-ethylhexyl)phthalate. Sample results that were less than the LOQ for benzyl alcohol in samples SC-TU008-MW002-G-1, SC-TU008-MW002-G-1-D, and SC-TU008-MW004-G-1 and bis(2-ethylhexyl)phthalate in sample SC-TU008-MW004-G-1 were qualified as undetected (U) with the result being raised to the LOQ.

- The method blank associated with four groundwater samples was contaminated with benzyl alcohol and bis(2-ethylhexyl)phthalate. Sample results that were less than the LOQ for benzyl alcohol in samples SC-TU009-MW003-G-1, SC-TU009-6MW24-G-1, SC-TU009-6MW22-G-1, and SC-TU009-6MW22-G-1-D were qualified as undetected (U) with the result being raised to the LOQ.

- The method blank associated with one groundwater sample was contaminated with arsenic. The dissolved metals sample result that was less than the LOQ for arsenic in sample SC-TU009-6MW22-G-1-D was qualified as undetected (U) with the result being raised to the LOQ.

- The calibration and method blank associated with one groundwater sample was contaminated with silver. The dissolved metals sample result that was less than the LOQ for silver in sample SC-TU009-MW003-G-2 was qualified as undetected (U) with the result being raised to the LOQ.

- The calibration blank associated with six soil samples was contaminated with selenium and one soil sample was contaminated with antimony. Sample results that were less than the LOQ for selenium in samples SC-ZZ007-MW001-S0103, SC-ZZ007-MW001-S0506, SC-ZZ007-MW002-S0607, SC-ZZ007-MW003-S0002, SC-ZZ007-MW003-S0204, and SC-

ZZ007-MW003-S0204-D and antimony in sample SC-ZZ007-MW003-S0204 were qualified as undetected (U) with the result being raised to the LOQ.

- The calibration blank associated with five groundwater samples were contaminated with antimony, arsenic, selenium, and thallium. Sample results that were less than the LOQ for antimony in samples SC-ZZ007-MWUNK-G-1 and SC-ZZ007-MWUNK-G-1 (dissolved metals), arsenic in samples SC-ZZ007-MWUNK-G-1, SC-ZZ007-MW002-G-1, and SC-ZZ007-MWUNK-G-1-D, selenium in dissolved metals sample SC-ZZ007-MWUNK-G-1, and thallium in dissolved metals samples SC-ZZ007-MWUNK-G-1 and SC-ZZ007-MW001-G-1 were qualified as undetected (U) with the result being raised to the LOQ.

- The calibration blank associated with three groundwater samples was contaminated with antimony, arsenic, and beryllium. Sample results that were less than the LOQ for antimony in samples SC-TU009-6MW22-G-1-D and SC-TU009-6MW24-G-1 (dissolved metals) and arsenic and beryllium in sample SC-TU009-MW003-G-1 were qualified as undetected (U) with the result being raised to the LOQ.

- The calibration blank associated with one groundwater sample was contaminated with arsenic. The sample result that was less than the LOQ for arsenic in sample SC-TU009-MW003-G-2 was qualified as undetected (U) with the result being raised to the LOQ.

- The equipment blank associated with two groundwater samples was contaminated with potassium. The detected potassium results in samples SC-ZZ007-MWUNK-G-1 and SC-ZZ007-MWUNK-G-1-D were qualified as undetected (U) with the result being raised to the LOQ.

5.6.3.3 Representativeness

Representativeness is a qualitative term that describes the extent to which a sampling design adequately reflects the environmental condition of the site, and takes into consideration the magnitude of the site area represented by one sample and indicates the feasibility and reasonableness of that design rationale. Representativeness also reflects the ability of the sampling team to collect samples and the ability of the laboratory to analyze those samples so that the generated data accurately and precisely reflect site conditions.

The sample design and rationale for the data collection effort was provided in the *Final RI Work Plan, UFP-QAPP* (TEC-Weston JV, 2016).

Field and laboratory sampling and subsampling techniques followed sampling and laboratory SOPs that specify premixing/homogenization procedures to ensure that all sub-samples taken from a given sample or sampling point are representative of the sample as a whole. Soil samples

requiring volatile analysis did not undergo any premixing or homogenization. Representativeness of the data set is considered acceptable after qualification for holding time as noted below.

- The holding time for all SVOC compounds associated with one groundwater sample, SC-TU008-MW006-G-1, exceeded the 7-day extraction holding time. The non-detected results in the sample were qualified as nondetected estimated (UJ).

5.6.3.4 Completeness

Completeness is a measurement of the amount of valid data collected using a measurement system and is expressed as a percentage of the number of measurements that are specified in the *Final RI Work Plan, UFP-QAPP* (TEC-Weston JV, 2016). Data that do not meet the measurement performance criteria as listed in the UFP-QAPP are rejected and are not usable to meet project goals. The percentage of valid data points are calculated by dividing the number of valid points (i.e., not rejected) by the total number of data points expected. The completeness goal is 90% for each analyte/media/method combination. There were some rejected (unusable) data. Soil and groundwater VOC completeness were calculated as 100%. Soil SVOC completeness was calculated as 97%. Groundwater SVOC completeness was calculated as 94%. Soil and groundwater metals completeness were calculated as 100%.

5.6.3.5 Comparability

Sample data are considered comparable for similar samples and sample conditions. During this investigation, the data collection and analysis followed standard techniques, approved SOPs, and industry-accepted analytical methods. Results were reported with appropriate and consistent units. Comparability of the data set is considered acceptable.

5.6.3.6 Sensitivity

Sensitivity is the ability of the method or instrument to detect target analytes at the level of interest. As defined by *Department of Defense Quality Systems Manual for Environmental Laboratories, Version 5.0* (DoD, 2013), the LOQ is the smallest concentration that produces a quantitative result with known and recorded precision and bias. The LOQ is set at or above the concentration of the lowest initial calibration standard and is within the calibration range. The limit of detection (LOD) is the smallest concentration that must be present to be detected with 99% confidence; the LOD is lowest concentration for reliably reporting a non-detect with 99% confidence.

Worksheet #15 of *Final RI Work Plan, UFP-QAPP* (TEC-Weston JV, 2016) includes the expected LOQ and LOD for each analyte. LODs and LOQs can be adjusted by the laboratory during routine method detection limits studies for samples requiring dilutions or, in the case of soil samples, for reporting on a dry weight basis. The LODs for non-detections reported in the final data set were compared against the site PALs for each analyte.

The majority of the soil LODs met site PALs. **Table 5-2** through **Table 5-7** present the soil and groundwater PALs and sample LODs. The analytes for which LODs exceeded the PALs are summarized below:

- Sample LODs for five VOCs reported in groundwater samples exceeded the PALs listed on **Table 5-5** for one or more samples and included 1,2-dibromo-3-chloropropane, 1,2-dibromoethane, 1,2-dichloroethane, cis-1,3-dichloropropene, and trans-1,3-dichloropropene. The samples were analyzed by USEPA SW-846 Method 8260C, which is the standard method for analyzing VOC samples by commercial environmental laboratories. All other water VOC sample LODs were less than or equal to the PALs.

- Sample LODs for three SVOCs reported in soil samples exceeded the PALs listed on **Table 5-4** and **Table 5-6** for one or more samples and included benzidine, N-Nitrosodimethylamine, and pentachlorophenol. The samples were analyzed by USEPA SW-846 Method 8270D, which is the standard method for analyzing SVOC samples by commercial environmental laboratories. All other soil SVOC sample LODs were less than or equal to the PALs.
- Sample LODs for 19 SVOCs reported in groundwater samples exceeded the PALs listed on **Table 5-5** and **Table 5-7** for one or more samples and included 1,2-diphenylhydrazine, 2,4-dinitrophenol, 4,6-dinitro-2-methylphenol, benzidine, benzo[a]anthracene, benzo[a]pyrene, benzo[b]fluoranthene, benzo[k]fluoranthene, chrysene, dibenz(a,h)anthracene, hexachlorobenzene, hexachlorobutadiene, hexachlorocyclopentadiene, indeno[1,2,3-cd]pyrene, nitrobenzene, N-Nitrosodimethylamine, N-Nitrosodi-n-propylamine, N-Nitrosopyrrolidine, and pentachlorophenol. The samples were analyzed by USEPA SW-846 Method 8270D, which is the standard method for analyzing SVOC samples by commercial environmental laboratories. All other groundwater SVOC sample LODs were less than or equal to the PALs.
- Sample LODs for thallium reported in soil samples exceeded the PALs listed on **Table 5-2** and **Table 5-6** for one or more samples. The samples were analyzed by USEPA SW-846 Method 6010C and 7471A, which is the standard method for analyzing metal samples by commercial environmental laboratories. All other soil metal sample LODs were less than or equal to the PALs.
- Sample LODs for four metals reported in groundwater samples exceeded the PALs listed on **Table 5-3 and Table 5-7** for one or more samples and included antimony, arsenic, selenium, and thallium. The samples were analyzed by USEPA SW-846 Method 6010C

and 7470A, which is the standard method for analyzing metal samples by commercial environmental laboratories. All other water metal sample LODs were less than or equal to the PALs.

6. APPLICABLE OR RELEVANT AND APPROPRIATE REQUIREMENTS

ARARs are cleanup standards, requirements, and/or criteria that an RA must meet to satisfy the requirements of CERCLA unless a specific waiver condition applies under the NCP. ARARs are identified during the development of RA alternatives to fulfill the following goals: (1) determine the appropriate levels of site cleanup, (2) define and formulate removal action alternatives, and (3) govern implementation and operation of the selected RA. RAs must also comply with requirements or standards under state environmental laws and regulations if they are more stringent than federal requirements. Requirements that must be complied with are those that are applicable or relevant and appropriate to the hazardous substances, pollutants, or constituents identified at a site. Potential requirements are listed based on site characteristics and available data. These requirements are then evaluated to determine whether they are, first, applicable or, second, relevant and appropriate. These components are defined below.

Applicable requirements are those cleanup standards, standards of control, and other substantive environmental protection requirements, criteria, or limitations codified as federal or state law that specifically address a hazardous substance, pollutant, contaminant, RA location, or other circumstance at a CERCLA site or a site following the CERCLA program. The requirement is applicable if the jurisdictional prerequisites of the standard show a direct correspondence when objectively compared to the conditions at the site. An applicable federal requirement is an ARAR. An applicable state requirement is an ARAR only if it is more stringent than federal ARARs. The use of MCLs for a site where groundwater contaminants of concern enter a public water supply is an example of an applicable requirement. Requirements designated as applicable are directly applicable to site contaminants of concern and conditions. If a requirement is determined not to be applicable, it is evaluated to see whether the requirement is relevant and appropriate.

Relevant and appropriate requirements are those cleanup standards, standards of control, and other substantive environmental protection requirements, criteria, or limitations promulgated under federal or state law that, although not applicable, address problems or situations similar to the circumstances of the proposed response action and are well suited to the conditions of the site (USEPA, 1988). A requirement must be determined to be both relevant and appropriate in order to be considered an ARAR. An example of a relevant and appropriate requirement is the use of

MCLs at a site where groundwater contaminants of concern could affect potential (rather than actual) drinking water sources.

According to CERCLA, a requirement may be “applicable” or “relevant and appropriate,” but not both. Identification of ARARs must be performed on a site-specific basis and involves a two-part analysis: first, a determination whether a given requirement is applicable, then, if it is not applicable, a determination whether it is nevertheless both relevant and appropriate. It is important to explain that some regulations may be applicable or, if not applicable, may still be relevant and appropriate. When the analysis determines that a requirement is both relevant and appropriate, such a requirement must be complied with to the same degree as if it were applicable (USEPA, 1988).

Non-promulgated advisories or guidance issued by federal or state governments are not legally binding and do not have the status of ARARs. Such requirements may, however, be useful and are TBC. TBC (40 CFR § 300.400(g)(3)) requirements complement ARARs, but do not override them. They are useful for guiding decisions regarding cleanup levels or methodologies when regulatory standards are not available.

Pursuant to the USEPA guidance (USEPA, 1988), ARARs are generally divided into three categories: chemical-specific, location-specific, and action-specific requirements as discussed in the sections below.

6.1 CHEMICAL-SPECIFIC ARARs AND TBCs

Chemical-specific ARARs and TBCs are health risk-based numerical values or methodologies that, when applied to site-specific conditions, result in the establishment of numerical values. These values establish the acceptable amount or concentration of a chemical that may be found in or discharged to the ambient environment. The state and federal ARARs and TBCs that apply to Schenectady ANGB include those relating to drinking water, potable water systems, soil to groundwater leachability, and direct exposure to contaminated soils. The term PAL is used to encompass both state and federal ARARs. PALs are pertinent to the interpretation of the preliminary COPC concentrations found at the sites. USEPA and NYSDEC regulatory screening levels considered in development of soil and groundwater PALs for sites ZZ007, TU008, and TU009 are discussed in Section 5.2 and are further described in the following sections.

6.1.1 Soil Chemical-Specific ARARs and TBCs

As presented in Section 5.2, soil PAL sources include the Unrestricted Use SCOs set forth in NYCRR Part 375, NYSDEC CP-51 Residential SSCOs, and USEPA RSLs based on a THQ of 1 and TR of 1E-06. NYSDEC rural soil background concentrations (NYSDEC, 2006b) and Eastern United States background levels for iron (Appendix A of the NYSDEC TAGM 4046 [NYSDEC, 1994; updated 2000]) were considered for data comparisons.

The Unrestricted Use SCOs represent the concentration of a contaminant in soil that, when achieved at a site, will require no use restrictions on the site for the protection of public health, groundwater, and ecological resources because of the presence of contaminants in the soil. The Unrestricted Use SCOs in Table 375-6.8(a) of NYCRR Part 375 represent the lowest of the three values for protection of groundwater, ecological resources, and public health developed as set forth in Environmental Conservation Law (ECL) 27-1415(6).

SSCOs set forth in NYSDEC CP-51, (1) are an existing soil cleanup level for a contaminant that had been included in former NYSDEC TAGM 4046 and was not included in 6 NYCRR 375-6, (2) have been developed using the same process used for development of the SCOs, and (3) are new cleanup levels for soil developed by the remedial party following the approach detailed in the Technical Support Document (TSD). The TSD provides information relative to the development of cleanup objectives for soil that are not set forth in 6 NYCRR 375-6.

The USEPA RSLs are derived from a series of equations combining exposure scenarios assumptions with chemical-specific toxicity values. Risk calculations used to define the RSLs are based on a 10E-6 risk level for carcinogens or a THQ of 1.0 for non-carcinogens. RSLs are used as a screening level to determine whether levels of contamination found at the site may warrant further investigation or site cleanup or whether no further investigation or action may be required.

SCOs and SSCOs are applicable statewide and do not account for many site-specific considerations that could potentially result in higher levels. Soil concentrations that are higher than the SCOs and SSCOs are not necessarily a health or environmental concern. When an SCO (or SSCO) is exceeded, the degree of public health or environmental concern depends on several factors, including the magnitude of the exceedance, the accuracy of the exposure estimates, other sources of exposure to the contaminant, and the strength and quality of the available toxicological

information on the contaminant. Similarly, RSLs are preliminary screening levels and are not cleanup standards.

ECL 27-1415(6)(b) states that Soil Clean-up Objectives "... shall not exceed an excess cancer risk of one-in-one million for carcinogenic endpoints and a hazard index of one for non-cancer endpoints; provided, however, that if the background soil concentration for a contaminant in rural soils in New York state exceeds such risk level the contaminant specific action objective for such contaminant may be established equal to such background concentration." The Statewide Rural Surface Soil Survey (Rural Survey) determined concentration ranges for 170 commonly assessed analytes in discrete surface soil samples collected at randomly selected rural properties in New York State. The Rural Survey provided analytical data for source-distant and remote soil samples collected at 120 randomly selected rural properties in New York State. The Rural Survey data were used in two ways. First, 98th percentile analyte concentrations from the Rural Survey data were used for screening purposes to identify Priority List analytes most likely to achieve concentrations in rural soils greater than the lowest health-based SCOs. Second, rural soil background concentrations were designated for focus analytes using the Rural Survey data and, if available, other relevant survey data. The rural soil background concentrations presented in Table 9.1-9 of the New York State Brownfield Cleanup Program Development of Soil Cleanup Objectives Technical Support Document (NYSDEC 2006b) are used as screening values where appropriate. The Rural Survey did not include evaluation of iron in New York State soils. Therefore, iron background concentrations were obtained from Appendix A of the NYSDEC TAGM 4046 (NYSDEC, 1994; updated 2000).

All PAL exceedance results are summarized in Section 5. Chemicals that exceed PALs are retained for fate and transport (Section 7) and risk assessment (Section 8) analysis, and are considered preliminary COPCs. Once the risk assessment has been performed, cleanup goals can be derived in the FS (if necessary) using site-specific risks. Cleanup goals developed in the FS will be based on site-specific risks and promulgated requirements.

6.1.2 Groundwater Chemical-Specific ARARs and TBCs

As presented in Section 5.2, groundwater PAL sources include the NYSDEC Class GA (source of drinking water, groundwater) Water Quality Standards as specified in 6 NYCRR Part 703, USEPA

National Primary Drinking Water Regulations (i.e., MCLs), and USEPA tap water RSLs based on a THQ of 1 and TR of 1E-06.

NYSDEC Water Quality Standards are the basis for programs to protect the state waters. Standards set forth the maximum allowable levels of chemical pollutants and are used as the regulatory targets for permitting, compliance, enforcement, and monitoring and assessing the quality of state waters. Waters are classified for their best uses (i.e., source of drinking water) and standards (and guidance values) are set to protect those uses. The water quality standards program is a state program with federal (USEPA) oversight. The longstanding New York water quality standards program predates the federal Clean Water Act and protects both surface water and groundwater.

Title 40 of the CFR, Part 141, National Primary Drinking Water (NPDW) Regulations, carry out provisions of the United States Safe Drinking Water Act (SDWA). The SDWA and NPDW regulations establish MCLs for various substances in potable water. SDWA standards are relevant and appropriate for the restoration of groundwater, a potential drinking water source.

The USEPA RSLs are derived from a series of equations combining exposure scenarios assumptions with chemical-specific toxicity values. Risk calculations used to define the RSLs are based on a 10E-6 risk level for carcinogens or a THQ of 1.0 for non-carcinogens. RSLs are used as a screening level to determine whether levels of contamination found at the site may warrant further investigation or site cleanup or whether no further investigation or action may be required. As described for soil, RSLs are preliminary screening levels and are not cleanup standards.

All PAL exceedance results are summarized in Section 5. Chemicals that exceed PAL are retained for fate and transport (Section 7) and risk assessment (Section 8) analysis and are considered preliminary COPCs. Once the risk assessment has been performed, cleanup goals can be derived in the FS (if necessary) using site-specific risks. Cleanup goals developed in the FS will be based on site-specific risks and promulgated requirements.

6.2 LOCATION-SPECIFIC ARARs

Location-specific requirements are restrictions placed on the concentrations of hazardous substances, or the conduct of activities, solely because they occur in special locations. Several location-specific ARARs may affect the design, construction, operation, monitoring, and maintenance of treatment activities. NYSDEC rural soil background concentrations (NYSDEC,

2006b) and Eastern United States background levels for iron (Appendix A of the NYSDEC TAGM 4046 [NYSDEC, 1994; updated 2000]) were considered for data comparisons as discussed in Section 6.1.1. Additional location-specific ARARs will be developed in the FS (if necessary).

6.3 ACTION-SPECIFIC ARARs

Action-specific ARARs are usually technology-based requirements or limitations on actions. All of the action-specific ARARs can be addressed by placing administrative or engineering provisions in work plans for general response actions as required. Action-specific ARARs will be developed in the FS (if necessary).

7. CONTAMINANT FATE AND TRANSPORT

The purpose of this section is to provide an overview of fate and transport in the environment of site-related contaminants detected at Sites ZZ007, TU008 and TU009. The fate and transport mechanisms for an individual chemical are the primary determinants for whether that chemical poses a risk to human health or ecological receptors, either by direct contact with the source media or through migration and cross-media transfer to other environmental media (e.g., air, soil, groundwater). This section discusses the general processes that affect the fate and transport of chemicals relative to the conditions found at Sites ZZ007, TU008, and TU009.

7.1 POTENTIAL ROUTES OF MIGRATION

This section describes potential transport mechanisms and important routes for contaminants at Sites ZZ007, TU008 and TU009 (e.g., site activities, drainages, slopes, groundwater flow) to points of exposure or cross-media transfer.

7.1.1 Mechanical Distribution

Mechanical distribution is the purposeful redistribution of COPC-containing soil using equipment to on-site or off-site locations. COPCs at Site ZZ007, although detected at deeper depths, may be mechanically distributed during future construction activities in the area of Former Building 13. Mechanical distribution is not considered a viable transport mechanism at Site TU008 because of the depths at which the one COPC (acetone at 3 to 5 ft bgs) was detected. Mechanical distribution may be a viable transport mechanism at Site TU009, where concentrations of zinc and nickel were detected above PALs in near surface soil samples.

7.1.2 Particulate Transport

Wind can potentially mobilize COPCs as fugitive dust from exposed surface soil if wind velocity exceeds a critical shear value. This transport mechanism is currently mitigated at Site ZZ007 because the site surface is covered with asphalt, sidewalks, or grass cover. However, particulate transport may become a potential transport mechanism if site soils are disturbed during future planned construction activities in the area of Former Building 13. Particulate transport is not a viable transport mechanism at Site TU008 because of the depths at which the one COPC (acetone at 3 to 5 ft bgs) was detected. Although particulate transport may be a viable transport mechanism at Site TU009, where concentrations of zinc and nickel were detected above PALs in near surface

soil samples, this transport mechanism is mitigated because the site is vegetated with landscaped grass.

7.1.3 Volatilization

The soil and groundwater PALs do not account for the impact of concentrations of contaminants in soil and groundwater relative to soil vapor or vapor intrusion. This is not a viable pathway for Sites ZZ007 and TU009, because COPCs associated with these sites are metals, which are not volatile in nature. The potential for volatilization from surface soil and air transport for the one soil COPC at Site TU008 (acetone at 3 to 5 ft bgs) is not considered a viable pathway due to the depth of the COPC and lack of COPCs in vadose zone soils. Volatilization of VOCs and SVOCs reported in groundwater at TU008 may be of concern to base personnel because there are buildings near the site.

7.1.4 Surface Erosion and Runoff

Heavy and sustained rainfall can potentially mobilize COPCs adsorbed to surface soil particles, resulting in transport and concentration in overland flow paths and intermittent drainages. Transport by means of surface erosion and runoff mechanisms is mitigated at Sites ZZ007, TU008, and TU009 by the nearly level slope, partial or complete pavement, and grassed vegetation, all of which reduce surface flow velocity and/or facilitate infiltration into the underlying soils.

7.1.5 Direct Infiltration and Leaching to Groundwater

Direct infiltration is the transport of contaminant particles from the source into soil. At Site ZZ007, this potential route of migration is not expected because the source materials (tanks and piping) have been removed and the site is completely covered by maintained asphalt pavement. In addition, because of the shallow bedrock and perched nature of groundwater within the overburden, no significant source of groundwater was encountered in site soil borings at Site ZZ007 above the bedrock. At Site TU008 this transport mechanism is mitigated because the source materials (tanks and piping) have been removed and COPCs were not detected in the vadose zone soil at concentrations above PALs. At Site TU009, this transport mechanism is mitigated because source materials (tank contents) have been removed and the former WWTP UST was reportedly filled with sand.

7.1.6 Groundwater Transport

The potential for transport of COPCs through groundwater does not appear to be a viable mechanism at Sites ZZ007, TU008, and TU009, because groundwater encountered during the RI was intermittent. The depth to groundwater at the sites is shallow (perched), ranging from approximately 2 to 7 ft bgs at Site ZZ007, 2 to 12 ft bgs at Site TU008, and 2 to 10 ft bgs at Site TU009.

7.1.7 Surface Water Transport

Surface water transport is not considered to be a viable transport mechanism at Sites ZZ007, TU008, and TU009 because no surface water bodies are located on-site.

7.2 PRELIMINARY CHEMICALS OF POTENTIAL CONCERN

Preliminary COPCs are identified as site-related contaminants detected in soil or groundwater at concentrations above PALs. Preliminary COPCs are summarized below on a site-specific and media-specific basis.

7.2.1 ZZ007

Arsenic, iron, nickel, thallium, and zinc were detected in the PA/SI and RI soil samples at concentrations above PALs. Concentrations of iron in PA/SI and RI soil samples are within the Eastern United States background levels for iron of 2,000 to 550,000 mg/kg, suggesting that iron is naturally occurring in the soils at Site ZZ007. Arsenic, nickel, and zinc were detected at concentrations exceeding Unrestricted Use SCOs based on ecological protection but do not exceed Residential Use SCOs. Because the limited size and quality of vegetation, limited exposure to ecological receptors exists at ZZ007. As a result, preliminary COPCs in soil at Site ZZ007 include thallium. NYSDEC does not have a published SCO for thallium.

Groundwater at Site ZZ007 was shallow and groundwater samples were turbid. As a result, groundwater samples were field filtered and analyzed for both total and dissolved metals. Groundwater analytical results for total metals revealed aluminum, arsenic, barium, beryllium, cadmium, chromium, cobalt, copper, iron, lead, magnesium, manganese, nickel, sodium, thallium, and vanadium at concentrations above the PALs. Concentrations of metals were lower to non-detect in the dissolved samples with only cobalt, magnesium, manganese and sodium exceeding PALs. Magnesium and sodium are essential human nutrients, and concentrations of metals in

groundwater are consistent with or greater in upgradient MW SC-ZZ007-MW001. Preliminary COPCs in groundwater at Site ZZ007 include cobalt and manganese.

7.2.2 TU008

Acetone is the only chemical identified in soil at a concentration exceeding the PAL at Site TU008. The detected concentration exceeds the PAL based on protection of groundwater but does not exceed the Residential Use SCO. Acetone was detected neither in deeper soil collected at the sampling location nor in groundwater at SC-TU008-MW004 above the groundwater PAL. No preliminary COPCs are identified in soil at TU008.

The chemicals 2-butanone, acetone, 1,2,4-trichlorobenzene, 1,2-dichlorobenzene, and 2,4,6-trichlorophenol were detected at concentrations exceeding PALs in groundwater at TU008. The analytes 2-butanone and acetone were only detected above PALs at SC-TU008-MW003. SC-TU008-MW003 was a temporary MW that was not developed, the well had only a few inches of water in the column, and the sample was very turbid. A second MW (SC-TU008-MW005) was installed during the second field event to obtain another groundwater sample in this area. No saturated zone was identified, indicating that very little groundwater is present. Because of the poor quality of the sample and the fact that 2-butanone and acetone are both common laboratory contaminants, these chemicals are not identified as preliminary COPCs. The chemicals 1,2,4-trichlorobenzene and 1,2-dichlorobenzene were only detected in the upgradient MW (SC-TU008-MW001) during the June 2016 sampling event. The chemicals 1,2,4-trichlorobenzene and 1,2-dichlorobenzene are analyzed as part of the VOC and SVOC lists and were only detected as SVOCs at SC-TU008-MW001 at estimated concentrations. These chemicals were not detected in groundwater during the subsequent sampling event in November 2016. The chemical 2,4,6-trichlorophenol was detected at two MWs during the June 2016 event but was not detected during the subsequent event conducted in November 2016. Therefore, no preliminary COPCs were identified in groundwater at Site TU008.

7.2.3 TU009

Arsenic, copper, iron, nickel, thallium, and zinc were detected in the PA/SI and RI soil samples at concentrations above the PALs. Concentrations of iron are within the Eastern United States background levels for iron of 2,000 to 550,000 mg/kg, suggesting that iron is naturally occurring in the soils at Site TU009.

Arsenic, copper, nickel, and zinc were detected at concentrations exceeding Unrestricted Use SCOs based on ecological protection but do not exceed Residential Use SCOs. Because of the limited size and quality of vegetation, limited exposure to ecological receptors exists at TU009. As a result, the only preliminary COPCs in soil at Site TU009 is thallium. NYSDEC does not have a published SCO for thallium.

Groundwater analytical results for total metals showed cobalt, iron, magnesium, manganese, nickel, sodium, and thallium at concentrations above the PALs. Dissolved metals sample results revealed arsenic, cobalt, iron, magnesium, manganese, nickel, and sodium, at concentrations exceeding PALs. Concentrations of total metals were similar to concentrations of dissolved metals in groundwater samples collected at Site TU009. As a result of high turbidity at new MW SC-TU009-MW003 during the first RI sampling event in June 2016, the groundwater sample collected during the second RI sampling event in November 2017 is more representative of groundwater conditions at that MW location. Magnesium and sodium are essential human nutrients and are not considered preliminary COPCs. Preliminary COPCs in groundwater at Site TU009 include arsenic, iron, manganese, nickel, and thallium.

According to the RACR for Site 6, iron and manganese were present at high concentrations in the MWs sampled, which demonstrates that abiotic transformation may be occurring because the dechlorination reactions would be enhanced in the presence of metal amendments, especially iron. All of the groundwater samples collected for Site TU009 are located within the downgradient IRP Site 6 excavation area.

7.3 CONTAMINANT MIGRATION

Contaminant migration is evaluated on a site-specific and media-specific basis for preliminary site-related COPCs. Fate and transport of COCs are summarized in the following subsections.

7.3.1 Semivolatile Organic Compounds

SVOCs are considered to be COPCs in groundwater at Site TU008. The chemicals 1,2,4-trichlorobenzene, 1,2-dichlorobenzene, and 2,4,6-trichlorophenol were detected in groundwater samples above the PALs.

The chemicals 1,2,4-trichlorobenzene and 1,2-dichlorobenzene are chlorobenzene compounds, typically used as solvents in textile manufacturing and were used in combination with PCBs in dielectric fluids for transformers and capacitors until 1980, when regulations prohibited new uses of PCB-containing dielectric fluids. Chlorobenzenes are also used as degreasing agents and lubricants.

Chlorobenzene compounds tend to have high solubility in water. The high solubilities are, in part, due to their relatively low molecular weights and high polarity. The constituents tend to have a low affinity for adsorption to organic matter or soil and are generally highly mobile. As a result, transport in groundwater is the most dominant transport pathway. These compounds biodegrade in groundwater, but the rate of degradation is generally considered to be slow.

The chemical 2,4,6-trichlorophenol is a phenolic compound. Phenols are used in oil and gasoline additives, plasticizers, pesticides, explosives, and preservatives, and also may occur naturally in groundwater from the decomposition of organic matter. Phenols have high solubilities and generally have moderate to high mobilities. Phenolic compounds are aerobically and anaerobically biodegradable, forming methane and carbon dioxide.

7.3.2 Inorganic Constituents

Inorganic chemicals, arsenic, iron, manganese, nickel, and thallium are considered to be preliminary COPCs at Site TU009 and cobalt, manganese, and thallium are considered preliminary COPCs at Site ZZ007. These inorganic chemicals, classified as metals, are considered to be COPCs in site soil (thallium) and groundwater (arsenic, cobalt, iron, manganese, nickel, and thallium). In general, these metals are insoluble in water and have a moderate to high potential of being adsorbed to soils (particularly clay soils identified at Sites ZZ007 and TU009); therefore, their mobility in the environment is expected to be minimal. Bioconcentration of many inorganic chemical COPCs is moderate to high, and certain inorganic chemical COPCs may also be biotransformed.

The fate and transport of metals in the surface and subsurface environments are variable. Depending on conditions, some metals are precipitated, some are adsorbed to colloids and other surfaces or held by ion exchange, and some are transported by surface water or groundwater as free ions or as metal/ligand complexes. Mobilities of metals are principally controlled by pH, redox potential (Eh), and the presence of metal hydroxides, clay minerals, or organic compounds. Heavy

and trace metals have very high potentials for retardation. The mobilities of many trace metals (e.g., arsenic and nickel) are limited by their tendency to be adsorbed and/or coprecipitated by manganese and iron oxides and/or insoluble organic material.

Unlike most organic compounds, metals are naturally occurring and cannot break down and, therefore, are always present. However, various processes can essentially immobilize metals, especially those metals that have various oxidation states (e.g., iron and arsenic). Trace metals are mobile if soluble ions exist, the soil has a low cation exchange capacity, or if the metals are chelated or attached to a mobile colloid.

Arsenic is a natural component of the Earth's crust. When released in a terrestrial environment, it is relatively non-mobile, because of adsorption to soil particles. Soluble forms may leach into surface water or groundwater, and soil microorganisms may reduce a small amount to a volatile form (arsine). Another potential source of arsenic may be pesticide and/or fertilizer application, which was abundant and widely distributed in pre-World War II inorganic pesticides, wood preservatives, and alloys.

Transformations of arsenic in soil are similar to those occurring in aquatic systems. Arsenic dissolved in water can undergo either reduction or oxidation, depending on conditions. Arsenic in the +5 oxidation state dominates in aerobic soils; arsenic in the +3 oxidation state dominates in slightly reduced soils; and arsine, methylated arsenic, and elemental arsenic dominate in very reduced conditions (Agency for Toxic Substances and Disease Registry [ATSDR], 2007).

Cobalt occurs naturally in soils, however, elevated levels of cobalt in soil and water may be a result of anthropogenic activities such as fossil fuel and waste combustion, vehicular and aircraft exhausts, processing of cobalt and cobalt containing alloys, copper and nickel smelting and refining and the use of phosphate fertilizers. Cobalt adsorbs rapidly and strongly to soil in which it is retained by metal oxides, crystalline minerals, and natural organic matter. The mobility of cobalt in soil or sediment increases with decreasing pH and Eh and the presence of chelating/complexing agents. Soluble cobalt may be released to waterways where the proportion of dissolved cobalt will be higher at low pH (ATSDR, 2004).

Iron is the fourth most abundant element on earth, mainly in the form of ferromagnesium silicates. Many organic materials can be a source of iron. The majority of iron in soil is found in silicate minerals or iron oxides and hydroxides. Iron in soil exists in ferrous and ferric forms. Soil pH and

the aeration status of the soil determine which form predominates. Ferric iron compounds have low solubility in the soil solution, and concentrations of iron in soil solution decrease sharply as the soil pH increases.

Manganese is released to the environment from industrial emissions, fossil fuel combustion, and erosion of manganese-containing soils. Manganese may also be released to the environment through the use of methylcyclopentadienyl manganese tricarbonyl as a gasoline additive.

Manganese may be retained in soils through cation exchange reactions, where manganese ions and the charged surface of soil particles for manganese ozides, hydroxides, and oxyhydroxides, which in turn form absorption sites for other metals. Manganese can also be adsorbed to other oxides, hydroxides, and oxyhydroxides through ligand exchange reactions. When the soil solution becomes saturated, these manganese oxides, hydroxides, and oxyhydroxides can precipitate into a new mineral phase and act as a new surface to which other substances can absorb. The oxidation state of manganese in soils may be altered by microbial activity, where bacteria and microflora can increase mobility of manganese in solids by increasing dissolution of manganese in subsurface environments (ATSDR, 2012).

The transport and partitioning of manganese in water is controlled by the solubility of the specific chemical form present, which in turn is determined by pH, Eh, and the characteristics of the available anions, where manganese may become oxidized under alkaline conditions (pH greater than 8). In extremely reduced water, the fate of manganese tends to be controlled by formation of a poorly soluble sulfide (ATSDR, 2012).

Nickel is a naturally occurring and abundant element found within the Earth's crust. Nickel is insoluble, unless it is in the +2 oxidation state, but can adsorb to particulate or dissolved organic matter and be entrained through hydrologic processes. The high susceptibility of nickel to adsorb onto soil particles and humic substances allows it to be readily transported through the air (e.g., nickel adsorbed to dust particles), surface water, or groundwater. Adsorption of nickel to particles is influenced greatly by pH, Eh, the ionic strength of water under aqueous conditions, complexing ions, and the concentration of nickel (ATSDR, 2005). Nickel sorption on iron and manganese oxides is pH dependent (less at lower pH).

Thallium exists in the environment mainly combined with other elements (primarily oxygen, sulfur, and the halogens) in inorganic compounds. Thallium is quite stable in the environment,

because it is neither transformed nor biodegraded. Compounds of thallium are generally soluble in water and the element tends to be sorbed to soils and sediments and to bioconcentrate in aquatic plants, invertebrates, and fish. Terrestrial plants can also absorb thallium from soil. Major releases of thallium to the environment are from processes such as coal-burning and smelting, in which thallium is a trace contaminant of the raw materials. Thallium is also used in manufacturing electronic devices, switches, and closures, primarily for the semiconductor industry, and also has limited use in the manufacture of special glass and for certain medical procedures (ATSDR, 1992).

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8. RISK ASSESSMENT

8.1 HUMAN HEALTH RISK ASSESSMENT

As part of the RI, a baseline human health risk assessment (BHHRA) was conducted to inform managers about the risks and hazards associated with Sites ZZ007, TU008, and TU009 at Schenectady ANGB. In accordance with USEPA guidance, the BHHRA provides a quantitative evaluation of the potential adverse health effects for current or future human receptors, which may be caused by past chemical releases under the assumption that no RA is taken (USEPA, 1989). The BHHRA addresses both residential and non-residential (industrial) land use. The BHHRA was prepared in accordance with the USEPA's Risk Assessment Guidance for Superfund (RAGS) (USEPA, 1989 and updates) and the NGB guidance (ANG, 2009).

The BHHRA consists of the following four basic steps:

- Hazard Identification
- Exposure Assessment
- Toxicity Assessment
- Risk Characterization

The BHHRA steps are presented in the following subsections. This BHHRA contributes to the site characterization and subsequent development, evaluation, and selection of appropriate response alternatives.

8.1.1 Hazard Identification

The hazard identification step consists of reviewing and evaluating soil and groundwater data, evaluating data usability and data validation, establishing guidelines for data reduction, and identifying COPCs in the environmental media at Sites ZZ007, TU008, and TU009.

8.1.1.1 Data Evaluation

Soil is typically evaluated for human health risk assessments at the surface (e.g., 0 to 1 ft bgs or 0 to 2 ft bgs) for current scenarios, assuming the soil would not be disturbed or overturned. For future scenarios, the assumption is that the soil would be overturned or excavated for development; therefore, a depth of 0 to 10 ft bgs is evaluated. For Sites ZZ007, TU008, and TU009, soil depths of 0 to 10 ft bgs were examined for this BHHRA. Soil samples collected below 10 ft bgs are not evaluated for human health exposure because of the lack of an exposure route. The only relevant

exposure route would be migration to groundwater. The results for samples collected below 10 ft bgs were discussed in Section 5 compared to PALs that include the NYSDEC Unrestricted Use SCOs, which include the protection of groundwater.

8.1.1.1.1 COPC Selection Process

Soil and groundwater analytical data are compared to risk-based screening levels in the BHHRA to identify COPCs.

Soil COPCs were identified by comparing the maximum detected concentration of each chemical with the USEPA residential soil RSL (USEPA, 2017). For COPC screening purposes, noncarcinogenic RSLs were adjusted to correspond to a THQ of 0.1 rather than 1. This was done to ensure that chemicals with additive effects are not prematurely eliminated during screening. Where RSLs are available for carcinogenic and noncarcinogenic endpoints and both ingestion and inhalation exposure routes, the lower (i.e., more stringent) value was used for the screening comparison. Additionally, 6 NYCRR Part 375 SCOs (NYSDEC, 2006a) and rural soil background concentrations (NYSDEC, 2006b) were reviewed and considered.

Most chromium is present in the environment in the less toxic trivalent form. Any hexavalent chromium in soil is expected to be reduced to trivalent chromium by organic matter (USEPA, 1998). There is no information in the site history that suggests that hexavalent chromium was used or disposed of at the three sites. Hexavalent chromium is not associated with the type of previous land use at these sites. USEPA guidance (USEPA, 2016e) notes that the average ratio of hexavalent chromium to trivalent chromium is 1:6. Based on the site history and the predominance of trivalent chromium in the environment, the total chromium data were apportioned assuming 14% is hexavalent chromium and 86 % is trivalent chromium.

Aluminum and iron are not CERCLA hazardous substances and will not constitute the basis for initiating a RA at the sites, but will be evaluated during the RI because they have published screening levels to evaluate risk.

Groundwater COPCs were identified by comparing the maximum detected concentration of each chemical with the USEPA tap water RSL (USEPA, 2017). For COPC screening purposes, noncarcinogenic RSLs were adjusted to correspond to a THQ of 0.1 rather than 1. This was done to ensure that chemicals with additive effects are not prematurely eliminated during screening.

Where RSLs are available for carcinogenic and noncarcinogenic endpoints and both ingestion and inhalation exposure routes, the lower (i.e., more stringent) value was used for the screening comparison. State and federal MCLs were also considered (NYSDEC, 1998; USEPA, 2016b).

8.1.1.1.2 ZZ007

The ZZ007 soil data evaluation consists of 2014 SI data and 2016 RI data with depths ranging from 0 to 9 ft bgs for a total of 14 samples (**Table 8-1**).

Samples from the 2016 RI data used include the following:

- SC-ZZ007-MW001-S0103
- SC-ZZ007-MW001-S0506
- SC-ZZ007-MW002-S0102
- SC-ZZ007-MW002-S0607
- SC-ZZ007-MW003-S0002
- SC-ZZ007-MW003-S0204 (normal and duplicate averaged)

Samples from the 2014 SI data used include the following:

- ZZ07SB01-06
- ZZ07SB01-08
- ZZ07SB02-04
- ZZ07SB03-04
- ZZ07SB03-09
- ZZ07SB04-04
- ZZ07SB04-08
- ZZ07SB05-03

The ZZ007 groundwater data evaluation is presented on **Table 8-2.** Three groundwater samples were collected from three permanent MWs as part of the 2016 RI as follows:

- SC-007-MW001-G-1
- SC-007-MW002-G-1
- SC-007-MWUNK-G-1 (normal and duplicate averaged)

8.1.1.1.3 TU008

The TU008 soil data evaluation consists of 2014 SI data and 2016 RI data with depths ranging from 0 to 7 ft bgs for a total of 12 samples (**Table 8-3**).

Samples from the 2016 RI data used include the following:

- SC-TU008-MW001-S0002
- SC-TU008-MW002-S0002
- SC-TU008-MW002-S0406 (normal and duplicate averaged)
- SC-TU008-MW003-S0204
- SC-TU008-MW003-S0405
- SC-TU008-MW004-S0305
- SC-TU008-MW004-S0507

There was also one 10 to 12 ft sample (SC-TU008-MW001-S1012); however, all chemicals were nondetect and the sample was not quantitatively used in the BHHRA because current and future receptors do not have direct contact exposure at these depths.

Samples from the 2014 SI data used include the following:

- TU08SB06-06
- TU08SB07-06
- TU08SB08-06 (normal and duplicate averaged)
- TU08SB09-06
- TU08SB10-05

The TU008 groundwater data evaluation is presented on **Table 8-4.** Groundwater samples from the most recent groundwater sampling event (November 2016) were used to evaluate risk. Four groundwater samples were collected from four permanent MWs as part of the 2016 RI as follows:

- SC-TU008-MW001-G-2
- SC-TU008-MW002-G-2 (normal and duplicate averaged)
- SC-TU008-MW004-G-2
- SC-TU008-MW006-G-1

Due to the lack of sufficient groundwater volume, temporary MW SC-TU008-MW003 was abandoned at the completion of the field event in June 2016, and therefore was not sampled in November 2016. SC-TU008-MW005 did not produce sufficient groundwater to be sampled in November 2016.

8.1.1.1.4 TU009

The TU009 soil data evaluation consists of 2014 SI data and 2016 RI data with depths ranging from 0 to 8 ft bgs for a total of 12 samples (**Table 8-5**).

Samples from the 2016 RI data used include the following:

- SC-TU009-MW001-S0305
- SC-TU009-MW001-S0608
- SC-TU009-MW002-S0305
- SC-TU009-MW002-S0507 (normal and duplicate averaged)
- SC-TU009-MW003-S0305
- SC-TU009-MW003-S0507

Samples from the 2014 SI data used include the following:

- TU09SB11-03
- TU09SB11-08
- TU09SB12-02 (normal and duplicate averaged)
- TU09SB13-05
- TU09SB14-06
- TU09SB14-08

The TU009 groundwater data evaluation is presented on **Table 8-6.** Because of high turbidity at new MW SC-TU009-MW003 during the first RI sampling event in June 2016, a groundwater sample was collected at MW SC-TU009-MW003 during the second RI sampling event in November 2016. The June 2016 data for MW SC-TU009-MW003 are not evaluated in the risk assessment. From two sampling rounds (June 2016 and November 2016), three groundwater samples were collected from three permanent MWs as part of the 2016 RI as follows:

- SC-TU009-6MW22-G-1 (normal and duplicate averaged)

- SC-TU009-6MW24-G-1
- SC-TU009-MW003-G-2

8.1.1.2 Guidelines for Data Reduction

The following guidelines for data reduction were used for each medium. These approaches are consistent with USEPA's RAGS (USEPA, 1989 and update) as follows:

- If an analyte was not positively identified in any sample for a given medium because it was reported as a non-detect (indicated by a "U" qualifier), then it was not addressed for that medium.

- Data with "J" qualifiers were assumed to be positive identifications. "J" indicates that the numerical value is an estimated concentration (i.e., it is reported below the minimum confident sample quantitation limit). The data with J qualifiers are considered estimated values, but are still usable data. Using J values for risk assessment is consistent with the allowable use of J qualified data as discussed in the *Guidance for Data Usability for Risk Assessment (Part A)* (USEPA, 1992).

- If a sample duplicate was collected and analyzed, then the average of the reported concentrations was used for subsequent calculations unless there was a greater than 50% difference in soil concentrations and a 30% difference in water concentrations, in which case the higher of the two concentrations was used. In the case of a detected sample and a non-detect duplicate, the detected concentration was carried through subsequent calculations.

COPCs are summarized below on a site-specific and media-specific basis. More COPCs may be evaluated in the risk assessment than those identified in Section 7.2 to account for cumulative effects.

8.1.1.3 Identification of Chemicals of Potential Concern

COPCs are summarized below on a site-specific and media-specific basis. Note that more COPCs may be evaluated in risk assessment than those identified in Section 7.2 to account for cumulative effects.

8.1.1.3.1 ZZ007

Soil

Table 8-1 presents the COPC selection process and results for soil at Site ZZ007 (0 to 9 ft bgs).

Of the metals detected in soil, the following four COPCs exceeded their respective soil screening levels:

- Aluminum
- Cobalt
- Iron
- Thallium

Groundwater

Table 8-2 presents the COPC selection process and results for groundwater at Site ZZ007. Only dissolved metals data were used in the BHHRA because of the high turbidity of the total metals groundwater samples. Dissolved cobalt and dissolved manganese exceeded their respective groundwater screening levels and thus were carried forward as COPCs.

8.1.1.3.2 TU008

Soil

Table 8-3 presents the COPC selection process and results for soil at Site TU008 (0 to 7 ft bgs). Of the VOCs and SVOCs detected in soil, the following three COPCs exceeded their respective soil screening levels:

- 1,1-2-Trichloroethane
- Carbazole
- Methylcyclohexane

Carbazole and methylcyclohexane were identified as COPCs because they were detected in soil and a screening level is not available; therefore, they are carried forward in the BHHRA.

Groundwater

Table 8-4 presents the COPC selection process and results for groundwater at Site TU008. Of the VOCs and SVOCs analyzed in groundwater, no chemicals exceeded their respective groundwater screening levels. No COPCs are identified for TU008 groundwater.

8.1.1.3.3 TU009

Soil

Table 8-5 presents the COPC selection process and results for soil at Site TU009 (0 to 8 ft bgs). Of the metals and SVOCs detected in soil, the following five COPCs exceeded their respective soil screening levels:

- Aluminum
- Cobalt
- Iron
- Thallium
- Vanadium

Groundwater

Table 8-6 presents the COPC selection process and results for groundwater at Site TU009. The following two dissolved metals exceeded their respective groundwater screening levels and were carried forward as COPCs:

- Iron
- Manganese

8.1.2 Exposure Assessment

The objective of the exposure assessment is to estimate the nature, extent, and magnitude of potential exposure of human receptors to COPCs considering the current and reasonably anticipated future uses of the site. The exposure assessment includes an evaluation of the likelihood of such exposures occurring and provides the basis for development of acceptable exposure concentrations.

8.1.2.1 Selection of Exposure Pathways

Table 8-7 describes the contaminant source(s), the release and transport mechanisms, the exposure media, the exposure routes, and the potentially exposed human populations. Based on the current and potential future land and water uses, the environmental setting, and the types of site activities, the following populations were identified for evaluation in the risk assessment:

commercial/industrial workers and hypothetical residents. Potential exposure routes for soil include ingestion, dermal contact, and inhalation of particulates and VOCs for residents and commercial/industrial workers. Potential exposure routes for groundwater include ingestion, dermal contact, and inhalation while showering for the resident and ingestion and dermal contact while hand washing for the commercial/industrial worker.

The ANG has no plans to vacate Sites ZZ007, TU008, or TU009 or change the land use in the near future; however, the sites are evaluated for unlimited use and unrestricted exposure (UU/UE) in case they ever vacate or the site use changes.

8.1.2.2 Exposure Point Concentrations

The exposure point concentration (EPC) is the concentration of a chemical to which a receptor may be exposed. Human exposures are evaluated based on a reasonable maximum exposure (RME), i.e., the maximum exposure that is reasonably expected to occur at a site (USEPA, 1989). The RME is a conservative exposure case that is within the range of possible exposures for each complete pathway (USEPA, 1989). However, assuming long-term contact with the maximum concentration of a contaminant is not reasonable, the USEPA risk assessment guidance suggests that the average of the concentration is regarded as a reasonable estimate of the concentration likely to be contacted over time (USEPA, 1989).

Because of the uncertainty associated with any estimate of the representative average EPC, the 95th percentile upper confidence limit (95UCL) on the arithmetic mean is generally used as the RME concentration (USEPA, 1989). The 95UCL was calculated using USEPA's ProUCL (version 5.1) statistical program (USEPA, 2015), which calculates the 95UCL of a data set using various parametric and non-parametric methods. The ProUCL recommended 95UCL be used as the EPC. In cases where the 95UCL exceeds the maximum detected concentration, the maximum detected concentration is used to estimate the RME concentration, in accordance with USEPA guidance (USEPA, 1989). Sample results reported as below the quantitation limit (non-detects) are included in the calculation of the 95UCL by using the non-detect function in ProUCL.

EPCs are presented on the following Tables:

- **Table 8-8**: ZZ007 soils
- **Table 8-9**: ZZ007 groundwater

- **Table 8-10**: TU008 soils
- **Table 8-11**: TU009 soils
- **Table 8-12**: TU009 groundwater

Groundwater EPCs for Sites ZZ007 and TU009 utilized the maximum detected concentration given the small sample size and low frequency of detection.

8.1.2.3 Exposure Parameters

Cancer risks and noncancer risk estimates were calculated using the exposure parameters, toxicity values, and equations developed in the USEPA RAGS documents and provided in the USEPA RSL online calculator (https://epa-prgs.ornl.gov/cgi-bin/chemicals/csl_search). The default input parameters for a resident and a commercial/industrial (composite) worker were applied for soil RSLs. The default input parameters for the residential tap water RSL were also applied. For the commercial/industrial worker tap water RSL, an exposure time of 0.08 hour per day and a surface area (SA) of 980 square centimeters (cm^2) (i.e., hand washing) was assumed in addition to default input factors for a commercial/industrial (composite) worker. Input parameters used for the commercial/industrial worker tap water RSLs are provided in **Appendix G**. All other inputs are defaults available at the above referenced online calculator.

8.1.3 Toxicity Assessment

The primary purpose of the toxicity assessment is to identify the toxicity values for the COPCs used in the estimation of potential cancer risks and noncancer health effects. It also provides a description of the terms that are used to estimate toxic effects (i.e., cancer and noncancer effects) along with the data sources. The toxicity values used in the BHHRA are based on USEPA (2003) hierarchy, as follows:

1. **Tier 1**: USEPA Integrated Risk Information System (IRIS), an online database containing current toxicity values for many chemicals that have gone through a peer review and USEPA consensus review process (http://www.epa.gov/ncea/iris);

2. **Tier 2**: USEPA Provisional Peer Reviewed Toxicity Values (PPRTVs) developed by the Office of Research and Development/National Center for Environmental Assessment/Superfund Health Risk Technical Support Center on a chemical-specific basis when requested by the USEPA Superfund Program; and

3. **Tier 3**: Other Toxicity Values – including additional USEPA and non-USEPA sources of toxicity information, such as the California Environmental Protection Agency

toxicity criteria, the ATSDR minimal risk levels, and toxicity criteria published in the USEPA Health Effects Assessment Summary Tables (HEAST). Priority is given to those sources of information that are the most current, the basis for which is transparent and publicly available, and which have been peer reviewed.

Cancer slope factors (CSF) and inhalation unit risk (IUR) factors for carcinogenic effects and reference doses (RfD) for systemic (noncancer) effects of Sites ZZ007, TU008, and TU009 COPCs are as listed in the most recent USEPA RSL on-line calculator (USEPA, 2017).

8.1.4 Risk Characterization

Risk characterization is the key step in the risk assessment process because it serves as the bridge between risk assessment and the information needs of risk management. Risk characterization is a combination of all the information gathered during the three phases of the risk assessment and relates toxicity and exposure assessments.

8.1.4.1 Sum of Ratios Approach

The "sum of ratios" approach was utilized to streamline the risk calculations for soil and groundwater COPCs at Sites ZZ007, TU008, and TU009. The approach uses risk-based screening levels to estimate the total risk or hazard from multiple contaminants at a site. For cancer risk estimates, the EPC is divided by the screening level (SL) concentration (i.e., RSL), and this ratio is multiplied by 10^{-6} to estimate chemical-specific risks for an RME. For multiple COPCs, the risk for each chemical is added to calculate cumulative risk, as shown below:

$$Risk = \left[\frac{EPC_x}{SL_x} + \frac{EPC_y}{SL_y} + \frac{EPC_z}{SL_z}\right] \times 10^{-6}$$

The total cumulative cancer risk estimate for a site shall not exceed the target risk management range of 1E-06 to 1E-04. If the total cumulative cancer risk estimate exceeds the target risk range, then typically, corrective action is warranted.

For noncancer risk estimates, the EPC is divided by its respective noncancer SL and ratios for multiple COPCs are summed to obtain a hazard index (HI), as shown below:

$$Hazard\ Index = \left[\frac{EPC_x}{SL_x} + \frac{EPC_y}{SL_y} + \frac{EPC_z}{SL_z}\right]$$

An HI of 1 or less is generally considered as "safe." A ratio greater than 1 suggests further evaluation of the COPCs contributing to the HI is warranted.

The soil and groundwater risk-based SLs presented on **Tables 8-13** through **8-15** for industrial and residential scenarios were obtained from the USEPA RSL online calculator (USEPA, 2017). RSL calculator inputs and outputs are provided in **Appendix G**.

The COPCs, exposure pathways, and media previously screened out do not need to be included in the calculation of the total cumulative cancer risk and noncancer risk.

8.1.4.2 Risk Results

8.1.4.2.1 ZZ007

Cancer risks and noncancer risk estimates were calculated using the "sum of ratios" approach for COPCs in soil and groundwater at ZZ007 as presented on **Table 8-13**. The total cumulative cancer risk for residential and industrial scenarios are 4E-08 and 9E-09, respectively, which are below the USEPA target risk range of 1E-06 to 1E-04.

The total cumulative HIs for residential and industrial scenarios at ZZ007 are 17 and 2 (rounded to one significant figure), respectively (**Table 8-13**). Both scenarios exceed the USEPA noncancer THQ threshold of 1. The HI risk from groundwater for the residential and industrial scenarios are 14 and 2, respectively, mainly from dissolved manganese, and to a lesser extent, dissolved cobalt.

The HI risks from soil for the residential and industrial scenarios are 3 and 0.2, respectively. The residential HI is above the USEPA noncancer threshold of 1, whereas the industrial HI is below 1. Although the residential HI is greater than one, no individual chemicals contribute an individual HQ greater than 1 for soil.

Those individual COPCs determined to contribute significantly (HQ greater than 1) to a critical effect HI of 1 or greater are identified as human health chemicals of concern (COCs) and presented on **Table 8-16**. Chemicals that have the same noncancer target organ endpoint (i.e., nervous system) are cumulative.

8.1.4.2.2 TU008

Cancer risks and noncancer risk estimates were calculated using the "sum of ratios" approach for COPCs in soil at TU008 as presented on **Table 8-14**. The cancer risks from soil for the residential

and industrial scenarios are 1E-07 and 3E-08, respectively, which are below the USEPA target risk range of 1E-06 to 1E-04.

The HI risk from soil for the residential and industrial scenarios are 0.11 and 0.03, respectively. The residential and industrial soil HIs are both below the USEPA noncancer threshold of 1. Additionally, no individual chemicals contribute an individual HQ greater than 1.

8.1.4.2.3 TU009

Cancer risks and noncancer risk estimates were calculated using the "sum of ratios" approach for COPCs in soil and groundwater at TU009 as presented on **Table 8-15**. The total cumulative cancer risks for residential and industrial scenarios are 4E-08 and 1E-08, respectively, which are below the USEPA target risk range of 1E-06 to 1E-04. None of the groundwater COPCs are carcinogens; therefore, the cumulative cancer risk is entirely from the soil pathway.

The total cumulative HIs for residential and industrial scenarios at TU009 are 34 and 5 (rounded to one significant figure), respectively (**Table 8-15**). Both scenarios exceed the USEPA noncancer THQ threshold of 1. Approximately 80 to 90% of the cumulative HI is from dissolved metals in groundwater.

The HI risk from soil for the residential and industrial scenarios are 6 and 0.4, respectively. The residential HI is above the USEPA noncancer threshold of 1, whereas the industrial HI is below 1. Those individual COPCs determined to contribute significantly (HQ greater than 1) to a critical effect HI of 1 or greater are identified as human health COCs and presented on **Table 8-16**. Chemicals that have the same noncancer target organ endpoint (i.e., blood, nervous system) are cumulative.

8.1.4.3 Human Health Risk Assessment Summary and Conclusions

ZZ007 groundwater noncancer health effects calculated using the sum of ratio approach yielded risks above the USEPA THQ threshold (1.0) for noncancer effects for the residential and commercial/industrial worker scenarios. Therefore, groundwater at ZZ007 is not suitable for UU/UE and also poses a potential risk to current or future residents or commercial/industrial workers resulting from noncancer health effects from metals (i.e., cobalt and manganese).

ZZ007 soil cancer risks and noncancer health effects calculated using the sum of ratio approach yielded risks below the USEPA risk management range (1E-04 to 1E-06) for cancer and below the USEPA THQ threshold (1.0) for noncancer effects for the commercial/industrial worker scenario. Although the cancer risks for the residential scenario were below the USEPA risk management range (1E-04 to 1E-06), noncancer health effects exceeded the USEPA THQ threshold of 1. However, no individual chemicals had an HQ greater than 1 and no target organ effects resulted in HIs above 1 (when rounded to one significant figure). Therefore, site soil at ZZ007 is suitable for UU/UE and does not pose a risk to current or future residents or commercial/industrial workers.

TU008 soil cancer risks and noncancer health effects yielded risks below the USEPA respective risk management range (1E-04 to 1E-06) for cancer and below the USEPA THQ threshold (1.0) for noncancer effects for the residential commercial/industrial worker scenario. No groundwater COPCs were identified at Site TU008. Therefore, soil and groundwater at TU008 is suitable for UU/UE and does not pose a risk to current or future residents or commercial/industrial workers.

TU009 groundwater noncancer health effects yielded risks above the USEPA THQ threshold (1.0) for noncancer effects for the residential and commercial/industrial worker scenarios. Therefore, groundwater at TU009 is not suitable for UU/UE and also poses a potential risk to current or future residents or commercial/industrial workers resulting from noncancer health effects from manganese.

TU009 soil cancer risks and noncancer health effects calculated yielded risks below the USEPA respective risk management range (1E-04 to 1E-06) for cancer and below the USEPA THQ threshold (1.0) for noncancer effects for the commercial/industrial worker scenario. Although the cancer risks for the residential scenario were below their respective USEPA risk management range (1E-04 to 1E-06), noncancer health effects exceeded the USEPA's THQ threshold of 1. Thallium was the only COC in soil to exceed the HI of 1. Target organ effects from thallium are hair (HI, 4). Site soil at TU009 is suitable for commercial/industrial workers; however, it might pose a potential risk to residents from thallium.

8.2 ECOLOGICAL EVALUATION

As discussed in the *Final RI Work Plan, UFP-QAPP* (TEC-Weston JV, 2016), a Screening Level Ecological Risk Assessment was not used to assess the potential adverse impacts to ecological

receptors exposed to contaminants in surface soil at Sites ZZ007, TU008, and TU009. Site ZZ007 includes the areas of Former Building 13 and small grassy areas, TU008 includes Former Building 4 and small grassy areas, and TU009 includes a 7,000-gallon UST used by the WWTP and grassy areas. Because of the limited size and quality of vegetation and the absence of surface soil samples at the sites, a complete exposure pathway does not exist.

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9. CONCLUSIONS

The Schenectady ANGB Sites ZZ007, TU008, and TU009 have undergone site characterization to determine risks to human health and the environment associated with chemicals suspected to be related to historic activities. A PA/SI was conducted in 2014 by AECOM (AECOM, 2015). Based on the results of the PA/SI, the following three sites were evaluated and recommended for RI:

- ZZ007: Former Building 13 Area
- TU008: Former Heating Oil UST #41 at Former Building 4
- TU009: WWTP Bypass UST near IRP Site 6

The RI was conducted at these three sites in June and November 2016 to evaluate the impact of chemicals in soil and groundwater on human health and the environment. At ZZ007, soil and groundwater samples were collected and analyzed for metals. At TU008, soil and groundwater samples were collected and analyzed for VOCs and SVOCs. At TU009, soil and groundwater samples were collected and analyzed for metals and SVOCs. Analytical results were validated in accordance with the National Functional Guidelines (USEPA, 2016c and 2016d), and a BHHRA was conducted.

The results of the BHHRA indicated cancer risks and noncancer health effects for Site ZZ007 soils and TU008 soils and groundwater are below or within the USEPA respective risk management range (1E-04 to 1E-06) for cancer and below the USEPA THQ threshold (1.0) for noncancer effects, do not pose a risk to current or future residents or commercial/industrial workers, and are suitable for UU/UE.

The results of the BHHRA indicated noncancer health effects for Site ZZ007 groundwater above the USEPA THQ threshold (1.0) for the residential and commercial/industrial worker scenarios. The HI risks from groundwater for the residential and industrial scenarios are 14 and 2, respectively, mainly from dissolved manganese and, to a lesser extent, dissolved cobalt. However, the presence of metals in groundwater is not likely to be a result of a release from the Former Building 13 Area. Soil samples indicate that no source area of contamination is present at the Former Building 13 Area. Cobalt and manganese are present in upgradient MW SC-ZZ007-MW001. Former IRP Site 2 was located in the same area as Site ZZ007 and metals were detected at similar concentrations in groundwater during the 1998-2000 Site 2 RI. Dissolved cobalt was

detected in groundwater at concentrations up to 37.5 µg/L and dissolved manganese was detected at concentrations up to 4,820 µg/L during the 1998-2000 Site 2 RI. Dissolved cobalt was detected in groundwater at concentrations up to 19 µg/L and dissolved manganese was detected at concentrations up to 4,700 µg/L during the 2016 ZZ007 RI. The Site 2 RI concluded that the high levels of inorganic constituents in groundwater were likely attributed to residual fines deposited in the annular space of the sand pack during installation of the wells, resultant of the drilling assembly within the weathered shale bedrock, and were not indicative of the actual condition of the aquifer in the area of Site 2 (Aneptek, 2000). The Site 2 RI conclusion was supported by the dramatic reduction in the concentration of total inorganics detected in groundwater collected during the second sampling event which were less turbid. A second sampling was not able to be conducted at Site ZZ007 because permanent MWs were not installed. Permanent MWs would interfere with the construction of a new building planned for installation within the footprint of the Former Building 13.

The results of the BHHRA indicated cancer risks and noncancer health effects for Site TU009 soil are below USEPA's risk management range (1E-04 to 1E-06) for cancer and below the USEPA THQ threshold (1.0) for noncancer effects for the commercial/industrial worker scenario. Although the cancer risks for the residential scenario were below USEPA's risk management range (1E-04 to 1E-06), noncancer health effects exceeded the USEPA's THQ threshold of 1. Thallium was the only COC in soil to exceed the HI of 1. Thallium was only detected at one soil sampling location, SC-TU009-MW001 collected from 3 to 5 ft bgs, located to the west (crossgradient) to the WWTP Bypass UST area. Thallium was not detected in the deeper sample collected at this location from 6 to 8 ft bgs. Thallium present in soil at this isolated location is not likely attributed to a release from the WWTP Bypass UST.

The results of the BHHRA indicated noncancer health effects for TU009 groundwater above the USEPA THQ threshold (1.0) for noncancer effects for the residential and commercial/industrial worker scenarios resulting from noncancer health effects from manganese. The presence of manganese in groundwater is not a result of a release from the WWTP Bypass UST area. According to the RACR for Site 6, iron and manganese are present at high concentrations in groundwater at Site 6 and adjacent Site TU009 as a result of abiotic transformation occurring because of amendments added to the groundwater as part of the Site 6 remedial actions.

10. RECOMMENDATIONS

NFRAP is recommended at Site ZZ007 based on the following:

- The absence of significant COCs.
- The presence of metals in groundwater upgradient of the site.
- The occurrence of perched groundwater underlying Site ZZ007 which is not a source of drinking water.
- Current and anticipated future land use is an airport facility.

NFRAP is recommended at Site TU008 based on the absence of evidence of a release from the former UST based on the following:

- COPCs were not identified in soil
- COPCs detected in groundwater during the first sampling event were not detected during the second sampling event.
- The BBHRA did not identify unacceptable risks to residential or commercial/industrial worker receptors.
- Current and anticipated future land use is an airport facility.

NFRAP is recommended at Site TU009 based on absence of evidence of a release from the WWTP Bypass UST as follows:

- The only COC identified in soil based on the BHHRA is thallium, located crossgradient to the UST area in an isolated area.
- The only COC identified in groundwater is manganese, which is likely present in groundwater as a result of remedial activity at the adjacent Site 6.
- The perched groundwater underlying Site TU009 is not a source of drinking water.
- Current and anticipated future land use is an airport facility.

The recommendation for NFRAP is proposed to be documented in a combined DD for Sites ZZ007, TU008, and TU009.

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TABLES

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Table 4-1
Summary of Soil Sampling
Site ZZ007 - Former Building 13 Area
Schenectady Air National Guard Base
Scotia, New York

Location ID	Easting (ft) [a]	Northing (ft) [a]	Field Sample ID	Top Depth (ft bgs)	Bottom Depth (ft bgs)	Date Collected	Sample Type	Rationale	Metals
SC-ZZ007-MW001	647622.22	1464707.45	SC-ZZ007-MW001-S0103	1	3	06/01/16	Normal	Assess COPCs upgradient (north) of suspected source area. Sample collected under surface material.	X
			SC-ZZ007-MW001-S0506	5	6	06/01/16	Normal	Assess COPCs upgradient (north) of suspected source area. Sample collected at the groundwater interface.	X
SC-ZZ007-MW002	647634.21	1464669.42	SC-ZZ007-MW002-S0102	1	2	06/01/16	Normal	Assess COPCs near PA/SI groundwater sampling locations ZZ007SB05/ZZ007GW05 and ZZ07SB02/ZZ07GW02 in the central area of former Building 13. Sample collected under surface material.	X
			SC-ZZ007-MW002-S0607	6	7	06/01/16	Normal	Assess COPCs near PA/SI groundwater sampling locations ZZ007SB05/ZZ007GW05 and ZZ07SB02/ZZ07GW02. Sample collected at the groundwater interface.	X
SC-ZZ007-MW003	647682.54	1464595.83	GB-TU014-MW003-S0002	0	2	06/02/16	Normal	Assess COPCs downgradient (southeast) of existing monitoring well MWUNK. Sample collected at the surface.	X
			GB-TU014-MW003-S0204	2	4	06/02/16	Normal	Assess COPCs downgradient (southeast) of existing monitoring well MWUNK. Sample collected at the groundwater interface.	X
			GB-TU014-MW003-S0204-D	2	4	06/02/16	Field Duplicate	Duplicate sample of SC-ZZ007-MW003-S0204 collected for QC purposes.	X
								Total # Samples including QC	**7**

Notes:

[a] Northing and Easting measured per the North American Datum of 1983 New York State Plane Coordinate System Eastern Zone (2011) U.S. Survey Feet (Survey completed by Ravi Engineering & Surveying of Rochester, NY on 6/8/2016).

bgs	Below ground surface
COPC	Chemical of potential concern
ft	Feet
ID	Identification
PA/SI	Preliminary Assessment/Site Inspection
QC	Quality control

Table 4-2
Summary of Soil Sampling
Site TU008 - Former Heating Oil UST #41 at Former Building 4
Schenectady Air National Guard Base
Scotia, New York

Location ID	Easting (ft) [a]	Northing (ft) [a]	Field Sample ID	Top Depth (ft bgs)	Bottom Depth (ft bgs)	Date Collected	Sample Type	Rationale	VOCs	SVOCs
SC-TU008-MW001	647410.02	1465156.81	SC-TU008-MW001-S0002	0	2	06/03/16	Normal	Assess COPCs upgradient (northwest) of the former heating oil UST. Sample collected at the surface.	X	X
			SC-TU008-MW001-S1012	10	12	06/03/16	Normal	Assess COPCs upgradient (northwest) of the former heating oil UST. Sample collected at the groundwater interface.	X	X
SC-TU008-MW002	647429.84	1465139.94	SC-TU008-MW002-S0002	0	2	06/02/16	Normal	Assess COPCs in former heating oil UST area. Sample collected at the surface.	X	X
			SC-TU008-MW002-S0406	4	6	06/02/16	Normal	Assess COPCs in former heating oil UST area. Sample collected at the depth most likely to be impacted by a release of the former UST.	X	X
			SC-TU008-MW002-S0406-D	4	6	06/02/16	Field Duplicate	Duplicate sample of SC-TU008-MW002-S0406 collected for QC purposes.	X	X
SC-TU008-MW003	647427.19	1465112.82	SC-TU008-MW003-S0204	2	4	06/02/16	Normal	Assess COPCs downgradient (southeast) of the former heating oil UST area. Sample collected below surface material.	X	X
			SC-TU008-MW003-S0405	4	5	06/02/16	Normal	Assess COPCs downgradient (southeast) of the former heating oil UST area. Sample collected at the depth most likely to be impacted by a release of the former UST.	X	X
SC-TU008-MW004	647399.06	1465108.60	SC-TU008-MW004-S0305	3	5	06/02/16	Normal	Assess COPCs downgradient (southwest) of the former heating oil UST area. Sample collected at the depth most likely to be impacted by a release of the former UST.	X	X
			SC-TU008-MW004-S0507	5	7	06/02/16	Normal	Assess COPCs downgradient (southwest) of the former heating oil UST area. Sample collected at the groundwater interface.	X	X
								Total # Samples including QC	**9**	**9**

Notes:

[a] Northing and Easting measured per the North American Datum of 1983 New York State Plane Coordinate System Eastern Zone (2011) U.S. Survey Feet (Survey completed by Ravi Engineering & Surveying of Rochester, NY on 6/8/2016).

bgs	Below ground surface
COPC	Chemical of potential concern
ft	Feet
ID	Identification
QC	Quality control
SVOC	Semivolatile organic compound
UST	Underground storage tank
VOC	Volatile organic compound

Table 4-3
Summary of Soil Sampling
Site TU009 - WWTP Bypass UST Near IRP Site 6
Schenectady Air National Guard Base
Scotia, New York

Location ID	Easting (ft) [a]	Northing (ft) [a]	Field Sample ID	Top Depth (ft bgs)	Bottom Depth (ft bgs)	Date Collected	Sample Type	Rationale	Metals	SVOCs
SC-TU009-MW001	647411.53	1463777.96	SC-TU009-MW001-S0305	3	5	06/06/16	Normal	Assess the presence of COPCs upgradient (north) of the former UST area. Sample collected from depth of a most likely potential release from a UST.	X	X
			SC-TU009-MW001-S0608	6	8	06/06/16	Normal	Assess the presence of COPCs upgradient (north) of the former UST area. Sample collected at the groundwater interface.	X	X
SC-TU009-MW002	647429.19	1463741.68	SC-TU009-MW002-S0305	3	5	06/06/16	Normal	Assess the presence of COPCs in the vicinity of the former UST area. Sample collected from depth of a most likely potential release from a UST.	X	X
			SC-TU009-MW002-S0507	5	7	06/06/16	Normal	Assess the presence of COPCs in the vicinity of the former UST area. Sample collected from the groundwater interface.	X	X
			SC-TU009-MW002-S0507-D	5	7	06/06/16	Duplicate	Duplicate of SC-TU009-MW002-S0507 collected for QC purposes.	X	X
SC-TU009-MW003	647398.48	1463719.37	SC-TU009-MW003-S0305	3	5	06/06/16	Normal	Assess the presence of COPCs downgradient (southwest) of the former UST area. Sample collected from depth of a most likely potential release from a UST.	X	X
			SC-TU009-MW003-S0507	5	7	06/06/16	Normal	Assess the presence of COPCs downgradient (southwest) of the former UST area. Sample collected from the groundwater interface.	X	X
								Total # Samples including QC	**7**	**7**

Notes:
[a] Northing and Easting measured per the North American Datum of 1983 New York State Plane Coordinate System Eastern Zone (2011) U.S. Survey Feet (Survey completed by Ravi Engineering & Surveying of Rochester, NY on 6/8/2016).

bgs	Below ground surface
COPC	Chemical of potential concern
ft	Feet
ID	Identification
QC	Quality control
SVOC	Semivolatile organic compound
UST	Underground storage tank

Table 4-4
Summary of Monitoring Well Construction and Groundwater Sampling
Site ZZ007 - Former Building 13 Area
Schenectady Air National Guard Base
Scotia, New York

Location ID	Easting (ft) [a]	Northing (ft) [a]	Elevation (TOC) [b] (ft AMSL)	Elevation (Ground Surface) [b] (ft AMSL)	Total Well Depth (ft BTOC)	Screened Interval (ft bgs)	Field Sample ID	Date Collected	Sample Type	Rationale	Total Metals	Dissolved Metals
SC-ZZ007-MW001	647622.22	1464707.45	335.63	335.32	6.50	1.5-6.5	SC-ZZ007-MW001-G-1	06/07/16	Normal	Assess COPCs upgradient (north) of suspected source area.	X	X
SC-ZZ007-MW002	647634.21	1464669.42	334.80	334.43	7.00	2-7	SC-ZZ007-MW002-G-1	06/07/16	Normal	Assess COPCs near PA/SI groundwater sampling locations ZZ007SB05/ZZ007GW05 and ZZ07SB02/ZZ07GW02 in the central area of former Building 13.	X	X
SC-ZZ007-MWUNK	647649.89	1464642.33	333.84	333.84	15.60	5-15.55	SC-ZZ007-MWUNK-G-1	06/07/16	Normal	Assess COPCs downgradient of the former Building 13 area at existing well location.	X	X
							SC-ZZ007-MWUNK-G-1-D	06/07/16	Duplicate	Duplicate of SC-ZZ007-MWUNK-G-1 collected for QC.	X	X
										Total # Samples including QC	**4**	**4**

Notes:

[a] Northing and Easting measured per the North American Datum of 1983 New York State Plane Coordinate System Eastern Zone (2011) U.S. Survey Feet (Survey completed by Ravi Engineering & Surveying of Rochester, NY on 6/8/2016).

[b] Measured per the North American Vertical Datum of 1988 (Survey completed by Ravi Engineering & Surveying of Rochester, NY on 6/8/2016).

AMSL	Above mean sea level
bgs	Below ground surface
BTOC	Below top of casing
COPC	Chemical of potential concern
ft	Feet
ID	Identification
PA/SI	Preliminary Assessment/Site Inspection
QC	Quality control
TOC	Top of casing

Table 4-5
Summary of Monitoring Well Construction and Groundwater Sampling
Site TU008 - Former Heating Oil UST #41 at Former Building 4
Schenectady Air National Guard Base
Scotia, New York

Location ID	Easting (ft) [a]	Northing (ft) [a]	Elevation (TOC) [b] (ft AMSL)	Elevation (Ground Surface) [b] (ft AMSL)	Total Well Depth (ft BTOC)	Screened Interval (ft bgs)	Field Sample ID	Date Collected	Sample Type	Rationale	VOCs	SVOCs
SC-TU008-MW001	647410.02	1465156.81	343.40	344.04	11.42	1.42-11.42	SC-TU008-MW001-G-1	06/08/16	Normal	Assess COPCs upgradient (northwest) of the former heating oil UST.	X	X
							SC-TU008-MW001-G-2	11/07/16	Normal	Follow-on sample collected to confirm presence of COPCs detected in sample SC-TU008-MW001-G-1.	X	X
SC-TU008-MW002	647429.84	1465139.94	341.20	341.51	9.00	2-9	SC-TU008-MW002-G-1	06/08/16	Normal	Assess COPCs in former heating oil UST area.	X	X
							SC-TU008-MW002-G-1-D	06/08/16	Duplicate	Duplicate of SC-TU008-MW002-G-1 collected for QC.	X	X
						2-9	SC-TU008-MW002-G-2	11/07/16	Normal	Follow-on sample collected to confirm presence of COPCs detected in sample SC-TU008-MW002-G-1.	X	X
						2-9	SC-TU008-MW002-G-2-D	11/07/16	Duplicate	Duplicate of SC-TU008-MW002-G-2 collected for QC.	X	X
SC-TU008-MW003	647427.19	1465112.82	342.01	340.69	7.00	2-7	SC-TU008-MW003-G-1	06/08/16	Normal	Assess COPCs downgradient (southeast) of the former heating oil UST area.	X	
SC-TU008-MW004	647399.06	1465108.60	343.19	343.48	9.00	2-9	SC-TU008-MW004-G-1	06/08/16	Normal	Assess COPCs downgradient (southwest) of the former heating oil UST area.	X	X
							SC-TU008-MW004-G-2	11/07/16	Normal	Follow-on sample collected to confirm presence of COPCs detected in sample SC-TU008-MW004-G-1.	X	X
SC-TU008-MW006	647451.30	1465073.29	341.1	341.49	8.50	3.5-8.5	SC-TU008-MW006-G-1	11/10/16	Normal	Assess COPCs further downgradient of SC-TU008-MW003.	X	X
										Total # Samples including QC	**10**	**9**

Notes:

[a] Northing and Easting measured per the North American Datum of 1983 New York State Plane Coordinate System Eastern Zone (2011) U.S. Survey Feet (Survey completed by Ravi Engineering & Surveying of Rochester, NY on 6/8/2016 and 11/10/2016).

[b] Measured per the North American Vertical Datum of 1988 (Survey completed by Ravi Engineering & Surveying of Rochester, NY on 6/8/2016 and 11/10/2016).

AMSL	Above mean sea level
bgs	Below ground surface
BTOC	Below top of casing
COPC	Chemical of potential concern
ft	Feet
ID	Identification
QC	Quality control
SVOC	Semivolatile organic compound
TOC	Top of casing
UST	Underground storage tank
VOC	Volatile organic compound

Table 4-6
Summary of Monitoring Well Construction and Groundwater Sampling
Site TU009 - WWTP Bypass UST Near IRP Site 6
Schenectady Air National Guard Base
Scotia, New York

Location ID	Easting (ft) [a]	Northing (ft) [a]	Elevation (TOC) [b] (ft AMSL)	Elevation (Ground Surface) [b] (ft AMSL)	Total Well Depth (ft BTOC)	Screened Interval (ft bgs)	Field Sample ID	Date Collected	Sample Type	Rationale	Total Metals	Dissolved Metals	SVOCs
SC-TU009-6MW22	647386.09	1463674.62	308.26	308.63	9.00	4-9	SC-TU009-6MW22-G-1	06/08/16	Normal	Assess the presence of COPCs downgradient (southwest) of the former UST area.	X	X	X
							SC-TU009-6MW22-G-1-D	06/08/16	Field Duplicate	Duplicate of SC-TU009-6MW22-G-1 collected for QC.	X	X	X
SC-TU009-6MW24	647421.84	1463708.54	309.37	309.56	9.00	4-9	SC-TU009-6MW24-G-1	06/08/16	Normal	Assess the presence of COPCs downgradient (southwest) of the former UST area.	X	X	X
SC-TU009-MW003	647398.48	1463719.37	310.29	310.56	9.50	2.5-9.5	SC-TU009-MW003-G-1	06/08/16	Normal	Assess the presence of COPCs downgradient (southwest) of the former UST area.	X	X	X
							SC-TU009-MW003-G-2	11/07/16	Normal	Follow-on sample to evaluate presence of metals in groundwater due to turbid sample collected in June 2016.	X	X	
										Total # Samples including QC	**5**	**5**	**4**

Notes:

[a] Northing and Easting measured per the North American Datum of 1983 New York State Plane Coordinate System Eastern Zone (2011) U.S. Survey Feet (Survey completed by Ravi Engineering & Surveying of Rochester, NY on 6/8/2016).

[b] Measured per the North American Vertical Datum of 1988 (Survey completed by Ravi Engineering & Surveying of Rochester, NY on 6/8/2016).

AMSL	Above mean sea level
bgs	Below ground surface
BTOC	Below top of casing
COPC	Chemical of potential concern
ft	Feet
ID	Identification
IRP	Installation Restoration Program
QC	Quality control
SVOC	Semivolatile organic compound
TOC	Top of casing
UST	Underground storage tank

Table 5-1
Static Groundwater Level Measurements
Sites ZZ007, TU008 and TU009
Schenectady Air National Guard Base
Scotia, New York

Location ID	Installation Date	Easting[a]	Northing[a]	Ground Surface Elevation[b]	Top of Casing Elevation[b]	Depth to Water	Groundwater Elevation
						6/7/2016	
				(ft AMSL)	(ft AMSL)	(ft BTOC)	(ft AMSL)
SC-ZZ007-MW001	6/1/2016	647622.22	1464707.45	335.32	335.63	4.80	330.83
SC-ZZ007-MW002	6/1/2016	647634.21	1464669.42	334.43	334.80	4.85	329.95
SC-ZZ007-MW003	6/1/2016	647682.54	1464595.83	331.10	332.07	6.30	325.77
SC-ZZ007-MWUNK[c]	8/4/1998	647649.89	1464642.33	333.84	333.84	5.00	328.84

Location ID	Installation Date	Easting[a]	Northing[a]	Ground Surface Elevation[b]	Top of Casing Elevation[b]	Depth to Water	Groundwater Elevation	Depth to Water	Groundwater Elevation
						6/8/2016		11/10/2016	
				(ft AMSL)	(ft AMSL)	(ft BTOC)	(ft AMSL)	(ft BTOC)	(ft AMSL)
SC-TU008-MW001	6/3/2016	647410.02	1465156.81	344.04	343.40	5.50	337.90	5.60	337.80
SC-TU008-MW002	6/3/2016	647429.84	1465139.94	341.51	341.20	6.05	335.15	4.25	336.95
SC-TU008-MW003	6/2/2016	647427.19	1465112.82	340.69	342.01	6.10	335.91	NA	NA
SC-TU008-MW004	6/3/2016	647399.06	1465108.60	343.48	343.19	6.18	337.01	5.42	337.77
SC-TU008-MW005	11/7/2016	647437.35	1465118.97	340.55	340.25	NA	NA	DRY	NA
SC-TU008-MW006	11/7/2016	647451.30	1465073.29	341.49	341.10	NA	NA	7.30	333.80

Location ID	Installation Date	Easting[a]	Northing[a]	Ground Surface Elevation[b]	Top of Casing Elevation[b]	Depth to Water	Groundwater Elevation	Depth to Water	Groundwater Elevation
						6/8/2016		11/7/2016	
				(ft AMSL)	(ft AMSL)	(ft BTOC)	(ft AMSL)	(ft BTOC)	(ft AMSL)
6MW22	8/16/2007	647386.09	1463674.62	308.63	308.26	7.76	300.50	NA	NA
6MW24	8/16/2007	647421.84	1463708.54	309.56	309.37	7.73	301.64	NA	NA
SC-TU009-MW003	6/6/2016	647398.48	1463719.37	310.56	310.29	8.65	301.64	8.12	302.17

Notes:

a Northing and Easting measured per the North American Datum of 1983 New York State Plane Coordinate System Eastern Zone (2011) U.S. Survey Feet (Survey completed by Ravi Engineering & Surveying of Rochester, NY on 6/8/2016 and 11/10/2016).

b Measured per the North American Vertical Datum of 1988 (Survey completed by Ravi Engineering & Surveying of Rochester, NY on 6/8/2016 and 11/10/2016).

c Monitoring well installed as 2MW-03 as part of the Site 2 Remedial Investigation. The well ID was unknown at the time of the 2014/2015 Preliminary Assessment/Site Inspection and the well was identified as "MWUNK".

AMSL	Above mean sea level
BTOC	Below top of casing
ft	Feet
ID	Identification
NA	Not applicable

Table 5-2
Soil Sample Analytical Results
Site ZZ007 - Former Building 13 Area
Schenectady Air National Guard Base
Scotia, New York

Analyte	CAS Number	2016 USEPA Residential RSL[a]	6 NYCRR Part 375 Unrestricted Use SCO[b]	NYSDEC CP-51 Residential Supplemental SCO[c]	PAL															
						Location ID:	SC-ZZ007-MW001		SC-ZZ007-MW001		SC-ZZ007-MW002		SC-ZZ007-MW002		SC-ZZ007-MW003		SC-ZZ007-MW003		SC-ZZ007-MW003	
						Field Sample ID:	SC-ZZ007-MW001-S0103		SC-ZZ007-MW001-S0506		SC-ZZ007-MW002-S0102		SC-ZZ007-MW002-S0607		SC-ZZ007-MW003-S0002		SC-ZZ007-MW003-S0204		SC-ZZ007-MW003-S0204-D	
						Date:	6/1/2016		6/1/2016		6/1/2016		6/1/2016		6/2/2016		6/2/2016		6/2/2016	
						Lab Sample ID:	280-84062-1		280-84062-2		280-84062-3		280-84062-4		280-84062-5		280-84062-6		280-84062-7	
						Depth (ft bgs):	1 - 3		5 - 6		1 - 2		6 - 7		0 - 2		2 - 4		2 - 4	
Metals by 6010C/7471A																				
Aluminum	7429-90-5	77000	NP	NP	77000	mg/kg	**17000**		**15000**		**15000**		**14000**		**11000**		**10000**		**13000**	
Antimony	7440-36-0	31	NP	NP	31	mg/kg	1.4	U	1.3	U	1.4	U	1.7	U	1.4	U	1.3	U	1.5	U
Arsenic	7440-38-2	0.68	13	NP	13	mg/kg	**6.3**		**9.2**		**6.5**		**8.2**		**6.8**		**11**		**8.2**	
Barium	7440-39-3	15000	350	NP	350	mg/kg	**83**		**110**		**58**		**96**		**65**		**64**		**70**	
Beryllium	7440-41-7	160	7.2	NP	7.2	mg/kg	**0.96**		**0.91**		**0.7**		**0.75**		**0.63**		**0.67**		**0.86**	
Cadmium	7440-43-9	71	2.5	NP	2.5	mg/kg	**0.14**	J	**0.29**	J	**0.081**	J	**0.16**	J	**0.38**	J	**0.33**	J	**0.25**	J
Calcium	7440-70-2	NP	NP	NP	NP	mg/kg	**1100**		**1800**		**1600**		**2100**		**3900**		**36000**	J	**8000**	J
Chromium	7440-47-3	120000	30	NP	30	mg/kg	**20**		**24**		**19**		**19**		**18**		**17**		**21**	
Cobalt	7440-48-4	23	NP	30	30	mg/kg	**12**		**17**		**12**		**12**		**11**		**14**		**13**	
Copper	7440-50-8	3100	50	NP	50	mg/kg	**18**		**41**		**35**		**33**		**29**		**33**		**40**	
Iron	7439-89-6	55000	NP	2000	2000	mg/kg	**26000**		**35000**		**25000**		**30000**		**24000**		**26000**		**35000**	
Lead	7439-92-1	400	63	NP	63	mg/kg	**21**		**15**		**11**		**12**		**23**		**28**		**26**	
Magnesium	7439-95-4	NP	NP	NP	NP	mg/kg	**3200**		**6500**		**3800**		**4900**		**4600**		**20000**	J	**7300**	J
Manganese	7439-96-5	1800	1600	NP	1600	mg/kg	**640**		**710**		**350**		**410**		**460**		**680**		**550**	
Nickel	7440-02-0	1500	30	NP	30	mg/kg	**18**		**47**		**26**		**34**		**23**		**33**		**33**	
Potassium	7440-09-7	NP	NP	NP	NP	mg/kg	**1600**		**2900**		**1700**		**2000**		**1700**		**1800**		**1900**	
Selenium	7782-49-2	390	3.9	NP	3.9	mg/kg	2.8	U	2.6	U	2.8	U	3.4	U	2.9	U	2.7	U	2.9	U
Silver	7440-22-4	390	2	NP	2	mg/kg	0.56	U	0.52	U	0.56	U	0.69	U	0.57	U	0.54	U	0.58	U
Sodium	7440-23-5	NP	NP	NP	NP	mg/kg	**61**	J	**72**	J	**110**	J	**74**	J	**89**	J	**140**	J	**130**	J
Thallium	7440-28-0	0.78	NP	NP	0.78	mg/kg	**0.78**	J	**0.66**	J	**0.78**	J	**1.3**	J	**0.82**	J	2.2	U	**0.87**	J
Vanadium	7440-62-2	390	NP	100	100	mg/kg	**34**		**26**		**22**		**25**		**21**		**19**		**24**	
Zinc	7440-66-6	23000	109	NP	109	mg/kg	**59**		**80**		**63**		**73**		**88**		**76**		**90**	
Mercury	7439-97-6	9.4	0.18	NP	0.18	mg/kg	**0.05**		**0.059**		**0.059**		**0.066**		**0.062**		**0.14**	J	**0.078**	J

Notes:
Bold indicates value above laboratory detection limit.
Shading indicates value above PAL.

PAL References:
a - USEPA May 2016 Residential RSL (THQ=1, TR-1E-06) (http://www2.epa.gov/risk/risk-based-screening-table-generic-tables)
b - 6 NYCRR Part 375, December 2006 (http://www.dec.ny.gov/docs/remediation_hudson_pdf/part375.pdf)
c - NYSDEC CP-51 Soil Cleanup Guidance, October 2010 (http://www.dec.ny.gov/docs/remediation_hudson_pdf/cpsoil.pdf)

Data Flags:
J – Result is estimated.
U – Analyte is not detected at or above the Limit of Detection.

CAS	Chemical Abstracts Service
CP	Commissioner Policy
D	Duplicate sample
ft bgs	Feet below ground surface
ID	Identification
mg/kg	Milligram per kilogram
MW	Monitoring well
NP	Not published
NYCRR	New York Codes, Rules, and Regulations
NYSDEC	New York State Department of Environmental Conservation
PAL	Project action limit
RSL	Regional Screening Level
SC	Schenectady Air National Guard Base
SCO	Soil Cleanup Objective
USEPA	U.S. Environmental Protection Agency
ZZ007	Former Building 13 Area

Table 5-3
Groundwater Sample Analytical Results
Site ZZ007 - Former Building 13 Area
Schenectady Air National Guard Base
Scotia, New York

	CAS Number	2016 USEPA Tapwater RSL[a]	MCL[b]	6 NYCRR Part 703 Drinking Water[c]	PAL								
						Location ID:	SC-ZZ007-MW001		SC-ZZ007-MW002		SC-ZZ007-MWUNK		SC-ZZ007-MWUNK	
						Field Sample ID:	SC-ZZ007-MW001-G-1		SC-ZZ007-MW002-G-1		SC-ZZ007-MWUNK-G-1		SC-ZZ007-MWUNK-G-1-D	
						Lab Sample ID:	280-84351-1		280-84351-2		280-84351-3		280-84351-4	
						Date:	6/7/2016		6/7/2016		6/7/2016		6/7/2016	
						Screened interval:	1.5-6.5 ft bgs		2-7 ft bgs		5-15.55 ft bgs		5-15.55 ft bgs	
Total Metals by 6010C/7470A														
Aluminum	7429-90-5	20000	NP	NP	20000	µg/L	**130000**		**4200**		**32**	J	**30**	J
Antimony	7440-36-0	7.8	6	3	3	µg/L	12	U	12	U	12	U	12	U
Arsenic	7440-38-2	0.052	10	25	10	µg/L	**94**		15	U	15	U	15	U
Barium	7440-39-3	3800	2000	1000	1000	µg/L	**1600**		**88**		**83**		**86**	
Beryllium	7440-41-7	25	4	3	3	µg/L	**7.8**		1.2	U	1.2	U	1.2	U
Cadmium	7440-43-9	9.2	5	5	5	µg/L	**5.7**		**1.1**	J	**0.47**	J	1.8	U
Calcium	7440-70-2	NP	NP	NP	NP	µg/L	**64000**		**170000**		**79000**		**79000**	
Chromium	7440-47-3	NP	100	50	50	µg/L	**280**		**23**		2.6	U	2.6	U
Cobalt	7440-48-4	6	NP	NP	6	µg/L	**180**		**24**		4.5	U	4.5	U
Copper	7440-50-8	800	1300	200	200	µg/L	**450**		**17**		10	U	10	U
Iron	7439-89-6	14000	NP	300	300	µg/L	**360000**		**12000**		**110**		**130**	
Lead	7439-92-1	15	15	25	15	µg/L	**160**		**5.6**	J	10	U	10	U
Magnesium	7439-95-4	NP	NP	35000	35000	µg/L	**86000**		**75000**		**28000**		**27000**	
Manganese	7439-96-5	430	NP	300	300	µg/L	**7700**		**4800**		**85**		**95**	
Nickel	7440-02-0	390	NP	100	100	µg/L	**530**		**56**		**1.9**	J	**1.9**	J
Potassium	7440-09-7	NP	NP	NP	NP	µg/L	**20000**		**13000**		940	U	940	U
Selenium	7782-49-2	100	50	10	10	µg/L	19	U	19	U	19	U	19	U
Silver	7440-22-4	94	NP	50	50	µg/L	3.5	U	3.5	U	3.5	U	3.5	U
Sodium	7440-23-5	NP	NP	20000	20000	µg/L	**16000**		**42000**		**40000**		**40000**	
Thallium	7440-28-0	0.2	2	0.5	0.5	µg/L	19	U	19	U	**10**	J	19	U
Vanadium	7440-62-2	86	NP	NP	86	µg/L	**220**		**11**	J	4	U	4	U
Zinc	7440-66-6	6000	NP	2000	2000	µg/L	**850**		**40**	J	**13**	J	**15**	J
Mercury	7439-97-6	0.63	2	0.7	0.7	µg/L	**0.26**		0.08	U	0.08	U	0.08	U
Dissolved Metals by 6010C/7470A														
Aluminum, Dissolved	7429-90-5	20000	NP	NP	20000	µg/L	70	U	70	U	70	U	70	U
Antimony, Dissolved	7440-36-0	7.8	6	3	3	µg/L	12	U	12	U	12	U	12	U
Arsenic, dissolved	7440-38-2	0.052	10	25	10	µg/L	15	U	15	U	15	U	15	U
Barium, Dissolved	7440-39-3	3800	2000	1000	1000	µg/L	**59**		**49**		**78**		**79**	
Beryllium, Dissolved	7440-41-7	25	4	3	3	µg/L	1.2	U	1.2	U	1.2	U	1.2	U
Cadmium, Dissolved	7440-43-9	9.2	5	5	5	µg/L	**0.7**	J	**0.84**	J	1.8	U	**0.47**	J
Calcium, Dissolved	7440-70-2	NP	NP	NP	NP	µg/L	**42000**		**170000**		**85000**		**85000**	
Chromium, Dissolved	7440-47-3	NP	100	50	50	µg/L	**0.68**	J	2.6	U	2.6	U	2.6	U
Cobalt, Dissolved	7440-48-4	6	NP	NP	6	µg/L	**17**		**19**		4.5	U	4.5	U
Copper, Dissolved	7440-50-8	800	1300	200	200	µg/L	10	U	10	U	10	U	10	U
Iron, dissolved	7439-89-6	14000	NP	300	300	µg/L	**120**		**230**		85	U	85	U
Lead, dissolved	7439-92-1	15	15	25	15	µg/L	10	U	10	U	10	U	10	U
Magnesium, Dissolved	7439-95-4	NP	NP	35000	35000	µg/L	**27000**		**72000**		**28000**		**29000**	
Manganese, Dissolved	7439-96-5	430	NP	300	300	µg/L	**3800**		**4700**		**18**		**18**	
Nickel, Dissolved	7440-02-0	390	NP	100	100	µg/L	**46**		**42**		5	U	5	U
Potassium, Dissolved	7440-09-7	NP	NP	NP	NP	µg/L	**4900**		**11000**		**2400**	J	**2500**	J
Selenium, dissolved	7782-49-2	100	50	10	10	µg/L	19	U	19	U	19	U	19	U
Silver, Dissolved	7440-22-4	94	NP	50	50	µg/L	3.5	U	3.5	U	3.5	U	3.5	U
Sodium, Dissolved	7440-23-5	NP	NP	20000	20000	µg/L	**17000**		**39000**		**39000**		**39000**	

Table 5-3
Groundwater Sample Analytical Results
Site ZZ007 - Former Building 13 Area
Schenectady Air National Guard Base
Scotia, New York

	CAS Number	2016 USEPA Tapwater RSL[a]	MCL[b]	6 NYCRR Part 703 Drinking Water[c]	PAL	Location ID:	SC-ZZ007-MW001		SC-ZZ007-MW002		SC-ZZ007-MWUNK		SC-ZZ007-MWUNK	
						Field Sample ID:	SC-ZZ007-MW001-G-1		SC-ZZ007-MW002-G-1		SC-ZZ007-MWUNK-G-1		SC-ZZ007-MWUNK-G-1-D	
						Lab Sample ID:	280-84351-1		280-84351-2		280-84351-3		280-84351-4	
						Date:	6/7/2016		6/7/2016		6/7/2016		6/7/2016	
						Screened interval:	1.5-6.5 ft bgs		2-7 ft bgs		5-15.55 ft bgs		5-15.55 ft bgs	
Thallium, Dissolved	7440-28-0	0.2	2	0.5	0.5	µg/L	19	U	19	U	19	U	19	U
Vanadium, Dissolved	7440-62-2	86	NP	NP	86	µg/L	4	U	4	U	4	U	4	U
Zinc, Dissolved	7440-66-6	6000	NP	2000	2000	µg/L	15	U	**12**	J	**11**	J	**9.4**	J
Mercury, Dissolved	7439-97-6	0.63	2	0.7	0.7	µg/L	0.08	U	0.08	U	0.08	U	0.08	U

Notes:
Bold indicates value above laboratory detection limit.
Shading indicates value above PAL.

PAL References:
a - USEPA May 2016 Tapwater RSL (http://www2.epa.gov/risk/risk-based-screening-table-generic-tables)
b - USEPA National Primary Drinking Water Regulations (http://water.epa.gov/drink/contaminants/)
c - 6 NYCRR Part 703 Water Quality Standards and Guidance Values and Groundwater Effluent Limitations (http://www.dec.ny.gov/chemical/23853.html)

Data Flags:
J – Result is estimated.
U – Analyte is not detected at or above the Limit of Detection.

µg/L	Microgram per liter
CAS	Chemical Abstracts Service
D	Duplicate sample
ft bgs	Feet below ground surface
ID	Identification
MCL	Maximum contaminant level
MW	Monitoring well
NP	Not published
NYCRR	New York Codes, Rules, and Regulations
PAL	Project action limit
RSL	Regional Screening Level
USEPA	U.S. Environmental Protection Agency
ZZ007	Former Building 13 Area

Table 5-4
Soil Sample Analytical Results
Site TU008 - Former Heating Oil UST #41 at Former Building 4
Schenectady Air National Guard Base
Scotia, New York

Analyte	CAS Number	2016 USEPA Residential RSL[a]	6 NYCRR Part 375 Unrestricted Use SCO[b]	NYSDEC CP-51 Residential Supplemental SCO[c]	PAL	Location ID:	SC-TU008-MW001		SC-TU008-MW001		SC-TU008-MW002		SC-TU008-MW002		SC-TU008-MW002		SC-TU008-MW003		SC-TU008-MW003		SC-TU008-MW004		SC-TU008-MW004	
						Field Sample ID:	SC-TU008-MW001-S0002		SC-TU008-MW001-S1012		SC-TU008-MW002-S0002		SC-TU008-MW002-S0406		SC-TU008-MW002-S0406-D		SC-TU008-MW003-S0204		SC-TU008-MW003-S0405		SC-TU008-MW004-S0305		SC-TU008-MW004-S0507	
						Date:	6/3/2016		6/3/2016		6/2/2016		6/2/2016		6/2/2016		6/2/2016		6/2/2016		6/2/2016		6/2/2016	
						Lab Sample ID:	280-84064-1		280-84064-2		280-84064-5		280-84064-3		280-84064-4		280-84064-6		280-84064-7		280-84064-9		280-84064-8	
						Depth (ft bgs):	0 - 2		10 - 12		0 - 2		4 - 6		4 - 6		2 - 4		4 - 5		3 - 5		5 - 7	
VOCs by 8260C																								
1,1,1-Trichloroethane	71-55-6	8100	0.68	NP	0.68	mg/kg	0.00097	U	0.00091	U	0.0011	U	0.00094	U	0.00079	U	0.00088	U	0.0008	U	0.0011	U	0.00079	U
1,1,2,2-Tetrachloroethane	79-34-5	0.6	NP	35	35	mg/kg	0.00097	U	0.00091	U	0.0011	U	0.00094	U	0.00079	U	0.00088	U	0.0008	U	0.0011	U	0.00079	U
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	40000	NP	100	100	mg/kg	0.0049	U	0.0045	U	0.0053	U	0.0047	U	0.0039	U	0.0044	U	0.004	U	0.0053	U	0.004	U
1,1,2-Trichloroethane	79-00-5	1.1	NP	NP	1.1	mg/kg	0.00097	U	0.00091	U	0.0011	U	**0.16**	J	0.00079	UJ	0.00088	U	0.0008	U	0.0011	U	0.00079	U
1,1-Dichloroethane	75-34-3	3.6	0.27	NP	0.27	mg/kg	0.00097	U	0.00091	U	0.0011	U	0.00094	U	0.00079	U	0.00088	U	0.0008	U	0.0011	U	0.00079	U
1,1-Dichloroethene	75-35-4	230	0.33	NP	0.33	mg/kg	0.0049	U	0.0045	U	0.0053	U	0.0047	U	0.0039	U	0.0044	U	0.004	U	0.0053	U	0.004	U
1,2,3-Trichlorobenzene	87-61-6	63	NP	80	80	mg/kg	0.00097	U	0.00091	U	0.0011	U	0.00094	U	0.00079	U	0.00088	U	0.0008	U	0.0011	U	0.00079	U
1,2,4-Trichlorobenzene	120-82-1	24	NP	NP	24	mg/kg	0.00097	U	0.00091	U	0.0011	U	0.00094	U	0.00079	U	0.00088	U	0.0008	U	0.0011	U	0.00079	U
1,2,4-Trimethylbenzene	95-63-6	58	3.6	NP	3.6	mg/kg	0.00097	U	0.00091	U	0.0011	U	0.00094	U	0.00079	U	0.00088	U	0.0008	U	0.0011	U	0.00079	U
1,2-Dibromo-3-Chloropropane	96-12-8	0.0053	NP	NP	0.0053	mg/kg	0.0049	U	0.0045	U	0.0053	U	0.0047	U	**0.0048**	J+	0.0044	U	0.004	U	0.0053	U	0.004	U
1,2-Dibromoethane	106-93-4	0.036	NP	NP	0.036	mg/kg	0.00097	U	0.00091	U	0.0011	U	0.00094	U	0.00079	U	0.00088	U	0.0008	U	0.0011	U	0.00079	U
1,2-Dichlorobenzene	95-50-1	1800	1.1	NP	1.1	mg/kg	0.00097	U	0.00091	U	0.0011	U	0.00094	U	0.00079	U	0.00088	U	0.0008	U	0.0011	U	0.00079	U
1,2-Dichloroethane	107-06-2	0.46	0.02	NP	0.02	mg/kg	0.00097	U	0.00091	U	0.0011	U	0.00094	U	0.00079	U	0.00088	U	0.0008	U	0.0011	U	0.00079	U
1,2-Dichloroethene, Total	540-59-0	NP	NP	NP	NP	mg/kg	0.0019	U	0.0018	U	0.0021	U	0.0019	U	0.0016	U	0.0018	U	0.0016	U	0.0021	U	0.0016	U
1,2-Dichloropropane	78-87-5	1	NP	NP	1	mg/kg	0.00097	U	0.00091	U	0.0011	U	0.00094	U	0.00079	U	0.00088	U	0.0008	U	0.0011	U	0.00079	U
1,3,5-Trimethylbenzene	108-67-8	780	8.4	NP	8.4	mg/kg	0.00097	U	0.00091	U	0.0011	U	0.00094	U	0.00079	U	0.00088	U	0.0008	U	0.0011	U	0.00079	U
1,3-Dichlorobenzene	541-73-1	NP	2.4	NP	2.4	mg/kg	0.00097	U	0.00091	U	0.0011	U	0.00094	U	0.00079	U	0.00088	U	0.0008	U	0.0011	U	0.00079	U
1,4-Dichlorobenzene	106-46-7	2.6	1.8	NP	1.8	mg/kg	0.00097	U	0.00091	U	0.0011	U	0.00094	U	0.00079	U	0.00088	U	0.0008	U	0.0011	U	0.00079	U
2-Butanone (MEK)	78-93-3	27000	0.12	100	0.12	mg/kg	0.0049	U	0.0045	U	0.0053	U	0.0047	U	0.0039	U	0.0044	U	0.004	U	0.0053	U	0.004	U
2-Hexanone	591-78-6	200	NP	NP	200	mg/kg	**0.0058**	J+	0.0045	U	**0.005**	J+	0.0047	U	0.0039	U	0.0044	U	0.004	U	0.0053	U	0.004	U
4-Methyl-2-pentanone (MIBK)	108-10-1	33000	NP	NP	33000	mg/kg	0.0049	U	0.0045	U	0.0053	U	0.0047	UJ	**0.14**	J	0.0044	U	0.004	U	0.0053	U	0.004	U
Acetone	67-64-1	61000	0.05	NP	0.05	mg/kg	**0.034**	J+	0.0091	U	**0.039**	J+	**0.023**	J+	**0.019**	J+	**0.018**	J+	0.008	U	**0.093**	J+	**0.01**	J+
Benzene	71-43-2	1.2	0.06	NP	0.06	mg/kg	0.00097	U	0.00091	U	0.0011	U	0.00094	U	0.00079	U	0.00088	U	0.0008	U	0.0011	U	0.00079	U
Bromobenzene	108-86-1	290	NP	NP	290	mg/kg	0.00097	U	0.00091	U	0.0011	U	0.00094	U	0.00079	U	0.00088	U	0.0008	U	0.0011	U	0.00079	U
Bromodichloromethane	75-27-4	0.29	NP	NP	0.29	mg/kg	0.00097	U	0.00091	U	0.0011	U	0.00094	U	0.00079	U	0.00088	U	0.0008	U	0.0011	U	0.00079	U
Bromoform	75-25-2	19	NP	NP	19	mg/kg	0.00097	U	0.00091	U	0.0011	U	0.00094	U	0.00079	U	0.00088	U	0.0008	U	0.0011	U	0.00079	U
Bromomethane	74-83-9	6.8	NP	NP	6.8	mg/kg	0.0049	UJ	0.0045	UJ	0.0053	UJ	0.0047	UJ	0.0039	UJ	0.0044	UJ	0.004	UJ	0.0053	UJ	0.004	UJ
Carbon disulfide	75-15-0	770	NP	100	100	mg/kg	0.00097	U	0.00091	U	**0.0038**	J+	0.00094	U	**0.00097**	J+	0.00088	U	**0.0013**	J+	0.0011	U	0.00079	U
Carbon tetrachloride	56-23-5	0.65	0.76	NP	0.76	mg/kg	0.00097	U	0.00091	U	0.0011	U	0.00094	U	0.00079	U	0.00088	U	0.0008	U	0.0011	U	0.00079	U
Chlorobenzene	108-90-7	280	1.1	NP	1.1	mg/kg	0.00097	U	0.00091	U	0.0011	U	0.00094	U	0.00079	U	0.00088	U	0.0008	U	0.0011	U	0.00079	U
Chloroethane	75-00-3	14000	NP	NP	14000	mg/kg	0.00097	U	0.00091	U	0.0011	U	0.00094	U	0.00079	U	0.00088	U	0.0008	U	0.0011	U	0.00079	U
Chloroform	67-66-3	0.32	0.37	NP	0.37	mg/kg	0.00097	U	0.00091	U	0.0011	U	0.00094	U	0.00079	U	0.00088	U	0.0008	U	0.0011	U	0.00079	U
Chloromethane	74-87-3	110	NP	NP	110	mg/kg	0.0049	U	0.0045	U	0.0053	U	0.0047	U	0.0039	U	0.0044	U	0.004	U	0.0053	U	0.004	U
cis-1,2-Dichloroethene	156-59-2	160	0.25	NP	0.25	mg/kg	0.00097	U	0.00091	U	0.0011	U	0.00094	U	0.00079	U	0.00088	U	0.0008	U	0.0011	U	0.00079	U
cis-1,3-Dichloropropene	10061-01-5	1.8	NP	NP	1.8	mg/kg	0.00097	U	0.00091	U	0.0011	U	0.00094	U	0.00079	U	0.00088	U	0.0008	U	0.0011	U	0.00079	U
Cyclohexane	110-82-7	6500	NP	NP	6500	mg/kg	0.00097	U	0.00091	U	0.0011	U	0.00094	U	0.00079	U	0.00088	U	0.0008	U	0.0011	U	0.00079	U
Dibromochloromethane	124-48-1	8.3	NP	NP	8.3	mg/kg	0.00097	U	0.00091	U	0.0011	U	0.00094	U	0.00079	U	0.00088	U	0.0008	U	0.0011	U	0.00079	U
Dichlorodifluoromethane	75-71-8	87	NP	NP	87	mg/kg	0.0049	UJ	0.0045	UJ	0.0053	UJ	0.0047	UJ	0.0039	UJ	0.0044	UJ	0.004	UJ	0.0053	UJ	0.004	UJ
Ethylbenzene	100-41-4	5.8	1	NP	1	mg/kg	0.00097	U	0.00091	U	0.0011	U	0.00094	U	**0.00058**	J+	0.00088	U	0.0008	U	0.0011	U	0.00079	U
Isopropylbenzene	98-82-8	1900	NP	100	100	mg/kg	0.00097	U	0.00091	U	0.0011	U	**0.011**	J	**0.019**	J	0.00088	U	0.0008	U	0.0011	U	0.00079	U
m,p-Xylene	179601-23-1	550	0.26	NP	0.26	mg/kg	0.0019	U	0.0018	U	0.0021	U	0.0019	U	**0.00053**	J+	0.0018	U	0.0016	U	0.0021	U	0.0016	U
Methyl acetate	79-20-9	78000	NP	NP	78000	mg/kg	0.0049	U	0.0045	U	0.0053	U	0.0047	U	0.0039	U	0.0044	U	0.004	U	0.0053	U	0.004	U
Methyl tert-butyl ether	1634-04-4	47	0.93	NP	0.93	mg/kg	0.00097	U	0.00091	U	0.0011	U	0.00094	U	0.00079	U	0.00088	U	0.0008	U	0.0011	U	0.00079	U
Methylcyclohexane	108-87-2	NP	NP	NP	NP	mg/kg	0.00097	U	0.00091	U	0.0011	U	**0.0056**	J+	**0.004**	J+	0.00088	U	0.0008	U	0.0011	U	0.00079	U
Methylene Chloride	75-09-2	57	0.05	NP	0.05	mg/kg	0.0049	U	0.0045	U	0.0053	U	0.0047	U	0.0039	U	0.0044	U	0.004	U	0.0053	U	0.004	U
Naphthalene	91-20-3	3.8	12	NP	12	mg/kg	0.00097	U	0.00091	U	**0.0011**	J+	**0.026**	J+	**0.016**	J+	0.00088	U	0.0008	U	0.0011	U	0.00079	U
n-Butylbenzene	104-51-8	3900	12	NP	12	mg/kg	0.00097	U	0.00091	U	0.0011	U	**0.12**	J+	**0.1**	J+	0.00088	U	0.0008	U	0.0011	U	0.00079	U
N-Propylbenzene	103-65-1	3800	3.9	NP	3.9	mg/kg	0.00097	U	0.00091	U	0.0011	U	0.00094	U	**0.0091**	J+	0.00088	U	0.0008	U	0.0011	U	0.00079	U
o-Xylene	95-47-6	650	0.26	NP	0.26	mg/kg	0.00097	U	0.00091	U	0.0011	U	**0.00066**	J+	**0.00095**	J+	0.00088	U	0.0008	U	0.0011	U	0.00079	U
sec-Butylbenzene	135-98-8	7800	11	NP	11	mg/kg	0.00097	U	0.00091	U	**0.00036**	J+	**0.1**	J+	**0.14**	J+	0.00088	U	**0.0028**	J+	0.0011	U	0.00079	U
Styrene	100-42-5	6000	NP	NP	6000	mg/kg	0.00097	U	0.00091	U	0.0011	U	0.00094	U	0.00079	U	0.00088	U	0.0008	U	0.0011	U	0.00079	U
tert-Butylbenzene	98-06-6	7800	5.9	NP	5.9	mg/kg	0.00097	U	0.00091	U	0.0011	U	**0.02**	J	**0.038**	J	0.00088	U	**0.0022**	J+	0.0011	U	0.00079	U
Tetrachloroethene	127-18-4	24	1.3	NP	1.3	mg/kg	0.00097	U	0.00091	U	0.0011	U	0.00094	U	0.00079	U	0.00088	U	0.0008	U	0.0011	U	0.00079	U
Toluene	108-88-3	4900	0.7	NP	0.7	mg/kg	0.00097	U	0.00091	U	0.0011	U	0.00094	U	0.00079	U	0.00088	U	0.0008	U	0.0011	U	0.00079	U
trans-1,2-Dichloroethene	156-60-5	1600	0.19	NP	0.19	mg/kg	0.00097	U	0.00091	U	0.0011	U	0.00094	U	0.00079	U	0.00088	U	0.0008	U	0.0011	U	0.00079	U
trans-1,3-Dichloropropene	10061-02-6	1.8	NP	NP	1.8	mg/kg	0.00097	U	0.00091	U	0.0011	U	0.00094	U	0.00079	U	0.00088	U	0.0008	U	0.0011	U	0.00079	U
Trichloroethene	79-01-6	0.94	0.47	NP	0.47	mg/kg	0.00097	U	0.00091	U	0.0011	U	0.00094	U	0.00079	U	0.00088	U	0.0008	U	0.0011	U	0.00079	U
Trichlorofluoromethane	75-69-4	23000	NP	NP	23000	mg/kg	0.00097	U	0.00091	U	0.0011	U	0.00094	U	0.00079	U	0.00088	U	0.0008	U	0.0011	U	0.00079	U
Vinyl chloride	75-01-4	0.059	0.02	NP	0.02	mg/kg	0.00097	U	0.00091	U	0.0011	U	0.00094	U	0.00079	U	0.00088	U	0.0008	U	0.0011	U	0.00079	U
Xylenes, Total	1330-20-7	580	0.26	NP	0.26	mg/kg	0.0049	U	0.0045	U	0.0053	U	0.0047	U	**0.0015**	J+	0.0044	U	0.004	U	0.0053	U	0.004	U

Table 5-4
Soil Sample Analytical Results
Site TU008 - Former Heating Oil UST #41 at Former Building 4
Schenectady Air National Guard Base
Scotia, New York

Analyte	CAS Number	2016 USEPA Residential RSL[a]	6 NYCRR Part 375 Unrestricted Use SCO[b]	NYSDEC CP-51 Residential Supplemental SCO[c]	PAL																		
						Location ID:	SC-TU008-MW001		SC-TU008-MW001		SC-TU008-MW002		SC-TU008-MW002		SC-TU008-MW002		SC-TU008-MW003		SC-TU008-MW003		SC-TU008-MW004		SC-TU008-MW004	
						Field Sample ID:	SC-TU008-MW001-S0002		SC-TU008-MW001-S1012		SC-TU008-MW002-S0002		SC-TU008-MW002-S0406		SC-TU008-MW002-S0406-D		SC-TU008-MW003-S0204		SC-TU008-MW003-S0405		SC-TU008-MW004-S0305		SC-TU008-MW004-S0507	
						Date:	6/3/2016		6/3/2016		6/2/2016		6/2/2016		6/2/2016		6/2/2016		6/2/2016		6/2/2016		6/2/2016	
						Lab Sample ID:	280-84064-1		280-84064-2		280-84064-5		280-84064-3		280-84064-4		280-84064-6		280-84064-7		280-84064-9		280-84064-8	
						Depth (ft bgs):	0 - 2		10 - 12		0 - 2		4 - 6		4 - 6		2 - 4		4 - 5		3 - 5		5 - 7	
SVOCs by 8270D																								
1,2,4,5-Tetrachlorobenzene	95-94-3	23	NP	NP	23	mg/kg	0.14	U	0.15	U	0.14	U	0.14	U	0.14	U	0.15	U	0.15	U	0.14	U	0.14	U
1,2,4-Trichlorobenzene	120-82-1	24	NP	NP	24	mg/kg	0.072	U	0.078	U	0.068	U	0.07	U	0.068	U	0.077	U	0.074	U	0.071	U	0.069	U
1,2-Dichlorobenzene	95-50-1	1800	1.1	NP	1.1	mg/kg	0.072	U	0.078	U	0.068	U	0.07	U	0.068	U	0.077	U	0.074	U	0.071	U	0.069	U
1,2-Diphenylhydrazine	122-66-7	0.68	NP	NP	0.68	mg/kg	0.072	U	0.078	U	0.068	U	0.07	U	0.068	U	0.077	U	0.074	U	0.071	U	0.069	U
1,3-Dichlorobenzene	541-73-1	NP	2.4	NP	2.4	mg/kg	0.036	U	0.038	U	0.034	U	0.035	U	0.034	U	0.038	U	0.037	U	0.035	U	0.034	U
1,4-Dichlorobenzene	106-46-7	2.6	1.8	NP	1.8	mg/kg	0.036	U	0.038	U	0.034	U	0.035	U	0.034	U	0.038	U	0.037	U	0.035	U	0.034	U
2,2'-oxybis[1-chloropropane]	108-60-1	3100	NP	NP	3100	mg/kg	0.072	U	0.078	U	0.068	U	0.07	U	0.068	U	0.077	U	0.074	U	0.071	U	0.069	U
2,4,5-Trichlorophenol	95-95-4	6300	NP	100	100	mg/kg	0.036	U	0.038	U	0.034	U	0.035	U	0.034	U	0.038	U	0.037	U	0.035	U	0.034	U
2,4,6-Trichlorophenol	88-06-2	49	NP	NP	49	mg/kg	0.036	U	0.038	U	0.034	U	0.035	U	0.034	U	0.038	U	0.037	U	0.035	U	0.034	U
2,4-Dichlorophenol	120-83-2	190	NP	100	100	mg/kg	0.036	U	0.038	U	0.034	U	0.035	U	0.034	U	0.038	U	0.037	U	0.035	U	0.034	U
2,4-Dimethylphenol	105-67-9	1300	NP	NP	1300	mg/kg	0.14	U	0.15	U	0.14	U	0.14	U	0.14	U	0.15	U	0.15	U	0.14	U	0.14	U
2,4-Dinitrophenol	51-28-5	130	NP	100	100	mg/kg	1.1	U	1.2	U	1	U	1	U	1	U	1.1	U	1.1	U	1.1	U	1	U
2,4-Dinitrotoluene	121-14-2	1.7	NP	NP	1.7	mg/kg	0.14	U	0.15	U	0.14	U	0.14	U	0.14	U	0.15	U	0.15	U	0.14	U	0.14	U
2,6-Dichlorophenol	87-65-0	NP	NP	NP	NP	mg/kg	0.18	U	0.19	U	0.17	U	0.17	U	0.17	U	0.19	U	0.19	U	0.18	U	0.17	U
2,6-Dinitrotoluene	606-20-2	0.36	NP	1.03	1.03	mg/kg	0.072	U	0.078	U	0.068	U	0.07	U	0.068	U	0.077	U	0.074	U	0.071	U	0.069	U
2-Chloronaphthalene	91-58-7	4800	NP	NP	4800	mg/kg	0.036	U	0.038	U	0.034	U	0.035	U	0.034	U	0.038	U	0.037	U	0.035	U	0.034	U
2-Chlorophenol	95-57-8	390	100	NP	100	mg/kg	0.072	U	0.078	U	0.068	U	0.07	U	0.068	U	0.077	U	0.074	U	0.071	U	0.069	U
2-Methylnaphthalene	91-57-6	240	NP	0.41	0.41	mg/kg	0.072	U	0.078	U	**0.019**	J	0.07	U	0.068	U	0.077	U	0.074	U	0.071	U	0.069	U
2-Methylphenol	95-48-7	3200	0.33	NP	0.33	mg/kg	0.036	U	0.038	U	0.034	U	0.035	U	0.034	U	0.038	U	0.037	U	0.035	U	0.034	U
3 & 4 Methylphenol	782-60-0	NP	0.33	NP	0.33	mg/kg	0.072	U	0.078	U	0.068	U	0.07	U	0.068	U	0.077	U	0.074	U	0.071	U	0.069	U
3,3'-Dichlorobenzidine	91-94-1	1.2	NP	NP	1.2	mg/kg	0.29	U	0.31	U	0.27	U	0.28	U	0.27	U	0.31	U	0.3	U	0.28	U	0.27	U
3-Nitroaniline	99-09-2	NP	NP	NP	NP	mg/kg	0.29	U	0.31	U	0.27	U	0.28	U	0.27	U	0.31	U	0.3	U	0.28	U	0.27	U
4,6-Dinitro-2-methylphenol	534-52-1	5.1	NP	NP	5.1	mg/kg	1.1	U	1.2	U	1	U	1	U	1	U	1.1	U	1.1	U	1.1	U	1	U
4-Chloroaniline	106-47-8	2.7	NP	100	100	mg/kg	0.29	U	0.31	U	0.27	U	0.28	U	0.27	U	0.31	U	0.3	U	0.28	U	0.27	U
4-Chlorophenyl phenyl ether	7005-72-3	NP	NP	NP	NP	mg/kg	0.072	U	0.078	U	0.068	U	0.07	U	0.068	U	0.077	U	0.074	U	0.071	U	0.069	U
4-Nitroaniline	100-01-6	27	NP	NP	27	mg/kg	0.29	U	0.31	U	0.27	U	0.28	U	0.27	U	0.31	U	0.3	U	0.28	U	0.27	U
4-Nitrophenol	100-02-7	NP	NP	NP	NP	mg/kg	0.29	U	0.31	U	0.27	U	0.28	U	0.27	U	0.31	U	0.3	U	0.28	U	0.27	U
Acenaphthene	83-32-9	3600	20	NP	20	mg/kg	0.036	U	0.038	U	**0.093**	J	**0.5**		**0.48**		0.038	U	**0.037**	J	0.035	U	0.034	U
Acenaphthylene	208-96-8	NP	100	NP	100	mg/kg	0.072	U	0.078	U	**0.025**	J	0.07	U	0.068	U	0.077	U	0.074	U	0.071	U	0.069	U
Anthracene	120-12-7	18000	100	NP	100	mg/kg	0.072	U	0.078	U	**0.26**	J	0.07	U	0.068	U	0.077	U	**0.039**	J	0.071	U	0.069	U
Benzidine	92-87-5	0.00053	NP	NP	0.00053	mg/kg		R		R		R		R		R		R		R		R		R
Benzo[a]anthracene	56-55-3	0.16	1	NP	1	mg/kg	**0.04**	J	0.078	U	**0.6**		0.07	U	0.068	U	0.077	U	0.074	U	0.071	U	0.069	U
Benzo[a]pyrene	50-32-8	0.016	1	NP	1	mg/kg	**0.039**	J	0.078	U	**0.51**		0.07	U	0.068	U	0.077	U	0.074	U	0.071	U	0.069	U
Benzo[b]fluoranthene	205-99-2	0.16	1	NP	1	mg/kg	**0.061**	J	0.078	U	**0.64**		0.07	U	0.068	U	0.077	U	0.074	U	0.071	U	0.069	U
Benzo[g,h,i]perylene	191-24-2	NP	100	NP	100	mg/kg	**0.034**	J	0.038	U	**0.27**	J	0.035	U	0.034	U	0.038	U	0.037	U	0.035	U	0.034	U
Benzo[k]fluoranthene	207-08-9	1.6	0.8	NP	0.8	mg/kg	0.14	U	0.15	U	**0.32**	J	0.14	U	0.14	U	0.15	U	0.15	U	0.14	U	0.14	U
Benzoic acid	65-85-0	250000	NP	100	100	mg/kg	1.1	U	1.2	U	1	U	1	U	1	U	1.1	U	1.1	U	1.1	U	1	U
Benzyl alcohol	100-51-6	6300	NP	NP	6300	mg/kg	0.036	U	0.038	U	0.034	U	0.035	U	0.034	U	0.038	U	0.037	U	0.035	U	0.034	U
Bis(2-chloroethoxy)methane	111-91-1	190	NP	NP	190	mg/kg	0.072	U	0.078	U	0.068	U	0.07	U	0.068	U	0.077	U	0.074	U	0.071	U	0.069	U
Bis(2-chloroethyl)ether	111-44-4	0.23	NP	NP	0.23	mg/kg	0.036	U	0.038	U	0.034	U	0.035	U	0.034	U	0.038	U	0.037	U	0.035	U	0.034	U
Bis(2-ethylhexyl) phthalate	117-81-7	39	NP	50	50	mg/kg	0.14	U	0.15	U	0.14	U	0.14	U	0.14	U	0.15	U	0.15	U	0.14	U	0.14	U
Butyl benzyl phthalate	85-68-7	290	NP	100	100	mg/kg	0.14	U	0.15	U	0.14	U	0.14	U	0.14	U	0.15	U	0.15	U	0.14	U	0.14	U
Carbazole	86-74-8	NP	NP	NP	NP	mg/kg	0.14	U	0.15	U	**0.098**	J	0.14	U	0.14	U	0.15	U	0.15	U	0.14	U	0.14	U
Chrysene	218-01-9	16	1	NP	1	mg/kg	**0.048**	J	0.078	U	**0.6**		0.07	U	0.068	U	0.077	U	0.074	U	0.071	U	0.069	U
Dibenz(a,h)anthracene	53-70-3	0.016	0.33	NP	0.33	mg/kg	0.072	U	0.078	U	**0.062**	J	0.07	U	0.068	U	0.077	U	0.074	U	0.071	U	0.069	U
Dibenzofuran	132-64-9	73	NP	NP	73	mg/kg	0.072	U	0.078	U	**0.047**	J	**0.5**		0.068	U	0.077	U	**0.11**	J	0.071	U	0.069	U
Diethyl phthalate	84-66-2	51000	NP	100	100	mg/kg	0.072	U	0.078	U	0.068	U	0.07	U	0.068	U	0.077	U	0.074	U	0.071	U	0.069	U
Dimethyl phthalate	131-11-3	NP	NP	100	100	mg/kg	0.072	U	0.078	U	0.068	U	0.07	U	0.068	U	0.077	U	0.074	U	0.071	U	0.069	U
Di-n-butyl phthalate	84-74-2	6300	NP	100	100	mg/kg	0.072	U	0.078	U	0.068	U	0.07	U	0.068	U	0.077	U	0.074	U	0.071	U	0.069	U
Di-n-octyl phthalate	117-84-0	630	NP	100	100	mg/kg	0.071	U	0.076	U	0.067	U	0.069	U	0.067	U	0.075	U	0.073	U	0.07	U	0.068	U
Fluoranthene	206-44-0	2400	100	NP	100	mg/kg	**0.08**	J	0.15	U	**1.2**		**0.057**	J	**0.043**	J	0.15	U	0.15	U	0.14	U	0.14	U
Fluorene	86-73-7	2400	30	NP	30	mg/kg	0.072	U	0.078	U	**0.097**	J	**0.73**		**0.7**		0.077	U	**0.054**	J	0.071	U	0.069	U
Hexachlorobenzene	118-74-1	0.21	0.33	0.41	0.33	mg/kg	0.072	U	0.078	U	0.068	U	0.07	U	0.068	U	0.077	U	0.074	U	0.071	U	0.069	U
Hexachlorobutadiene	87-68-3	1.2	NP	NP	1.2	mg/kg	0.036	U	0.038	U	0.034	U	0.035	U	0.034	U	0.038	U	0.037	U	0.035	U	0.034	U
Hexachlorocyclopentadiene	77-47-4	1.8	NP	NP	1.8	mg/kg	0.14	U		R	0.14	U	0.14	U	0.14	U	0.15	U	0.15	U	0.14	U	0.14	U
Hexachloroethane	67-72-1	1.8	NP	NP	1.8	mg/kg	0.072	U	0.078	U	0.068	U	0.07	U	0.068	U	0.077	U	0.074	U	0.071	U	0.069	U
Indeno[1,2,3-cd]pyrene	193-39-5	0.16	0.5	NP	0.5	mg/kg	**0.025**	J	0.078	U	**0.34**		0.07	U	0.068	U	0.077	U	0.074	U	0.071	U	0.069	U
Isophorone	78-59-1	570	NP	100	100	mg/kg	0.072	U	0.078	U	0.068	U	0.07	U	0.068	U	0.077	U	0.074	U	0.071	U	0.069	U
Naphthalene	91-20-3	3.8	12	NP	12	mg/kg	0.072	U	0.078	U	0.068	U	0.07	U	0.068	U	0.077	U	0.074	U	0.071	U	0.069	U
Nitrobenzene	98-95-3	5.1	NP	3.7	3.7	mg/kg	0.072	U	0.078	U	0.068	U	0.07	U	0.068	U	0.077	U	0.074	U	0.071	U	0.069	U
N-Nitrosodimethylamine	62-75-9	0.002	NP	NP	0.002	mg/kg	0.14	U	0.15	U	0.14	U	0.14	U	0.14	U	0.15	U	0.15	U	0.14	U	0.14	U
N-Nitrosodi-n-propylamine	621-64-7	0.078	NP	NP	0.078	mg/kg	0.072	U	0.078	U	0.068	U	0.07	U	0.068	U	0.077	U	0.074	U	0.071	U	0.069	U
N-Nitrosodiphenylamine	86-30-6	110	NP	NP	110	mg/kg	0.072	U	0.078	U	0.068	U	0.07	U	0.068	U	0.077	U	0.074	U	0.071	U	0.069	U
N-Nitrosopyrrolidine	930-55-2	0.26	NP	NP	0.26	mg/kg		R		R		R		R		R		R		R		R		R
Pentachlorophenol	87-86-5	1	0.8	NP	0.8	mg/kg	1.1	U	1.2	U	1	U	1	U	1	U	1.1	U	1.1	U	1.1	U	1	U
Phenanthrene	85-01-8	NP	100	NP	100	mg/kg	**0.037**	J	0.078	U	**0.88**		**1.6**		**1.5**		0.077	U	**0.033**	J	0.071	U	0.069	U
Phenol	108-95-2	19000	0.33	NP	0.33	mg/kg	0.072	U	0.078	U	0.068	U	0.07	U	0.068	U	0.077	U	0.074	U	0.071	U	0.069	U
Pyrene	129-00-0	1800	100	NP	100	mg/kg	**0.063**	J	0.038	U	**1**		**0.065**	J	**0.054**	J	0.038	U	**0.015**	J	0.035	U	0.034	U

Table 5-4
Soil Sample Analytical Results
Site TU008 - Former Heating Oil UST #41 at Former Building 4
Schenectady Air National Guard Base
Scotia, New York

Notes:
Bold indicates value above laboratory detection limit.
Shading indicates value above PAL.

PAL References:
a - USEPA May 2016 Residential RSL (THQ=1, TR-1E-06) (http://www2.epa.gov/risk/risk-based-screening-table-generic-tables)
b - 6 NYCRR Part 375, December 2006 (http://www.dec.ny.gov/docs/remediation_hudson_pdf/part375.pdf)
c - NYSDEC CP-51 Soil Cleanup Guidance, October 2010 (http://www.dec.ny.gov/docs/remediation_hudson_pdf/cpsoil.pdf)

Data Flags:
J – Result is estimated.
J+ – Result is estimated, High Bias.
R – Rejected.
U – Analyte is not detected at or above the Limit of Detection.
UJ – Analyte is not detected, but there is uncertainty concerning the reported value.

CAS	Chemical Abstracts Service
CP	Commissioner Policy
D	Duplicate sample
ft bgs	Feet below ground surface
ID	Identification
mg/kg	Milligram per kilogram
MW	Monitoring well
NP	Not published
NYCRR	New York Codes, Rules, and Regulations
NYSDEC	New York State Department of Environmental Conservation
PAL	project action limit
RSL	Regional Screening Level
SC	Schenectady Air National Guard Base
SCO	Soil Cleanup Objective
SVOC	Semivolatile organic compound
TU008	Former Heating Oil Underground Storage Tank (UST) #41, Former Building 4
USEPA	U.S. Environmental Protection Agency
VOC	Volatile organic compound

Table 5-5
Groundwater Sample Analytical Results
Site TU008 - Former Heating Oil UST #41 at Former Building 4
Schenectady Air National Guard Base
Scotia, New York

	CAS Number	2016 USEPA Tapwater RSL[a]	MCL[b]	6 NYCRR Part 703 Drinking Water[c]	PAL	Location ID:	SC-TU008-MW001		SC-TU008-MW001		SC-TU008-MW002		SC-TU008-MW002		SC-TU008-MW002		SC-TU008-MW002		SC-TU008-MW003		SC-TU008-MW004		SC-TU008-MW004		SC-TU008-MW006	
						Field Sample ID:	SC-TU008-MW001-G-1		SC-TU008-MW001-G-2		SC-TU008-MW002-G-1		SC-TU008-MW002-G-1-D		SC-TU008-MW002-G-2		SC-TU008-MW002-G-2-D		SC-TU008-MW003-G-1		SC-TU008-MW004-G-1		SC-TU008-MW004-G-2		SC-TU008-MW006-G-1	
						Lab Sample ID:	280-84354-1		280-90734-5		280-84354-2		280-84354-3		280-90734-1		280-90734-2		280-84354-6		280-84354-4		280-90734-4		280-90936-1	
						Date:	6/8/2016		11/7/2016		6/8/2016		6/8/2016		11/7/2016		11/7/2016		6/8/2016		6/8/2016		11/7/2016		11/10/2016	
						Screened interval:	1.42-11.42 ft bgs		1.42-11.42 ft bgs		2-9 ft bgs		2-9 ft bgs		2-9 ft bgs		2-9 ft bgs		2-7 ft bgs		2-9 ft bgs		2-9 ft bgs		3.5-8.5 ft bgs	
VOCs by 8260C																										
1,1,1-Trichloroethane	71-55-6	8000	200	5	5	µg/L	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
1,1,2,2-Tetrachloroethane	79-34-5	0.076	NP	5	5	µg/L	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	55000	NP	5	5	µg/L	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U
1,1,2-Trichloroethane	79-00-5	0.28	5	1	1	µg/L	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
1,1-Dichloroethane	75-34-3	2.8	NP	5	5	µg/L	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
1,1-Dichloroethene	75-35-4	280	7	5	5	µg/L	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
1,2,3-Trichlorobenzene	87-61-6	7	NP	5	5	µg/L	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U
1,2,4-Trichlorobenzene	120-82-1	1.2	70	5	5	µg/L	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U
1,2,4-Trimethylbenzene	95-63-6	15	NP	5	5	µg/L	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U
1,2-Dibromo-3-Chloropropane	96-12-8	0.00033	0.2	0.04	0.04	µg/L	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U
1,2-Dibromoethane	106-93-4	0.0075	0.05	0.0006	0.0006	µg/L	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U
1,2-Dichlorobenzene	95-50-1	300	600	3	3	µg/L	2	U	1	U	2	U	2	U	1	U	1	U	2	U	2	U	1	U	1	U
1,2-Dichloroethane	107-06-2	0.17	5	0.6	0.6	µg/L	1	U	2	U	1	U	1	U	2	U	2	U	1	U	1	U	2	U	2	U
1,2-Dichloroethene, Total	540-59-0	NP	NP	5	5	µg/L	2	U	1	U	2	U	2	U	1	U	1	U	2	U	2	U	1	U	1	U
1,2-Dichloropropane	78-87-5	0.44	5	1	1	µg/L	1	U	2	U	1	U	1	U	2	U	2	U	1	U	1	U	2	U	2	U
1,3,5-Trimethylbenzene	108-67-8	120	NP	5	5	µg/L	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U
1,3-Dichlorobenzene	541-73-1	NP	NP	3	3	µg/L	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U
1,4-Dichlorobenzene	106-46-7	0.48	75	3	3	µg/L	2	U	5	U	2	U	2	U	5	U	5	U	2	U	2	U	5	U	5	U
2-Butanone (MEK)	78-93-3	5600	NP	50	50	µg/L	5	U	2	U	5	U	5	U	2	U	2	U	**130**	J+	5	U	2	U	2	U
2-Hexanone	591-78-6	38	NP	50	50	µg/L	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U
4-Methyl-2-pentanone (MIBK)	108-10-1	6300	NP	NP	6300	µg/L	2	U	10	U	2	U	2	U	10	U	10	U	2	U	2	U	10	U	10	U
Acetone	67-64-1	14000	NP	50	50	µg/L	**10**	J+	1	U	**14**	J+	**13**	J+	1	U	1	U	**110**	J+	**9.5**	J+	1	U	1	U
Benzene	71-43-2	0.46	5	1	1	µg/L	1	U	2	U	1	U	1	U	2	U	2	U	1	U	1	U	2	U	2	U
Bromobenzene	108-86-1	62	NP	5	5	µg/L	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U
Bromodichloromethane	75-27-4	0.13	80	50	50	µg/L	2	U	1	U	**0.36**	J+	**0.41**	J+	1	U	1	U	2	U	**0.34**	J+	1	U	1	U
Bromoform	75-25-2	3.3	80	50	50	µg/L	1	U	2	UJ	1	U	1	U	2	UJ	2	UJ	1	U	1	U	2	UJ	2	U
Bromomethane	74-83-9	7.5	NP	5	5	µg/L	2	U	1	U	2	U	2	U	1	U	1	U	2	U	2	U	1	U	1	U
Carbon disulfide	75-15-0	810	NP	NP	810	µg/L	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
Carbon tetrachloride	56-23-5	0.46	5	5	5	µg/L	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
Chlorobenzene	108-90-7	78	100	5	5	µg/L	1	U	1	UJ	1	U	1	U	1	UJ	1	UJ	1	U	1	U	1	UJ	1	U
Chloroethane	75-00-3	21000	NP	5	5	µg/L	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
Chloroform	67-66-3	0.22	80	7	7	µg/L	**1.4**	J+	2	U	**1.7**	J+	**1.9**	J+	2	U	2	U	1	U	**1.4**	J+	2	U	2	U
Chloromethane	74-87-3	190	NP	5	5	µg/L	2	U	1	U	2	U	2	U	1	U	1	U	2	U	2	U	1	U	1	U
cis-1,2-Dichloroethene	156-59-2	36	70	5	5	µg/L	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
cis-1,3-Dichloropropene	10061-01-5	0.47	NP	0.4	0.4	µg/L	1	U	2	U	1	U	1	U	2	U	2	U	1	U	1	U	2	U	2	U
Cyclohexane	110-82-7	13000	NP	NP	13000	µg/L	2	U	1	U	2	U	2	U	1	U	1	U	2	U	2	U	1	U	1	U
Dibromochloromethane	124-48-1	0.87	80	50	50	µg/L	1	U	2	U	1	U	1	U	2	U	2	U	1	U	1	U	2	U	2	U
Dichlorodifluoromethane	75-71-8	200	NP	5	5	µg/L	2	U	1	U	2	U	2	U	1	U	1	U	2	U	2	U	1	U	1	U
Ethylbenzene	100-41-4	1.5	700	5	5	µg/L	1	U	2	U	1	U	1	U	2	U	2	U	1	U	1	U	2	U	2	U
Isopropylbenzene	98-82-8	450	NP	5	5	µg/L	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U
m,p-Xylene	179601-23-1	190	10000	5	5	µg/L	1	U	5	U	1	U	1	U	5	U	5	U	1	U	1	U	5	U	5	U
Methyl acetate	79-20-9	20000	NP	NP	20000	µg/L	5	U	2	U	5	U	5	U	2	U	2	U	5	U	5	U	2	U	2	U
Methyl tert-butyl ether	1634-04-4	14	NP	NP	14	µg/L	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U
Methylcyclohexane	108-87-2	NP	NP	NP	NP	µg/L	2	U	5	U	2	U	2	U	5	U	5	U	2	U	2	U	5	U	5	U
Methylene Chloride	75-09-2	11	5	5	5	µg/L	5	U	1	U	5	U	5	U	1	U	1	U	5	U	5	U	1	U	1	U
Naphthalene	91-20-3	0.17	NP	10	10	µg/L	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U
n-Butylbenzene	104-51-8	1000	NP	5	5	µg/L	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U
N-Propylbenzene	103-65-1	660	NP	5	5	µg/L	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U
o-Xylene	95-47-6	190	10000	5	5	µg/L	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
sec-Butylbenzene	135-98-8	2000	NP	5	5	µg/L	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U
Styrene	100-42-5	1200	100	5	5	µg/L	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
tert-Butylbenzene	98-06-6	690	NP	5	5	µg/L	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U
Tetrachloroethene	127-18-4	11	5	5	5	µg/L	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
Toluene	108-88-3	1100	1000	5	5	µg/L	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
trans-1,2-Dichloroethene	156-60-5	360	100	5	5	µg/L	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
trans-1,3-Dichloropropene	10061-02-6	0.47	NP	0.4	0.4	µg/L	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
Trichloroethene	79-01-6	0.49	5	5	5	µg/L	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
Trichlorofluoromethane	75-69-4	5200	NP	5	5	µg/L	2	U	2	UJ	2	U	2	U	2	UJ	2	UJ	2	U	2	U	2	UJ	2	U
Vinyl chloride	75-01-4	0.019	2	2	2	µg/L	1	U	1	UJ	1	U	1	U	1	UJ	1	UJ	1	U	1	U	1	UJ	1	U
Xylenes, Total	1330-20-7	190	10000	5	5	µg/L	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U

Table 5-5
Groundwater Sample Analytical Results
Site TU008 - Former Heating Oil UST #41 at Former Building 4
Schenectady Air National Guard Base
Scotia, New York

	CAS Number	2016 USEPA Tapwater RSL[a]	MCL[b]	6 NYCRR Part 703 Drinking Water[c]	PAL	Location ID:	SC-TU008-MW001		SC-TU008-MW001		SC-TU008-MW002		SC-TU008-MW002		SC-TU008-MW002		SC-TU008-MW002		SC-TU008-MW003	SC-TU008-MW004		SC-TU008-MW004		SC-TU008-MW006	
						Field Sample ID:	SC-TU008-MW001-G-1		SC-TU008-MW001-G-2		SC-TU008-MW002-G-1		SC-TU008-MW002-G-1-D		SC-TU008-MW002-G-2		SC-TU008-MW002-G-2-D		SC-TU008-MW003-G-1	SC-TU008-MW004-G-1		SC-TU008-MW004-G-2		SC-TU008-MW006-G-1	
						Lab Sample ID:	280-84354-1		280-90734-5		280-84354-2		280-84354-3		280-90734-1		280-90734-2		280-84354-6	280-84354-4		280-90734-4		280-90936-1	
						Date:	6/8/2016		11/7/2016		6/8/2016		6/8/2016		11/7/2016		11/7/2016		6/8/2016	6/8/2016		11/7/2016		11/10/2016	
						Screened interval:	1.42-11.42 ft bgs		1.42-11.42 ft bgs		2-9 ft bgs		2-9 ft bgs		2-9 ft bgs		2-9 ft bgs		2-7 ft bgs	2-9 ft bgs		2-9 ft bgs		3.5-8.5 ft bgs	
SVOCs by 8270D																									
1,2,4,5-Tetrachlorobenzene	95-94-3	1.7	NP	5	5	µg/L	420	U	4.4	U	4.4	U	4.4	U	4.5	U	4.4	U	NA	4.5	U	4.4	U	4.4	UJ
1,2,4-Trichlorobenzene	120-82-1	1.2	70	5	5	µg/L	**130**	J	1	U	1	U	1	U	1	U	0.99	U	NA	1	U	0.99	U	1	UJ
1,2-Dichlorobenzene	95-50-1	300	600	3	3	µg/L	**25**	J	0.5	U	0.5	U	0.5	U	0.51	U	0.5	U	NA	0.51	U	0.5	U	0.5	UJ
1,2-Diphenylhydrazine	122-66-7	0.078	NP	ND	0.078	µg/L	49	U	0.51	U	0.5	U	0.51	U	0.51	U	0.5	U	NA	0.51	U	0.5	U	0.51	UJ
1,3-Dichlorobenzene	541-73-1	NP	NP	3	3	µg/L	96	U	1	U	1	U	1	U	1	U	0.99	U	NA	1	U	0.99	U	1	UJ
1,4-Dichlorobenzene	106-46-7	0.48	75	3	3	µg/L	96	U	1	U	1	U	1	U	1	U	0.99	U	NA	1	U	0.99	U	1	UJ
2,2'-oxybis[1-chloropropane]	108-60-1	710	NP	5	5	µg/L	96	U	1	U	1	U	1	U	1	U	0.99	U	NA	1	U	0.99	U	1	UJ
2,4,5-Trichlorophenol	95-95-4	1200	NP	NP	1200	µg/L	96	U	1	U	1	U	1	U	1	U	0.99	U	NA	1	U	0.99	U	1	UJ
2,4,6-Trichlorophenol	88-06-2	4.1	NP	NP	4.1	µg/L	96	U	1	U	**14**	J	**11**	J	1	U	0.99	U	NA	**23**		0.99	U	1	UJ
2,4-Dichlorophenol	120-83-2	46	NP	NP	46	µg/L	190	U	2	U	2	U	2	U	2	U	2	U	NA	2	U	2	U	2	UJ
2,4-Dimethylphenol	105-67-9	360	NP	50	50	µg/L	190	U	2	U	2	U	2	U	2	U	2	U	NA	2	U	2	U	2	UJ
2,4-Dinitrophenol	51-28-5	39	NP	10	10	µg/L	2900	U	30	U	30	U	30	U	31	U	30	U	NA	31	U	30	U	30	UJ
2,4-Dinitrotoluene	121-14-2	0.24	NP	5	5	µg/L	420	U	4.4	U	4.4	U	4.4	U	4.5	U	4.4	U	NA	4.5	U	4.4	U	4.4	UJ
2,6-Dichlorophenol	87-65-0	NP	NP	NP	NP	µg/L	380	U	4	U	**1.6**	J	4	U	4.1	U	4	U	NA	**2.3**	J	4	U	4	UJ
2,6-Dinitrotoluene	606-20-2	0.048	NP	5	5	µg/L	420	U	4.4	U	4.4	U	4.4	U	4.5	U	4.4	U	NA	4.5	U	4.4	U	4.4	UJ
2-Chloronaphthalene	91-58-7	750	NP	10	10	µg/L	96	U	1	U	1	U	1	U	1	U	0.99	U	NA	1	U	0.99	U	1	UJ
2-Chlorophenol	95-57-8	91	NP	NP	91	µg/L	420	U	4.4	U	4.4	U	4.4	U	4.5	U	4.4	U	NA	4.5	U	4.4	U	4.4	UJ
2-Methylnaphthalene	91-57-6	36	NP	NP	36	µg/L	96	U	1	U	1	U	1	U	1	U	0.99	U	NA	1	U	0.99	U	1	UJ
2-Methylphenol	95-48-7	930	NP	NP	930	µg/L	190	U	2	U	2	U	2	U	2	U	2	U	NA	2	U	2	U	2	UJ
3 & 4 Methylphenol	782-60-0	NP	NP	NP	NP	µg/L	48	U	**2.7**	J	0.5	U	0.5	U	0.51	U	0.5	U	NA	0.51	U	0.5	U	0.5	UJ
3,3'-Dichlorobenzidine	91-94-1	0.13	NP	5	5	µg/L	420	U	4.4	U	4.4	U	4.4	U	4.5	U	4.4	U	NA	4.5	U	4.4	U	4.4	UJ
3-Nitroaniline	99-09-2	NP	NP	5	5	µg/L	420	U	4.4	U	4.4	U	4.4	U	4.5	U	4.4	U	NA	4.5	U	4.4	U	4.4	UJ
4,6-Dinitro-2-methylphenol	534-52-1	1.5	NP	NP	1.5	µg/L	850	U	8.8	U	8.8	U	8.9	U	8.9	U	8.7	U	NA	9	U	8.7	U	8.8	UJ
4-Chloroaniline	106-47-8	0.37	NP	5	5	µg/L	420	U	4.4	U	4.4	U	4.4	U	4.5	U	4.4	U	NA	4.5	U	4.4	U	4.4	UJ
4-Chlorophenyl phenyl ether	7005-72-3	NP	NP	NP	NP	µg/L	420	U	4.4	U	4.4	U	4.4	U	4.5	U	4.4	U	NA	4.5	U	4.4	U	4.4	UJ
4-Nitroaniline	100-01-6	3.8	NP	5	5	µg/L	420	U	4.4	U	4.4	U	4.4	U	4.5	U	4.4	U	NA	4.5	U	4.4	U	4.4	UJ
4-Nitrophenol	100-02-7	NP	NP	NP	NP	µg/L	380	U	4	U	4	U	4	U	4.1	U	4	U	NA	4.1	U	4	U	4	UJ
Acenaphthene	83-32-9	530	NP	20	20	µg/L	96	U	1	U	1	U	1	U	1	U	0.99	U	NA	1	U	0.99	U	1	UJ
Acenaphthylene	208-96-8	NP	NP	NP	NP	µg/L	96	U	1	U	1	U	1	U	1	U	0.99	U	NA	1	U	0.99	U	1	UJ
Anthracene	120-12-7	1800	NP	50	50	µg/L	96	U	1	U	1	U	1	U	1	U	0.99	U	NA	1	U	0.99	U	1	UJ
Benzidine	92-87-5	0.00011	NP	5	5	µg/L		R		R		R		R		R		R	NA		R		R		R
Benzo[a]anthracene	56-55-3	0.012	NP	0.002	0.002	µg/L	96	U	1	U	1	U	1	U	1	U	0.99	U	NA	1	U	0.99	U	1	UJ
Benzo[a]pyrene	50-32-8	0.0034	0.2	ND	0.2	µg/L	96	U	1	U	1	U	1	U	1	U	0.99	U	NA	1	U	0.99	U	1	UJ
Benzo[b]fluoranthene	205-99-2	0.034	NP	0.002	0.002	µg/L	190	U	2	U	2	U	2	U	2	U	2	U	NA	2	U	2	U	2	UJ
Benzo[g,h,i]perylene	191-24-2	NP	NP	NP	NP	µg/L	96	U	1	U	1	U	1	U	1	U	0.99	U	NA	1	U	0.99	U	1	UJ
Benzo[k]fluoranthene	207-08-9	0.34	NP	0.002	0.002	µg/L	96	U	1	U	1	U	1	U	1	U	0.99	U	NA	1	U	0.99	U	1	UJ
Benzoic acid	65-85-0	75000	NP	NP	75000	µg/L	2900	U	**19**	J	30	U	30	U	31	U	30	U	NA	31	U	30	U	30	UJ
Benzyl alcohol	100-51-6	2000	NP	NP	2000	µg/L	48	U	0.5	U	0.5	U	0.5	U	0.51	U	0.5	U	NA	0.51	U	0.5	U	0.5	UJ
Bis(2-chloroethoxy)methane	111-91-1	59	NP	5	5	µg/L	190	U	2	U	2	U	2	U	2	U	2	U	NA	2	U	2	U	2	UJ
Bis(2-chloroethyl)ether	111-44-4	0.014	NP	1	1	µg/L	96	U	1	U	1	U	1	U	1	U	0.99	U	NA	1	U	0.99	U	1	UJ
Bis(2-ethylhexyl) phthalate	117-81-7	5.6	6	5	5	µg/L	190	U	2	U	2	U	2	U	2	U	2	U	NA	2	U	2	U	2	UJ
Butyl benzyl phthalate	85-68-7	16	NP	50	50	µg/L	190	U	2	U	2	U	2	U	2	U	2	U	NA	2	U	2	U	2	UJ
Carbazole	86-74-8	NP	NP	NP	NP	µg/L	96	U	1	U	1	U	1	U	1	U	0.99	U	NA	1	U	0.99	U	1	UJ
Chrysene	218-01-9	3.4	NP	0.002	0.002	µg/L	190	U	2	U	2	U	2	U	2	U	2	U	NA	2	U	2	U	2	UJ
Dibenz(a,h)anthracene	53-70-3	0.0034	NP	NP	0.0034	µg/L	190	U	2	U	2	U	2	U	2	U	2	U	NA	2	U	2	U	2	UJ
Dibenzofuran	132-64-9	7.9	NP	NP	7.9	µg/L	96	U	1	U	1	U	1	U	1	U	0.99	U	NA	1	U	0.99	U	1	UJ
Diethyl phthalate	84-66-2	15000	NP	50	50	µg/L	96	U	1	U	1	U	1	U	1	U	0.99	U	NA	1	U	0.99	U	1	UJ
Dimethyl phthalate	131-11-3	NP	NP	50	50	µg/L	48	U	0.5	U	0.5	U	0.5	U	0.51	U	0.5	U	NA	0.51	U	0.5	U	0.5	UJ
Di-n-butyl phthalate	84-74-2	900	NP	50	50	µg/L	420	U	4.4	U	4.4	U	4.4	U	4.5	U	4.4	U	NA	4.5	U	4.4	U	4.4	UJ
Di-n-octyl phthalate	117-84-0	200	NP	50	50	µg/L	96	U	1	U	1	U	1	U	1	U	0.99	U	NA	1	U	0.99	U	1	UJ
Fluoranthene	206-44-0	800	NP	50	50	µg/L	48	U	0.5	U	0.5	U	0.5	U	0.51	U	0.5	U	NA	0.51	U	0.5	U	0.5	UJ
Fluorene	86-73-7	290	NP	50	50	µg/L	96	U	1	U	1	U	1	U	1	U	0.99	U	NA	1	U	0.99	U	1	UJ
Hexachlorobenzene	118-74-1	0.0098	1	0.04	0.04	µg/L	190	U	2	U	2	U	2	U	2	U	2	U	NA	2	U	2	U	2	UJ
Hexachlorobutadiene	87-68-3	0.14	NP	0.5	0.5	µg/L	960	U	10	U	10	U	10	U	10	U	9.9	U	NA	10	U	9.9	U	10	UJ
Hexachlorocyclopentadiene	77-47-4	0.41	50	5	5	µg/L	2900	U	30	U	30	U	30	U	31	U	30	U	NA	31	U	30	U	30	UJ
Hexachloroethane	67-72-1	0.33	NP	5	5	µg/L	420	U	4.4	U	4.4	U	4.4	U	4.5	U	4.4	U	NA	4.5	U	4.4	U	4.4	UJ
Indeno[1,2,3-cd]pyrene	193-39-5	0.034	NP	0.002	0.002	µg/L	190	U	2	U	2	U	2	U	2	U	2	U	NA	2	U	2	U	2	UJ
Isophorone	78-59-1	78	NP	50	50	µg/L	48	U	0.5	U	0.5	U	0.5	U	0.51	U	0.5	U	NA	0.51	U	0.5	U	0.5	UJ
Naphthalene	91-20-3	0.17	NP	10	10	µg/L	96	U	1	U	1	U	1	U	1	U	0.99	U	NA	1	U	0.99	U	1	UJ
Nitrobenzene	98-95-3	0.14	NP	0.4	0.4	µg/L	190	U	2	U	2	U	2	U	2	U	2	U	NA	2	U	2	U	2	UJ
N-Nitrosodimethylamine	62-75-9	0.00011	NP	NP	0.00011	µg/L	96	U	1	U	1	U	1	U	1	U	0.99	U	NA	1	U	0.99	U	1	UJ
N-Nitrosodi-n-propylamine	621-64-7	0.011	NP	NP	0.011	µg/L	96	U	1	U	1	U	1	U	1	U	0.99	U	NA	1	U	0.99	U	1	UJ
N-Nitrosodiphenylamine	86-30-6	12	NP	50	50	µg/L	96	U	1	U	1	U	1	U	1	U	0.99	U	NA	1	U	0.99	U	1	UJ
N-Nitrosopyrrolidine	930-55-2	0.037	NP	NP	0.037	µg/L		R	2	U		R		R	2	U	2	U	NA		R	2	U	2	UJ
Pentachlorophenol	87-86-5	0.04	1	NP	1	µg/L	5800	U	60	U	60	U	60	U	61	U	60	U	NA	61	U	59	U	60	UJ
Phenanthrene	85-01-8	NP	NP	50	50	µg/L	96	U	1	U	1	U	1	U	1	U	0.99	U	NA	1	U	0.99	U	1	UJ
Phenol	108-95-2	5800	NP	NP	5800	µg/L	420	U	**24**	J	4.4	U	4.4	U	4.5	U	4.4	U	NA	4.5	U	4.4	U	4.4	UJ
Pyrene	129-00-0	120	NP	50	50	µg/L	96	U	1	U	1	U	1	U	1	U	0.99	U	NA	1	U	0.99	U	1	UJ

Table 5-5
Groundwater Sample Analytical Results
Site TU008 - Former Heating Oil UST #41 at Former Building 4
Schenectady Air National Guard Base
Scotia, New York

Notes:
Bold indicates value above laboratory detection limit.
Shading indicates value above PAL.

PAL References:
a - USEPA May 2016 Tapwater RSL (http://www2.epa.gov/risk/risk-based-screening-table-generic-tables)
b - USEPA National Primary Drinking Water Regulations (http://water.epa.gov/drink/contaminants/)
c - 6 NYCRR Part 703 Water Quality Standards and Guidance Values and Groundwater Effluent Limitations (http://www.dec.ny.gov/chemical/23853.html)

Data Flags:
J – Result is estimated.
J+ - Result is estimated, High Bias.
R - Rejected.
U – Analyte is not detected at or above the Limit of Detection.

µg/L	Microgram per liter
CAS	Chemical Abstracts Service
D	Duplicate sample
ft bgs	Feet below ground surface
ID	Identification
MCL	Maximum contaminant level
MW	Monitoring well
NA	Not analyzed due to insufficient volume
NP	Not published
NYCRR	New York Codes, Rules, and Regulations
PAL	Project action limit
RSL	Regional Screening Level
SVOC	Semivolatile organic compound
TU008	Former Heating Oil Underground Storage Tank (UST) #41, Former Building 4
USEPA	U.S. Environmental Protection Agency
VOC	Volatile organic compound

Table 5-6
Soil Sample Analytical Results
Site TU009 - WWTP Bypass UST Near IRP Site 6
Schenectady Air National Guard Base
Scotia, New York

Analyte	CAS Number	2016 USEPA Residential RSL[a]	6 NYCRR Part 375 Unrestricted Use SCO[b]	NYSDEC CP-51 Residential Supplemental SCO[c]	PAL	Location ID:	SC-TU009-MW001		SC-TU009-MW001		SC-TU009-MW002		SC-TU009-MW002		SC-TU009-MW002		SC-TU009-MW003		SC-TU009-MW003	
						Field Sample ID:	SC-TU009-MW001-S0305		SC-TU009-MW001-S0608		SC-TU009-MW002-S0305		SC-TU009-MW002-S0507		SC-TU009-MW002-S0507-D		SC-TU009-MW003-S0305		SC-TU009-MW003-S0507	
						Date:	6/6/2016		6/6/2016		6/6/2016		6/6/2016		6/6/2016		6/6/2016		6/6/2016	
						Lab Sample ID:	280-84353-1		280-84353-2		280-84353-4		280-84353-3		280-84353-5		280-84353-7		280-84353-6	
						Depth (ft bgs):	3 - 5		6 - 8		3 - 5		5 - 7		5 - 7		3 - 5		5 - 7	
Metals by 6010C/7471A																				
Aluminum	7429-90-5	77000	NP	NP	77000	mg/kg	**24000**	J	**16000**		**15000**		**15000**		**15000**		**16000**		**14000**	
Antimony	7440-36-0	31	NP	NP	31	mg/kg	7.1	UJ	6.1	U	6.4	U	6.5	U	8.3	U	6.3	U	7.1	U
Arsenic	7440-38-2	0.68	13	NP	13	mg/kg	**10**	J	**11**		**7.1**	J	**8**	J	**13**	J	**11**		**7**	J
Barium	7440-39-3	15000	350	NP	350	mg/kg	**190**	J	**90**		**95**		**83**		**72**		**100**		**100**	
Beryllium	7440-41-7	160	7.2	NP	7.2	mg/kg	**1.4**	J	**1.1**	J	**0.87**	J	**0.88**	J	**0.83**	J	**0.91**	J	**0.86**	J
Cadmium	7440-43-9	71	2.5	NP	2.5	mg/kg	0.71	UJ	**0.29**	J	**0.35**	J	**0.22**	J	0.83	U	**0.29**	J	**0.23**	J
Calcium	7440-70-2	NP	NP	NP	NP	mg/kg	**3000**		**1300**		**11000**		**3700**		**2600**		**5400**		**4700**	
Chromium	7440-47-3	120000	30	NP	30	mg/kg	**27**	J	**24**		**20**		**21**		**22**		**23**		**21**	
Cobalt	7440-48-4	23	NP	30	30	mg/kg	**14**	J	**23**		**14**		**15**		**18**		**16**		**17**	
Copper	7440-50-8	3100	50	NP	50	mg/kg	**32**	J	**52**		**32**		**35**		**41**		**40**		**41**	
Iron	7439-89-6	55000	NP	2000	2000	mg/kg	**38000**	J	**39000**		**30000**		**31000**		**35000**		**37000**		**34000**	
Lead	7439-92-1	400	63	NP	63	mg/kg	**13**	J	**22**		**17**		**16**		**19**		**20**		**19**	
Magnesium	7439-95-4	NP	NP	NP	NP	mg/kg	**5600**	J	**6600**		**8100**		**5300**		**5800**		**6800**		**6100**	
Manganese	7439-96-5	1800	1600	NP	1600	mg/kg	**530**	J	**810**		**540**		**480**		**440**		**510**		**780**	
Nickel	7440-02-0	1500	30	NP	30	mg/kg	**33**	J	**46**		**29**		**31**		**37**		**38**		**40**	
Potassium	9/7/7440	NP	NP	NP	NP	mg/kg	**2400**	J	**2400**		**1900**		**2100**		**2200**		**2000**		**2100**	
Selenium	7782-49-2	390	3.9	NP	3.9	mg/kg	14	UJ	12	U	13	U	13	U	17	U	13	U	14	U
Silver	7440-22-4	390	2	NP	2	mg/kg	2.8	UJ	2.5	U	2.6	U	2.6	U	3.3	U	2.5	U	2.8	U
Sodium	7440-23-5	NP	NP	NP	NP	mg/kg	940	UJ	820	U	850	U	870	U	1100	U	840	U	940	U
Thallium	7440-28-0	0.78	NP	NP	0.78	mg/kg	**3.7**	J	10	U	11	U	11	U	14	U	11	U	12	U
Vanadium	7440-62-2	390	NP	100	100	mg/kg	**43**	J	**23**		**26**		**26**		**23**		**25**		**23**	
Zinc	7440-66-6	23000	109	NP	109	mg/kg	**80**		**100**		**81**		**76**		**87**		**81**		**85**	
Mercury	7439-97-6	9.4	0.18	NP	0.18	mg/kg	**0.042**		**0.064**		**0.057**		**0.06**		**0.057**		**0.056**		**0.047**	
SVOCs by 8270D																				
1,2,4,5-Tetrachlorobenzene	95-94-3	23	NP	NP	23	mg/kg	0.17	U	0.13	U	0.15	U	0.14	U	0.14	U	0.14	U	0.15	U
1,2,4-Trichlorobenzene	120-82-1	24	NP	NP	24	mg/kg	0.087	U	0.066	U	0.077	U	0.071	U	0.072	U	0.072	U	0.075	U
1,2-Dichlorobenzene	95-50-1	1800	1.1	NP	1.1	mg/kg	0.087	U	0.066	U	0.077	U	0.071	U	0.072	U	0.072	U	0.075	U
1,2-Diphenylhydrazine	122-66-7	0.68	NP	NP	0.68	mg/kg	0.087	U	0.066	U	0.077	U	0.071	U	0.072	U	0.072	U	0.075	U
1,3-Dichlorobenzene	541-73-1	NP	2.4	NP	2.4	mg/kg	0.043	U	0.033	U	0.038	U	0.035	U	0.035	U	0.036	U	0.037	U
1,4-Dichlorobenzene	106-46-7	2.6	1.8	NP	1.8	mg/kg	0.043	U	0.033	U	0.038	U	0.035	U	0.035	U	0.036	U	0.037	U
2,2'-oxybis[1-chloropropane]	108-60-1	3100	NP	NP	3100	mg/kg	0.087	U	0.066	U	0.077	U	0.071	U	0.072	U	0.072	U	0.075	U
2,4,5-Trichlorophenol	95-95-4	6300	NP	100	100	mg/kg	0.043	U	0.033	U	0.038	U	0.035	U	0.035	U	0.036	U	0.037	U
2,4,6-Trichlorophenol	88-06-2	49	NP	NP	49	mg/kg	0.043	U	0.033	U	0.038	U	0.035	U	0.035	U	0.036	U	0.037	U
2,4-Dichlorophenol	120-83-2	190	NP	100	100	mg/kg	0.043	U	0.033	U	0.038	U	0.035	U	0.035	U	0.036	U	0.037	U
2,4-Dimethylphenol	105-67-9	1300	NP	NP	1300	mg/kg	0.17	U	0.13	U	0.15	U	0.14	U	0.14	U	0.14	U	0.15	U
2,4-Dinitrophenol	51-28-5	130	NP	100	100	mg/kg	1.3	U	0.99	U	1.2	U	1.1	U	1.1	U	1.1	U	1.1	U
2,4-Dinitrotoluene	121-14-2	1.7	NP	NP	1.7	mg/kg	0.17	U	0.13	U	0.15	U	0.14	U	0.14	U	0.14	U	0.15	U
2,6-Dichlorophenol	87-65-0	NP	NP	NP	NP	mg/kg	0.22	U	0.17	U	0.19	U	0.18	U	0.18	U	0.18	U	0.19	U
2,6-Dinitrotoluene	606-20-2	0.36	NP	1.03	1.03	mg/kg	0.087	U	0.066	U	0.077	U	0.071	U	0.072	U	0.072	U	0.075	U
2-Chloronaphthalene	91-58-7	4800	NP	NP	4800	mg/kg	0.043	U	0.033	U	0.038	U	0.035	U	0.035	U	0.036	U	0.037	U
2-Chlorophenol	95-57-8	390	100	NP	100	mg/kg	0.087	U	0.066	U	0.077	U	0.071	U	0.072	U	0.072	U	0.075	U
2-Methylnaphthalene	91-57-6	240	NP	0.41	0.41	mg/kg	0.087	U	0.066	U	0.077	U	0.071	U	0.072	U	0.072	U	0.075	U
2-Methylphenol	95-48-7	3200	0.33	NP	0.33	mg/kg	0.043	U	0.033	U	0.038	U	0.035	U	0.035	U	0.036	U	0.037	U
3 & 4 Methylphenol	782-60-0	NP	0.33	NP	0.33	mg/kg	0.087	U	0.066	U	0.077	U	0.071	U	0.072	U	0.072	U	0.075	U
3,3'-Dichlorobenzidine	91-94-1	1.2	NP	NP	1.2	mg/kg	0.35	U	0.26	U	0.31	U	0.28	U	0.29	U	0.29	U	0.3	U
3-Nitroaniline	99-09-2	NP	NP	NP	NP	mg/kg	0.35	U	0.26	U	0.31	U	0.28	U	0.29	U	0.29	U	0.3	U
4,6-Dinitro-2-methylphenol	534-52-1	5.1	NP	NP	5.1	mg/kg	1.3	U	0.99	U	1.2	U	1.1	U	1.1	U	1.1	U	1.1	U
4-Chloroaniline	106-47-8	2.7	NP	100	100	mg/kg	0.35	U	0.26	U	0.31	U	0.28	U	0.29	U	0.29	U	0.3	U
4-Chlorophenyl phenyl ether	7005-72-3	NP	NP	NP	NP	mg/kg	0.087	U	0.066	U	0.077	U	0.071	U	0.072	U	0.072	U	0.075	U
4-Nitroaniline	100-01-6	27	NP	NP	27	mg/kg	0.35	U	0.26	U	0.31	U	0.28	U	0.29	U	0.29	U	0.3	U
4-Nitrophenol	100-02-7	NP	NP	NP	NP	mg/kg	0.35	U	0.26	U	0.31	U	0.28	U	0.29	U	0.29	U	0.3	U
Acenaphthene	83-32-9	3600	20	NP	20	mg/kg	0.043	U	0.033	U	0.038	U	0.035	U	0.035	U	0.036	U	0.037	U
Acenaphthylene	208-96-8	NP	100	NP	100	mg/kg	0.087	U	0.066	U	0.077	U	0.071	U	0.072	U	0.072	U	0.075	U
Anthracene	120-12-7	18000	100	NP	100	mg/kg	0.087	U	0.066	U	**0.03**	J	0.071	U	0.072	U	0.072	U	0.075	U
Benzidine	92-87-5	0.00053	NP	NP	0.00053	mg/kg		R		R		R		R		R		R		R
Benzo[a]anthracene	56-55-3	0.16	1	NP	1	mg/kg	0.087	U	0.066	U	**0.1**	J	0.071	U	0.072	U	0.072	U	0.075	U
Benzo[a]pyrene	50-32-8	0.016	1	NP	1	mg/kg	0.087	U	0.066	U	**0.089**	J	0.071	U	0.072	U	0.072	U	0.075	U
Benzo[b]fluoranthene	205-99-2	0.16	1	NP	1	mg/kg	0.087	U	0.066	U	**0.13**	J	0.071	U	0.072	U	0.072	U	0.075	U

Table 5-6
Soil Sample Analytical Results
Site TU009 - WWTP Bypass UST Near IRP Site 6
Schenectady Air National Guard Base
Scotia, New York

Analyte	CAS Number	2016 USEPA Residential RSL[a]	6 NYCRR Part 375 Unrestricted Use SCO[b]	NYSDEC CP-51 Residential Supplemental SCO[c]	PAL	Location ID:	SC-TU009-MW001		SC-TU009-MW001		SC-TU009-MW002		SC-TU009-MW002		SC-TU009-MW002		SC-TU009-MW003		SC-TU009-MW003	
						Field Sample ID:	SC-TU009-MW001-S0305		SC-TU009-MW001-S0608		SC-TU009-MW002-S0305		SC-TU009-MW002-S0507		SC-TU009-MW002-S0507-D		SC-TU009-MW003-S0305		SC-TU009-MW003-S0507	
						Date:	6/6/2016		6/6/2016		6/6/2016		6/6/2016		6/6/2016		6/6/2016		6/6/2016	
						Lab Sample ID:	280-84353-1		280-84353-2		280-84353-4		280-84353-3		280-84353-5		280-84353-7		280-84353-6	
						Depth (ft bgs):	3 - 5		6 - 8		3 - 5		5 - 7		5 - 7		3 - 5		5 - 7	
Benzo[g,h,i]perylene	191-24-2	NP	100	NP	100	mg/kg	0.043	U	0.033	U	**0.052**	J	**0.021**	J	**0.017**	J	0.036	U	0.037	U
Benzo[k]fluoranthene	207-08-9	1.6	0.8	NP	0.8	mg/kg	0.17	U	0.13	U	**0.052**	J	0.14	U	0.14	U	0.14	U	0.15	U
Benzoic acid	65-85-0	250000	NP	100	100	mg/kg	1.3	U	0.99	U	1.2	U	1.1	U	1.1	U	1.1	U	1.1	U
Benzyl alcohol	100-51-6	6300	NP	NP	6300	mg/kg	0.043	U	0.033	U	0.038	U	0.035	U	0.035	U	0.036	U	0.037	U
Bis(2-chloroethoxy)methane	111-91-1	190	NP	NP	190	mg/kg	0.087	U	0.066	U	0.077	U	0.071	U	0.072	U	0.072	U	0.075	U
Bis(2-chloroethyl)ether	111-44-4	0.23	NP	NP	0.23	mg/kg	0.043	U	0.033	U	0.038	U	0.035	U	0.035	U	0.036	U	0.037	U
Bis(2-ethylhexyl) phthalate	117-81-7	39	NP	50	50	mg/kg	0.17	U	0.13	U	0.15	U	0.14	U	0.14	U	0.14	U	0.15	U
Butyl benzyl phthalate	85-68-7	290	NP	100	100	mg/kg	0.17	U	0.13	U	0.15	U	0.14	U	0.14	U	0.14	U	0.15	U
Carbazole	86-74-8	NP	NP	NP	NP	mg/kg	0.17	U	0.13	U	0.15	U	0.14	U	0.14	U	0.14	U	0.15	U
Chrysene	218-01-9	16	1	NP	1	mg/kg	0.087	U	0.066	U	**0.12**	J	0.071	U	0.072	U	0.072	U	0.075	U
Dibenz(a,h)anthracene	53-70-3	0.016	0.33	NP	0.33	mg/kg	0.087	U	0.066	U	0.077	U	0.071	U	0.072	U	0.072	U	0.075	U
Dibenzofuran	132-64-9	73	NP	NP	73	mg/kg	0.087	U	0.066	U	0.077	U	0.071	U	0.072	U	0.072	U	0.075	U
Diethyl phthalate	84-66-2	51000	NP	100	100	mg/kg	0.087	U	0.066	U	0.077	U	0.071	U	0.072	U	0.072	U	0.075	U
Dimethyl phthalate	131-11-3	NP	NP	100	100	mg/kg	0.087	U	0.066	U	0.077	U	0.071	U	0.072	U	0.072	U	0.075	U
Di-n-butyl phthalate	84-74-2	6300	NP	100	100	mg/kg	0.087	U	0.066	U	0.077	U	0.071	U	0.072	U	0.072	U	0.075	U
Di-n-octyl phthalate	117-84-0	630	NP	100	100	mg/kg	0.086	U	0.065	U	0.076	U	0.07	U	0.071	U	0.071	U	0.074	U
Fluoranthene	206-44-0	2400	100	NP	100	mg/kg	0.17	U	0.13	U	**0.29**	J	0.14	U	0.14	U	0.14	U	0.15	U
Fluorene	86-73-7	2400	30	NP	30	mg/kg	0.087	U	0.066	U	0.077	U	0.071	U	0.072	U	0.072	U	0.075	U
Hexachlorobenzene	118-74-1	0.21	0.33	0.41	0.33	mg/kg	0.087	U	0.066	U	0.077	U	0.071	U	0.072	U	0.072	U	0.075	U
Hexachlorobutadiene	87-68-3	1.2	NP	NP	1.2	mg/kg	0.043	U	0.033	U	0.038	U	0.035	U	0.035	U	0.036	U	0.037	U
Hexachlorocyclopentadiene	77-47-4	1.8	NP	NP	1.8	mg/kg	0.17	U	0.13	U	0.15	U	0.14	U	0.14	U	0.14	U	0.15	U
Hexachloroethane	67-72-1	1.8	NP	NP	1.8	mg/kg	0.087	U	0.066	U	0.077	U	0.071	U	0.072	U	0.072	U	0.075	U
Indeno[1,2,3-cd]pyrene	193-39-5	0.16	0.5	NP	0.5	mg/kg	0.087	U	0.066	U	**0.06**	J	0.071	U	0.072	U	0.072	U	0.075	U
Isophorone	78-59-1	570	NP	100	100	mg/kg	0.087	U	0.066	U	0.077	U	0.071	U	0.072	U	0.072	U	0.075	U
Naphthalene	91-20-3	3.8	12	NP	12	mg/kg	0.087	U	0.066	U	0.077	U	0.071	U	0.072	U	0.072	U	0.075	U
Nitrobenzene	98-95-3	5.1	NP	3.7	3.7	mg/kg	0.087	U	0.066	U	0.077	U	0.071	U	0.072	U	0.072	U	0.075	U
N-Nitrosodimethylamine	62-75-9	0.002	NP	NP	0.002	mg/kg	0.17	U	0.13	U	0.15	U	0.14	U	0.14	U	0.14	U	0.15	U
N-Nitrosodi-n-propylamine	621-64-7	0.078	NP	NP	0.078	mg/kg	0.087	U	0.066	U	0.077	U	0.071	U	0.072	U	0.072	U	0.075	U
N-Nitrosodiphenylamine	86-30-6	110	NP	NP	110	mg/kg	0.087	U	0.066	U	0.077	U	0.071	U	0.072	U	0.072	U	0.075	U
N-Nitrosopyrrolidine	930-55-2	0.26	NP	NP	0.26	mg/kg		R		R		R		R		R		R		R
Pentachlorophenol	87-86-5	1	0.8	NP	0.8	mg/kg	1.3	U	0.99	U	1.2	U	1.1	U	1.1	U	1.1	U	1.1	U
Phenanthrene	85-01-8	NP	100	NP	100	mg/kg	0.087	U	0.066	U	**0.19**	J	0.071	U	0.072	U	0.072	U	0.075	U
Phenol	108-95-2	19000	0.33	NP	0.33	mg/kg	0.087	U	0.066	U	0.077	U	0.071	U	0.072	U	0.072	U	0.075	U
Pyrene	129-00-0	1800	100	NP	100	mg/kg	0.043	U	0.033	U	**0.23**	J	**0.013**	J	**0.015**	J	**0.015**	J	**0.014**	J

Table 5-6
Soil Sample Analytical Results
Site TU009 - WWTP Bypass UST Near IRP Site 6
Schenectady Air National Guard Base
Scotia, New York

Notes:
Bold indicates value above laboratory detection limit.
Shading indicates value above PAL.

PAL References:
a - USEPA May 2016 Residential RSL (THQ=1, TR-1E-06) (http://www2.epa.gov/risk/risk-based-screening-table-generic-tables)
b - 6 NYCRR Part 375, December 2006 (http://www.dec.ny.gov/docs/remediation_hudson_pdf/part375.pdf)
c - NYSDEC CP-51 Soil Cleanup Guidance, October 2010 (http://www.dec.ny.gov/docs/remediation_hudson_pdf/cpsoil.pdf)

Data Flags:
J – Result is estimated.
R – Rejected.
U – Analyte is not detected at or above the Limit of Detection.
UJ – Analyte is not detected, but there is uncertainty concerning the reported value.

CAS	Chemical Abstracts Service
CP	Commissioner Policy
D	Duplicate sample
ft bgs	Feet below ground surface
ID	Identification
mg/kg	Milligram per kilogram
MW	Monitoring well
NP	Not published
NYCRR	New York Codes, Rules, and Regulations
NYSDEC	New York State Department of Environmental Conservation
PAL	Project action limit
RSL	Regional Screening Level
SC	Schenectady Air National Guard Base
SCO	Soil Cleanup Objective
SVOC	Semivolatile organic compound
THQ	Target hazard quotient
TU009	Waste Water Treatment Plan Bypass UST near Installation Restoration Program Site 6
USEPA	U.S. Environmental Protection Agency

Table 5-7
Groundwater Sample Analytical Results
Site TU009 - WWTP Bypass UST Near IRP Site 6
Schenectady Air National Guard Base
Scotia, New York

	CAS Number	2016 USEPA Tapwater RSL[a]	MCL[b]	6 NYCRR Part 703 Drinking Water[c]	PAL	Location ID:	SC-TU009-6MW22		SC-TU009-6MW22		SC-TU009-6MW24		SC-TU009-MW003		SC-TU009-MW003	
						ID:	SC-TU009-6MW22-G-1		SC-TU009-6MW22-G-1-D		SC-TU009-6MW24-G-1		SC-TU009-MW003-G-1		SC-TU009-MW003-G-2	
						Lab Sample ID:	280-84353-11		280-84353-12		280-84353-10		280-84353-9		280-90742-1	
						Date:	6/8/2016		6/8/2016		6/8/2016		6/8/2016		11/7/2016	
						interval:	4-9 ft bgs		4-9 ft bgs		4-9 ft bgs		2.5-9.5 ft bgs		2.5-9.5 ft bgs	
Total Metals by 6010C/7470A																
Aluminum	7429-90-5	20000	NP	NP	20000	µg/L	**130**	J	**130**	J	**540**		**4200**		**170**	J
Antimony	7440-36-0	7.8	6	3	3	µg/L	12	U	12	U	12	U	12	U	12	U
Arsenic	7440-38-2	0.052	10	25	10	µg/L	15	U	15	U	15	U	15	U	15	U
Barium	7440-39-3	3800	2000	1000	1000	µg/L	**1.9**	J	**2.5**	J	**84**		**37**		**64**	
Beryllium	7440-41-7	25	4	3	3	µg/L	1.2	U	1.2	U	1.2	U	1.2	U	1.2	U
Cadmium	7440-43-9	9.2	5	5	5	µg/L	1.8	U	1.8	U	1.8	U	**1.7**	J	**0.6**	J
Calcium	7440-70-2	NP	NP	NP	NP	µg/L	**180000**	J-	**180000**	J-	**180000**		**200000**		**240000**	J
Chromium	7440-47-3	NP	100	50	50	µg/L	2.6	U	2.6	U	**2.1**	J	**4.7**	J	**1.1**	J
Cobalt	7440-48-4	6	NP	NP	6	µg/L	4.5	U	4.5	U	4.5	U	**110**		4.5	U
Copper	7440-50-8	800	1300	200	200	µg/L	10	U	10	U	**4.3**	J	**8.4**	J	10	U
Iron	7439-89-6	14000	NP	300	300	µg/L	**180**		**180**		**1200**		**30000**		**6700**	
Lead	7439-92-1	15	15	25	15	µg/L	10	U	**2.7**	J	10	U	**2.6**	J	10	U
Magnesium	7439-95-4	NP	NP	35000	35000	µg/L	**40000**		**38000**		**26000**		**51000**		**69000**	
Manganese	7439-96-5	430	NP	300	300	µg/L	**3500**	J	**4200**		**1500**		**11000**		**14000**	J
Nickel	7440-02-0	390	NP	100	100	µg/L	**6.2**	J	**6.2**	J	**3.1**	J	**190**		**4.2**	J
Potassium	9/7/7440	NP	NP	NP	NP	µg/L	**3700**		**3600**		**5200**		**34000**		**31000**	
Selenium	7782-49-2	100	50	10	10	µg/L	19	U	19	U	19	U	19	U	19	U
Silver	7440-22-4	94	NP	50	50	µg/L	3.5	U	3.5	U	3.5	U	3.5	U	3.5	U
Sodium	7440-23-5	NP	NP	20000	20000	µg/L	**52000**		**51000**		**63000**		**110000**		**110000**	
Thallium	7440-28-0	0.2	2	0.5	0.5	µg/L	19	U	19	U	19	U	19	U	**11**	J
Vanadium	7440-62-2	86	NP	NP	86	µg/L	4	U	4	U	**1.5**	J	**1.8**	J	**1.1**	J
Zinc	7440-66-6	6000	NP	2000	2000	µg/L	**15**	J	**16**	J	**30**	J	**120**	J	**5.9**	J
Mercury	7439-97-6	0.63	2	0.7	0.7	µg/L	0.08	U	0.08	U	0.08	U	0.08	U	0.08	U
Dissolved Metals by 6010C/7470A																
Aluminum, Dissolved	7429-90-5 (dis)	20000	NP	NP	20000	µg/L	70	U	70	U	70	U	**800**		70	U
Antimony, Dissolved	7440-36-0 (dis)	7.8	6	3	3	µg/L	12	U	12	U	12	U	12	U	12	U
Arsenic, dissolved	7440-38-2 (dis)	0.052	10	25	10	µg/L	15	U	15	U	15	U	15	U	**16**	J
Barium, Dissolved	7440-39-3 (dis)	3800	2000	1000	1000	µg/L	2	U	2	U	**53**		**34**		**71**	
Beryllium, Dissolved	7440-41-7 (dis)	25	4	3	3	µg/L	1.2	U	1.2	U	1.2	U	1.2	U	1.2	U
Cadmium, Dissolved	7440-43-9 (dis)	9.2	5	5	5	µg/L	**0.57**	J	**0.52**	J	1.8	U	**1.9**	J	**0.55**	J
Calcium, Dissolved	7440-70-2 (dis)	NP	NP	NP	NP	µg/L	**190000**		**200000**		**190000**		**220000**		**220000**	J
Chromium, Dissolved	7440-47-3 (dis)	NP	100	50	50	µg/L	2.6	U	2.6	U	**0.68**	J	**0.71**	J	**0.9**	J
Cobalt, Dissolved	7440-48-4 (dis)	6	NP	NP	6	µg/L	4.5	U	4.5	U	4.5	U	**120**		4.5	U
Copper, Dissolved	7440-50-8 (dis)	800	1300	200	200	µg/L	10	U	10	U	**4.6**	J	**5.7**	J	10	U
Iron, dissolved	7439-89-6 (dis)	14000	NP	300	300	µg/L	85	U	85	U	85	U	**23000**		**5800**	J
Lead, dissolved	7439-92-1 (dis)	15	15	25	15	µg/L	**4**	J	**2.8**	J	10	U	**3.7**	J	**2.9**	J
Magnesium, Dissolved	7439-95-4 (dis)	NP	NP	35000	35000	µg/L	**42000**		**43000**		**28000**		**56000**		**65000**	
Manganese, Dissolved	7439-96-5 (dis)	430	NP	300	300	µg/L	**2300**		**2300**		**31**		**13000**		**12000**	J
Nickel, Dissolved	7440-02-0 (dis)	390	NP	100	100	µg/L	**4.9**	J	**4.4**	J	5	U	**210**		**2.2**	J
Potassium, Dissolved	7440-09-7 (dis)	NP	NP	NP	NP	µg/L	**3500**		**3500**		**4400**		**33000**		**33000**	
Selenium, dissolved	7782-49-2 (dis)	100	50	10	10	µg/L	19	U	19	U	19	U	19	U	19	U
Silver, Dissolved	7440-22-4 (dis)	94	NP	50	50	µg/L	3.5	U	3.5	U	3.5	U	3.5	U	3.5	U
Sodium, Dissolved	7440-23-5 (dis)	NP	NP	20000	20000	µg/L	**48000**		**50000**		**63000**		**110000**		**110000**	
Thallium, Dissolved	7440-28-0 (dis)	0.2	2	0.5	0.5	µg/L	19	U	19	U	19	U	19	U	19	U
Vanadium, Dissolved	7440-62-2 (dis)	86	NP	NP	86	µg/L	4	U	4	U	4	U	4	U	**1.5**	J
Zinc, Dissolved	7440-66-6 (dis)	6000	NP	2000	2000	µg/L	**9.1**	J	**8.9**	J	**5.9**	J	**120**	J	15	U
Mercury, Dissolved	7439-97-6 (dis)	0.63	2	0.7	0.7	µg/L	0.08	U	0.08	U	0.08	U	0.08	U	0.08	U

Table 5-7
Groundwater Sample Analytical Results
Site TU009 - WWTP Bypass UST Near IRP Site 6
Schenectady Air National Guard Base
Scotia, New York

	CAS Number	2016 USEPA Tapwater RSL[a]	MCL[b]	6 NYCRR Part 703 Drinking Water[c]	PAL	Location ID:	SC-TU009-6MW22		SC-TU009-6MW22		SC-TU009-6MW24		SC-TU009-MW003		SC-TU009-MW003
						ID:	SC-TU009-6MW22-G-1		SC-TU009-6MW22-G-1-D		SC-TU009-6MW24-G-1		SC-TU009-MW003-G-1		SC-TU009-MW003-G-2
						Lab Sample ID:	280-84353-11		280-84353-12		280-84353-10		280-84353-9		280-90742-1
						Date:	6/8/2016		6/8/2016		6/8/2016		6/8/2016		11/7/2016
						interval:	4-9 ft bgs		4-9 ft bgs		4-9 ft bgs		2.5-9.5 ft bgs		2.5-9.5 ft bgs
SVOCs by 8270D															
1,2,4,5-Tetrachlorobenzene	95-94-3	1.7	NP	5	5	µg/L	4.4	U	4.4	U	6.2	U	4.4	U	NA
1,2,4-Trichlorobenzene	120-82-1	1.2	70	5	5	µg/L	0.99	U	1	U	1.4	U	1	U	NA
1,2-Dichlorobenzene	95-50-1	300	600	3	3	µg/L	0.5	U	0.5	U	0.7	U	0.5	U	NA
1,2-Diphenylhydrazine	122-66-7	0.078	NP	ND	0.078	µg/L	0.5	U	0.51	U	0.71	U	0.51	U	NA
1,3-Dichlorobenzene	541-73-1	NP	NP	3	3	µg/L	0.99	U	1	U	1.4	U	1	U	NA
1,4-Dichlorobenzene	106-46-7	0.48	75	3	3	µg/L	0.99	U	1	U	1.4	U	1	U	NA
2,2'-oxybis[1-chloropropane]	108-60-1	710	NP	5	5	µg/L	0.99	U	1	U	1.4	U	1	U	NA
2,4,5-Trichlorophenol	95-95-4	1200	NP	NP	1200	µg/L		R		R	1.4	U	1	U	NA
2,4,6-Trichlorophenol	88-06-2	4.1	NP	NP	4.1	µg/L		R		R	1.4	U	1	U	NA
2,4-Dichlorophenol	120-83-2	46	NP	NP	46	µg/L		R		R	2.8	U	2	U	NA
2,4-Dimethylphenol	105-67-9	360	NP	50	50	µg/L		R		R	2.8	U	2	U	NA
2,4-Dinitrophenol	51-28-5	39	NP	10	10	µg/L		R		R	42	U	30	U	NA
2,4-Dinitrotoluene	121-14-2	0.24	NP	5	5	µg/L	4.4	U	4.4	U	6.2	U	4.4	U	NA
2,6-Dichlorophenol	87-65-0	NP	NP	NP	NP	µg/L		R		R	5.6	U	4	U	NA
2,6-Dinitrotoluene	606-20-2	0.048	NP	5	5	µg/L	4.4	U	4.4	U	6.2	U	4.4	U	NA
2-Chloronaphthalene	91-58-7	750	NP	10	10	µg/L	0.99	U	1	U	1.4	U	1	U	NA
2-Chlorophenol	95-57-8	91	NP	NP	91	µg/L		R		R	6.2	U	4.4	U	NA
2-Methylnaphthalene	91-57-6	36	NP	NP	36	µg/L	0.99	U	1	U	1.4	U	1	U	NA
2-Methylphenol	95-48-7	930	NP	NP	930	µg/L		R		R	2.8	U	2	U	NA
3 & 4 Methylphenol	782-60-0	NP	NP	NP	NP	µg/L		R		R	0.7	U	0.5	U	NA
3,3'-Dichlorobenzidine	91-94-1	0.13	NP	5	5	µg/L		R		R	6.2	U	4.4	U	NA
3-Nitroaniline	99-09-2	NP	NP	5	5	µg/L		R		R	6.2	U	4.4	U	NA
4,6-Dinitro-2-methylphenol	534-52-1	1.5	NP	NP	1.5	µg/L		R		R	12	U	8.9	U	NA
4-Chloroaniline	106-47-8	0.37	NP	5	5	µg/L		R		R	6.2	U	4.4	U	NA
4-Chlorophenyl phenyl ether	7005-72-3	NP	NP	NP	NP	µg/L	4.4	U	4.4	U	6.2	U	4.4	U	NA
4-Nitroaniline	100-01-6	3.8	NP	5	5	µg/L	4.4	UJ	4.4	UJ	6.2	U	4.4	U	NA
4-Nitrophenol	100-02-7	NP	NP	NP	NP	µg/L		R		R	5.6	U	4	U	NA
Acenaphthene	83-32-9	530	NP	20	20	µg/L	0.99	UJ	1	UJ	1.4	U	1	U	NA
Acenaphthylene	208-96-8	NP	NP	NP	NP	µg/L	0.99	UJ	1	UJ	1.4	U	1	U	NA
Anthracene	120-12-7	1800	NP	50	50	µg/L	0.99	UJ	1	UJ	1.4	U	1	U	NA
Benzidine	92-87-5	0.00011	NP	5	5	µg/L		R		R		R		R	NA
Benzo[a]anthracene	56-55-3	0.012	NP	0.002	0.002	µg/L	0.99	U	1	U	1.4	U	1	U	NA
Benzo[a]pyrene	50-32-8	0.0034	0.2	ND	0.2	µg/L	0.99	U	1	U	1.4	U	1	U	NA
Benzo[b]fluoranthene	205-99-2	0.034	NP	0.002	0.002	µg/L	2	U	2	U	2.8	U	2	U	NA
Benzo[g,h,i]perylene	191-24-2	NP	NP	NP	NP	µg/L	0.99	U	1	U	1.4	U	1	U	NA
Benzo[k]fluoranthene	207-08-9	0.34	NP	0.002	0.002	µg/L	0.99	U	1	U	1.4	U	1	U	NA
Benzoic acid	65-85-0	75000	NP	NP	75000	µg/L	30	U	30	U	42	U	**13**	J	NA
Benzyl alcohol	100-51-6	2000	NP	NP	2000	µg/L	0.5	U	0.5	U	0.7	U	0.5	U	NA
Bis(2-chloroethoxy)methane	111-91-1	59	NP	5	5	µg/L	2	U	2	U	2.8	U	2	U	NA
Bis(2-chloroethyl)ether	111-44-4	0.014	NP	1	1	µg/L	0.99	U	1	U	1.4	U	1	U	NA
Bis(2-ethylhexyl) phthalate	117-81-7	5.6	6	5	5	µg/L	2	U	2	U	2.8	U	2	U	NA
Butyl benzyl phthalate	85-68-7	16	NP	50	50	µg/L	2	U	2	U	2.8	U	2	U	NA
Carbazole	86-74-8	NP	NP	NP	NP	µg/L	0.99	UJ	1	UJ	1.4	U	1	U	NA
Chrysene	218-01-9	3.4	NP	0.002	0.002	µg/L	2	U	2	U	2.8	U	2	U	NA
Dibenz(a,h)anthracene	53-70-3	0.0034	NP	NP	0.0034	µg/L	2	U	2	U	2.8	U	2	U	NA
Dibenzofuran	132-64-9	7.9	NP	NP	7.9	µg/L	0.99	U	1	U	1.4	U	1	U	NA
Diethyl phthalate	84-66-2	15000	NP	50	50	µg/L	0.99	U	1	U	1.4	U	1	U	NA
Dimethyl phthalate	131-11-3	NP	NP	50	50	µg/L	0.5	U	0.5	U	0.7	U	0.5	U	NA
Di-n-butyl phthalate	84-74-2	900	NP	50	50	µg/L	4.4	U	4.4	U	6.2	U	4.4	U	NA
Di-n-octyl phthalate	117-84-0	200	NP	50	50	µg/L	0.99	U	1	U	1.4	U	1	U	NA
Fluoranthene	206-44-0	800	NP	50	50	µg/L	**0.27**	J	0.5	U	0.7	U	0.5	U	NA
Fluorene	86-73-7	290	NP	50	50	µg/L	0.99	U	1	U	1.4	U	1	U	NA
Hexachlorobenzene	118-74-1	0.0098	1	0.04	0.04	µg/L	2	U	2	U	2.8	U	2	U	NA
Hexachlorobutadiene	87-68-3	0.14	NP	0.5	0.5	µg/L	9.9	U	10	U	14	U	10	U	NA

Table 5-7
Groundwater Sample Analytical Results
Site TU009 - WWTP Bypass UST Near IRP Site 6
Schenectady Air National Guard Base
Scotia, New York

	CAS Number	2016 USEPA Tapwater RSL[a]	MCL[b]	6 NYCRR Part 703 Drinking Water[c]	PAL	Location ID:	SC-TU009-6MW22		SC-TU009-6MW22		SC-TU009-6MW24		SC-TU009-MW003		SC-TU009-MW003
						ID:	SC-TU009-6MW22-G-1		SC-TU009-6MW22-G-1-D		SC-TU009-6MW24-G-1		SC-TU009-MW003-G-1		SC-TU009-MW003-G-2
						Lab Sample ID:	280-84353-11		280-84353-12		280-84353-10		280-84353-9		280-90742-1
						Date:	6/8/2016		6/8/2016		6/8/2016		6/8/2016		11/7/2016
						interval:	4-9 ft bgs		4-9 ft bgs		4-9 ft bgs		2.5-9.5 ft bgs		2.5-9.5 ft bgs
Hexachlorocyclopentadiene	77-47-4	0.41	50	5	5	µg/L	30	U	30	U	42	U	30	U	NA
Hexachloroethane	67-72-1	0.33	NP	5	5	µg/L	4.4	U	4.4	U	6.2	U	4.4	U	NA
Indeno[1,2,3-cd]pyrene	193-39-5	0.034	NP	0.002	0.002	µg/L	2	U	2	U	2.8	U	2	U	NA
Isophorone	78-59-1	78	NP	50	50	µg/L	0.5	U	0.5	U	0.7	U	0.5	U	NA
Naphthalene	91-20-3	0.17	NP	10	10	µg/L	0.99	U	1	U	1.4	U	1	U	NA
Nitrobenzene	98-95-3	0.14	NP	0.4	0.4	µg/L	2	U	2	U	2.8	U	2	U	NA
N-Nitrosodimethylamine	62-75-9	0.00011	NP	NP	0.00011	µg/L	0.99	U	1	U	1.4	U	1	U	NA
N-Nitrosodi-n-propylamine	621-64-7	0.011	NP	NP	0.011	µg/L	0.99	U	1	U	1.4	U	1	U	NA
N-Nitrosodiphenylamine	86-30-6	12	NP	50	50	µg/L	0.99	UJ	1	UJ	1.4	U	1	U	NA
N-Nitrosopyrrolidine	930-55-2	0.037	NP	NP	0.037	µg/L		R		R		R		R	NA
Pentachlorophenol	87-86-5	0.04	1	NP	1	µg/L		R		R	84	U	60	U	NA
Phenanthrene	85-01-8	NP	NP	50	50	µg/L	0.99	U	1	U	1.4	U	1	U	NA
Phenol	108-95-2	5800	NP	NP	5800	µg/L		R		R	6.2	U	4.4	U	NA
Pyrene	129-00-0	120	NP	50	50	µg/L	0.99	UJ	1	UJ	1.4	U	1	U	NA

Table 5-7
Groundwater Sample Analytical Results
Site TU009 - WWTP Bypass UST Near IRP Site 6
Schenectady Air National Guard Base
Scotia, New York

Notes:
Bold indicates value above laboratory detection limit.
Shading indicates value above PAL.

PAL References:
a - USEPA May 2016 Tapwater RSL (http://www2.epa.gov/risk/risk-based-screening-table-generic-tables)
b - USEPA National Primary Drinking Water Regulations (http://water.epa.gov/drink/contaminants/)
c - 6 NYCRR Part 703 Water Quality Standards and Guidance Values and Groundwater Effluent Limitations (http://www.dec.ny.gov/chemical/23853.html)

Data Flags:
J – Result is estimated.
J- – Result is estimated, Low Bias.
R – Rejected.
U – Analyte is not detected at or above the Limit of Detection.
UJ – Analyte is not detected, but there is uncertainty concerning the reported value.

µg/L	Microgram per liter
CAS	Chemical Abstracts Service
D	Duplicate sample
ft bgs	Feet below ground surface
ID	Identification
MCL	Maximum contaminant level
MW	Monitoring well
NP	Not published
NYCRR	New York Codes, Rules, and Regulations
PAL	Project action limit
RSL	Regional Screening Level
SVOC	Semivolatile organic compound
TOGS	Technical and Operational Guidance Series
TU009	Waste Water Treatment Plan Bypass UST near Installation Restoration Program Site 6
USEPA	U.S. Environmental Protection Agency

Table 8-1
Occurrence, Distribution, and Selection of Chemicals of Potential Concern in Soil
Site ZZ007 - Former Building 13 Area
Schenectady Air National Guard Base
Scotia, New York

Medium: Soil
Exposure Medium: Soil (0-9 ft bgs)
Exposure Point: Soil (0-9 ft bgs)

CAS	Chemical	Minimum Concentration mg/kg	Maximum Concentration mg/kg	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits mg/kg	Concentration Used for Screening (1) mg/kg	Background Value (2)	Screening Toxicity Value (3) (N/C) mg/kg		COPC Flag (Y/N)	Rationale for Selection or Deletion (4)
7429-90-5	Aluminum, Total	11,000	22,000	ZZ07SB03-04	14/14	---	22,000	N/A	7,740	n	Yes	ASL
7440-36-0	Antimony, Total	0.35	0.83	ZZ07SB04-08	8/14	1.3 - 1.7	0.83	N/A	3.13	n	No	BSL
7440-38-2	Arsenic, Total	6.30	14.0	ZZ07SB04-08	14/14	---	14.0	16	0.68	c	No	ASL/BBV
7440-39-3	Barium, Total	58	150	ZZ07SB01-08	14/14	---	150	350	1,530	n	No	BSL
7440-41-7	Beryllium, Total	0.56	0.96	SC-ZZ007-MW001-S0103	14/14	---	0.96	N/A	15.6	n	No	BSL
7440-43-9	Cadmium, Total	0.033	0.40	ZZ07SB04-08	14/14	---	0.40	2.5	7.11	n	No	BSL
NUT	Calcium, Total	1,100	36,000	SC-ZZ007-MW003-S0204-avg	14/14	---	36,000	N/A	NUT		NUT	NUT
7440-47-3	Chromium, Total	18.0	27.0	ZZ07SB05-03	14/14	---	27.0	N/A	NBA		No	BSL
18540-29-9	Chromium VI (5)	2.5	3.8	ZZ07SB05-03	14/14	---	3.8	N/A	22		No	BSL
16065-83-1	Chromium III (5)	15.5	23.2	ZZ07SB05-03	14/14	---	23.2	30	36		No	BSL
7440-48-4	Cobalt, Total	8.10	23.0	ZZ07SB04-08	14/14	---	23.0	N/A	2.3	n	Yes	ASL
7440-50-8	Copper, Total	18.0	46.0	ZZ07SB01-08	14/14	---	46.0	N/A	313	n	No	BSL
7439-89-6	Iron, Total	24,000	47,000	ZZ07SB04-08	14/14	---	47,000	N/A	5,480	n	Yes	ASL
7439-92-1	Lead, Total	11.0	27.0	SC-ZZ007-MW003-S0204-avg	14/14	---	27.0	N/A	400		No	BSL
NUT	Magnesium, Total	3,200	20,000	SC-ZZ007-MW003-S0204-avg	14/14	---	20,000	N/A	NUT		NUT	NUT
7439-96-5	Manganese, Total	280	990	ZZ07SB04-08	14/14	---	990	2,000	183	n	No	ASL/BBV
7440-02-0	Nickel, Total	18.0	64.0	ZZ07SB04-08	14/14	---	64.0	N/A	155	n	No	BSL
NUT	Potassium, Total	1,600	3,000	ZZ07SB01-08	14/14	---	3,000	N/A	NUT		NUT	NUT
7782-49-2	Selenium, Total	0.20	0.90	ZZ07SB03-09	8/14	2.6 - 3.4	0.9	4.0	39	n	No	BSL
7440-22-4	Silver, Total	0.040	0.085	ZZ07SB04-08	8/14	0.52 - 0.69	0.085	N/A	39	n	No	BSL
NUT	Sodium, Total	61	180	ZZ07SB05-03	14/14	---	180	N/A	NUT		NUT	NUT
7440-28-0	Thallium, Total	0.17	1.30	SC-ZZ007-MW002-S0607	14/14	---	1.30	N/A	0.078	n	Yes	ASL
7440-62-2	Vanadium, Total	21	34	SC-ZZ007-MW001-S0103	14/14	---	34.0	N/A	39	n	No	BSL
7440-66-6	Zinc, Total	59	130	ZZ07SB01-08	14/14	---	130	N/A	2,350	n	No	BSL
7439-97-6	Mercury, Total	0.039	0.14	SC-ZZ007-MW003-S0204-avg	14/14	---	0.14	N/A	1.09	n	No	BSL

(1) Maximum concentration used for screening. Based on detected values onl
(2) Rural soil background concentrations, 98th Percentile of "focus" analytes as per New York State Brownfield Cleanup Program. (Table 9.1-9; NYSDEC, 2006b
(3) Unless otherwise noted, human health risk soil screening levels were obtained from USEPA RSLs for residential soil, RSL Calculator (USEPA, 2017a); wher noncarcinogenic endpoint screening levels were selected to assess a target hazard quotient (THQ) of 0.1 to account for potential occurrence of advers health effects due to exposure to multiple chemicals. Screening levels for noncarcinogens may be adjusted upward during risk assessment, if warranted. Hexavalent chromium and trivalent chromium were screened against NY Residential SCOs
(4) Rationale Codes:
Selection Reason: Above Screening Levels (ASL)
Deletion Reason: Below Screening Level (BSL)
Below Background Value (BBV)
Essential Human Nutrient (NUT)
(5) A 1:6 ratio of hexavalent to trivalent chromium was estimated for ZZ007 (14% hexavalent; 86% trivalent). See text.

Definitions:
C = Carcinogenic
CAS = Chemical Abstracts Service
COPC = Chemical of Potential Concerr
ft bgs = Feet below ground surface
mg/kg = Milligrams per kilogram
N = Non-carcinogenic
N/A = Not applicable
NYSDEC = New York State Department of Environmental Conservatio
RSL = Regional Screening Leve
SCO = Soil Cleanup Objective
THQ = Target hazard quotient
USEPA = U.S. Environmental Protection Agenc

Table 8-2
Occurrence, Distribution, and Selection of Chemicals of Potential Concern in Groundwater
Site ZZ007 - Former Building 13 Area
Schenectady Air National Guard Base
Scotia, New York

Scenario Timeframe: Current/Future
Medium: Groundwater
Exposure Medium: Groundwater
Exposure Point: Groundwater

CAS	Chemical	Minimum Concentration µg/L	Maximum Concentration µg/L	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits	Concentration Used for Screening (1)	Background Value	Screening Toxicity Value (2) (N/C)	COPC Flag (Y/N)	Rationale for Selection or Deletion (3)
7440-39-3	Barium, Dissolved	49.0	79	SC-ZZ007-MWUNK-G-1-avg	3/3	---	79	N/A	1,000	No	BSL
7440-43-9	Cadmium, Dissolved	0.47	0.84	SC-ZZ007-MW002-G-1	3/3	---	0.84	N/A	5.00	No	BSL
NUT	Calcium, Dissolved	42,000	170,000	SC-ZZ007-MW002-G-1	3/3	---	170,000	N/A	NUT	NUT	NUT
18540-29-9	Chromium, Dissolved	0.68	0.68	SC-ZZ007-MW001-G-1	1/3	2.6 - 2.6	0.68	N/A	50	No	BSL
7440-48-4	Cobalt, Dissolved	17	19	SC-ZZ007-MW002-G-1	2/3	4.5 - 4.5	19	N/A	0.60 n	Yes	ASL
7439-89-6	Iron, Dissolved	120.0	230	SC-ZZ007-MW002-G-1	2/3	85 - 85	230	N/A	300	No	BSL
NUT	Magnesium, Dissolved	27,000	72,000	SC-ZZ007-MW002-G-1	3/3	---	72,000	N/A	NUT	NUT	NUT
7439-96-5	Manganese, Dissolved	18.0	4,700	SC-ZZ007-MW002-G-1	3/3	---	4,700	N/A	300	Yes	ASL
7440-02-0	Nickel, Dissolved	42.0	46	SC-ZZ007-MW001-G-1	2/3	5 - 5	46	N/A	100	No	BSL
NUT	Potassium, Dissolved	2,450	11,000	SC-ZZ007-MW002-G-1	3/3	---	11,000	N/A	NUT	NUT	NUT
541-73-1	Sodium, Dissolved	17,000	39,000	SC-ZZ007-MWUNK-G-1-avg	3/3	---	39,000	N/A	NUT	NUT	NUT
7440-66-6	Zinc, Dissolved	10.2	12	SC-ZZ007-MW002-G-1	2/3	15 - 15	12	N/A	2,000	No	BSL

(1) Maximum concentration used for screening. Based on detected values only
(2) Human health screening levels were obtained from 6 NYCRR Part 703 Drinking Water Standard; When no NYCRR standard is available USEPA RSLs for tap water, RSL Calculator (USEPA, 2017a) was used, where noncarcinogenic endpoint screening levels were selected to asses a target hazard quotient (THQ) of 0.1 to account for potential occurrence of adverse health effects due to exposure to multiple chemicals (screenin levels for noncarcinogens may be adjusted upward during risk assessment, if warranted)
(3) Rationale Codes:
Selection Reason: Above Screening Levels (ASL)
Deletion Reason: Below Screening Level (BSL)
Essential Human Nutrient (NUT)

Definitions: µg/L = Microgram per liter
C = Carcinogenic
CAS = Chemical Abstracts Service
COPC = Chemical of potential concern
N/A = Not available
N = Non-carcinogenic
NYCRR = New York Codes, Rules, and Regulations
RSL = Regional Screening Level
THQ = Target hazard quotient
USEPA = U.S. Environmental Protection Agency

Table 8-3
Occurrence, Distribution, and Selection of Chemicals of Potential Concern in Soil
Site TU008 - Former Heating Oil UST #41 at Former Building 4
Schenectady Air National Guard Base
Scotia, New York

Scenario Timeframe: Current/Future
Medium: Soil
Exposure Medium: Soil (0-7 ft bgs)
Exposure Point: Soil (0-7 ft bgs)

CAS	Chemical	Minimum Concentration mg/kg	Maximum Concentration mg/kg	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits mg/kg	Concentration Used for Screening (1) mg/kg	Background Value (2)	Screening Toxicity Value (3) (N/C) mg/kg		COPC Flag (Y/N)	Rationale for Selection or Deletion (4)
79-00-5	1,1,2-Trichloroethane	0.16	0.16	SC-TU008-MW002-S0406-avg	1/12	0.00047 - 0.028	0.16	N/A	0.15	n	Yes	ASL
95-63-6	1,2,4-Trimethylbenzene	0.00032	0.055	TU08SB09-06	3/11	0.00047 - 0.0011	0.055	N/A	30	n	No	BSL
96-12-8	1,2-Dibromo-3-Chloropropane	0.0048	0.0048	SC-TU008-MW002-S0406-avg	1/12	0.00094 - 0.056	0.0048	N/A	0.0053	c	No	BSL
108-67-8	1,3,5-Trimethylbenzene	0.021	0.021	TU08SB09-06	1/12	0.00047 - 0.028	0.021	N/A	27	n	No	BSL
78-93-3	2-Butanone	0.0053	0.0069	TU08SB06-06	4/12	0.004 - 0.25	0.0069	N/A	2,700	n	No	BSL
591-78-6	2-Hexanone	0.0050	0.0058	SC-TU008-MW001-S0002	2/12	0.00047 - 0.056	0.0058	N/A	20	n	No	BSL
91-57-6	2-Methylnaphthalene	0.019	0.34	TU08SB08-06-avg	2/12	0.069 - 0.47	0.34	N/A	24	n	No	BSL
108-10-1	4-Methyl-2-Pentanone	0.14	0.14	SC-TU008-MW002-S0406-avg	1/12	0.00047 - 0.028	0.14	N/A	3,310	n	No	BSL
83-32-9	Acenaphthene	0.037	0.62	TU08SB09-06	5/12	0.034 - 0.094	0.62	N/A	359	n	No	BSL
208-96-8	Acenaphthylene	0.025	0.37	TU08SB09-06	3/12	0.069 - 0.094	0.37	N/A	359	n	No	BSL
67-64-1	Acetone	0.010	0.093	SC-TU008-MW004-S0305	10/12	0.008 - 0.25	0.093	0.04	6,070	n	No	BSL
120-12-7	Anthracene	0.039	0.26	SC-TU008-MW002-S0002	4/12	0.069 - 0.094	0.26	N/A	1,790	n	No	BSL
71-43-2	Benzene	0.00023	0.015	TU08SB09-06	5/12	0.00079 - 0.0011	0.015	N/A	1.16	c	No	BSL
56-55-3	Benzo[A]Anthracene	0.025	0.60	SC-TU008-MW002-S0002	4/12	0.038 - 0.23	0.60	1.0	1.13	c	No	BSL
50-32-8	Benzo[A]Pyrene	0.011	0.51	SC-TU008-MW002-S0002	5/12	0.069 - 0.23	0.51	1.0	0.12	c	No	ASL/BBV
205-99-2	Benzo[B]Fluoranthene	0.011	0.64	SC-TU008-MW002-S0002	5/12	0.069 - 0.23	0.64	1.0	1.15	c	No	BSL
191-24-2	Benzo[G,H,I]Perylene	0.025	0.27	SC-TU008-MW002-S0002	4/12	0.034 - 0.23	0.27	N/A	179	n	No	BSL
207-08-9	Benzo[K]Fluoranthene	0.0094	0.32	SC-TU008-MW002-S0002	4/12	0.093 - 0.23	0.32	0.8	12	c	No	BSL
117-81-7	Bis(2-Ethylhexyl) Phthalate	1.4	1.4	TU08SB10-05	1/12	0.072 - 0.47	1.40	N/A	39	c	No	BSL
86-74-8	Carbazole	0.098	0.098	SC-TU008-MW002-S0002	1/12	0.072 - 0.47	0.098	N/A	NBA		Yes	NBA
75-15-0	Carbon Disulfide	0.00034	0.0038	SC-TU008-MW002-S0002	7/12	0.00079 - 0.025	0.0038	N/A	77	n	No	BSL
67-66-3	Chloroform	0.00021	0.00021	TU08SB08-06-avg	1/12	0.00047 - 0.01	0.00021	N/A	0.32	c	No	BSL
218-01-9	Chrysene	0.033	0.60	SC-TU008-MW002-S0002	4/12	0.069 - 0.47	0.60	1.0	115	c	No	BSL
53-70-3	Dibenz(A,H)Anthracene	0.062	0.062	SC-TU008-MW002-S0002	1/12	0.036 - 0.23	0.062	0.1	0.12	c	No	BSL
132-64-9	Dibenzofuran	0.047	0.50	SC-TU008-MW002-S0406-avg	3/12	0.069 - 0.47	0.50	N/A	7.30	n	No	BSL
75-71-8	Dichlorodifluoromethane	0.00048	0.00048	TU08SB10-05	1/12	0.00047 - 0.028	0.00048	N/A	8.72	n	No	BSL
100-41-4	Ethylbenzene	0.00029	0.00058	SC-TU008-MW002-S0406-avg	2/12	0.00047 - 0.025	0.00058	N/A	5.78	c	No	BSL
206-44-0	Fluoranthene	0.043	1.20	SC-TU008-MW002-S0002	5/12	0.076 - 0.47	1.20	N/A	239	n	No	BSL
86-73-7	Fluorene	0.054	1.10	TU08SB09-06	5/12	0.069 - 0.094	1.10	N/A	239	n	No	BSL
193-39-5	Indeno[1,2,3-Cd]Pyrene	0.020	0.34	SC-TU008-MW002-S0002	4/12	0.038 - 0.23	0.34	0.5	1.15	c	No	BSL
98-82-8	Isopropylbenzene	0.00088	0.047	TU08SB09-06	3/12	0.00019 - 0.0011	0.047	N/A	195	n	No	BSL
108-87-2	Methylcyclohexane	0.0048	0.0048	SC-TU008-MW002-S0406-avg	1/7	0.00079 - 0.0011	0.0048	N/A	NBA		Yes	NBA
1330-20-7	M-Xylene & P-Xylene	0.00019	0.025	TU08SB09-06	5/12	0.00041 - 0.0021	0.025	N/A	57.6	n	No	BSL
91-20-3	Naphthalene	0.18	0.34	TU08SB09-06	2/12	0.068 - 0.094	0.34	N/A	3.83	c	No	BSL
91-20-3	Naphthalene_Voc	0.0011	0.81	TU08SB08-06-avg	4/12	0.00047 - 0.0019	0.81	N/A	3.83	c	No	BSL
104-51-8	N-Butylbenzene	0.0013	0.11	SC-TU008-MW002-S0406-avg	3/12	0.00047 - 1.1	0.11	N/A	391	n	No	BSL
103-65-1	N-Propylbenzene	0.0011	0.097	TU08SB09-06	3/12	0.00047 - 0.0011	0.097	N/A	377	n	No	BSL
95-47-6	O-Xylene	0.00081	0.023	TU08SB09-06	2/12	0.00019 - 0.028	0.023	N/A	65	n	No	BSL
85-01-8	Phenanthrene	0.020	1.8	TU08SB09-06	7/12	0.069 - 0.094	1.80	N/A	179	n	No	BSL
129-00-0	Pyrene	0.015	1.0	SC-TU008-MW002-S0002	7/12	0.034 - 0.185	1.00	N/A	179	n	No	BSL
135-98-8	Sec-Butylbenzene	0.00036	0.60	TU08SB09-06	6/12	0.00047 - 0.0011	0.60	N/A	782	n	No	BSL
98-06-6	Tert-Butylbenzene	0.00092	0.39	TU08SB09-06	5/12	0.00047 - 0.0011	0.39	N/A	782	n	No	BSL
108-88-3	Toluene	0.00037	0.017	TU08SB09-06	3/12	0.00019 - 0.0011	0.017	N/A	489	n	No	BSL
75-69-4	Trichlorofluoromethane	0.00072	0.032	TU08SB09-06	2/12	0.00047 - 0.0011	0.032	N/A	2,350	n	No	BSL
1330-20-7	Xylenes, Total	0.0015	0.0015	SC-TU008-MW002-S0406-avg	1/7	0.004 - 0.0053	0.0015	N/A	58	n	No	BSL

Table 8-3
Occurrence, Distribution, and Selection of Chemicals of Potential Concern in Soil
Site TU008 - Former Heating Oil UST #41 at Former Building 4
Schenectady Air National Guard Base
Scotia, New York

Scenario Timeframe: Current/Future
Medium: Soil
Exposure Medium: Soil (0-7 ft bgs)
Exposure Point: Soil (0-7 ft bgs)

(1) Maximum concentration used for screening. Based on detected values only.
(2) Rural soil background concentrations, 98th Percentile of "focus" analytes as per New York State Brownfield Cleanup Program. (Table 9.1-9; NYSDEC, 2006b).
(3) Human health risk soil screening levels were obtained from USEPA RSLs for residential soil RSL calculator (USEPA, 2017a); where noncarcinogenic endpoint screening levels were selected to assess a target hazard quotient (THQ) of 0.1 to account for potential occurrence of adverse health effects due to exposure to multiple chemicals. Screening levels for noncarcinogens may be adjusted upward during risk assessment, if warranted. Pyrene used as surrogate for benzo(ghi)perylene and phenanthrene.
(4) Rationale Codes:

Selection Reason:	Above Screening Levels (ASL)
Deletion Reason:	Below Screening Level (BSL)
	Below Background Value (BBV)

Definitions:
C = Carcinogenic
CAS = Chemical Abstracts Service
COPC = Chemical of Potential Concern
ft bgs = Feet below ground surface
mg/kg = Milligrams per kilogram
N = Non-Carcinogenic
N/A = Not Applicable
NBA = No benchmark available
NYSDEC = New York State Department of Environmental Conservation
RSL = Regional Screening Level
THQ = Target hazard quotient
USEPA = U.S. Environmental Protection Agency

Table 8-4
Occurrence, Distribution, and Selection of Chemicals of Potential Concern in Groundwater
Site TU008 - Former Heating Oil UST #41 at Former Building 4
Schenectady Air National Guard Base
Scotia, New York

Scenario Timeframe: Current/Future
Medium: Groundwater
Exposure Medium: Groundwater
Exposure Point: Groundwater

CAS	Chemical	Minimum Concentration µg/L	Maximum Concentration µg/L	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits	Concentration Used for Screening (1)	Background Value	Screening Toxicity Value (2) (N/C)		COPC Flag (Y/N)	Rationale for Selection or Deletion (3)
106-44-5	3 & 4 Methylphenol	0.5	0.5	SC-TU008-MW001-G-2	1/4	0.5 - 0.51	0.5	N/A	185	n	No	BSL
65-85-0	Benzoic Acid	19	19	SC-TU008-MW006-G-1	1/4	30 - 31	19	N/A	7,520	n	No	BSL
108-95-2	Phenol	4.4	4.4	SC-TU008-MW001-G-2	1/4	4.4 - 4.5	4.4	N/A	577	n	No	BSL

(1) Maximum concentration used for screening. Based on detected values only.
(2) Human health screening levels were obtained from 6 NYCRR Part 703 Drinking Water Standard; When no NYCRR standard is available, USEPA RSLs for tap water, RSL Calculator (USEPA, 2017a) was used, where noncarcinogenic endpoint screening levels were selected to assess a target hazard quotient (THQ) of 0.1 to account for potential occurrence of adverse health effects due to exposure to multiple chemicals (screening levels for noncarcinogens may be adjusted upward during risk assessment, if warranted).
(3) Rationale Codes:
Selection Reason: Above Screening Levels (ASL)
Deletion Reason: Below Screening Level (BSL)

Definitions:
µg/L = Microgram per liter
C = Carcinogenic
COPC = Chemical of Potential Concern
N/A = Not Available
N = Non-Carcinogenic
NYCRR = New York Codes, Rules, and Regulations
RSL = Regional Screening Level
THQ = Target hazard quotient
USEPA = U.S. Environmental Protection Agency

Table 8-5
Occurrence, Distribution, and Selection of Chemicals of Potential Concern in Soil
Site TU009 - WWTP Bypass UST Near IRP Site 6
Schenectady Air National Guard Base
Scotia, New York

Scenario Timeframe: Current/Future
Medium: Soil
Exposure Medium: Soil (0-8 ft bgs)
Exposure Point: Soil (0-8 ft bgs)

CAS	Chemical	Minimum Concentration mg/kg	Maximum Concentration mg/kg	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits mg/kg	Concentration Used for Screening (1) mg/kg	Background Value (2)	Screening Toxicity Value (3) (N/C) mg/kg		COPC Flag (Y/N)	Rationale for Selection or Deletion (4)
7429-90-5	Aluminum	12,500	24,000	SC-TU009-MW001-S0305	12/12	---	24,000	N/A	7,740	n	Yes	ASL
7440-36-0	Antimony	0.21	0.78	TU09SB14-08	6/12	6.1 - 7.4	0.78	N/A	3.13	n	No	BSL
7440-38-2	Arsenic	4.40	15.0	TU09SB14-08	12/12	---	15.0	16	0.68	c	No	ASL/BBV
7440-39-3	Barium	66.0	190	SC-TU009-MW001-S0305	12/12	---	190	350	1,530	n	No	BSL
7440-41-7	Beryllium	0.53	1.40	SC-TU009-MW001-S0305	12/12	---	1.40	N/A	16	n	No	BSL
7440-43-9	Cadmium	0.11	1.30	TU09SB12-02-avg	11/12	0.71 - 0.71	1.30	2.5	7.11	n	No	BSL
NUT	Calcium	1,300	13,000	TU09SB12-02-avg	12/12	---	13,000	N/A	NUT		NUT	NUT
7440-47-3	Chromium, Total	15.0	27.0	SC-TU009-MW001-S0305	12/12	---	27.0	N/A	NBA		No	BSL
18540-29-9	Chromium VI (5)	2.1	3.8	SC-TU009-MW001-S0305	12/12	---	3.8	N/A	22		No	BSL
16065-83-1	Chromium III (5)	12.9	23.2	SC-TU009-MW001-S0305	12/12	---	23.2	30	36		No	BSL
7440-48-4	Cobalt	8.20	25.0	TU09SB14-08	12/12	---	25.0	N/A	2.34	n	Yes	ASL
7440-50-8	Copper	14.0	52.0	TU09SB14-08	12/12	---	52.0	N/A	313	n	No	BSL
7439-89-6	Iron	24,000	55,000	TU09SB11-08	12/12	---	55,000	N/A	5,480	n	Yes	ASL
7439-92-1	Lead	12.0	27.5	TU09SB12-02-avg	12/12	---	27.5	N/A	400		No	BSL
NUT	Magnesium	3,300	8,100	SC-TU009-MW002-S0305	12/12	---	8,100	N/A	NUT		NUT	NUT
7439-96-5	Manganese	350	1,200	TU09SB14-08	12/12	---	1,200	2,000	183	n	No	ASL/BBV
7439-97-6	Mercury	0.035	0.11	TU09SB11-08	12/12	---	0.11	0.3	1.09	n	No	BSL
7440-02-0	Nickel	18.0	62.0	TU09SB14-08	12/12	---	62.0	N/A	155	n	No	BSL
NUT	Potassium	1,100	2,900	TU09SB14-08	12/12	---	2,900	N/A	NUT		NUT	NUT
7782-49-2	Selenium	0.20	0.91	TU09SB14-08	6/12	12 - 15	0.91	4.0	39	n	No	BSL
7440-22-4	Silver	0.030	0.27	TU09SB12-02-avg	6/12	2.5 - 2.95	0.27	N/A	39	n	No	BSL
NUT	Sodium	45.0	73.0	TU09SB11-08	6/12	820 - 985	73.0	N/A	NUT		NUT	NUT
7440-28-0	Thallium	0.13	3.70	SC-TU009-MW001-S0305	7/12	10 - 12.5	3.70	N/A	0.08	n	Yes	ASL
7440-62-2	Vanadium	21.0	43.0	SC-TU009-MW001-S0305	12/12	---	43.0	N/A	39	n	Yes	ASL
7440-66-6	Zinc	59.0	130	TU09SB14-08	12/12	---	130	N/A	2,350	n	No	BSL
120-12-7	Anthracene	0.030	0.030	SC-TU009-MW002-S0305	1/12	0.019 - 0.18	0.030	N/A	1,790	n	No	BSL
56-55-3	Benzo(A)Anthracene	0.0051	0.10	SC-TU009-MW002-S0305	5/12	0.019 - 0.087	0.10	1.0	1.13	c	No	BSL
50-32-8	Benzo(A)Pyrene	0.0043	0.089	SC-TU009-MW002-S0305	5/12	0.019 - 0.087	0.089	1.0	0.12	c	No	BSL
205-99-2	Benzo(B)Fluoranthene	0.0074	0.13	SC-TU009-MW002-S0305	5/12	0.019 - 0.087	0.13	1.0	1.15	c	No	BSL
191-24-2	Benzo(G,H,I)Perylene	0.019	0.052	SC-TU009-MW002-S0305	5/12	0.033 - 0.072	0.052	N/A	179	n	No	BSL
207-08-9	Benzo(K)Fluoranthene	0.0039	0.060	TU09SB14-06	5/12	0.019 - 0.17	0.060	0.8	12	c	No	BSL
117-81-7	Bis(2-Ethylhexyl) Phthalate	0.016	2.10	TU09SB13-05	3/12	0.13 - 0.18	2.10	N/A	39	c	No	BSL
218-01-9	Chrysene	0.0051	0.12	SC-TU009-MW002-S0305	5/12	0.019 - 0.14	0.12	1.0	115	c	No	BSL
84-74-2	Di-N-Butyl Phthalate	0.077	0.077	TU09SB13-05	1/12	0.066 - 0.37	0.077	N/A	632	n	No	BSL
206-44-0	Fluoranthene	0.0074	0.29	SC-TU009-MW002-S0305	5/12	0.019 - 0.17	0.29	N/A	239	n	No	BSL
193-39-5	Indeno(1,2,3-Cd)Pyrene	0.024	0.060	SC-TU009-MW002-S0305	4/12	0.039 - 0.087	0.060	0.5	1.2	c	No	BSL
85-01-8	Phenanthrene	0.0054	0.19	SC-TU009-MW002-S0305	2/12	0.019 - 0.18	0.19	N/A	179	n	No	BSL
129-00-0	Pyrene	0.0082	0.23	SC-TU009-MW002-S0305	8/12	0.019 - 0.14	0.23	N/A	179	n	No	BSL

Table 8-5
Occurrence, Distribution, and Selection of Chemicals of Potential Concern in Soil
Site TU009 - WWTP Bypass UST Near IRP Site 6
Schenectady Air National Guard Base
Scotia, New York

Scenario Timeframe: Current/Future
Medium: Soil
Exposure Medium: Soil (0-8 ft bgs)
Exposure Point: Soil (0-8 ft bgs)

(1) Maximum concentration used for screening. Based on detected values only
(2) Rural soil background concentrations, 98th Percentile of "focus" analytes as per New York State Brownfield Cleanup Program. (Table 9.1-9; NYSDEC, 2006b
(3) Unless otherwise noted, human health risk soil screening levels were obtained from USEPA RSLs for residential soil, RSL Calculator (USEPA, 2017a); wher noncarcinogenic endpoint screening levels were selected to assess a target hazard quotient (THQ) of 0.1 to account for potential occurrence of advers health effects due to exposure to multiple chemicals. Screening levels for noncarcinogens may be adjusted upward during risk assessment, if warranted.
Hexavalent chromium and trivalent chromium were screened against NY Residential SCOs
Pyrene used as surrogate for benzo(ghi)perylene and phenanthrene
(4) Rationale Codes:

Selection Reason:	Above Screening Levels (ASL)
Deletion Reason:	Below Screening Level (BSL)
	Essential Human Nutrient (NUT)

(5) A 1:6 ratio of hexavalent to trivalent chromium was estimated for TU009 (14% hexavalent; 86% trivalent). See text.

Definitions:
C = Carcinogenic
CAS = Chemical Abstracts Service
COPC = Chemical of Potential Concern
ft bgs = Feet below ground surface
mg/kg = Milligrams per kilogram
N = Non-Carcinogenic
N/A = Not Applicable
NYSDEC = New York State Department of Environmental Conservatio
RSL = Regional Screening Leve
SCO = Soil Cleanup Objective
THQ = Target hazard quotient
USEPA = U.S. Environmental Protection Agency

Table 8-6
Occurrence, Distribution, and Selection of Chemicals of Potential Concern in Groundwater
Site TU009 - WWTP Bypass UST Near IRP Site 6
Schenectady Air National Guard Base
Scotia, New York

Scenario Timeframe: Current/Future
Medium: Groundwater
Exposure Medium: Groundwater
Exposure Point: Groundwater

CAS	Chemical	Minimum Concentration µg/L	Maximum Concentration µg/L	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits	Concentration Used for Screening (1)	Background Value	Screening Toxicity Value (2) (N/C)		COPC Flag (Y/N)	Rationale for Selection or Deletion (3)
7440-38-2	Arsenic, Dissolved	16	16	SC-TU009-MW003-G-2	1/3	15 - 15	16	N/A	25		No	BSL
7440-43-9	Barium, Dissolved	53	71	SC-TU009-MW003-G-2	2/3	2 - 2	71	N/A	1,000		No	BSL
7440-43-9	Cadmium, Dissolved	0.55	0.55	SC-TU009-MW003-G-2	2/3	---	0.55	N/A	5.0		No	BSL
NUT	Calcium, Dissolved	190,000	220,000	SC-TU009-MW003-G-2	3/3	---	220,000	N/A	NUT		NUT	NUT
18540-29-9	Chromium, Dissolved	0.68	0.90	SC-TU009-MW003-G-2	2/3	2.6 - 2.6	0.90	N/A	50		No	BSL
7440-50-8	Copper, Dissolved	4.6	4.6	SC-TU009-6MW24-G-1	1/3	10 - 10	4.6	N/A	200		No	BSL
7439-89-6	Iron, Dissolved	5,800	5,800	SC-TU009-MW003-G-2	1/3	85 - 85	5,800	N/A	300		Yes	ASL
7439-92-1	Lead, Dissolved	2.9	4	SC-TU009-6MW22-G-1-avg	2/3	10 - 10	4	N/A	25		No	BSL
NUT	Magnesium, Dissolved	28,000	65,000	SC-TU009-MW003-G-2	3/3	---	65,000	N/A	NUT		NUT	NUT
7439-96-5	Manganese, Dissolved	31	12,000	SC-TU009-MW003-G-2	3/3	---	12,000	N/A	300		Yes	ASL
7440-02-0	Nickel, Dissolved	2.2	4.65	SC-TU009-6MW22-G-1-avg	2/3	5 - 5	4.65	N/A	100		No	BSL
NUT	Potassium, Dissolved	3,500	33,000	SC-TU009-MW003-G-2	3/3	---	33,000	N/A	NUT		NUT	NUT
NUT	Sodium, Dissolved	49,000	110,000	SC-TU009-MW003-G-2	3/3	---	110,000	N/A	NUT		NUT	NUT
7440-62-2	Vanadium, Dissolved	1.5	1.5	SC-TU009-MW003-G-2	1/3	4 - 4	1.5	N/A	8.6	n	No	BSL
7440-66-6	Zinc, Dissolved	5.9	9	SC-TU009-6MW22-G-1-avg	2/3	15 - 15	9	N/A	2,000		No	BSL
541-73-1	Fluoranthene	0.27	0.27	SC-TU009-6MW22-G-1-avg	1/3	0.5 - 0.7	0.27	N/A	50		No	BSL

(1) Maximum concentration used for screening. Based on detected values only
(2) Human health screening levels were obtained from 6 NYCRR Part 703 Drinking Water Standard; When no NYCRR standard is available USEPA RSLs for tap water, RSL Calculator (USEPA, 2017a) was used, where noncarcinogenic endpoint screening levels were selected to asses a target hazard quotient (THQ) of 0.1 to account for potential occurrence of adverse health effects due to exposure to multiple chemicals (screenin levels for noncarcinogens may be adjusted upward during risk assessment, if warranted)
(3) Rationale Codes:
Selection Reason: Above Screening Levels (ASL)
Deletion Reason: Below Screening Level (BSL)
Essential Human Nutrient (NUT)

Definitions:
µg/L = Microgram per liter
C = Carcinogenic
CAS = Chemical Abstracts Service
COPC = Chemical of Potential Concerr
N/A = Not available
N = Non-carcinogenic
NYCRR = New York Codes, Rules, and Regulations
RSL = Regional Screening Leve
THQ = Target hazard quotient
USEPA = U.S. Environmental Protection Agency

Table 8-7
Selection of Exposure Pathways
Sites ZZ007, TU008, and TU009
Schenectady Air National Guard Base
Scotia, New York

Scenario Timeframe	Medium	Exposure Medium	Exposure Point	Receptor Population	Receptor Age	Exposure Route	On-Site/ Off-Site	Type of Analysis	Rationale for Selection or Exclusion of Exposure Pathway
Current/Future	Soil	Soil	Soil	Commercial/ Industrial Worker	Adult	Ingestion	On-Site	Quantitative	Direct contact with soil while working indoors and outdoors.
						Dermal	On-Site	Quantitative	Direct contact with soil while working indoors and outdoors
				Resident	Adult	Ingestion	On-Site	Quantitative	Direct contact with soil while at home.
						Dermal	On-Site	Quantitative	Direct contact with soil while at home.
					Child	Ingestion	On-Site	Quantitative	Direct contact with soil while at home.
						Dermal	On-Site	Quantitative	Direct contact with soil while at home.
		Soil to Air	Particulates/Vapors	Commercial/ Industrial Worker	Adult	Inhalation	On-Site	Quantitative	Exposure to airborne dust/vapor while working inside/outside.
				Resident	Adult	Inhalation	On-Site	Quantitative	Exposure to airborne dust/vapor while at home.
					Child	Inhalation	On-Site	Quantitative	Exposure to airborne dust/vapor while at home.
	Groundwater	Groundwater	Groundwater	Commercial/ Industrial Worker	Adult	Ingestion	On-Site	Quantitative	Assumes use of groundwater as potable water supply.
						Dermal	On-Site	Quantitative	Assumes use of groundwater as potable water supply.
				Resident	Adult	Ingestion	On-Site	Quantitative	Assumes use of groundwater as potable water supply.
						Dermal	On-Site	Quantitative	Assumes use of groundwater as potable water supply.
					Child	Ingestion	On-Site	Quantitative	Assumes use of groundwater as potable water supply.
						Dermal	On-Site	Quantitative	Assumes use of groundwater as potable water supply.
		Air	(Water Vapors at Showerhead)	Resident	Adult	Inhalation	On-Site	Quantitative	Assumes use of groundwater as potable water supply.
					Child	Inhalation	On-Site	Quantitative	Assumes use of groundwater as potable water supply.

Table 8-8
Exposure Point Concentration Summary for Soil
Site ZZ007 - Former Building 13 Area
Schenectady Air National Guard Base
Scotia, New York

Scenario Timeframe: Current/Future
Medium: Soil
Exposure Medium: Soils (0 to 9)

Exposure Point	Chemical of Potential Concern	Units	Arithmetic Mean	95% UCL	Maximum Concentration	Exposure Point Concentration (EPC)			
						Value	Units	Statistic	Rationale
Soils	Aluminum, Total	mg/kg	16,250	17,708	22,000	17,708	mg/kg	95% Student's-t UCL	(2)
	Cobalt, Total	mg/kg	14.1	16.39	23	16.39	mg/kg	95% Student's-t UCL	(2)
	Iron, Total	mg/kg	35,536	39,435	47,000	39,435	mg/kg	95% Student's-t UCL	(2)
	Thallium, Total	mg/kg	0.51	0.92	1.3	0.92	mg/kg	95% Chebyshev (Mean, SD) UCL	(3)

The EPC is based on the lower of the 95% UCL and the maximum detected concentration.
(1) The maximum concentration used for EPC due to high percentage of nondetects.
(2) Based on ProUCL recommendation, data is normally distributed.
(3) Data distribution is not discernable, UCL selection is based on ProUCL recommendation.

Definitions: EPC = Exposure Point Concentration
mg/kg = Milligram per kilogram
UCL = Upper confidence limit

Table 8-9
Exposure Point Concentration Summary for Groundwater
Site ZZ007 - Former Building 13 Area
Schenectady Air National Guard Base
Scotia, New York

Scenario Timeframe: Current/Future
Medium: Groundwater
Exposure Medium: Groundwater

Exposure Point	Chemical of Potential Concern	Units	Arithmetic Mean	95% UCL	Maximum Concentration	Exposure Point Concentration (EPC)			
						Value	Units	Statistic	Rationale
Groundwater	Cobalt, Dissolved	µg/L	18	NC	19	19	µg/L	Maximum	(1)
	Manganese, Dissolved	µg/L	2,839	NC	4,700	4,700	µg/L	Maximum	(1)

The EPC is based on the lower of the 95% UCL and the maximum detected concentration.
(1) The maximum concentration used for EPC due to small sample size *n = 3*).

Definitions:
µg/L = Microgram per liter
EPC = Exposure Point Concentration
NC = Not calculated due to small sample size or small number of detections.
UCL = Upper confidence limit

Table 8-10
Exposure Point Concentration Summary for Soil
Site TU008 - Former Heating Oil UST #41 at Former Building 4
Schenectady Air National Guard Base
Scotia, New York

Scenario Timeframe: Current/Future
Medium: Soil
Exposure Medium: Soils (0 to 7)

Exposure Point	Chemical of Potential Concern	Units	Arithmetic Mean	95% UCL	Maximum Concentration	Exposure Point Concentration (EPC)			
						Value	Units	Statistic	Rationale
Soils	1,1,2-Trichloroethane	mg/kg	0.16	NC	0.16	0.16	mg/kg	Maximum	(1)
	Carbazole	mg/kg	0.10	NC	0.098	0.10	mg/kg	Maximum	(1)
	Methylcyclohexane	mg/kg	0.0048	NC	0.0048	0.0048	mg/kg	Maximum	(1)

The EPC is based on the lower of the 95% UCL and the maximum detected concentration.
(1) The maximum concentration used for EPC due to high percentage of nondetects.

Definitions:
EPC = Exposure Point Concentration
mg/kg = Milligram per kilogram
NC = Not calculated due to small number of detections.
UCL = Upper confidence limit

Table 8-11
Exposure Point Concentration Summary for Soil
Site TU009 - WWTP Bypass UST Near IRP Site 6
Schenectady Air National Guard Base
Scotia, New York

Scenario Timeframe: Current/Future
Medium: Soil
Exposure Medium: Soils (0 to 8)

Exposure Point	Chemical of Potential Concern	Units	Arithmetic Mean	95% UCL	Maximum Concentration	Exposure Point Concentration (EPC)			
						Value	Units	Statistic	Rationale
Soils	Aluminum	mg/kg	16,208	17,831	24,000	17,831	mg/kg	95% Student's-t UCL	(1)
	Cobalt	mg/kg	16.3	18.8	25	18.8	mg/kg	95% Student's-t UCL	(1)
	Iron	mg/kg	36,208	40,915	55,000	40,915	mg/kg	95% Student's-t UCL	(1)
	Thallium	mg/kg	0.69	2.88	3.7	2.88	mg/kg	95% KM (Chebyshev) UCL	(2)
	Vanadium	mg/kg	25.3	28.3	43	28.3	mg/kg	95% Student's-t UCL	(2)

The EPC is based on the lower of the 95% UCL and the maximum detected concentration.
(1) Based on ProUCL recommendation, data is normally distributed.
(2) Data distribution is not discernable, UCL selection is based on ProUCL recommendation.

Definitions: EPC = Exposure Point Concentration
mg/kg = Milligram per kilogram
UCL = Upper confidence limit

Table 8-12
Exposure Point Concentration Summary for Groundwater
Site TU009 - WWTP Bypass UST Near IRP Site 6
Schenectady Air National Guard Base
Scotia, New York

Scenario Timeframe: Current/Future
Medium: Groundwater
Exposure Medium: Groundwater

Exposure Point	Chemical of Potential Concern	Units	Arithmetic Mean	95% UCL	Maximum Concentration	Exposure Point Concentration (EPC)			
						Value	Units	Statistic	Rationale
	Iron, Dissolved	µg/L	2,900	NC	5,800	5,800	µg/L	Maximum	(1)
	Manganese, Dissolved	µg/L	4,777	NC	12,000	12,000	µg/L	Maximum	(1)

The EPC is based on the lower of the 95% UCL and the maximum detected concentration.
(1) The maximum concentration used for EPC due to small sample size *n = 4*).

Definitions:
µg/L = Micrograms per liter
EPC = Exposure Point Concentration
NC = Not calculated due to small number of detections.
UCL = Upper confidence limit

Table 8-13
Human Health Risk Assessment Summary
Site ZZ007 - Former Building 13 Area
Schenectady Air National Guard Base
Scotia, New York

Groundwater COPC	EPC* (µg/L)	Residential Tap Water RSL		Residential		Industrial Tap Water RSL		Industrial Worker	
		Cancer TR, 1E-06	Noncancer THQ, 1.0	Cancer Risk	Hazard Quotient	Cancer TR, 1E-06	Noncancer THQ, 1.0	Cancer Risk	Hazard Quotient
Cobalt, Dissolved	19	NBA	6E+00	---	**3E+00**	NBA	4E+01	---	5E-01
Manganese, Dissolved	4,700	NBA	4E+02	---	**1E+01**	NBA	3E+03	---	**2E+00**
Groundwater Cancer Risks				---				---	
Groundwater Hazard Index					***14***				*2*

Soil COPC	EPC (mg/kg)	Residential Soil RSL		Residential		Industrial Soil RSL		Industrial Worker	
		Cancer TR, 1E-06	Noncancer THQ, 1.0	Cancer Risk	Hazard Quotient	Cancer TR, 1E-06	Noncancer THQ, 1.0	Cancer Risk	Hazard Quotient
Aluminum	17,708	NBA	8E+04	---	0.2	NBA	1,120,000	---	0.02
Cobalt	16.39	4E+02	2E+01	4E-08	0.7	1,850	347	9E-09	0.05
Iron	39,435	NBA	5E+04	---	0.7	NBA	818,000	---	0.05
Thallium	0.92	NBA	8E-01	---	1	NBA	12	---	0.08
Soil Cancer Risks Total				*4E-08*				*9E-09*	
Soil Hazard Index Total					***3***				*0.2*

Cumulative Risk/Hazard Summary	
Cumulative Cancer Risk - Residential	4E-08
Cumulative Cancer Risk - Industrial	9E-09
Cumulative HI - Residential	**17**
Cumulative HI - Industrial	**2**

NOTES:

BOLD CR or HQ indicates a risk above respective point of departure (>1E-06 for CR and >1.0 for HI). Total risk estimates presented as one significant figure per USEPA RAGS.
* EPC equals the maximum detection due to small sample size/ small number of detections.
Cancer risk = EPC*TR/RSL (based on TR of 1E-06)
Noncancer hazard quotient = EPC/RSL (based on THQ of 1)

Definitions:
µg/L = Microgram per liter
COPC = Chemical of Potential Concern
CR = Cancer risk
EPC = Exposure point concentration.
HI = Hazard index
HQ = Hazard quotient
NBA = No benchmark available.
RAGS = Risk Assessment Guidance for Superfund
RSL = Regional screening level
THQ = Target hazard quotient
TR = Target risk
USEPA = U.S. Environmental Protection Agency

Table 8-14
Human Health Risk Assessment Summary
Site TU008 - Former Heating Oil UST #41 at Former Building 4
Schenectady Air National Guard Base
Scotia, New York

Soil COPC	EPC* (mg/kg)	Residential Soil RSL		Residential		Industrial Soil RSL		Industrial Worker	
		Cancer TR, 1E-06	Noncancer THQ, 1.0	Cancer Risk	Hazard Quotient	Cancer TR, 1E-06	Noncancer THQ, 1.0	Cancer Risk	Hazard Quotient
1,1,2-Trichloroethane	0.16	1E+00	2E+00	1E-07	1E-01	5E+00	6E+00	3E-08	3E-02
Carbazole	0.098	NBA	NBA	---	---	NBA	NBA	---	---
Methylcyclohexane	0.0048	NBA	NBA	---	---	NBA	NBA	---	---
Soil Cancer Risks Total				*1E-07*				*3E-08*	
Soil Hazard Index Total					*0.11*				*0.03*

Cumulative Risk/Hazard Summary	
Cumulative Cancer Risk - Residential	1E-07
Cumulative Cancer Risk - Industrial	3E-08
Cumulative HI - Residential	0.11
Cumulative HI - Industria	0.03

NOTES:
BOLD CR or HQ indicates a risk above respective point of departure (>1E-06 for CR and >1.0 for HI). Total risk estimates presented as one significant figure per USEPA RAGS.
* EPC equals the maximum detection due to small sample size/ small number of detections.
Cancer risk = EPC*TR/RSL (based on TR of 1E-06)
Noncancer hazard quotient = EPC/RSL (based on THQ of 1)

Definitions:
COPC = Chemical of Potential Concern
CR = Cancer risk
EPC = Exposure point concentration
HQ = Hazard quotient
mg/kg = milligram per kilogram
NBA = No benchmark available.
RAGS = Risk Assessment Guidance for Superfund
RSL = Regional screening level
THQ = target hazard quotient
TR = target risk
USEPA = U.S. Environmental Protection Agency

Table 8-15
Human Health Risk Assessment Summary
Site TU009 - WWTP Bypass UST Near IRP Site 6
Schenectady Air National Guard Base
Scotia, New York

Groundwater COPC	EPC* (µg/L)	Residential Tap Water RSL		Residential		Industrial Tap Water RSL		Industrial Worker	
		Cancer TR, 1E-06	Noncancer THQ, 1.0	Cancer Risk	Hazard Quotient	Cancer TR, 1E-06	Noncancer THQ, 1.0	Cancer Risk	Hazard Quotient
Iron, Dissolved	5,800	NBA	1E+04	---	4E-01	NBA	8E+04	---	7E-02
Manganese, Dissolved	12,000	NBA	4E+02	---	**3E+01**	NBA	3E+03	---	**4E+00**
Groundwater Cancer Risks				**---**				**---**	
Groundwater Hazard Index					***28***				***4***

Soil COPC	EPC (mg/kg)	Residential Soil RSL		Residential		Industrial Soil RSL		Industrial Worker	
		Cancer TR, 1E-06	Noncancer THQ, 1.0	Cancer Risk	Hazard Quotient	Cancer TR, 1E-06	Noncancer THQ, 1.0	Cancer Risk	Hazard Quotient
Aluminum	17,831	NBA	8E+04	---	2E-01	NBA	1E+06	---	2E-02
Cobalt	18.8	4E+02	2E+01	4E-08	8E-01	2E+03	3E+02	1E-08	5E-02
Iron	40,915	NBA	5E+04	---	7E-01	NBA	8E+05	---	5E-02
Thallium	2.88	NBA	8E-01	---	**4E+00**	NBA	1E+01	---	2E-01
Vanadium	28.3	NBA	4E+02	---	7E-02	NBA	6E+03	---	5E-03
Soil Cancer Risks Total				*4E-08*				*1E-08*	
Soil Hazard Index Total					***6***				*0.4*

Cumulative Risk/Hazard Summary	
Cumulative Cancer Risk - Residential	4E-08
Cumulative Cancer Risk - Industrial	1E-08
Cumulative HI - Residential	**34**
Cumulative HI - Industrial	**5**

NOTES:
BOLD CR or HQ indicates a risk above respective point of departure (>1E-06 for CR and >1.0 for HI). Total risk estimates presented as one significant figure per USEPA RAGS.
* EPC equals the maximum detection due to small sample size/ small number of detections.
Cancer risk = EPC*TR/RSL (based on TR of 1E-06)
Noncancer hazard quotient = EPC/RSL (based on THQ of 1)

Definitions:
µg/L = Microgram per liter
COPC = Chemical of Potential Concern
CR = Cancer risk
EPC = Exposure point concentration
HI = Hazard index
HQ = Hazard quotient
NBA = No benchmark available.
RAGS = Risk Assessment Guidance for Superfund
RSL = Regional screening level
THQ = target hazard quotient
TR = target risk
USEPA = U.S. Environmental Protection Agency

Table 8-16
Summary of Non-carcinogenic Chemicals of Concern
Sites ZZ007, TU008, and TU009
Schenectady Air National Guard Base
Scotia, New York

Site	Receptor	Chemicals of Concern Exceeding 1			Target Organ Endpoints
		Chemical	EPC (mg/kg or µg/L)*	Hazard Quotient	
Risks From Groundwater					
ZZ007	Resident	Cobalt, Dissolved	19	3	Blood
		Manganese, Dissolved	4,700	11	Nervous System
	Industrial Worker	Manganese, Dissolved	4,700	2	Nervous System
TU009	Resident	Manganese, Dissolved	12,000	28	Nervous System
	Industrial Worker	Manganese, Dissolved	12,000	4	Nervous System
Risks From Soil					
TU009	Resident	Thallium	2.88	4	Hair

Notes:
For groundwater, the EPC is the maximum detected concentration.
For soils, the EPC was the lower of the maximum detected concentration and 95% UCL.
* Units for EPC are: mg/kg for soils; µg/L for groundwater.

Definitions:
µg/L = Micrograms per Liter
EPC = Exposure point concentration
mg/kg = Milligram per kilogram
NA = Not applicable

FIGURES

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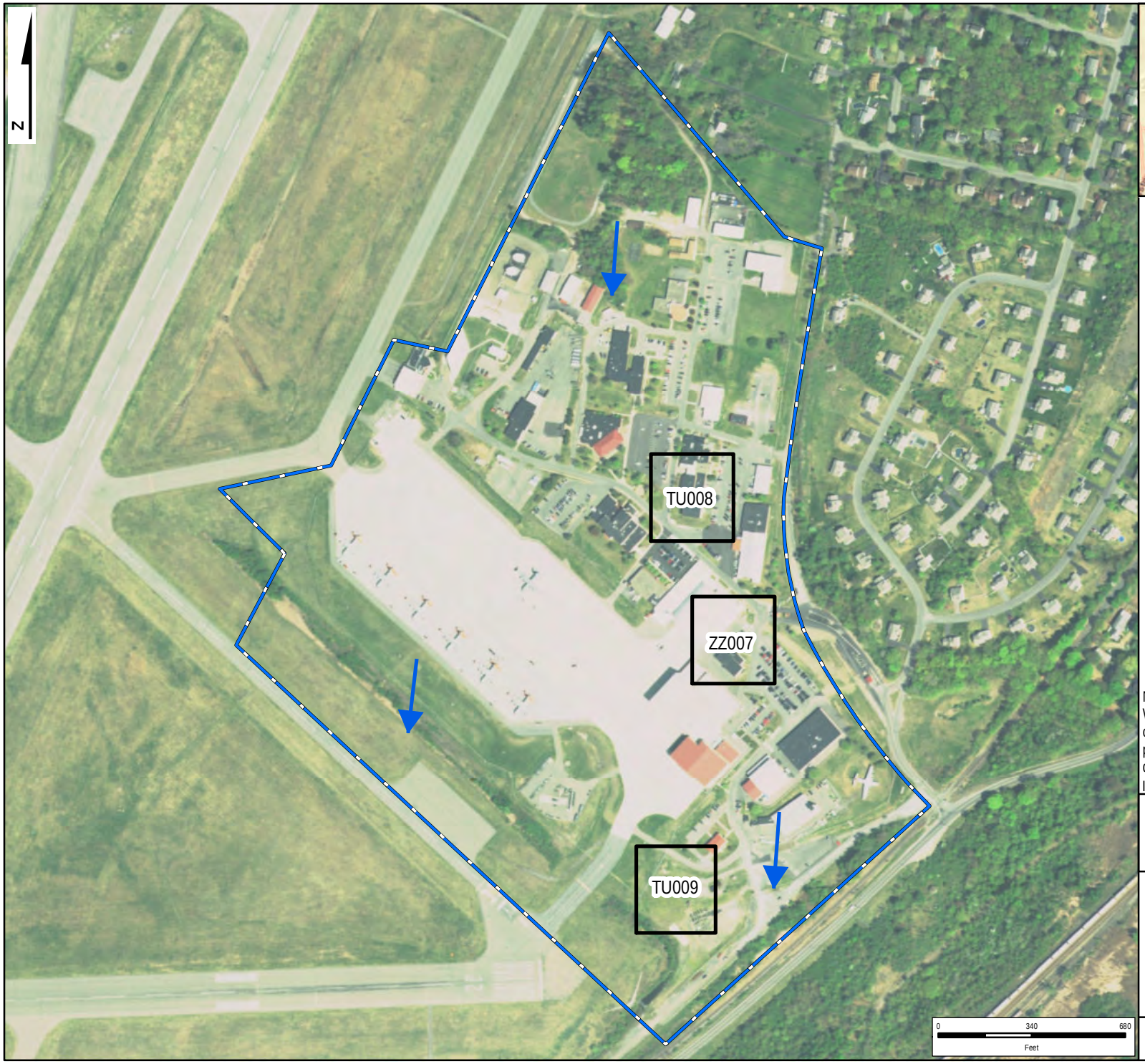

LEGEND

Installation Boundary

Groundwater Flow Direction

Note:
Water levels from site-specific groundwater wells collected during the RI and previous investigations performed at the base confirm that groundwater flow direction is south toward the Mohawk River.

Imagery Source: ESRI Imagery Mapping Service, 2016

Cardno TEC WESTON

TEC-Weston Joint Venture

FIGURE 2-1
SITE LOCATION MAP
SCHENECTADY AIR NATIONAL GUARD BASE
SCHENECTADY, NY

DATE	PROJECT NO	SCALE
MAY 2017	15363.100.001.0401	AS SHOWN

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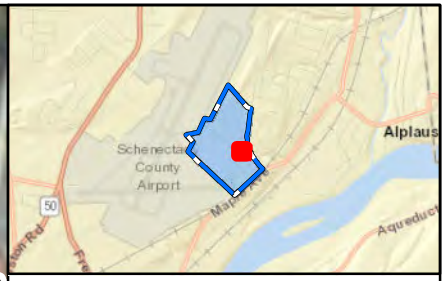

LEGEND

- Demolished Building
- Installation Boundary
- Groundwater Flow Direction

Note:
Water levels from site-specific groundwater wells collected during the RI and previous investigations performed at the base confirm that groundwater flow direction is south toward the Mohawk River.

Imagery Source: ESRI Imagery Mapping Service, 2016

TEC-Weston Joint Venture

FIGURE 2-2
SITE LAYOUT MAP
SITE ZZ007 - FORMER BUILDING 13 AREA
SCHENECTADY AIR NATIONAL
GUARD BASE
SCHENECTADY, NY

DATE	PROJECT NO	SCALE
MAY 2017	15363.100.001.0401	AS SHOWN

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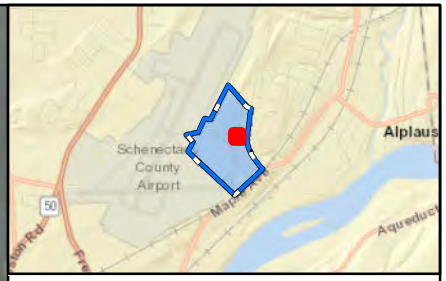

LEGEND

- Former Heating Oil UST #41 Area
- Demolished Building
- Installation Boundary
- Groundwater Flow Direction

Note:
Water levels from site-specific groundwater wells collected during the RI and previous investigations performed at the base confirm that groundwater flow direction is south toward the Mohawk River

Imagery Source: ESRI Imagery Mapping Service, 2016

Cardno TEC WESTON
TEC-Weston Joint Venture

FIGURE 2-3
SITE LAYOUT MAP
SITE TU008 - FORMER HEATING OIL
UST #41 AT FORMER BUILDING 4
SCHENECTADY AIR NATIONAL
GUARD BASE
SCHENECTADY, NY

DATE	PROJECT NO	SCALE
MAY 2017	15363.100.001.0401	AS SHOWN

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LEGEND

- Manhole
- WWTP Bypass UST Area
- Site 6 Soil Excavation Areas
- IRP Site 6 Boundary
- Installation Boundary
- Groundwater Flow Direction

Note:
Water levels from site-specific groundwater wells collected during the RI and previous investigations performed at the base confirm that groundwater flow direction is south toward the Mohawk River.

Imagery Source: ESRI Imagery Mapping Service, 2016

Cardno TEC WESTON
TEC-Weston Joint Venture

FIGURE 2-4
SITE LAYOUT MAP
SITE TU009 - WWTP BYPASS
UST NEAR IRP SITE 6
SCHENECTADY AIR NATIONAL
GUARD BASE
SCHENECTADY, NY

DATE	PROJECT NO	SCALE
APR 2017	15363.100.001.0401	AS SHOWN

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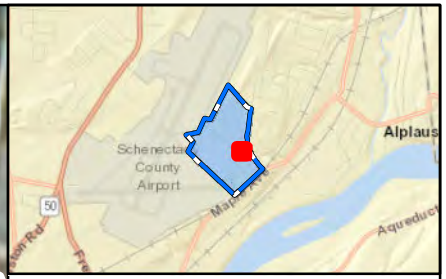

LEGEND

- Attempted Monitoring Well Location
- Existing Monitoring Well Location
- 2016 Soil Boring and Temporary Monitoring Well Location
- 2014 PA/SI Sampling Locations
- Demolished Building
- Installation Boundary
- 330.83 June 2016 Groundwater Elevation (ft AMSL)
- Groundwater Flow Direction

Note:
- Water levels from site-specific groundwater wells collected during the RI and previous investigations performed at the base confirm that groundwater flow direction is south toward the Mohawk River.
- PA/SI sampling locations provided by others, survey control is not available.
- Inset box background appears greyed out because resolution of the aerial image displaying asphalt pavement where samples are located is reduced at the zoom level used.

Imagery Source: ESRI Imagery Mapping Service, 2016

Cardno TEC WESTON
TEC-Weston Joint Venture

FIGURE 4-1
SAMPLE LOCATION MAP
SITE ZZ007 - FORMER
BUILDING 13 AREA
SCHENECTADY AIR NATIONAL
GUARD BASE
SCOTIA, NY

DATE	PROJECT NO	SCALE
MAY 2017	15363.100.001.0401	AS SHOWN

FILE: Y:\ANG_NE_Sites\Schenectady_ANG\MXD\SurveyedLocs_ZZ007_Rev04062017.mxd 4:25:05 PM 5/8/2017 johna

LEGEND

- 2016 Soil Boring Location (Monitoring Well not installed due to poor groundwater yield)
- 2016 Soil Boring and Permanent Monitoring Well Location
- 2014 PA/SI Sampling Locations
- Former Heating Oil UST #41 Area
- Demolished Building
- Installation Boundary
- 337.77 November 2016 Groundwater Elevation (ft AMSL)
- Groundwater Flow Direction

Note:
- Water levels from site-specific groundwater wells collected during the RI and previous investigations performed at the base confirm that groundwater flow direction is south toward the Mohawk River.
- PA/SI sampling locations provided by others, survey control is not available.

Imagery Source: ESRI Imagery Mapping Service, 2016

Cardno TEC WESTON
TEC-Weston Joint Venture

FIGURE 4-2
SAMPLE LOCATION MAP
TU008 - FORMER HEATING OIL
UST #41 AT FORMER BUILDING 4
SCHENECTADY AIR NATIONAL
GUARD BASE
SCOTIA, NY

DATE	PROJECT NO	SCALE
APR 2017	15363.100.001.0401	AS SHOWN

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LEGEND

- Site 6 Monitoring Well Location
- 2016 RI Soil Boring Location (Monitoring Well not installed due to poor groundwater yield)
- 2016 RI Soil Boring and Permanent Monitoring Well Location
- Manhole
- 2014 PA/SI Sampling Locations
- WWTP Bypass UST Area
- Site 6 Soil Excavation Areas
- IRP Site 6 Boundary
- Installation Boundary
- 330.83 June 2016 Groundwater Elevation (ft AMSL)
- Groundwater Flow Direction

Note:
- Water levels from site-specific groundwater wells collected during the RI and previous investigations performed at the base confirm that groundwater flow direction is south toward the Mohawk River.
- PA/SI sampling locations provided by others, survey control is not available.

Imagery Source: ESRI Imagery Mapping Service, 2016

TEC-Weston Joint Venture

FIGURE 4-3
SAMPLING LOCATION MAP
TU009 - WWTP BYPASS
UST NEAR IRP SITE 6
SCHENECTADY AIR NATIONAL
GUARD BASE
SCOTIA, NY

DATE	PROJECT NO	SCALE
JUN 2017	15363.100.001.0401	AS SHOWN

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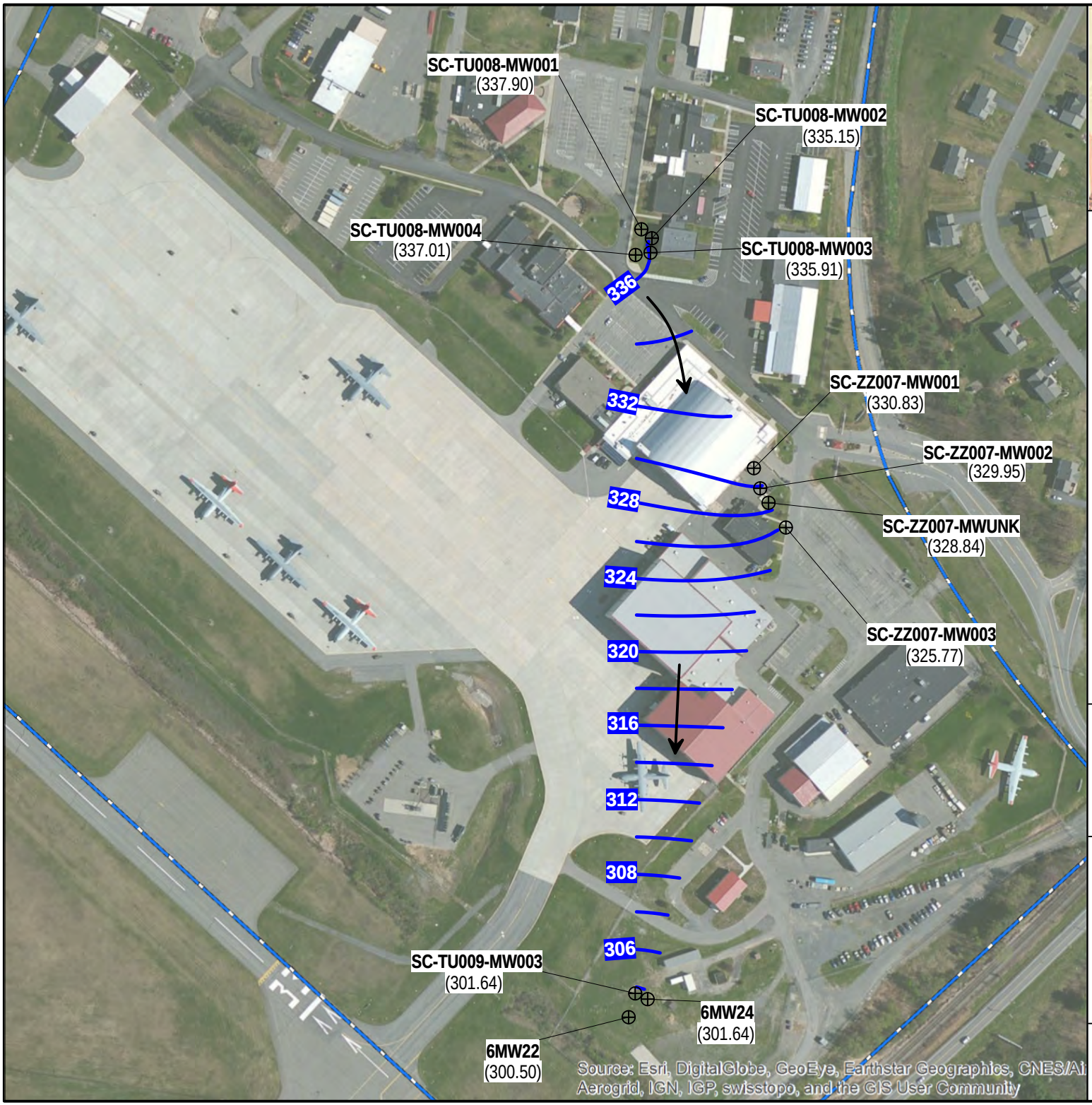


Legend

- ⊕ Monitoring Well
- **(301.64)** Groundwater Elevation Measured on 7 June 2016 (ft above mean sea level)
- Groundwater Elevation Contour
- Groundwater Flow Direction
- Installation Boundary

N
W E
S

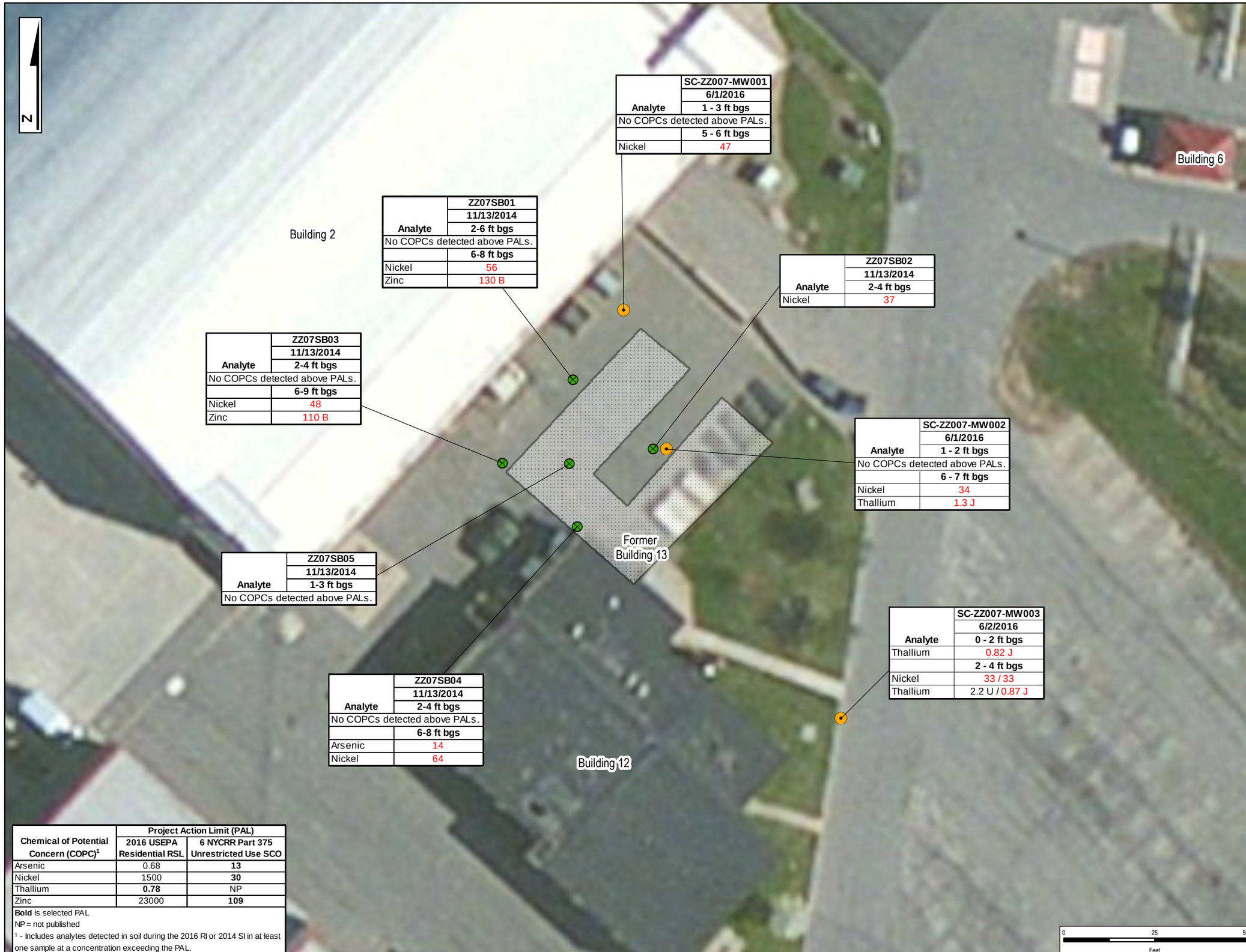
Cardno TEC
WESTON SOLUTIONS
TEC-Weston Joint Venture

Figure 5-1

GROUNDWATER ELEVATION
CONTOUR MAP
SCHENECTADY AIR NATIONAL
GUARD BASE
SCOTIA, NEW YORK

Scale in Feet

0 100 200 300 400 500



Analyte	SC-ZZ007-MW001
	6/1/2016
	1 - 3 ft bgs
No COPCs detected above PALs.	
	5 - 6 ft bgs
Nickel	47

Analyte	ZZ07SB01
	11/13/2014
	2-6 ft bgs
No COPCs detected above PALs.	
	6-8 ft bgs
Nickel	56
Zinc	130 B

Analyte	ZZ07SB02
	11/13/2014
	2-4 ft bgs
Nickel	37

Analyte	ZZ07SB03
	11/13/2014
	2-4 ft bgs
No COPCs detected above PALs.	
	6-9 ft bgs
Nickel	48
Zinc	110 B

Analyte	SC-ZZ007-MW002
	6/1/2016
	1 - 2 ft bgs
No COPCs detected above PALs.	
	6 - 7 ft bgs
Nickel	34
Thallium	1.3 J

Analyte	ZZ07SB05
	11/13/2014
	1-3 ft bgs
No COPCs detected above PALs.	

Analyte	SC-ZZ007-MW003
	6/2/2016
	0 - 2 ft bgs
Thallium	0.82 J
	2 - 4 ft bgs
Nickel	33 / 33
Thallium	2.2 U / 0.87 J

Analyte	ZZ07SB04
	11/13/2014
	2-4 ft bgs
No COPCs detected above PALs.	
	6-8 ft bgs
Arsenic	14
Nickel	64

Chemical of Potential Concern (COPC)[1]	Project Action Limit (PAL)	
	2016 USEPA Residential RSL	6 NYCRR Part 375 Unrestricted Use SCO
Arsenic	0.68	**13**
Nickel	1500	**30**
Thallium	**0.78**	NP
Zinc	23000	**109**

Bold is selected PAL
NP = not published
[1] - Includes analytes detected in soil during the 2016 RI or 2014 SI in at least one sample at a concentration exceeding the PAL.

LEGEND

- 2016 Soil Boring/Temporary Monitoring Well Locations
- 2014 PA/SI Sampling Locations
- Demolished Building
- Installation Boundary

Note(s):
1. All concentrations in milligrams per kilograms (mg/kg).
2. ## / ## presents results for a normal and duplicate sample.
3. Concentrations noted in red exceed one or more project action limit.

ft bgs = feet below ground surface

Imagery Source: ESRI Imagery Mapping Service, 2013

Cardno TEC WESTON SOLUTIONS
TEC-Weston Joint Venture

FIGURE 5-2
SOIL CONCENTRATIONS
EXCEEDING PROJECT ACTION LIMITS
SITE ZZ007 – FORMER BUILDING 13 AREA
SCHENECTADY AIR NATIONAL
GUARD BASE
SCOTIA, NY

DATE	PROJECT NO	SCALE
APR 2017	15363.100.001.0401	AS SHOWN

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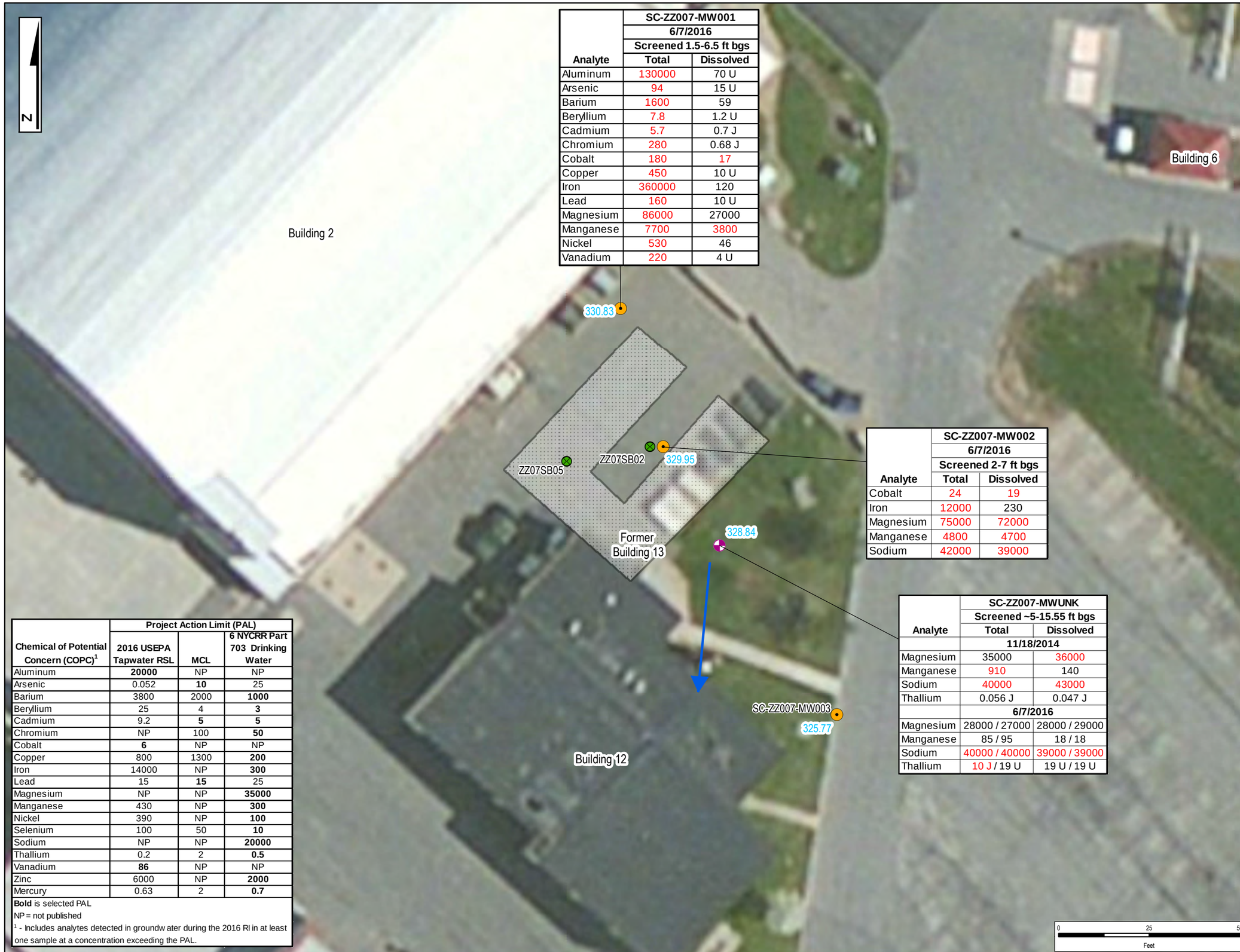

Analyte	SC-ZZ007-MW001	
	6/7/2016	
	Screened 1.5-6.5 ft bgs	
	Total	Dissolved
Aluminum	130000	70 U
Arsenic	94	15 U
Barium	1600	59
Beryllium	7.8	1.2 U
Cadmium	5.7	0.7 J
Chromium	280	0.68 J
Cobalt	180	17
Copper	450	10 U
Iron	360000	120
Lead	160	10 U
Magnesium	86000	27000
Manganese	7700	3800
Nickel	530	46
Vanadium	220	4 U

Analyte	SC-ZZ007-MW002	
	6/7/2016	
	Screened 2-7 ft bgs	
	Total	Dissolved
Cobalt	24	19
Iron	12000	230
Magnesium	75000	72000
Manganese	4800	4700
Sodium	42000	39000

Analyte	SC-ZZ007-MWUNK	
	Screened ~5-15.55 ft bgs	
	Total	Dissolved
	11/18/2014	
Magnesium	35000	36000
Manganese	910	140
Sodium	40000	43000
Thallium	0.056 J	0.047 J
	6/7/2016	
Magnesium	28000 / 27000	28000 / 29000
Manganese	85 / 95	18 / 18
Sodium	40000 / 40000	39000 / 39000
Thallium	10 J / 19 U	19 U / 19 U

Chemical of Potential Concern (COPC)[1]	Project Action Limit (PAL)		
	2016 USEPA Tapwater RSL	MCL	6 NYCRR Part 703 Drinking Water
Aluminum	**20000**	NP	NP
Arsenic	0.052	**10**	25
Barium	3800	2000	**1000**
Beryllium	25	4	**3**
Cadmium	9.2	**5**	**5**
Chromium	NP	100	**50**
Cobalt	**6**	NP	NP
Copper	800	1300	**200**
Iron	14000	NP	**300**
Lead	15	**15**	25
Magnesium	NP	NP	**35000**
Manganese	430	NP	**300**
Nickel	390	NP	**100**
Selenium	100	50	**10**
Sodium	NP	NP	**20000**
Thallium	0.2	2	**0.5**
Vanadium	**86**	NP	NP
Zinc	6000	NP	**2000**
Mercury	0.63	2	**0.7**

Bold is selected PAL
NP = not published
[1] - Includes analytes detected in groundwater during the 2016 RI in at least one sample at a concentration exceeding the PAL.

LEGEND

- 2016 Soil Boring/Temporary Monitoring Well Location
- Existing Monitoring Well Location
- 2014 PA/SI Sampling Locations
- Demolished Building
- Installation Boundary
- 330.83 June 2016 Groundwater Elevation (ft AMSL)
- Groundwater Flow Direction

Note(s):
1. All concentrations in micrograms per liter (ug/L).
2. ## / ## presents results for a normal and duplicate sample.
3. Concentrations noted in red exceed one or more project action limit.
4. Due to insufficient yield, samples could not be collected from well SC-ZZ007-MW003.

ft AMSL = feet above mean sea level
ft bgs = feet below ground surface

Imagery Source: ESRI Imagery Mapping Service, 2013

Cardno TEC WESTON
TEC-Weston Joint Venture

FIGURE 5-3
GROUNDWATER CONCENTRATIONS EXCEEDING PROJECT ACTION LIMITS
SITE ZZ007 – FORMER BUILDING 13 AREA
SCHENECTADY AIR NATIONAL GUARD BASE
SCOTIA, NY

DATE	PROJECT NO	SCALE
APR 2017	15363.100.001.0401	AS SHOWN

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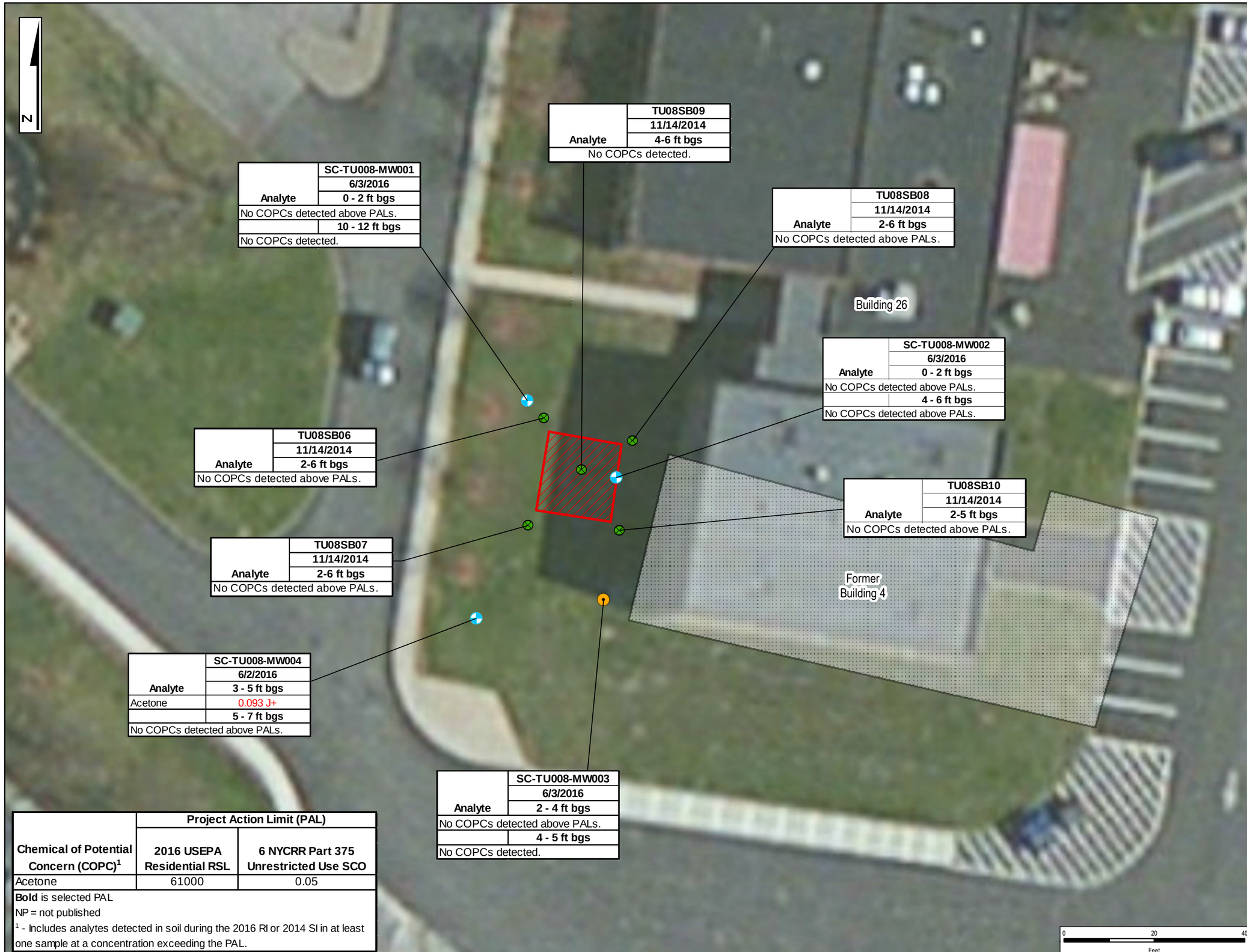

Analyte	TU08SB09
	11/14/2014
	4-6 ft bgs
No COPCs detected.	

Analyte	SC-TU008-MW001
	6/3/2016
	0 - 2 ft bgs
No COPCs detected above PALs.	
	10 - 12 ft bgs
No COPCs detected.	

Analyte	TU08SB08
	11/14/2014
	2-6 ft bgs
No COPCs detected above PALs.	

Analyte	SC-TU008-MW002
	6/3/2016
	0 - 2 ft bgs
No COPCs detected above PALs.	
	4 - 6 ft bgs
No COPCs detected above PALs.	

Analyte	TU08SB06
	11/14/2014
	2-6 ft bgs
No COPCs detected above PALs.	

Analyte	TU08SB10
	11/14/2014
	2-5 ft bgs
No COPCs detected above PALs.	

Analyte	TU08SB07
	11/14/2014
	2-6 ft bgs
No COPCs detected above PALs.	

Analyte	SC-TU008-MW004
	6/2/2016
	3 - 5 ft bgs
Acetone	0.093 J+
	5 - 7 ft bgs
No COPCs detected above PALs.	

Analyte	SC-TU008-MW003
	6/3/2016
	2 - 4 ft bgs
No COPCs detected above PALs.	
	4 - 5 ft bgs
No COPCs detected.	

Chemical of Potential Concern (COPC)[1]	Project Action Limit (PAL)	
	2016 USEPA Residential RSL	6 NYCRR Part 375 Unrestricted Use SCO
Acetone	61000	0.05

Bold is selected PAL
NP = not published
[1] - Includes analytes detected in soil during the 2016 RI or 2014 SI in at least one sample at a concentration exceeding the PAL.

LEGEND

- 2016 Soil Boring/Temporary Monitoring Well Location
- 2016 Soil Boring and Permanent Monitoring Well Locations
- 2014 PA/SI Sampling Locations
- Former Heating Oil UST #41 Area
- Demolished Building
- Installation Boundary

Note(s):
1. All concentrations in milligrams per kilograms (mg/kg).
2. ## / ## presents results for a normal and duplicate sample.
3. Concentrations noted in red exceed one or more project action limit.

ft bgs = feet below ground surface

Imagery Source: ESRI Imagery Mapping Service, 2013

Cardno TEC WESTON
TEC-Weston Joint Venture

FIGURE 5-4
SOIL CONCENTRATIONS
EXCEEDING PROJECT ACTION LIMITS
SITE TU008 – FORMER HEATING OIL
UST #41 AT FORMER BUILDING 4
SCHENECTADY AIR NATIONAL
GUARD BASE
SCOTIA, NY

DATE	PROJECT NO	SCALE
APR 2017	15363.100.001.0401	AS SHOWN

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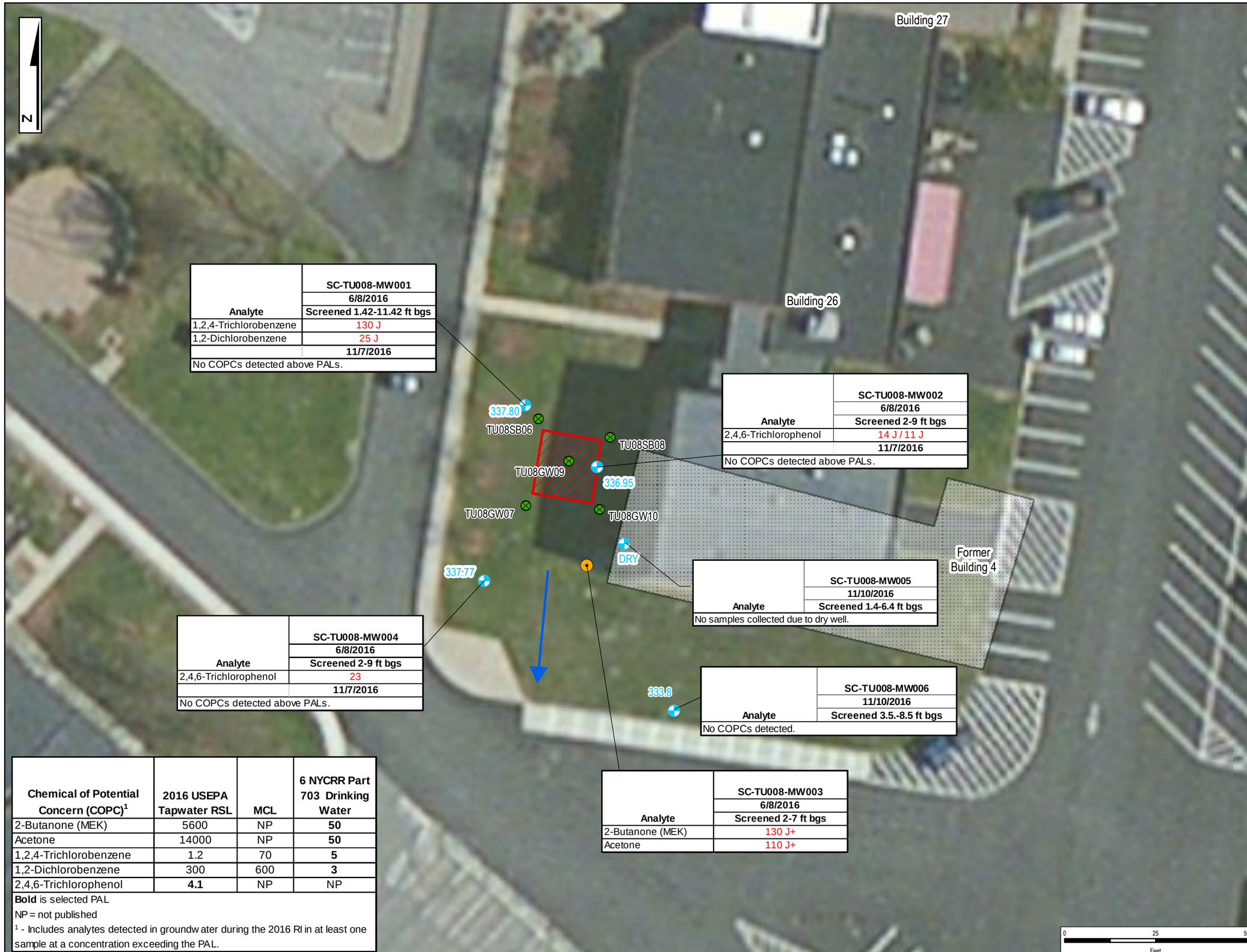


Analyte	SC-TU008-MW001
	6/8/2016
	Screened 1.42-11.42 ft bgs
1,2,4-Trichlorobenzene	130 J
1,2-Dichlorobenzene	25 J
	11/7/2016
No COPCs detected above PALs.	

Analyte	SC-TU008-MW002
	6/8/2016
	Screened 2-9 ft bgs
2,4,6-Trichlorophenol	14 J / 11 J
	11/7/2016
No COPCs detected above PALs.	

Analyte	SC-TU008-MW005
	11/10/2016
	Screened 1.4-6.4 ft bgs
No samples collected due to dry well.	

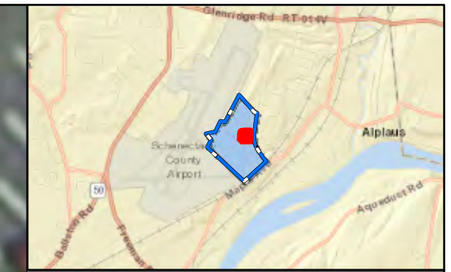
Analyte	SC-TU008-MW004
	6/8/2016
	Screened 2-9 ft bgs
2,4,6-Trichlorophenol	23
	11/7/2016
No COPCs detected above PALs.	

Analyte	SC-TU008-MW006
	11/10/2016
	Screened 3.5.-8.5 ft bgs
No COPCs detected.	

Analyte	SC-TU008-MW003
	6/8/2016
	Screened 2-7 ft bgs
2-Butanone (MEK)	130 J+
Acetone	110 J+

Chemical of Potential Concern (COPC)[1]	2016 USEPA Tapwater RSL	MCL	6 NYCRR Part 703 Drinking Water
2-Butanone (MEK)	5600	NP	**50**
Acetone	14000	NP	**50**
1,2,4-Trichlorobenzene	1.2	70	**5**
1,2-Dichlorobenzene	300	600	**3**
2,4,6-Trichlorophenol	**4.1**	NP	NP

Bold is selected PAL
NP = not published
[1] - Includes analytes detected in groundwater during the 2016 RI in at least one sample at a concentration exceeding the PAL.



LEGEND

- 2016 Soil Boring/Temporary Monitoring Well Location
- 2016 Soil Boring and Permanent Monitoring Well Locations
- 2014 PA/SI Sampling Locations
- Former Heating Oil UST #41 Area
- Demolished Building
- Installation Boundary
- 330.83 November 2016 Groundwater Elevation (ft AMSL)
- Groundwater Flow Direction

Note(s):
1. All concentrations in micrograms per liter (ug/L).
2. ## / ## presents results for a normal and duplicate sample.
3. Concentrations noted in red exceed one or more project action limit.
4. Due to insufficient yield, well SC-TU008-MW003 analyzed for VOCs only.

ft AMSL = feet above mean sea level
ft bgs = feet below ground surface

Imagery Source: ESRI Imagery Mapping Service, 2013

Cardno TEC WESTON
TEC-Weston Joint Venture

FIGURE 5-5
GROUNDWATER CONCENTRATIONS EXCEEDING PROJECT ACTION LIMITS
SITE TU008 – FORMER HEATING OIL UST #41 AT FORMER BUILDING 4
SCHENECTADY AIR NATIONAL GUARD BASE
SCOTIA, NY

DATE	PROJECT NO	SCALE
APR 2017	15363.100.001.0401	AS SHOWN

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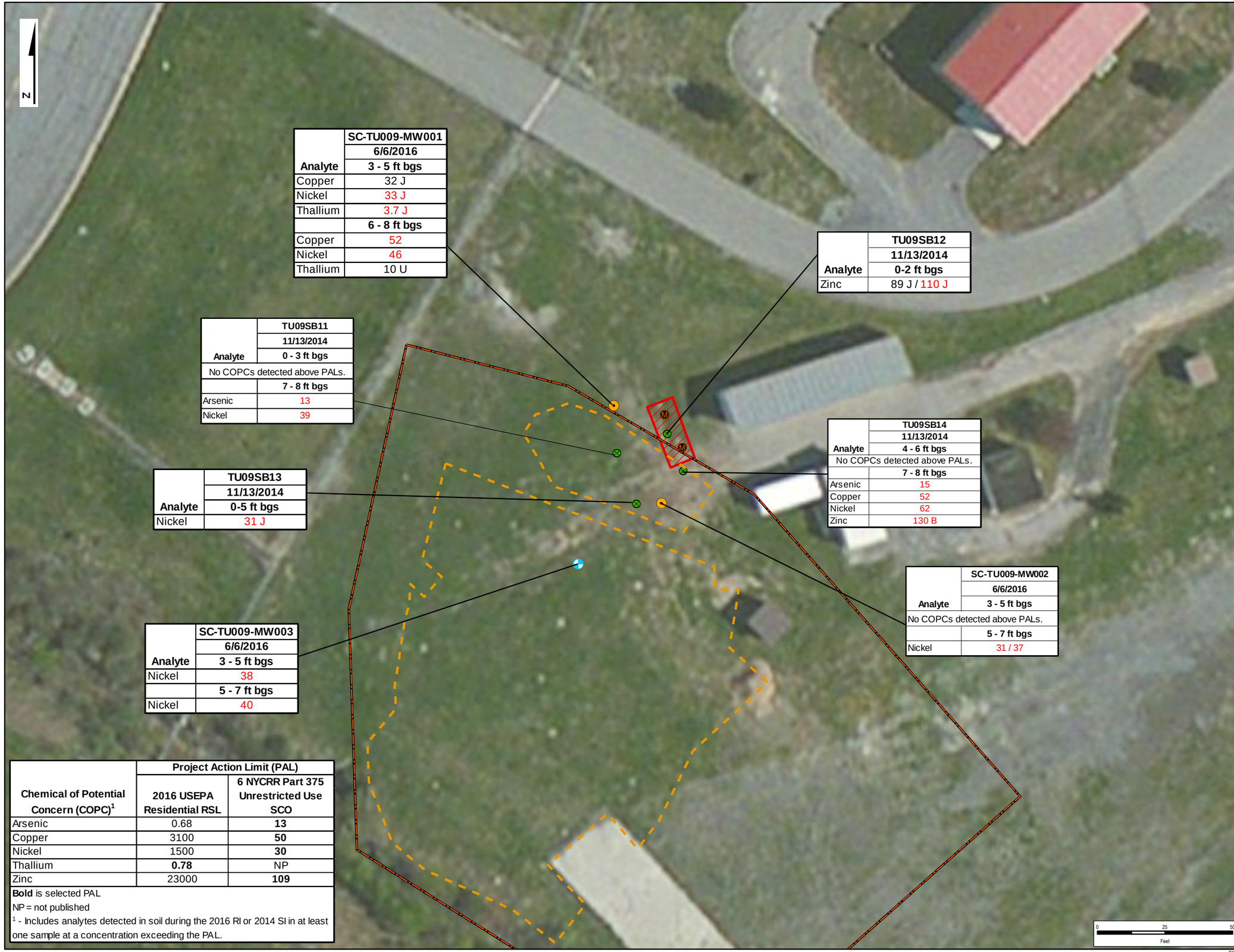

Analyte	SC-TU009-MW001
	6/6/2016
	3 - 5 ft bgs
Copper	32 J
Nickel	33 J
Thallium	3.7 J
	6 - 8 ft bgs
Copper	52
Nickel	46
Thallium	10 U

Analyte	TU09SB12
	11/13/2014
	0-2 ft bgs
Zinc	89 J / 110 J

Analyte	TU09SB11
	11/13/2014
	0 - 3 ft bgs
No COPCs detected above PALs.	
	7 - 8 ft bgs
Arsenic	13
Nickel	39

Analyte	TU09SB14
	11/13/2014
	4 - 6 ft bgs
No COPCs detected above PALs.	
	7 - 8 ft bgs
Arsenic	15
Copper	52
Nickel	62
Zinc	130 B

Analyte	TU09SB13
	11/13/2014
	0-5 ft bgs
Nickel	31 J

Analyte	SC-TU009-MW002
	6/6/2016
	3 - 5 ft bgs
No COPCs detected above PALs.	
	5 - 7 ft bgs
Nickel	31 / 37

Analyte	SC-TU009-MW003
	6/6/2016
	3 - 5 ft bgs
Nickel	38
	5 - 7 ft bgs
Nickel	40

Chemical of Potential Concern (COPC)[1]	Project Action Limit (PAL)	
	2016 USEPA Residential RSL	6 NYCRR Part 375 Unrestricted Use SCO
Arsenic	0.68	**13**
Copper	3100	**50**
Nickel	1500	**30**
Thallium	**0.78**	NP
Zinc	23000	**109**

Bold is selected PAL

NP = not published

[1] - Includes analytes detected in soil during the 2016 RI or 2014 SI in at least one sample at a concentration exceeding the PAL.

LEGEND

- 2016 Soil Boring Location
- 2016 Soil Boring and Permanent Monitoring Well Location
- Manhole
- 2014 PA/SI Sampling Locations
- WWTP Bypass UST Area
- Site 6 Soil Excavation Areas
- IRP Site 6 Boundary
- Installation Boundary

Note(s):

1. All concentrations in milligrams per kilograms (mg/kg).
2. ## / ## presents results for a normal and duplicate sample.
3. Concentrations noted in red exceed one or more project action limit.
4. PA/SI sampling locations provided by others, survey control is not available

ft bgs = feet below ground surface

Imagery Source: ESRI Imagery Mapping Service, 2013

Cardno TEC WESTON

TEC-Weston Joint Venture

FIGURE 5-6
SOIL CONCENTRATIONS
EXCEEDING PROJECT ACTION LIMITS
SITE TU009 – WWTP BYPASS
UST NEAR IRP SITE 6
SCHENECTADY AIR NATIONAL
GUARD BASE
SCOTIA, NY

DATE	PROJECT NO	SCALE
APR 2017	15363.100.001.0401	AS SHOWN

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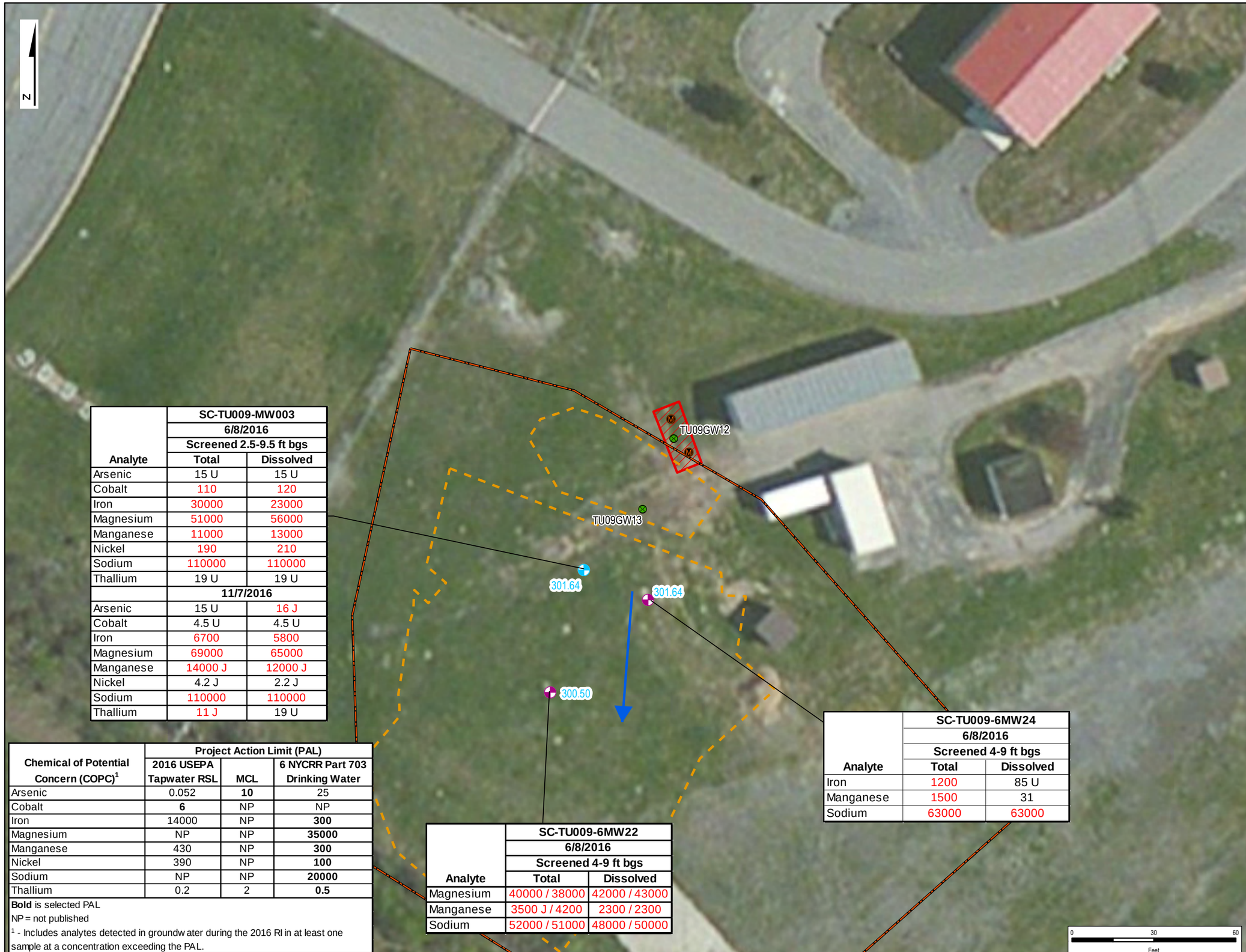

Analyte	SC-TU009-MW003	
	6/8/2016	
	Screened 2.5-9.5 ft bgs	
	Total	Dissolved
Arsenic	15 U	15 U
Cobalt	110	120
Iron	30000	23000
Magnesium	51000	56000
Manganese	11000	13000
Nickel	190	210
Sodium	110000	110000
Thallium	19 U	19 U
	11/7/2016	
Arsenic	15 U	16 J
Cobalt	4.5 U	4.5 U
Iron	6700	5800
Magnesium	69000	65000
Manganese	14000 J	12000 J
Nickel	4.2 J	2.2 J
Sodium	110000	110000
Thallium	11 J	19 U

Chemical of Potential Concern (COPC)[1]	Project Action Limit (PAL)		
	2016 USEPA Tapwater RSL	MCL	6 NYCRR Part 703 Drinking Water
Arsenic	0.052	**10**	25
Cobalt	**6**	NP	NP
Iron	14000	NP	**300**
Magnesium	NP	NP	**35000**
Manganese	430	NP	**300**
Nickel	390	NP	**100**
Sodium	NP	NP	**20000**
Thallium	0.2	2	**0.5**

Bold is selected PAL
NP = not published
[1] - Includes analytes detected in groundwater during the 2016 RI in at least one sample at a concentration exceeding the PAL.

Analyte	SC-TU009-6MW22	
	6/8/2016	
	Screened 4-9 ft bgs	
	Total	Dissolved
Magnesium	40000 / 38000	42000 / 43000
Manganese	3500 J / 4200	2300 / 2300
Sodium	52000 / 51000	48000 / 50000

Analyte	SC-TU009-6MW24	
	6/8/2016	
	Screened 4-9 ft bgs	
	Total	Dissolved
Iron	1200	85 U
Manganese	1500	31
Sodium	63000	63000

LEGEND
- Site 6 Monitoring Well Location
- 2016 Soil Boring and Permanent Monitoring Well Location
- Manhole
- 2014 PA/SI Sampling Locations
- WWTP Bypass UST Area
- Site 6 Soil Excavation Areas
- IRP Site 6 Boundary
- Installation Boundary
- 330.83 June 2016 Groundwater Elevation (ft AMSL)
- Groundwater Flow Direction

Note(s):
1. All concentrations in micrograms per liter (ug/L).
2. ## / ## presents results for a normal and duplicate sample.
3. Concentrations noted in red exceed one or more project action limit.
4. PA/SI sampling locations provided by others, survey control is not available.

ft AMSL = feet above mean sea level
ft bgs = feet below ground surface

Imagery Source: ESRI Imagery Mapping Service, 2013

Cardno TEC WESTON
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FIGURE 5-7
GROUNDWATER CONCENTRATIONS EXCEEDING PROJECT ACTION LIMITS
SITE TU009 – WWTP BYPASS UST NEAR IRP SITE 6
SCHENECTADY AIR NATIONAL GUARD BASE
SCOTIA, NY

DATE	PROJECT NO	SCALE
APR 2017	15363.100.001.0401	AS SHOWN

FILE: Y:\ANG_NE_Sites\Schenectady_ANG\MXD\TU009_GW_Conc_Rev012517.mxd 10:21:06 AM 4/7/2017 johna

APPENDIX A

SOIL BORING LOGS

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TEC-Weston Joint Venture

GEOLOGIC BOREHOLE LOG

Borehole (Location) ID: SC-ZZ007-MW001

Company/Project TEC-Weston JV/ANG2105NEWENGLAND		Location Type: Boring/Temp Well
Location Description Schenectady ANGB ZZ007-MW001		
Establishing Company TEC-Weston JV	Geologist: D.Kormos	Drilling Company: Summit Drilling
Drilling Foreman: Jeremy Logel	Ground Surface Elevation: 335.32 ft amsl	Datum: NAD 1983/NAVD 1988
Sampling Device: Geoprobe	Borehole Diameter (inches): 1.5	Total Depth (Feet): 6.5 ft
Date/Time Drilling Started: 06-01-2016	Date/Time Total Depth Reached	

Depth (feet)	Sampling % Recov	Sample Depth	Blow Counts	PID	Color Code	ASTM CODE	Lithologic Codes	Lithology Description SOIL TYPE, modifiers/grain size, sorting, color, cement/ lithification, moisture content, porosity, permeability/fracturing	Remarks: Drilling Problems, Equipment, Water levels, Time Samples Collected, Weather
1	60% 36"	1 to 3	NA	0	Gley 1 6/N		FL	5" Asphalt/Blacktop, crush and run gravel,backfill, black mesh liner between backfill and gravel layer.	First core 0-5 ft. X 3 attempts to collect. < 5% 1st and 2nd attempt 60% second attempt
2							GP	Dry gravel, poorly sorted, grey, some sand	SC-ZZ007-MW001-S0103 collected at 13:00
3					Gley 1 5/N		GM	6" dark brown sand and gravel, medium dense, poorly sorted	
4					6" olive grey 25Y 4/2			24" moist glay, brown to grey, some gravel, hard/very dense, poorly sorted with gravel.	
5					6" dark olive grey 5Y 3/2 12" Gley 1 4/10Y		GP		
6	100% 18"	5 to 6		0	Olive grey 5Y 5/2		GP	Dry brown with grey gravel/slate. Silty sand and gravel. Loose to bedrock at 6.5 ft. Poorly sorted.	SC-ZZ007-MW001-S0506 collected at 13:10
6.5					Dark grey (slate) Gley 1 4/N				Bedrock at 6.5 ft. Hammered on to reach TD.

TEC-Weston Joint Venture

GEOLOGIC BOREHOLE LOG

Borehole (Location) ID: SC-ZZ007-MW002

Company/Project TEC-Weston JV/ANG2105NEWENGLAND	Location Type: Boring/Monitoring Well
Location Description Schenectady ANGB ZZ007-MW002	
Establishing Company TEC-Weston JV	Geologist: D.Kormos / Drilling Company: Summit Drilling
Drilling Foreman: Jeremy Logel	Ground Surface Elevation: 334.43 ft amsl / Datum: NAD 1983/NAVD 1988
Sampling Device: Geoprobe	Borehole Diameter (inches): 1.5 / Total Depth (Feet): 7.5
Date/Time Drilling Started: 06-01-2016	Date/Time Total Depth Reached

Depth (feet)	Sampling % Recov	Sample Depth	Blow Counts	PID	Color	ASTM	Lithologic Codes	Lithology Description SOIL TYPE, modifiers/grain size, sorting, color, cement/ lithification, moisture content, porosity, permeability/fracturing	Remarks: Drilling Problems, Equipment, Water levels, Time Samples Collected, Weather
					Gley 1 7/N		FL	6" asphalt, dry, black to light grey, black top - coarse gravel, little sand, medium dense, poorly sorted	
1							GM	6" dry grey to brown gravel and sand, medium dense, poorly sorted	SC-ZZ007-MW002-0102 collected at 15:30
		1 to 2							
2					Some orange clay 10YR 5/8 part olive green 5Y 3/2 + 4/2		GC	12" moist brown to olive brown clay with some gravel, stiff/dense, poorly sorted.	
	40% at 2 ft			0					
3									
4									
					dark greyish brown 2.5Y 4/2		GC	12" moist clay, sand and gravel brown, (plug) stiff, poorly sorted, coarse gravel	
5									
					2.5Y 5/4		GC	12" moist clay and gravel, some sand, poorly sorted, dark blueish grey, brown	
6									
	100%			0	Gley 2 4/5 PB		GM	32" silty-sand, gravel, slate, crushed stone, grey, poorly sorted, very dark blueish grey, some brown	SC-ZZ007-MW002-0607 collected at 15:40
		6 to 7							
7									
7.5									

TEC-Weston Joint Venture

GEOLOGIC BOREHOLE LOG

Borehole (Location) ID: SC-ZZ007-MW003

Company/Project TEC-Weston JV/ANG2105NEWENGLAND		Location Type: Boring/Monitoring Well
Location Description Schenectady ANGB ZZ007-MW003		
Establishing Company TEC-Weston JV	Geologist: D. Kormos	Drilling Company: Summit Drilling
Drilling Foreman: Jeremy Logel	Ground Surface Elevation: 331.10 ft amsl	Datum: NAD 1983/NAVD 1988
Sampling Device: Geoprobe	Borehole Diameter (inches): 1.5	Total Depth (Feet): 6
Date/Time Drilling Started: 6/2/2016	Date/Time Total Depth Reached	

Depth (feet)	Sampling % Recov	Sample Depth	Blow Counts	PID	Color Code	ASTM CODE	Lithologic Codes	Lithology Description SOIL TYPE, modifiers/grain size, sorting, color, cement/ lithification, moisture content, porosity, permeability/fracturing	Remarks: Drilling Problems, Equipment, Water levels, Time Samples Collected, Weather
1		0 to 2			10 YR 6/4 - light yellowish brown; slate gley 2 4/10B		GC	5" organic/grass plug and roots, dry, light brown fine sand, and clay, poorly sorted with fine to medium gravel	
2							GM	24" dry gravel with fines, fine sand, and clay, crushed slate (grey) ; loose poorly sorted	SC-ZZ007-MW003-S0002 collected at 09:20
3	75%	2 to 4		0	brown 2.5Y 4/2, dark greyish brown		GC	12" dry to moist clay, brown with poorly sorted gravel (slate), fine to coarse gravel	SC-ZZ007-MW003-S0204 collected at 9:35
4							SW	6" crushed gravel, slate, trace fines, dry, loose, medium sorting	
5	12" 20%			0	Gley 2 5/5PB		GP	12" crush slate, light grey blueish grey fines, fine to coarse gravel, medium dense, cleaving on slate	
6								Depth to bedrock: 6 feet	

TEC-Weston Joint Venture

GEOLOGIC BOREHOLE LOG

Borehole (Location) ID: SC-TU008-MW001

Company/Project TEC-Weston JV/ANG2105NEWENGLAND		Location Type: Boring/Monitoring Well
Location Description Schenectady ANGB TU008-MW001		
Establishing Company TEC-Weston JV	Geologist: D.Kormos	Drilling Company: Summit Drilling
Drilling Foreman: Jeremy Logel	Ground Surface Elevation: 343.4 ft amsl	Datum: NAD 1983/NAVD 1988
Sampling Device: Geoprobe	Borehole Diameter (inches): 1.5	Total Depth (Feet): 12
Date/Time Drilling Started: 6/3/2016	Date/Time Total Depth Reached	

Depth (feet)	Sampling % Recov	Sample Depth	Blow Counts	PID	Color Code	ASTM CODE	Lithologic Codes	Lithology Description SOIL TYPE, modifiers/grain size, sorting, color, cement/ lithification, moisture content, porosity, permeability/fracturing	Remarks: Drilling Problems, Equipment, Water levels, Time Samples Collected, Weather
1	0 - 5 ft = 60% 34" recovery	0 to 2		0	10YR 5/3		GP	10" organic, dry, grass plug, fine sand and fine to medium gravel, increasing to large/medium gravel, light brown, poorly sorted	SC-TU008-MW001-S0002 collected at 11:00
2				0				21" dry, fine sand, little fine/medium gravel, trace clay balls, medium sorted, strong brown	
3					7.5YR 5/6 to 10YR 5/3		GP		
4	60% 3 ft.+			0				7" moist sandy-clay, very dark grey brown, soft, well sorted, light brown, some reddish brown, trace fine gravel well sorted	
5					10 YR 3/2		SC		
							SC	4" As above	Depth to water 5+ feet
6								6" dry, fine, trace gravel	
							SC		
7								21" layer as above	
8	5 - 10 ft = 20% 12" recovery			0			SC		
9							SC	2+" as above moist sandy clay, very dark grey brown	
10									
11	10 - 12 ft = 100%	10 to 12		0	10YR 4/3		SW	34" fine to medium sand, saturated, brown, well sorted medium dense	SC-TU008-MW001-S1012 collected at 11:20 (MS/MSD)
12				0	10 YR 4/2		SW	20" fine to medium sand, saturated dark greyish brown, well sorted, medium dense bedrock, total depth	

TEC-Weston Joint Venture

GEOLOGIC BOREHOLE LOG

Borehole (Location) ID: SC-TU008-MW002

Company/Project TEC-Weston JV/ANG2105NEWENGLAND		Location Type: Boring/Monitoring Well
Location Description Schenectady ANGB TU008-MW002		
Establishing Company TEC-Weston JV	Geologist: D.Kormos	Drilling Company: Summit Drilling
Drilling Foreman: Jeremy Logel	Ground Surface Elevation: 341.2 ft amsl	Datum: NAD 1983/NAVD 1988
Sampling Device: Geoprobe	Borehole Diameter (inches): 1.5	Total Depth (Feet): 6
Date/Time Drilling Started: 6/2/2016	Date/Time Total Depth Reached	

Depth (feet)	Sampling % Recov	Sample Depth	Blow Counts	PID	Color Code	ASTM CODE	Lithologic Codes	Lithology Description SOIL TYPE, modifiers/grain size, sorting, color, cement/ lithification, moisture content, porosity, permeability/fracturing	Remarks: Drilling Problems, Equipment, Water levels, Time Samples Collected, Weather
	42"							4" organic grass/roots, light brown fines, dry	
					10YR 5/3 Light brow		SC	10" dry silty clay, light brown and fine gravel, loose medium sorting	
1		0 to 2						6" crush concrete, gravel, white/light grey	SC-TU008-MW002-S0002 collected at 16:30
2							GC	4" clay and large gravel (slate), dark grey, medium stiff, poorly sorted	
				0				Grey clay and gravel, moist to wet, petroleum-like odor, poorly sorted medium density	
3					10YR 5/3		GC	4" dry fines, fine gravel brown, light brown, loose	
4									
	36"						GC	5" petroleum odor as above 2 to 6 feet, moist	
5		4 to 6							SC-TU008-MW002-S0406 & SC-TU008-MW002-S0406-D collected at 16:15
				0	dark grey Gley 1 3/N		GC	18" weathered slate, crushed brown to grey gravel, dry, fines/clay medium dense, medium sorted	
6									

TEC-Weston Joint Venture

GEOLOGIC BOREHOLE LOG

Borehole (Location) ID: SC-TU008-MW003

Company/Project TEC-Weston JV/ANG2105NEWENGLAND	Location Type: Boring/Monitoring Well
Location Description Schenectady ANGB TU008-MW003	
Establishing Company TEC-Weston JV	Geologist: D.Kormos / Drilling Company: Summit Drilling
Drilling Foreman: Jeremy Logel	Ground Surface Elevation: 340.69 ft amsl / Datum: NAD 1983/NAVD 1988
Sampling Device: Geoprobe	Borehole Diameter (inches): 1.5 / Total Depth (Feet): 6.5
Date/Time Drilling Started: 06-02-16/14:45	Date/Time Total Depth Reached: 06-02-16

Depth (feet)	Sampling % Recov	Sample Depth	Blow Counts	PID	Color Code	ASTM CODE	Lithologic Codes	Lithology Description SOIL TYPE, modifiers/grain size, sorting, color, cement/ lithification, moisture content, porosity, permeability/fracturing	Remarks: Drilling Problems, Equipment, Water levels, Time Samples Collected, Weather
1	95% 4.5 ft		N/A	0	10YR 5/3 Light brown		CL	4" organic (roots/grass), dry, light brown, fines, medium sorted silty, medium/fine gravel	
2							GC	8" fine to medium gravel, light brown and clay, dry medium sorting, soft	
3		2 to 4			Orange 5YR 5/6		GC	24" light brown to grey clay and weathered shale gravel, orange, little moisture, and stiff	SC-TU008-MW003-S0204 collected at 15:00
4								8" moist clay, brown, light grey, orange, stiff	
5		4 to 5						(Last 12" wet, dark grey, and gravel)	SC-TU008-MW003-S0405 collected at 15:15
6				0					
6.5	1.5 ft		N/A	0	10YR 5/3			4" moist grey clay and gravel poorly sorted, stiff 6" dry light brown, poorly sorted clay and shale (crushed) gravel, loose	
					Slate very dark grey Gley 1 3/N			8" crush shale, blueish grey, minimal fines	

TEC-Weston Joint Venture

GEOLOGIC BOREHOLE LOG

Borehole (Location) ID: SC-TU008-MW004

Company/Project TEC-Weston JV/ANG2105NEWENGLAND		Location Type: Boring/Monitoring Well
Location Description Schenectady ANGB TU008-MW004		
Establishing Company TEC-Weston JV	Geologist: D.Kormos	Drilling Company: Summit
Drilling Foreman: Jeremy Logel	Ground Surface Elevation: 343.19 ft amsl	Datum: NAD 1983/NAVD 1988
Sampling Device: Geoprobe	Borehole Diameter (inches): 1.5	Total Depth (Feet): 9
Date/Time Drilling Started: 6/2/2016	Date/Time Total Depth Reached	

Depth (feet)	Sampling % Recov	Sample Depth	Blow Counts	PID	Color Code	ASTM CODE	Lithologic Codes	Lithology Description SOIL TYPE, modifiers/grain size, sorting, color, cement/ lithification, moisture content, porosity, permeability/fracturing	Remarks: Drilling Problems, Equipment, Water levels, Time Samples Collected, Weather
1	90% 4 ft		N/A	0	10YR 5/3 Light brown		CL	4" organic (roots/grass), dry, light brown, fines, medium sorted silty, medium/fine gravel	
2							GC	fine to medium gravel, light brown and clay, dry medium sorting, soft	
3							GC	light brown to grey clay and weathered shale gravel, little moisture	
4		3 to 5							SC-TU008-MW004-S0305 collected at 11:40
5									
6	80% 3 ft	5 to 7	N/A					A.A.	SC-TU008-MW004-S0507 collected at 11:30
7				0	10YR 5/4		GC	dry light brown, poorly sorted clay and shale (crushed) gravel, loose	
8									
9					Slate very dark grey Gley 1 3/N		GP	crushed shale, blueish grey, few fines	

GEOLOGIC BOREHOLE LOG

Borehole (Location) ID: SC-TU008-MW005

Company/Project	TEC-Weston JV/ANG2105NEWENGLAND		Location Type: Monitoring Well
Location Description	Site TU008, Schenectady ANGB, Scotia, New York		
Establishing Company	TEC-Weston JV	Geologist: Amanda Laskoskie	Drilling Company: Summit Drilling
Drilling Foreman: Aubrey Verheilig		Ground Surface Elevation: 340.55	Datum: NAVD 88
Sampling Device: Macrocore		Borehole Diameter (inches): 2 in	Total Depth (Feet): 5.5
Date/Time Drilling Started: 11/7/16; 1320		Date/Time Total Depth Reached: 11/7/16; 1330	

Depth (feet)	Sampling % Recov	Sampling Sample Depth	Sampling Blow Counts	Sampling PID	Graphic	ASTM CODE	Lithologic Codes	Lithology Description SOIL TYPE, modifiers/grain size, sorting, color, cement/ lithification, moisture content, porosity, permeability/fracturing	Remarks: Drilling Problems, Equipment, Water levels, Time Samples Collected, Weather
1	80%	NA	NA	0 ppm from 0 to 4.5' bgs; 0.3 at 4.75' bgs			OL	0-0.5 - Dry - topsoil - 5YR/3/2 dark reddish brown silt and organics, well sorted, trace roots, no plasticity	
2							GM	0.5-3.75 - Dry - 5YR/4/3 reddish brown silt and fine sand, some coarse gravel, loose, poorly sorted	
3									
4							ML	3.75-4.5 - Moist - 5YR/3/1 very dark gray silt and clay, trace fine and coarse gravel, cohesive soft (except when a gravel piece encountered), moderate plasticity, poorly sorted	
5							SM	4.5 - 5.0 - Dry - 7.5YR/4/1 dark gray fine sand and silt, trace gravel, dense, poorly sorted	Petro odor
	100%	NA	NA	0 ppm			SM	5.0-5.5 - Dry - 7.5YR/4/1 dark gray fine sand and silt, trace gravel, dense, poorly sorted	
6								Refusal at 5.5' bgs	
7									

Lithologic Codes:

OL - organic silt, organic clay GM- Sandy Gravels ML - silt SM- Silty Sands

GEOLOGIC BOREHOLE LOG

Borehole (Location) ID: SC-TU008-MW006

Company/Project	TEC-Weston JV/ANG2105NEWENGLAND		Location Type: Monitoring Well
Location Description	Site TU008, Schenectady ANGB, Scotia, New York		
Establishing Company	TEC-Weston JV	Geologist: Amanda Laskoskie	Drilling Company: Summit Drilling
Drilling Foreman: Aubrey Verheilig		Ground Surface Elevation: 341.49	Datum: NAVD 88
Sampling Device: Macrocore		Borehole Diameter (inches): 2 in	Total Depth (Feet): 8
Date/Time Drilling Started: 11/7/16; 1240		Date/Time Total Depth Reached: 11/7/16; 1250	

Depth (feet)	Sampling % Recov	Sampling Sample Depth	Sampling Blow Counts	Sampling PID	Graphic	ASTM CODE	Lithologic Codes	Lithology Description SOIL TYPE, modifiers/grain size, sorting, color, cement/ lithification, moisture content, porosity, permeability/fracturing	Remarks: Drilling Problems, Equipment, Water levels, Time Samples Collected, Weather
1	60%	NA	NA	0 ppm			OL	0-0.5 - Dry - topsoil - 5YR/3/2 dark reddish brown silt and organics, trace gravel, poorly sorted, trace roots, low plasticity	Monitoring well SC-TU008-MW006 was installed at this boring; groundwater was not encountered. Borehole overdrilled to install the well.
2							SM	0.5-1.5 - Dry - 5YR/4/2 dark reddish gray very fine sand and silt, some gravel, loose, poorly sorted	
3							SW	1.5-3- Moist - 5YR/4/2 dark reddish gray fine to coarse sand and coarse gravel, dry, very loose, poorly sorted	
4							SM	3.0-5.0 -Dry - 7.5YR/4/6 strong brown, fine sand and silt, trace fine gravel, very loose, poorly sorted	
5									Slight petro odor and stain at 5.0' bgs, no elevated PID
6	100%	NA	NA	0 ppm			SM	5.0-8.0 - Dry - 7.5YR/3/1 - very dark gray, fractured shale bedrock, some loose silt, very loose, well sorted grains, overall poorly sorted	
7									
8									
								Refusal at 8.0' bgs	

Lithologic Codes:

OL - organic silt, organic clay SW - well-graded sand, fine to coarse sand SM- Silty Sands

TEC-Weston Joint Venture

GEOLOGIC BOREHOLE LOG

Borehole (Location) ID: SC-TU009-MW001

Company/Project	TEC-Weston JV/ANG2105NEWENGLAND		Location Type: Boring
Location Description	Schenectady ANGB TU009-MW001		
Establishing Company	TEC-Weston JV	Geologist: D.Kormos	Drilling Company: Summit
Drilling Foreman: Jeremy Logel		Ground Surface Elevation: 311.23 ft amsl	Datum: NAD 1983/NAVD 1988
Sampling Device: Geoprobe		Borehole Diameter (inches): 1.5	Total Depth (Feet): 8
Date/Time Drilling Started: 6/6/2016		Date/Time Total Depth Reached	

Depth (feet)	Sampling % Recov	Sample Depth	Blow Counts	PID	Color Code	ASTM CODE	Lithologic Codes	Lithology Description SOIL TYPE, modifiers/grain size, sorting, color, cement/ lithification, moisture content, porosity, permeability/fracturing	Remarks: Drilling Problems, Equipment, Water levels, Time Samples Collected, Weather
1	100%			0	Brown 10YR 4/3		CL	6" moist organics, grass plug, brown clay, fine sand and gravel, medium, poorly sorted	
2				0	Dark greyish brown 10YR 4/2 Yellowish red 5YR 5/8		GM	10" dry sand and gravel, loose, little clay. Quartz gravel and slate brown and orange, poorly sorted	
3				0			MH	Color lightens at 2 feet. Brown 10 YR 5/3, dry clay, well sorted, trace fine sand/silt, little to no gravel, weathered slate Greys: 2 to 3 feet light grey 10YR 7.1 with brown clay, dry, well sorted medium	
4		3 to 5		0	Slate Gley1 3/N very dark grey		GW	3 to 5 feet: brown 10YR 4/3, little fine slate gravel weathered, clay, some coarse sand-sized weathered slate	SC-TU009-MW001-S0305 collected at 16:00 (MS/MSD)
5									
6	33%			0					
7		6 to 8		0	Grey/brown/ orange A.A		SP	6" dry sand and gravel, with clay 3" crushed slate, A.A. 9" slate, gravel, and clay, A.A., poorly sorted 2 feet dry crushed gravel, fine to medium, slate, medium sorted Total depth < 8.0 feet	SC-TU009-MW001-S0608 collected at 16:10
8				0					

TEC-Weston Joint Venture

GEOLOGIC BOREHOLE LOG

Borehole (Location) ID: SC-TU009-MW002

Company/Project TEC-Weston JV/ANG2105NEWENGLAND		Location Type: Boring
Location Description Schenectady ANGB TU009-MW002		
Establishing Company TEC-Weston JV	Geologist: D. Kormos	Drilling Company: Summit
Drilling Foreman: Jeremy Logel	Ground Surface Elevation: 310.23 ft amsl	Datum: NAD 1983/NAVD 1988
Sampling Device: Geoprobe	Borehole Diameter (inches): 1.5"	Total Depth (Feet): 8 ft
Date/Time Drilling Started: 06/06/16	Date/Time Total Depth Reached:	

Depth (feet)	Sampling % Recov	Sampling Sample Depth	Sampling Blow Counts	Sampling PID	Color Code	ASTM CODE	Lithologic Codes	Lithology Description SOIL TYPE, modifiers/grain size, sorting, color, cement/ lithification, moisture content, porosity, permeability/fracturing	Remarks: Drilling Problems, Equipment, Water levels, Time Samples Collected, Weather
1	100% 5 ft.			0	Brown 10YR 4/3		GC	6" organics, grass, sand, clay, and gravel, moist, brown, poorly sorted	
2				0	Dark greyish brown 10YR 4/2		GC	24" poorly sorted, dry clay and crushed gravel, loose, light brown to brown, dark grey shale gravel	
3									
4		3 to 5		0	A.A		CH	24+" A.A. more clay, medium plasticity, some moisture solidifying clay	SC-TU009-MW002-S0305 collected at 16:35
5									
6	100% 2.5 ft. to 7.5 ft.	5 to 7.5			A.A			6" A.A. to dark brown	SC-TU009-MW002-S0507 & SC-TU009-MW002-S0507-D collected at 17:10
7					Brown 10YR 4/3		GC	12" moist to < wet clay and coarse weathered crushed slate, poorly sorted, Grey 5 light brown	
7.5					Slate Gley1 3/N		GW	12" crushed grey slate cleaving in layers, some ??? Medium sorting 8.0 feet total depth	

TEC-Weston Joint Venture

GEOLOGIC BOREHOLE LOG

Borehole (Location) ID: SC-TU009-MW003

Company/Project TEC-Weston JV/ANG2105NEWENGLAND		Location Type: Boring/Monitoring Well
Location Description Schenectady ANGB TU009-MW003		
Establishing Company TEC-Weston JV	Geologist: D. Kormos	Drilling Company: Summit
Drilling Foreman: Jeremy Logel	Ground Surface Elevation: 310.29 ft amsl	Datum: NAD 1983/NAVD 1988
Sampling Device: Geoprobe	Borehole Diameter (inches): 1.5	Total Depth (Feet): 8
Date/Time Drilling Started: 06-06-16	Date/Time Total Depth Reached	

Depth (feet)	Sampling % Recov	Sample Depth	Blow Counts	PID	Color Code	ASTM CODE	Lithologic Codes	Lithology Description SOIL TYPE, modifiers/grain size, sorting, color, cement/ lithification, moisture content, porosity, permeability/fracturing	Remarks: Drilling Problems, Equipment, Water levels, Time Samples Collected, Weather
1	95%			0	Dark greyish brown 10YR 4/2		OL	4" grass - organics, dark brown, dry to some moisutre, silty-clay	
2					A.A		GC	8" little moisutre, clay and gravel, medium dense, brown to grey (slate)	
3					with Yellowish red 5YR 5/8		CL	20" loose clay and gravel, some moisture, little plasticity, grey, borwn, oranges	
4		3 to 5					GP	18" moist, dark greyish brown clay and gravel, poorly sorted, stiff, crushed slate/gravel	SC-TU009-MW003-S0305 collected at 17:00
5				0	Dark greyish brown 10YR 4/2				
6		5 to 7			A.A		GP	2 feet as above, moist. Landscaping fabric Layer/mesh at 7 feet, between clay/gravel and a few inches above bedrock	SC-TU009-MW003-S0507 collected at 17:10
7									
8					Slate Gley1 3/N		GP	8" crushed slate, some fines 8 feet total depth < 1 foot water in open borehole	

APPENDIX B

MONITORING WELL CONSTRUCTION DIAGRAMS

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TEC-Weston Joint Venture

Well Construction Details

FIELD REPRESENTATIVE: D. KORMOS

DRILLING CONTRACTOR: SUMMIT

DRILLING TECHNIQUE: Geoprobe Auger

AUGER SIZE AND TYPE: 8"

BOREHOLE IDENTIFICATION: SC-TU008-MW001

BOREHOLE DIAMETER: 8"

WELL IDENTIFICATION: SC-TU008-MW001

WELL CONSTRUCTION START DATE: 06-03-16

WELL CONSTRUCTION COMPLETE DATE: 06-03-16

SCREEN MATERIAL: PVC

SCREEN DIAMETER: 2"

STRATUM-SCREENED INTERVAL (FT): 1.42-11.42

CASING MATERIAL: PVC

CASING DIAMETER: 2"

TYPE OF FILTER PACK: Sand

GRADATION: #1

AMT. OF FILTER PACK USED: 11.0 Feet

TYPE OF BENTONITE: 00

AMT. OF BENTONITE USED: 12"

TYPE OF CEMENT: Portland

AMT. OF CEMENT USED: 12"

GROUT MATERIAL USED: N/A

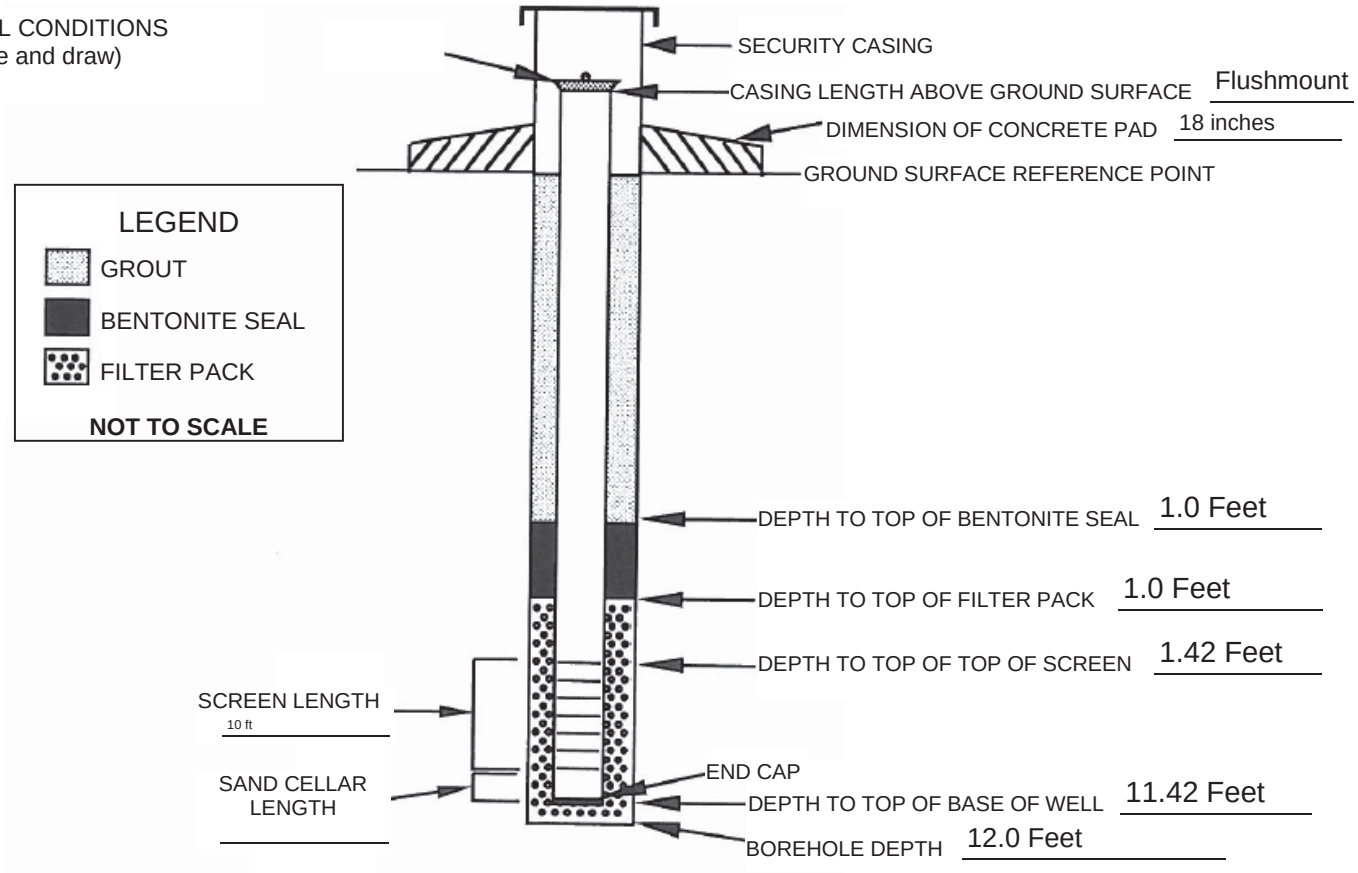
DIMENSIONS OF SECURITY CASING: N/A

TYPE OF WELL CAP: N/A

TYPE OF END CAP: N/A

COMMENTS:

SPECIAL CONDITIONS
(describe and draw)



INSTALLED BY: SUMMIT

INSTALLATION OBSERVED BY: D. Kormos

DISCREPANCIES:

TEC-Weston Joint Venture

Well Construction Details

FIELD REPRESENTATIVE: D. KORMOS

DRILLING CONTRACTOR: SUMMIT

DRILLING TECHNIQUE: Geoprobe Auger

AUGER SIZE AND TYPE: 8"

BOREHOLE IDENTIFICATION: SC-TU008-MW002

BOREHOLE DIAMETER: 8"

WELL IDENTIFICATION: SC-TU008-MW002

WELL CONSTRUCTION START DATE: 06-03-16

WELL CONSTRUCTION COMPLETE DATE: 06-03-16

SCREEN MATERIAL: PVC

SCREEN DIAMETER: 2"

STRATUM-SCREENED INTERVAL (FT): 2.0' to 9.0'

CASING MATERIAL: PVC

CASING DIAMETER: 2"

TYPE OF FILTER PACK: Sand

GRADATION: #1

AMT. OF FILTER PACK USED: 7.5 Feet

TYPE OF BENTONITE: 00

AMT. OF BENTONITE USED: 12"

TYPE OF CEMENT: Portland

AMT. OF CEMENT USED: 12"

GROUT MATERIAL USED: N/A

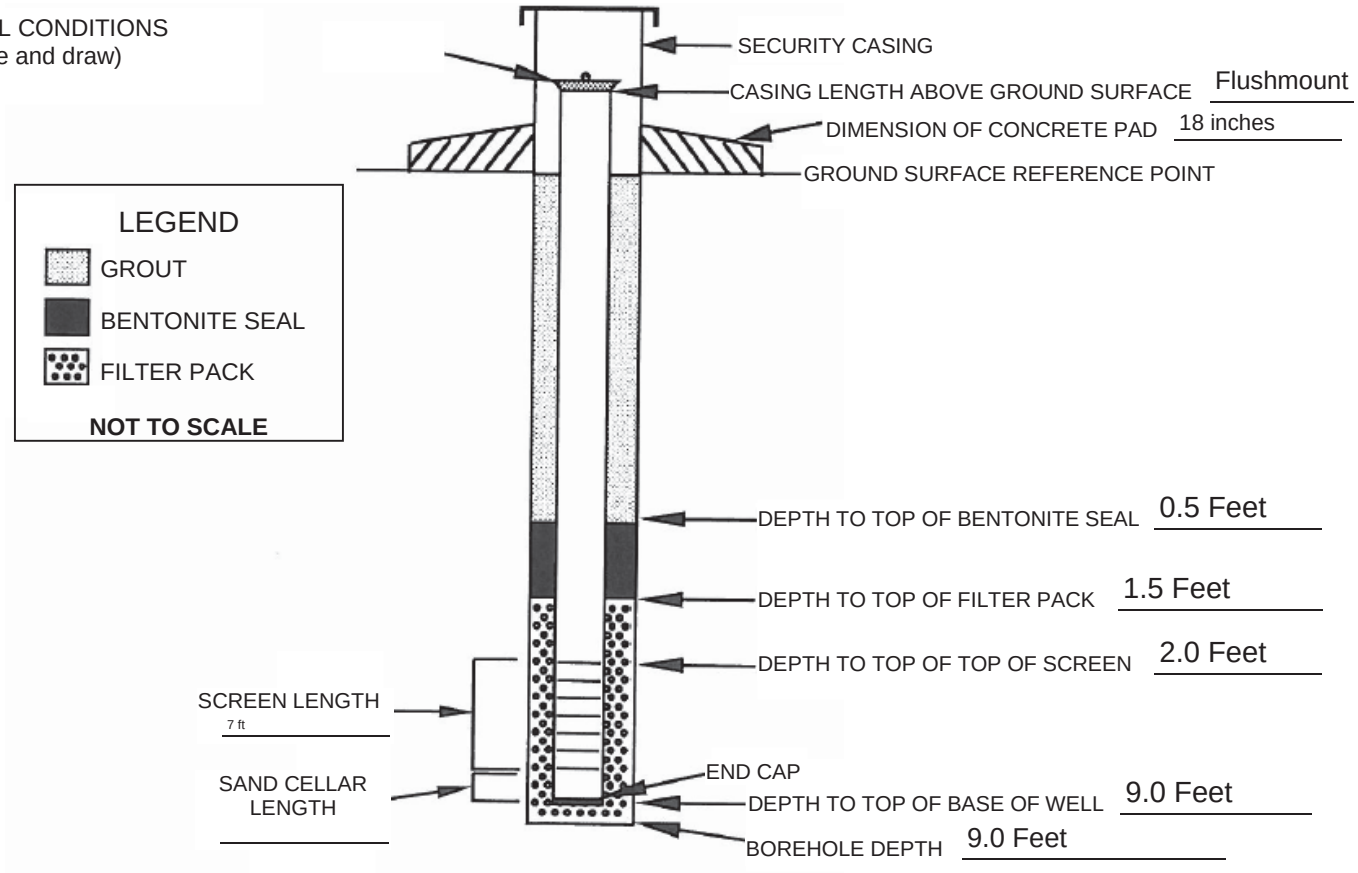
DIMENSIONS OF SECURITY CASING: N/A

TYPE OF WELL CAP: N/A

TYPE OF END CAP: N/A

COMMENTS:

SPECIAL CONDITIONS
(describe and draw)



INSTALLED BY: SUMMIT

INSTALLATION OBSERVED BY: D. Kormos

DISCREPANCIES:

TEC-Weston Joint Venture

Well Construction Details

FIELD REPRESENTATIVE: D. KORMOS

DRILLING CONTRACTOR: SUMMIT

DRILLING TECHNIQUE: Geoprobe Direct Push

AUGER SIZE AND TYPE: N/A

BOREHOLE IDENTIFICATION: SC-TU008-MW003

BOREHOLE DIAMETER: 2"

WELL IDENTIFICATION: SC-TU008-MW003

WELL CONSTRUCTION START DATE: 06-02-16

WELL CONSTRUCTION COMPLETE DATE: 06-02-16

SCREEN MATERIAL: PVC

SCREEN DIAMETER: 1"

STRATUM-SCREENED INTERVAL (FT): 2.0' to 7.0'

CASING MATERIAL: PVC

CASING DIAMETER: 1"

TYPE OF FILTER PACK: Sand

GRADATION: #1

AMT. OF FILTER PACK USED: 6.0 Feet

TYPE OF BENTONITE: 00

AMT. OF BENTONITE USED: 1 Foot

TYPE OF CEMENT: N/A

AMT. OF CEMENT USED: N/A

GROUT MATERIAL USED: N/A

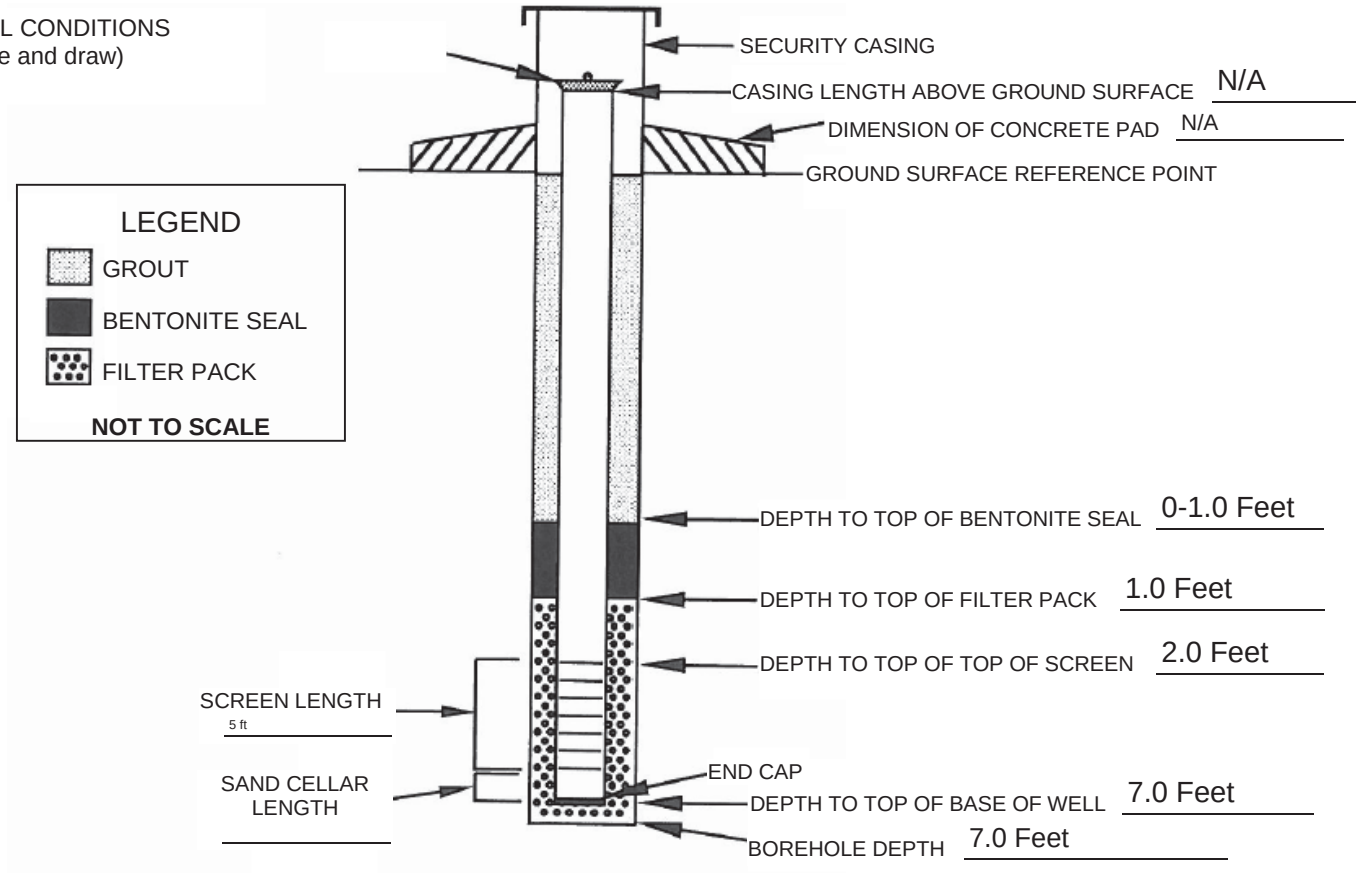
DIMENSIONS OF SECURITY CASING: N/A

TYPE OF WELL CAP: N/A

TYPE OF END CAP: N/A

COMMENTS: Temporary Well

SPECIAL CONDITIONS
(describe and draw)



INSTALLED BY: SUMMIT

INSTALLATION OBSERVED BY: D. Kormos

DISCREPANCIES: Temporary 1" well

TEC-Weston Joint Venture

Well Construction Details

FIELD REPRESENTATIVE: D. KORMOS

DRILLING CONTRACTOR: SUMMIT

DRILLING TECHNIQUE: Geoprobe Auger

AUGER SIZE AND TYPE: 8"

BOREHOLE IDENTIFICATION: SC-TU008-MW004

BOREHOLE DIAMETER: 8"

WELL IDENTIFICATION: SC-TU008-MW004

WELL CONSTRUCTION START DATE: 06-03-16

WELL CONSTRUCTION COMPLETE DATE: 06-03-16

SCREEN MATERIAL: PVC

SCREEN DIAMETER: 2"

STRATUM-SCREENED INTERVAL (FT): 2.0' to 9.0'

CASING MATERIAL: PVC

CASING DIAMETER: 2"

TYPE OF FILTER PACK: Sand

GRADATION: #1

AMT. OF FILTER PACK USED: 6.0 Feet

TYPE OF BENTONITE: 00

AMT. OF BENTONITE USED: 12"

TYPE OF CEMENT: Portland

AMT. OF CEMENT USED: 12"

GROUT MATERIAL USED: N/A

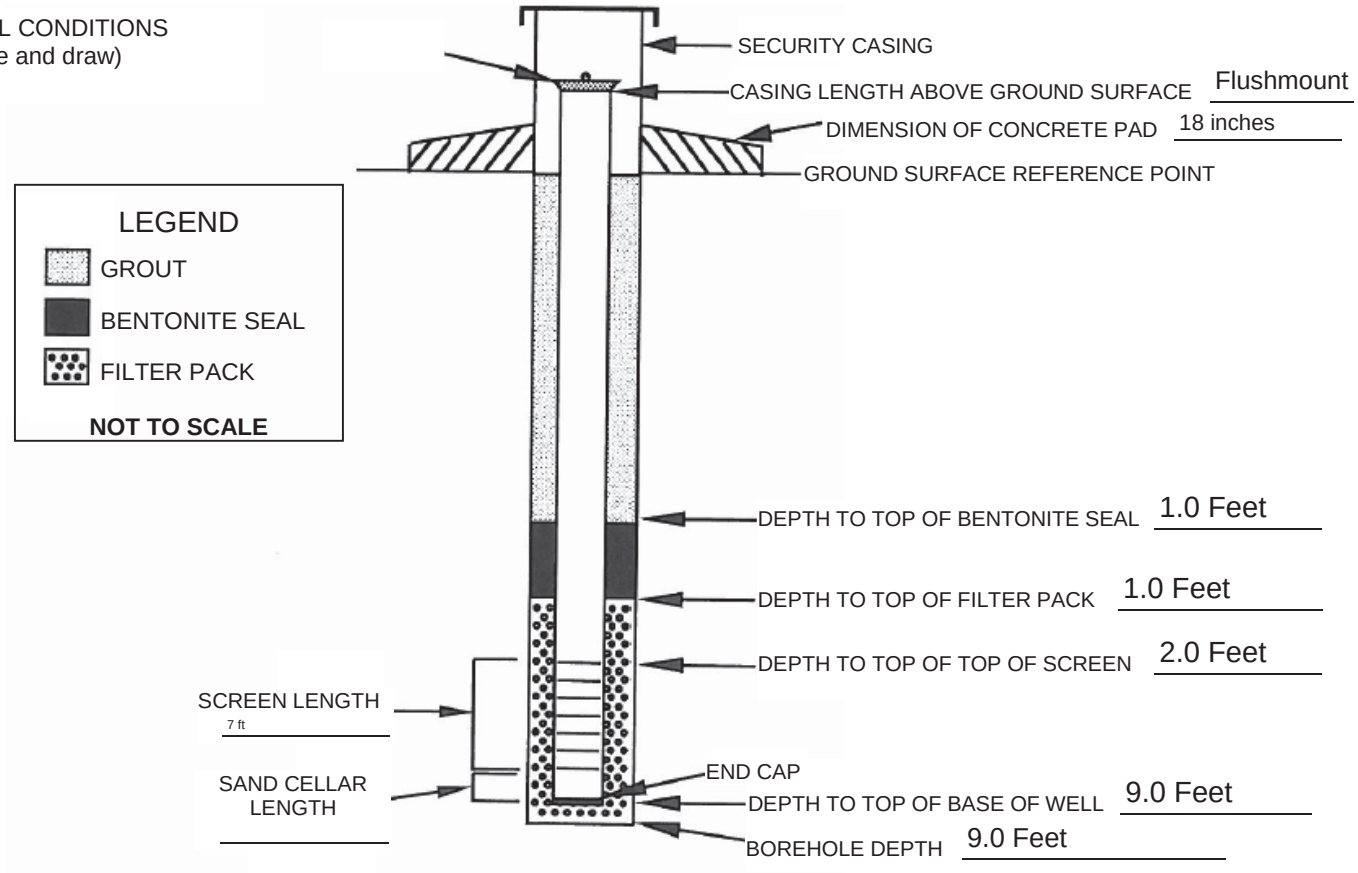
DIMENSIONS OF SECURITY CASING: N/A

TYPE OF WELL CAP: N/A

TYPE OF END CAP: N/A

COMMENTS:

SPECIAL CONDITIONS
(describe and draw)



INSTALLED BY: SUMMIT

INSTALLATION OBSERVED BY: D. Kormos

DISCREPANCIES:

TEC-Weston Joint Venture

Well Construction Details

FIELD REPRESENTATIVE: Amanda Laskoskie

DRILLING CONTRACTOR: Summit Drilling

DRILLING TECHNIQUE: Hollow Stem Auger

AUGER SIZE AND TYPE: Hollow Stem - 4 1/4 in

BOREHOLE IDENTIFICATION: SC-TU008-MW005

BOREHOLE DIAMETER: 8 inches

WELL IDENTIFICATION: SC-TU008-MW005

WELL CONSTRUCTION START DATE: 11/7/16

WELL CONSTRUCTION COMPLETE DATE: 11/7/16

SCREEN MATERIAL: PVC Schedule 40; 10 slot

SCREEN DIAMETER: 2 in

STRATUM-SCREENED INTERVAL (FT): 1.4 - 6.4 ft bgs

CASING MATERIAL: PVC Schedule 40

CASING DIAMETER: 2 inch

TYPE OF FILTER PACK: Sand

GRADATION: #1

AMT. OF FILTER PACK USED: 3 50-lb bags

TYPE OF BENTONITE: None

AMT. OF BENTONITE USED: NA

TYPE OF CEMENT: Sakrete

AMT. OF CEMENT USED: 5 40-lb bags

GROUT MATERIAL USED: None

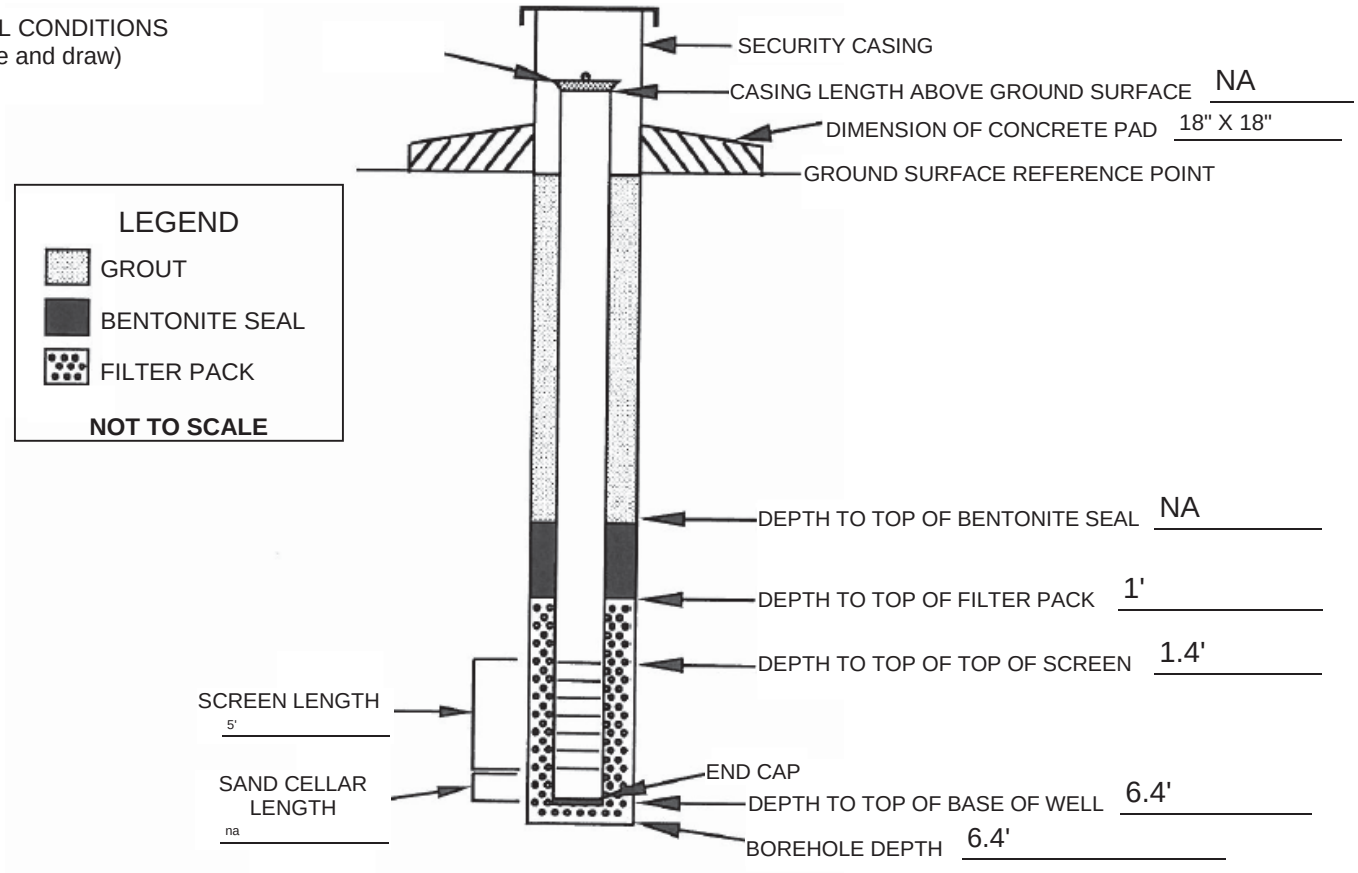
DIMENSIONS OF SECURITY CASING: 6 in Steel FM

TYPE OF WELL CAP: Plastic

TYPE OF END CAP: PVC Slip Cap

COMMENTS:

SPECIAL CONDITIONS
(describe and draw)



INSTALLED BY: Aubrey Verheilig (Summit)

INSTALLATION OBSERVED BY: Amanda Laskoskie

DISCREPANCIES:

TEC-Weston Joint Venture

Well Construction Details

FIELD REPRESENTATIVE: Amanda Laskoskie

DRILLING CONTRACTOR: Summit Drilling

DRILLING TECHNIQUE: Hollow Stem Auger

AUGER SIZE AND TYPE: Hollow Stem - 4 1/4 in

BOREHOLE IDENTIFICATION: SC-TU008-MW006

BOREHOLE DIAMETER: 8 inches

WELL IDENTIFICATION: SC-TU008-MW006

WELL CONSTRUCTION START DATE: 11/7/16

WELL CONSTRUCTION COMPLETE DATE: 11/7/16

SCREEN MATERIAL: PVC Schedule 40; 10 slot

SCREEN DIAMETER: 2 in

STRATUM-SCREENED INTERVAL (FT): 3.5 - 8.5 ft bgs

CASING MATERIAL: PVC Schedule 40

CASING DIAMETER: 2 inch

TYPE OF FILTER PACK: Sand

GRADATION: #1

AMT. OF FILTER PACK USED: 3 50-lb bags

TYPE OF BENTONITE: Bentonite Plug

AMT. OF BENTONITE USED: 1/2 50-lb bag

TYPE OF CEMENT: Sakrete

AMT. OF CEMENT USED: 5 40-lb bags

GROUT MATERIAL USED: bentonite

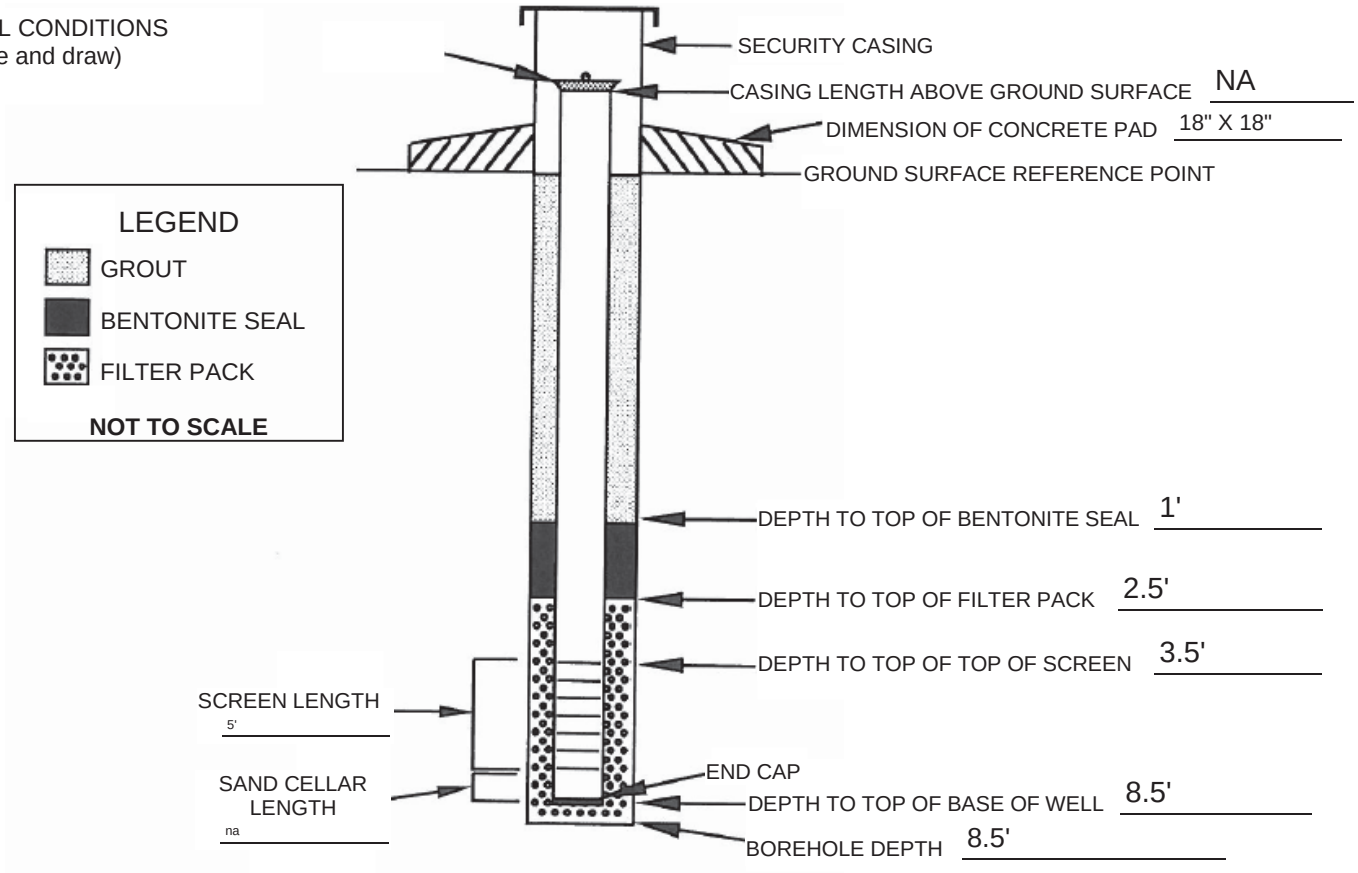
DIMENSIONS OF SECURITY CASING: 6 in Steel FM

TYPE OF WELL CAP: Plastic

TYPE OF END CAP: PVC Slip Cap

COMMENTS:

SPECIAL CONDITIONS
(describe and draw)



INSTALLED BY: Aubrey Verheilig (Summit)

INSTALLATION OBSERVED BY: Amanda Laskoskie

DISCREPANCIES:

TEC-Weston Joint Venture

Well Construction Details

FIELD REPRESENTATIVE: D. KORMOS

DRILLING CONTRACTOR: SUMMIT

DRILLING TECHNIQUE: Geoprobe Auger

AUGER SIZE AND TYPE: 8"

BOREHOLE IDENTIFICATION: SC-TU009-MW003

BOREHOLE DIAMETER: 8"

WELL IDENTIFICATION: SC-TU009-MW003

WELL CONSTRUCTION START DATE: 06-06-16

WELL CONSTRUCTION COMPLETE DATE: 06-06-16

SCREEN MATERIAL: PVC

SCREEN DIAMETER: 2"

STRATUM-SCREENED INTERVAL (FT): 2.5' to 9.5'

CASING MATERIAL: PVC

CASING DIAMETER: 2"

TYPE OF FILTER PACK: Sand

GRADATION: #1

AMT. OF FILTER PACK USED: 7.5 Feet

TYPE OF BENTONITE: 00

AMT. OF BENTONITE USED: 12"

TYPE OF CEMENT: Portland

AMT. OF CEMENT USED: 12"

GROUT MATERIAL USED: N/A

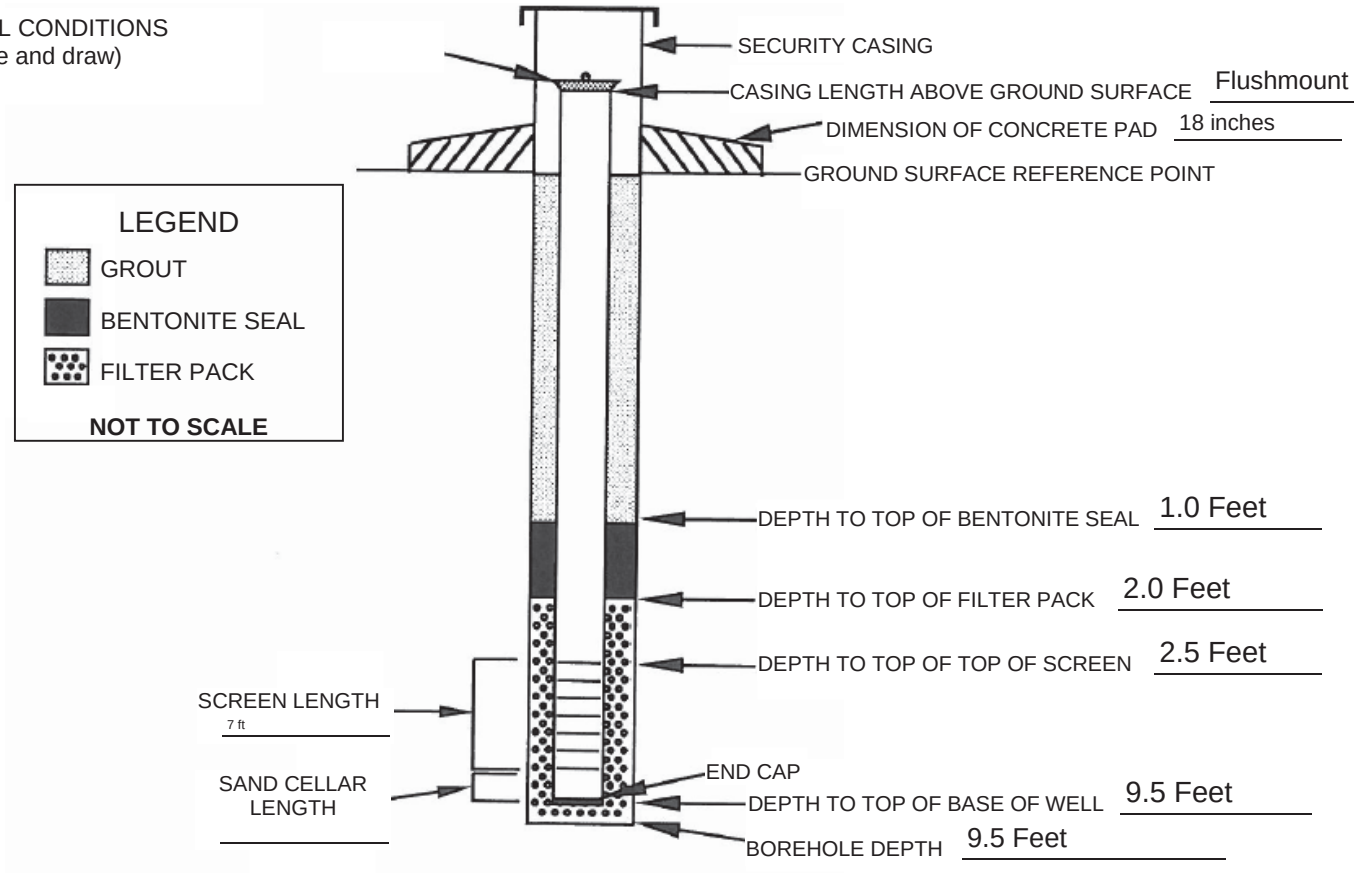
DIMENSIONS OF SECURITY CASING: N/A

TYPE OF WELL CAP: N/A

TYPE OF END CAP: N/A

COMMENTS:

SPECIAL CONDITIONS
(describe and draw)



INSTALLED BY: SUMMIT

INSTALLATION OBSERVED BY: D. Kormos

DISCREPANCIES:

TEC-Weston Joint Venture

Well Construction Details

FIELD REPRESENTATIVE: D. KORMOS

DRILLING CONTRACTOR: SUMMIT

DRILLING TECHNIQUE: Geoprobe Direct Push

AUGER SIZE AND TYPE: N/A

BOREHOLE IDENTIFICATION: SC-ZZ007-MW001

BOREHOLE DIAMETER: 2"

WELL IDENTIFICATION: SC-ZZ007-MW001

WELL CONSTRUCTION START DATE: 06-01-16

WELL CONSTRUCTION COMPLETE DATE: 06-02-16

SCREEN MATERIAL: PVC

SCREEN DIAMETER: 1"

STRATUM-SCREENED INTERVAL (FT): 1.5' to 6.5'

CASING MATERIAL: PVC

CASING DIAMETER: 1"

TYPE OF FILTER PACK: Sand

GRADATION: #1

AMT. OF FILTER PACK USED: 5.5 Feet

TYPE OF BENTONITE: 00

AMT. OF BENTONITE USED: 1 Foot

TYPE OF CEMENT: N/A

AMT. OF CEMENT USED: N/A

GROUT MATERIAL USED: N/A

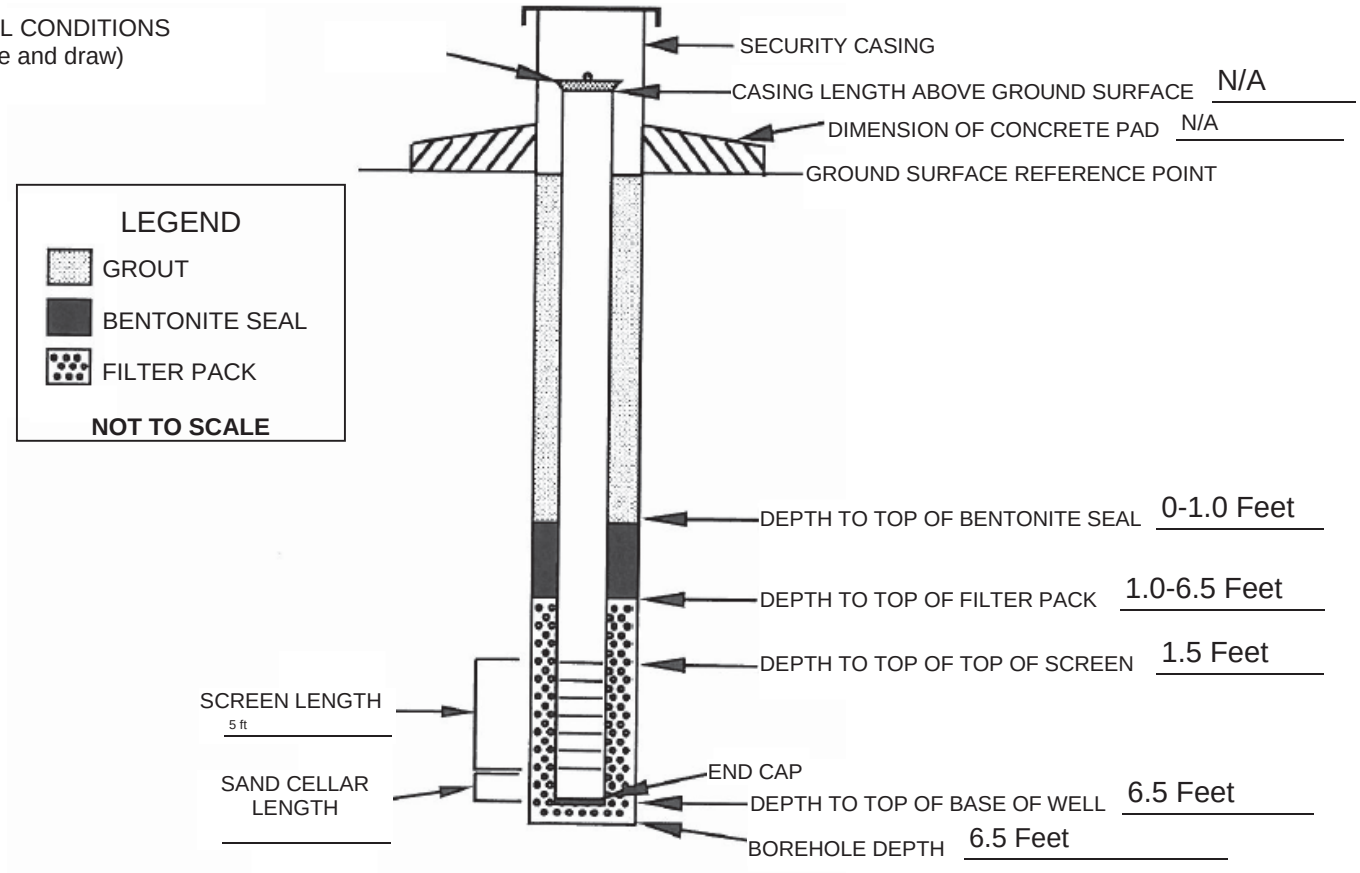
DIMENSIONS OF SECURITY CASING: N/A

TYPE OF WELL CAP: N/A

TYPE OF END CAP: N/A

COMMENTS: Temporary Well

SPECIAL CONDITIONS
(describe and draw)



INSTALLED BY: SUMMIT

INSTALLATION OBSERVED BY: D. Kormos

DISCREPANCIES: Temporary 1" well

TEC-Weston Joint Venture

Well Construction Details

FIELD REPRESENTATIVE: D. KORMOS

DRILLING CONTRACTOR: SUMMIT

DRILLING TECHNIQUE: Geoprobe Direct Push

AUGER SIZE AND TYPE: N/A

BOREHOLE IDENTIFICATION: SC-ZZ007-MW002

BOREHOLE DIAMETER: 2"

WELL IDENTIFICATION: SC-ZZ007-MW002

WELL CONSTRUCTION START DATE: 06-01-16

WELL CONSTRUCTION COMPLETE DATE: 06-02-16

SCREEN MATERIAL: PVC

SCREEN DIAMETER: 1"

STRATUM-SCREENED INTERVAL (FT): 2.0' to 7.0'

CASING MATERIAL: PVC

CASING DIAMETER: 1"

TYPE OF FILTER PACK: Sand

GRADATION: #1

AMT. OF FILTER PACK USED: 6.0 Feet

TYPE OF BENTONITE: 00

AMT. OF BENTONITE USED: 1 Foot

TYPE OF CEMENT: N/A

AMT. OF CEMENT USED: N/A

GROUT MATERIAL USED: N/A

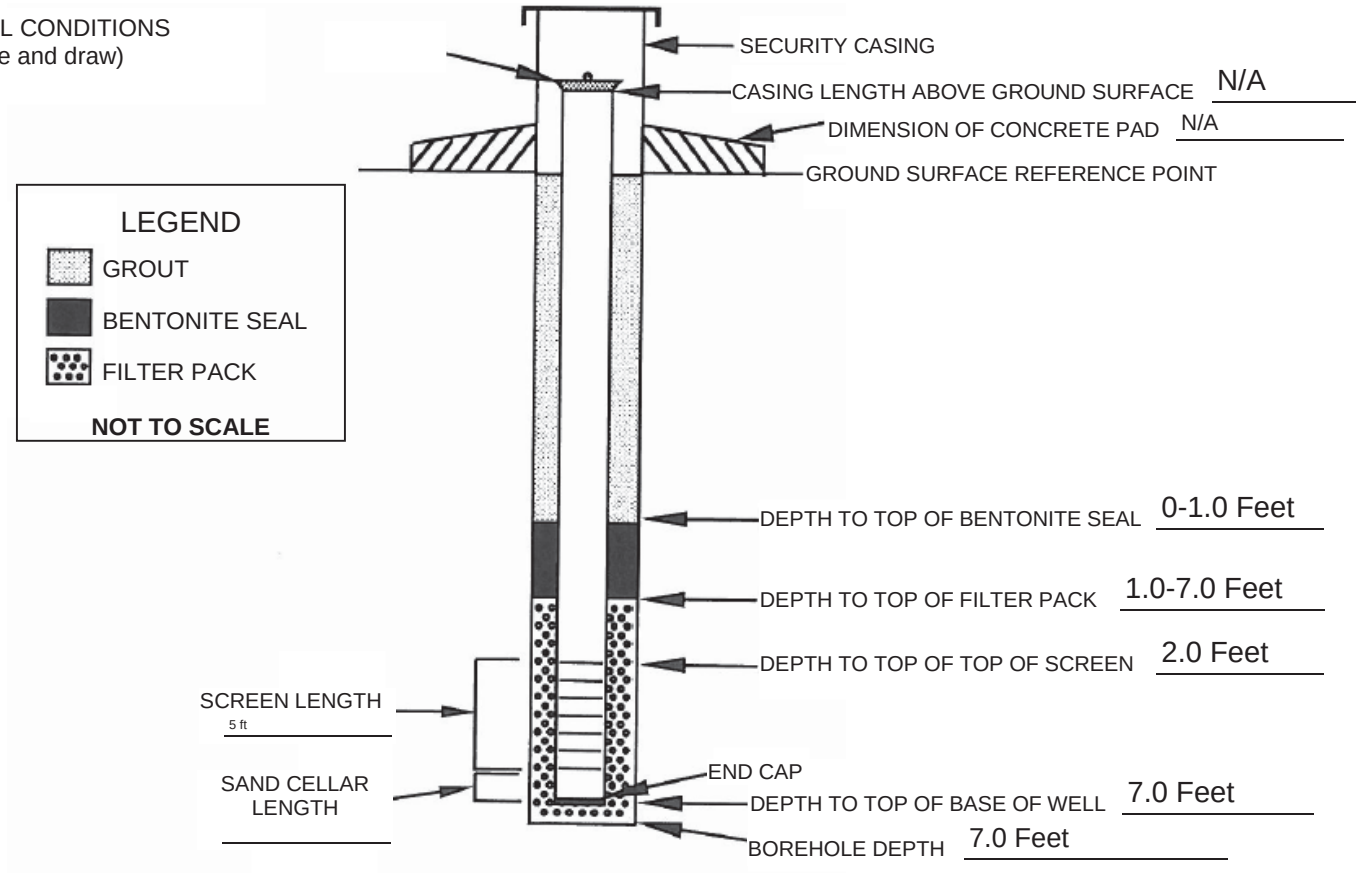
DIMENSIONS OF SECURITY CASING: N/A

TYPE OF WELL CAP: N/A

TYPE OF END CAP: N/A

COMMENTS: Temporary Well

SPECIAL CONDITIONS
(describe and draw)



INSTALLED BY: SUMMIT

INSTALLATION OBSERVED BY: D. Kormos

DISCREPANCIES: Temporary 1" well

TEC-Weston Joint Venture

Well Construction Details

FIELD REPRESENTATIVE: D. KORMOS

DRILLING CONTRACTOR: SUMMIT

DRILLING TECHNIQUE: Geoprobe Direct Push

AUGER SIZE AND TYPE: N/A

BOREHOLE IDENTIFICATION: SC-ZZ007-MW003

BOREHOLE DIAMETER: 2"

WELL IDENTIFICATION: SC-ZZ007-MW003

WELL CONSTRUCTION START DATE: 06-01-16

WELL CONSTRUCTION COMPLETE DATE: 06-02-16

SCREEN MATERIAL: PVC

SCREEN DIAMETER: 1"

STRATUM-SCREENED INTERVAL (FT): 1.5' to 6.5'

CASING MATERIAL: PVC

CASING DIAMETER: 1"

TYPE OF FILTER PACK: Sand

GRADATION: #1

AMT. OF FILTER PACK USED: 5.5 Feet

TYPE OF BENTONITE: 00

AMT. OF BENTONITE USED: 1 Foot

TYPE OF CEMENT: N/A

AMT. OF CEMENT USED: N/A

GROUT MATERIAL USED: N/A

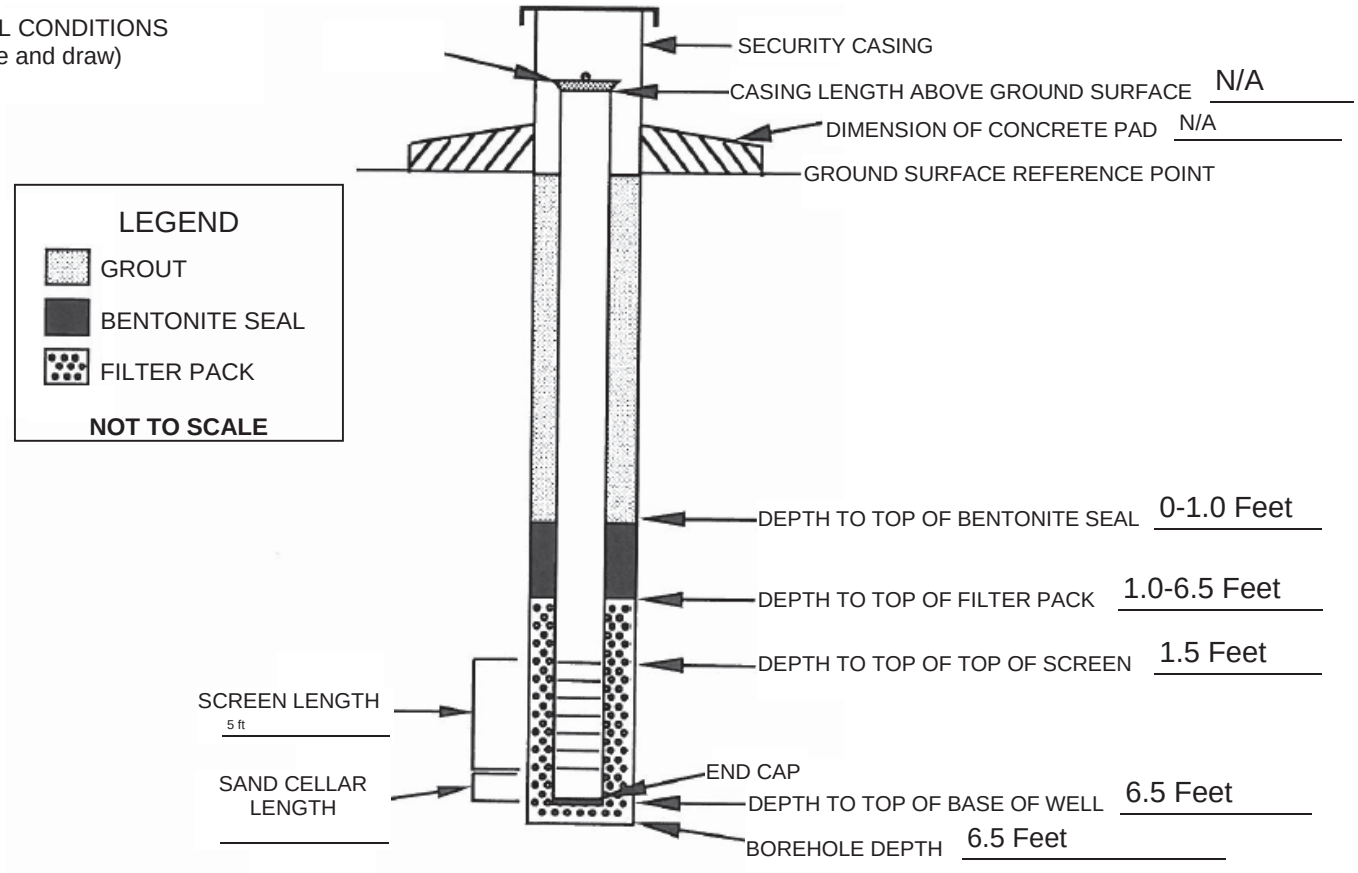
DIMENSIONS OF SECURITY CASING: N/A

TYPE OF WELL CAP: N/A

TYPE OF END CAP: N/A

COMMENTS: Temporary Well

SPECIAL CONDITIONS
(describe and draw)



INSTALLED BY: SUMMIT

INSTALLATION OBSERVED BY: D. Kormos

DISCREPANCIES: Temporary 1" well.

APPENDIX C

FIELD FORMS

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SITE ZZ007						
Shot #	**Northing**	**Easting**	**Elevation**	**Code**	**Description**	**Notes**
1000	1464706.92	647622.49	335.29	VOID		MW-001 Attempt 1
1001	1464706.48	647622.09	335.31	VOID		MW-001 Attempt 2
1002	1464706.87	647621.93	335.32	VOID		MW-001 Attempt 3
1003	1464707.44	647622.25	335.32	GDH	MW-001	Ground Elev
1004	1464707.45	647622.22	335.63	GDH	MW-001	Top of PVC
1005	1464669.68	647634.72	334.43	VOID		
1006	1464669.43	647634.21	334.43	GDH	MW-002	Ground Elev
1007	1464669.42	647634.21	334.80	GDH	MW-002	Top of PVC
1008	1464642.46	647649.90	333.84	GDH	MWUNK	Center
1009	1464642.33	647649.89	333.84	GDH	MWUNK	Top of PVC Black Mark
1010	1464595.97	647682.42	331.10	GDH	MW-003	Ground Elev
1011	1464595.83	647682.54	332.07	GDH	MW-003	Top of PVC

SITE TU009						
1016	1463762.48	647436.91	310.35	USMH	San MH	
1017	1463774.66	647430.29	310.36	USMH	San MH	
1018	1463762.03	647441.05	310.14	LUKL1 ST	APPROX OUTLINE UG VAULT	
1019	1463758.13	647432.62	310.27	LUKL1		
1020	1463774.82	647423.91	310.53	LUKL1		
1021	1463778.70	647431.13	310.35	LUKL1		
1022	1463777.96	647411.53	311.23	GDH	SOIL BORING	
1023	1463741.68	647429.19	310.23	GDH	SOIL BORING	
1024	1463708.54	647421.84	309.37	GDH	6MW-24	Top of PVC at Mark
1025	1463708.71	647421.91	309.56	GDH	MW RIM	
1026	1463674.74	647386.13	308.63	GDH	MW RIM	
1027	1463674.62	647386.09	308.26	GDH	6MW-22	Top of PVC at Mark
1028	1463719.37	647398.48	310.29	GDH	MW-003	Top of PVC at Mark
1029	1463719.48	647398.39	310.56	GDH	MW RIM	

SITE TU008						
1033	1465156.93	647410.29	344.04	GDH	MW RIM	
1034	1465156.81	647410.02	343.40	GDH	MW-001	High Point of PVC
1035	1465139.94	647429.84	341.20	GDH	MW-002	High Point of PVC
1036	1465140.08	647430.11	341.51	GDH	MW RIM	
1037	1465112.71	647427.20	340.69	GDH	MW-003	Ground Elev
1038	1465112.82	647427.19	342.01	GDH	MW-003	High Point of PVC
1039	1465108.60	647399.06	343.19	GDH	MW-004	High Point of PVC
1040	1465108.27	647399.19	343.48	GDH	MW RIM	
2000	1465119.04	647437.33	340.55	GDH	MW RIM	
2001	1465118.96	647437.35	340.25	GDH	MW-005	High Point of PVC
2004	1465073.36	647451.34	341.49	GDH	MW RIM	
2005	1465073.29	647451.30	341.10	GDH	MW-006	High Point of PVC

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RAVI ENGINEERING & LAND SURVEYING, P.C.
CONSULTING ENGINEERS & SURVEYORS
3570 SOUTH CLINTON AVENUE, ROCHESTER NEW YORK 14618
TEL: (585) 223-3660
FAX: (585) 697-1764
SURVEY NOTES:
SITE 10008
UNITS OF MEASURE: US SURVEY FEET
HORIZONTAL COORDINATE SYSTEM: N.Y.S.P.C.S. EASTERN ZONE N.A.D. 83/2011
VERTICAL COORDINATE SYSTEM: N.A.V.D. 88
SURVEY FIELDWORK COMPLETED ON JUNE 8, 2016 AND ADDITIONAL FIELDWORK COMPLETED ON NOVEMBER 10, 2016 BY RAVI ENGINEERING AND LAND SURVEYING.
SCALE: 1"=40'
TRUE NORTH AT THE 74°20'
MERIDIAN OF WEST LONGITUDE
MW-001 TOP OF HIGH POINT ON PVC ELEV 343.40'
MON WELL RIM ELEV 344.04'
MW-002 TOP OF HIGH POINT ON PVC ELEV 341.20'
MON WELL RIM ELEV 341.51'
MW-005 TOP OF HIGH POINT ON PVC ELEV 340.25'
MON WELL RIM ELEV 340.55'
MW-003 GROUND ELEV 340.69'
TOP OF HIGH POINT OF PVC ELEV 342.01'
MW-004 TOP OF HIGH POINT ON PVC ELEV 343.19'
MON WELL RIM ELEV 343.48'
MW-006 TOP OF HIGH POINT ON PVC ELEV 341.10'
MON WELL RIM ELEV 341.49'

SURVEY NOTES:

SITE T0009

UNITS OF MEASURE: US SURVEY FEET

HORIZONTAL COORDINATE SYSTEM: N.Y.S.P.C.S. EASTERN ZONE N.A.D. 83/2011

VERTICAL COORDINATE SYSTEM: N.A.V.D. 88

SURVEY FIELDWORK COMPLETED ON JUNE 8, 2016 BY RAVI ENGINEERING AND LAND SURVEYING.

SCALE: 1"=40'

RAVI ENGINEERING & LAND SURVEYING, P.C.
CONSULTING ENGINEERS & SURVEYORS
2110 SOUTH CLINTON AVENUE, ROCHESTER NEW YORK 14618
TL: (585) 223-3660 FX: (585) 223-4250

SURVEY NOTES:

SITE 22007

UNITS OF MEASURE: US SURVEY FEET

HORIZONTAL COORDINATE SYSTEM: N.Y.S.P.C.S. EASTERN ZONE N.A.D. 83/2011

VERTICAL COORDINATE SYSTEM: N.A.V.D. 88

SURVEY FIELDWORK COMPLETED ON JUNE 8, 2016 BY RAVI ENGINEERING AND LAND SURVEYING.

SCALE: 1"=40'

TEC-Weston Joint Venture

Equipment Calibration Log			Project:	ZZ007, TU008 and TU009, Schenectady ANGB, Scotia, NY			
			Calibration				
Date/ Time	Equipment Description	Equip ID	Calibr standard/ exp date	Pre Cal readings	Post Cal Readings	Performed by:	Comments
06-01-2016 / 11:15	MultiRAE	RFW22406	Multigas, Exp. 09/08/2016 CO: 50 ppm H_2S: 25 ppm O_2: 20.9% LEL: 50% Isobutylene, Exp. 12/2018 VOC: 100 ppm	CO: 50 ppm H_2S: 23 ppm O_2: 20.9% LEL: 53.0% VOC: 94.1 ppm	*	Dane Kormos	*No calibration required.
06-02-2016 / 08:30	MultiRAE	RFW22406	Multigas, Exp. 09/08/2016 CO: 50 ppm H_2S: 25 ppm O_2: 20.9% LEL: 50% Isobutylene, Exp. 12/2018 VOC: 100 ppm	CO: 53 ppm H_2S: 25 ppm O_2: 20.9% LEL: 47.0% VOC: 94.9 ppm	*	Dane Kormos	*No calibration required.
06-03-2016 / 09:00	MultiRAE	RFW22406	Multigas, Exp. 09/08/2016 CO: 50 ppm H_2S: 25 ppm O_2: 20.9% LEL: 50% Isobutylene, Exp. 12/2018 VOC: 100 ppm	CO: 49 ppm H_2S: 26 ppm O_2: 20.9% LEL: 48.0% VOC: 96.7 ppm	*	Dane Kormos	*No calibration required.

TEC-Weston Joint Venture

Equipment Calibration Log				Project:	ZZ007, TU008 and TU009, Schenectady ANGB, Scotia, NY		
			Calibration				
Date/ Time	Equipment Description	Equip ID	Calibr standard/ exp date	Pre Cal readings	Post Cal Readings	Performed by:	Comments
06-06-2016 / 07:45	MultiRAE	RFW22406	Multigas, Exp. 09/08/2016 CO: 50 ppm H_2S: 25 ppm O_2: 20.9% LEL: 50% Isobutylene, Exp. 12/2018 VOC: 100 ppm	CO: 50 ppm H_2S: 25 ppm O_2: 20.9% LEL: 68.0% VOC: 99.1 ppm	CO: 49 ppm H_2S: 24 ppm O_2: 20.9% LEL: 49.0%	Dane Kormos	
06-06-2016 / 07:45	YSI556	RFW24698	pH 4.0, pH 7.0, pH 10.0 Exp. 9/2017 Conductivity 1000 µS/cm Exp. 9/2017	pH 4.0: 4.11 pH 7.0: 7.18 pH 10.0: 10.01 Cond: 925 µS/cm[C] ORP: 214.0 @ 21.5°C	*	Dane Kormos	*No calibration required.
06-06-2016 / 07:45	HANNA	RFW22187	< 0.10 NTU, 15 NTU, 100 NTU, 750 NTU	< 0.10 NTU: 0.09 NTU 15 NTU: 14.9 NTU 100 NTU: 98.3 NTU 750 NTU: 751 NTU	*	Dane Kormos	*No calibration required.
06-07-2016 / 09:00	MultiRAE	RFW22406	Multigas, Exp. 09/08/2016 CO: 50 ppm H_2S: 25 ppm O_2: 20.9% LEL: 50% Isobutylene, Exp. 12/2018 VOC: 100 ppm	CO: 50 ppm H_2S: 23.6 ppm O_2: 20.9% LEL: 48.0% VOC: 94.0 ppm	*	Dane Kormos	*No calibration required.

TEC-Weston Joint Venture

Equipment Calibration Log				Project: ZZ007, TU008 and TU009, Schenectady ANGB, Scotia, NY			
			Calibration				
Date/ Time	Equipment Description	Equip ID	Calibr standard/ exp date	Pre Cal readings	Post Cal Readings	Performed by:	Comments
06-07-2016 / 09:00	YSI556	RFW24698	pH 4.0, pH 7.0, pH 10.0 Exp. 9/2017 Conductivity 1000 µS/cm Exp. 9/2017	pH 4.0: pH 7.0: 7.44 pH 10.0: 10.25 Cond: 1020 µS/cm ORP: 203.0 @ 24.0°C	pH 4.0: 3.92 pH 7.0: 7.09 pH 10.0: 9.84	Dane Kormos	pH calibrated
06-07-2016 / 09:00	HANNA	RFW22187	< 0.10 NTU, 15 NTU, 100 NTU, 750 NTU	< 0.10 NTU: 0.13 NTU 15 NTU: 100 NTU: 750 NTU:	< 0.10: 0.12 NTU 15: 15.1 NTU 100: 99.2 NTU 750: 751 NTU	Dane Kormos	Calibrated
06-08-2016 / 08:50	MultiRAE	RFW22406	Multigas, Exp. 09/08/2016 CO: 50 ppm H_2S: 25 ppm O_2: 20.9% LEL: 50% Isobutylene, Exp. 12/2018 VOC: 100 ppm	 CO: 46 ppm H_2S: 23 ppm O_2: 20.9% LEL: 47.0% VOC: 96.5 ppm	*	Dane Kormos	*No calibration required.
06-08-2016 / 08:50	YSI556	RFW24698	pH 4.0, pH 7.0, pH 10.0 Exp. 9/2017 Conductivity 1000 µS/cm Exp. 9/2017	pH 4.0: 3.97 pH 7.0: 6.85 pH 10.0: 9.66 Cond: 996 µS/cm ORP: 223.2 @ 16.3°C	*	Dane Kormos	*No calibration required.

TEC-Weston Joint Venture

Equipment Calibration Log				Project:	ZZ007, TU008 and TU009, Schenectady ANGB, Scotia, NY		
			Calibration				
Date/ Time	Equipment Description	Equip ID	Calibr standard/ exp date	Pre Cal readings	Post Cal Readings	Performed by:	Comments
06-08-2016 / 08:50	HANNA	RFW22187	< 0.10 NTU, 15 NTU, 100 NTU, 750 NTU	< 0.10 NTU: 0.12 NTU 15 NTU: 15.1 NTU 100 NTU: 99.8 NTU 750 NTU: 752 NTU	*	Dane Kormos	*No calibration required.

% - percent
µS/cm - microSiemens per centimeter
CO - carbon monoxide
H_2S - hydrogen sulfide
LEL - lower explosive limit
NTU - Nephelometric Turbidity Unit
O_2 - oxygen
ORP - oxidation reduction potential
ppm - part per million
VOC - volatile organic compound

TEC-Weston Joint Venture

Monitoring Well Development Form

Project: ANG2015NEWENGLAND	Station and Location ID: SC-TU008-MW001	Date: 06/06/16
Date Installed: 06/03/16	Personnel Conducting Development: D.Kormos	
Development Method(s) Used: Peristaltic / Whale Pump (5 gpm)		
Well Total Depth (ft btoc): 11.42	r -radius of filter pack (ft): 0.083	
Depth to Water (ft btoc): 5.45	One Well Volume (gal) = 0.96 Volume Purged (gal) = ~22	
Total water column (h) (ft): 5.97		

Date	Time	Water Level (ft btoc)	Volume removed (gal)	Temp (°C)	pH (stand.)	Conductivity (µS/cm)	Turbidity (NTU)	Comments
6/6/2016	9:18	6.05		12.41	9.45	1353	>1000	
6/6/2016	9:22	6.45		12.64	9.25	1302	>1000	
6/6/2016	9:26	6.60		12.85	9.33	1330	>1000	
6/6/2016	9:35	6.90	~2	12.22	9.24	1514	>1000	
6/6/2016	9:52	7.20	~5	12.03	8.55	2406	>1000	
6/6/2016	10:10	7.50		12.00	8.03	3161	>1000	
6/6/2016	10:25	Dry	~4	17.74	7.73	3983	>1000	Switch to Whale pump purge.
6/6/2016	10:35	Dry	~7	12.74	7.61	4254	350	Recharging
6/6/2016	10:40	Dry	~4	13.41	7.22	4373	112	Recharging

µS/cm - microSiemens per centimeter
°C - degrees Celcius
btoc - below top of casing
ft - feet
gpm - gallons per minute
gal - gallon
NTU - Nephelometric Turbidity Unit

TEC-Weston Joint Venture

Monitoring Well Development Form

Project: ANG2015NEWENGLAND	Station and Location ID: SC-TU008-MW002	Date: 06/06/16
Date Installed: 06/03/16	Personnel Conducting Development: D.Kormos	
Development Method(s) Used: Whale Pump (5 gpm)		
Well Total Depth (ft btoc): 8.92	r -radius of filter pack (ft): 0.083	
Depth to Water (ft btoc): 5.25	One Well Volume (gal) = 0.6 Volume Purged (gal) = ~2.5	
Total water column (h) (ft): 3.67		

Date	Time	Water Level (ft btoc)	Volume removed (gal)	Temp (°C)	pH (stand.)	Conductivity (µS/cm)	Turbidity (NTU)	Comments
6/6/2016	11:30	5.25	0					Began development
6/6/2016	11:35	Dry	1.5	16.7	7.31	1148	>1000	Recharging
6/6/2016	11:45	Dry	1	17.71	7.92	1228	>1000	Recharging

µS/cm - microSiemens per centimeter
°C - degrees Celcius
btoc - below top of casing
ft - feet
gpm - gallons per minute
gal - gallon
NTU - Nephelometric Turbidity Unit

TEC-Weston Joint Venture

Monitoring Well Development Form

Project: ANG2015NEWENGLAND	Station and Location ID: SC-TU008-MW004	Date: 06/06/16
Date Installed: 06/03/16	Personnel Conducting Development: D.Kormos	
Development Method(s) Used: Whale Pump (5 gpm)		
Well Total Depth (ft btoc): 9.0	r -radius of filter pack (ft): 0.083	
Depth to Water (ft btoc): 5.85	One Well Volume (gal) = 0.5 Volume Purged (gal) = ~2.5	
Total water column (h) (ft): 3.15		

Date	Time	Water Level (ft btoc)	Volume removed (gal)	Temp (^oC)	pH (stand.)	Conductivity (µS/cm)	Turbidity (NTU)	Comments
6/6/2016	11:10	5.85	1.5	14.76	7.46	928	112	
6/6/2016	11:20	Dry	1	15.74	7.23	1153	381	

µS/cm - microSiemens per centimeter
^oC - degrees Celcius
btoc - below top of casing
ft - feet
gpm - gallons per minute
gal - gallon
NTU - Nephelometric Turbidity Unit

TEC-Weston Joint Venture

Monitoring Well Development Form

Project: ANG2015NEWENGLAND	Station and Location ID: SC-TU009-MW003	Date: 06/07/16
Date Installed: 06/06/16	Personnel Conducting Development: D.Kormos / B.Beaumont	
Development Method(s) Used: Whale Pump (5 gpm)		
Well Total Depth (ft btoc): 10.05	r -radius of filter pack (ft): 0.083	
Depth to Water (ft btoc): 9.75	One Well Volume (gal) = 0.05 Gallons added to well = 6.5 Volume Purged (gal) = 5.5	
Total water column (h) (ft): 0.30		

Date	Time	Water Level (ft btoc)	Volume removed (gal)	Temp (^oC)	pH (stand.)	Conductivity (µS/cm)	Turbidity (NTU)	Comments
6/7/2016	10:28	9.85		24.98	6.63	1630	724	Groundwater readings
6/7/2016	10:30	4.05	6.5 (added)					6.5 gallons added
6/7/2016	10:32	4.00	4					Purged 4 gallons
6/7/2016	10:50	9.85	5.5					Geotech Peristaltic pump
6/7/2016	10:55	Dry						Lost 1 Gallon

µS/cm - microSiemens per centimeter
^oC - degrees Celcius
btoc - below top of casing
ft - feet
gpm - gallons per minute
gal - gallon
NTU - Nephelometric Turbidity Unit

TEC-Weston Joint Venture

Purge and Sample Form

WELL NUMBER	WELL INFORMATION					DATE:	6/7/2016
SC-ZZ007-MW001	Well Diameter (in)	Total Depth (ft BTOC)	Depth to Water (ft BTOC)	Depth to Product (ft BTOC)	PID (ppm)	Sample Personnel:	D. Kormos
						Installation:	Schenectady ANGB
SITE NAME						Site Name:	ZZ007
ZZ007	1	6.5	4.8	NA	0.0	Project No.:	ANG2015NEWENGLAND

PURGE INFORMATION							SAMPLE INFORMATION	
Pump Type	Tubing Type	Pump Intake Depth (ft BTOC)	Purge Start Time	Purge Stop Time	Flow Rate (mL/min)	Total Purge Vol (gal)	Sample ID:	SC-ZZ007-MW001-G-1
							Sample Time:	16:25
							Duplicate ID:	N/A
Peristaltic	1/4"OD Poly	6.5	13:05	16:25	Low, <200	0	MS/MSD: Yes: No: X	

PURGING PARAMETERS (Measurements to be taken every 3-5 minutes)

Criteria:			±1 °C	±0.1	±10%	±10%	±10 mV	<10 NTU or ±10%		
Time	**Flow Rate (mL/min)**	**DTW (ft)**	**Temp (°C)**	**pH**	**Cond (µS/cm)**	**DO (mg/L)**	**ORP (mV)**	**Turbidity (NTU)**	**Initials**	**Water Conditions / Comments**
13:14	<200	6.00	20.99	6.90	512	4.68	30.2	>1000	DK	Grab/Collect upon purge.
13:17	Recharge	5.80							DK	Recharge
13:32	Recharge	6.40							DK	Recharge
16:05	Recharge	5.03							DK	Recharge
16:25	Sample								DK	Sample collected

GENERAL INFORMATION

Weather: Sun/Clear: _____ Cloudy: Partly Rain: _____ Wind Speed/Dir. 4 mph/West Temperature 63°F

Sampler: D. Kormos **Observer:** B. Beaumont

Notes: Collected as grab sample from temporary well due to low groundwater yield in well.

TEC-Weston Joint Venture

Purge and Sample Form

WELL NUMBER	WELL INFORMATION					DATE:	6/7/2016
SC-ZZ007-MW002	Well Diameter (in)	Total Depth (ft BTOC)	Depth to Water (ft BTOC)	Depth to Product (ft BTOC)	PID (ppm)	Sample Personnel:	D. Kormos
						Installation:	Schenectady ANGB
SITE NAME						Site Name:	ZZ007
ZZ007	1	7.01	4.85	NA	0.0	Project No.:	ANG2015NEWENGLAND

PURGE INFORMATION							SAMPLE INFORMATION	
Pump Type	Tubing Type	Pump Intake Depth (ft BTOC)	Purge Start Time	Purge Stop Time	Flow Rate (mL/min)	Total Purge Vol (gal)	Sample ID:	SC-ZZ007-MW002-G-1
							Sample Time:	16:30
							Duplicate ID:	N/A
Peristaltic	1/4"OD Poly	6.95	13:23	16:30	Low, <200	0	MS/MSD: Yes: No: X	

PURGING PARAMETERS (Measurements to be taken every 3-5 minutes)

Criteria:			±1 °C	±0.1	±10%	±10%	±10 mV	<10 NTU or ±10%		
Time	**Flow Rate (mL/min)**	**DTW (ft)**	**Temp (°C)**	**pH**	**Cond (µS/cm)**	**DO (mg/L)**	**ORP (mV)**	**Turbidity (NTU)**	**Initials**	**Water Conditions / Comments**
13:24	<200	Dry	24.61	7.18	1484	4.81	70.1	84.8	DK	Grab/Collect upon purge.
13:36	Recharge	6.50							DK	Recharge
15:58	Recharge	6.80							DK	Recharge
16:30		6.95							DK	Sample collected

GENERAL INFORMATION

Weather: Sun/Clear: _____ Cloudy: Partly Rain: _____ Wind Speed/Dir. 4 mph/West Temperature 64°F

Sampler: D. Kormos **Observer:** B. Beaumont

Notes: Collected as grab sample from temporary well due to low groundwater yield in well.

TEC-Weston Joint Venture

Purge and Sample Form

WELL NUMBER	WELL INFORMATION					DATE:	6/7/2016
SC-ZZ007-MWUNK	Well Diameter (in)	Total Depth (ft BTOC)	Depth to Water (ft BTOC)	Depth to Product (ft BTOC)	PID (ppm)	Sample Personnel:	D. Kormos
						Installation:	Schenectady ANGB
SITE NAME						Site Name:	ZZ007
ZZ007	2	15.55	5	NA	0.0	Project No.:	ANG2015NEWENGLAND

PURGE INFORMATION							SAMPLE INFORMATION	
Pump Type	Tubing Type	Pump Intake Depth (ft BTOC)	Purge Start Time	Purge Stop Time	Flow Rate (mL/min)	Total Purge Vol (gal)	Sample ID:	SC-ZZ007-MWUNK-G-1
							Sample Time:	15:00
							Duplicate ID:	SC-ZZ007-MWUNK-G-1-D
Peristaltic	1/4" OD Poly	10.5	14:21	15:00	200	~1.68	MS/MSD: Yes: X No:	

PURGING PARAMETERS (Measurements to be taken every 3-5 minutes)

Criteria:			±1 °C	±0.1	±10%	±10%	±10 mV	<10 NTU or ±10%		
Time	**Flow Rate (mL/min)**	**DTW (ft)**	**Temp (°C)**	**pH**	**Cond (µS/cm)**	**DO (mg/L)**	**ORP (mV)**	**Turbidity (NTU)**	**Initials**	**Water Conditions / Comments**
14:21	<200	6.10	15.87	7.20	792	2.53	79.4	37.10	DK	
14:23	<200	6.40	14.76	6.78	780	2.71	87.9	23.30	DK	
14:27	<200	6.81	14.14	6.45	772	3.53	104.7	13.30	DK	
14:30	<200	7.05	13.81	6.31	754	2.24	112.4	11.40	DK	
14:33	<200	7.31	13.99	7.14	711	2.96	66.1	11.60	DK	
14:36	<200	7.45	14.06	6.78	684	3.12	71.0	10.40	DK	
14:39	<200	7.65	14.35	6.51	655	3.93	82.5	7.81	DK	
14:42	<200	7.84	14.61	6.23	651	4.22	95.1	7.43	DK	
14:47	<200	8.38	12.80	5.50	648	2.46	131.3	3.87	DK	Power change
14:52	<200	9.05	13.04	5.35	660	2.60	140.9	2.15	DK	
14:55	<200	9.55	12.58	5.29	770	2.10	146.0	3.13	DK	
14:58	<200	10.25	12.78	5.16	729	1.82	159.8	2.13	DK	
15:00										Sample collected

GENERAL INFORMATION

Weather: Sun/Clear: _____ Cloudy: Partly Rain: _____ Wind Speed/Dir. 4 mph/West Temperature 64°F

Sampler: D. Kormos **Observer:** B. Beaumont

Notes:

TEC-Weston Joint Venture

Purge and Sample Form

WELL NUMBER	WELL INFORMATION					DATE:	6/8/2016
SC-TU008-MW001	Well Diameter (in)	Total Depth (ft BTOC)	Depth to Water (ft BTOC)	Depth to Product (ft BTOC)	PID (ppm)	Sample Personnel:	D. Kormos
						Installation:	Schenectady ANGB
SITE NAME						Site Name:	TU008
TU008	2	11.42	5.5	NA	0.0	Project No.:	ANG2015NEWENGLAND

PURGE INFORMATION							SAMPLE INFORMATION	
Pump Type	Tubing Type	Pump Intake Depth (ft BTOC)	Purge Start Time	Purge Stop Time	Flow Rate (mL/min)	Total Purge Vol (gal)	Sample ID:	SC-TU008-MW001-G-1
							Sample Time:	16:25
							Duplicate ID:	N/A
Peristaltic	1/4"OD Poly	8.5	16:02	16:25	Low, <300	<2	MS/MSD: Yes: X No:	

PURGING PARAMETERS (Measurements to be taken every 3-5 minutes)

Criteria:			±1 °C	±0.1	±10%	±10%	±10 mV	<10 NTU or ±10%		
Time	**Flow Rate (mL/min)**	**DTW (ft)**	**Temp (°C)**	**pH**	**Cond (µS/cm)**	**DO (mg/L)**	**ORP (mV)**	**Turbidity (NTU)**	**Initials**	**Water Conditions / Comments**
16:03	<200	5.69	12.46	7.43	4163	3.36	142.0	205	DK	
16:07	<200	5.90	12.03	7.44	3957	3.61	144.5	49	DK	
16:11	<200	6.35	12.06	7.34	3988	2.75	151.3	114	DK	
16:15	<200	6.47	12.28	7.28	3719	2.81	154.6	714	DK	
16:18	<200	6.57	12.51	7.28	3548	3.63	156.5	719	DK	
16:21	<200	6.65	12.47	7.23	3954	3.26	158.1	230	DK	
16:25									DK	Sample collected

GENERAL INFORMATION

Weather: Sun/Clear: _____ Cloudy: Mostly Rain: _____ Wind Speed/Dir. 18mph/WNW Temperature <60°F

Sampler: D. Kormos **Observer:** B. Beaumont

Notes:

TEC-Weston Joint Venture

Purge and Sample Form

WELL NUMBER	WELL INFORMATION					DATE:	6/8/2016
SC-TU008-MW002	Well Diameter (in)	Total Depth (ft BTOC)	Depth to Water (ft BTOC)	Depth to Product (ft BTOC)	PID (ppm)	Sample Personnel:	D. Kormos
						Installation:	Schenectady ANGB
SITE NAME						Site Name:	TU008
TU008	2	8.6	6.05	UNK	3.4	Project No.:	ANG2015NEWENGLAND

PURGE INFORMATION							SAMPLE INFORMATION	
Pump Type	Tubing Type	Pump Intake Depth (ft BTOC)	Purge Start Time	Purge Stop Time	Flow Rate (mL/min)	Total Purge Vol (gal)	Sample ID:	SC-TU008-MW002-G-1
							Sample Time:	15:26
							Duplicate ID:	SC-TU008-MW002-G-1-D
Peristaltic	1/4"OD Poly	8	14:55	15:00	Low, <200	0	MS/MSD: Yes: No: X	

PURGING PARAMETERS (Measurements to be taken every 3-5 minutes)

Criteria:			±1 °C	±0.1	±10%	±10%	±10 mV	<10 NTU or ±10%		
Time	**Flow Rate (mL/min)**	**DTW (ft)**	**Temp (°C)**	**pH**	**Cond (µS/cm)**	**DO (mg/L)**	**ORP (mV)**	**Turbidity (NTU)**	**Initials**	**Water Conditions / Comments**
15:00	<200	6.38	14.80	6.95	3124	4.73	144.3	13.9	DK	
15:05	<200	6.60	14.48	6.85	2614	6.33	144.6	10.8	DK	VOAs collected
15:15	<200	7.25							DK	
15:17	<200	7.52							DK	
15:26	<200	Dry							DK	Sample collected
									DK	Duplicate at 15:30

GENERAL INFORMATION

Weather: Sun/Clear: _____ Cloudy: Mostly Rain: _____ Wind Speed/Dir. 18mph/WNW Temperature 64°F

Sampler: D. Kormos **Observer:** B. Beaumont

Notes:

TEC-Weston Joint Venture

Purge and Sample Form

WELL NUMBER	WELL INFORMATION					DATE:	6/8/2016
SC-TU008-MW003	Well Diameter (in)	Total Depth (ft BTOC)	Depth to Water (ft BTOC)	Depth to Product (ft BTOC)	PID (ppm)	Sample Personnel:	D. Kormos
						Installation:	Schenectady ANGB
SITE NAME						Site Name:	TU008
TU008	1	7	6.1	NA	0.0	Project No.:	ANG2015NEWENGLAND

PURGE INFORMATION							SAMPLE INFORMATION	
Pump Type	Tubing Type	Pump Intake Depth (ft BTOC)	Purge Start Time	Purge Stop Time	Flow Rate (mL/min)	Total Purge Vol (gal)	Sample ID:	SC-TU008-MW003-G-1
							Sample Time:	14:07
							Duplicate ID:	N/A
Peristaltic	1/4"OD Poly	7	14:07	14:07	<200	0	MS/MSD: Yes: No: X	

PURGING PARAMETERS (Measurements to be taken every 3-5 minutes)

Criteria:			±1 °C	±0.1	±10%	±10%	±10 mV	<10 NTU or ±10%		
Time	**Flow Rate (mL/min)**	**DTW (ft)**	**Temp (°C)**	**pH**	**Cond (µS/cm)**	**DO (mg/L)**	**ORP (mV)**	**Turbidity (NTU)**	**Initials**	**Water Conditions / Comments**
14:07	<200	Dry	19.86	7.75	2818	7.24	86.8	>1000	DK	14:07, only VOAs collected
14:07									DK	Sample collected

GENERAL INFORMATION

Weather: Sun/Clear: _____ Cloudy: Mostly Rain: _____ Wind Speed/Dir. 18mph/WNW Temperature 64°F

Sampler: D. Kormos **Observer:** B. Beaumont

Notes: Collected as grab sample from temporary well due to low groundwater yield in well.

TEC-Weston Joint Venture

Purge and Sample Form

WELL NUMBER	WELL INFORMATION					DATE:	6/8/2016
SC-TU008-MW004	Well Diameter (in)	Total Depth (ft BTOC)	Depth to Water (ft BTOC)	Depth to Product (ft BTOC)	PID (ppm)	Sample Personnel:	D. Kormos
						Installation:	Schenectady ANGB
SITE NAME						Site Name:	TU008
TU008	2	9	6.18	N/A	0	Project No.:	ANG2015NEWENGLAND

PURGE INFORMATION							SAMPLE INFORMATION	
Pump Type	Tubing Type	Pump Intake Depth (ft BTOC)	Purge Start Time	Purge Stop Time	Flow Rate (mL/min)	Total Purge Vol (gal)	Sample ID:	SC-TU008-MW004-G-1
							Sample Time:	14:32
							Duplicate ID:	N/A
Peristaltic	1/4"OD Poly	7.5	14:15	14:32	Low, <200	0.5	MS/MSD: Yes: No: X	

PURGING PARAMETERS (Measurements to be taken every 3-5 minutes)

Criteria:			±1 °C	±0.1	±10%	±10%	±10 mV	<10 NTU or ±10%		
Time	**Flow Rate (mL/min)**	**DTW (ft)**	**Temp (°C)**	**pH**	**Cond (µS/cm)**	**DO (mg/L)**	**ORP (mV)**	**Turbidity (NTU)**	**Initials**	**Water Conditions / Comments**
14:20	<200	6.98	15.68	7.24	1981	6.61	125.0	7.86	DK	VOAs collected and
14:32	<200	6.94	15.20	7.18	1422	7.25	137.2	2.33	DK	Two 1-liter ambers
14:32										Sample collected

GENERAL INFORMATION

Weather: Sun/Clear: _____ Cloudy: Mostly Rain: _____ Wind Speed/Dir. 18mph/WNW Temperature 64°F

Sampler: D. Kormos **Observer:** B. Beaumont

Notes:

TEC-Weston Joint Venture

Purge and Sample Form

WELL NUMBER	WELL INFORMATION					DATE:	6/8/2016
SC-TU009-MW003	Well Diameter (in)	Total Depth (ft BTOC)	Depth to Water (ft BTOC)	Depth to Product (ft BTOC)	PID (ppm)	Sample Personnel:	D. Kormos
						Installation:	Schenectady ANGB
SITE NAME						Site Name:	TU009
TU009	2	9.5	8.65	NA	0.1	Project No.:	ANG2015NEWENGLAND

PURGE INFORMATION							SAMPLE INFORMATION	
Pump Type	Tubing Type	Pump Intake Depth (ft BTOC)	Purge Start Time	Purge Stop Time	Flow Rate (mL/min)	Total Purge Vol (gal)	Sample ID:	SC-TU009-MW003-G-1
							Sample Time:	12:45
							Duplicate ID:	SC-TU008-MW001-G-1-D
Peristaltic	1/4"OD Poly	9.4	9:40	12:45	<200	0.5	MS/MSD: Yes: No: X	

PURGING PARAMETERS (Measurements to be taken every 3-5 minutes)

Criteria:			±1 °C	±0.1	±10%	±10%	±10 mV	<10 NTU or ±10%		
Time	**Flow Rate (mL/min)**	**DTW (ft)**	**Temp (°C)**	**pH**	**Cond (µS/cm)**	**DO (mg/L)**	**ORP (mV)**	**Turbidity (NTU)**	**Initials**	**Water Conditions / Comments**
9:40	<250	8.65	12.47	3.60	2074	7.64	140.8		DK	Purged dry, recharge.
9:44	<250	9.04							DK	Purged dry, recharge.
9:49	<250	9.25	13.19	5.48	2167	5.63	135.6	16.7	DK	Purged dry, recharge.
9:55	<250	9.40	12.80						DK	Purged dry, recharge.
10:18	N/A	9.35							DK	Purged dry, recharge.
11:36	<250	9.30							DK	Purged dry, recharge.
12:45									DK	Sample collected

GENERAL INFORMATION

Weather: Sun/Clear: _____ Cloudy: Partly Rain: _____ Wind Speed/Dir. 14mph/NW Temperature 60°F

Sampler: D. Kormos **Observer:** B. Beaumont

Notes:

TEC-Weston Joint Venture

Purge and Sample Form

WELL NUMBER	WELL INFORMATION					DATE:	6/8/2016
SC-TU009-6MW22	Well Diameter (in)	Total Depth (ft BTOC)	Depth to Water (ft BTOC)	Depth to Product (ft BTOC)	PID (ppm)	Sample Personnel:	D. Kormos
						Installation:	Schenectady ANGB
SITE NAME						Site Name:	TU009
TU009	4	8.96	7.76	NA	0	Project No.:	ANG2015NEWENGLAND

PURGE INFORMATION							SAMPLE INFORMATION	
Pump Type	Tubing Type	Pump Intake Depth (ft BTOC)	Purge Start Time	Purge Stop Time	Flow Rate (mL/min)	Total Purge Vol (gal)	Sample ID:	SC-TU009-6MW22-G-1
							Sample Time:	12:30 and 12:35
							Duplicate ID:	SC-TU009-6MW22-G-1-D
Peristaltic	1/4"OD Poly	8.96	11:45	12:30	<200	0.5	MS/MSD: Yes: X No:	

PURGING PARAMETERS (Measurements to be taken every 3-5 minutes)

Criteria:			±1 °C	±0.1	±10%	±10%	±10 mV	<10 NTU or ±10%		
Time	**Flow Rate (mL/min)**	**DTW (ft)**	**Temp (°C)**	**pH**	**Cond (µS/cm)**	**DO (mg/L)**	**ORP (mV)**	**Turbidity (NTU)**	**Initials**	**Water Conditions / Comments**
11:45	<200	7.76	14.02	7.08	1295	2.95	78.9		DK	3-Liters collected
11:52	<200	8.38							DK	
12:01	<200	Dry							DK	6-Liters collected
12:30	<200	Dry							DK	Sample collected

GENERAL INFORMATION

Weather: Sun/Clear: _____ Cloudy: X Rain: _____ Wind Speed/Dir. 14mph/NW Temperature <60°F

Sampler: D. Kormos **Observer:** B. Beaumont

Notes: Grab at beginning of purge due to minimal water column.

TEC-Weston Joint Venture

Purge and Sample Form

WELL NUMBER	WELL INFORMATION					DATE:	6/8/2016
SC-TU009-6MW24	Well Diameter (in)	Total Depth (ft BTOC)	Depth to Water (ft BTOC)	Depth to Product (ft BTOC)	PID (ppm)	Sample Personnel:	D. Kormos
						Installation:	Schenectady ANGB
SITE NAME						Site Name:	TU009
TU009	4	8.52	7.73	NA	0	Project No.:	ANG2015NEWENGLAND

PURGE INFORMATION							SAMPLE INFORMATION	
Pump Type	Tubing Type	Pump Intake Depth (ft BTOC)	Purge Start Time	Purge Stop Time	Flow Rate (mL/min)	Total Purge Vol (gal)	Sample ID:	SC-TU009-6MW24-G-1
							Sample Time:	13:00
							Duplicate ID:	N/A
Peristaltic	1/4"OD Poly	8.3	10:50	13:00	<200	0.5	MS/MSD: Yes: No: X	

PURGING PARAMETERS (Measurements to be taken every 3-5 minutes)

Criteria:			±1 °C	±0.1	±10%	±10%	±10 mV	<10 NTU or ±10%		
Time	**Flow Rate (mL/min)**	**DTW (ft)**	**Temp (°C)**	**pH**	**Cond (µS/cm)**	**DO (mg/L)**	**ORP (mV)**	**Turbidity (NTU)**	**Initials**	**Water Conditions / Comments**
10:50	<250	7.73	15.94	6.18	1208	4.24	42.3	12.90	DK	
11:00	<250	7.95	12.98	6.20	1202	4.11	45.6	3.92	DK	
11:03	<250	8.25	11.52	6.06	1191	3.75	53.6	4.70	DK	
11:06	Sample	Dry							DK	Recharge
11:32		8.15							DK	
12:26		8.20							DK	
13:00									DK	Sample collected

GENERAL INFORMATION

Weather: Sun/Clear: _____ Cloudy: X Rain: _____ Wind Speed/Dir. 14mph/NW Temperature <60°F

Sampler: D. Kormos **Observer:** B. Beaumont

Notes:

TEC-Weston Joint Venture

Static Groundwater Level Measurement Form								
Project Location: ZZ007, TU008, and TU009, Schenectady ANGB, Scotia, NY								
Well Identifier	Well Description	Date	Time	Well Depth (ft TOC)	Screen Length (ft)	Measuring Point (GL or TOC)	Depth to Water (ft TOC)	PID Reading (Above Bkgrd) (ppm)
ZZ007								
SC-ZZ007-MWUNK	Existing well	6/1/2016	9:00	15.60	--	TOC	5.65	0
SC-ZZ007-MW001	1" temporary well	6/2/2016	17:30	6.50	5	TOC	<1" water in well	0
SC-ZZ007-MW002	1" temporary well	6/2/2016	17:30	7.00	5	TOC	<1" water in well	0
SC-ZZ007-MW003	1" temporary well	6/2/2016	17:30	6.50	5	TOC	Dry	0
SC-ZZ007-MW001	1" temporary well	6/6/2016	13:33	6.50	5	TOC	4.63	0
SC-ZZ007-MW002	1" temporary well	6/6/2016	13:28	7.00	5	TOC	4.89	0
SC-ZZ007-MW003	1" temporary well	6/6/2016	13:25	6.50	5	TOC	Dry	0
SC-ZZ007-MWUNK	Existing well	6/7/2016	14:08	15.55	--	TOC	5.00	0
SC-ZZ007-MW001	1" temporary well	6/7/2016	12:35	6.50	5	TOC	4.80	0
SC-ZZ007-MW002	1" temporary well	6/7/2016	12:40	7.01	5	TOC	4.85	0
SC-ZZ007-MW003	1" temporary well	6/7/2016	12:42	6.47	5	TOC	6.30	0
TU008								
SC-TU008-MW001	2" permanent well	6/3/2016	13:15	11.42	10	TOC	5.45	0
SC-TU008-MW002	2" permanent well	6/3/2016	13:15	9.00	7	TOC	<2" water in well	0
SC-TU008-MW003	1" temporary well	6/3/2016	13:15	6.98	5	TOC	6.95	0
SC-TU008-MW004	2" permanent well	6/3/2016	13:15	9.02	7	TOC	<2" water in well	0
SC-TU008-MW001	2" permanent well	6/6/2016	8:46	11.42	10	TOC	5.45	0
SC-TU008-MW002	2" permanent well	6/6/2016	8:49	8.92	7	TOC	5.25	0
SC-TU008-MW003	1" temporary well	6/6/2016	8:44	7.00	5	TOC	6.40	0
SC-TU008-MW004	2" permanent well	6/6/2016	8:38	9.00	7	TOC	5.85	0
SC-TU008-MW001	2" permanent well	6/8/2016	16:25	11.42	10	TOC	5.5	0
SC-TU008-MW002	2" permanent well	6/8/2016	15:26	9.00	7	TOC	6.05	0
SC-TU008-MW003	1" temporary well	6/8/2016	14:07	7.00	5	TOC	6.1	0
SC-TU008-MW004	2" permanent well	6/8/2016	14:32	9.00	7	TOC	6.18	0

TEC-Weston Joint Venture

Static Groundwater Level Measurement Form								
Project Location: ZZ007, TU008, and TU009, Schenectady ANGB, Scotia, NY								
Well Identifier	Well Description	Date	Time	Well Depth (ft TOC)	Screen Length (ft)	Measuring Point (GL or TOC)	Depth to Water (ft TOC)	PID Reading (Above Bkgrd) (ppm)
TU009								
SC-TU009-6MW24	Existing well	6/6/2016	13:30	8.52	--	TOC	7.80	0
SC-TU009-MW001	borehole	6/6/2016	15:00	~8.00	N/A	GL	Dry	0
SC-TU009-MW002	borehole	6/6/2016	15:00	~7.50	N/A	GL	<1.0	0
SC-TU009-MW003	borehole	6/6/2016	15:00	~8.00	N/A	GL	<1.0	0
SC-TU009-MW001	borehole	6/7/2016	9:56	7.40	N/A	GL	6.75	0
SC-TU009-MW002	borehole	6/7/2016	9:54	5.30	N/A	GL	4.75	0
SC-TU009-MW003	2" permanent well	6/7/2016	9:50	9.50	7	TOC	9.75	0
SC-TU009-MW003	2" permanent well	6/8/2016	12:45	9.50	7	TOC	8.65	0
SC-TU009-6MW24	Existing well	6/8/2016	13:00	8.52	--	TOC	7.73	0
SC-TU009-6MW22	Existing well	6/8/2016	12:30	8.96	--	TOC	7.76	0

-- - Unknown
Bkgrd - Background
ft - feet
GL - ground level
N/A - not applicable
PID - photoionization detector
ppm - parts per million
TOC - top of casing

TEC-Weston Joint Venture

Equipment Calibration Log				Project:	Sites ZZ007, TU008, and TU009, Schenectady ANGB, Scotia, New York		
			Calibration				
Date/ Time	Equipment Description	Equip ID	Calibr standard/ exp date	Pre Cal readings	Post Cal Readings	Performed by:	Comments
11/7/2016 913	Hanna HI 98703	RFW 22192	<0.1 NTU / 12/15 / C47489	0.22	NA	AL	Bump test only, all values in acceptable range
			15 NTU / 1/16 / C476408	15			
			100 NTU / 12/2015 / C475122	100			
			750 NTU / 12/2016 / C 476407	750			
11/7/2016 938	YSI 556	RFW 2218	pH4 / 5/18	4.2	NA	AL	Bump test only, all values in acceptable range; Zobell solution at 7C should be 216.0 mV
			pH7 / 4/18	7.1			
			pH10 / 6/18	10.06			
			Conductivity 1000 / 9/30	1005			
			Zobell / 5/2017	216.9			
11/7/2016 915 Bump 930 Calibrate	Hanna HI 98703	RFW 22187	<0.1 NTU / 8/17 / C690745	0.26	0.25	MP	750 NTU standard was out of range during bump test ; recalibrated equipment
			15 NTU / 8/17 / C688406	15.5	15.2		
			100 NTU / 8/17 / C687762	95.4	99.9		
			750 NTU / 8/17 / C690772	622	751		
11/7/2016 938	YSI 556	RFW 22118	pH4 / 5/18	4.2	NA	MP	Bump test pH and ORP - all values in acceptable range; conductivity recalibrated; Zobell solution at 7C should be 216.0 mV
			pH7 / 4/18	7.1			
			pH10 / 6/18	10.06			
			Conductivity 1000 / 9/30	1005			
			Zobell / 5/2017	216.9			
11/10/2016 740	Hanna HI 98703	RFW 22187	<0.1 NTU / 8/17 / C690745	0.26	0.1	MP	750 NTU standard was out of range during bump test ; recalibrated equipment
			15 NTU / 8/17 / C688406	95.9	15		
			100 NTU / 8/17 / C687762	106	100		
			750 NTU / 8/17 / C690772	864	745		

TEC-Weston Joint Venture

Equipment Calibration Log				Project:	Sites ZZ007, TU008, and TU009, Schenectady ANGB, Scotia, New York		
			Calibration				
Date/ Time	Equipment Description	Equip ID	Calibr standard/ exp date	Pre Cal readings	Post Cal Readings	Performed by:	Comments
11/10/2016 741	YSI 556	RFW 22118	pH4 / 5/18	4.02	NA	AL	Bump test only, all values in acceptable range; Zobell solution at 2C should be ~ 260.0 mV
			pH7 / 4/18	7.18			
			pH10 / 6/18	10.1			
			Conductivity 1000 / 9/30	1062			
			Zobell / 5/2017	247.3			

% - percent
µS/cm - microSiemens per centimeter
CO - carbon monoxide
H_2S - hydrogen sulfide
LEL - lower explosive limit
NTU - Nephelometric Turbidity Unit
O_2 - oxygen
ppm - part per million
VOC - volatile organic compound

TEC-Weston Joint Venture

Purge and Sample Form

WELL NUMBER	WELL INFORMATION					11/7/2016	Page 1 of 1
TU008-MW001	Well Diameter (in)	Total Depth (ft BTOC)	Depth to Water (ft BTOC)	Depth to Product (ft BTOC)	PID (ppm)	**Sample Personnel:**	Tom Dakin
						Installation:	Schenectady ANGB, Scotia, New York
SITE NAME						**Site Name:**	TU008
TU008	2	11.6	5	NA	0	**Project No.:**	ANG2015NEWENGLAND

PURGE INFORMATION							SAMPLE INFORMATION
Pump Type	Tubing Type	Pump Intake Depth (ft BTOC)	Purge Start Time	Purge Stop Time	Flow Rate (mL/min)	Total Purge Vol (gal)	**Sample ID: SC-TU008-MW001-G-2**
							Sample Time: 1410
							Duplicate ID:
Peristaltic	Poly	11	1330	1400	250	2	**MS/MSD: Yes: X No:____**

PURGING PARAMETERS (Measurements to be taken every 3-5 minutes)

Criteria:			±1 °C	±0.1	±10%	±10%	±10 mV	<10 NTU or ±10%		
Time	**Flow Rate (mL/min)**	**DTW (ft)**	**Temp (°C)**	**pH**	**Cond (mS/cm)**	**DO (mg/L)**	**ORP (mV)**	**Turbidity (NTU)**	**Initials**	**Water Conditions / Comments**
1330	~250	6.0	15.91	6.93	3.563	1.98	-82.6	1.6	TD	
1335	~250	6.2	15.9	6.98	3.533	0.81	-84.3	5.5	TD	
1340	~250	6.2	15.88	6.98	3.535	0.56	-81.7	6.0	TD	
1345	~250	6.2	15.52	6.92	3.488	0.5	-70.0	15.0	TD	
1350	~250	6.2	15.66	6.96	3.488	0.5	-71.7	16.0	TD	
1355	~250	6.2	15.58	6.91	3.472	0.49	-70.0	15.0	TD	
1400	~250	6.2	15.59	6.91	3.473	0.45	-72.6	12.0	TD	
										Sample time 1410

GENERAL INFORMATION

Weather: Sun/Clear: _____ Cloudy: _____ Rain: _____ Wind Speed/Dir. _____ Temperature: _____

Sampler: Tom Dakin **Observer:** Mallory Pinkowski

Notes:

TEC-Weston Joint Venture

Purge and Sample Form

WELL NUMBER	WELL INFORMATION					11/7/2016	Page 1 of 1
TU008-MW002	Well Diameter (in)	Total Depth (ft BTOC)	Depth to Water (ft BTOC)	Depth to Product (ft BTOC)	PID (ppm)	**Sample Personnel:**	Amanda Laskoskie and Mallory Pinkowski
						Installation:	Schenectady ANGB, Scotia, New York
SITE NAME						**Site Name:**	TU008
TU008	2	8.6	4.25	NA	0	**Project No.:**	ANG2015NEWENGLAND

PURGE INFORMATION							SAMPLE INFORMATION
Pump Type	Tubing Type	Pump Intake Depth (ft BTOC)	Purge Start Time	Purge Stop Time	Flow Rate (mL/min)	Total Purge Vol (gal)	**Sample ID: SC-TU008-MW002-G-2**
							Sample Time: 1105
							Duplicate ID: SC-TU008-MW002-G-2 - D at 1107
Peristaltic	Poly	7.0	1034	1100	200	1.4	**MS/MSD: Yes: ____ No: X**

PURGING PARAMETERS (Measurements to be taken every 3-5 minutes)

Criteria:			±1 °C	±0.1	±10%	±10%	±10 mV	<10 NTU or ±10%		
Time	**Flow Rate (mL/min)**	**DTW (ft)**	**Temp (°C)**	**pH**	**Cond (mS/cm)**	**DO (mg/L)**	**ORP (mV)**	**Turbidity (NTU)**	**Initials**	**Water Conditions / Comments**
1036	~200	4.6	13.61	7.04	2.418	2.07	-501.1	6.2	AL	Clear; no odor
1039	~200	4.77	13.75	7.10	2.188	1.51	-56.0	5.4	AL	
1042	~200	4.80	13.71	7.12	19.47	1.59	-57.7	4.8	AL	
1045	~200	4.98	13.69	7.12	1.711	1.57	-53.9	4.3	AL	
1048	~200	5.13	13.76	7.11	1.510	1.34	-49.7	3.5	MP	
1051	~200	5.25	13.78	7.10	1.468	1.17	-49.2	2.5	MP	
1054	~200	5.33	13.88	7.10	1.418	1.09	-49.5	2.0	MP	
1057	~200	5.56	13.90	7.10	1.392	0.99	-49.3	1.6	AL	
1100	~200	5.80	13.80	7.10	1.373	0.97	-49.9	1.6	AL	

GENERAL INFORMATION

Weather: Sun/Clear: X Cloudy: _____ Rain: _____ Wind Speed/Dir. 3 mph NNE Temperature: 52 °F

Sampler: Amanda Laskoskie **Observer:** Mallory Pinkowski

Notes:

TEC-Weston Joint Venture

Purge and Sample Form

WELL NUMBER	WELL INFORMATION					11/7/2016	Page 1 of 1
TU008-MW004	Well Diameter (in)	Total Depth (ft BTOC)	Depth to Water (ft BTOC)	Depth to Product (ft BTOC)	PID (ppm)	**Sample Personnel:**	Tom Dakin
						Installation:	Schenectady ANGB, Scotia, New York
SITE NAME						**Site Name:**	TU008
TU008	2	9	5.42	NA	0	**Project No.:**	ANG2015NEWENGLAND

PURGE INFORMATION							SAMPLE INFORMATION
							Sample ID: SC-TU008-MW004-G-2
							Sample Time: 1310
Pump Type	Tubing Type	Pump Intake Depth (ft BTOC)	Purge Start Time	Purge Stop Time	Flow Rate (mL/min)	Total Purge Vol (gal)	**Duplicate ID:**
Peristaltic	Poly	8.5	1236	1300	250	1.58	**MS/MSD: Yes: ____ No: X**

PURGING PARAMETERS (Measurements to be taken every 3-5 minutes)

Criteria:			±1 °C	±0.1	±10%	±10%	±10 mV	<10 NTU or ±10%		
Time	**Flow Rate (mL/min)**	**DTW (ft)**	**Temp (°C)**	**pH**	**Cond (mS/cm)**	**DO (mg/L)**	**ORP (mV)**	**Turbidity (NTU)**	**Initials**	**Water Conditions / Comments**
1236	~250	5.65	17.8	7.09	2.274	2.16	-102.1	10.0	TD	
1240	~250	6.00	17.61	7.08	2.234	0.53	-71.8	7.5	TD	
1250	~250	6.55	17.01	7.07	2.205	1.21	-55.3	2.1	TD	
1255	~250	6.90	17.14	7.07	2.199	1.11	-56.3	1.9	TD	
1300	~250	7.06	17.19	7.07	2.211	0.71	-62.0	1.6	TD	
1310										Sampled

GENERAL INFORMATION

Weather: Sun/Clear: _____ Cloudy: _____ Rain: _____ Wind Speed/Dir. _____ Temperature: _____

Sampler: Tom Dakin **Observer:** Mallory Pinkowski

Notes:

TEC-Weston Joint Venture

Purge and Sample Form

WELL NUMBER	WELL INFORMATION					11/10/2016	Page 1 of 1
TU008-MW006	Well Diameter (in)	Total Depth (ft BTOC)	Depth to Water (ft BTOC)	Depth to Product (ft BTOC)	PID (ppm)	**Sample Personnel:**	Tom Dakin
						Installation:	Schenectady ANGB, Scotia, New York
SITE NAME						**Site Name:**	TU008
TU008	2	7.7	7.3	NA	0	**Project No.:**	ANG2015NEWENGLAND

PURGE INFORMATION							SAMPLE INFORMATION
Pump Type	Tubing Type	Pump Intake Depth (ft BTOC)	Purge Start Time	Purge Stop Time	Flow Rate (mL/min)	Total Purge Vol (gal)	**Sample ID: SC-TU008-MW006-G-2**
							Sample Time: 1400
							Duplicate ID:
Peristaltic	Poly	7.6	NA	NA	NA	NA	**MS/MSD: Yes: ____ No: X**

PURGING PARAMETERS (Measurements to be taken every 3-5 minutes)

Criteria:			±1 °C	±0.1	±10%	±10%	±10 mV	<10 NTU or ±10%		
Time	**Flow Rate (mL/min)**	**DTW (ft)**	**Temp (°C)**	**pH**	**Cond (mS/cm)**	**DO (mg/L)**	**ORP (mV)**	**Turbidity (NTU)**	**Initials**	**Water Conditions / Comments**
1400	na	7.30	15.37	7.45	1.08	5.78	-75.0	Clear	TD	Grab sample due to low volume

GENERAL INFORMATION

Weather: Sun/Clear: _____ Cloudy: _____ Rain: _____ Wind Speed/Dir. _____ Temperature: _____

Sampler: Tom Dakin **Observer:** Mallory Pinkowski

Notes:

TEC-Weston Joint Venture

Purge and Sample Form

WELL NUMBER	WELL INFORMATION					11/7/2016	Page 1 of 1
TU009-MW003	Well Diameter (in)	Total Depth (ft BTOC)	Depth to Water (ft BTOC)	Depth to Product (ft BTOC)	PID (ppm)	**Sample Personnel:**	Tom Dakin
						Installation:	Schenectady ANGB, Scotia, New York
SITE NAME						**Site Name:**	TU009
TU009	2	9.5	8.12	NA	0	**Project No.:**	ANG2015NEWENGLAND

PURGE INFORMATION							SAMPLE INFORMATION
Pump Type	Tubing Type	Pump Intake Depth (ft BTOC)	Purge Start Time	Purge Stop Time	Flow Rate (mL/min)	Total Purge Vol (gal)	**Sample ID: SC-TU009-MW003-G-2**
							Sample Time: 1540
							Duplicate ID:
Peristaltic	Poly	9.0	1514	1530	250	1.1	**MS/MSD: Yes: ____ No: X**

PURGING PARAMETERS (Measurements to be taken every 3-5 minutes)

Criteria:			±1 °C	±0.1	±10%	±10%	±10 mV	<10 NTU or ±10%		
Time	**Flow Rate (mL/min)**	**DTW (ft)**	**Temp (°C)**	**pH**	**Cond (mS/cm)**	**DO (mg/L)**	**ORP (mV)**	**Turbidity (NTU)**	**Initials**	**Water Conditions / Comments**
1514	~250	8.6	15.02	7.04	1.494	2.35	-75.40	16.8	TD	
1519	~250	9	14.97	7.03	1.481	0.46	-76.00	5.08	TD	
1523	~250	9.1	14.92	7.03	1.476	0.94	-79.10	2.85	TD	
1527	~250	9.2	14.89	7.03	1.467	0.75	79.00	2.62	TD	
1530	~250	9.5								Purged dry
1540										

GENERAL INFORMATION

Weather: Sun/Clear: _____ Cloudy: _____ Rain: _____ Wind Speed/Dir. _____ Temperature: _____

Sampler: Tom Dakin **Observer:** Mallory Pinkowski

Notes:

TEC-Weston Joint Venture

Static Groundwater Level Measurement Form							
Project Location: Site TU008 - Schenectady ANGB, Scotia, New York							
Well Identifier	**Date**	**Time**	**Well Depth (ft TOC)**	**Screen Length (ft)**	**Measuring Point (GL or TOC)**	**Depth to Water (Ft TOC)**	**PID Reading (Above Bkgrd) (ppm)**
SC-TU008-MW001	11/7/2016	1000	11.6	10	TOC	5.60	0
SC-TU008-MW002	11/7/2016	1016	8.6	7	TOC	4.25	0
SC-TU008-MW004	11/7/2016	1045	9.0	7	TOC	5.42	0
SC-TU008-MW001	11/10/2016	1410	11.6	10	TOC	5.60	0
SC-TU008-MW002	11/10/2016	1105	8.6	7	TOC	4.25	0
SC-TU008-MW004	11/10/2016	1540	9.0	7	TOC	5.42	0
SC-TU008-MW005	11/10/2016	1400	-	5		Dry	0
SC-TU008-MW006	11/10/2016	1400	7.70	5	TOC	7.30	0

Bkgrd - Background
ft - feet
GL - ground level
PID - photoionization detector
ppm - parts per million
TOC - top of casing (measuring point, inner PVC)

TEC-Weston Joint Venture

Static Groundwater Level Measurement Form							
Project Location: Site TU009 - Schenectady ANGB, Scotia, New York							
Well Identifier	**Date**	**Time**	**Well Depth (ft TOC)**	**Screen Length (ft)**	**Measuring Point (GL or TOC)**	**Depth to Water (Ft TOC)**	**PID Reading (Above Bkgrd) (ppm)**
TU009-MW003	11/7/2016	1005	9.5	7	TOC	8.12	0

Bkgrd - Background
ft - feet
GL - ground level
PID - photoionization detector
ppm - parts per million
TOC - top of casing (measuring point, inner PVC)

APPENDIX D

INVESTIGATION-DERIVED WASTE MANAGEMENT

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TEC-Weston Joint Venture

IDW Drum Tracking Form - ZZ007, TU008, and TU009, Schenectady ANGB, Scotia, NY

Drum ID	Contents/Comments)				Generation Dates		Storage Location
	Site	Matrix	Sample Locations	Analytical Parameters Collected	Initiated	Filled/Closed	
No.1	ZZ007	Soil	SC-ZZ007-MW001, SC-ZZ007-MW002, SC-ZZ007-MW003	TCLP RCRA Metals (Sample ID: SC-ZZ007-IDW-SOIL)	6/1/2016	6/2/2016	TU009 shed pad (outside)
No.2	TU008	Soil	SC-TU008-MW001, SC-TU008-MW002	TCLP VOCs & TCLP SVOCs (composite of Drum No. 2 and No. 3; Sample ID: SC-TU008-IDW-SOIL)	6/3/2016	6/6/2016	TU009 shed pad (outside)
No.3	TU008	Soil	SC-TU008-MW001, SC-TU008-MW003	TCLP VOCs & TCLP SVOCs (composite of Drum No. 2 and No. 3; Sample ID: SC-TU008-IDW-SOIL)	6/3/2016	6/3/2016	TU009 shed pad (outside)
No.4	TU008	Water	SC-TU008-MW001, SC-TU008-MW002, SC-TU008-MW003, SC-TU008-MW004	VOCs (8260C) and SVOCs (8270D) (Sample IDs: SC-TU008-MW001-G-1, SC-TU008-MW002-G-1, SC-TU008-MW003-G-1, SC-TU008-MW004-G-1)	6/3/2016	6/8/2016	TU009 shed pad (outside)
No.5	TU009	Soil	SC-TU009-SB001, SC-TU009-SB002, SC-TU009-MW003	TCLP SVOCs and TCLP RCRA Metals (Sample ID: SC-TU009-IDW-SOIL)	6/6/2016	6/7/2016	TU009 shed pad (outside)
No.6	ZZ007	water	SC-ZZ007-MW001, SC-ZZ007-MW002, SC-ZZ007-MWUNK	TAL metals (Sample IDs: SC-ZZ007-MW001-G-1, SC-ZZ007-MW002-G-1, SC-ZZ007-MWUNK-G-1)	6/4/2016	6/7/2016	TU009 shed pad (outside)
No.7	TU009	Water	SC-TU009-MW003, 6MW24, 6MW22	TAL metals (6010C/7470A) and SVOCs (8270D) (Sample IDs: SC-TU009-MW003-G-1, SC-TU009-6MW24-G-1, SC-TU009-6MW22-G-1)	6/8/2016	6/8/2016	TU009 shed pad (outside)

RCRA - Resource Conservation and Recovery Act
SVOC - semivolatile organic compound
TAL - Target analyte list
TCLP - toxicity characteristic leaching procedure
VOC - volatile organic compound

TEC-Weston Joint Venture

IDW Drum Tracking Form - TU008 and TU009, Schenectady ANGB, Scotia, NY

Drum ID	Contents/Comments)				Generation Dates		Storage Location
	Site	Matrix	Sample Locations	Analytical Parameters Collected	Initiated	Filled/Closed	
No.1	TU008	Soil	SC-TU008-MW005, SC-TU008-MW006	TCLP VOCs & TCLP SVOCs (composite of Drum No. 1 and No. 2; Sample ID: SC-TU008-IDW-SOIL-110716)	11/7/2016	11/7/2016	TU009 shed pad (outside)
No.2	TU008	Soil	SC-TU008-MW005, SC-TU008-MW006	TCLP VOCs & TCLP SVOCs (composite of Drum No. 1 and No. 2; Sample ID: SC-TU008-IDW-SOIL-110716)	11/7/2016	11/7/2016	TU009 shed pad (outside)
No.3	TU008/ TU009	Rinse/ purge water	SC-TU008-MW001, SC-TU008-MW002, SC-TU008-MW004, SC-TU008-MW006, SC-TU009-MW003	8260C VOCs and 8270D SVOCs - SC-TU008-MW001-G-2, SC-TU008-MW002-G-2, SC-TU008-MW002-G-2-D, SC-TU008-MW004-G-2, SC-TU008-MW006-G-1; 6010C Total and Dissolved Metals & 7470A Total and Dissolved Mercury - SC-TU009-MW003-G-2	11/7/2016	11/10/2016	TU009 shed pad (outside)

SVOC - semivolatile organic compound
TCLP - toxicity characteristic leaching procedure
VOC - volatile organic compound

Site Address : SAME

SC PPW 12/6/2016

WORK ORDER NO 1604199780

DOCUMENT NO. 177182

STRAIGHT BILL OF LADING

TRANSPORTER 1 Clean Harbors Environmental Service, Inc. VEHICLE ID #

EPA ID # MAD039322250 TRANS. 1 PHONE (781)792-5000

TRANSPORTER 2 Franks Vacuum Truck Service VEHICLE ID #

EPA ID # NYD 982792814 TRANS. 2 PHONE

DESIGNATED FACILITY			SHIPPER		
Spring Grove Resource Recovery Inc.			Schenectady Air National Guard Base		
FACILITY EPA ID # OHD000816629			SHIPPER EPA ID # CESQG		
ADDRESS 4879 Spring Grove Avenue			ADDRESS 1 Air National Guard Road		
CITY Cincinnati	STATE OH	ZIP 45232	CITY Scotia	STATE NY	ZIP 12302

CONTAINERS NO. & SIZE	TYPE	HM	DESCRIPTION OF MATERIALS	TOTAL QUANTITY	UNIT WT/VOL
1x55	DM		A. NON DOT REGULATED MATERIAL (SOIL CUTTINGS)	35	P
2x55	DM		B. NON DOT REGULATED MATERIAL (DEVELOPMENT/PURGE WATER)	600	P
			C.		
			D.		
			E.		
			F.		
			G.		
			H.		

SPECIAL HANDLING INSTRUCTIONS EMERGENCY PHONE #: (800) 483-3718 GENERATOR: Schenectady Air National Guard Base
A.CH1247432 B.CH1247429

SHIPPERS CERTIFICATION: This is to certify that the above named materials are properly classified, described, packaged, marked and labeled and are in proper condition for transportation according to the applicable regulations of the Department of Transportation.

SHIPPER	PRINT Jon Kotch	SIGN	DATE 12/7/2016
TRANSPORTER 1	PRINT Jerry Coe	SIGN	DATE 12/19/16
TRANSPORTER 2	PRINT Alfredo Figueroa	SIGN	DATE 12-21-16
RECEIVED BY	PRINT Kathy Adams	SIGN	DATE 12/22/16

1

CHI 107

Site Address : SAME

SC PPW 7/20/2015

WORK ORDER NO 1602765941

DOCUMENT NO. 1161660

STRAIGHT BILL OF LADING

TRANSPORTER 1 Clean Harbors Environmental Service, Inc. VEHICLE ID #

EPA ID # MAD039322250 TRANS. 1 PHONE (781)792-5000

TRANSPORTER 2 Franks Vacuum Truck Service Inc VEHICLE ID #

EPA ID # NVD 982 792 814 TRANS. 2 PHONE

DESIGNATED FACILITY	SHIPPER
Spring Grove Resource Recovery Inc.	Schenectady Air National Guard Base
FACILITY EPA ID # OHD000816629	SHIPPER EPA ID # CESQG
ADDRESS 4879 Spring Grove Avenue	ADDRESS 1 Air National Guard Road
CITY Cincinnati STATE OH ZIP 45232	CITY Scotia STATE NY ZIP 12302

CONTAINERS NO. & SIZE	TYPE	HM	DESCRIPTION OF MATERIALS	TOTAL QUANTITY	UNIT WT/VOL
3X55	Dm		A. NON DOT REGULATED MATERIAL, (DEVELOPMENT/PURGE WATER)	600	P
4X55	Dm		B. NON DOT REGULATED MATERIAL, (SOIL CUTTINGS)	1,600	P
			C.		
			D.		
			E.		
			F.		
			G.		
			H.		

SPECIAL HANDLING INSTRUCTIONS EMERGENCY PHONE #: (800) 483-3718 GENERATOR: Schenectady Air National Guard Base
A.CH1247428 B.CH1247432

SHIPPERS CERTIFICATION: This is to certify that the above named materials are properly classified, described, packaged, marked and labeled and are in proper condition for transportation according to the applicable regulations of the Department of Transportation.

SHIPPER	PRINT Scott Dillman for Strathan ANG	SIGN	DATE 8/29/16
TRANSPORTER 1	PRINT Walt Stuf, ano	SIGN	DATE 8-29-16
TRANSPORTER 2	PRINT Eric FAAR	SIGN	DATE 9/6/16
RECEIVED BY	PRINT Lakiesha Mason	SIGN	DATE 9-7-16

1

CHI 107

WASTE MATERIAL PROFILE SHEET

Clean Harbors Profile No. CH1247429

A. GENERAL INFORMATION

GENERATOR EPA ID #/REGISTRATION # ***CESQG*** GENERATOR NAME: ***Schenectady Air National Guard Base***

GENERATOR CODE (Assigned by Clean Harbors) ***SC24601*** CITY ***Scotia*** STATE/PROVINCE ***NY*** ZIP/POSTAL CODE ***12302***

ADDRESS ***1 Air National Guard Road*** PHONE: **(518) 344-2341**

CUSTOMER CODE (Assigned by Clean Harbors) ***WE30294*** CUSTOMER NAME: ***Weston Solutions Inc***

ADDRESS ***43 N. Main Street*** CITY ***Concord*** STATE/PROVINCE ***NH*** ZIP/POSTAL CODE ***03301***

B. WASTE DESCRIPTION

WASTE DESCRIPTION: ***Decon/Sampling Water TU008***

PROCESS GENERATING WASTE: **sampling, site monitoring**

IS THIS WASTE CONTAINED IN SMALL PACKAGING CONTAINED WITHIN A LARGER SHIPPING CONTAINER ? **No**

C. PHYSICAL PROPERTIES (at 25C or 77F)

PHYSICAL STATE
- SOLID WITHOUT FREE LIQUID
- POWDER
- MONOLITHIC SOLID
- ✔ LIQUID WITH NO SOLIDS
- LIQUID/SOLID MIXTURE
- % FREE LIQUID
- % SETTLED SOLID
- % TOTAL SUSPENDED SOLID
- SLUDGE
- GAS/AEROSOL

NUMBER OF PHASES/LAYERS

✔ 1 2 3

% BY VOLUME (Approx.)

TOP	***0.00***
MIDDLE	***0.00***
BOTTOM	***0.00***

VISCOSITY (If liquid present)
- ✔ 1 - 100 (e.g. Water)
- 101 - 500 (e.g. Motor Oil)
- 501 - 10,000 (e.g. Molasses)
- > 10,000

COLOR

clear

ODOR
- ✔ NONE
- MILD
- STRONG

Describe:

BOILING POINT °F (°C)
- <= 95 (<=35)
- 95 - 100 (35-38)
- 101 - 129 (38-54)
- ✔ >= 130 (>54)

MELTING POINT °F (°C)
- < 140 (<60)
- 140-200 (60-93)
- > 200 (>93)

TOTAL ORGANIC CARBON
- ✔ <= 1%
- 1-9%
- >= 10%

FLASH POINT °F (°C)
- < 73 (<23)
- 73 - 100 (23-38)
- 101 -140 (38-60)
- 141 -200 (60-93)
- ✔ > 200 (>93)

pH
- <= 2
- 2.1 - 6.9
- 7 (Neutral)
- ✔ 7.1 - 12.4
- >= 12.5

SPECIFIC GRAVITY
- < 0.8 (e.g. Gasoline)
- 0.8-1.0 (e.g. Ethanol)
- ✔ 1.0 (e.g. Water)
- 1.0-1.2 (e.g. Antifreeze)
- > 1.2 (e.g. Methylene Chloride)

ASH
- < 0.1
- 0.1 - 1.0
- 1.1 - 5.0
- 5.1 - 20.0
- > 20
- ✔ Unknown

BTU/LB (MJ/kg)
- ✔ < 2,000 (<4.6)
- 2,000-5,000 (4.6-11.6)
- 5,000-10,000 (11.6-23.2)
- > 10,000 (>23.2)

Actual:

D. COMPOSITION (List the complete composition of the waste, include any inert components and/or debris. Ranges for individual components are acceptable. If a trade name is used, please supply an MSDS. Please do not use abbreviations.)

CHEMICAL	MIN	--	MAX	UOM
WATER	100.0000000	--	100.0000000	%

DOES THIS WASTE CONTAIN ANY HEAVY GAUGE METAL DEBRIS OR OTHER LARGE OBJECTS (EX., METAL PLATE OR PIPING >1/4" THICK OR >12" LONG, METAL REINFORCED HOSE >12" LONG, METAL WIRE >12" LONG, METAL VALVES, PIPE FITTINGS, CONCRETE REINFORCING BAR OR PIECES OF CONCRETE >3")? YES NO

If yes, describe, including dimensions:

DOES THIS WASTE CONTAIN ANY METALS IN POWDERED OR OTHER FINELY DIVIDED FORM? YES ✔ NO

DOES THIS WASTE CONTAIN OR HAS IT CONTACTED ANY OF THE FOLLOWING; ANIMAL WASTES, HUMAN BLOOD, BLOOD PRODUCTS, BODY FLUIDS, MICROBIOLOGICAL WASTE, PATHOLOGICAL WASTE, HUMAN OR ANIMAL DERIVED SERUMS OR PROTEINS OR ANY OTHER POTENTIALLY INFECTIOUS MATERIAL? YES ✔ NO

I acknowledge that this waste material is neither infectious nor does it contain any organism known to be a threat to human health. This certification is based on my knowledge of the material. Select the answer below that applies:

The waste was never exposed to potentially infectious material. YES NO

Chemical disinfection or some other form of sterilization has been applied to the waste. YES NO

I ACKNOWLEDGE THAT THIS PROFILE MEETS THE CLEAN HARBORS BATTERY PACKAGING REQUIREMENTS. YES NO

I ACKNOWLEDGE THAT MY FRIABLE ASBESTOS WASTE IS DOUBLE BAGGED AND WETTED. YES NO

SPECIFY THE SOURCE CODE ASSOCIATED WITH THE WASTE. ***G23*** SPECIFY THE FORM CODE ASSOCIATED WITH THE WASTE. ***W119***

E. CONSTITUENTS

Are these values based on testing or knowledge? Knowledge ✔ Testing

If constituent concentrations are based on analytical testing, analysis must be provided. Please attach document(s) using the link on the Submit tab.

Please indicate which constituents below apply. Concentrations must be entered when applicable to assist in accurate review and expedited approval of your waste profile. Please note that the total regulated metals and other constituents sections require answers.

RCRA	REGULATED METALS	REGULATORY LEVEL (mg/l)	TCLP mg/l	TOTAL	UOM	NOT APPLICABLE
D004	ARSENIC	5.0				✔
D005	BARIUM	100.0				✔
D006	CADMIUM	1.0				✔
D007	CHROMIUM	5.0				✔
D008	LEAD	5.0				✔
D009	MERCURY	0.2				✔
D010	SELENIUM	1.0				✔
D011	SILVER	5.0				✔

	VOLATILE COMPOUNDS	
D018	BENZENE	0.5
D019	CARBON TETRACHLORIDE	0.5
D021	CHLOROBENZENE	100.0
D022	CHLOROFORM	6.0
D028	1,2-DICHLOROETHANE	0.5
D029	1,1-DICHLOROETHYLENE	0.7
D035	METHYL ETHYL KETONE	200.0
D039	TETRACHLOROETHYLENE	0.7
D040	TRICHLOROETHYLENE	0.5
D043	VINYL CHLORIDE	0.2
	SEMI-VOLATILE COMPOUNDS	
D023	o-CRESOL	200.0
D024	m-CRESOL	200.0
D025	p-CRESOL	200.0
D026	CRESOL (TOTAL)	200.0
D027	1,4-DICHLOROBENZENE	7.5
D030	2,4-DINITROTOLUENE	0.13
D032	HEXACHLOROBENZENE	0.13
D033	HEXACHLOROBUTADIENE	0.5
D034	HEXACHLOROETHANE	3.0
D036	NITROBENZENE	2.0
D037	PENTACHLOROPHENOL	100.0
D038	PYRIDINE	5.0
D041	2,4,5-TRICHLOROPHENOL	400.0
D042	2,4,6-TRICHLOROPHENOL	2.0
	PESTICIDES AND HERBICIDES	
D012	ENDRIN	0.02
D013	LINDANE	0.4
D014	METHOXYCHLOR	10.0
D015	TOXAPHENE	0.5
D016	2,4-D	10.0
D017	2,4,5-TP (SILVEX)	1.0
D020	CHLORDANE	0.03
D031	HEPTACHLOR (AND ITS EPOXIDE)	0.008

OTHER CONSTITUENTS	MAX	UOM	NOT APPLICABLE
BROMINE			✔
CHLORINE			✔
FLUORINE			✔
IODINE			✔
SULFUR			✔
POTASSIUM			✔
SODIUM			✔
AMMONIA			✔
CYANIDE AMENABLE			✔
CYANIDE REACTIVE			✔
CYANIDE TOTAL			✔
SULFIDE REACTIVE			✔

HOCs

✔ NONE
< 1000 PPM
>= 1000 PPM

PCBs

✔ NONE
< 50 PPM
>=50 PPM

IF PCBS ARE PRESENT, IS THE WASTE REGULATED BY TSCA 40 CFR 761?

YES ✔ NO

ADDITIONAL HAZARDS

DOES THIS WASTE HAVE ANY UNDISCLOSED HAZARDS OR PRIOR INCIDENTS ASSOCIATED WITH IT, WHICH COULD AFFECT THE WAY IT SHOULD BE HANDLED?

YES ✔ NO (If yes, explain)

CHOOSE ALL THAT APPLY

DEA REGULATED SUBSTANCES	EXPLOSIVE	FUMING	OSHA REGULATED CARCINOGENS
POLYMERIZABLE	RADIOACTIVE	REACTIVE MATERIAL	✔ NONE OF THE ABOVE

F. REGULATORY STATUS

YES ✔ NO USEPA HAZARDOUS WASTE?

✔ YES NO DO ANY STATE WASTE CODES APPLY?

CR04 MA99

Texas Waste Code

YES ✔ NO DO ANY CANADIAN PROVINCIAL WASTE CODES APPLY?

YES ✔ NO IS THIS WASTE PROHIBITED FROM LAND DISPOSAL WITHOUT FURTHER TREATMENT PER 40 CFR PART 268?

LDR CATEGORY: ***Not subject to LDR***
VARIANCE INFO:

YES ✔ NO IS THIS A UNIVERSAL WASTE?

✔ YES NO IS THE GENERATOR OF THE WASTE CLASSIFIED AS CONDITIONALLY EXEMPT SMALL QUANTITY GENERATOR (CESQG)?

YES NO IS THIS MATERIAL GOING TO BE MANAGED AS A RCRA EXEMPT COMMERCIAL PRODUCT, WHICH IS FUEL (40 CFR 261.2 (C)(2)(II))?

YES ✔ NO DOES TREATMENT OF THIS WASTE GENERATE A F006 OR F019 SLUDGE?

YES NO IS THIS WASTE STREAM SUBJECT TO THE INORGANIC METAL BEARING WASTE PROHIBITION FOUND AT 40 CFR 268.3(C)?

YES ✔ NO DOES THIS WASTE CONTAIN VOC'S IN CONCENTRATIONS >=500 PPM?

YES NO DOES THE WASTE CONTAIN GREATER THAN 20% OF ORGANIC CONSTITUENTS WITH A VAPOR PRESSURE >= 3KPA (.044 PSIA)?

YES ✔ NO DOES THIS WASTE CONTAIN AN ORGANIC CONSTITUENT WHICH IN ITS PURE FORM HAS A VAPOR PRESSURE > 77 KPA (11.2 PSIA)?

YES ✔ NO IS THIS CERCLA REGULATED (SUPERFUND) WASTE ?

YES ✔ NO IS THE WASTE SUBJECT TO ONE OF THE FOLLOWING NESHAP RULES?

Hazardous Organic NESHAP (HON) rule (subpart G) Pharmaceuticals production (subpart GGG)

YES NO IF THIS IS A US EPA HAZARDOUS WASTE, DOES THIS WASTE STREAM CONTAIN BENZENE?

YES NO Does the waste stream come from a facility with one of the SIC codes listed under benzene NESHAP or is this waste regulated under the benzene NESHAP rules because the original source of the waste is from a chemical manufacturing, coke by-product recovery, or petroleum refinery process?

YES NO Is the generating source of this waste stream a facility with Total Annual Benzene (TAB) >10 Mg/year?

What is the TAB quantity for your facility? Megagram/year (1 Mg = 2,200 lbs)

The basis for this determination is: Knowledge of the Waste Or Test Data Knowledge Testing

Describe the knowledge :

G. DOT/TDG INFORMATION

DOT/TDG PROPER SHIPPING NAME:

NON DOT REGULATED MATERIAL, (DEVELOPMENT/PURGE WATER)

H. TRANSPORTATION REQUIREMENTS

ESTIMATED SHIPMENT FREQUENCY ✔ ONE TIME WEEKLY MONTHLY QUARTERLY YEARLY OTHER

✔ **CONTAINERIZED**

1-3 CONTAINERS/SHIPMENT

STORAGE CAPACITY: ***3***

CONTAINER TYPE:

PORTABLE TOTE TANK BOX|CARTON|CASE

CUBIC YARD BOX ✔ DRUM

OTHER DRUM SIZE ***55***

BULK LIQUID

GALLONS/SHIPMENT: ***0 Min -0 Max*** GAL.

BULK SOLID

SHIPMENT UOM: TON YARD

TONS/YARDS/SHIPMENT: ***0 Min - 0 Max***

I. SPECIAL REQUEST

COMMENTS OR REQUESTS:

CNOS

GENERATOR'S CERTIFICATION

I certify that I am authorized to execute this document as an authorized agent. I hereby certify that all information submitted in this and attached documents is correct to the best of my knowledge.I also certify that any samples submitted are representative of the actual waste.If Clean Harbors discovers a discrepancy during the approval process, Generator grants Clean Harbors the authority to amend the profile, as Clean Harbors deems necessary, to reflect the discrepancy.

AUTHORIZED SIGNATURE	NAME (PRINT)	TITLE	DATE
	Jan Kotel	Env Mnsgr	8/22/16

WASTE MATERIAL PROFILE SHEET

Clean Harbors Profile No. CH1247428

A. GENERAL INFORMATION

GENERATOR EPA ID #/REGISTRATION # *CESQG* GENERATOR NAME: *Schenectady Air National Guard Base*

GENERATOR CODE (Assigned by Clean Harbors) *SC24601* CITY *Scotia* STATE/PROVINCE *NY* ZIP/POSTAL CODE *12302*

ADDRESS *1 Air National Guard Road* PHONE: (518) 344-2341

CUSTOMER CODE (Assigned by Clean Harbors) *WE30294* CUSTOMER NAME: *Weston Solutions Inc*

ADDRESS *43 N. Main Street* CITY *Concord* STATE/PROVINCE *NH* ZIP/POSTAL CODE *03301*

B. WASTE DESCRIPTION

WASTE DESCRIPTION: *Decon/Sampling Water-ZZ007*

PROCESS GENERATING WASTE: **sampling, site monitoring**

IS THIS WASTE CONTAINED IN SMALL PACKAGING CONTAINED WITHIN A LARGER SHIPPING CONTAINER ? **No**

C. PHYSICAL PROPERTIES (at 25C or 77F)

PHYSICAL STATE
- SOLID WITHOUT FREE LIQUID
- POWDER
- MONOLITHIC SOLID
- ✔ LIQUID WITH NO SOLIDS
- LIQUID/SOLID MIXTURE
- % FREE LIQUID
- % SETTLED SOLID
- % TOTAL SUSPENDED SOLID
- SLUDGE
- GAS/AEROSOL

NUMBER OF PHASES/LAYERS

✔ 1 2 3

% BY VOLUME (Approx.)

TOP	*0.00*
MIDDLE	*0.00*
BOTTOM	*0.00*

VISCOSITY (If liquid present)
- ✔ 1 - 100 (e.g. Water)
- 101 - 500 (e.g. Motor Oil)
- 501 - 10,000 (e.g. Molasses)
- > 10,000

COLOR

clear

ODOR
- ✔ NONE
- MILD
- STRONG

Describe:

BOILING POINT °F (°C)
- <= 95 (<=35)
- 95 - 100 (35-38)
- 101 - 129 (38-54)
- ✔ >= 130 (>54)

MELTING POINT °F (°C)
- < 140 (<60)
- 140-200 (60-93)
- > 200 (>93)

TOTAL ORGANIC CARBON
- ✔ <= 1%
- 1-9%
- >= 10%

FLASH POINT °F (°C)
- < 73 (<23)
- 73 - 100 (23-38)
- 101 -140 (38-60)
- 141 -200 (60-93)
- ✔ > 200 (>93)

pH
- <= 2
- 2.1 - 6.9
- 7 (Neutral)
- ✔ 7.1 - 12.4
- >= 12.5

SPECIFIC GRAVITY
- < 0.8 (e.g. Gasoline)
- 0.8-1.0 (e.g. Ethanol)
- ✔ 1.0 (e.g. Water)
- 1.0-1.2 (e.g. Antifreeze)
- > 1.2 (e.g. Methylene Chloride)

ASH
- < 0.1
- 0.1 - 1.0
- 1.1 - 5.0
- 5.1 - 20.0
- > 20
- ✔ Unknown

BTU/LB (MJ/kg)
- ✔ < 2,000 (<4.6)
- 2,000-5,000 (4.6-11.6)
- 5,000-10,000 (11.6-23.2)
- > 10,000 (>23.2)

Actual:

D. COMPOSITION (List the complete composition of the waste, include any inert components and/or debris. Ranges for individual components are acceptable. If a trade name is used, please supply an MSDS. Please do not use abbreviations.)

CHEMICAL	MIN	--	MAX	UOM
ARSENIC		--		Trace
BARIUM	0.0490000	--	1.6000000	PPM
CADMIUM		--		Trace
CHROMIUM		--		Trace
LEAD		--		Trace
MERCURY		--		Trace
WATER	100.0000000	--	100.0000000	%

DOES THIS WASTE CONTAIN ANY HEAVY GAUGE METAL DEBRIS OR OTHER LARGE OBJECTS (EX., METAL PLATE OR PIPING >1/4" THICK OR >12" LONG, METAL REINFORCED HOSE >12" LONG, METAL WIRE >12" LONG, METAL VALVES, PIPE FITTINGS, CONCRETE REINFORCING BAR OR PIECES OF CONCRETE >3")? YES NO

If yes, describe, including dimensions:

DOES THIS WASTE CONTAIN ANY METALS IN POWDERED OR OTHER FINELY DIVIDED FORM? YES ✔ NO

DOES THIS WASTE CONTAIN OR HAS IT CONTACTED ANY OF THE FOLLOWING; ANIMAL WASTES, HUMAN BLOOD, BLOOD PRODUCTS, BODY FLUIDS, MICROBIOLOGICAL WASTE, PATHOLOGICAL WASTE, HUMAN OR ANIMAL DERIVED SERUMS OR PROTEINS OR ANY OTHER POTENTIALLY INFECTIOUS MATERIAL? YES ✔ NO

I acknowledge that this waste material is neither infectious nor does it contain any organism known to be a threat to human health. This certification is based on my knowledge of the material. Select the answer below that applies:

The waste was never exposed to potentially infectious material. YES NO

Chemical disinfection or some other form of sterilization has been applied to the waste. YES NO

I ACKNOWLEDGE THAT THIS PROFILE MEETS THE CLEAN HARBORS BATTERY PACKAGING REQUIREMENTS. YES NO

I ACKNOWLEDGE THAT MY FRIABLE ASBESTOS WASTE IS DOUBLE BAGGED AND WETTED. YES NO

SPECIFY THE SOURCE CODE ASSOCIATED WITH THE WASTE. *G23* SPECIFY THE FORM CODE ASSOCIATED WITH THE WASTE. *W119*

E. CONSTITUENTS

Are these values based on testing or knowledge? Knowledge ✔ Testing

If constituent concentrations are based on analytical testing, analysis must be provided. Please attach document(s) using the link on the Submit tab.

Please indicate which constituents below apply. Concentrations must be entered when applicable to assist in accurate review and expedited approval of your waste profile. Please note that the total regulated metals and other constituents sections require answers.

RCRA	REGULATED METALS	REGULATORY LEVEL (mg/l)	TCLP mg/l	TOTAL	UOM	NOT APPLICABLE
D004	ARSENIC	5.0				✔
D005	BARIUM	100.0				✔
D006	CADMIUM	1.0				✔
D007	CHROMIUM	5.0				✔
D008	LEAD	5.0				✔
D009	MERCURY	0.2				✔
D010	SELENIUM	1.0				✔
D011	SILVER	5.0				✔
	VOLATILE COMPOUNDS					
D018	BENZENE	0.5				
D019	CARBON TETRACHLORIDE	0.5				
D021	CHLOROBENZENE	100.0				
D022	CHLOROFORM	6.0				
D028	1,2-DICHLOROETHANE	0.5				
D029	1,1-DICHLOROETHYLENE	0.7				
D035	METHYL ETHYL KETONE	200.0				
D039	TETRACHLOROETHYLENE	0.7				
D040	TRICHLOROETHYLENE	0.5				
D043	VINYL CHLORIDE	0.2				
	SEMI-VOLATILE COMPOUNDS					
D023	o-CRESOL	200.0				
D024	m-CRESOL	200.0				
D025	p-CRESOL	200.0				
D026	CRESOL (TOTAL)	200.0				
D027	1,4-DICHLOROBENZENE	7.5				
D030	2,4-DINITROTOLUENE	0.13				
D032	HEXACHLOROBENZENE	0.13				
D033	HEXACHLOROBUTADIENE	0.5				
D034	HEXACHLOROETHANE	3.0				
D036	NITROBENZENE	2.0				
D037	PENTACHLOROPHENOL	100.0				
D038	PYRIDINE	5.0				
D041	2,4,5-TRICHLOROPHENOL	400.0				
D042	2,4,6-TRICHLOROPHENOL	2.0				
	PESTICIDES AND HERBICIDES					
D012	ENDRIN	0.02				
D013	LINDANE	0.4				
D014	METHOXYCHLOR	10.0				
D015	TOXAPHENE	0.5				
D016	2,4-D	10.0				
D017	2,4,5-TP (SILVEX)	1.0				
D020	CHLORDANE	0.03				
D031	HEPTACHLOR (AND ITS EPOXIDE)	0.008				

OTHER CONSTITUENTS	MAX	UOM	NOT APPLICABLE
BROMINE			✔
CHLORINE			✔
FLUORINE			✔
IODINE			✔
SULFUR			✔
POTASSIUM			✔
SODIUM			✔
AMMONIA			✔
CYANIDE AMENABLE			✔
CYANIDE REACTIVE			✔
CYANIDE TOTAL			✔
SULFIDE REACTIVE			✔

HOCs

✔ NONE
< 1000 PPM
>= 1000 PPM

PCBs

✔ NONE
< 50 PPM
>=50 PPM

IF PCBS ARE PRESENT, IS THE WASTE REGULATED BY TSCA 40 CFR 761?

YES ✔ NO

ADDITIONAL HAZARDS

DOES THIS WASTE HAVE ANY UNDISCLOSED HAZARDS OR PRIOR INCIDENTS ASSOCIATED WITH IT, WHICH COULD AFFECT THE WAY IT SHOULD BE HANDLED?

YES ✔ NO (If yes, explain)

CHOOSE ALL THAT APPLY

DEA REGULATED SUBSTANCES	EXPLOSIVE	FUMING	OSHA REGULATED CARCINOGENS
POLYMERIZABLE	RADIOACTIVE	REACTIVE MATERIAL	✔ NONE OF THE ABOVE

F. REGULATORY STATUS

YES ✔ NO USEPA HAZARDOUS WASTE?

✔ YES NO DO ANY STATE WASTE CODES APPLY?

CR04 MA99

Texas Waste Code

YES ✔ NO DO ANY CANADIAN PROVINCIAL WASTE CODES APPLY?

YES ✔ NO IS THIS WASTE PROHIBITED FROM LAND DISPOSAL WITHOUT FURTHER TREATMENT PER 40 CFR PART 268?

LDR CATEGORY: ***Not subject to LDR***
VARIANCE INFO:

YES ✔ NO IS THIS A UNIVERSAL WASTE?

✔ YES NO IS THE GENERATOR OF THE WASTE CLASSIFIED AS CONDITIONALLY EXEMPT SMALL QUANTITY GENERATOR (CESQG)?

YES NO IS THIS MATERIAL GOING TO BE MANAGED AS A RCRA EXEMPT COMMERCIAL PRODUCT, WHICH IS FUEL (40 CFR 261.2 (C)(2)(II))?

YES ✔ NO DOES TREATMENT OF THIS WASTE GENERATE A F006 OR F019 SLUDGE?

YES NO IS THIS WASTE STREAM SUBJECT TO THE INORGANIC METAL BEARING WASTE PROHIBITION FOUND AT 40 CFR 268.3(C)?

YES ✔ NO DOES THIS WASTE CONTAIN VOC'S IN CONCENTRATIONS >=500 PPM?

YES NO DOES THE WASTE CONTAIN GREATER THAN 20% OF ORGANIC CONSTITUENTS WITH A VAPOR PRESSURE >= .3KPA (.044 PSIA)?

YES ✔ NO DOES THIS WASTE CONTAIN AN ORGANIC CONSTITUENT WHICH IN ITS PURE FORM HAS A VAPOR PRESSURE > 77 KPA (11.2 PSIA)?

YES ✔ NO IS THIS CERCLA REGULATED (SUPERFUND) WASTE ?

YES ✔ NO IS THE WASTE SUBJECT TO ONE OF THE FOLLOWING NESHAP RULES?

Hazardous Organic NESHAP (HON) rule (subpart G) Pharmaceuticals production (subpart GGG)

YES NO IF THIS IS A US EPA HAZARDOUS WASTE, DOES THIS WASTE STREAM CONTAIN BENZENE?

YES NO Does the waste stream come from a facility with one of the SIC codes listed under benzene NESHAP or is this waste regulated under the benzene NESHAP rules because the original source of the waste is from a chemical manufacturing, coke by-product recovery, or petroleum refinery process?

YES NO Is the generating source of this waste stream a facility with Total Annual Benzene (TAB) >10 Mg/year?

What is the TAB quantity for your facility? Megagram/year (1 Mg = 2,200 lbs)

The basis for this determination is: Knowledge of the Waste Or Test Data Knowledge Testing

Describe the knowledge :

G. DOT/TDG INFORMATION

DOT/TDG PROPER SHIPPING NAME:

NON DOT REGULATED MATERIAL, (DEVELOPMENT/PURGE WATER)

H. TRANSPORTATION REQUIREMENTS

ESTIMATED SHIPMENT FREQUENCY ✔ ONE TIME WEEKLY MONTHLY QUARTERLY YEARLY OTHER

✔ **CONTAINERIZED**

1-3 CONTAINERS/SHIPMENT

STORAGE CAPACITY: ***3***

CONTAINER TYPE:

PORTABLE TOTE TANK BOX|CARTON|CASE

CUBIC YARD BOX ✔ DRUM

OTHER DRUM SIZE ***55***

BULK LIQUID

GALLONS/SHIPMENT: ***0 Min -0 Max*** GAL.

BULK SOLID

SHIPMENT UOM: TON YARD

TONS/YARDS/SHIPMENT: ***0 Min - 0 Max***

I. SPECIAL REQUEST

COMMENTS OR REQUESTS:

CNOS

GENERATOR'S CERTIFICATION

I certify that I am authorized to execute this document as an authorized agent. I hereby certify that all information submitted in this and attached documents is correct to the best of my knowledge.I also certify that any samples submitted are representative of the actual waste.If Clean Harbors discovers a discrepancy during the approval process, Generator grants Clean Harbors the authority to amend the profile, as Clean Harbors deems necessary to reflect the discrepancy.

AUTHORIZED SIGNATURE	NAME (PRINT)	TITLE	DATE
	Jen Kotl	Environmental manager	8/22/16

WASTE MATERIAL PROFILE SHEET

Clean Harbors Profile No. CH1247431

A. GENERAL INFORMATION

GENERATOR EPA ID #/REGISTRATION # ***CESQG*** GENERATOR NAME: ***Schenectady Air National Guard Base***

GENERATOR CODE (Assigned by Clean Harbors) ***SC24601*** CITY ***Scotia*** STATE/PROVINCE ***NY*** ZIP/POSTAL CODE ***12302***

ADDRESS ***1 Air National Guard Road*** PHONE: **(518) 344-2341**

CUSTOMER CODE (Assigned by Clean Harbors) ***WE30294*** CUSTOMER NAME: ***Weston Solutions Inc***

ADDRESS ***43 N. Main Street*** CITY ***Concord*** STATE/PROVINCE ***NH*** ZIP/POSTAL CODE ***03301***

B. WASTE DESCRIPTION

WASTE DESCRIPTION: ***Decon/Sampling Water TU009***

PROCESS GENERATING WASTE: **sampling, site monitoring**

IS THIS WASTE CONTAINED IN SMALL PACKAGING CONTAINED WITHIN A LARGER SHIPPING CONTAINER ? **No**

C. PHYSICAL PROPERTIES (at 25C or 77F)

PHYSICAL STATE
- SOLID WITHOUT FREE LIQUID
- POWDER
- MONOLITHIC SOLID
- ✔ LIQUID WITH NO SOLIDS
- LIQUID/SOLID MIXTURE
- % FREE LIQUID
- % SETTLED SOLID
- % TOTAL SUSPENDED SOLID
- SLUDGE
- GAS/AEROSOL

NUMBER OF PHASES/LAYERS

✔ 1 2 3

% BY VOLUME (Approx.)

TOP	***0.00***
MIDDLE	***0.00***
BOTTOM	***0.00***

VISCOSITY (If liquid present)
- ✔ 1 - 100 (e.g. Water)
- 101 - 500 (e.g. Motor Oil)
- 501 - 10,000 (e.g. Molasses)
- > 10,000

COLOR

clear

ODOR
- ✔ NONE
- MILD
- STRONG

Describe:

BOILING POINT °F (°C)
- <= 95 (<=35)
- 95 - 100 (35-38)
- 101 - 129 (38-54)
- ✔ >= 130 (>54)

MELTING POINT °F (°C)
- < 140 (<60)
- 140-200 (60-93)
- > 200 (>93)

TOTAL ORGANIC CARBON
- ✔ <= 1%
- 1-9%
- >= 10%

FLASH POINT °F (°C)
- < 73 (<23)
- 73 - 100 (23-38)
- 101 -140 (38-60)
- 141 -200 (60-93)
- ✔ > 200 (>93)

pH
- <= 2
- 2.1 - 6.9
- 7 (Neutral)
- ✔ 7.1 - 12.4
- >= 12.5

SPECIFIC GRAVITY
- < 0.8 (e.g. Gasoline)
- 0.8-1.0 (e.g. Ethanol)
- ✔ 1.0 (e.g. Water)
- 1.0-1.2 (e.g. Antifreeze)
- > 1.2 (e.g. Methylene Chloride)

ASH
- < 0.1
- 0.1 - 1.0
- 1.1 - 5.0
- 5.1 - 20.0
- > 20
- ✔ Unknown

BTU/LB (MJ/kg)
- ✔ < 2,000 (<4.6)
- 2,000-5,000 (4.6-11.6)
- 5,000-10,000 (11.6-23.2)
- > 10,000 (>23.2)

Actual:

D. COMPOSITION (List the complete composition of the waste, include any inert components and/or debris. Ranges for individual components are acceptable. If a trade name is used, please supply an MSDS. Please do not use abbreviations.)

CHEMICAL	MIN	--	MAX	UOM
WATER	100.0000000	--	100.0000000	%

DOES THIS WASTE CONTAIN ANY HEAVY GAUGE METAL DEBRIS OR OTHER LARGE OBJECTS (EX., METAL PLATE OR PIPING >1/4" THICK OR >12" LONG, METAL REINFORCED HOSE >12" LONG, METAL WIRE >12" LONG, METAL VALVES, PIPE FITTINGS, CONCRETE REINFORCING BAR OR PIECES OF CONCRETE >3")? YES NO

If yes, describe, including dimensions:

DOES THIS WASTE CONTAIN ANY METALS IN POWDERED OR OTHER FINELY DIVIDED FORM? YES ✔ NO

DOES THIS WASTE CONTAIN OR HAS IT CONTACTED ANY OF THE FOLLOWING: ANIMAL WASTES, HUMAN BLOOD, BLOOD PRODUCTS, BODY FLUIDS, MICROBIOLOGICAL WASTE, PATHOLOGICAL WASTE, HUMAN OR ANIMAL DERIVED SERUMS OR PROTEINS OR ANY OTHER POTENTIALLY INFECTIOUS MATERIAL? YES ✔ NO

I acknowledge that this waste material is neither infectious nor does it contain any organism known to be a threat to human health. This certification is based on my knowledge of the material. Select the answer below that applies:

The waste was never exposed to potentially infectious material. YES NO

Chemical disinfection or some other form of sterilization has been applied to the waste. YES NO

I ACKNOWLEDGE THAT THIS PROFILE MEETS THE CLEAN HARBORS BATTERY PACKAGING REQUIREMENTS. YES NO

I ACKNOWLEDGE THAT MY FRIABLE ASBESTOS WASTE IS DOUBLE BAGGED AND WETTED. YES NO

SPECIFY THE SOURCE CODE ASSOCIATED WITH THE WASTE. ***G23*** SPECIFY THE FORM CODE ASSOCIATED WITH THE WASTE. ***W119***

E. CONSTITUENTS

Are these values based on testing or knowledge? Knowledge ✔ Testing

If constituent concentrations are based on analytical testing, analysis must be provided. Please attach document(s) using the link on the Submit tab.

Please indicate which constituents below apply. Concentrations must be entered when applicable to assist in accurate review and expedited approval of your waste profile. Please note that the total regulated metals and other constituents sections require answers.

RCRA	REGULATED METALS	REGULATORY LEVEL (mg/l)	TCLP mg/l	TOTAL	UOM	NOT APPLICABLE
D004	ARSENIC	5.0				✔
D005	BARIUM	100.0				✔
D006	CADMIUM	1.0				✔
D007	CHROMIUM	5.0				✔
D008	LEAD	5.0				✔
D009	MERCURY	0.2				✔
D010	SELENIUM	1.0				✔
D011	SILVER	5.0				✔
	VOLATILE COMPOUNDS					
D018	BENZENE	0.5				
D019	CARBON TETRACHLORIDE	0.5				
D021	CHLOROBENZENE	100.0				
D022	CHLOROFORM	6.0				
D028	1,2-DICHLOROETHANE	0.5				
D029	1,1-DICHLOROETHYLENE	0.7				
D035	METHYL ETHYL KETONE	200.0				
D039	TETRACHLOROETHYLENE	0.7				
D040	TRICHLOROETHYLENE	0.5				
D043	VINYL CHLORIDE	0.2				
	SEMI-VOLATILE COMPOUNDS					
D023	o-CRESOL	200.0				
D024	m-CRESOL	200.0				
D025	p-CRESOL	200.0				
D026	CRESOL (TOTAL)	200.0				
D027	1,4-DICHLOROBENZENE	7.5				
D030	2,4-DINITROTOLUENE	0.13				
D032	HEXACHLOROBENZENE	0.13				
D033	HEXACHLOROBUTADIENE	0.5				
D034	HEXACHLOROETHANE	3.0				
D036	NITROBENZENE	2.0				
D037	PENTACHLOROPHENOL	100.0				
D038	PYRIDINE	5.0				
D041	2,4,5-TRICHLOROPHENOL	400.0				
D042	2,4,6-TRICHLOROPHENOL	2.0				
	PESTICIDES AND HERBICIDES					
D012	ENDRIN	0.02				
D013	LINDANE	0.4				
D014	METHOXYCHLOR	10.0				
D015	TOXAPHENE	0.5				
D016	2,4-D	10.0				
D017	2,4,5-TP (SILVEX)	1.0				
D020	CHLORDANE	0.03				
D031	HEPTACHLOR (AND ITS EPOXIDE)	0.008				

OTHER CONSTITUENTS	MAX	UOM	NOT APPLICABLE
BROMINE			✔
CHLORINE			✔
FLUORINE			✔
IODINE			✔
SULFUR			✔
POTASSIUM			✔
SODIUM			✔
AMMONIA			✔
CYANIDE AMENABLE			✔
CYANIDE REACTIVE			✔
CYANIDE TOTAL			✔
SULFIDE REACTIVE			✔

HOCs

✔ NONE
< 1000 PPM
>= 1000 PPM

PCBs

✔ NONE
< 50 PPM
>=50 PPM

IF PCBS ARE PRESENT, IS THE WASTE REGULATED BY TSCA 40 CFR 761?

YES ✔ NO

ADDITIONAL HAZARDS

DOES THIS WASTE HAVE ANY UNDISCLOSED HAZARDS OR PRIOR INCIDENTS ASSOCIATED WITH IT, WHICH COULD AFFECT THE WAY IT SHOULD BE HANDLED?

YES ✔ NO (If yes, explain)

CHOOSE ALL THAT APPLY

DEA REGULATED SUBSTANCES	EXPLOSIVE	FUMING	OSHA REGULATED CARCINOGENS
POLYMERIZABLE	RADIOACTIVE	REACTIVE MATERIAL	✔ NONE OF THE ABOVE

F. REGULATORY STATUS

YES ✔ NO USEPA HAZARDOUS WASTE?

✔ YES NO DO ANY STATE WASTE CODES APPLY?

CR04 MA99

Texas Waste Code

YES ✔ NO DO ANY CANADIAN PROVINCIAL WASTE CODES APPLY?

YES ✔ NO IS THIS WASTE PROHIBITED FROM LAND DISPOSAL WITHOUT FURTHER TREATMENT PER 40 CFR PART 268?

LDR CATEGORY: ***Not subject to LDR***
VARIANCE INFO:

YES ✔ NO IS THIS A UNIVERSAL WASTE?

✔ YES NO IS THE GENERATOR OF THE WASTE CLASSIFIED AS CONDITIONALLY EXEMPT SMALL QUANTITY GENERATOR (CESQG)?

YES NO IS THIS MATERIAL GOING TO BE MANAGED AS A RCRA EXEMPT COMMERCIAL PRODUCT, WHICH IS FUEL (40 CFR 261.2 (C)(2)(II))?

YES ✔ NO DOES TREATMENT OF THIS WASTE GENERATE A F006 OR F019 SLUDGE?

YES NO IS THIS WASTE STREAM SUBJECT TO THE INORGANIC METAL BEARING WASTE PROHIBITION FOUND AT 40 CFR 268.3(C)?

YES ✔ NO DOES THIS WASTE CONTAIN VOC'S IN CONCENTRATIONS >=500 PPM?

YES NO DOES THE WASTE CONTAIN GREATER THAN 20% OF ORGANIC CONSTITUENTS WITH A VAPOR PRESSURE >= .3KPA (.044 PSIA)?

YES ✔ NO DOES THIS WASTE CONTAIN AN ORGANIC CONSTITUENT WHICH IN ITS PURE FORM HAS A VAPOR PRESSURE > 77 KPA (11.2 PSIA)?

YES ✔ NO IS THIS CERCLA REGULATED (SUPERFUND) WASTE ?

YES ✔ NO IS THE WASTE SUBJECT TO ONE OF THE FOLLOWING NESHAP RULES?

Hazardous Organic NESHAP (HON) rule (subpart G) Pharmaceuticals production (subpart GGG)

YES NO IF THIS IS A US EPA HAZARDOUS WASTE, DOES THIS WASTE STREAM CONTAIN BENZENE?

YES NO Does the waste stream come from a facility with one of the SIC codes listed under benzene NESHAP or is this waste regulated under the benzene NESHAP rules because the original source of the waste is from a chemical manufacturing, coke by-product recovery, or petroleum refinery process?

YES NO Is the generating source of this waste stream a facility with Total Annual Benzene (TAB) >10 Mg/year?

What is the TAB quantity for your facility? Megagram/year (1 Mg = 2,200 lbs)

The basis for this determination is: Knowledge of the Waste Or Test Data Knowledge Testing

Describe the knowledge :

G. DOT/TDG INFORMATION

DOT/TDG PROPER SHIPPING NAME:

NON DOT REGULATED MATERIAL, (DEVELOPMENT/PURGE WATER)

H. TRANSPORTATION REQUIREMENTS

ESTIMATED SHIPMENT FREQUENCY ✔ ONE TIME WEEKLY MONTHLY QUARTERLY YEARLY OTHER

✔ **CONTAINERIZED**

1-3 CONTAINERS/SHIPMENT

STORAGE CAPACITY: ***3***

CONTAINER TYPE:

PORTABLE TOTE TANK BOX|CARTON|CASE

CUBIC YARD BOX ✔ DRUM

OTHER: DRUM SIZE ***55***

BULK LIQUID

GALLONS/SHIPMENT: ***0 Min -0 Max*** GAL.

BULK SOLID

SHIPMENT UOM: TON YARD

TONS/YARDS/SHIPMENT: ***0 Min - 0 Max***

I. SPECIAL REQUEST

COMMENTS OR REQUESTS:

CNOS

GENERATOR'S CERTIFICATION

I certify that I am authorized to execute this document as an authorized agent. I hereby certify that all information submitted in this and attached documents is correct to the best of my knowledge.I also certify that any samples submitted are representative of the actual waste.If Clean Harbors discovers a discrepancy during the approval process, Generator grants Clean Harbors the authority to amend the profile, as Clean Harbors deems necessary, to reflect the discrepancy.

AUTHORIZED SIGNATURE	NAME (PRINT)	TITLE	DATE
	Jim Kotch	Environmental Manager	8/22/16

WASTE MATERIAL PROFILE SHEET

Clean Harbors Profile No. CH1247432

A. GENERAL INFORMATION

GENERATOR EPA ID #/REGISTRATION # ***CESQG*** GENERATOR NAME: ***Schenectady Air National Guard Base***

GENERATOR CODE (Assigned by Clean Harbors) ***SC24601*** CITY ***Scotia*** STATE/PROVINCE ***NY*** ZIP/POSTAL CODE ***12302***

ADDRESS ***1 Air National Guard Road*** PHONE: **(518) 344-2341**

CUSTOMER CODE (Assigned by Clean Harbors) ***WE30294*** CUSTOMER NAME: ***Weston Solutions Inc***

ADDRESS ***43 N. Main Street*** CITY ***Concord*** STATE/PROVINCE ***NH*** ZIP/POSTAL CODE ***03301***

B. WASTE DESCRIPTION

WASTE DESCRIPTION: ***Soil Cuttings***

PROCESS GENERATING WASTE: **site sampling**

IS THIS WASTE CONTAINED IN SMALL PACKAGING CONTAINED WITHIN A LARGER SHIPPING CONTAINER ? **No**

C. PHYSICAL PROPERTIES (at 25C or 77F)

PHYSICAL STATE
- ✔ SOLID WITHOUT FREE LIQUID
- POWDER
- MONOLITHIC SOLID
- LIQUID WITH NO SOLIDS
- LIQUID/SOLID MIXTURE
- % FREE LIQUID
- % SETTLED SOLID
- % TOTAL SUSPENDED SOLID
- SLUDGE
- GAS/AEROSOL

NUMBER OF PHASES/LAYERS

1 2 3

% BY VOLUME (Approx.)

TOP	***0.00***
MIDDLE	***0.00***
BOTTOM	***0.00***

VISCOSITY (If liquid present)
- 1 - 100 (e.g. Water)
- 101 - 500 (e.g. Motor Oil)
- 501 - 10,000 (e.g. Molasses)
- > 10,000

COLOR

brown

ODOR
- ✔ NONE
- MILD
- STRONG

Describe:

BOILING POINT °F (°C)
- <= 95 (<=35)
- 95 - 100 (35-38)
- 101 - 129 (38-54)
- >= 130 (>54)

MELTING POINT °F (°C)
- < 140 (<60)
- 140-200 (60-93)
- ✔ > 200 (>93)

TOTAL ORGANIC CARBON
- ✔ <= 1%
- 1-9%
- >= 10%

FLASH POINT °F (°C)
- < 73 (<23)
- 73 - 100 (23-38)
- 101 -140 (38-60)
- 141 -200 (60-93)
- > 200 (>93)

pH
- <= 2
- 2.1 - 6.9
- ✔ 7 (Neutral)
- 7.1 - 12.4
- >= 12.5

SPECIFIC GRAVITY
- < 0.8 (e.g. Gasoline)
- 0.8-1.0 (e.g. Ethanol)
- ✔ 1.0 (e.g. Water)
- 1.0-1.2 (e.g. Antifreeze)
- > 1.2 (e.g. Methylene Chloride)

ASH
- < 0.1
- 0.1 - 1.0
- 1.1 - 5.0
- 5.1 - 20.0
- > 20
- ✔ Unknown

BTU/LB (MJ/kg)
- ✔ < 2,000 (<4.6)
- 2,000-5,000 (4.6-11.6)
- 5,000-10,000 (11.6-23.2)
- > 10,000 (>23.2)

Actual:

D. COMPOSITION (List the complete composition of the waste, include any inert components and/or debris. Ranges for individual components are acceptable. If a trade name is used, please supply an MSDS. Please do not use abbreviations.)

CHEMICAL	MIN	--	MAX	UOM
SOIL CUTTINGS	100.0000000	--	100.0000000	%

DOES THIS WASTE CONTAIN ANY HEAVY GAUGE METAL DEBRIS OR OTHER LARGE OBJECTS (EX., METAL PLATE OR PIPING >1/4" THICK OR >12" LONG, METAL REINFORCED HOSE >12" LONG, METAL WIRE >12" LONG, METAL VALVES, PIPE FITTINGS, CONCRETE REINFORCING BAR OR PIECES OF CONCRETE >3")? YES ✔ NO

If yes, describe, including dimensions:

DOES THIS WASTE CONTAIN ANY METALS IN POWDERED OR OTHER FINELY DIVIDED FORM? YES ✔ NO

DOES THIS WASTE CONTAIN OR HAS IT CONTACTED ANY OF THE FOLLOWING; ANIMAL WASTES, HUMAN BLOOD, BLOOD PRODUCTS, BODY FLUIDS, MICROBIOLOGICAL WASTE, PATHOLOGICAL WASTE, HUMAN OR ANIMAL DERIVED SERUMS OR PROTEINS OR ANY OTHER POTENTIALLY INFECTIOUS MATERIAL? YES ✔ NO

I acknowledge that this waste material is neither infectious nor does it contain any organism known to be a threat to human health. This certification is based on my knowledge of the material. Select the answer below that applies:

The waste was never exposed to potentially infectious material. YES NO

Chemical disinfection or some other form of sterilization has been applied to the waste. YES NO

I ACKNOWLEDGE THAT THIS PROFILE MEETS THE CLEAN HARBORS BATTERY PACKAGING REQUIREMENTS. YES NO

I ACKNOWLEDGE THAT MY FRIABLE ASBESTOS WASTE IS DOUBLE BAGGED AND WETTED. YES NO

SPECIFY THE SOURCE CODE ASSOCIATED WITH THE WASTE. ***G39*** SPECIFY THE FORM CODE ASSOCIATED WITH THE WASTE. ***W301***

E. CONSTITUENTS

Are these values based on testing or knowledge? Knowledge ✔ Testing

If constituent concentrations are based on analytical testing, analysis must be provided. Please attach document(s) using the link on the Submit tab.

Please indicate which constituents below apply. Concentrations must be entered when applicable to assist in accurate review and expedited approval of your waste profile. Please note that the total regulated metals and other constituents sections require answers.

RCRA	REGULATED METALS	REGULATORY LEVEL (mg/l)	TCLP mg/l	TOTAL	UOM	NOT APPLICABLE
D004	ARSENIC	5.0				✔
D005	BARIUM	100.0				✔
D006	CADMIUM	1.0				✔
D007	CHROMIUM	5.0				✔
D008	LEAD	5.0				✔
D009	MERCURY	0.2				✔
D010	SELENIUM	1.0				✔
D011	SILVER	5.0				✔

	VOLATILE COMPOUNDS	
D018	BENZENE	0.5
D019	CARBON TETRACHLORIDE	0.5
D021	CHLOROBENZENE	100.0
D022	CHLOROFORM	6.0
D028	1,2-DICHLOROETHANE	0.5
D029	1,1-DICHLOROETHYLENE	0.7
D035	METHYL ETHYL KETONE	200.0
D039	TETRACHLOROETHYLENE	0.7
D040	TRICHLOROETHYLENE	0.5
D043	VINYL CHLORIDE	0.2
	SEMI-VOLATILE COMPOUNDS	
D023	o-CRESOL	200.0
D024	m-CRESOL	200.0
D025	p-CRESOL	200.0
D026	CRESOL (TOTAL)	200.0
D027	1,4-DICHLOROBENZENE	7.5
D030	2,4-DINITROTOLUENE	0.13
D032	HEXACHLOROBENZENE	0.13
D033	HEXACHLOROBUTADIENE	0.5
D034	HEXACHLOROETHANE	3.0
D036	NITROBENZENE	2.0
D037	PENTACHLOROPHENOL	100.0
D038	PYRIDINE	5.0
D041	2,4,5-TRICHLOROPHENOL	400.0
D042	2,4,6-TRICHLOROPHENOL	2.0
	PESTICIDES AND HERBICIDES	
D012	ENDRIN	0.02
D013	LINDANE	0.4
D014	METHOXYCHLOR	10.0
D015	TOXAPHENE	0.5
D016	2,4-D	10.0
D017	2,4,5-TP (SILVEX)	1.0
D020	CHLORDANE	0.03
D031	HEPTACHLOR (AND ITS EPOXIDE)	0.008

OTHER CONSTITUENTS	MAX	UOM	NOT APPLICABLE
BROMINE			✔
CHLORINE			✔
FLUORINE			✔
IODINE			✔
SULFUR			✔
POTASSIUM			✔
SODIUM			✔
AMMONIA			✔
CYANIDE AMENABLE			✔
CYANIDE REACTIVE			✔
CYANIDE TOTAL			✔
SULFIDE REACTIVE			✔

HOCs

✔ NONE
< 1000 PPM
>= 1000 PPM

PCBs

✔ NONE
< 50 PPM
>=50 PPM

IF PCBS ARE PRESENT, IS THE WASTE REGULATED BY TSCA 40 CFR 761?

YES ✔ NO

ADDITIONAL HAZARDS

DOES THIS WASTE HAVE ANY UNDISCLOSED HAZARDS OR PRIOR INCIDENTS ASSOCIATED WITH IT, WHICH COULD AFFECT THE WAY IT SHOULD BE HANDLED?

YES ✔ NO (If yes, explain)

CHOOSE ALL THAT APPLY

DEA REGULATED SUBSTANCES	EXPLOSIVE	FUMING	OSHA REGULATED CARCINOGENS
POLYMERIZABLE	RADIOACTIVE	REACTIVE MATERIAL	✔ NONE OF THE ABOVE

F. REGULATORY STATUS

YES ✔ NO USEPA HAZARDOUS WASTE?

✔ YES NO DO ANY STATE WASTE CODES APPLY?

CR05 MA99

Texas Waste Code

YES ✔ NO DO ANY CANADIAN PROVINCIAL WASTE CODES APPLY?

YES ✔ NO IS THIS WASTE PROHIBITED FROM LAND DISPOSAL WITHOUT FURTHER TREATMENT PER 40 CFR PART 268?

LDR CATEGORY: ***Not subject to LDR***
VARIANCE INFO:

YES ✔ NO IS THIS A UNIVERSAL WASTE?

✔ YES NO IS THE GENERATOR OF THE WASTE CLASSIFIED AS CONDITIONALLY EXEMPT SMALL QUANTITY GENERATOR (CESQG)?

YES NO IS THIS MATERIAL GOING TO BE MANAGED AS A RCRA EXEMPT COMMERCIAL PRODUCT, WHICH IS FUEL (40 CFR 261.2 (C)(2)(II))?

YES ✔ NO DOES TREATMENT OF THIS WASTE GENERATE A F006 OR F019 SLUDGE?

YES NO IS THIS WASTE STREAM SUBJECT TO THE INORGANIC METAL BEARING WASTE PROHIBITION FOUND AT 40 CFR 268.3(C)?

YES ✔ NO DOES THIS WASTE CONTAIN VOC'S IN CONCENTRATIONS >=500 PPM?

YES NO DOES THE WASTE CONTAIN GREATER THAN 20% OF ORGANIC CONSTITUENTS WITH A VAPOR PRESSURE >= .3KPA (.044 PSIA)?

YES ✔ NO DOES THIS WASTE CONTAIN AN ORGANIC CONSTITUENT WHICH IN ITS PURE FORM HAS A VAPOR PRESSURE > 77 KPA (11.2 PSIA)?

YES ✔ NO IS THIS CERCLA REGULATED (SUPERFUND) WASTE ?

YES ✔ NO IS THE WASTE SUBJECT TO ONE OF THE FOLLOWING NESHAP RULES?

Hazardous Organic NESHAP (HON) rule (subpart G) Pharmaceuticals production (subpart GGG)

YES NO IF THIS IS A US EPA HAZARDOUS WASTE, DOES THIS WASTE STREAM CONTAIN BENZENE?

YES NO Does the waste stream come from a facility with one of the SIC codes listed under benzene NESHAP or is this waste regulated under the benzene NESHAP rules because the original source of the waste is from a chemical manufacturing, coke by-product recovery, or petroleum refinery process?

YES NO Is the generating source of this waste stream a facility with Total Annual Benzene (TAB) >10 Mg/year?

What is the TAB quantity for your facility? Megagram/year (1 Mg = 2,200 lbs)

The basis for this determination is: Knowledge of the Waste Or Test Data Knowledge Testing

Describe the knowledge :

G. DOT/TDG INFORMATION

DOT/TDG PROPER SHIPPING NAME:

NON DOT REGULATED MATERIAL, (SOIL CUTTINGS)

H. TRANSPORTATION REQUIREMENTS

ESTIMATED SHIPMENT FREQUENCY ✔ ONE TIME WEEKLY MONTHLY QUARTERLY YEARLY OTHER

✔ **CONTAINERIZED**

1-1 CONTAINERS/SHIPMENT

STORAGE CAPACITY: ***1***

CONTAINER TYPE:

PORTABLE TOTE TANK BOX|CARTON|CASE

CUBIC YARD BOX ✔ DRUM

OTHER: DRUM SIZE: ***55***

BULK LIQUID

GALLONS/SHIPMENT: ***0 Min -0 Max*** GAL.

BULK SOLID

SHIPMENT UOM: TON YARD

TONS/YARDS/SHIPMENT: ***0 Min - 0 Max***

I. SPECIAL REQUEST

COMMENTS OR REQUESTS:

CNO

GENERATOR'S CERTIFICATION

I certify that I am authorized to execute this document as an authorized agent. I hereby certify that all information submitted in this and attached documents is correct to the best of my knowledge.I also certify that any samples submitted are representative of the actual waste.If Clean Harbors discovers a discrepancy during the approval process, Generator grants Clean Harbors the authority to amend the profile, as Clean Harbors deems necessary, to reflect the discrepancy.

AUTHORIZED SIGNATURE	NAME (PRINT)	TITLE	DATE
	Jan Koth	Environmt mngr	8/22/16

APPENDIX E

ANALYTICAL DATA REPORTS

Provided as separate files

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ANALYTICAL REPORT

Job Number: 280-84062-1

Job Description: Schenectady ANGB, ZZ007

For:
Weston Solutions, Inc.
1400 Weston Way
PO BOX 2653
West Chester, PA 19380

Attention: Ms. Gretchen Fodor

Approved for release.
Bernard C Kirkland
Manager of Project Management
6/27/2016 4:44 PM

Designee for
Donna R Rydberg, Senior Project Manager
4955 Yarrow Street, Arvada, CO, 80002
(303)736-0192
donna.rydberg@testamericainc.com
06/27/2016

The test results in this report relate only to the samples in this report and meet all requirements of NELAC, with any exceptions noted. Pursuant to NELAP, this report shall not be reproduced except in full, without the written approval of the laboratory. All questions regarding this report should be directed to the TestAmerica Denver Project Manager.

The Lab Certification ID# is 4025.

Reporting limits are adjusted for sample size used, dilutions and moisture content if applicable.

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Qualifiers

Metals

Qualifier	Qualifier Description
U	Undetected at the Limit of Detection.
J	Estimated: The analyte was positively identified; the quantitation is an estimation

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)

CASE NARRATIVE
Client: Weston Solutions, Inc.
Project: Schenectady ANGB, ZZ007

Report Number: 280-84062-1

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

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

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

RECEIPT
The samples were received on 06/04/2016; the samples arrived in good condition, properly preserved and on ice. The temperature of the cooler at receipt was 1.4 C.

METALS (ICP)
Samples SC-ZZ007-MW001-S0103 (280-84062-1), SC-ZZ007-MW001-S0506 (280-84062-2), SC-ZZ007-MW002-S0102 (280-84062-3), SC-ZZ007-MW002-S0607 (280-84062-4), SC-ZZ007-MW003-S0002 (280-84062-5), SC-ZZ007-MW003-S0204 (280-84062-6) and SC-ZZ007-MW003-S0204-D (280-84062-7) were analyzed for Metals (ICP) in accordance with SW 846 6010C. The samples were prepared on 06/08/2016 and analyzed on 06/18/2016 and 06/20/2016.

The method blank associated with preparation batch 280-328946 and analytical batch 280-330323 contained Fe greater than one-half the reporting limit (RL). The samples were not re-analyzed because Fe is a common lab contaminate and controlled to the full RL. The sample results have been qualified and reported.

The method blank associated with preparation batch 280-328946 and analytical batch 280-330323 contained Ca greater than one-half the reporting limit (RL). The samples were not re-analyzed because samples were greater than 10x the blank concentration. The sample results have been qualified and reported.

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

MERCURY (CVAA)
Samples SC-ZZ007-MW001-S0103 (280-84062-1), SC-ZZ007-MW001-S0506 (280-84062-2), SC-ZZ007-MW002-S0102 (280-84062-3), SC-ZZ007-MW002-S0607 (280-84062-4), SC-ZZ007-MW003-S0002 (280-84062-5), SC-ZZ007-MW003-S0204 (280-84062-6) and SC-ZZ007-MW003-S0204-D (280-84062-7) were analyzed for Mercury (CVAA) in accordance with EPA SW-846 Method 7471A. The samples were prepared on 06/13/2016 and analyzed on 06/15/2016.

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

PERCENT SOLIDS
Samples SC-ZZ007-MW001-S0103 (280-84062-1), SC-ZZ007-MW001-S0506 (280-84062-2), SC-ZZ007-MW002-S0102 (280-84062-3), SC-ZZ007-MW002-S0607 (280-84062-4), SC-ZZ007-MW003-S0002 (280-84062-5), SC-ZZ007-MW003-S0204 (280-84062-6) and SC-ZZ007-MW003-S0204-D (280-84062-7) were analyzed for percent solids in accordance with ASTM D2216-90. The samples were analyzed on 06/08/2016.

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

Detection Summary

Client: Weston Solutions, Inc.
Project/Site: Schenectady ANGB, ZZ007

TestAmerica Job ID: 280-84062-1

Client Sample ID: SC-ZZ007-MW001-S0103 — Lab Sample ID: 280-84062-1

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	17000		47	1.5	mg/Kg	1	☼	6010C	Total/NA
Arsenic	6.3		2.3	0.62	mg/Kg	1	☼	6010C	Total/NA
Barium	83		1.9	0.071	mg/Kg	1	☼	6010C	Total/NA
Beryllium	0.96		0.47	0.031	mg/Kg	1	☼	6010C	Total/NA
Cadmium	0.14	J	0.47	0.038	mg/Kg	1	☼	6010C	Total/NA
Calcium	1100		94	13	mg/Kg	1	☼	6010C	Total/NA
Chromium	20		3.3	0.054	mg/Kg	1	☼	6010C	Total/NA
Cobalt	12		0.94	0.094	mg/Kg	1	☼	6010C	Total/NA
Copper	18		4.7	0.20	mg/Kg	1	☼	6010C	Total/NA
Iron	26000		75	3.6	mg/Kg	1	☼	6010C	Total/NA
Lead	21		0.84	0.25	mg/Kg	1	☼	6010C	Total/NA
Magnesium	3200		28	3.5	mg/Kg	1	☼	6010C	Total/NA
Manganese	640		4.2	0.094	mg/Kg	1	☼	6010C	Total/NA
Nickel	18		3.8	0.12	mg/Kg	1	☼	6010C	Total/NA
Potassium	1600		280	38	mg/Kg	1	☼	6010C	Total/NA
Selenium	1.6	J	2.8	0.81	mg/Kg	1	☼	6010C	Total/NA
Sodium	61	J	470	55	mg/Kg	1	☼	6010C	Total/NA
Thallium	0.78	J	2.8	0.61	mg/Kg	1	☼	6010C	Total/NA
Vanadium	34		1.9	0.088	mg/Kg	1	☼	6010C	Total/NA
Zinc	59		7.5	0.37	mg/Kg	1	☼	6010C	Total/NA
Mercury	0.050		0.023	0.0074	mg/Kg	1	☼	7471A	Total/NA

Client Sample ID: SC-ZZ007-MW001-S0506 — Lab Sample ID: 280-84062-2

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	15000		43	1.3	mg/Kg	1	☼	6010C	Total/NA
Arsenic	9.2		2.2	0.57	mg/Kg	1	☼	6010C	Total/NA
Barium	110		1.7	0.066	mg/Kg	1	☼	6010C	Total/NA
Beryllium	0.91		0.43	0.029	mg/Kg	1	☼	6010C	Total/NA
Cadmium	0.29	J	0.43	0.035	mg/Kg	1	☼	6010C	Total/NA
Calcium	1800		86	12	mg/Kg	1	☼	6010C	Total/NA
Chromium	24		3.0	0.050	mg/Kg	1	☼	6010C	Total/NA
Cobalt	17		0.86	0.086	mg/Kg	1	☼	6010C	Total/NA
Copper	41		4.3	0.19	mg/Kg	1	☼	6010C	Total/NA
Iron	35000		69	3.3	mg/Kg	1	☼	6010C	Total/NA
Lead	15		0.78	0.23	mg/Kg	1	☼	6010C	Total/NA
Magnesium	6500		26	3.2	mg/Kg	1	☼	6010C	Total/NA
Manganese	710		3.9	0.086	mg/Kg	1	☼	6010C	Total/NA
Nickel	47		3.5	0.11	mg/Kg	1	☼	6010C	Total/NA
Potassium	2900		260	35	mg/Kg	1	☼	6010C	Total/NA
Selenium	1.6	J	2.6	0.74	mg/Kg	1	☼	6010C	Total/NA
Sodium	72	J	430	51	mg/Kg	1	☼	6010C	Total/NA
Thallium	0.66	J	2.6	0.56	mg/Kg	1	☼	6010C	Total/NA
Vanadium	26		1.7	0.081	mg/Kg	1	☼	6010C	Total/NA
Zinc	80		6.9	0.34	mg/Kg	1	☼	6010C	Total/NA
Mercury	0.059		0.020	0.0064	mg/Kg	1	☼	7471A	Total/NA

Client Sample ID: SC-ZZ007-MW002-S0102 — Lab Sample ID: 280-84062-3

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Weston Solutions, Inc.
Project/Site: Schenectady ANGB, ZZ007

TestAmerica Job ID: 280-84062-1

Client Sample ID: SC-ZZ007-MW002-S0102 (Continued) — Lab Sample ID: 280-84062-3

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	15000		47	1.5	mg/Kg	1	☼	6010C	Total/NA
Arsenic	6.5		2.4	0.62	mg/Kg	1	☼	6010C	Total/NA
Barium	58		1.9	0.071	mg/Kg	1	☼	6010C	Total/NA
Beryllium	0.70		0.47	0.031	mg/Kg	1	☼	6010C	Total/NA
Cadmium	0.081	J	0.47	0.039	mg/Kg	1	☼	6010C	Total/NA
Calcium	1600		94	13	mg/Kg	1	☼	6010C	Total/NA
Chromium	19		3.3	0.055	mg/Kg	1	☼	6010C	Total/NA
Cobalt	12		0.94	0.094	mg/Kg	1	☼	6010C	Total/NA
Copper	35		4.7	0.20	mg/Kg	1	☼	6010C	Total/NA
Iron	25000		75	3.6	mg/Kg	1	☼	6010C	Total/NA
Lead	11		0.85	0.25	mg/Kg	1	☼	6010C	Total/NA
Magnesium	3800		28	3.5	mg/Kg	1	☼	6010C	Total/NA
Manganese	350		4.2	0.094	mg/Kg	1	☼	6010C	Total/NA
Nickel	26		3.8	0.12	mg/Kg	1	☼	6010C	Total/NA
Potassium	1700		280	39	mg/Kg	1	☼	6010C	Total/NA
Sodium	110	J	470	55	mg/Kg	1	☼	6010C	Total/NA
Thallium	0.78	J	2.8	0.61	mg/Kg	1	☼	6010C	Total/NA
Vanadium	22		1.9	0.088	mg/Kg	1	☼	6010C	Total/NA
Zinc	63		7.5	0.37	mg/Kg	1	☼	6010C	Total/NA
Mercury	0.059		0.022	0.0072	mg/Kg	1	☼	7471A	Total/NA

Client Sample ID: SC-ZZ007-MW002-S0607 — Lab Sample ID: 280-84062-4

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	14000		57	1.8	mg/Kg	1	☼	6010C	Total/NA
Arsenic	8.2		2.9	0.76	mg/Kg	1	☼	6010C	Total/NA
Barium	96		2.3	0.087	mg/Kg	1	☼	6010C	Total/NA
Beryllium	0.75		0.57	0.038	mg/Kg	1	☼	6010C	Total/NA
Cadmium	0.16	J	0.57	0.047	mg/Kg	1	☼	6010C	Total/NA
Calcium	2100		110	16	mg/Kg	1	☼	6010C	Total/NA
Chromium	19		4.0	0.067	mg/Kg	1	☼	6010C	Total/NA
Cobalt	12		1.1	0.11	mg/Kg	1	☼	6010C	Total/NA
Copper	33		5.7	0.25	mg/Kg	1	☼	6010C	Total/NA
Iron	30000		92	4.4	mg/Kg	1	☼	6010C	Total/NA
Lead	12		1.0	0.31	mg/Kg	1	☼	6010C	Total/NA
Magnesium	4900		34	4.3	mg/Kg	1	☼	6010C	Total/NA
Manganese	410		5.2	0.11	mg/Kg	1	☼	6010C	Total/NA
Nickel	34		4.6	0.14	mg/Kg	1	☼	6010C	Total/NA
Potassium	2000		340	47	mg/Kg	1	☼	6010C	Total/NA
Selenium	1.3	J	3.4	0.99	mg/Kg	1	☼	6010C	Total/NA
Sodium	74	J	570	68	mg/Kg	1	☼	6010C	Total/NA
Thallium	1.3	J	3.4	0.75	mg/Kg	1	☼	6010C	Total/NA
Vanadium	25		2.3	0.11	mg/Kg	1	☼	6010C	Total/NA
Zinc	73		9.2	0.46	mg/Kg	1	☼	6010C	Total/NA
Mercury	0.066		0.020	0.0065	mg/Kg	1	☼	7471A	Total/NA

Client Sample ID: SC-ZZ007-MW003-S0002 — Lab Sample ID: 280-84062-5

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	11000		48	1.5	mg/Kg	1	☼	6010C	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: SC-ZZ007-MW003-S0002 (Continued) — Lab Sample ID: 280-84062-5

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	6.8		2.4	0.63	mg/Kg	1	☼	6010C	Total/NA
Barium	65		1.9	0.073	mg/Kg	1	☼	6010C	Total/NA
Beryllium	0.63		0.48	0.032	mg/Kg	1	☼	6010C	Total/NA
Cadmium	0.38	J	0.48	0.039	mg/Kg	1	☼	6010C	Total/NA
Calcium	3900		96	13	mg/Kg	1	☼	6010C	Total/NA
Chromium	18		3.3	0.055	mg/Kg	1	☼	6010C	Total/NA
Cobalt	11		0.96	0.096	mg/Kg	1	☼	6010C	Total/NA
Copper	29		4.8	0.21	mg/Kg	1	☼	6010C	Total/NA
Iron	24000		77	3.6	mg/Kg	1	☼	6010C	Total/NA
Lead	23		0.86	0.26	mg/Kg	1	☼	6010C	Total/NA
Magnesium	4600		29	3.5	mg/Kg	1	☼	6010C	Total/NA
Manganese	460		4.3	0.096	mg/Kg	1	☼	6010C	Total/NA
Nickel	23		3.8	0.12	mg/Kg	1	☼	6010C	Total/NA
Potassium	1700		290	39	mg/Kg	1	☼	6010C	Total/NA
Selenium	1.2	J	2.9	0.82	mg/Kg	1	☼	6010C	Total/NA
Sodium	89	J	480	56	mg/Kg	1	☼	6010C	Total/NA
Thallium	0.82	J	2.9	0.62	mg/Kg	1	☼	6010C	Total/NA
Vanadium	21		1.9	0.090	mg/Kg	1	☼	6010C	Total/NA
Zinc	88		7.7	0.38	mg/Kg	1	☼	6010C	Total/NA
Mercury	0.062		0.021	0.0068	mg/Kg	1	☼	7471A	Total/NA

Client Sample ID: SC-ZZ007-MW003-S0204 — Lab Sample ID: 280-84062-6

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	10000		45	1.4	mg/Kg	1	☼	6010C	Total/NA
Antimony	0.43	J	1.8	0.34	mg/Kg	1	☼	6010C	Total/NA
Arsenic	11		2.2	0.59	mg/Kg	1	☼	6010C	Total/NA
Barium	64		1.8	0.068	mg/Kg	1	☼	6010C	Total/NA
Beryllium	0.67		0.45	0.030	mg/Kg	1	☼	6010C	Total/NA
Cadmium	0.33	J	0.45	0.037	mg/Kg	1	☼	6010C	Total/NA
Calcium	36000		90	13	mg/Kg	1	☼	6010C	Total/NA
Chromium	17		3.1	0.052	mg/Kg	1	☼	6010C	Total/NA
Cobalt	14		0.90	0.090	mg/Kg	1	☼	6010C	Total/NA
Copper	33		4.5	0.20	mg/Kg	1	☼	6010C	Total/NA
Iron	26000		72	3.4	mg/Kg	1	☼	6010C	Total/NA
Lead	28		0.81	0.24	mg/Kg	1	☼	6010C	Total/NA
Magnesium	20000		27	3.3	mg/Kg	1	☼	6010C	Total/NA
Manganese	680		4.0	0.090	mg/Kg	1	☼	6010C	Total/NA
Nickel	33		3.6	0.11	mg/Kg	1	☼	6010C	Total/NA
Potassium	1800		270	37	mg/Kg	1	☼	6010C	Total/NA
Selenium	1.1	J	2.7	0.77	mg/Kg	1	☼	6010C	Total/NA
Sodium	140	J	450	53	mg/Kg	1	☼	6010C	Total/NA
Vanadium	19		1.8	0.085	mg/Kg	1	☼	6010C	Total/NA
Zinc	76		7.2	0.36	mg/Kg	1	☼	6010C	Total/NA
Mercury	0.14		0.018	0.0059	mg/Kg	1	☼	7471A	Total/NA

Client Sample ID: SC-ZZ007-MW003-S0204-D — Lab Sample ID: 280-84062-7

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	13000		49	1.5	mg/Kg	1	☼	6010C	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Weston Solutions, Inc.
Project/Site: Schenectady ANGB, ZZ007

TestAmerica Job ID: 280-84062-1

Client Sample ID: SC-ZZ007-MW003-S0204-D (Continued) — Lab Sample ID: 280-84062-7

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	8.2		2.4	0.64	mg/Kg	1	☼	6010C	Total/NA
Barium	70		1.9	0.074	mg/Kg	1	☼	6010C	Total/NA
Beryllium	0.86		0.49	0.032	mg/Kg	1	☼	6010C	Total/NA
Cadmium	0.25	J	0.49	0.040	mg/Kg	1	☼	6010C	Total/NA
Calcium	8000		97	14	mg/Kg	1	☼	6010C	Total/NA
Chromium	21		3.4	0.057	mg/Kg	1	☼	6010C	Total/NA
Cobalt	13		0.97	0.097	mg/Kg	1	☼	6010C	Total/NA
Copper	40		4.9	0.21	mg/Kg	1	☼	6010C	Total/NA
Iron	35000		78	3.7	mg/Kg	1	☼	6010C	Total/NA
Lead	26		0.88	0.26	mg/Kg	1	☼	6010C	Total/NA
Magnesium	7300		29	3.6	mg/Kg	1	☼	6010C	Total/NA
Manganese	550		4.4	0.097	mg/Kg	1	☼	6010C	Total/NA
Nickel	33		3.9	0.12	mg/Kg	1	☼	6010C	Total/NA
Potassium	1900		290	40	mg/Kg	1	☼	6010C	Total/NA
Selenium	1.4	J	2.9	0.84	mg/Kg	1	☼	6010C	Total/NA
Sodium	130	J	490	58	mg/Kg	1	☼	6010C	Total/NA
Thallium	0.87	J	2.9	0.63	mg/Kg	1	☼	6010C	Total/NA
Vanadium	24		1.9	0.092	mg/Kg	1	☼	6010C	Total/NA
Zinc	90		7.8	0.39	mg/Kg	1	☼	6010C	Total/NA
Mercury	0.078		0.020	0.0064	mg/Kg	1	☼	7471A	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: Weston Solutions, Inc.
Project/Site: Schenectady ANGB, ZZ007

TestAmerica Job ID: 280-84062-1

Client Sample ID: SC-ZZ007-MW001-S0103

Lab Sample ID: 280-84062-1
Date Collected: 06/01/16 13:00
Matrix: Solid
Date Received: 06/04/16 08:45
Percent Solids: 86.7

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	17000		47	1.5	mg/Kg	☼	06/08/16 13:37	06/18/16 01:27	1
Antimony	1.4	U	1.9	0.36	mg/Kg	☼	06/08/16 13:37	06/18/16 01:27	1
Arsenic	6.3		2.3	0.62	mg/Kg	☼	06/08/16 13:37	06/18/16 01:27	1
Barium	83		1.9	0.071	mg/Kg	☼	06/08/16 13:37	06/18/16 01:27	1
Beryllium	0.96		0.47	0.031	mg/Kg	☼	06/08/16 13:37	06/18/16 01:27	1
Cadmium	0.14	J	0.47	0.038	mg/Kg	☼	06/08/16 13:37	06/18/16 01:27	1
Calcium	1100		94	13	mg/Kg	☼	06/08/16 13:37	06/18/16 01:27	1
Chromium	20		3.3	0.054	mg/Kg	☼	06/08/16 13:37	06/18/16 01:27	1
Cobalt	12		0.94	0.094	mg/Kg	☼	06/08/16 13:37	06/18/16 01:27	1
Copper	18		4.7	0.20	mg/Kg	☼	06/08/16 13:37	06/18/16 01:27	1
Iron	26000		75	3.6	mg/Kg	☼	06/08/16 13:37	06/18/16 01:27	1
Lead	21		0.84	0.25	mg/Kg	☼	06/08/16 13:37	06/20/16 19:37	1
Magnesium	3200		28	3.5	mg/Kg	☼	06/08/16 13:37	06/18/16 01:27	1
Manganese	640		4.2	0.094	mg/Kg	☼	06/08/16 13:37	06/18/16 01:27	1
Nickel	18		3.8	0.12	mg/Kg	☼	06/08/16 13:37	06/18/16 01:27	1
Potassium	1600		280	38	mg/Kg	☼	06/08/16 13:37	06/18/16 01:27	1
Selenium	1.6	J	2.8	0.81	mg/Kg	☼	06/08/16 13:37	06/18/16 01:27	1
Silver	0.56	U	1.4	0.15	mg/Kg	☼	06/08/16 13:37	06/18/16 01:27	1
Sodium	61	J	470	55	mg/Kg	☼	06/08/16 13:37	06/18/16 01:27	1
Thallium	0.78	J	2.8	0.61	mg/Kg	☼	06/08/16 13:37	06/18/16 01:27	1
Vanadium	34		1.9	0.088	mg/Kg	☼	06/08/16 13:37	06/18/16 01:27	1
Zinc	59		7.5	0.37	mg/Kg	☼	06/08/16 13:37	06/18/16 01:27	1

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.050		0.023	0.0074	mg/Kg	☼	06/13/16 09:16	06/15/16 18:28	1

Client Sample ID: SC-ZZ007-MW001-S0506

Lab Sample ID: 280-84062-2
Date Collected: 06/01/16 13:10
Matrix: Solid
Date Received: 06/04/16 08:45
Percent Solids: 94.7

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	15000		43	1.3	mg/Kg	☼	06/08/16 13:37	06/18/16 01:30	1
Antimony	1.3	U	1.7	0.33	mg/Kg	☼	06/08/16 13:37	06/18/16 01:30	1
Arsenic	9.2		2.2	0.57	mg/Kg	☼	06/08/16 13:37	06/18/16 01:30	1
Barium	110		1.7	0.066	mg/Kg	☼	06/08/16 13:37	06/18/16 01:30	1
Beryllium	0.91		0.43	0.029	mg/Kg	☼	06/08/16 13:37	06/18/16 01:30	1
Cadmium	0.29	J	0.43	0.035	mg/Kg	☼	06/08/16 13:37	06/18/16 01:30	1
Calcium	1800		86	12	mg/Kg	☼	06/08/16 13:37	06/18/16 01:30	1
Chromium	24		3.0	0.050	mg/Kg	☼	06/08/16 13:37	06/18/16 01:30	1
Cobalt	17		0.86	0.086	mg/Kg	☼	06/08/16 13:37	06/18/16 01:30	1
Copper	41		4.3	0.19	mg/Kg	☼	06/08/16 13:37	06/18/16 01:30	1
Iron	35000		69	3.3	mg/Kg	☼	06/08/16 13:37	06/18/16 01:30	1
Lead	15		0.78	0.23	mg/Kg	☼	06/08/16 13:37	06/20/16 19:40	1
Magnesium	6500		26	3.2	mg/Kg	☼	06/08/16 13:37	06/18/16 01:30	1
Manganese	710		3.9	0.086	mg/Kg	☼	06/08/16 13:37	06/18/16 01:30	1
Nickel	47		3.5	0.11	mg/Kg	☼	06/08/16 13:37	06/18/16 01:30	1
Potassium	2900		260	35	mg/Kg	☼	06/08/16 13:37	06/18/16 01:30	1
Selenium	1.6	J	2.6	0.74	mg/Kg	☼	06/08/16 13:37	06/18/16 01:30	1

Client Sample ID: SC-ZZ007-MW001-S0506

Lab Sample ID: 280-84062-2
Date Collected: 06/01/16 13:10
Matrix: Solid
Date Received: 06/04/16 08:45
Percent Solids: 94.7

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

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	0.52	U	1.3	0.14	mg/Kg	☼	06/08/16 13:37	06/18/16 01:30	1
Sodium	72	J	430	51	mg/Kg	☼	06/08/16 13:37	06/18/16 01:30	1
Thallium	0.66	J	2.6	0.56	mg/Kg	☼	06/08/16 13:37	06/18/16 01:30	1
Vanadium	26		1.7	0.081	mg/Kg	☼	06/08/16 13:37	06/18/16 01:30	1
Zinc	80		6.9	0.34	mg/Kg	☼	06/08/16 13:37	06/18/16 01:30	1

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.059		0.020	0.0064	mg/Kg	☼	06/13/16 09:16	06/15/16 18:30	1

Client Sample ID: SC-ZZ007-MW002-S0102

Lab Sample ID: 280-84062-3
Date Collected: 06/01/16 15:30
Matrix: Solid
Date Received: 06/04/16 08:45
Percent Solids: 90.8

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	15000		47	1.5	mg/Kg	☼	06/08/16 13:37	06/18/16 01:33	1
Antimony	1.4	U	1.9	0.36	mg/Kg	☼	06/08/16 13:37	06/18/16 01:33	1
Arsenic	6.5		2.4	0.62	mg/Kg	☼	06/08/16 13:37	06/18/16 01:33	1
Barium	58		1.9	0.071	mg/Kg	☼	06/08/16 13:37	06/18/16 01:33	1
Beryllium	0.70		0.47	0.031	mg/Kg	☼	06/08/16 13:37	06/18/16 01:33	1
Cadmium	0.081	J	0.47	0.039	mg/Kg	☼	06/08/16 13:37	06/18/16 01:33	1
Calcium	1600		94	13	mg/Kg	☼	06/08/16 13:37	06/18/16 01:33	1
Chromium	19		3.3	0.055	mg/Kg	☼	06/08/16 13:37	06/18/16 01:33	1
Cobalt	12		0.94	0.094	mg/Kg	☼	06/08/16 13:37	06/18/16 01:33	1
Copper	35		4.7	0.20	mg/Kg	☼	06/08/16 13:37	06/18/16 01:33	1
Iron	25000		75	3.6	mg/Kg	☼	06/08/16 13:37	06/18/16 01:33	1
Lead	11		0.85	0.25	mg/Kg	☼	06/08/16 13:37	06/20/16 19:42	1
Magnesium	3800		28	3.5	mg/Kg	☼	06/08/16 13:37	06/18/16 01:33	1
Manganese	350		4.2	0.094	mg/Kg	☼	06/08/16 13:37	06/18/16 01:33	1
Nickel	26		3.8	0.12	mg/Kg	☼	06/08/16 13:37	06/18/16 01:33	1
Potassium	1700		280	39	mg/Kg	☼	06/08/16 13:37	06/18/16 01:33	1
Selenium	2.8	U	2.8	0.81	mg/Kg	☼	06/08/16 13:37	06/18/16 01:33	1
Silver	0.56	U	1.4	0.15	mg/Kg	☼	06/08/16 13:37	06/18/16 01:33	1
Sodium	110	J	470	55	mg/Kg	☼	06/08/16 13:37	06/18/16 01:33	1
Thallium	0.78	J	2.8	0.61	mg/Kg	☼	06/08/16 13:37	06/18/16 01:33	1
Vanadium	22		1.9	0.088	mg/Kg	☼	06/08/16 13:37	06/18/16 01:33	1
Zinc	63		7.5	0.37	mg/Kg	☼	06/08/16 13:37	06/18/16 01:33	1

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.059		0.022	0.0072	mg/Kg	☼	06/13/16 09:16	06/15/16 18:33	1

Client Sample ID: SC-ZZ007-MW002-S0607

Lab Sample ID: 280-84062-4
Date Collected: 06/01/16 15:40
Matrix: Solid
Date Received: 06/04/16 08:45
Percent Solids: 86.3

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	14000		57	1.8	mg/Kg	☼	06/08/16 13:37	06/18/16 01:35	1

Client Sample ID: SC-ZZ007-MW002-S0607

Lab Sample ID: 280-84062-4
Date Collected: 06/01/16 15:40
Matrix: Solid
Date Received: 06/04/16 08:45
Percent Solids: 86.3

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

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	1.7	U	2.3	0.44	mg/Kg	☼	06/08/16 13:37	06/18/16 01:35	1
Arsenic	8.2		2.9	0.76	mg/Kg	☼	06/08/16 13:37	06/18/16 01:35	1
Barium	96		2.3	0.087	mg/Kg	☼	06/08/16 13:37	06/18/16 01:35	1
Beryllium	0.75		0.57	0.038	mg/Kg	☼	06/08/16 13:37	06/18/16 01:35	1
Cadmium	0.16	J	0.57	0.047	mg/Kg	☼	06/08/16 13:37	06/18/16 01:35	1
Calcium	2100		110	16	mg/Kg	☼	06/08/16 13:37	06/18/16 01:35	1
Chromium	19		4.0	0.067	mg/Kg	☼	06/08/16 13:37	06/18/16 01:35	1
Cobalt	12		1.1	0.11	mg/Kg	☼	06/08/16 13:37	06/18/16 01:35	1
Copper	33		5.7	0.25	mg/Kg	☼	06/08/16 13:37	06/18/16 01:35	1
Iron	30000		92	4.4	mg/Kg	☼	06/08/16 13:37	06/18/16 01:35	1
Lead	12		1.0	0.31	mg/Kg	☼	06/08/16 13:37	06/20/16 19:45	1
Magnesium	4900		34	4.3	mg/Kg	☼	06/08/16 13:37	06/18/16 01:35	1
Manganese	410		5.2	0.11	mg/Kg	☼	06/08/16 13:37	06/18/16 01:35	1
Nickel	34		4.6	0.14	mg/Kg	☼	06/08/16 13:37	06/18/16 01:35	1
Potassium	2000		340	47	mg/Kg	☼	06/08/16 13:37	06/18/16 01:35	1
Selenium	1.3	J	3.4	0.99	mg/Kg	☼	06/08/16 13:37	06/18/16 01:35	1
Silver	0.69	U	1.7	0.18	mg/Kg	☼	06/08/16 13:37	06/18/16 01:35	1
Sodium	74	J	570	68	mg/Kg	☼	06/08/16 13:37	06/18/16 01:35	1
Thallium	1.3	J	3.4	0.75	mg/Kg	☼	06/08/16 13:37	06/18/16 01:35	1
Vanadium	25		2.3	0.11	mg/Kg	☼	06/08/16 13:37	06/18/16 01:35	1
Zinc	73		9.2	0.46	mg/Kg	☼	06/08/16 13:37	06/18/16 01:35	1

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.066		0.020	0.0065	mg/Kg	☼	06/13/16 09:16	06/15/16 18:35	1

Client Sample ID: SC-ZZ007-MW003-S0002

Lab Sample ID: 280-84062-5
Date Collected: 06/02/16 09:20
Matrix: Solid
Date Received: 06/04/16 08:45
Percent Solids: 95.3

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	11000		48	1.5	mg/Kg	☼	06/08/16 13:37	06/18/16 01:38	1
Antimony	1.4	U	1.9	0.36	mg/Kg	☼	06/08/16 13:37	06/18/16 01:38	1
Arsenic	6.8		2.4	0.63	mg/Kg	☼	06/08/16 13:37	06/18/16 01:38	1
Barium	65		1.9	0.073	mg/Kg	☼	06/08/16 13:37	06/18/16 01:38	1
Beryllium	0.63		0.48	0.032	mg/Kg	☼	06/08/16 13:37	06/18/16 01:38	1
Cadmium	0.38	J	0.48	0.039	mg/Kg	☼	06/08/16 13:37	06/18/16 01:38	1
Calcium	3900		96	13	mg/Kg	☼	06/08/16 13:37	06/18/16 01:38	1
Chromium	18		3.3	0.055	mg/Kg	☼	06/08/16 13:37	06/18/16 01:38	1
Cobalt	11		0.96	0.096	mg/Kg	☼	06/08/16 13:37	06/18/16 01:38	1
Copper	29		4.8	0.21	mg/Kg	☼	06/08/16 13:37	06/18/16 01:38	1
Iron	24000		77	3.6	mg/Kg	☼	06/08/16 13:37	06/18/16 01:38	1
Lead	23		0.86	0.26	mg/Kg	☼	06/08/16 13:37	06/20/16 19:48	1
Magnesium	4600		29	3.5	mg/Kg	☼	06/08/16 13:37	06/18/16 01:38	1
Manganese	460		4.3	0.096	mg/Kg	☼	06/08/16 13:37	06/18/16 01:38	1
Nickel	23		3.8	0.12	mg/Kg	☼	06/08/16 13:37	06/18/16 01:38	1
Potassium	1700		290	39	mg/Kg	☼	06/08/16 13:37	06/18/16 01:38	1
Selenium	1.2	J	2.9	0.82	mg/Kg	☼	06/08/16 13:37	06/18/16 01:38	1
Silver	0.57	U	1.4	0.15	mg/Kg	☼	06/08/16 13:37	06/18/16 01:38	1

Client Sample ID: SC-ZZ007-MW003-S0002

Lab Sample ID: 280-84062-5
Date Collected: 06/02/16 09:20
Matrix: Solid
Date Received: 06/04/16 08:45
Percent Solids: 95.3

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

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Sodium	89	J	480	56	mg/Kg	☼	06/08/16 13:37	06/18/16 01:38	1
Thallium	0.82	J	2.9	0.62	mg/Kg	☼	06/08/16 13:37	06/18/16 01:38	1
Vanadium	21		1.9	0.090	mg/Kg	☼	06/08/16 13:37	06/18/16 01:38	1
Zinc	88		7.7	0.38	mg/Kg	☼	06/08/16 13:37	06/18/16 01:38	1

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.062		0.021	0.0068	mg/Kg	☼	06/13/16 09:16	06/15/16 18:38	1

Client Sample ID: SC-ZZ007-MW003-S0204

Lab Sample ID: 280-84062-6
Date Collected: 06/02/16 09:30
Matrix: Solid
Date Received: 06/04/16 08:45
Percent Solids: 93.9

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	10000		45	1.4	mg/Kg	☼	06/08/16 13:37	06/18/16 01:40	1
Antimony	0.43	J	1.8	0.34	mg/Kg	☼	06/08/16 13:37	06/18/16 01:40	1
Arsenic	11		2.2	0.59	mg/Kg	☼	06/08/16 13:37	06/18/16 01:40	1
Barium	64		1.8	0.068	mg/Kg	☼	06/08/16 13:37	06/18/16 01:40	1
Beryllium	0.67		0.45	0.030	mg/Kg	☼	06/08/16 13:37	06/18/16 01:40	1
Cadmium	0.33	J	0.45	0.037	mg/Kg	☼	06/08/16 13:37	06/18/16 01:40	1
Calcium	36000		90	13	mg/Kg	☼	06/08/16 13:37	06/18/16 01:40	1
Chromium	17		3.1	0.052	mg/Kg	☼	06/08/16 13:37	06/18/16 01:40	1
Cobalt	14		0.90	0.090	mg/Kg	☼	06/08/16 13:37	06/18/16 01:40	1
Copper	33		4.5	0.20	mg/Kg	☼	06/08/16 13:37	06/18/16 01:40	1
Iron	26000		72	3.4	mg/Kg	☼	06/08/16 13:37	06/18/16 01:40	1
Lead	28		0.81	0.24	mg/Kg	☼	06/08/16 13:37	06/20/16 19:50	1
Magnesium	20000		27	3.3	mg/Kg	☼	06/08/16 13:37	06/18/16 01:40	1
Manganese	680		4.0	0.090	mg/Kg	☼	06/08/16 13:37	06/18/16 01:40	1
Nickel	33		3.6	0.11	mg/Kg	☼	06/08/16 13:37	06/18/16 01:40	1
Potassium	1800		270	37	mg/Kg	☼	06/08/16 13:37	06/18/16 01:40	1
Selenium	1.1	J	2.7	0.77	mg/Kg	☼	06/08/16 13:37	06/18/16 01:40	1
Silver	0.54	U	1.3	0.14	mg/Kg	☼	06/08/16 13:37	06/18/16 01:40	1
Sodium	140	J	450	53	mg/Kg	☼	06/08/16 13:37	06/18/16 01:40	1
Thallium	2.2	U	2.7	0.58	mg/Kg	☼	06/08/16 13:37	06/18/16 01:40	1
Vanadium	19		1.8	0.085	mg/Kg	☼	06/08/16 13:37	06/18/16 01:40	1
Zinc	76		7.2	0.36	mg/Kg	☼	06/08/16 13:37	06/18/16 01:40	1

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.14		0.018	0.0059	mg/Kg	☼	06/13/16 09:16	06/15/16 18:40	1

Client Sample ID: SC-ZZ007-MW003-S0204-D

Lab Sample ID: 280-84062-7
Date Collected: 06/02/16 09:35
Matrix: Solid
Date Received: 06/04/16 08:45
Percent Solids: 94.5

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	13000		49	1.5	mg/Kg	☼	06/08/16 13:37	06/18/16 01:43	1
Antimony	1.5	U	1.9	0.37	mg/Kg	☼	06/08/16 13:37	06/18/16 01:43	1

Client Sample Results

Client: Weston Solutions, Inc.
Project/Site: Schenectady ANGB, ZZ007

TestAmerica Job ID: 280-84062-1

Client Sample ID: SC-ZZ007-MW003-S0204-D

Date Collected: 06/02/16 09:35
Date Received: 06/04/16 08:45

Lab Sample ID: 280-84062-7

Matrix: Solid
Percent Solids: 94.5

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

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	8.2		2.4	0.64	mg/Kg	☼	06/08/16 13:37	06/18/16 01:43	1
Barium	70		1.9	0.074	mg/Kg	☼	06/08/16 13:37	06/18/16 01:43	1
Beryllium	0.86		0.49	0.032	mg/Kg	☼	06/08/16 13:37	06/18/16 01:43	1
Cadmium	0.25	J	0.49	0.040	mg/Kg	☼	06/08/16 13:37	06/18/16 01:43	1
Calcium	8000		97	14	mg/Kg	☼	06/08/16 13:37	06/18/16 01:43	1
Chromium	21		3.4	0.057	mg/Kg	☼	06/08/16 13:37	06/18/16 01:43	1
Cobalt	13		0.97	0.097	mg/Kg	☼	06/08/16 13:37	06/18/16 01:43	1
Copper	40		4.9	0.21	mg/Kg	☼	06/08/16 13:37	06/18/16 01:43	1
Iron	35000		78	3.7	mg/Kg	☼	06/08/16 13:37	06/18/16 01:43	1
Lead	26		0.88	0.26	mg/Kg	☼	06/08/16 13:37	06/20/16 19:53	1
Magnesium	7300		29	3.6	mg/Kg	☼	06/08/16 13:37	06/18/16 01:43	1
Manganese	550		4.4	0.097	mg/Kg	☼	06/08/16 13:37	06/18/16 01:43	1
Nickel	33		3.9	0.12	mg/Kg	☼	06/08/16 13:37	06/18/16 01:43	1
Potassium	1900		290	40	mg/Kg	☼	06/08/16 13:37	06/18/16 01:43	1
Selenium	1.4	J	2.9	0.84	mg/Kg	☼	06/08/16 13:37	06/18/16 01:43	1
Silver	0.58	U	1.5	0.16	mg/Kg	☼	06/08/16 13:37	06/18/16 01:43	1
Sodium	130	J	490	58	mg/Kg	☼	06/08/16 13:37	06/18/16 01:43	1
Thallium	0.87	J	2.9	0.63	mg/Kg	☼	06/08/16 13:37	06/18/16 01:43	1
Vanadium	24		1.9	0.092	mg/Kg	☼	06/08/16 13:37	06/18/16 01:43	1
Zinc	90		7.8	0.39	mg/Kg	☼	06/08/16 13:37	06/18/16 01:43	1

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.078		0.020	0.0064	mg/Kg	☼	06/13/16 09:16	06/15/16 18:48	1

Default Detection Limits

Client: Weston Solutions, Inc.
Project/Site: Schenectady ANGB, ZZ007

TestAmerica Job ID: 280-84062-1

Method: 6010C - Metals (ICP)

Prep: 3050B

Analyte	LOQ	DL	Units	Method
Aluminum	50	1.6	mg/Kg	6010C
Antimony	2.0	0.38	mg/Kg	6010C
Arsenic	2.5	0.66	mg/Kg	6010C
Barium	2.0	0.076	mg/Kg	6010C
Beryllium	0.50	0.033	mg/Kg	6010C
Cadmium	0.50	0.041	mg/Kg	6010C
Calcium	100	14	mg/Kg	6010C
Chromium	3.5	0.058	mg/Kg	6010C
Cobalt	1.0	0.10	mg/Kg	6010C
Copper	5.0	0.22	mg/Kg	6010C
Iron	80	3.8	mg/Kg	6010C
Lead	0.90	0.27	mg/Kg	6010C
Magnesium	30	3.7	mg/Kg	6010C
Manganese	4.5	0.10	mg/Kg	6010C
Nickel	4.0	0.12	mg/Kg	6010C
Potassium	300	41	mg/Kg	6010C
Selenium	3.0	0.86	mg/Kg	6010C
Silver	1.5	0.16	mg/Kg	6010C
Sodium	500	59	mg/Kg	6010C
Thallium	3.0	0.65	mg/Kg	6010C
Vanadium	2.0	0.094	mg/Kg	6010C
Zinc	8.0	0.40	mg/Kg	6010C

Method: 7471A - Mercury (CVAA)

Prep: 7471A

Analyte	LOQ	DL	Units	Method
Mercury	0.017	0.0055	mg/Kg	7471A

Method: 6010C - Metals (ICP)

Lab Sample ID: MB 280-328946/1-A
Matrix: Solid
Analysis Batch: 330323

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 328946

Analyte	MB Result	MB Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	4.44	J	46	1.4	mg/Kg		06/08/16 13:37	06/18/16 00:44	1
Antimony	1.4	U	1.8	0.35	mg/Kg		06/08/16 13:37	06/18/16 00:44	1
Arsenic	2.3	U	2.3	0.61	mg/Kg		06/08/16 13:37	06/18/16 00:44	1
Barium	0.146	J	1.8	0.070	mg/Kg		06/08/16 13:37	06/18/16 00:44	1
Beryllium	0.11	U	0.46	0.030	mg/Kg		06/08/16 13:37	06/18/16 00:44	1
Cadmium	0.14	U	0.46	0.038	mg/Kg		06/08/16 13:37	06/18/16 00:44	1
Calcium	18.2	J	92	13	mg/Kg		06/08/16 13:37	06/18/16 00:44	1
Chromium	0.0563	J	3.2	0.054	mg/Kg		06/08/16 13:37	06/18/16 00:44	1
Cobalt	0.37	U	0.92	0.092	mg/Kg		06/08/16 13:37	06/18/16 00:44	1
Copper	0.74	U	4.6	0.20	mg/Kg		06/08/16 13:37	06/18/16 00:44	1
Iron	8.47	J	74	3.5	mg/Kg		06/08/16 13:37	06/18/16 00:44	1
Magnesium	6.18	J	28	3.4	mg/Kg		06/08/16 13:37	06/18/16 00:44	1
Manganese	0.149	J	4.2	0.092	mg/Kg		06/08/16 13:37	06/18/16 00:44	1
Nickel	0.42	U	3.7	0.11	mg/Kg		06/08/16 13:37	06/18/16 00:44	1
Potassium	150	U	280	38	mg/Kg		06/08/16 13:37	06/18/16 00:44	1
Selenium	2.8	U	2.8	0.79	mg/Kg		06/08/16 13:37	06/18/16 00:44	1
Silver	0.55	U	1.4	0.15	mg/Kg		06/08/16 13:37	06/18/16 00:44	1
Sodium	180	U	460	54	mg/Kg		06/08/16 13:37	06/18/16 00:44	1
Thallium	2.3	U	2.8	0.60	mg/Kg		06/08/16 13:37	06/18/16 00:44	1
Vanadium	0.32	U	1.8	0.087	mg/Kg		06/08/16 13:37	06/18/16 00:44	1
Zinc	1.4	U	7.4	0.37	mg/Kg		06/08/16 13:37	06/18/16 00:44	1

Lab Sample ID: MB 280-328946/1-A
Matrix: Solid
Analysis Batch: 330622

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 328946

Analyte	MB Result	MB Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	0.74	U	0.83	0.25	mg/Kg		06/08/16 13:37	06/20/16 18:55	1

Lab Sample ID: LCS 280-328946/2-A
Matrix: Solid
Analysis Batch: 330323

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 328946

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aluminum	158	159		mg/Kg		100	74 - 119
Antimony	39.6	39.6		mg/Kg		100	79 - 114
Arsenic	79.1	77.5		mg/Kg		98	82 - 111
Barium	158	156		mg/Kg		99	83 - 113
Beryllium	3.96	3.82		mg/Kg		97	83 - 113
Cadmium	7.91	7.89		mg/Kg		100	82 - 113
Calcium	3960	3880		mg/Kg		98	81 - 116
Chromium	15.8	15.9		mg/Kg		100	85 - 113
Cobalt	39.6	38.1		mg/Kg		96	85 - 112
Copper	19.8	19.5		mg/Kg		98	81 - 117
Iron	79.1	82.0		mg/Kg		104	81 - 118
Magnesium	3960	3810		mg/Kg		96	78 - 115
Manganese	39.6	38.0		mg/Kg		96	84 - 114
Nickel	39.6	38.0		mg/Kg		96	83 - 113

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

Lab Sample ID: LCS 280-328946/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 330323 — **Prep Batch: 328946**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Potassium	3960	3920		mg/Kg		99	81 - 116
Selenium	158	152		mg/Kg		96	78 - 111
Silver	3.96	4.05		mg/Kg		102	82 - 112
Sodium	3960	3940		mg/Kg		100	83 - 118
Thallium	158	152		mg/Kg		96	83 - 111
Vanadium	39.6	37.9		mg/Kg		96	82 - 114
Zinc	39.6	37.9		mg/Kg		96	82 - 113

Lab Sample ID: LCS 280-328946/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 330622 — **Prep Batch: 328946**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Lead	39.6	39.2		mg/Kg		99	81 - 112

Method: 7471A - Mercury (CVAA)

Lab Sample ID: MB 280-329531/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 330031 — **Prep Batch: 329531**

Analyte	MB Result	MB Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.013	U	0.017	0.0055	mg/Kg		06/13/16 09:16	06/15/16 17:55	1

Lab Sample ID: LCS 280-329531/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 330031 — **Prep Batch: 329531**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.417	0.429		mg/Kg		103	80 - 124

QC Association Summary

Client: Weston Solutions, Inc.
Project/Site: Schenectady ANGB, ZZ007

TestAmerica Job ID: 280-84062-1

Metals

Prep Batch: 328946

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-84062-1	SC-ZZ007-MW001-S0103	Total/NA	Solid	3050B	
280-84062-2	SC-ZZ007-MW001-S0506	Total/NA	Solid	3050B	
280-84062-3	SC-ZZ007-MW002-S0102	Total/NA	Solid	3050B	
280-84062-4	SC-ZZ007-MW002-S0607	Total/NA	Solid	3050B	
280-84062-5	SC-ZZ007-MW003-S0002	Total/NA	Solid	3050B	
280-84062-6	SC-ZZ007-MW003-S0204	Total/NA	Solid	3050B	
280-84062-7	SC-ZZ007-MW003-S0204-D	Total/NA	Solid	3050B	
LCS 280-328946/2-A	Lab Control Sample	Total/NA	Solid	3050B	
MB 280-328946/1-A	Method Blank	Total/NA	Solid	3050B	

Prep Batch: 329531

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-84062-1	SC-ZZ007-MW001-S0103	Total/NA	Solid	7471A	
280-84062-2	SC-ZZ007-MW001-S0506	Total/NA	Solid	7471A	
280-84062-3	SC-ZZ007-MW002-S0102	Total/NA	Solid	7471A	
280-84062-4	SC-ZZ007-MW002-S0607	Total/NA	Solid	7471A	
280-84062-5	SC-ZZ007-MW003-S0002	Total/NA	Solid	7471A	
280-84062-6	SC-ZZ007-MW003-S0204	Total/NA	Solid	7471A	
280-84062-7	SC-ZZ007-MW003-S0204-D	Total/NA	Solid	7471A	
LCS 280-329531/2-A	Lab Control Sample	Total/NA	Solid	7471A	
MB 280-329531/1-A	Method Blank	Total/NA	Solid	7471A	

Analysis Batch: 330031

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-84062-1	SC-ZZ007-MW001-S0103	Total/NA	Solid	7471A	329531
280-84062-2	SC-ZZ007-MW001-S0506	Total/NA	Solid	7471A	329531
280-84062-3	SC-ZZ007-MW002-S0102	Total/NA	Solid	7471A	329531
280-84062-4	SC-ZZ007-MW002-S0607	Total/NA	Solid	7471A	329531
280-84062-5	SC-ZZ007-MW003-S0002	Total/NA	Solid	7471A	329531
280-84062-6	SC-ZZ007-MW003-S0204	Total/NA	Solid	7471A	329531
280-84062-7	SC-ZZ007-MW003-S0204-D	Total/NA	Solid	7471A	329531
LCS 280-329531/2-A	Lab Control Sample	Total/NA	Solid	7471A	329531
MB 280-329531/1-A	Method Blank	Total/NA	Solid	7471A	329531

Analysis Batch: 330323

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-84062-1	SC-ZZ007-MW001-S0103	Total/NA	Solid	6010C	328946
280-84062-2	SC-ZZ007-MW001-S0506	Total/NA	Solid	6010C	328946
280-84062-3	SC-ZZ007-MW002-S0102	Total/NA	Solid	6010C	328946
280-84062-4	SC-ZZ007-MW002-S0607	Total/NA	Solid	6010C	328946
280-84062-5	SC-ZZ007-MW003-S0002	Total/NA	Solid	6010C	328946
280-84062-6	SC-ZZ007-MW003-S0204	Total/NA	Solid	6010C	328946
280-84062-7	SC-ZZ007-MW003-S0204-D	Total/NA	Solid	6010C	328946
CRI 280-330323/12	DL		Solid	6010C	
CRI 280-330323/16	DL		Solid	6010C	
CRI 280-330323/17	DL		Solid	6010C	
ICSA 280-330323/13	ICS		Solid	6010C	
ICSAB 280-330323/14	ICS		Solid	6010C	
LCS 280-328946/2-A	Lab Control Sample	Total/NA	Solid	6010C	328946
MB 280-328946/1-A	Method Blank	Total/NA	Solid	6010C	328946

Metals (Continued)

Analysis Batch: 330622

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-84062-1	SC-ZZ007-MW001-S0103	Total/NA	Solid	6010C	328946
280-84062-2	SC-ZZ007-MW001-S0506	Total/NA	Solid	6010C	328946
280-84062-3	SC-ZZ007-MW002-S0102	Total/NA	Solid	6010C	328946
280-84062-4	SC-ZZ007-MW002-S0607	Total/NA	Solid	6010C	328946
280-84062-5	SC-ZZ007-MW003-S0002	Total/NA	Solid	6010C	328946
280-84062-6	SC-ZZ007-MW003-S0204	Total/NA	Solid	6010C	328946
280-84062-7	SC-ZZ007-MW003-S0204-D	Total/NA	Solid	6010C	328946
CRI 280-330622/12	DL		Solid	6010C	
CRI 280-330622/16	DL		Solid	6010C	
CRI 280-330622/18	DL		Solid	6010C	
CRI 280-330622/19	DL		Solid	6010C	
ICSA 280-330622/13	ICS		Solid	6010C	
ICSAB 280-330622/14	ICS		Solid	6010C	
LCS 280-328946/2-A	Lab Control Sample	Total/NA	Solid	6010C	328946
MB 280-328946/1-A	Method Blank	Total/NA	Solid	6010C	328946

General Chemistry

Analysis Batch: 328954

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-84062-1	SC-ZZ007-MW001-S0103	Total/NA	Solid	Moisture	
280-84062-2	SC-ZZ007-MW001-S0506	Total/NA	Solid	Moisture	
280-84062-3	SC-ZZ007-MW002-S0102	Total/NA	Solid	Moisture	
280-84062-4	SC-ZZ007-MW002-S0607	Total/NA	Solid	Moisture	
280-84062-5	SC-ZZ007-MW003-S0002	Total/NA	Solid	Moisture	
280-84062-6	SC-ZZ007-MW003-S0204	Total/NA	Solid	Moisture	
280-84062-7	SC-ZZ007-MW003-S0204-D	Total/NA	Solid	Moisture	

Lab Chronicle

Client: Weston Solutions, Inc.
Project/Site: Schenectady ANGB, ZZ007

TestAmerica Job ID: 280-84062-1

Client Sample ID: SC-ZZ007-MW001-S0103 — Lab Sample ID: 280-84062-1

Date Collected: 06/01/16 13:00 — **Matrix: Solid**
Date Received: 06/04/16 08:45 — **Percent Solids: 86.7**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			1.229 g	100 mL	328946	06/08/16 13:37	SUR	TAL DEN
Total/NA	Analysis	6010C		1	1.229 g	100 mL	330323	06/18/16 01:27	CMK	TAL DEN
Total/NA	Prep	3050B			1.229 g	100 mL	328946	06/08/16 13:37	SUR	TAL DEN
Total/NA	Analysis	6010C		1	1.229 g	100 mL	330622	06/20/16 19:37	CMK	TAL DEN
Total/NA	Prep	7471A			0.52 g	50 mL	329531	06/13/16 09:16	CDH	TAL DEN
Total/NA	Analysis	7471A		1	0.52 g	50 mL	330031	06/15/16 18:28	CDH	TAL DEN
Total/NA	Analysis	Moisture		1			328954	06/08/16 14:11	MRD	TAL DEN

Client Sample ID: SC-ZZ007-MW001-S0506 — Lab Sample ID: 280-84062-2

Date Collected: 06/01/16 13:10 — **Matrix: Solid**
Date Received: 06/04/16 08:45 — **Percent Solids: 94.7**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			1.222 g	100 mL	328946	06/08/16 13:37	SUR	TAL DEN
Total/NA	Analysis	6010C		1	1.222 g	100 mL	330323	06/18/16 01:30	CMK	TAL DEN
Total/NA	Prep	3050B			1.222 g	100 mL	328946	06/08/16 13:37	SUR	TAL DEN
Total/NA	Analysis	6010C		1	1.222 g	100 mL	330622	06/20/16 19:40	CMK	TAL DEN
Total/NA	Prep	7471A			0.55 g	50 mL	329531	06/13/16 09:16	CDH	TAL DEN
Total/NA	Analysis	7471A		1	0.55 g	50 mL	330031	06/15/16 18:30	CDH	TAL DEN
Total/NA	Analysis	Moisture		1			328954	06/08/16 14:11	MRD	TAL DEN

Client Sample ID: SC-ZZ007-MW002-S0102 — Lab Sample ID: 280-84062-3

Date Collected: 06/01/16 15:30 — **Matrix: Solid**
Date Received: 06/04/16 08:45 — **Percent Solids: 90.8**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			1.171 g	100 mL	328946	06/08/16 13:37	SUR	TAL DEN
Total/NA	Analysis	6010C		1	1.171 g	100 mL	330323	06/18/16 01:33	CMK	TAL DEN
Total/NA	Prep	3050B			1.171 g	100 mL	328946	06/08/16 13:37	SUR	TAL DEN
Total/NA	Analysis	6010C		1	1.171 g	100 mL	330622	06/20/16 19:42	CMK	TAL DEN
Total/NA	Prep	7471A			0.51 g	50 mL	329531	06/13/16 09:16	CDH	TAL DEN
Total/NA	Analysis	7471A		1	0.51 g	50 mL	330031	06/15/16 18:33	CDH	TAL DEN
Total/NA	Analysis	Moisture		1			328954	06/08/16 14:11	MRD	TAL DEN

Client Sample ID: SC-ZZ007-MW002-S0607 — Lab Sample ID: 280-84062-4

Date Collected: 06/01/16 15:40 — **Matrix: Solid**
Date Received: 06/04/16 08:45 — **Percent Solids: 86.3**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			1.009 g	100 mL	328946	06/08/16 13:37	SUR	TAL DEN
Total/NA	Analysis	6010C		1	1.009 g	100 mL	330323	06/18/16 01:35	CMK	TAL DEN
Total/NA	Prep	3050B			1.009 g	100 mL	328946	06/08/16 13:37	SUR	TAL DEN
Total/NA	Analysis	6010C		1	1.009 g	100 mL	330622	06/20/16 19:45	CMK	TAL DEN

Lab Chronicle

Client: Weston Solutions, Inc.
Project/Site: Schenectady ANGB, ZZ007

TestAmerica Job ID: 280-84062-1

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	7471A			0.59 g	50 mL	329531	06/13/16 09:16	CDH	TAL DEN
Total/NA	Analysis	7471A		1	0.59 g	50 mL	330031	06/15/16 18:35	CDH	TAL DEN
Total/NA	Analysis	Moisture		1			328954	06/08/16 14:11	MRD	TAL DEN

Client Sample ID: SC-ZZ007-MW003-S0002 — Lab Sample ID: 280-84062-5

Date Collected: 06/02/16 09:20 — **Matrix: Solid**
Date Received: 06/04/16 08:45 — **Percent Solids: 95.3**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			1.097 g	100 mL	328946	06/08/16 13:37	SUR	TAL DEN
Total/NA	Analysis	6010C		1	1.097 g	100 mL	330323	06/18/16 01:38	CMK	TAL DEN
Total/NA	Prep	3050B			1.097 g	100 mL	328946	06/08/16 13:37	SUR	TAL DEN
Total/NA	Analysis	6010C		1	1.097 g	100 mL	330622	06/20/16 19:48	CMK	TAL DEN
Total/NA	Prep	7471A			0.51 g	50 mL	329531	06/13/16 09:16	CDH	TAL DEN
Total/NA	Analysis	7471A		1	0.51 g	50 mL	330031	06/15/16 18:38	CDH	TAL DEN
Total/NA	Analysis	Moisture		1			328954	06/08/16 14:11	MRD	TAL DEN

Client Sample ID: SC-ZZ007-MW003-S0204 — Lab Sample ID: 280-84062-6

Date Collected: 06/02/16 09:30 — **Matrix: Solid**
Date Received: 06/04/16 08:45 — **Percent Solids: 93.9**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			1.183 g	100 mL	328946	06/08/16 13:37	SUR	TAL DEN
Total/NA	Analysis	6010C		1	1.183 g	100 mL	330323	06/18/16 01:40	CMK	TAL DEN
Total/NA	Prep	3050B			1.183 g	100 mL	328946	06/08/16 13:37	SUR	TAL DEN
Total/NA	Analysis	6010C		1	1.183 g	100 mL	330622	06/20/16 19:50	CMK	TAL DEN
Total/NA	Prep	7471A			0.60 g	50 mL	329531	06/13/16 09:16	CDH	TAL DEN
Total/NA	Analysis	7471A		1	0.60 g	50 mL	330031	06/15/16 18:40	CDH	TAL DEN
Total/NA	Analysis	Moisture		1			328954	06/08/16 14:11	MRD	TAL DEN

Client Sample ID: SC-ZZ007-MW003-S0204-D — Lab Sample ID: 280-84062-7

Date Collected: 06/02/16 09:35 — **Matrix: Solid**
Date Received: 06/04/16 08:45 — **Percent Solids: 94.5**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			1.085 g	100 mL	328946	06/08/16 13:37	SUR	TAL DEN
Total/NA	Analysis	6010C		1	1.085 g	100 mL	330323	06/18/16 01:43	CMK	TAL DEN
Total/NA	Prep	3050B			1.085 g	100 mL	328946	06/08/16 13:37	SUR	TAL DEN
Total/NA	Analysis	6010C		1	1.085 g	100 mL	330622	06/20/16 19:53	CMK	TAL DEN
Total/NA	Prep	7471A			0.55 g	50 mL	329531	06/13/16 09:16	CDH	TAL DEN
Total/NA	Analysis	7471A		1	0.55 g	50 mL	330031	06/15/16 18:48	CDH	TAL DEN
Total/NA	Analysis	Moisture		1			328954	06/08/16 14:11	MRD	TAL DEN

Laboratory References:

TAL DEN = TestAmerica Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

Certification Summary

Client: Weston Solutions, Inc.
Project/Site: Schenectady ANGB, ZZ007

TestAmerica Job ID: 280-84062-1

Laboratory: TestAmerica Denver

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

Authority	Program	EPA Region	Certification ID	Expiration Date
A2LA	DoD ELAP		2907.01	10-31-17

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

Analysis Method	Prep Method	Matrix	Analyte
Moisture		Solid	Percent Moisture

Connecticut	State Program	1	PH-0686	09-30-16

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

Analysis Method	Prep Method	Matrix	Analyte
6010C	3050B	Solid	Aluminum
6010C	3050B	Solid	Antimony
6010C	3050B	Solid	Arsenic
6010C	3050B	Solid	Barium
6010C	3050B	Solid	Beryllium
6010C	3050B	Solid	Cadmium
6010C	3050B	Solid	Calcium
6010C	3050B	Solid	Chromium
6010C	3050B	Solid	Cobalt
6010C	3050B	Solid	Copper
6010C	3050B	Solid	Iron
6010C	3050B	Solid	Lead
6010C	3050B	Solid	Magnesium
6010C	3050B	Solid	Manganese
6010C	3050B	Solid	Nickel
6010C	3050B	Solid	Potassium
6010C	3050B	Solid	Selenium
6010C	3050B	Solid	Silver
6010C	3050B	Solid	Sodium
6010C	3050B	Solid	Thallium
6010C	3050B	Solid	Vanadium
6010C	3050B	Solid	Zinc
7471A	7471A	Solid	Mercury
Moisture		Solid	Percent Moisture

Maine	State Program	1	CO0002	03-03-17

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

Analysis Method	Prep Method	Matrix	Analyte
6010C	3050B	Solid	Aluminum
6010C	3050B	Solid	Antimony
6010C	3050B	Solid	Arsenic
6010C	3050B	Solid	Barium
6010C	3050B	Solid	Beryllium
6010C	3050B	Solid	Cadmium
6010C	3050B	Solid	Calcium
6010C	3050B	Solid	Chromium
6010C	3050B	Solid	Cobalt
6010C	3050B	Solid	Copper
6010C	3050B	Solid	Iron
6010C	3050B	Solid	Lead
6010C	3050B	Solid	Magnesium
6010C	3050B	Solid	Manganese

Laboratory: TestAmerica Denver (Continued)

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

Authority	Program	EPA Region	Certification ID	Expiration Date
Maine	State Program	1	CO0002	03-03-17

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

Analysis Method	Prep Method	Matrix	Analyte
6010C	3050B	Solid	Nickel
6010C	3050B	Solid	Potassium
6010C	3050B	Solid	Selenium
6010C	3050B	Solid	Silver
6010C	3050B	Solid	Sodium
6010C	3050B	Solid	Thallium
6010C	3050B	Solid	Vanadium
6010C	3050B	Solid	Zinc
7471A	7471A	Solid	Mercury
Moisture		Solid	Percent Moisture

New Hampshire	NELAP	1	205310	04-28-17

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

Analysis Method	Prep Method	Matrix	Analyte
6010C	3050B	Solid	Aluminum
6010C	3050B	Solid	Antimony
6010C	3050B	Solid	Arsenic
6010C	3050B	Solid	Barium
6010C	3050B	Solid	Beryllium
6010C	3050B	Solid	Cadmium
6010C	3050B	Solid	Calcium
6010C	3050B	Solid	Chromium
6010C	3050B	Solid	Cobalt
6010C	3050B	Solid	Copper
6010C	3050B	Solid	Iron
6010C	3050B	Solid	Lead
6010C	3050B	Solid	Magnesium
6010C	3050B	Solid	Manganese
6010C	3050B	Solid	Nickel
6010C	3050B	Solid	Potassium
6010C	3050B	Solid	Selenium
6010C	3050B	Solid	Silver
6010C	3050B	Solid	Sodium
6010C	3050B	Solid	Thallium
6010C	3050B	Solid	Vanadium
6010C	3050B	Solid	Zinc
7471A	7471A	Solid	Mercury
Moisture		Solid	Percent Moisture

New York	NELAP	2	11964	04-01-17

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

Analysis Method	Prep Method	Matrix	Analyte
6010C	3050B	Solid	Aluminum
6010C	3050B	Solid	Antimony
6010C	3050B	Solid	Arsenic
6010C	3050B	Solid	Barium
6010C	3050B	Solid	Beryllium

Laboratory: TestAmerica Denver (Continued)

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

Authority	Program	EPA Region	Certification ID	Expiration Date
New York	NELAP	2	11964	04-01-17

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

Analysis Method	Prep Method	Matrix	Analyte
6010C	3050B	Solid	Cadmium
6010C	3050B	Solid	Calcium
6010C	3050B	Solid	Chromium
6010C	3050B	Solid	Cobalt
6010C	3050B	Solid	Copper
6010C	3050B	Solid	Iron
6010C	3050B	Solid	Lead
6010C	3050B	Solid	Magnesium
6010C	3050B	Solid	Manganese
6010C	3050B	Solid	Nickel
6010C	3050B	Solid	Potassium
6010C	3050B	Solid	Selenium
6010C	3050B	Solid	Silver
6010C	3050B	Solid	Sodium
6010C	3050B	Solid	Thallium
6010C	3050B	Solid	Vanadium
6010C	3050B	Solid	Zinc
7471A	7471A	Solid	Mercury
Moisture		Solid	Percent Moisture

Pennsylvania	NELAP	3	68-00664	07-31-16

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

Analysis Method	Prep Method	Matrix	Analyte
6010C	3050B	Solid	Aluminum
6010C	3050B	Solid	Antimony
6010C	3050B	Solid	Arsenic
6010C	3050B	Solid	Barium
6010C	3050B	Solid	Beryllium
6010C	3050B	Solid	Cadmium
6010C	3050B	Solid	Calcium
6010C	3050B	Solid	Chromium
6010C	3050B	Solid	Cobalt
6010C	3050B	Solid	Copper
6010C	3050B	Solid	Iron
6010C	3050B	Solid	Lead
6010C	3050B	Solid	Magnesium
6010C	3050B	Solid	Manganese
6010C	3050B	Solid	Nickel
6010C	3050B	Solid	Potassium
6010C	3050B	Solid	Selenium
6010C	3050B	Solid	Silver
6010C	3050B	Solid	Sodium
6010C	3050B	Solid	Thallium
6010C	3050B	Solid	Vanadium
6010C	3050B	Solid	Zinc
7471A	7471A	Solid	Mercury

West Virginia DEP	State Program	3	354	11-30-16

Laboratory: TestAmerica Denver (Continued)

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

Authority	Program	EPA Region	Certification ID	Expiration Date
West Virginia DEP	State Program	3	354	11-30-16

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

Analysis Method	Prep Method	Matrix	Analyte
6010C	3050B	Solid	Aluminum
6010C	3050B	Solid	Antimony
6010C	3050B	Solid	Arsenic
6010C	3050B	Solid	Barium
6010C	3050B	Solid	Beryllium
6010C	3050B	Solid	Cadmium
6010C	3050B	Solid	Calcium
6010C	3050B	Solid	Chromium
6010C	3050B	Solid	Cobalt
6010C	3050B	Solid	Copper
6010C	3050B	Solid	Iron
6010C	3050B	Solid	Lead
6010C	3050B	Solid	Magnesium
6010C	3050B	Solid	Manganese
6010C	3050B	Solid	Nickel
6010C	3050B	Solid	Potassium
6010C	3050B	Solid	Selenium
6010C	3050B	Solid	Silver
6010C	3050B	Solid	Sodium
6010C	3050B	Solid	Thallium
6010C	3050B	Solid	Vanadium
6010C	3050B	Solid	Zinc
7471A	7471A	Solid	Mercury
Moisture		Solid	Percent Moisture

Method Summary

Client: Weston Solutions, Inc.
Project/Site: Schenectady ANGB, ZZ007

TestAmerica Job ID: 280-84062-1

Method	Method Description	Protocol	Laboratory
6010C	Metals (ICP)	SW846	TAL DEN
7471A	Mercury (CVAA)	SW846	TAL DEN
Moisture	Percent Moisture	EPA	TAL DEN

Protocol References:

EPA = US Environmental Protection Agency

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

Laboratory References:

TAL DEN = TestAmerica Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

Sample Summary

Client: Weston Solutions, Inc.
Project/Site: Schenectady ANGB, ZZ007

TestAmerica Job ID: 280-84062-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
280-84062-1	SC-ZZ007-MW001-S0103	Solid	06/01/16 13:00	06/04/16 08:45
280-84062-2	SC-ZZ007-MW001-S0506	Solid	06/01/16 13:10	06/04/16 08:45
280-84062-3	SC-ZZ007-MW002-S0102	Solid	06/01/16 15:30	06/04/16 08:45
280-84062-4	SC-ZZ007-MW002-S0607	Solid	06/01/16 15:40	06/04/16 08:45
280-84062-5	SC-ZZ007-MW003-S0002	Solid	06/02/16 09:20	06/04/16 08:45
280-84062-6	SC-ZZ007-MW003-S0204	Solid	06/02/16 09:30	06/04/16 08:45
280-84062-7	SC-ZZ007-MW003-S0204-D	Solid	06/02/16 09:35	06/04/16 08:45

GENERAL CHEMISTRY

COVER PAGE
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job Number: 280-84062-1

SDG No.:

Project: Schenectady ANGB, ZZ007

Client Sample ID	Lab Sample ID
SC-ZZ007-MW001-S0103	280-84062-1
SC-ZZ007-MW001-S0506	280-84062-2
SC-ZZ007-MW002-S0102	280-84062-3
SC-ZZ007-MW002-S0607	280-84062-4
SC-ZZ007-MW003-S0002	280-84062-5
SC-ZZ007-MW003-S0204	280-84062-6
SC-ZZ007-MW003-S0204-D	280-84062-7

Comments:

9-IN
DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job Number: 280-84062-1

SDG Number:

Matrix: Solid Instrument ID: NOEQUIP

Method: Moisture LOQ Date: 11/01/2009 00:00

Analyte	Wavelength/ Mass	LOQ (%)	
Percent Moisture		0.1	

FORM IX - IN

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job No.: 280-84062-1

SDG No.:

Instrument ID: NOEQUIP Analysis Method: Moisture

Start Date: 06/08/2016 14:11 End Date: 06/08/2016 14:11

Lab Sample Id	D/F	Type	Time	Analytes																							
				Moist																							
ZZZZZZ			14:11																								
ZZZZZZ			14:11																								
ZZZZZZ			14:11																								
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280-84062-1	1	T	14:11	X																							
280-84062-2	1	T	14:11	X																							
280-84062-3	1	T	14:11	X																							
280-84062-4	1	T	14:11	X																							
280-84062-5	1	T	14:11	X																							
280-84062-6	1	T	14:11	X																							
280-84062-7	1	T	14:11	X																							

Prep Types:
T = Total/NA

FORM XIII-IN

TestAmerica Denver

Top-Loading Balance Calibration Verification Log

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

DV-QA-0014

ACCEPTANCE CRITERIA: **0.01 READABILITY:** For <20 g, true mass ± 0.02 g: for ≥ 20 g, true mass ± 0.1%
0.1 READABILITY: For <200 g, true mass ± 0.2 g: for ≥ 200 g, true mass ± 0.1%

Date	Weight Serial Number	Weight Used	Balance Reading (g)	Initials	Acceptable? (Y/N)/Comments
6/05/16	66040	1g	0.99g	IW	Y
	66040	10g	9.98g		Y
	66040	100g	100.00g		Y
6/7/16	66040	1g	1.00 g	MRD	Y
	66040	10g	9.99 g		Y
	66040	100g	99.98 g		Y
6/8/16	66040	1g	0.99g	MRD	Y
	66040	10g	10.00		Y
	66040	100g	99.98g		Y
6/~~8~~ 9/16 MRD 6/9/16	66040	1 g	1.01 g	MRD	Y
	66040	10 g	10.01		Y
	66040	100 g	99.99		Y

TestAmerica Denver

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Gravimetric-Solids Data Review Checklist

LIMS Batch Number: 328954		Instrument ID: 20160607
Analyst/1st Reviewer/Date: MARCIA 6/9/16	Method: MOISTURE	QC Type (circle): Standard LCSD DOD Q4 DoD Q5 QAPP_____ Other_____
Method (circle): 2540B 2540C 2540D 160.4 1664A 1664B 9071		D5057 D1429 (D2216)
Matrix (circle): Water (Solid) Waste		

Review Items	Yes	No	NA	2nd rev	If No, why is data reportable?
A. Balance, Oven and DI water Checks					
Was the balance calibration verified before and after processing samples and noted in the "Balance Calibration Log" for the date(s) the samples were processed?	✓			✓	
Was the daily conductivity check of the deionized water recorded in the "Conductivity Logbook"?			✓	✓	
Temps. within the required temperature of the method: % Moisture: 100°C ± 5°C % Vol. 103°C - 105°C % Solids, TS, TSS, TVSS, VSS 103°C - 105°C TDS 180°C ± 2°C %Vol, TVSS, VSS 550°C ± 50°C Other:_____ _____	✓			✓	
B. Method Requirements					
QC Batch contains no greater than 20 samples?	✓			✓	
If sample is visibly oily, was this noted on the benchsheet?			✓	✓	
Was final residue weight within minimum/maximum requirements?	✓			✓	
Were the initial and final drying dates and times recorded on the benchsheet/TALS and were all samples dried for at least one hour?	✓			✓	
C. Preparation/ Matrix QC					
Matrix Duplicate (RPD ± 5 %) (If > 5 %, determine corrective per SOP.) The RPD limit of 5% applies to TSS, TDS and TS, 20% RPD for all others	✓			✓	
Method blank < ½ RL or all reported samples > 10 X RL? - **(HEM, SGT HEM, and TDS the MB <RL)**			✓	✓	
LCS/LCSD run for batch and within QC limits?			✓	✓	
D. Preparation/ Matrix QC					
TDS/Conductivity ratio or historical data checked?			✓	✓	
For % Moisture, was the Final Dried Weight < the Initial Pan Weight or is the result greater than 100%?	✓			✓	
Were sample analyses done within holding time? **If no, create HTV NCM. NCM#**	✓			✓	
Were special client requirements met?	✓			✓	
Were data that were manually transcribed from instrument printouts into TALS verified 100% including dilution factors, significant figures and units?	✓			✓	
Do the prep and analysis dates in TALS reflect the actual dates?	✓			✓	
STD/True Value information is updated and included?	✓			✓	

Review Items	NA	Yes	No	2nd rev	If No, why is data reportable?
F. Data and TALS review					
1. Raw Data					
a. Unused data is clearly identified with reason not used	✓			✓	
b. All cross outs are initialed and dated		✓	✓	✓	
c. Raw data includes the method, date, and analyst initials/signature		✓	✓	✓	
2. TALS Samples Tab					
a. LIMS Sample IDs / Containers are correct		✓		✓	
b. Method and matrix are correct		✓		✓	
c. Date and time match raw data		✓		✓	
d. Dilutions are correct		✓		✓	
e. Correct suffix (DU, MS, MSD) designated (where applicable)		✓		✓	
3. TALS Worksheet Tab is complete and correct (Initial Amount, Final Amount, pH, etc.)		✓		✓	
4. TALS Reagent Tab is complete and correct and properly associated with QC samples. Confirm that reagent amounts are correct. If reagents are new verify that the correct COA has been attached to the source standard	✓			✓	
5. TALS QC Links Tab is correct		✓		✓	
6. TALS Sample Results Tab		✓		✓	
a. All unused data are marked Rejected or Accepted		✓		✓	
b. Set status for samples based on QC and sample results info (i.e., set to primary analysis with passing QC or reject samples without passing QC or samples that are over-range.)		✓		✓	
c. Any data that has a qualifier is commented on with appropriate action taken		✓		✓	
7. TALS Batch Information Screen documentation is complete		✓		✓	
8. Historical Data Checker: Check historical data. Print charts for outliers. Take corrective action as is appropriate		✓		✓	
9. TALS Status set to appropriate review level		✓		✓	
E. Final Report and NCMs (2nd level review only)					
1. Were all job/project requirements met?				✓	
2. Results for samples and QC correct on final report?				✓	
3. Are all necessary scanned documents in TALS?				✓	
4. NCMs reviewed for applicability, correct references to batches, grammar/typographical errors?				✓	

Comments: CMR 6/9/16

2nd Reviewer: Caitlyn M Hall **Review Date:** 6/9/16

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-84062-1

SDG No.:

Batch Number: 328954 Batch Start Date: 06/08/16 14:11 Batch Analyst: Derosia, Marcia R

Batch Method: Moisture Batch End Date: 06/09/16 00:00

Lab Sample ID	Client Sample ID	Method Chain	Basis	DISH#	DishWeight	SampleMassWet	SampleMassDry	AnalysisComment	
280-84062-D-1	SC-ZZ007-MW001-S 0103	Moisture	T	31	1.30 g	16.51 g	14.49 g		
280-84062-A-2	SC-ZZ007-MW001-S 0506	Moisture	T	32	1.30 g	15.72 g	14.95 g		
280-84062-A-3	SC-ZZ007-MW002-S 0102	Moisture	T	33	1.30 g	15.73 g	14.40 g		
280-84062-A-4	SC-ZZ007-MW002-S 0607	Moisture	T	34	1.30 g	15.50 g	13.55 g		
280-84062-A-5	SC-ZZ007-MW003-S 0002	Moisture	T	35	1.29 g	15.87 g	15.18 g		
280-84062-B-6	SC-ZZ007-MW003-S 0204	Moisture	T	36	1.29 g	15.61 g	14.74 g	Rocky	
280-84062-A-7	SC-ZZ007-MW003-S 0204-D	Moisture	T	37	1.30 g	15.76 g	14.97 g		

Batch Notes	
Balance ID	20160607
Date and Time Samples in Desiccator	6/09/16 1000 mrd
Date and Time Samples out of Desiccator	6/08/16 Tray 1, 1230 mrd; Tray 2 1245 mrd
Date samples were placed in the oven	06/08/16
Oven Temp In	103 Degrees C
Time samples were place in the oven	Tray 1: 1540 mrd
Date samples were removed from oven	06/09/16
Oven Temp Out	104 Degrees C
Time Samples were removed from oven	1000 mrd
Oven ID	F
Thermometer ID	227-694
Uncorrected In Temperature	103 Celsius
Uncorrected Out Temperature	104 Celsius

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

Shipping and Receiving Documents

TestAmerica Denver 480501-Albany
4955 Yarrow Street
Arvada, CO 80002
Phone (303) 736-0100 Fax (303) 431-7171

Chain of Custody Record

280-84062 Chain of Custody

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information	Sampler: Dana Karmos	Lab PM: Rydberg, Donna R	COC No: 280-53289-19163.2
Client Contact: Ms. Gretchen Fodor	Phone: (860) 912-9892	E-Mail: donna.rydberg@testamericainc.com	Page: Page 2 of 2
Company: Weston Solutions, Inc.			Job #:
Address: 1400 Weston Way PO BOX 2653	Due Date Requested:		
City: West Chester	TAT Requested (days): 15 Day		
State, Zip: PA, 19380			
Phone: 703-724-0544(Tel)	PO #: 0090139		
Email: gretchen.fodor@westonsolutions.com	WO #: 15363.100.001.1102		
Project Name: Schenectady ANGB, ZZ007	Project #: 28015256		
Site: ZZ007	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)	Metals: 6010C	Mercury: 7471A	Total Number of containers	Special Instructions/Note:
			Preservation Code:				N	N		
SC-ZZ007-MW001-S0103	06-01-16	1300	G	S	N	Y	X	X	4	
SC-ZZ007-MW001-S0506	06-01-16	1310	G	S	N	N	X	X	2	
SC-ZZ007-MW002-S0102	06-01-16	1530	G	S	N	N	X	X	2	
SC-ZZ007-MW002-S0607	06-01-16	1540	G	S	N	N	X	X	2	
SC-ZZ007-MW003-S0002	06-02-16	0920	G	S	N	N	X	X	2	
SC-ZZ007-MW003-S0204	06-02-16	0930	G	S	N	N	X	X	2	
SC-ZZ007-MW003-S0204-D	06-02-16	0935	G	S	N	N	X	X	2	

TDK
6-3-16

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) IV

Special Instructions/QC Requirements:

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

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
[illegible] (Weston)	06-03-16 1635		Tim [illegible]	6-3-16 1635	TA Alb
Tim [illegible]	6-3-16 1820	TA Alb	[illegible]	6/4/16 0845	DAD
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: 1.4+0.0 IR#5 Transferred by DW 6/4/16

Login Sample Receipt Checklist

Client: Weston Solutions, Inc.

Job Number: 280-84062-1

Login Number: 84062
List Number: 1
Creator: White, Denise E

List Source: TestAmerica Denver

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
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	

ANALYTICAL REPORT

Job Number: 280-84064-1

Job Description: Schenectady ANGB, TU008

For:
Weston Solutions, Inc.
1400 Weston Way
PO BOX 2653
West Chester, PA 19380

Attention: Ms. Gretchen Fodor

Approved for release.
Donna R Rydberg
Senior Project Manager
8/16/2016 3:37 AM

Donna R Rydberg, Senior Project Manager
4955 Yarrow Street, Arvada, CO, 80002
(303)736-0192
donna.rydberg@testamericainc.com
08/16/2016
Revision: 2

The test results in this report relate only to the samples in this report and meet all requirements of NELAC, with any exceptions noted. Pursuant to NELAP, this report shall not be reproduced except in full, without the written approval of the laboratory. All questions regarding this report should be directed to the TestAmerica Denver Project Manager.

The Lab Certification ID# is 4025.

Reporting limits are adjusted for sample size used, dilutions and moisture content if applicable.

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Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
U	Undetected at the Limit of Detection.
Q	One or more quality control criteria failed.
J	Estimated: The analyte was positively identified; the quantitation is an estimation

GC/MS Semi VOA

Qualifier	Qualifier Description
U	Undetected at the Limit of Detection.
J	Estimated: The analyte was positively identified; the quantitation is an estimation
J	Estimated: The quantitation is an estimation due to discrepancies in meeting certain analyte-specific quality control criteria.
Q	One or more quality control criteria failed.
M	Manual integrated compound.

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)

CASE NARRATIVE
Client: Weston Solutions, Inc.
Project: Schenectady ANGB, TU008

Report Number: 280-84064-1

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

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

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

REVISION 2 8/16/16
The data was returned to the lab for fixes on the LCS for Benzidine. The LCS was listed with a %R of 8% in LCS 280-329894/2-A. Since the analyte is effectively reported as ND (result <MDL), the LCS should not be calculating a percent recovery. This was corrected by the laboratory.

REVISION 1 - 8/1/16
The attached revised report now contains m&p-xylenes and o-Xylenes in the samples for method 8260B. No other changes were made.

RECEIPT
The samples were received on 06/04/2016; the samples arrived in good condition, properly preserved and on ice. The temperature of the cooler at receipt was 1.4º C.

Receipt Exceptions

These samples arrived on 6/4/2016. Sample SC-TU0080MW001-S0002 was marked on the chain of custody to perform an MS/MSD. However, extra volume for the MS/MSD was not received for 8270D and 8260C analysis. Extra volume was received at the St Louis laboratory for sample SC-TU008-MW0010S1012 for method 8260C. Sample SC-TU008-MW0010S1012 was not received initially for 8270D analysis at the Denver laboratory. The sample plus extra volume for MS/MSD was received on 6/9/2016. Sample SC-TU008-MW0010S1012 was logged for the MS/MSD for methods 8260C and 8270D.

Sample SC-TU008-MW004-S05305 containers were all labeled with the ID SC-TU008-MW004-S0507 with collection time of 11:40. The sample was logged as SC-TU008-MW004-S05305 per the chain of custody.

The client was notified.

VOLATILE ORGANIC COMPOUNDS (GC/MS)
Sample SC-TU008-TB060316 (280-84064-10) was analyzed for Volatile Organic Compounds (GC/MS) in accordance with 8260C_DOD5. The samples were analyzed on 06/15/2016.

o-Xylene was detected in method blank MB 160-256397/9 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.

4-Bromofluorobenzene (Surr) recovered high for SC-TU008-TB060316 (280-84064-10) and MB 160-256397/9.

The continuing calibration verification (CCV) associated with batch 160-256107 recovered outside acceptance criteria, low biased, for Bromomethane. 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. (CCV 160-256107/6)

The continuing calibration verification (CCV) associated with batch 160-256107 recovered above the upper control limit for Dichlorodifluoromethane. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The following sample is impacted: (CCV 160-256107/6).

The following compounds did not meet the minimum relative response factor limits in the continuing calibration verification (CCV) associated with batch 160-256107: 2-Butanone, Methyl acetate, 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. (CCV 160-256107/6)

Surrogate recovery for the following samples was outside the upper control limit: SC-TU008-MW001-S0002 (280-84064-1),

SC-TU008-MW001-S1012 (280-84064-2), SC-TU008-MW001-S1012 (280-84064-2[MSD]), SC-TU008-MW002-S0406 (280-84064-3), SC-TU008-MW002-S0406-D (280-84064-4), SC-TU008-MW002-S0002 (280-84064-5), SC-TU008-MW003-S0204 (280-84064-6), SC-TU008-MW003-S0405 (280-84064-7), SC-TU008-MW004-S0507 (280-84064-8) and SC-TU008-MW004-S0305 (280-84064-9). These samples showed visible signs of interfering matrices; large hydrocarbon patterns were observed in the spectra. In order to preserve the integrity of the instrument, the data is being reported with this narrative.

During the run for preparation batch 160-256112 and analytical batch 160-256107, power was lost to the instrument while the matrix spike and duplicate (MS/MSD) was running. Samples were re-analyzed and the same issue occurred again. Due to insufficient volume, the data is being reported with this narrative. Laboratory control sample and duplicate (LCS/LCSD) were analyzed in order to demonstrate accuracy and replicate-precision.

The following compounds did not meet the minimum relative response factor limits in the continuing calibration verification (CCV) associated with batch 160-256397: 2-Butanone, Methyl acetate, 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. (CCV 160-256397/5) and (CCVC 160-256397/30)

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

8270D

Samples SC-TU008-MW001-S0002 (280-84064-1), SC-TU008-MW001-S1012 (280-84064-2), SC-TU008-MW002-S0406 (280-84064-3), SC-TU008-MW002-S0406-D (280-84064-4), SC-TU008-MW002-S0002 (280-84064-5), SC-TU008-MW003-S0204 (280-84064-6), SC-TU008-MW003-S0405 (280-84064-7), SC-TU008-MW004-S0507 (280-84064-8) and SC-TU008-MW004-S0305 (280-84064-9) were analyzed for 8270D in accordance with 8270D. The samples were prepared on 06/15/2016 and analyzed on 06/21/2016.

Surrogate recovery for the following sample was outside control limits: SC-TU008-MW002-S0002 (280-84064-5). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Benzidine and Hexachlorocyclopentadiene recovered low for the MS/MSD of sample SC-TU008-MW001-S1012MSD (280-84064-2) in batch 280-330552. Hexachlorocyclopentadiene exceeded the RPD limit.

The following sample could not be thoroughly homogenized before sub-sampling was performed due to sample matrix: SC-TU008-MW003-S0405 (280-84064-7).

The closing continuing calibration verification (CCVC) associated with batch 330552 recovered outside acceptance criteria, low biased, for 4-Nitroquinoline-1-oxide at -51% and Hexachlorocyclopentadiene at -58.4%. 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. Also, please note that the following compounds are poor performing analytes when using this method.

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

PERCENT SOLIDS

Samples SC-TU008-MW001-S0002 (280-84064-1), SC-TU008-MW001-S1012 (280-84064-2), SC-TU008-MW002-S0406 (280-84064-3), SC-TU008-MW002-S0406-D (280-84064-4), SC-TU008-MW002-S0002 (280-84064-5), SC-TU008-MW003-S0204 (280-84064-6), SC-TU008-MW003-S0405 (280-84064-7), SC-TU008-MW004-S0507 (280-84064-8) and SC-TU008-MW004-S0305 (280-84064-9) were analyzed for percent solids in accordance with ASTM D2216-90. The samples were analyzed on 06/08/2016 and 06/13/2016.

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

GC/MS SEMI VOA MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-84064-1

SDG No.:

Instrument ID: SMS_G6 Analysis Batch Number: 328727

Lab Sample ID: STD020 280-328727/6 IC Client Sample ID:

Date Analyzed: 06/07/16 13:19 Lab File ID: G6_23361.D GC Column: Rxi-5Sil MS ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
1,4-Dioxane	2.17	Missed Peak	kiekeld	06/08/16 07:51

Lab Sample ID: STD160 280-328727/9 IC Client Sample ID:

Date Analyzed: 06/07/16 14:38 Lab File ID: G6_23364.D GC Column: Rxi-5Sil MS ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Indeno[1,2,3-cd]pyrene	20.15	Shouldering	kiekeld	06/08/16 07:45

Lab Sample ID: STD200 280-328727/10 IC Client Sample ID:

Date Analyzed: 06/07/16 15:04 Lab File ID: G6_23365.D GC Column: Rxi-5Sil MS ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Indeno[1,2,3-cd]pyrene	20.16	Shouldering	kiekeld	06/08/16 07:46

GC/MS SEMI VOA MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-84064-1

SDG No.:

Instrument ID: SMS_G6 Analysis Batch Number: 328728

Lab Sample ID: STD120 280-328728/18 IC Client Sample ID:

Date Analyzed: 06/07/16 18:36 Lab File ID: G6_23373.D GC Column: Rxi-5Sil MS ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
alpha,alpha-Dimethyl phenethylamine	5.67	Split Peak	kiekeld	06/08/16 08:11

Lab Sample ID: STD160 280-328728/19 IC Client Sample ID:

Date Analyzed: 06/07/16 19:03 Lab File ID: G6_23374.D GC Column: Rxi-5Sil MS ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
alpha,alpha-Dimethyl phenethylamine	5.67	Split Peak	kiekeld	06/08/16 08:11

Lab Sample ID: STD200 280-328728/20 IC Client Sample ID:

Date Analyzed: 06/07/16 19:29 Lab File ID: G6_23375.D GC Column: Rxi-5Sil MS ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
alpha,alpha-Dimethyl phenethylamine	5.67	Split Peak	kiekeld	06/08/16 08:12

GC/MS SEMI VOA MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-84064-1

SDG No.:

Instrument ID: SMS_G6 Analysis Batch Number: 330730

Lab Sample ID: 280-84064-5 Client Sample ID: SC-TU008-MW002-S0002

Date Analyzed: 06/21/16 16:35 Lab File ID: G6_23662.D GC Column: Rxi-5Sil MS ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Benzo[b]fluoranthene	15.92	Shouldering	kiekeld	06/22/16 08:38
Benzo[k]fluoranthene	15.99	Shouldering	kiekeld	06/22/16 08:38

GC/MS SEMI VOA MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-84064-1

SDG No.:

Instrument ID: SMS_K Analysis Batch Number: 328920

Lab Sample ID: STD080 280-328920/14 IC Client Sample ID:

Date Analyzed: 06/08/16 17:32 Lab File ID: K16236.D GC Column: Rxi-5Sil MS ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
alpha,alpha-Dimethyl phenethylamine	5.70	Split Peak	hoeflera	06/09/16 11:10

Lab Sample ID: STD120 280-328920/18 IC Client Sample ID:

Date Analyzed: 06/08/16 19:19 Lab File ID: K16240.D GC Column: Rxi-5Sil MS ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
alpha,alpha-Dimethyl phenethylamine	5.70	Split Peak	hoeflera	06/09/16 11:26

Lab Sample ID: STD160 280-328920/19 IC Client Sample ID:

Date Analyzed: 06/08/16 19:46 Lab File ID: K16241.D GC Column: Rxi-5Sil MS ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
alpha,alpha-Dimethyl phenethylamine	5.70	Split Peak	hoeflera	06/09/16 11:47

Lab Sample ID: STD200 280-328920/20 IC Client Sample ID:

Date Analyzed: 06/08/16 20:12 Lab File ID: K16242.D GC Column: Rxi-5Sil MS ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
alpha,alpha-Dimethyl phenethylamine	5.70	Split Peak	hoeflera	06/09/16 11:53

GC/MS SEMI VOA MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-84064-1

SDG No.:

Instrument ID: SMS_K Analysis Batch Number: 328920

Lab Sample ID: ICV 280-328920/22 Client Sample ID:

Date Analyzed: 06/08/16 21:06 Lab File ID: K16244.D GC Column: Rxi-5Sil MS ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
alpha,alpha-Dimethyl phenethylamine	5.73	Split Peak	hoeflera	06/09/16 11:58

GC/MS SEMI VOA MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-84064-1

SDG No.:

Instrument ID: SMS_K Analysis Batch Number: 330552

Lab Sample ID: CCV 280-330552/5 Client Sample ID:

Date Analyzed: 06/20/16 18:42 Lab File ID: K16400.D GC Column: Rxi-5Sil MS ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
alpha,alpha-Dimethyl phenethylamine	5.70	Split Peak	hoeflera	06/21/16 12:37

Lab Sample ID: CCVC 280-330552/24 Client Sample ID:

Date Analyzed: 06/21/16 03:24 Lab File ID: K16419.D GC Column: Rxi-5Sil MS ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
alpha,alpha-Dimethyl phenethylamine	5.79	Split Peak	hoeflera	06/21/16 13:49

GC/MS VOA MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica St. Louis Job No.: 280-84064-1

SDG No.:

Instrument ID: VMSF Analysis Batch Number: 254215

Lab Sample ID: IC 160-254215/8 Client Sample ID:

Date Analyzed: 06/02/16 10:04 Lab File ID: FICL6944.D GC Column: RTXVMS30 ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Isopropyl alcohol	5.42	Incomplete Integration	hannj	06/02/16 18:04
Acetone	5.66	Incomplete Integration	buettnera	06/02/16 13:42

Lab Sample ID: IC 160-254215/9 Client Sample ID:

Date Analyzed: 06/02/16 10:29 Lab File ID: FICL6945.D GC Column: RTXVMS30 ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Isopropyl alcohol	5.43	Incomplete Integration	hannj	06/02/16 18:05
Acetone	5.65	Incomplete Integration	hannj	06/02/16 17:53

Lab Sample ID: IC 160-254215/10 Client Sample ID:

Date Analyzed: 06/02/16 10:54 Lab File ID: FICL6946.D GC Column: RTXVMS30 ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Ethanol	4.57	Wrong peak	rhoadess	06/02/16 14:08
Isopropyl alcohol	5.42	Split Peak	hannj	06/02/16 18:06

Lab Sample ID: ICIS 160-254215/11 Client Sample ID:

Date Analyzed: 06/02/16 11:19 Lab File ID: FICL6947.D GC Column: RTXVMS30 ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Ethanol	4.60	Incomplete Integration	buettnera	06/02/16 13:39
Acetone	5.64	Baseline	hannj	06/02/16 17:54
1,4-Dioxane	9.97	Incomplete Integration	hannj	06/02/16 20:41

GC/MS VOA MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica St. Louis Job No.: 280-84064-1

SDG No.:

Instrument ID: VMSF Analysis Batch Number: 254215

Lab Sample ID: IC 160-254215/12 Client Sample ID:

Date Analyzed: 06/02/16 11:44 Lab File ID: FICL6948.D GC Column: RTXVMS30 ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Acetone	5.64	Baseline	hannj	06/02/16 17:55
1,4-Dioxane	9.97	Incomplete Integration	hannj	06/02/16 20:41

Lab Sample ID: IC 160-254215/13 Client Sample ID:

Date Analyzed: 06/02/16 12:10 Lab File ID: FICL6949.D GC Column: RTXVMS30 ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
1,4-Dioxane	9.97	Incomplete Integration	hannj	06/02/16 20:42

Lab Sample ID: ICV 160-254215/15 Client Sample ID:

Date Analyzed: 06/02/16 13:01 Lab File ID: FICV6951.D GC Column: RTXVMS30 ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Ethanol	4.57	Incomplete Integration	hannj	06/02/16 20:40
1,4-Dioxane	9.97	Incomplete Integration	hannj	06/02/16 20:40

GC/MS VOA MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica St. Louis Job No.: 280-84064-1

SDG No.:

Instrument ID: VMSL Analysis Batch Number: 256296

Lab Sample ID: IC 160-256296/3 Client Sample ID:

Date Analyzed: 06/14/16 10:05 Lab File ID: LICL3214.D GC Column: RTXVMS30 ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Iodomethane	5.76	Missed Peak	rhoadess	06/14/16 14:33
Dibromofluoromethane (Surr)	8.31	Missed Peak	rhoadess	06/14/16 14:33
Tetrahydrofuran	8.31	Missed Peak	rhoadess	06/14/16 14:33
2-Butanone (MEK)	8.42	Missed Peak	rhoadess	06/14/16 14:33
4-Methyl-2-pentanone (MIBK)	10.86	Missed Peak	rhoadess	06/14/16 14:33
Ethyl methacrylate	10.99	Missed Peak	rhoadess	06/14/16 14:33
1,1,2,2-Tetrachloroethane	13.18	Missed Peak	rhoadess	06/14/16 14:33
trans-1,4-Dichloro-2-butene	13.35	Missed Peak	rhoadess	06/14/16 14:33
Benzyl chloride	14.34	Missed Peak	rhoadess	06/14/16 14:33
n-Nonyl Aldehyde	15.26	Missed Peak	rhoadess	06/14/16 14:33
1,2-Dibromo-3-Chloropropane	15.33	Missed Peak	rhoadess	06/14/16 14:33

Lab Sample ID: IC 160-256296/4 Client Sample ID:

Date Analyzed: 06/14/16 10:30 Lab File ID: LICL3215.D GC Column: RTXVMS30 ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
1,2-Dichloro-1,1,2,2-tetrafluoroethane	3.38	Peak Tail	rhoadess	06/16/16 14:13
Iodomethane	5.78	Missed Peak	rhoadess	06/14/16 14:38
Ethyl acrylate	9.86	Missed Peak	rhoadess	06/14/16 14:38
2-Chloroethyl vinyl ether	10.25	Missed Peak	rhoadess	06/14/16 14:38
n-Nonyl Aldehyde	15.26	Missed Peak	rhoadess	06/14/16 14:38

GC/MS VOA MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica St. Louis Job No.: 280-84064-1

SDG No.:

Instrument ID: VMSL Analysis Batch Number: 256296

Lab Sample ID: IC 160-256296/5 Client Sample ID:

Date Analyzed: 06/14/16 10:55 Lab File ID: LICL3216.D GC Column: RTXVMS30 ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
1,2-Dichloro-1,1,2,2-tetrafluoroethane	3.38	Peak Tail	rhoadess	06/16/16 14:13
Ethanol	5.60	Missed Peak	rhoadess	06/14/16 14:41
Iodomethane	5.78	Missed Peak	rhoadess	06/14/16 14:41
2-Chloroethyl vinyl ether	10.25	Missed Peak	rhoadess	06/14/16 14:41

Lab Sample ID: IC 160-256296/6 Client Sample ID:

Date Analyzed: 06/14/16 11:20 Lab File ID: LICL3217.D GC Column: RTXVMS30 ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
1,2-Dichloro-1,1,2,2-tetrafluoroethane	3.38	Peak Tail	rhoadess	06/16/16 14:13

Lab Sample ID: IC 160-256296/7 Client Sample ID:

Date Analyzed: 06/14/16 11:45 Lab File ID: LICL3218.D GC Column: RTXVMS30 ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
1,2-Dichloro-1,1,2,2-tetrafluoroethane	3.38	Peak Tail	rhoadess	06/16/16 14:14
Ethanol	5.60	Peak Tail	rhoadess	06/14/16 14:52

Lab Sample ID: ICIS 160-256296/8 Client Sample ID:

Date Analyzed: 06/14/16 12:10 Lab File ID: LICL3219.D GC Column: RTXVMS30 ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
1,2-Dichloro-1,1,2,2-tetrafluoroethane	3.38	Peak Tail	rhoadess	06/16/16 14:14

GC/MS VOA MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica St. Louis Job No.: 280-84064-1

SDG No.:

Instrument ID: VMSL Analysis Batch Number: 256296

Lab Sample ID: IC 160-256296/9 Client Sample ID:

Date Analyzed: 06/14/16 12:35 Lab File ID: LICL3220.D GC Column: RTXVMS30 ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
1,2-Dichloro-1,1,2,2-tetrafluoroethane	3.38	Peak Tail	rhoadess	06/16/16 14:14
Ethanol	5.60	Peak Tail	rhoadess	06/15/16 06:06

Lab Sample ID: IC 160-256296/10 Client Sample ID:

Date Analyzed: 06/14/16 13:01 Lab File ID: LICL3221.D GC Column: RTXVMS30 ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
1,2-Dichloro-1,1,2,2-tetrafluoroethane	3.39	Peak Tail	rhoadess	06/16/16 14:15
Ethanol	5.54	Peak Tail	rhoadess	06/14/16 14:54

Lab Sample ID: ICV 160-256296/12 Client Sample ID:

Date Analyzed: 06/14/16 13:51 Lab File ID: LICV3223.D GC Column: RTXVMS30 ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
1,2-Dichloro-1,1,2,2-tetrafluoroethane	3.38	Peak Tail	rhoadess	06/16/16 14:17

Detection Summary

Client: Weston Solutions, Inc.
Project/Site: Schenectady ANGB, TU008

TestAmerica Job ID: 280-84064-1

Client Sample ID: SC-TU008-MW001-S0002 — Lab Sample ID: 280-84064-1

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Acetone	34		19	6.3	ug/Kg	1	☼	8260C DOD	Total/NA
2-Hexanone	5.8	J	19	1.7	ug/Kg	1	☼	8260C DOD	Total/NA
Benzo[a]anthracene	0.040	J	0.36	0.022	mg/Kg	1	☼	8270D	Total/NA
Benzo[a]pyrene	0.039	J	0.36	0.022	mg/Kg	1	☼	8270D	Total/NA
Benzo[b]fluoranthene	0.061	J	0.36	0.028	mg/Kg	1	☼	8270D	Total/NA
Benzo[g,h,i]perylene	0.034	J	0.36	0.017	mg/Kg	1	☼	8270D	Total/NA
Chrysene	0.048	J	0.36	0.029	mg/Kg	1	☼	8270D	Total/NA
Fluoranthene	0.080	J	0.36	0.039	mg/Kg	1	☼	8270D	Total/NA
Indeno[1,2,3-cd]pyrene	0.025	J	0.36	0.024	mg/Kg	1	☼	8270D	Total/NA
Phenanthrene	0.037	J	0.36	0.018	mg/Kg	1	☼	8270D	Total/NA
Pyrene	0.063	J	0.43	0.013	mg/Kg	1	☼	8270D	Total/NA

Client Sample ID: SC-TU008-MW001-S1012 — Lab Sample ID: 280-84064-2

No Detections.

Client Sample ID: SC-TU008-MW002-S0406 — Lab Sample ID: 280-84064-3

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Acetone	23		19	6.1	ug/Kg	1	☼	8260C DOD	Total/NA
Isopropylbenzene	11		4.7	0.24	ug/Kg	1	☼	8260C DOD	Total/NA
Methylcyclohexane	5.6	J	9.4	0.24	ug/Kg	1	☼	8260C DOD	Total/NA
Naphthalene	26	Q	4.7	0.46	ug/Kg	1	☼	8260C DOD	Total/NA
n-Butylbenzene	120	Q	4.7	0.56	ug/Kg	1	☼	8260C DOD	Total/NA
o-Xylene	0.66	J	4.7	0.32	ug/Kg	1	☼	8260C DOD	Total/NA
sec-Butylbenzene	100	Q	4.7	0.29	ug/Kg	1	☼	8260C DOD	Total/NA
tert-Butylbenzene	20	Q	4.7	0.29	ug/Kg	1	☼	8260C DOD	Total/NA
1,1,2-Trichloroethane	160		4.7	0.54	ug/Kg	1	☼	8260C DOD	Total/NA
Acenaphthene	0.50		0.35	0.011	mg/Kg	1	☼	8270D	Total/NA
Dibenzofuran	0.50		0.35	0.021	mg/Kg	1	☼	8270D	Total/NA
Fluoranthene	0.057	J	0.35	0.038	mg/Kg	1	☼	8270D	Total/NA
Fluorene	0.73		0.35	0.019	mg/Kg	1	☼	8270D	Total/NA
Phenanthrene	1.6		0.35	0.018	mg/Kg	1	☼	8270D	Total/NA
Pyrene	0.065	J	0.42	0.013	mg/Kg	1	☼	8270D	Total/NA

Client Sample ID: SC-TU008-MW002-S0406-D — Lab Sample ID: 280-84064-4

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Acetone	19		16	5.1	ug/Kg	1	☼	8260C DOD	Total/NA
Carbon disulfide	0.97	J	3.9	0.54	ug/Kg	1	☼	8260C DOD	Total/NA
1,2-Dibromo-3-Chloropropane	4.8	J Q	7.9	1.1	ug/Kg	1	☼	8260C DOD	Total/NA
Ethylbenzene	0.58	J Q	3.9	0.24	ug/Kg	1	☼	8260C DOD	Total/NA
Isopropylbenzene	19		3.9	0.20	ug/Kg	1	☼	8260C DOD	Total/NA
Methylcyclohexane	4.0	J	7.9	0.21	ug/Kg	1	☼	8260C DOD	Total/NA
4-Methyl-2-pentanone (MIBK)	140	Q	16	0.58	ug/Kg	1	☼	8260C DOD	Total/NA
m-Xylene & p-Xylene	0.53	J Q	3.9	0.45	ug/Kg	1	☼	8260C DOD	Total/NA
Naphthalene	16	Q	3.9	0.39	ug/Kg	1	☼	8260C DOD	Total/NA
n-Butylbenzene	100	Q	3.9	0.47	ug/Kg	1	☼	8260C DOD	Total/NA
N-Propylbenzene	9.1	Q	3.9	0.25	ug/Kg	1	☼	8260C DOD	Total/NA
o-Xylene	0.95	J Q	3.9	0.27	ug/Kg	1	☼	8260C DOD	Total/NA
sec-Butylbenzene	140	Q	3.9	0.24	ug/Kg	1	☼	8260C DOD	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: SC-TU008-MW002-S0406-D (Continued) — Lab Sample ID: 280-84064-4

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
tert-Butylbenzene	38	Q	3.9	0.25	ug/Kg	1	☼	8260C DOD	Total/NA
Xylenes, Total	1.5	J Q	7.9	0.67	ug/Kg	1	☼	8260C DOD	Total/NA
Acenaphthene	0.48		0.34	0.011	mg/Kg	1	☼	8270D	Total/NA
Fluoranthene	0.043	J	0.34	0.037	mg/Kg	1	☼	8270D	Total/NA
Fluorene	0.70		0.34	0.018	mg/Kg	1	☼	8270D	Total/NA
Phenanthrene	1.5		0.34	0.017	mg/Kg	1	☼	8270D	Total/NA
Pyrene	0.054	J	0.41	0.012	mg/Kg	1	☼	8270D	Total/NA

Client Sample ID: SC-TU008-MW002-S0002 — Lab Sample ID: 280-84064-5

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Acetone	39		21	6.8	ug/Kg	1	☼	8260C DOD	Total/NA
Carbon disulfide	3.8	J	5.3	0.72	ug/Kg	1	☼	8260C DOD	Total/NA
2-Hexanone	5.0	J	21	1.9	ug/Kg	1	☼	8260C DOD	Total/NA
Naphthalene	1.1	J Q	5.3	0.52	ug/Kg	1	☼	8260C DOD	Total/NA
sec-Butylbenzene	0.36	J Q	5.3	0.33	ug/Kg	1	☼	8260C DOD	Total/NA
2-Methylnaphthalene	0.019	J	0.34	0.019	mg/Kg	1	☼	8270D	Total/NA
Acenaphthene	0.093	J	0.34	0.010	mg/Kg	1	☼	8270D	Total/NA
Acenaphthylene	0.025	J	0.34	0.017	mg/Kg	1	☼	8270D	Total/NA
Anthracene	0.26	J	0.34	0.017	mg/Kg	1	☼	8270D	Total/NA
Benzo[a]anthracene	0.60		0.34	0.020	mg/Kg	1	☼	8270D	Total/NA
Benzo[a]pyrene	0.51		0.34	0.020	mg/Kg	1	☼	8270D	Total/NA
Benzo[b]fluoranthene	0.64	M	0.34	0.027	mg/Kg	1	☼	8270D	Total/NA
Benzo[g,h,i]perylene	0.27	J	0.34	0.016	mg/Kg	1	☼	8270D	Total/NA
Benzo[k]fluoranthene	0.32	J M	0.34	0.041	mg/Kg	1	☼	8270D	Total/NA
Carbazole	0.098	J Q	0.34	0.037	mg/Kg	1	☼	8270D	Total/NA
Chrysene	0.60		0.34	0.027	mg/Kg	1	☼	8270D	Total/NA
Dibenz(a,h)anthracene	0.062	J	0.34	0.019	mg/Kg	1	☼	8270D	Total/NA
Dibenzofuran	0.047	J	0.34	0.020	mg/Kg	1	☼	8270D	Total/NA
Fluoranthene	1.2		0.34	0.037	mg/Kg	1	☼	8270D	Total/NA
Fluorene	0.097	J	0.34	0.018	mg/Kg	1	☼	8270D	Total/NA
Indeno[1,2,3-cd]pyrene	0.34		0.34	0.022	mg/Kg	1	☼	8270D	Total/NA
Phenanthrene	0.88		0.34	0.017	mg/Kg	1	☼	8270D	Total/NA
Pyrene	1.0		0.41	0.012	mg/Kg	1	☼	8270D	Total/NA

Client Sample ID: SC-TU008-MW003-S0204 — Lab Sample ID: 280-84064-6

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Acetone	18		18	5.7	ug/Kg	1	☼	8260C DOD	Total/NA

Client Sample ID: SC-TU008-MW003-S0405 — Lab Sample ID: 280-84064-7

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Carbon disulfide	1.3	J	4.0	0.55	ug/Kg	1	☼	8260C DOD	Total/NA
sec-Butylbenzene	2.8	J Q	4.0	0.25	ug/Kg	1	☼	8260C DOD	Total/NA
tert-Butylbenzene	2.2	J Q	4.0	0.25	ug/Kg	1	☼	8260C DOD	Total/NA
Acenaphthene	0.037	J	0.37	0.011	mg/Kg	1	☼	8270D	Total/NA
Anthracene	0.039	J	0.37	0.019	mg/Kg	1	☼	8270D	Total/NA
Dibenzofuran	0.11	J	0.37	0.022	mg/Kg	1	☼	8270D	Total/NA
Fluorene	0.054	J	0.37	0.020	mg/Kg	1	☼	8270D	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: SC-TU008-MW003-S0405 (Continued) — Lab Sample ID: 280-84064-7

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Phenanthrene	0.033	J	0.37	0.019	mg/Kg	1	☼	8270D	Total/NA
Pyrene	0.015	J	0.44	0.013	mg/Kg	1	☼	8270D	Total/NA

Client Sample ID: SC-TU008-MW004-S0507 — Lab Sample ID: 280-84064-8

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Acetone	10	J	16	5.1	ug/Kg	1	☼	8260C DOD	Total/NA

Client Sample ID: SC-TU008-MW004-S0305 — Lab Sample ID: 280-84064-9

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Acetone	93		21	6.9	ug/Kg	1	☼	8260C DOD	Total/NA

Client Sample ID: SC-TU008-TB060316 — Lab Sample ID: 280-84064-10

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
2-Butanone (MEK)	6.9	J	20	0.39	ug/L	1		8260C DOD	Total/NA
Chloroethane	1.2	J	10	0.38	ug/L	1		8260C DOD	Total/NA

This Detection Summary does not include radiochemical test results.

Method Summary

Client: Weston Solutions, Inc.
Project/Site: Schenectady ANGB, TU008

TestAmerica Job ID: 280-84064-1

Method	Method Description	Protocol	Laboratory
8260C DOD	Volatile Organic Compounds (GC/MS)	SW846	TAL SL
8270D	Semivolatile Organic Compounds (GC/MS)	SW846	TAL DEN
Moisture	Percent Moisture	EPA	TAL DEN

Protocol References:

EPA = US Environmental Protection Agency

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

Laboratory References:

TAL DEN = TestAmerica Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

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

Sample Summary

Client: Weston Solutions, Inc.
Project/Site: Schenectady ANGB, TU008

TestAmerica Job ID: 280-84064-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
280-84064-1	SC-TU008-MW001-S0002	Solid	06/03/16 11:00	06/04/16 08:45
280-84064-2	SC-TU008-MW001-S1012	Solid	06/03/16 11:20	06/04/16 08:45
280-84064-3	SC-TU008-MW002-S0406	Solid	06/02/16 16:15	06/04/16 08:45
280-84064-4	SC-TU008-MW002-S0406-D	Solid	06/02/16 16:15	06/04/16 08:45
280-84064-5	SC-TU008-MW002-S0002	Solid	06/02/16 16:30	06/04/16 08:45
280-84064-6	SC-TU008-MW003-S0204	Solid	06/02/16 15:00	06/04/16 08:45
280-84064-7	SC-TU008-MW003-S0405	Solid	06/02/16 15:15	06/04/16 08:45
280-84064-8	SC-TU008-MW004-S0507	Solid	06/02/16 11:30	06/04/16 08:45
280-84064-9	SC-TU008-MW004-S0305	Solid	06/02/16 11:40	06/04/16 08:45
280-84064-10	SC-TU008-TB060316	Water	06/03/16 15:00	06/04/16 08:45

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

Client Sample ID: SC-TU008-MW001-S0002
Date Collected: 06/03/16 11:00
Date Received: 06/04/16 08:45

Lab Sample ID: 280-84064-1
Matrix: Solid
Percent Solids: 88.3

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	**34**		19	6.3	ug/Kg	☼	06/13/16 10:01	06/13/16 15:08	1
Benzene	0.97	U	4.9	0.25	ug/Kg	☼	06/13/16 10:01	06/13/16 15:08	1
Bromobenzene	0.97	U Q	4.9	0.36	ug/Kg	☼	06/13/16 10:01	06/13/16 15:08	1
Bromodichloromethane	0.97	U	4.9	0.25	ug/Kg	☼	06/13/16 10:01	06/13/16 15:08	1
Bromoform	0.97	U	4.9	0.36	ug/Kg	☼	06/13/16 10:01	06/13/16 15:08	1
Bromomethane	4.9	U Q	9.7	1.1	ug/Kg	☼	06/13/16 10:01	06/13/16 15:08	1
2-Butanone (MEK)	4.9	U	19	1.9	ug/Kg	☼	06/13/16 10:01	06/13/16 15:08	1
Carbon disulfide	0.97	U	4.9	0.67	ug/Kg	☼	06/13/16 10:01	06/13/16 15:08	1
Carbon tetrachloride	0.97	U	4.9	0.50	ug/Kg	☼	06/13/16 10:01	06/13/16 15:08	1
Chlorobenzene	0.97	U	4.9	0.37	ug/Kg	☼	06/13/16 10:01	06/13/16 15:08	1
Chloroethane	0.97	U	9.7	0.50	ug/Kg	☼	06/13/16 10:01	06/13/16 15:08	1
Chloroform	0.97	U	4.9	0.37	ug/Kg	☼	06/13/16 10:01	06/13/16 15:08	1
Chloromethane	4.9	U	9.7	0.63	ug/Kg	☼	06/13/16 10:01	06/13/16 15:08	1
cis-1,2-Dichloroethene	0.97	U	4.9	0.58	ug/Kg	☼	06/13/16 10:01	06/13/16 15:08	1
cis-1,3-Dichloropropene	0.97	U	4.9	0.58	ug/Kg	☼	06/13/16 10:01	06/13/16 15:08	1
Cyclohexane	0.97	U	9.7	0.35	ug/Kg	☼	06/13/16 10:01	06/13/16 15:08	1
Dibromochloromethane	0.97	U	4.9	0.40	ug/Kg	☼	06/13/16 10:01	06/13/16 15:08	1
1,2-Dibromo-3-Chloropropane	4.9	U Q	9.7	1.4	ug/Kg	☼	06/13/16 10:01	06/13/16 15:08	1
1,2-Dibromoethane	0.97	U	4.9	0.68	ug/Kg	☼	06/13/16 10:01	06/13/16 15:08	1
1,2-Dichlorobenzene	0.97	U Q	4.9	0.27	ug/Kg	☼	06/13/16 10:01	06/13/16 15:08	1
1,3-Dichlorobenzene	0.97	U Q	4.9	0.27	ug/Kg	☼	06/13/16 10:01	06/13/16 15:08	1
1,4-Dichlorobenzene	0.97	U Q	4.9	0.58	ug/Kg	☼	06/13/16 10:01	06/13/16 15:08	1
Dichlorodifluoromethane	4.9	U Q	9.7	1.3	ug/Kg	☼	06/13/16 10:01	06/13/16 15:08	1
1,1-Dichloroethane	0.97	U	4.9	0.38	ug/Kg	☼	06/13/16 10:01	06/13/16 15:08	1
1,2-Dichloroethane	0.97	U	4.9	0.84	ug/Kg	☼	06/13/16 10:01	06/13/16 15:08	1
1,1-Dichloroethene	4.9	U	4.9	1.6	ug/Kg	☼	06/13/16 10:01	06/13/16 15:08	1
1,2-Dichloroethene, Total	1.9	U	9.7	0.93	ug/Kg	☼	06/13/16 10:01	06/13/16 15:08	1
1,2-Dichloropropane	0.97	U	4.9	0.37	ug/Kg	☼	06/13/16 10:01	06/13/16 15:08	1
Ethylbenzene	0.97	U	4.9	0.29	ug/Kg	☼	06/13/16 10:01	06/13/16 15:08	1
2-Hexanone	**5.8**	**J**	19	1.7	ug/Kg	☼	06/13/16 10:01	06/13/16 15:08	1
Isopropylbenzene	0.97	U	4.9	0.25	ug/Kg	☼	06/13/16 10:01	06/13/16 15:08	1
Methyl acetate	4.9	U	24	1.3	ug/Kg	☼	06/13/16 10:01	06/13/16 15:08	1
Methylcyclohexane	0.97	U	9.7	0.25	ug/Kg	☼	06/13/16 10:01	06/13/16 15:08	1
Methylene Chloride	4.9	U	9.7	1.5	ug/Kg	☼	06/13/16 10:01	06/13/16 15:08	1
4-Methyl-2-pentanone (MIBK)	4.9	U	19	0.71	ug/Kg	☼	06/13/16 10:01	06/13/16 15:08	1
Methyl tert-butyl ether	0.97	U	4.9	0.46	ug/Kg	☼	06/13/16 10:01	06/13/16 15:08	1
m-Xylene & p-Xylene	1.9	U	4.9	0.55	ug/Kg	☼	06/13/16 10:01	06/13/16 15:08	1
Naphthalene	0.97	U Q	4.9	0.48	ug/Kg	☼	06/13/16 10:01	06/13/16 15:08	1
n-Butylbenzene	0.97	U Q	4.9	0.58	ug/Kg	☼	06/13/16 10:01	06/13/16 15:08	1
N-Propylbenzene	0.97	U Q	4.9	0.31	ug/Kg	☼	06/13/16 10:01	06/13/16 15:08	1
o-Xylene	0.97	U	4.9	0.33	ug/Kg	☼	06/13/16 10:01	06/13/16 15:08	1
sec-Butylbenzene	0.97	U Q	4.9	0.30	ug/Kg	☼	06/13/16 10:01	06/13/16 15:08	1
Styrene	0.97	U	4.9	0.34	ug/Kg	☼	06/13/16 10:01	06/13/16 15:08	1
tert-Butylbenzene	0.97	U Q	4.9	0.30	ug/Kg	☼	06/13/16 10:01	06/13/16 15:08	1
1,1,2,2-Tetrachloroethane	0.97	U Q	4.9	0.39	ug/Kg	☼	06/13/16 10:01	06/13/16 15:08	1
Tetrachloroethene	0.97	U	4.9	0.31	ug/Kg	☼	06/13/16 10:01	06/13/16 15:08	1
Toluene	0.97	U	4.9	0.68	ug/Kg	☼	06/13/16 10:01	06/13/16 15:08	1
trans-1,2-Dichloroethene	0.97	U	4.9	0.92	ug/Kg	☼	06/13/16 10:01	06/13/16 15:08	1
trans-1,3-Dichloropropene	0.97	U	4.9	0.34	ug/Kg	☼	06/13/16 10:01	06/13/16 15:08	1

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

Client Sample ID: SC-TU008-MW001-S0002 — **Lab Sample ID: 280-84064-1**
Date Collected: 06/03/16 11:00 — **Matrix: Solid**
Date Received: 06/04/16 08:45 — **Percent Solids: 88.3**

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichlorobenzene	0.97	U Q	4.9	0.43	ug/Kg	☼	06/13/16 10:01	06/13/16 15:08	1
1,2,4-Trichlorobenzene	0.97	U Q	4.9	0.41	ug/Kg	☼	06/13/16 10:01	06/13/16 15:08	1
1,1,1-Trichloroethane	0.97	U	4.9	0.42	ug/Kg	☼	06/13/16 10:01	06/13/16 15:08	1
1,1,2-Trichloroethane	0.97	U	4.9	0.56	ug/Kg	☼	06/13/16 10:01	06/13/16 15:08	1
Trichloroethene	0.97	U	4.9	0.38	ug/Kg	☼	06/13/16 10:01	06/13/16 15:08	1
Trichlorofluoromethane	0.97	U	4.9	0.49	ug/Kg	☼	06/13/16 10:01	06/13/16 15:08	1
1,1,2-Trichloro-1,2,2-trifluoroethane	4.9	U	4.9	1.6	ug/Kg	☼	06/13/16 10:01	06/13/16 15:08	1
1,2,4-Trimethylbenzene	0.97	U Q	4.9	0.58	ug/Kg	☼	06/13/16 10:01	06/13/16 15:08	1
1,3,5-Trimethylbenzene	0.97	U Q	4.9	0.30	ug/Kg	☼	06/13/16 10:01	06/13/16 15:08	1
Vinyl chloride	0.97	U	9.7	0.42	ug/Kg	☼	06/13/16 10:01	06/13/16 15:08	1
Xylenes, Total	4.9	U	9.7	0.83	ug/Kg	☼	06/13/16 10:01	06/13/16 15:08	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*143*	*Q*	*79 - 119*	*06/13/16 10:01*	*06/13/16 15:08*	*1*
Dibromofluoromethane (Surr)	*106*		*78 - 119*	*06/13/16 10:01*	*06/13/16 15:08*	*1*
1,2-Dichloroethane-d4 (Surr)	*117*		*71 - 136*	*06/13/16 10:01*	*06/13/16 15:08*	*1*
Toluene-d8 (Surr)	*109*		*85 - 116*	*06/13/16 10:01*	*06/13/16 15:08*	*1*

Client Sample ID: SC-TU008-MW001-S1012 — **Lab Sample ID: 280-84064-2**
Date Collected: 06/03/16 11:20 — **Matrix: Solid**
Date Received: 06/04/16 08:45 — **Percent Solids: 84.1**

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	9.1	U	18	5.9	ug/Kg	☼	06/13/16 10:01	06/13/16 11:49	1
Benzene	0.91	U	4.5	0.23	ug/Kg	☼	06/13/16 10:01	06/13/16 11:49	1
Bromobenzene	0.91	U Q	4.5	0.33	ug/Kg	☼	06/13/16 10:01	06/13/16 11:49	1
Bromodichloromethane	0.91	U	4.5	0.23	ug/Kg	☼	06/13/16 10:01	06/13/16 11:49	1
Bromoform	0.91	U	4.5	0.33	ug/Kg	☼	06/13/16 10:01	06/13/16 11:49	1
Bromomethane	4.5	U Q	9.1	1.0	ug/Kg	☼	06/13/16 10:01	06/13/16 11:49	1
2-Butanone (MEK)	4.5	U	18	1.7	ug/Kg	☼	06/13/16 10:01	06/13/16 11:49	1
Carbon disulfide	0.91	U	4.5	0.62	ug/Kg	☼	06/13/16 10:01	06/13/16 11:49	1
Carbon tetrachloride	0.91	U	4.5	0.47	ug/Kg	☼	06/13/16 10:01	06/13/16 11:49	1
Chlorobenzene	0.91	U	4.5	0.35	ug/Kg	☼	06/13/16 10:01	06/13/16 11:49	1
Chloroethane	0.91	U	9.1	0.47	ug/Kg	☼	06/13/16 10:01	06/13/16 11:49	1
Chloroform	0.91	U	4.5	0.34	ug/Kg	☼	06/13/16 10:01	06/13/16 11:49	1
Chloromethane	4.5	U	9.1	0.59	ug/Kg	☼	06/13/16 10:01	06/13/16 11:49	1
cis-1,2-Dichloroethene	0.91	U	4.5	0.54	ug/Kg	☼	06/13/16 10:01	06/13/16 11:49	1
cis-1,3-Dichloropropene	0.91	U	4.5	0.54	ug/Kg	☼	06/13/16 10:01	06/13/16 11:49	1
Cyclohexane	0.91	U	9.1	0.33	ug/Kg	☼	06/13/16 10:01	06/13/16 11:49	1
Dibromochloromethane	0.91	U	4.5	0.37	ug/Kg	☼	06/13/16 10:01	06/13/16 11:49	1
1,2-Dibromo-3-Chloropropane	4.5	U Q	9.1	1.3	ug/Kg	☼	06/13/16 10:01	06/13/16 11:49	1
1,2-Dibromoethane	0.91	U	4.5	0.63	ug/Kg	☼	06/13/16 10:01	06/13/16 11:49	1
1,2-Dichlorobenzene	0.91	U Q	4.5	0.26	ug/Kg	☼	06/13/16 10:01	06/13/16 11:49	1
1,3-Dichlorobenzene	0.91	U Q	4.5	0.25	ug/Kg	☼	06/13/16 10:01	06/13/16 11:49	1
1,4-Dichlorobenzene	0.91	U Q	4.5	0.54	ug/Kg	☼	06/13/16 10:01	06/13/16 11:49	1
Dichlorodifluoromethane	4.5	U Q	9.1	1.2	ug/Kg	☼	06/13/16 10:01	06/13/16 11:49	1
1,1-Dichloroethane	0.91	U	4.5	0.36	ug/Kg	☼	06/13/16 10:01	06/13/16 11:49	1
1,2-Dichloroethane	0.91	U	4.5	0.79	ug/Kg	☼	06/13/16 10:01	06/13/16 11:49	1
1,1-Dichloroethene	4.5	U	4.5	1.5	ug/Kg	☼	06/13/16 10:01	06/13/16 11:49	1
1,2-Dichloroethene, Total	1.8	U	9.1	0.87	ug/Kg	☼	06/13/16 10:01	06/13/16 11:49	1
1,2-Dichloropropane	0.91	U	4.5	0.35	ug/Kg	☼	06/13/16 10:01	06/13/16 11:49	1

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

Client Sample ID: SC-TU008-MW001-S1012 — **Lab Sample ID: 280-84064-2**
Date Collected: 06/03/16 11:20 — **Matrix: Solid**
Date Received: 06/04/16 08:45 — **Percent Solids: 84.1**

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylbenzene	0.91	U	4.5	0.27	ug/Kg	☼	06/13/16 10:01	06/13/16 11:49	1
2-Hexanone	4.5	U	18	1.6	ug/Kg	☼	06/13/16 10:01	06/13/16 11:49	1
Isopropylbenzene	0.91	U	4.5	0.23	ug/Kg	☼	06/13/16 10:01	06/13/16 11:49	1
Methyl acetate	4.5	U	23	1.3	ug/Kg	☼	06/13/16 10:01	06/13/16 11:49	1
Methylcyclohexane	0.91	U	9.1	0.24	ug/Kg	☼	06/13/16 10:01	06/13/16 11:49	1
Methylene Chloride	4.5	U	9.1	1.4	ug/Kg	☼	06/13/16 10:01	06/13/16 11:49	1
4-Methyl-2-pentanone (MIBK)	4.5	U	18	0.66	ug/Kg	☼	06/13/16 10:01	06/13/16 11:49	1
Methyl tert-butyl ether	0.91	U	4.5	0.43	ug/Kg	☼	06/13/16 10:01	06/13/16 11:49	1
m-Xylene & p-Xylene	1.8	U	4.5	0.52	ug/Kg	☼	06/13/16 10:01	06/13/16 11:49	1
Naphthalene	0.91	U Q	4.5	0.45	ug/Kg	☼	06/13/16 10:01	06/13/16 11:49	1
n-Butylbenzene	0.91	U Q	4.5	0.54	ug/Kg	☼	06/13/16 10:01	06/13/16 11:49	1
N-Propylbenzene	0.91	U Q	4.5	0.29	ug/Kg	☼	06/13/16 10:01	06/13/16 11:49	1
o-Xylene	0.91	U	4.5	0.31	ug/Kg	☼	06/13/16 10:01	06/13/16 11:49	1
sec-Butylbenzene	0.91	U Q	4.5	0.28	ug/Kg	☼	06/13/16 10:01	06/13/16 11:49	1
Styrene	0.91	U	4.5	0.32	ug/Kg	☼	06/13/16 10:01	06/13/16 11:49	1
tert-Butylbenzene	0.91	U Q	4.5	0.28	ug/Kg	☼	06/13/16 10:01	06/13/16 11:49	1
1,1,2,2-Tetrachloroethane	0.91	U Q	4.5	0.36	ug/Kg	☼	06/13/16 10:01	06/13/16 11:49	1
Tetrachloroethene	0.91	U	4.5	0.29	ug/Kg	☼	06/13/16 10:01	06/13/16 11:49	1
Toluene	0.91	U	4.5	0.64	ug/Kg	☼	06/13/16 10:01	06/13/16 11:49	1
trans-1,2-Dichloroethene	0.91	U	4.5	0.86	ug/Kg	☼	06/13/16 10:01	06/13/16 11:49	1
trans-1,3-Dichloropropene	0.91	U	4.5	0.32	ug/Kg	☼	06/13/16 10:01	06/13/16 11:49	1
1,2,3-Trichlorobenzene	0.91	U Q	4.5	0.40	ug/Kg	☼	06/13/16 10:01	06/13/16 11:49	1
1,2,4-Trichlorobenzene	0.91	U Q	4.5	0.39	ug/Kg	☼	06/13/16 10:01	06/13/16 11:49	1
1,1,1-Trichloroethane	0.91	U	4.5	0.39	ug/Kg	☼	06/13/16 10:01	06/13/16 11:49	1
1,1,2-Trichloroethane	0.91	U	4.5	0.52	ug/Kg	☼	06/13/16 10:01	06/13/16 11:49	1
Trichloroethene	0.91	U	4.5	0.35	ug/Kg	☼	06/13/16 10:01	06/13/16 11:49	1
Trichlorofluoromethane	0.91	U	4.5	0.45	ug/Kg	☼	06/13/16 10:01	06/13/16 11:49	1
1,1,2-Trichloro-1,2,2-trifluoroethane	4.5	U	4.5	1.5	ug/Kg	☼	06/13/16 10:01	06/13/16 11:49	1
1,2,4-Trimethylbenzene	0.91	U Q	4.5	0.54	ug/Kg	☼	06/13/16 10:01	06/13/16 11:49	1
1,3,5-Trimethylbenzene	0.91	U Q	4.5	0.28	ug/Kg	☼	06/13/16 10:01	06/13/16 11:49	1
Vinyl chloride	0.91	U	9.1	0.39	ug/Kg	☼	06/13/16 10:01	06/13/16 11:49	1
Xylenes, Total	4.5	U	9.1	0.78	ug/Kg	☼	06/13/16 10:01	06/13/16 11:49	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*120*	*Q*	*79 - 119*	*06/13/16 10:01*	*06/13/16 11:49*	*1*
Dibromofluoromethane (Surr)	*108*		*78 - 119*	*06/13/16 10:01*	*06/13/16 11:49*	*1*
1,2-Dichloroethane-d4 (Surr)	*116*		*71 - 136*	*06/13/16 10:01*	*06/13/16 11:49*	*1*
Toluene-d8 (Surr)	*109*		*85 - 116*	*06/13/16 10:01*	*06/13/16 11:49*	*1*

Client Sample ID: SC-TU008-MW002-S0406 — **Lab Sample ID: 280-84064-3**
Date Collected: 06/02/16 16:15 — **Matrix: Solid**
Date Received: 06/04/16 08:45 — **Percent Solids: 90.7**

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	**23**		19	6.1	ug/Kg	☼	06/13/16 10:01	06/13/16 15:33	1
Benzene	0.94	U	4.7	0.24	ug/Kg	☼	06/13/16 10:01	06/13/16 15:33	1
Bromobenzene	0.94	U Q	4.7	0.35	ug/Kg	☼	06/13/16 10:01	06/13/16 15:33	1
Bromodichloromethane	0.94	U	4.7	0.24	ug/Kg	☼	06/13/16 10:01	06/13/16 15:33	1
Bromoform	0.94	U	4.7	0.34	ug/Kg	☼	06/13/16 10:01	06/13/16 15:33	1
Bromomethane	4.7	U Q	9.4	1.0	ug/Kg	☼	06/13/16 10:01	06/13/16 15:33	1
2-Butanone (MEK)	4.7	U	19	1.8	ug/Kg	☼	06/13/16 10:01	06/13/16 15:33	1

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

Client Sample ID: SC-TU008-MW002-S0406
Date Collected: 06/02/16 16:15
Date Received: 06/04/16 08:45

Lab Sample ID: 280-84064-3
Matrix: Solid
Percent Solids: 90.7

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon disulfide	0.94	U	4.7	0.64	ug/Kg	☼	06/13/16 10:01	06/13/16 15:33	1
Carbon tetrachloride	0.94	U	4.7	0.48	ug/Kg	☼	06/13/16 10:01	06/13/16 15:33	1
Chlorobenzene	0.94	U	4.7	0.36	ug/Kg	☼	06/13/16 10:01	06/13/16 15:33	1
Chloroethane	0.94	U	9.4	0.48	ug/Kg	☼	06/13/16 10:01	06/13/16 15:33	1
Chloroform	0.94	U	4.7	0.35	ug/Kg	☼	06/13/16 10:01	06/13/16 15:33	1
Chloromethane	4.7	U	9.4	0.61	ug/Kg	☼	06/13/16 10:01	06/13/16 15:33	1
cis-1,2-Dichloroethene	0.94	U	4.7	0.56	ug/Kg	☼	06/13/16 10:01	06/13/16 15:33	1
cis-1,3-Dichloropropene	0.94	U	4.7	0.56	ug/Kg	☼	06/13/16 10:01	06/13/16 15:33	1
Cyclohexane	0.94	U	9.4	0.34	ug/Kg	☼	06/13/16 10:01	06/13/16 15:33	1
Dibromochloromethane	0.94	U	4.7	0.38	ug/Kg	☼	06/13/16 10:01	06/13/16 15:33	1
1,2-Dibromo-3-Chloropropane	4.7	U Q	9.4	1.4	ug/Kg	☼	06/13/16 10:01	06/13/16 15:33	1
1,2-Dibromoethane	0.94	U	4.7	0.66	ug/Kg	☼	06/13/16 10:01	06/13/16 15:33	1
1,2-Dichlorobenzene	0.94	U Q	4.7	0.26	ug/Kg	☼	06/13/16 10:01	06/13/16 15:33	1
1,3-Dichlorobenzene	0.94	U Q	4.7	0.26	ug/Kg	☼	06/13/16 10:01	06/13/16 15:33	1
1,4-Dichlorobenzene	0.94	U Q	4.7	0.56	ug/Kg	☼	06/13/16 10:01	06/13/16 15:33	1
Dichlorodifluoromethane	4.7	U Q	9.4	1.2	ug/Kg	☼	06/13/16 10:01	06/13/16 15:33	1
1,1-Dichloroethane	0.94	U	4.7	0.37	ug/Kg	☼	06/13/16 10:01	06/13/16 15:33	1
1,2-Dichloroethane	0.94	U	4.7	0.81	ug/Kg	☼	06/13/16 10:01	06/13/16 15:33	1
1,1-Dichloroethene	4.7	U	4.7	1.5	ug/Kg	☼	06/13/16 10:01	06/13/16 15:33	1
1,2-Dichloroethene, Total	1.9	U	9.4	0.90	ug/Kg	☼	06/13/16 10:01	06/13/16 15:33	1
1,2-Dichloropropane	0.94	U	4.7	0.36	ug/Kg	☼	06/13/16 10:01	06/13/16 15:33	1
Ethylbenzene	0.94	U	4.7	0.28	ug/Kg	☼	06/13/16 10:01	06/13/16 15:33	1
2-Hexanone	4.7	U	19	1.7	ug/Kg	☼	06/13/16 10:01	06/13/16 15:33	1
Isopropylbenzene	**11**		4.7	0.24	ug/Kg	☼	06/13/16 10:01	06/13/16 15:33	1
Methyl acetate	4.7	U	23	1.3	ug/Kg	☼	06/13/16 10:01	06/13/16 15:33	1
Methylcyclohexane	**5.6**	**J**	9.4	0.24	ug/Kg	☼	06/13/16 10:01	06/13/16 15:33	1
Methylene Chloride	4.7	U	9.4	1.5	ug/Kg	☼	06/13/16 10:01	06/13/16 15:33	1
4-Methyl-2-pentanone (MIBK)	4.7	U	19	0.69	ug/Kg	☼	06/13/16 10:01	06/13/16 15:33	1
Methyl tert-butyl ether	0.94	U	4.7	0.45	ug/Kg	☼	06/13/16 10:01	06/13/16 15:33	1
m-Xylene & p-Xylene	1.9	U	4.7	0.53	ug/Kg	☼	06/13/16 10:01	06/13/16 15:33	1
Naphthalene	**26**	**Q**	4.7	0.46	ug/Kg	☼	06/13/16 10:01	06/13/16 15:33	1
n-Butylbenzene	**120**	**Q**	4.7	0.56	ug/Kg	☼	06/13/16 10:01	06/13/16 15:33	1
N-Propylbenzene	0.94	U Q	4.7	0.30	ug/Kg	☼	06/13/16 10:01	06/13/16 15:33	1
o-Xylene	**0.66**	**J**	4.7	0.32	ug/Kg	☼	06/13/16 10:01	06/13/16 15:33	1
sec-Butylbenzene	**100**	**Q**	4.7	0.29	ug/Kg	☼	06/13/16 10:01	06/13/16 15:33	1
Styrene	0.94	U	4.7	0.33	ug/Kg	☼	06/13/16 10:01	06/13/16 15:33	1
tert-Butylbenzene	**20**	**Q**	4.7	0.29	ug/Kg	☼	06/13/16 10:01	06/13/16 15:33	1
1,1,2,2-Tetrachloroethane	0.94	U Q	4.7	0.38	ug/Kg	☼	06/13/16 10:01	06/13/16 15:33	1
Tetrachloroethene	0.94	U	4.7	0.30	ug/Kg	☼	06/13/16 10:01	06/13/16 15:33	1
Toluene	0.94	U	4.7	0.66	ug/Kg	☼	06/13/16 10:01	06/13/16 15:33	1
trans-1,2-Dichloroethene	0.94	U	4.7	0.89	ug/Kg	☼	06/13/16 10:01	06/13/16 15:33	1
trans-1,3-Dichloropropene	0.94	U	4.7	0.33	ug/Kg	☼	06/13/16 10:01	06/13/16 15:33	1
1,2,3-Trichlorobenzene	0.94	U Q	4.7	0.42	ug/Kg	☼	06/13/16 10:01	06/13/16 15:33	1
1,2,4-Trichlorobenzene	0.94	U Q	4.7	0.40	ug/Kg	☼	06/13/16 10:01	06/13/16 15:33	1
1,1,1-Trichloroethane	0.94	U	4.7	0.40	ug/Kg	☼	06/13/16 10:01	06/13/16 15:33	1
1,1,2-Trichloroethane	**160**		4.7	0.54	ug/Kg	☼	06/13/16 10:01	06/13/16 15:33	1
Trichloroethene	0.94	U	4.7	0.36	ug/Kg	☼	06/13/16 10:01	06/13/16 15:33	1
Trichlorofluoromethane	0.94	U	4.7	0.47	ug/Kg	☼	06/13/16 10:01	06/13/16 15:33	1
1,1,2-Trichloro-1,2,2-trifluoroethane	4.7	U	4.7	1.6	ug/Kg	☼	06/13/16 10:01	06/13/16 15:33	1

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

Client Sample ID: SC-TU008-MW002-S0406 — **Lab Sample ID: 280-84064-3**
Date Collected: 06/02/16 16:15 — **Matrix: Solid**
Date Received: 06/04/16 08:45 — **Percent Solids: 90.7**

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trimethylbenzene	0.94	U Q	4.7	0.56	ug/Kg	☼	06/13/16 10:01	06/13/16 15:33	1
1,3,5-Trimethylbenzene	0.94	U Q	4.7	0.29	ug/Kg	☼	06/13/16 10:01	06/13/16 15:33	1
Vinyl chloride	0.94	U	9.4	0.40	ug/Kg	☼	06/13/16 10:01	06/13/16 15:33	1
Xylenes, Total	4.7	U	9.4	0.80	ug/Kg	☼	06/13/16 10:01	06/13/16 15:33	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*245*	*Q*	*79 - 119*	*06/13/16 10:01*	*06/13/16 15:33*	*1*
Dibromofluoromethane (Surr)	*109*		*78 - 119*	*06/13/16 10:01*	*06/13/16 15:33*	*1*
1,2-Dichloroethane-d4 (Surr)	*131*		*71 - 136*	*06/13/16 10:01*	*06/13/16 15:33*	*1*
Toluene-d8 (Surr)	*105*		*85 - 116*	*06/13/16 10:01*	*06/13/16 15:33*	*1*

Client Sample ID: SC-TU008-MW002-S0406-D — **Lab Sample ID: 280-84064-4**
Date Collected: 06/02/16 16:15 — **Matrix: Solid**
Date Received: 06/04/16 08:45 — **Percent Solids: 89.6**

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	**19**		16	5.1	ug/Kg	☼	06/13/16 10:01	06/13/16 15:59	1
Benzene	0.79	U	3.9	0.20	ug/Kg	☼	06/13/16 10:01	06/13/16 15:59	1
Bromobenzene	0.79	U Q	3.9	0.29	ug/Kg	☼	06/13/16 10:01	06/13/16 15:59	1
Bromodichloromethane	0.79	U	3.9	0.20	ug/Kg	☼	06/13/16 10:01	06/13/16 15:59	1
Bromoform	0.79	U Q	3.9	0.29	ug/Kg	☼	06/13/16 10:01	06/13/16 15:59	1
Bromomethane	3.9	U Q	7.9	0.87	ug/Kg	☼	06/13/16 10:01	06/13/16 15:59	1
2-Butanone (MEK)	3.9	U	16	1.5	ug/Kg	☼	06/13/16 10:01	06/13/16 15:59	1
Carbon disulfide	**0.97**	**J**	3.9	0.54	ug/Kg	☼	06/13/16 10:01	06/13/16 15:59	1
Carbon tetrachloride	0.79	U	3.9	0.40	ug/Kg	☼	06/13/16 10:01	06/13/16 15:59	1
Chlorobenzene	0.79	U Q	3.9	0.30	ug/Kg	☼	06/13/16 10:01	06/13/16 15:59	1
Chloroethane	0.79	U	7.9	0.41	ug/Kg	☼	06/13/16 10:01	06/13/16 15:59	1
Chloroform	0.79	U	3.9	0.30	ug/Kg	☼	06/13/16 10:01	06/13/16 15:59	1
Chloromethane	3.9	U	7.9	0.51	ug/Kg	☼	06/13/16 10:01	06/13/16 15:59	1
cis-1,2-Dichloroethene	0.79	U	3.9	0.47	ug/Kg	☼	06/13/16 10:01	06/13/16 15:59	1
cis-1,3-Dichloropropene	0.79	U	3.9	0.47	ug/Kg	☼	06/13/16 10:01	06/13/16 15:59	1
Cyclohexane	0.79	U	7.9	0.29	ug/Kg	☼	06/13/16 10:01	06/13/16 15:59	1
Dibromochloromethane	0.79	U Q	3.9	0.32	ug/Kg	☼	06/13/16 10:01	06/13/16 15:59	1
1,2-Dibromo-3-Chloropropane	**4.8**	**J Q**	7.9	1.1	ug/Kg	☼	06/13/16 10:01	06/13/16 15:59	1
1,2-Dibromoethane	0.79	U	3.9	0.55	ug/Kg	☼	06/13/16 10:01	06/13/16 15:59	1
1,2-Dichlorobenzene	0.79	U Q	3.9	0.22	ug/Kg	☼	06/13/16 10:01	06/13/16 15:59	1
1,3-Dichlorobenzene	0.79	U Q	3.9	0.22	ug/Kg	☼	06/13/16 10:01	06/13/16 15:59	1
1,4-Dichlorobenzene	0.79	U Q	3.9	0.47	ug/Kg	☼	06/13/16 10:01	06/13/16 15:59	1
Dichlorodifluoromethane	3.9	U Q	7.9	1.0	ug/Kg	☼	06/13/16 10:01	06/13/16 15:59	1
1,1-Dichloroethane	0.79	U	3.9	0.31	ug/Kg	☼	06/13/16 10:01	06/13/16 15:59	1
1,2-Dichloroethane	0.79	U	3.9	0.68	ug/Kg	☼	06/13/16 10:01	06/13/16 15:59	1
1,1-Dichloroethene	3.9	U	3.9	1.3	ug/Kg	☼	06/13/16 10:01	06/13/16 15:59	1
1,2-Dichloroethene, Total	1.6	U	7.9	0.76	ug/Kg	☼	06/13/16 10:01	06/13/16 15:59	1
1,2-Dichloropropane	0.79	U	3.9	0.30	ug/Kg	☼	06/13/16 10:01	06/13/16 15:59	1
Ethylbenzene	**0.58**	**J Q**	3.9	0.24	ug/Kg	☼	06/13/16 10:01	06/13/16 15:59	1
2-Hexanone	3.9	U Q	16	1.4	ug/Kg	☼	06/13/16 10:01	06/13/16 15:59	1
Isopropylbenzene	**19**		3.9	0.20	ug/Kg	☼	06/13/16 10:01	06/13/16 15:59	1
Methyl acetate	3.9	U	20	1.1	ug/Kg	☼	06/13/16 10:01	06/13/16 15:59	1
Methylcyclohexane	**4.0**	**J**	7.9	0.21	ug/Kg	☼	06/13/16 10:01	06/13/16 15:59	1
Methylene Chloride	3.9	U	7.9	1.2	ug/Kg	☼	06/13/16 10:01	06/13/16 15:59	1
4-Methyl-2-pentanone (MIBK)	**140**	**Q**	16	0.58	ug/Kg	☼	06/13/16 10:01	06/13/16 15:59	1

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

Client Sample ID: SC-TU008-MW002-S0406-D — **Lab Sample ID: 280-84064-4**
Date Collected: 06/02/16 16:15 — **Matrix: Solid**
Date Received: 06/04/16 08:45 — **Percent Solids: 89.6**

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl tert-butyl ether	0.79	U	3.9	0.38	ug/Kg	☼	06/13/16 10:01	06/13/16 15:59	1
m-Xylene & p-Xylene	**0.53**	**J Q**	3.9	0.45	ug/Kg	☼	06/13/16 10:01	06/13/16 15:59	1
Naphthalene	**16**	**Q**	3.9	0.39	ug/Kg	☼	06/13/16 10:01	06/13/16 15:59	1
n-Butylbenzene	**100**	**Q**	3.9	0.47	ug/Kg	☼	06/13/16 10:01	06/13/16 15:59	1
N-Propylbenzene	**9.1**	**Q**	3.9	0.25	ug/Kg	☼	06/13/16 10:01	06/13/16 15:59	1
o-Xylene	**0.95**	**J Q**	3.9	0.27	ug/Kg	☼	06/13/16 10:01	06/13/16 15:59	1
sec-Butylbenzene	**140**	**Q**	3.9	0.24	ug/Kg	☼	06/13/16 10:01	06/13/16 15:59	1
Styrene	0.79	U Q	3.9	0.27	ug/Kg	☼	06/13/16 10:01	06/13/16 15:59	1
tert-Butylbenzene	**38**	**Q**	3.9	0.25	ug/Kg	☼	06/13/16 10:01	06/13/16 15:59	1
1,1,2,2-Tetrachloroethane	0.79	U Q	3.9	0.32	ug/Kg	☼	06/13/16 10:01	06/13/16 15:59	1
Tetrachloroethene	0.79	U Q	3.9	0.25	ug/Kg	☼	06/13/16 10:01	06/13/16 15:59	1
Toluene	0.79	U Q	3.9	0.55	ug/Kg	☼	06/13/16 10:01	06/13/16 15:59	1
trans-1,2-Dichloroethene	0.79	U	3.9	0.74	ug/Kg	☼	06/13/16 10:01	06/13/16 15:59	1
trans-1,3-Dichloropropene	0.79	U Q	3.9	0.28	ug/Kg	☼	06/13/16 10:01	06/13/16 15:59	1
1,2,3-Trichlorobenzene	0.79	U Q	3.9	0.35	ug/Kg	☼	06/13/16 10:01	06/13/16 15:59	1
1,2,4-Trichlorobenzene	0.79	U Q	3.9	0.34	ug/Kg	☼	06/13/16 10:01	06/13/16 15:59	1
1,1,1-Trichloroethane	0.79	U	3.9	0.34	ug/Kg	☼	06/13/16 10:01	06/13/16 15:59	1
1,1,2-Trichloroethane	0.79	U Q	3.9	0.45	ug/Kg	☼	06/13/16 10:01	06/13/16 15:59	1
Trichloroethene	0.79	U	3.9	0.30	ug/Kg	☼	06/13/16 10:01	06/13/16 15:59	1
Trichlorofluoromethane	0.79	U	3.9	0.39	ug/Kg	☼	06/13/16 10:01	06/13/16 15:59	1
1,1,2-Trichloro-1,2,2-trifluoroethane	3.9	U	3.9	1.3	ug/Kg	☼	06/13/16 10:01	06/13/16 15:59	1
1,2,4-Trimethylbenzene	0.79	U Q	3.9	0.47	ug/Kg	☼	06/13/16 10:01	06/13/16 15:59	1
1,3,5-Trimethylbenzene	0.79	U Q	3.9	0.25	ug/Kg	☼	06/13/16 10:01	06/13/16 15:59	1
Vinyl chloride	0.79	U	7.9	0.34	ug/Kg	☼	06/13/16 10:01	06/13/16 15:59	1
Xylenes, Total	**1.5**	**J Q**	7.9	0.67	ug/Kg	☼	06/13/16 10:01	06/13/16 15:59	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*249*	*Q*	*79 - 119*	*06/13/16 10:01*	*06/13/16 15:59*	*1*
Dibromofluoromethane (Surr)	*102*		*78 - 119*	*06/13/16 10:01*	*06/13/16 15:59*	*1*
1,2-Dichloroethane-d4 (Surr)	*103*		*71 - 136*	*06/13/16 10:01*	*06/13/16 15:59*	*1*
Toluene-d8 (Surr)	*121*	*Q*	*85 - 116*	*06/13/16 10:01*	*06/13/16 15:59*	*1*

Client Sample ID: SC-TU008-MW002-S0002 — **Lab Sample ID: 280-84064-5**
Date Collected: 06/02/16 16:30 — **Matrix: Solid**
Date Received: 06/04/16 08:45 — **Percent Solids: 95.4**

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	**39**		21	6.8	ug/Kg	☼	06/13/16 10:01	06/13/16 16:25	1
Benzene	1.1	U	5.3	0.27	ug/Kg	☼	06/13/16 10:01	06/13/16 16:25	1
Bromobenzene	1.1	U Q	5.3	0.39	ug/Kg	☼	06/13/16 10:01	06/13/16 16:25	1
Bromodichloromethane	1.1	U	5.3	0.27	ug/Kg	☼	06/13/16 10:01	06/13/16 16:25	1
Bromoform	1.1	U	5.3	0.39	ug/Kg	☼	06/13/16 10:01	06/13/16 16:25	1
Bromomethane	5.3	U Q	11	1.2	ug/Kg	☼	06/13/16 10:01	06/13/16 16:25	1
2-Butanone (MEK)	5.3	U	21	2.0	ug/Kg	☼	06/13/16 10:01	06/13/16 16:25	1
Carbon disulfide	**3.8**	**J**	5.3	0.72	ug/Kg	☼	06/13/16 10:01	06/13/16 16:25	1
Carbon tetrachloride	1.1	U	5.3	0.54	ug/Kg	☼	06/13/16 10:01	06/13/16 16:25	1
Chlorobenzene	1.1	U	5.3	0.40	ug/Kg	☼	06/13/16 10:01	06/13/16 16:25	1
Chloroethane	1.1	U	11	0.54	ug/Kg	☼	06/13/16 10:01	06/13/16 16:25	1
Chloroform	1.1	U	5.3	0.40	ug/Kg	☼	06/13/16 10:01	06/13/16 16:25	1
Chloromethane	5.3	U	11	0.69	ug/Kg	☼	06/13/16 10:01	06/13/16 16:25	1
cis-1,2-Dichloroethene	1.1	U	5.3	0.63	ug/Kg	☼	06/13/16 10:01	06/13/16 16:25	1

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

Client Sample ID: SC-TU008-MW002-S0002
Date Collected: 06/02/16 16:30
Date Received: 06/04/16 08:45

Lab Sample ID: 280-84064-5
Matrix: Solid
Percent Solids: 95.4

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,3-Dichloropropene	1.1	U	5.3	0.63	ug/Kg	☼	06/13/16 10:01	06/13/16 16:25	1
Cyclohexane	1.1	U	11	0.38	ug/Kg	☼	06/13/16 10:01	06/13/16 16:25	1
Dibromochloromethane	1.1	U	5.3	0.43	ug/Kg	☼	06/13/16 10:01	06/13/16 16:25	1
1,2-Dibromo-3-Chloropropane	5.3	U Q	11	1.5	ug/Kg	☼	06/13/16 10:01	06/13/16 16:25	1
1,2-Dibromoethane	1.1	U	5.3	0.74	ug/Kg	☼	06/13/16 10:01	06/13/16 16:25	1
1,2-Dichlorobenzene	1.1	U Q	5.3	0.30	ug/Kg	☼	06/13/16 10:01	06/13/16 16:25	1
1,3-Dichlorobenzene	1.1	U Q	5.3	0.30	ug/Kg	☼	06/13/16 10:01	06/13/16 16:25	1
1,4-Dichlorobenzene	1.1	U Q	5.3	0.63	ug/Kg	☼	06/13/16 10:01	06/13/16 16:25	1
Dichlorodifluoromethane	5.3	U Q	11	1.4	ug/Kg	☼	06/13/16 10:01	06/13/16 16:25	1
1,1-Dichloroethane	1.1	U	5.3	0.41	ug/Kg	☼	06/13/16 10:01	06/13/16 16:25	1
1,2-Dichloroethane	1.1	U	5.3	0.91	ug/Kg	☼	06/13/16 10:01	06/13/16 16:25	1
1,1-Dichloroethene	5.3	U	5.3	1.7	ug/Kg	☼	06/13/16 10:01	06/13/16 16:25	1
1,2-Dichloroethene, Total	2.1	U	11	1.0	ug/Kg	☼	06/13/16 10:01	06/13/16 16:25	1
1,2-Dichloropropane	1.1	U	5.3	0.40	ug/Kg	☼	06/13/16 10:01	06/13/16 16:25	1
Ethylbenzene	1.1	U	5.3	0.32	ug/Kg	☼	06/13/16 10:01	06/13/16 16:25	1
2-Hexanone	**5.0**	**J**	21	1.9	ug/Kg	☼	06/13/16 10:01	06/13/16 16:25	1
Isopropylbenzene	1.1	U	5.3	0.27	ug/Kg	☼	06/13/16 10:01	06/13/16 16:25	1
Methyl acetate	5.3	U	26	1.5	ug/Kg	☼	06/13/16 10:01	06/13/16 16:25	1
Methylcyclohexane	1.1	U	11	0.27	ug/Kg	☼	06/13/16 10:01	06/13/16 16:25	1
Methylene Chloride	5.3	U	11	1.7	ug/Kg	☼	06/13/16 10:01	06/13/16 16:25	1
4-Methyl-2-pentanone (MIBK)	5.3	U	21	0.77	ug/Kg	☼	06/13/16 10:01	06/13/16 16:25	1
Methyl tert-butyl ether	1.1	U	5.3	0.50	ug/Kg	☼	06/13/16 10:01	06/13/16 16:25	1
m-Xylene & p-Xylene	2.1	U	5.3	0.60	ug/Kg	☼	06/13/16 10:01	06/13/16 16:25	1
Naphthalene	**1.1**	**J Q**	5.3	0.52	ug/Kg	☼	06/13/16 10:01	06/13/16 16:25	1
n-Butylbenzene	1.1	U Q	5.3	0.63	ug/Kg	☼	06/13/16 10:01	06/13/16 16:25	1
N-Propylbenzene	1.1	U Q	5.3	0.34	ug/Kg	☼	06/13/16 10:01	06/13/16 16:25	1
o-Xylene	1.1	U	5.3	0.35	ug/Kg	☼	06/13/16 10:01	06/13/16 16:25	1
sec-Butylbenzene	**0.36**	**J Q**	5.3	0.33	ug/Kg	☼	06/13/16 10:01	06/13/16 16:25	1
Styrene	1.1	U	5.3	0.37	ug/Kg	☼	06/13/16 10:01	06/13/16 16:25	1
tert-Butylbenzene	1.1	U Q	5.3	0.33	ug/Kg	☼	06/13/16 10:01	06/13/16 16:25	1
1,1,2,2-Tetrachloroethane	1.1	U Q	5.3	0.42	ug/Kg	☼	06/13/16 10:01	06/13/16 16:25	1
Tetrachloroethene	1.1	U	5.3	0.34	ug/Kg	☼	06/13/16 10:01	06/13/16 16:25	1
Toluene	1.1	U	5.3	0.74	ug/Kg	☼	06/13/16 10:01	06/13/16 16:25	1
trans-1,2-Dichloroethene	1.1	U	5.3	0.99	ug/Kg	☼	06/13/16 10:01	06/13/16 16:25	1
trans-1,3-Dichloropropene	1.1	U	5.3	0.37	ug/Kg	☼	06/13/16 10:01	06/13/16 16:25	1
1,2,3-Trichlorobenzene	1.1	U Q	5.3	0.47	ug/Kg	☼	06/13/16 10:01	06/13/16 16:25	1
1,2,4-Trichlorobenzene	1.1	U Q	5.3	0.45	ug/Kg	☼	06/13/16 10:01	06/13/16 16:25	1
1,1,1-Trichloroethane	1.1	U	5.3	0.45	ug/Kg	☼	06/13/16 10:01	06/13/16 16:25	1
1,1,2-Trichloroethane	1.1	U	5.3	0.60	ug/Kg	☼	06/13/16 10:01	06/13/16 16:25	1
Trichloroethene	1.1	U	5.3	0.41	ug/Kg	☼	06/13/16 10:01	06/13/16 16:25	1
Trichlorofluoromethane	1.1	U	5.3	0.53	ug/Kg	☼	06/13/16 10:01	06/13/16 16:25	1
1,1,2-Trichloro-1,2,2-trifluoroethane	5.3	U	5.3	1.8	ug/Kg	☼	06/13/16 10:01	06/13/16 16:25	1
1,2,4-Trimethylbenzene	1.1	U Q	5.3	0.63	ug/Kg	☼	06/13/16 10:01	06/13/16 16:25	1
1,3,5-Trimethylbenzene	1.1	U Q	5.3	0.33	ug/Kg	☼	06/13/16 10:01	06/13/16 16:25	1
Vinyl chloride	1.1	U	11	0.45	ug/Kg	☼	06/13/16 10:01	06/13/16 16:25	1
Xylenes, Total	5.3	U	11	0.90	ug/Kg	☼	06/13/16 10:01	06/13/16 16:25	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*121*	*Q*	*79 - 119*	*06/13/16 10:01*	*06/13/16 16:25*	*1*
Dibromofluoromethane (Surr)	*100*		*78 - 119*	*06/13/16 10:01*	*06/13/16 16:25*	*1*

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

Client Sample ID: SC-TU008-MW002-S0002
Date Collected: 06/02/16 16:30
Date Received: 06/04/16 08:45

Lab Sample ID: 280-84064-5
Matrix: Solid
Percent Solids: 95.4

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*100*		*71 - 136*	*06/13/16 10:01*	*06/13/16 16:25*	*1*
Toluene-d8 (Surr)	*104*		*85 - 116*	*06/13/16 10:01*	*06/13/16 16:25*	*1*

Client Sample ID: SC-TU008-MW003-S0204
Date Collected: 06/02/16 15:00
Date Received: 06/04/16 08:45

Lab Sample ID: 280-84064-6
Matrix: Solid
Percent Solids: 85.2

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	**18**		18	5.7	ug/Kg	☼	06/13/16 10:01	06/13/16 16:50	1
Benzene	0.88	U	4.4	0.22	ug/Kg	☼	06/13/16 10:01	06/13/16 16:50	1
Bromobenzene	0.88	U Q	4.4	0.32	ug/Kg	☼	06/13/16 10:01	06/13/16 16:50	1
Bromodichloromethane	0.88	U	4.4	0.22	ug/Kg	☼	06/13/16 10:01	06/13/16 16:50	1
Bromoform	0.88	U	4.4	0.32	ug/Kg	☼	06/13/16 10:01	06/13/16 16:50	1
Bromomethane	4.4	U Q	8.8	0.97	ug/Kg	☼	06/13/16 10:01	06/13/16 16:50	1
2-Butanone (MEK)	4.4	U	18	1.7	ug/Kg	☼	06/13/16 10:01	06/13/16 16:50	1
Carbon disulfide	0.88	U	4.4	0.60	ug/Kg	☼	06/13/16 10:01	06/13/16 16:50	1
Carbon tetrachloride	0.88	U	4.4	0.45	ug/Kg	☼	06/13/16 10:01	06/13/16 16:50	1
Chlorobenzene	0.88	U	4.4	0.34	ug/Kg	☼	06/13/16 10:01	06/13/16 16:50	1
Chloroethane	0.88	U	8.8	0.45	ug/Kg	☼	06/13/16 10:01	06/13/16 16:50	1
Chloroform	0.88	U	4.4	0.33	ug/Kg	☼	06/13/16 10:01	06/13/16 16:50	1
Chloromethane	4.4	U	8.8	0.57	ug/Kg	☼	06/13/16 10:01	06/13/16 16:50	1
cis-1,2-Dichloroethene	0.88	U	4.4	0.52	ug/Kg	☼	06/13/16 10:01	06/13/16 16:50	1
cis-1,3-Dichloropropene	0.88	U	4.4	0.52	ug/Kg	☼	06/13/16 10:01	06/13/16 16:50	1
Cyclohexane	0.88	U	8.8	0.32	ug/Kg	☼	06/13/16 10:01	06/13/16 16:50	1
Dibromochloromethane	0.88	U	4.4	0.36	ug/Kg	☼	06/13/16 10:01	06/13/16 16:50	1
1,2-Dibromo-3-Chloropropane	4.4	U Q	8.8	1.3	ug/Kg	☼	06/13/16 10:01	06/13/16 16:50	1
1,2-Dibromoethane	0.88	U	4.4	0.61	ug/Kg	☼	06/13/16 10:01	06/13/16 16:50	1
1,2-Dichlorobenzene	0.88	U Q	4.4	0.25	ug/Kg	☼	06/13/16 10:01	06/13/16 16:50	1
1,3-Dichlorobenzene	0.88	U Q	4.4	0.25	ug/Kg	☼	06/13/16 10:01	06/13/16 16:50	1
1,4-Dichlorobenzene	0.88	U Q	4.4	0.53	ug/Kg	☼	06/13/16 10:01	06/13/16 16:50	1
Dichlorodifluoromethane	4.4	U Q	8.8	1.1	ug/Kg	☼	06/13/16 10:01	06/13/16 16:50	1
1,1-Dichloroethane	0.88	U	4.4	0.34	ug/Kg	☼	06/13/16 10:01	06/13/16 16:50	1
1,2-Dichloroethane	0.88	U	4.4	0.76	ug/Kg	☼	06/13/16 10:01	06/13/16 16:50	1
1,1-Dichloroethene	4.4	U	4.4	1.4	ug/Kg	☼	06/13/16 10:01	06/13/16 16:50	1
1,2-Dichloroethene, Total	1.8	U	8.8	0.84	ug/Kg	☼	06/13/16 10:01	06/13/16 16:50	1
1,2-Dichloropropane	0.88	U	4.4	0.34	ug/Kg	☼	06/13/16 10:01	06/13/16 16:50	1
Ethylbenzene	0.88	U	4.4	0.26	ug/Kg	☼	06/13/16 10:01	06/13/16 16:50	1
2-Hexanone	4.4	U	18	1.6	ug/Kg	☼	06/13/16 10:01	06/13/16 16:50	1
Isopropylbenzene	0.88	U	4.4	0.23	ug/Kg	☼	06/13/16 10:01	06/13/16 16:50	1
Methyl acetate	4.4	U	22	1.2	ug/Kg	☼	06/13/16 10:01	06/13/16 16:50	1
Methylcyclohexane	0.88	U	8.8	0.23	ug/Kg	☼	06/13/16 10:01	06/13/16 16:50	1
Methylene Chloride	4.4	U	8.8	1.4	ug/Kg	☼	06/13/16 10:01	06/13/16 16:50	1
4-Methyl-2-pentanone (MIBK)	4.4	U	18	0.64	ug/Kg	☼	06/13/16 10:01	06/13/16 16:50	1
Methyl tert-butyl ether	0.88	U	4.4	0.42	ug/Kg	☼	06/13/16 10:01	06/13/16 16:50	1
m-Xylene & p-Xylene	1.8	U	4.4	0.50	ug/Kg	☼	06/13/16 10:01	06/13/16 16:50	1
Naphthalene	0.88	U Q	4.4	0.43	ug/Kg	☼	06/13/16 10:01	06/13/16 16:50	1
n-Butylbenzene	0.88	U Q	4.4	0.53	ug/Kg	☼	06/13/16 10:01	06/13/16 16:50	1
N-Propylbenzene	0.88	U Q	4.4	0.28	ug/Kg	☼	06/13/16 10:01	06/13/16 16:50	1
o-Xylene	0.88	U	4.4	0.29	ug/Kg	☼	06/13/16 10:01	06/13/16 16:50	1
sec-Butylbenzene	0.88	U Q	4.4	0.27	ug/Kg	☼	06/13/16 10:01	06/13/16 16:50	1

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

Client Sample ID: SC-TU008-MW003-S0204 — **Lab Sample ID: 280-84064-6**
Date Collected: 06/02/16 15:00 — **Matrix: Solid**
Date Received: 06/04/16 08:45 — **Percent Solids: 85.2**

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Styrene	0.88	U	4.4	0.30	ug/Kg	☼	06/13/16 10:01	06/13/16 16:50	1
tert-Butylbenzene	0.88	U Q	4.4	0.27	ug/Kg	☼	06/13/16 10:01	06/13/16 16:50	1
1,1,2,2-Tetrachloroethane	0.88	U Q	4.4	0.35	ug/Kg	☼	06/13/16 10:01	06/13/16 16:50	1
Tetrachloroethene	0.88	U	4.4	0.28	ug/Kg	☼	06/13/16 10:01	06/13/16 16:50	1
Toluene	0.88	U	4.4	0.61	ug/Kg	☼	06/13/16 10:01	06/13/16 16:50	1
trans-1,2-Dichloroethene	0.88	U	4.4	0.83	ug/Kg	☼	06/13/16 10:01	06/13/16 16:50	1
trans-1,3-Dichloropropene	0.88	U	4.4	0.31	ug/Kg	☼	06/13/16 10:01	06/13/16 16:50	1
1,2,3-Trichlorobenzene	0.88	U Q	4.4	0.39	ug/Kg	☼	06/13/16 10:01	06/13/16 16:50	1
1,2,4-Trichlorobenzene	0.88	U Q	4.4	0.37	ug/Kg	☼	06/13/16 10:01	06/13/16 16:50	1
1,1,1-Trichloroethane	0.88	U	4.4	0.38	ug/Kg	☼	06/13/16 10:01	06/13/16 16:50	1
1,1,2-Trichloroethane	0.88	U	4.4	0.50	ug/Kg	☼	06/13/16 10:01	06/13/16 16:50	1
Trichloroethene	0.88	U	4.4	0.34	ug/Kg	☼	06/13/16 10:01	06/13/16 16:50	1
Trichlorofluoromethane	0.88	U	4.4	0.44	ug/Kg	☼	06/13/16 10:01	06/13/16 16:50	1
1,1,2-Trichloro-1,2,2-trifluoroethane	4.4	U	4.4	1.5	ug/Kg	☼	06/13/16 10:01	06/13/16 16:50	1
1,2,4-Trimethylbenzene	0.88	U Q	4.4	0.53	ug/Kg	☼	06/13/16 10:01	06/13/16 16:50	1
1,3,5-Trimethylbenzene	0.88	U Q	4.4	0.27	ug/Kg	☼	06/13/16 10:01	06/13/16 16:50	1
Vinyl chloride	0.88	U	8.8	0.38	ug/Kg	☼	06/13/16 10:01	06/13/16 16:50	1
Xylenes, Total	4.4	U	8.8	0.75	ug/Kg	☼	06/13/16 10:01	06/13/16 16:50	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*125*	*Q*	*79 - 119*	*06/13/16 10:01*	*06/13/16 16:50*	*1*
Dibromofluoromethane (Surr)	*115*		*78 - 119*	*06/13/16 10:01*	*06/13/16 16:50*	*1*
1,2-Dichloroethane-d4 (Surr)	*124*		*71 - 136*	*06/13/16 10:01*	*06/13/16 16:50*	*1*
Toluene-d8 (Surr)	*109*		*85 - 116*	*06/13/16 10:01*	*06/13/16 16:50*	*1*

Client Sample ID: SC-TU008-MW003-S0405 — **Lab Sample ID: 280-84064-7**
Date Collected: 06/02/16 15:15 — **Matrix: Solid**
Date Received: 06/04/16 08:45 — **Percent Solids: 88.6**

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	8.0	U	16	5.2	ug/Kg	☼	06/13/16 10:01	06/13/16 17:16	1
Benzene	0.80	U	4.0	0.20	ug/Kg	☼	06/13/16 10:01	06/13/16 17:16	1
Bromobenzene	0.80	U Q	4.0	0.29	ug/Kg	☼	06/13/16 10:01	06/13/16 17:16	1
Bromodichloromethane	0.80	U	4.0	0.20	ug/Kg	☼	06/13/16 10:01	06/13/16 17:16	1
Bromoform	0.80	U	4.0	0.29	ug/Kg	☼	06/13/16 10:01	06/13/16 17:16	1
Bromomethane	4.0	U Q	8.0	0.88	ug/Kg	☼	06/13/16 10:01	06/13/16 17:16	1
2-Butanone (MEK)	4.0	U	16	1.5	ug/Kg	☼	06/13/16 10:01	06/13/16 17:16	1
Carbon disulfide	**1.3**	**J**	4.0	0.55	ug/Kg	☼	06/13/16 10:01	06/13/16 17:16	1
Carbon tetrachloride	0.80	U	4.0	0.41	ug/Kg	☼	06/13/16 10:01	06/13/16 17:16	1
Chlorobenzene	0.80	U	4.0	0.31	ug/Kg	☼	06/13/16 10:01	06/13/16 17:16	1
Chloroethane	0.80	U	8.0	0.41	ug/Kg	☼	06/13/16 10:01	06/13/16 17:16	1
Chloroform	0.80	U	4.0	0.30	ug/Kg	☼	06/13/16 10:01	06/13/16 17:16	1
Chloromethane	4.0	U	8.0	0.52	ug/Kg	☼	06/13/16 10:01	06/13/16 17:16	1
cis-1,2-Dichloroethene	0.80	U	4.0	0.48	ug/Kg	☼	06/13/16 10:01	06/13/16 17:16	1
cis-1,3-Dichloropropene	0.80	U	4.0	0.48	ug/Kg	☼	06/13/16 10:01	06/13/16 17:16	1
Cyclohexane	0.80	U	8.0	0.29	ug/Kg	☼	06/13/16 10:01	06/13/16 17:16	1
Dibromochloromethane	0.80	U	4.0	0.32	ug/Kg	☼	06/13/16 10:01	06/13/16 17:16	1
1,2-Dibromo-3-Chloropropane	4.0	U Q	8.0	1.2	ug/Kg	☼	06/13/16 10:01	06/13/16 17:16	1
1,2-Dibromoethane	0.80	U	4.0	0.56	ug/Kg	☼	06/13/16 10:01	06/13/16 17:16	1
1,2-Dichlorobenzene	0.80	U Q	4.0	0.23	ug/Kg	☼	06/13/16 10:01	06/13/16 17:16	1
1,3-Dichlorobenzene	0.80	U Q	4.0	0.22	ug/Kg	☼	06/13/16 10:01	06/13/16 17:16	1

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

Client Sample ID: SC-TU008-MW003-S0405
Date Collected: 06/02/16 15:15
Date Received: 06/04/16 08:45

Lab Sample ID: 280-84064-7
Matrix: Solid
Percent Solids: 88.6

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dichlorobenzene	0.80	U Q	4.0	0.48	ug/Kg	☼	06/13/16 10:01	06/13/16 17:16	1
Dichlorodifluoromethane	4.0	U Q	8.0	1.0	ug/Kg	☼	06/13/16 10:01	06/13/16 17:16	1
1,1-Dichloroethane	0.80	U	4.0	0.31	ug/Kg	☼	06/13/16 10:01	06/13/16 17:16	1
1,2-Dichloroethane	0.80	U	4.0	0.69	ug/Kg	☼	06/13/16 10:01	06/13/16 17:16	1
1,1-Dichloroethene	4.0	U	4.0	1.3	ug/Kg	☼	06/13/16 10:01	06/13/16 17:16	1
1,2-Dichloroethene, Total	1.6	U	8.0	0.77	ug/Kg	☼	06/13/16 10:01	06/13/16 17:16	1
1,2-Dichloropropane	0.80	U	4.0	0.31	ug/Kg	☼	06/13/16 10:01	06/13/16 17:16	1
Ethylbenzene	0.80	U	4.0	0.24	ug/Kg	☼	06/13/16 10:01	06/13/16 17:16	1
2-Hexanone	4.0	U	16	1.4	ug/Kg	☼	06/13/16 10:01	06/13/16 17:16	1
Isopropylbenzene	0.80	U	4.0	0.21	ug/Kg	☼	06/13/16 10:01	06/13/16 17:16	1
Methyl acetate	4.0	U	20	1.1	ug/Kg	☼	06/13/16 10:01	06/13/16 17:16	1
Methylcyclohexane	0.80	U	8.0	0.21	ug/Kg	☼	06/13/16 10:01	06/13/16 17:16	1
Methylene Chloride	4.0	U	8.0	1.3	ug/Kg	☼	06/13/16 10:01	06/13/16 17:16	1
4-Methyl-2-pentanone (MIBK)	4.0	U	16	0.59	ug/Kg	☼	06/13/16 10:01	06/13/16 17:16	1
Methyl tert-butyl ether	0.80	U	4.0	0.38	ug/Kg	☼	06/13/16 10:01	06/13/16 17:16	1
m-Xylene & p-Xylene	1.6	U	4.0	0.46	ug/Kg	☼	06/13/16 10:01	06/13/16 17:16	1
Naphthalene	0.80	U Q	4.0	0.39	ug/Kg	☼	06/13/16 10:01	06/13/16 17:16	1
n-Butylbenzene	0.80	U Q	4.0	0.48	ug/Kg	☼	06/13/16 10:01	06/13/16 17:16	1
N-Propylbenzene	0.80	U Q	4.0	0.26	ug/Kg	☼	06/13/16 10:01	06/13/16 17:16	1
o-Xylene	0.80	U	4.0	0.27	ug/Kg	☼	06/13/16 10:01	06/13/16 17:16	1
sec-Butylbenzene	**2.8**	**J Q**	4.0	0.25	ug/Kg	☼	06/13/16 10:01	06/13/16 17:16	1
Styrene	0.80	U	4.0	0.28	ug/Kg	☼	06/13/16 10:01	06/13/16 17:16	1
tert-Butylbenzene	**2.2**	**J Q**	4.0	0.25	ug/Kg	☼	06/13/16 10:01	06/13/16 17:16	1
1,1,2,2-Tetrachloroethane	0.80	U Q	4.0	0.32	ug/Kg	☼	06/13/16 10:01	06/13/16 17:16	1
Tetrachloroethene	0.80	U	4.0	0.26	ug/Kg	☼	06/13/16 10:01	06/13/16 17:16	1
Toluene	0.80	U	4.0	0.56	ug/Kg	☼	06/13/16 10:01	06/13/16 17:16	1
trans-1,2-Dichloroethene	0.80	U	4.0	0.75	ug/Kg	☼	06/13/16 10:01	06/13/16 17:16	1
trans-1,3-Dichloropropene	0.80	U	4.0	0.28	ug/Kg	☼	06/13/16 10:01	06/13/16 17:16	1
1,2,3-Trichlorobenzene	0.80	U Q	4.0	0.36	ug/Kg	☼	06/13/16 10:01	06/13/16 17:16	1
1,2,4-Trichlorobenzene	0.80	U Q	4.0	0.34	ug/Kg	☼	06/13/16 10:01	06/13/16 17:16	1
1,1,1-Trichloroethane	0.80	U	4.0	0.34	ug/Kg	☼	06/13/16 10:01	06/13/16 17:16	1
1,1,2-Trichloroethane	0.80	U	4.0	0.46	ug/Kg	☼	06/13/16 10:01	06/13/16 17:16	1
Trichloroethene	0.80	U	4.0	0.31	ug/Kg	☼	06/13/16 10:01	06/13/16 17:16	1
Trichlorofluoromethane	0.80	U	4.0	0.40	ug/Kg	☼	06/13/16 10:01	06/13/16 17:16	1
1,1,2-Trichloro-1,2,2-trifluoroethane	4.0	U	4.0	1.3	ug/Kg	☼	06/13/16 10:01	06/13/16 17:16	1
1,2,4-Trimethylbenzene	0.80	U Q	4.0	0.48	ug/Kg	☼	06/13/16 10:01	06/13/16 17:16	1
1,3,5-Trimethylbenzene	0.80	U Q	4.0	0.25	ug/Kg	☼	06/13/16 10:01	06/13/16 17:16	1
Vinyl chloride	0.80	U	8.0	0.34	ug/Kg	☼	06/13/16 10:01	06/13/16 17:16	1
Xylenes, Total	4.0	U	8.0	0.68	ug/Kg	☼	06/13/16 10:01	06/13/16 17:16	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*204*	*Q*	*79 - 119*	*06/13/16 10:01*	*06/13/16 17:16*	*1*
Dibromofluoromethane (Surr)	*103*		*78 - 119*	*06/13/16 10:01*	*06/13/16 17:16*	*1*
1,2-Dichloroethane-d4 (Surr)	*113*		*71 - 136*	*06/13/16 10:01*	*06/13/16 17:16*	*1*
Toluene-d8 (Surr)	*110*		*85 - 116*	*06/13/16 10:01*	*06/13/16 17:16*	*1*

Client Sample Results

Client: Weston Solutions, Inc.
Project/Site: Schenectady ANGB, TU008

TestAmerica Job ID: 280-84064-1

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

Client Sample ID: SC-TU008-MW004-S0507
Date Collected: 06/02/16 11:30
Date Received: 06/04/16 08:45

Lab Sample ID: 280-84064-8
Matrix: Solid
Percent Solids: 90.5

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	**10**	**J**	16	5.1	ug/Kg	☼	06/13/16 10:01	06/13/16 17:42	1
Benzene	0.79	U	4.0	0.20	ug/Kg	☼	06/13/16 10:01	06/13/16 17:42	1
Bromobenzene	0.79	U Q	4.0	0.29	ug/Kg	☼	06/13/16 10:01	06/13/16 17:42	1
Bromodichloromethane	0.79	U	4.0	0.20	ug/Kg	☼	06/13/16 10:01	06/13/16 17:42	1
Bromoform	0.79	U	4.0	0.29	ug/Kg	☼	06/13/16 10:01	06/13/16 17:42	1
Bromomethane	4.0	U Q	7.9	0.87	ug/Kg	☼	06/13/16 10:01	06/13/16 17:42	1
2-Butanone (MEK)	4.0	U	16	1.5	ug/Kg	☼	06/13/16 10:01	06/13/16 17:42	1
Carbon disulfide	0.79	U	4.0	0.54	ug/Kg	☼	06/13/16 10:01	06/13/16 17:42	1
Carbon tetrachloride	0.79	U	4.0	0.41	ug/Kg	☼	06/13/16 10:01	06/13/16 17:42	1
Chlorobenzene	0.79	U	4.0	0.30	ug/Kg	☼	06/13/16 10:01	06/13/16 17:42	1
Chloroethane	0.79	U	7.9	0.41	ug/Kg	☼	06/13/16 10:01	06/13/16 17:42	1
Chloroform	0.79	U	4.0	0.30	ug/Kg	☼	06/13/16 10:01	06/13/16 17:42	1
Chloromethane	4.0	U	7.9	0.51	ug/Kg	☼	06/13/16 10:01	06/13/16 17:42	1
cis-1,2-Dichloroethene	0.79	U	4.0	0.47	ug/Kg	☼	06/13/16 10:01	06/13/16 17:42	1
cis-1,3-Dichloropropene	0.79	U	4.0	0.47	ug/Kg	☼	06/13/16 10:01	06/13/16 17:42	1
Cyclohexane	0.79	U	7.9	0.29	ug/Kg	☼	06/13/16 10:01	06/13/16 17:42	1
Dibromochloromethane	0.79	U	4.0	0.32	ug/Kg	☼	06/13/16 10:01	06/13/16 17:42	1
1,2-Dibromo-3-Chloropropane	4.0	U Q	7.9	1.1	ug/Kg	☼	06/13/16 10:01	06/13/16 17:42	1
1,2-Dibromoethane	0.79	U	4.0	0.55	ug/Kg	☼	06/13/16 10:01	06/13/16 17:42	1
1,2-Dichlorobenzene	0.79	U Q	4.0	0.22	ug/Kg	☼	06/13/16 10:01	06/13/16 17:42	1
1,3-Dichlorobenzene	0.79	U Q	4.0	0.22	ug/Kg	☼	06/13/16 10:01	06/13/16 17:42	1
1,4-Dichlorobenzene	0.79	U Q	4.0	0.47	ug/Kg	☼	06/13/16 10:01	06/13/16 17:42	1
Dichlorodifluoromethane	4.0	U Q	7.9	1.0	ug/Kg	☼	06/13/16 10:01	06/13/16 17:42	1
1,1-Dichloroethane	0.79	U	4.0	0.31	ug/Kg	☼	06/13/16 10:01	06/13/16 17:42	1
1,2-Dichloroethane	0.79	U	4.0	0.69	ug/Kg	☼	06/13/16 10:01	06/13/16 17:42	1
1,1-Dichloroethene	4.0	U	4.0	1.3	ug/Kg	☼	06/13/16 10:01	06/13/16 17:42	1
1,2-Dichloroethene, Total	1.6	U	7.9	0.76	ug/Kg	☼	06/13/16 10:01	06/13/16 17:42	1
1,2-Dichloropropane	0.79	U	4.0	0.30	ug/Kg	☼	06/13/16 10:01	06/13/16 17:42	1
Ethylbenzene	0.79	U	4.0	0.24	ug/Kg	☼	06/13/16 10:01	06/13/16 17:42	1
2-Hexanone	4.0	U	16	1.4	ug/Kg	☼	06/13/16 10:01	06/13/16 17:42	1
Isopropylbenzene	0.79	U	4.0	0.20	ug/Kg	☼	06/13/16 10:01	06/13/16 17:42	1
Methyl acetate	4.0	U	20	1.1	ug/Kg	☼	06/13/16 10:01	06/13/16 17:42	1
Methylcyclohexane	0.79	U	7.9	0.21	ug/Kg	☼	06/13/16 10:01	06/13/16 17:42	1
Methylene Chloride	4.0	U	7.9	1.3	ug/Kg	☼	06/13/16 10:01	06/13/16 17:42	1
4-Methyl-2-pentanone (MIBK)	4.0	U	16	0.58	ug/Kg	☼	06/13/16 10:01	06/13/16 17:42	1
Methyl tert-butyl ether	0.79	U	4.0	0.38	ug/Kg	☼	06/13/16 10:01	06/13/16 17:42	1
m-Xylene & p-Xylene	1.6	U	4.0	0.45	ug/Kg	☼	06/13/16 10:01	06/13/16 17:42	1
Naphthalene	0.79	U Q	4.0	0.39	ug/Kg	☼	06/13/16 10:01	06/13/16 17:42	1
n-Butylbenzene	0.79	U Q	4.0	0.47	ug/Kg	☼	06/13/16 10:01	06/13/16 17:42	1
N-Propylbenzene	0.79	U Q	4.0	0.25	ug/Kg	☼	06/13/16 10:01	06/13/16 17:42	1
o-Xylene	0.79	U	4.0	0.27	ug/Kg	☼	06/13/16 10:01	06/13/16 17:42	1
sec-Butylbenzene	0.79	U Q	4.0	0.25	ug/Kg	☼	06/13/16 10:01	06/13/16 17:42	1
Styrene	0.79	U	4.0	0.27	ug/Kg	☼	06/13/16 10:01	06/13/16 17:42	1
tert-Butylbenzene	0.79	U Q	4.0	0.25	ug/Kg	☼	06/13/16 10:01	06/13/16 17:42	1
1,1,2,2-Tetrachloroethane	0.79	U Q	4.0	0.32	ug/Kg	☼	06/13/16 10:01	06/13/16 17:42	1
Tetrachloroethene	0.79	U	4.0	0.25	ug/Kg	☼	06/13/16 10:01	06/13/16 17:42	1
Toluene	0.79	U	4.0	0.55	ug/Kg	☼	06/13/16 10:01	06/13/16 17:42	1
trans-1,2-Dichloroethene	0.79	U	4.0	0.75	ug/Kg	☼	06/13/16 10:01	06/13/16 17:42	1
trans-1,3-Dichloropropene	0.79	U	4.0	0.28	ug/Kg	☼	06/13/16 10:01	06/13/16 17:42	1

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

Client Sample ID: SC-TU008-MW004-S0507 — **Lab Sample ID: 280-84064-8**
Date Collected: 06/02/16 11:30 — **Matrix: Solid**
Date Received: 06/04/16 08:45 — **Percent Solids: 90.5**

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichlorobenzene	0.79	U Q	4.0	0.35	ug/Kg	☼	06/13/16 10:01	06/13/16 17:42	1
1,2,4-Trichlorobenzene	0.79	U Q	4.0	0.34	ug/Kg	☼	06/13/16 10:01	06/13/16 17:42	1
1,1,1-Trichloroethane	0.79	U	4.0	0.34	ug/Kg	☼	06/13/16 10:01	06/13/16 17:42	1
1,1,2-Trichloroethane	0.79	U	4.0	0.45	ug/Kg	☼	06/13/16 10:01	06/13/16 17:42	1
Trichloroethene	0.79	U	4.0	0.30	ug/Kg	☼	06/13/16 10:01	06/13/16 17:42	1
Trichlorofluoromethane	0.79	U	4.0	0.40	ug/Kg	☼	06/13/16 10:01	06/13/16 17:42	1
1,1,2-Trichloro-1,2,2-trifluoroethane	4.0	U	4.0	1.3	ug/Kg	☼	06/13/16 10:01	06/13/16 17:42	1
1,2,4-Trimethylbenzene	0.79	U Q	4.0	0.47	ug/Kg	☼	06/13/16 10:01	06/13/16 17:42	1
1,3,5-Trimethylbenzene	0.79	U Q	4.0	0.25	ug/Kg	☼	06/13/16 10:01	06/13/16 17:42	1
Vinyl chloride	0.79	U	7.9	0.34	ug/Kg	☼	06/13/16 10:01	06/13/16 17:42	1
Xylenes, Total	4.0	U	7.9	0.68	ug/Kg	☼	06/13/16 10:01	06/13/16 17:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*123*	*Q*	*79 - 119*	*06/13/16 10:01*	*06/13/16 17:42*	*1*
Dibromofluoromethane (Surr)	*114*		*78 - 119*	*06/13/16 10:01*	*06/13/16 17:42*	*1*
1,2-Dichloroethane-d4 (Surr)	*114*		*71 - 136*	*06/13/16 10:01*	*06/13/16 17:42*	*1*
Toluene-d8 (Surr)	*111*		*85 - 116*	*06/13/16 10:01*	*06/13/16 17:42*	*1*

Client Sample ID: SC-TU008-MW004-S0305 — **Lab Sample ID: 280-84064-9**
Date Collected: 06/02/16 11:40 — **Matrix: Solid**
Date Received: 06/04/16 08:45 — **Percent Solids: 90.4**

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	**93**		21	6.9	ug/Kg	☼	06/13/16 10:01	06/13/16 18:07	1
Benzene	1.1	U	5.3	0.27	ug/Kg	☼	06/13/16 10:01	06/13/16 18:07	1
Bromobenzene	1.1	U Q	5.3	0.39	ug/Kg	☼	06/13/16 10:01	06/13/16 18:07	1
Bromodichloromethane	1.1	U	5.3	0.27	ug/Kg	☼	06/13/16 10:01	06/13/16 18:07	1
Bromoform	1.1	U	5.3	0.39	ug/Kg	☼	06/13/16 10:01	06/13/16 18:07	1
Bromomethane	5.3	U Q	11	1.2	ug/Kg	☼	06/13/16 10:01	06/13/16 18:07	1
2-Butanone (MEK)	5.3	U	21	2.0	ug/Kg	☼	06/13/16 10:01	06/13/16 18:07	1
Carbon disulfide	1.1	U	5.3	0.73	ug/Kg	☼	06/13/16 10:01	06/13/16 18:07	1
Carbon tetrachloride	1.1	U	5.3	0.54	ug/Kg	☼	06/13/16 10:01	06/13/16 18:07	1
Chlorobenzene	1.1	U	5.3	0.40	ug/Kg	☼	06/13/16 10:01	06/13/16 18:07	1
Chloroethane	1.1	U	11	0.55	ug/Kg	☼	06/13/16 10:01	06/13/16 18:07	1
Chloroform	1.1	U	5.3	0.40	ug/Kg	☼	06/13/16 10:01	06/13/16 18:07	1
Chloromethane	5.3	U	11	0.69	ug/Kg	☼	06/13/16 10:01	06/13/16 18:07	1
cis-1,2-Dichloroethene	1.1	U	5.3	0.63	ug/Kg	☼	06/13/16 10:01	06/13/16 18:07	1
cis-1,3-Dichloropropene	1.1	U	5.3	0.63	ug/Kg	☼	06/13/16 10:01	06/13/16 18:07	1
Cyclohexane	1.1	U	11	0.38	ug/Kg	☼	06/13/16 10:01	06/13/16 18:07	1
Dibromochloromethane	1.1	U	5.3	0.43	ug/Kg	☼	06/13/16 10:01	06/13/16 18:07	1
1,2-Dibromo-3-Chloropropane	5.3	U Q	11	1.5	ug/Kg	☼	06/13/16 10:01	06/13/16 18:07	1
1,2-Dibromoethane	1.1	U	5.3	0.74	ug/Kg	☼	06/13/16 10:01	06/13/16 18:07	1
1,2-Dichlorobenzene	1.1	U Q	5.3	0.30	ug/Kg	☼	06/13/16 10:01	06/13/16 18:07	1
1,3-Dichlorobenzene	1.1	U Q	5.3	0.30	ug/Kg	☼	06/13/16 10:01	06/13/16 18:07	1
1,4-Dichlorobenzene	1.1	U Q	5.3	0.64	ug/Kg	☼	06/13/16 10:01	06/13/16 18:07	1
Dichlorodifluoromethane	5.3	U Q	11	1.4	ug/Kg	☼	06/13/16 10:01	06/13/16 18:07	1
1,1-Dichloroethane	1.1	U	5.3	0.42	ug/Kg	☼	06/13/16 10:01	06/13/16 18:07	1
1,2-Dichloroethane	1.1	U	5.3	0.92	ug/Kg	☼	06/13/16 10:01	06/13/16 18:07	1
1,1-Dichloroethene	5.3	U	5.3	1.7	ug/Kg	☼	06/13/16 10:01	06/13/16 18:07	1
1,2-Dichloroethene, Total	2.1	U	11	1.0	ug/Kg	☼	06/13/16 10:01	06/13/16 18:07	1
1,2-Dichloropropane	1.1	U	5.3	0.41	ug/Kg	☼	06/13/16 10:01	06/13/16 18:07	1

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

Client Sample ID: SC-TU008-MW004-S0305 — **Lab Sample ID: 280-84064-9**
Date Collected: 06/02/16 11:40 — **Matrix: Solid**
Date Received: 06/04/16 08:45 — **Percent Solids: 90.4**

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylbenzene	1.1	U	5.3	0.32	ug/Kg	☼	06/13/16 10:01	06/13/16 18:07	1
2-Hexanone	5.3	U	21	1.9	ug/Kg	☼	06/13/16 10:01	06/13/16 18:07	1
Isopropylbenzene	1.1	U	5.3	0.27	ug/Kg	☼	06/13/16 10:01	06/13/16 18:07	1
Methyl acetate	5.3	U	26	1.5	ug/Kg	☼	06/13/16 10:01	06/13/16 18:07	1
Methylcyclohexane	1.1	U	11	0.28	ug/Kg	☼	06/13/16 10:01	06/13/16 18:07	1
Methylene Chloride	5.3	U	11	1.7	ug/Kg	☼	06/13/16 10:01	06/13/16 18:07	1
4-Methyl-2-pentanone (MIBK)	5.3	U	21	0.78	ug/Kg	☼	06/13/16 10:01	06/13/16 18:07	1
Methyl tert-butyl ether	1.1	U	5.3	0.50	ug/Kg	☼	06/13/16 10:01	06/13/16 18:07	1
m-Xylene & p-Xylene	2.1	U	5.3	0.60	ug/Kg	☼	06/13/16 10:01	06/13/16 18:07	1
Naphthalene	1.1	U Q	5.3	0.52	ug/Kg	☼	06/13/16 10:01	06/13/16 18:07	1
n-Butylbenzene	1.1	U Q	5.3	0.64	ug/Kg	☼	06/13/16 10:01	06/13/16 18:07	1
N-Propylbenzene	1.1	U Q	5.3	0.34	ug/Kg	☼	06/13/16 10:01	06/13/16 18:07	1
o-Xylene	1.1	U	5.3	0.36	ug/Kg	☼	06/13/16 10:01	06/13/16 18:07	1
sec-Butylbenzene	1.1	U Q	5.3	0.33	ug/Kg	☼	06/13/16 10:01	06/13/16 18:07	1
Styrene	1.1	U	5.3	0.37	ug/Kg	☼	06/13/16 10:01	06/13/16 18:07	1
tert-Butylbenzene	1.1	U Q	5.3	0.33	ug/Kg	☼	06/13/16 10:01	06/13/16 18:07	1
1,1,2,2-Tetrachloroethane	1.1	U Q	5.3	0.42	ug/Kg	☼	06/13/16 10:01	06/13/16 18:07	1
Tetrachloroethene	1.1	U	5.3	0.34	ug/Kg	☼	06/13/16 10:01	06/13/16 18:07	1
Toluene	1.1	U	5.3	0.74	ug/Kg	☼	06/13/16 10:01	06/13/16 18:07	1
trans-1,2-Dichloroethene	1.1	U	5.3	1.0	ug/Kg	☼	06/13/16 10:01	06/13/16 18:07	1
trans-1,3-Dichloropropene	1.1	U	5.3	0.37	ug/Kg	☼	06/13/16 10:01	06/13/16 18:07	1
1,2,3-Trichlorobenzene	1.1	U Q	5.3	0.47	ug/Kg	☼	06/13/16 10:01	06/13/16 18:07	1
1,2,4-Trichlorobenzene	1.1	U Q	5.3	0.45	ug/Kg	☼	06/13/16 10:01	06/13/16 18:07	1
1,1,1-Trichloroethane	1.1	U	5.3	0.46	ug/Kg	☼	06/13/16 10:01	06/13/16 18:07	1
1,1,2-Trichloroethane	1.1	U	5.3	0.61	ug/Kg	☼	06/13/16 10:01	06/13/16 18:07	1
Trichloroethene	1.1	U	5.3	0.41	ug/Kg	☼	06/13/16 10:01	06/13/16 18:07	1
Trichlorofluoromethane	1.1	U	5.3	0.53	ug/Kg	☼	06/13/16 10:01	06/13/16 18:07	1
1,1,2-Trichloro-1,2,2-trifluoroethane	5.3	U	5.3	1.8	ug/Kg	☼	06/13/16 10:01	06/13/16 18:07	1
1,2,4-Trimethylbenzene	1.1	U Q	5.3	0.64	ug/Kg	☼	06/13/16 10:01	06/13/16 18:07	1
1,3,5-Trimethylbenzene	1.1	U Q	5.3	0.33	ug/Kg	☼	06/13/16 10:01	06/13/16 18:07	1
Vinyl chloride	1.1	U	11	0.45	ug/Kg	☼	06/13/16 10:01	06/13/16 18:07	1
Xylenes, Total	5.3	U	11	0.90	ug/Kg	☼	06/13/16 10:01	06/13/16 18:07	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*126*	*Q*	*79 - 119*	*06/13/16 10:01*	*06/13/16 18:07*	*1*
Dibromofluoromethane (Surr)	*104*		*78 - 119*	*06/13/16 10:01*	*06/13/16 18:07*	*1*
1,2-Dichloroethane-d4 (Surr)	*111*		*71 - 136*	*06/13/16 10:01*	*06/13/16 18:07*	*1*
Toluene-d8 (Surr)	*105*		*85 - 116*	*06/13/16 10:01*	*06/13/16 18:07*	*1*

Client Sample ID: SC-TU008-TB060316 — **Lab Sample ID: 280-84064-10**
Date Collected: 06/03/16 15:00 — **Matrix: Water**
Date Received: 06/04/16 08:45

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	1.0	U	5.0	0.29	ug/L			06/15/16 12:51	1
1,1,2,2-Tetrachloroethane	2.0	U Q	5.0	0.43	ug/L			06/15/16 12:51	1
1,1,2-Trichloro-1,2,2-trifluoroethane	2.0	U	5.0	0.25	ug/L			06/15/16 12:51	1
1,1,2-Trichloroethane	1.0	U	5.0	0.57	ug/L			06/15/16 12:51	1
1,1-Dichloroethane	1.0	U	5.0	0.39	ug/L			06/15/16 12:51	1
1,1-Dichloroethene	1.0	U	5.0	0.37	ug/L			06/15/16 12:51	1
1,2,3-Trichlorobenzene	2.0	U Q	5.0	0.65	ug/L			06/15/16 12:51	1

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

Client Sample ID: SC-TU008-TB060316
Date Collected: 06/03/16 15:00
Date Received: 06/04/16 08:45

Lab Sample ID: 280-84064-10
Matrix: Water

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	2.0	U Q	5.0	0.55	ug/L			06/15/16 12:51	1
1,2,4-Trimethylbenzene	2.0	U Q	5.0	0.40	ug/L			06/15/16 12:51	1
1,2-Dibromo-3-Chloropropane	2.0	U Q	10	1.2	ug/L			06/15/16 12:51	1
1,2-Dibromoethane	2.0	U	5.0	0.44	ug/L			06/15/16 12:51	1
1,2-Dichlorobenzene	2.0	U Q	5.0	0.28	ug/L			06/15/16 12:51	1
1,2-Dichloroethane	1.0	U	5.0	0.37	ug/L			06/15/16 12:51	1
1,2-Dichloroethene, Total	2.0	U	10	0.24	ug/L			06/15/16 12:51	1
1,2-Dichloropropane	1.0	U	5.0	0.32	ug/L			06/15/16 12:51	1
1,3,5-Trimethylbenzene	2.0	U Q	5.0	0.28	ug/L			06/15/16 12:51	1
1,3-Dichlorobenzene	2.0	U Q	5.0	0.23	ug/L			06/15/16 12:51	1
1,4-Dichlorobenzene	2.0	U Q	5.0	0.35	ug/L			06/15/16 12:51	1
2-Butanone (MEK)	**6.9**	**J**	20	0.39	ug/L			06/15/16 12:51	1
2-Hexanone	2.0	U	20	0.59	ug/L			06/15/16 12:51	1
4-Methyl-2-pentanone (MIBK)	2.0	U	20	0.33	ug/L			06/15/16 12:51	1
Acetone	10	U	20	6.7	ug/L			06/15/16 12:51	1
Benzene	1.0	U	5.0	0.25	ug/L			06/15/16 12:51	1
Bromobenzene	2.0	U Q	5.0	0.33	ug/L			06/15/16 12:51	1
Bromodichloromethane	2.0	U	5.0	0.25	ug/L			06/15/16 12:51	1
Bromoform	1.0	U	5.0	0.37	ug/L			06/15/16 12:51	1
Bromomethane	2.0	U	10	0.40	ug/L			06/15/16 12:51	1
Carbon disulfide	1.0	U	5.0	0.37	ug/L			06/15/16 12:51	1
Carbon tetrachloride	1.0	U	5.0	0.36	ug/L			06/15/16 12:51	1
Chlorobenzene	1.0	U	5.0	0.38	ug/L			06/15/16 12:51	1
Chloroethane	**1.2**	**J**	10	0.38	ug/L			06/15/16 12:51	1
Chloroform	1.0	U	5.0	0.15	ug/L			06/15/16 12:51	1
Chloromethane	2.0	U	10	0.55	ug/L			06/15/16 12:51	1
cis-1,2-Dichloroethene	1.0	U	5.0	0.16	ug/L			06/15/16 12:51	1
cis-1,3-Dichloropropene	1.0	U	5.0	0.34	ug/L			06/15/16 12:51	1
Cyclohexane	2.0	U	10	0.36	ug/L			06/15/16 12:51	1
Dibromochloromethane	1.0	U	5.0	0.33	ug/L			06/15/16 12:51	1
Dichlorodifluoromethane	2.0	U	10	0.45	ug/L			06/15/16 12:51	1
Ethylbenzene	1.0	U	5.0	0.30	ug/L			06/15/16 12:51	1
Isopropylbenzene	2.0	U	5.0	0.26	ug/L			06/15/16 12:51	1
Methyl acetate	5.0	U	25	2.3	ug/L			06/15/16 12:51	1
Methyl tert-butyl ether	2.0	U	5.0	0.40	ug/L			06/15/16 12:51	1
Methylcyclohexane	2.0	U	10	0.26	ug/L			06/15/16 12:51	1
Methylene Chloride	5.0	U	7.5	1.7	ug/L			06/15/16 12:51	1
m-Xylene & p-Xylene	1.0	U	5.0	0.57	ug/L			06/15/16 12:51	1
Naphthalene	2.0	U Q	5.0	0.85	ug/L			06/15/16 12:51	1
n-Butylbenzene	2.0	U Q	5.0	0.23	ug/L			06/15/16 12:51	1
N-Propylbenzene	2.0	U Q	5.0	0.30	ug/L			06/15/16 12:51	1
o-Xylene	1.0	U	5.0	0.32	ug/L			06/15/16 12:51	1
sec-Butylbenzene	2.0	U Q	5.0	0.31	ug/L			06/15/16 12:51	1
Styrene	1.0	U	5.0	0.35	ug/L			06/15/16 12:51	1
tert-Butylbenzene	2.0	U Q	5.0	0.31	ug/L			06/15/16 12:51	1
Tetrachloroethene	1.0	U	5.0	0.28	ug/L			06/15/16 12:51	1
Toluene	1.0	U	5.0	1.0	ug/L			06/15/16 12:51	1
trans-1,2-Dichloroethene	1.0	U	5.0	0.18	ug/L			06/15/16 12:51	1
trans-1,3-Dichloropropene	1.0	U	5.0	0.35	ug/L			06/15/16 12:51	1

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

Client Sample ID: SC-TU008-TB060316 — **Lab Sample ID: 280-84064-10**
Date Collected: 06/03/16 15:00 — **Matrix: Water**
Date Received: 06/04/16 08:45

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Trichloroethene	1.0	U	5.0	0.29	ug/L			06/15/16 12:51	1
Trichlorofluoromethane	2.0	U	5.0	0.22	ug/L			06/15/16 12:51	1
Vinyl chloride	1.0	U	5.0	0.43	ug/L			06/15/16 12:51	1
Xylenes, Total	5.0	U	10	0.85	ug/L			06/15/16 12:51	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*92*		*81 - 118*		*06/15/16 12:51*	*1*
4-Bromofluorobenzene (Surr)	*116*	*Q*	*85 - 114*		*06/15/16 12:51*	*1*
Dibromofluoromethane (Surr)	*99*		*80 - 119*		*06/15/16 12:51*	*1*
Toluene-d8 (Surr)	*110*		*89 - 112*		*06/15/16 12:51*	*1*

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

Client Sample ID: SC-TU008-MW001-S0002 — **Lab Sample ID: 280-84064-1**
Date Collected: 06/03/16 11:00 — **Matrix: Solid**
Date Received: 06/04/16 08:45 — **Percent Solids: 88.3**

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4,5-Tetrachlorobenzene	0.14	U	0.36	0.053	mg/Kg	☼	06/15/16 10:33	06/21/16 00:39	1
1,2,4-Trichlorobenzene	0.072	U	0.36	0.030	mg/Kg	☼	06/15/16 10:33	06/21/16 00:39	1
1,2-Dichlorobenzene	0.072	U	0.36	0.024	mg/Kg	☼	06/15/16 10:33	06/21/16 00:39	1
1,2-Diphenylhydrazine	0.072	U	0.36	0.024	mg/Kg	☼	06/15/16 10:33	06/21/16 00:39	1
1,3-Dichlorobenzene	0.036	U	0.36	0.013	mg/Kg	☼	06/15/16 10:33	06/21/16 00:39	1
1,4-Dichlorobenzene	0.036	U	0.36	0.015	mg/Kg	☼	06/15/16 10:33	06/21/16 00:39	1
2,2'-oxybis[1-chloropropane]	0.072	U	0.36	0.025	mg/Kg	☼	06/15/16 10:33	06/21/16 00:39	1
2,4,5-Trichlorophenol	0.036	U	0.36	0.011	mg/Kg	☼	06/15/16 10:33	06/21/16 00:39	1
2,4,6-Trichlorophenol	0.036	U	0.36	0.011	mg/Kg	☼	06/15/16 10:33	06/21/16 00:39	1
2,4-Dichlorophenol	0.036	U	0.36	0.011	mg/Kg	☼	06/15/16 10:33	06/21/16 00:39	1
2,4-Dimethylphenol	0.14	U	0.36	0.071	mg/Kg	☼	06/15/16 10:33	06/21/16 00:39	1
2,4-Dinitrophenol	1.1	U	1.7	0.36	mg/Kg	☼	06/15/16 10:33	06/21/16 00:39	1
2,4-Dinitrotoluene	0.14	U	0.36	0.071	mg/Kg	☼	06/15/16 10:33	06/21/16 00:39	1
2,6-Dichlorophenol	0.18	U	0.36	0.074	mg/Kg	☼	06/15/16 10:33	06/21/16 00:39	1
2,6-Dinitrotoluene	0.072	U	0.36	0.030	mg/Kg	☼	06/15/16 10:33	06/21/16 00:39	1
2-Chloronaphthalene	0.036	U	0.36	0.011	mg/Kg	☼	06/15/16 10:33	06/21/16 00:39	1
2-Chlorophenol	0.072	U	0.36	0.023	mg/Kg	☼	06/15/16 10:33	06/21/16 00:39	1
2-Methylnaphthalene	0.072	U	0.36	0.020	mg/Kg	☼	06/15/16 10:33	06/21/16 00:39	1
2-Methylphenol	0.036	U	0.36	0.014	mg/Kg	☼	06/15/16 10:33	06/21/16 00:39	1
3 & 4 Methylphenol	0.072	U	0.36	0.036	mg/Kg	☼	06/15/16 10:33	06/21/16 00:39	1
3,3'-Dichlorobenzidine	0.29	U	1.7	0.097	mg/Kg	☼	06/15/16 10:33	06/21/16 00:39	1
3-Nitroaniline	0.29	U	1.7	0.079	mg/Kg	☼	06/15/16 10:33	06/21/16 00:39	1
4,6-Dinitro-2-methylphenol	1.1	U	1.7	0.36	mg/Kg	☼	06/15/16 10:33	06/21/16 00:39	1
4-Chloroaniline	0.29	U	0.36	0.088	mg/Kg	☼	06/15/16 10:33	06/21/16 00:39	1
4-Chlorophenyl phenyl ether	0.072	U	0.36	0.023	mg/Kg	☼	06/15/16 10:33	06/21/16 00:39	1
4-Nitroaniline	0.29	U	1.7	0.078	mg/Kg	☼	06/15/16 10:33	06/21/16 00:39	1
4-Nitrophenol	0.29	U	1.7	0.10	mg/Kg	☼	06/15/16 10:33	06/21/16 00:39	1
Acenaphthene	0.036	U	0.36	0.011	mg/Kg	☼	06/15/16 10:33	06/21/16 00:39	1
Acenaphthylene	0.072	U	0.36	0.018	mg/Kg	☼	06/15/16 10:33	06/21/16 00:39	1
Anthracene	0.072	U	0.36	0.018	mg/Kg	☼	06/15/16 10:33	06/21/16 00:39	1
Benzidine	2.2	U	4.3	1.1	mg/Kg	☼	06/15/16 10:33	06/21/16 00:39	1
Benzo[a]anthracene	**0.040**	**J**	0.36	0.022	mg/Kg	☼	06/15/16 10:33	06/21/16 00:39	1
Benzo[a]pyrene	**0.039**	**J**	0.36	0.022	mg/Kg	☼	06/15/16 10:33	06/21/16 00:39	1

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

Client Sample ID: SC-TU008-MW001-S0002 — **Lab Sample ID: 280-84064-1**
Date Collected: 06/03/16 11:00 — **Matrix: Solid**
Date Received: 06/04/16 08:45 — **Percent Solids: 88.3**

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[b]fluoranthene	**0.061**	**J**	0.36	0.028	mg/Kg	☼	06/15/16 10:33	06/21/16 00:39	1
Benzo[g,h,i]perylene	**0.034**	**J**	0.36	0.017	mg/Kg	☼	06/15/16 10:33	06/21/16 00:39	1
Benzo[k]fluoranthene	0.14	U	0.36	0.043	mg/Kg	☼	06/15/16 10:33	06/21/16 00:39	1
Benzoic acid	1.1	U	1.7	0.36	mg/Kg	☼	06/15/16 10:33	06/21/16 00:39	1
Benzyl alcohol	0.036	U	0.36	0.011	mg/Kg	☼	06/15/16 10:33	06/21/16 00:39	1
Bis(2-chloroethoxy)methane	0.072	U	0.36	0.025	mg/Kg	☼	06/15/16 10:33	06/21/16 00:39	1
Bis(2-chloroethyl)ether	0.036	U	0.36	0.018	mg/Kg	☼	06/15/16 10:33	06/21/16 00:39	1
Bis(2-ethylhexyl) phthalate	0.14	U	0.36	0.050	mg/Kg	☼	06/15/16 10:33	06/21/16 00:39	1
Butyl benzyl phthalate	0.14	U	0.36	0.046	mg/Kg	☼	06/15/16 10:33	06/21/16 00:39	1
Carbazole	0.14	U	0.36	0.039	mg/Kg	☼	06/15/16 10:33	06/21/16 00:39	1
Chrysene	**0.048**	**J**	0.36	0.029	mg/Kg	☼	06/15/16 10:33	06/21/16 00:39	1
Dibenz(a,h)anthracene	0.072	U	0.36	0.020	mg/Kg	☼	06/15/16 10:33	06/21/16 00:39	1
Dibenzofuran	0.072	U	0.36	0.022	mg/Kg	☼	06/15/16 10:33	06/21/16 00:39	1
Diethyl phthalate	0.072	U	0.71	0.028	mg/Kg	☼	06/15/16 10:33	06/21/16 00:39	1
Dimethyl phthalate	0.072	U	0.36	0.025	mg/Kg	☼	06/15/16 10:33	06/21/16 00:39	1
Di-n-butyl phthalate	0.072	U	0.36	0.031	mg/Kg	☼	06/15/16 10:33	06/21/16 00:39	1
Di-n-octyl phthalate	0.071	U	0.36	0.016	mg/Kg	☼	06/15/16 10:33	06/21/16 00:39	1
Fluoranthene	**0.080**	**J**	0.36	0.039	mg/Kg	☼	06/15/16 10:33	06/21/16 00:39	1
Fluorene	0.072	U	0.36	0.019	mg/Kg	☼	06/15/16 10:33	06/21/16 00:39	1
Hexachlorobenzene	0.072	U	0.36	0.031	mg/Kg	☼	06/15/16 10:33	06/21/16 00:39	1
Hexachlorobutadiene	0.036	U	0.36	0.011	mg/Kg	☼	06/15/16 10:33	06/21/16 00:39	1
Hexachlorocyclopentadiene	0.14	U	1.8	0.054	mg/Kg	☼	06/15/16 10:33	06/21/16 00:39	1
Hexachloroethane	0.072	U	0.36	0.023	mg/Kg	☼	06/15/16 10:33	06/21/16 00:39	1
Indeno[1,2,3-cd]pyrene	**0.025**	**J**	0.36	0.024	mg/Kg	☼	06/15/16 10:33	06/21/16 00:39	1
Isophorone	0.072	U	0.36	0.018	mg/Kg	☼	06/15/16 10:33	06/21/16 00:39	1
Naphthalene	0.072	U	0.36	0.033	mg/Kg	☼	06/15/16 10:33	06/21/16 00:39	1
Nitrobenzene	0.072	U	0.36	0.024	mg/Kg	☼	06/15/16 10:33	06/21/16 00:39	1
N-Nitrosodimethylamine	0.14	U	0.56	0.040	mg/Kg	☼	06/15/16 10:33	06/21/16 00:39	1
N-Nitrosodi-n-propylamine	0.072	U	0.36	0.033	mg/Kg	☼	06/15/16 10:33	06/21/16 00:39	1
N-Nitrosodiphenylamine	0.072	U	0.36	0.023	mg/Kg	☼	06/15/16 10:33	06/21/16 00:39	1
N-Nitrosopyrrolidine	0.18	U	0.36	0.069	mg/Kg	☼	06/15/16 10:33	06/21/16 00:39	1
Pentachlorophenol	1.1	U	1.7	0.36	mg/Kg	☼	06/15/16 10:33	06/21/16 00:39	1
Phenanthrene	**0.037**	**J**	0.36	0.018	mg/Kg	☼	06/15/16 10:33	06/21/16 00:39	1
Phenol	0.072	U	0.36	0.019	mg/Kg	☼	06/15/16 10:33	06/21/16 00:39	1
Pyrene	**0.063**	**J**	0.43	0.013	mg/Kg	☼	06/15/16 10:33	06/21/16 00:39	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*84*		*39 - 132*	*06/15/16 10:33*	*06/21/16 00:39*	*1*
2-Fluorobiphenyl	*75*		*44 - 115*	*06/15/16 10:33*	*06/21/16 00:39*	*1*
2-Fluorophenol (Surr)	*68*		*35 - 115*	*06/15/16 10:33*	*06/21/16 00:39*	*1*
Nitrobenzene-d5 (Surr)	*64*		*37 - 122*	*06/15/16 10:33*	*06/21/16 00:39*	*1*
Phenol-d5 (Surr)	*70*		*33 - 122*	*06/15/16 10:33*	*06/21/16 00:39*	*1*
Terphenyl-d14 (Surr)	*83*		*54 - 127*	*06/15/16 10:33*	*06/21/16 00:39*	*1*

Client Sample ID: SC-TU008-MW001-S1012 — **Lab Sample ID: 280-84064-2**
Date Collected: 06/03/16 11:20 — **Matrix: Solid**
Date Received: 06/04/16 08:45 — **Percent Solids: 84.1**

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4,5-Tetrachlorobenzene	0.15	U	0.38	0.057	mg/Kg	☼	06/15/16 10:33	06/21/16 01:06	1
1,2,4-Trichlorobenzene	0.078	U	0.38	0.032	mg/Kg	☼	06/15/16 10:33	06/21/16 01:06	1

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

Client Sample ID: SC-TU008-MW001-S1012
Date Collected: 06/03/16 11:20
Date Received: 06/04/16 08:45

Lab Sample ID: 280-84064-2
Matrix: Solid
Percent Solids: 84.1

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichlorobenzene	0.078	U	0.38	0.025	mg/Kg	☼	06/15/16 10:33	06/21/16 01:06	1
1,2-Diphenylhydrazine	0.078	U	0.38	0.025	mg/Kg	☼	06/15/16 10:33	06/21/16 01:06	1
1,3-Dichlorobenzene	0.038	U	0.38	0.014	mg/Kg	☼	06/15/16 10:33	06/21/16 01:06	1
1,4-Dichlorobenzene	0.038	U	0.38	0.016	mg/Kg	☼	06/15/16 10:33	06/21/16 01:06	1
2,2'-oxybis[1-chloropropane]	0.078	U	0.38	0.027	mg/Kg	☼	06/15/16 10:33	06/21/16 01:06	1
2,4,5-Trichlorophenol	0.038	U	0.38	0.012	mg/Kg	☼	06/15/16 10:33	06/21/16 01:06	1
2,4,6-Trichlorophenol	0.038	U	0.38	0.012	mg/Kg	☼	06/15/16 10:33	06/21/16 01:06	1
2,4-Dichlorophenol	0.038	U	0.38	0.012	mg/Kg	☼	06/15/16 10:33	06/21/16 01:06	1
2,4-Dimethylphenol	0.15	U	0.38	0.076	mg/Kg	☼	06/15/16 10:33	06/21/16 01:06	1
2,4-Dinitrophenol	1.2	U	1.9	0.39	mg/Kg	☼	06/15/16 10:33	06/21/16 01:06	1
2,4-Dinitrotoluene	0.15	U	0.38	0.076	mg/Kg	☼	06/15/16 10:33	06/21/16 01:06	1
2,6-Dichlorophenol	0.19	U	0.38	0.080	mg/Kg	☼	06/15/16 10:33	06/21/16 01:06	1
2,6-Dinitrotoluene	0.078	U	0.38	0.032	mg/Kg	☼	06/15/16 10:33	06/21/16 01:06	1
2-Chloronaphthalene	0.038	U	0.38	0.012	mg/Kg	☼	06/15/16 10:33	06/21/16 01:06	1
2-Chlorophenol	0.078	U	0.38	0.024	mg/Kg	☼	06/15/16 10:33	06/21/16 01:06	1
2-Methylnaphthalene	0.078	U	0.38	0.022	mg/Kg	☼	06/15/16 10:33	06/21/16 01:06	1
2-Methylphenol	0.038	U	0.38	0.015	mg/Kg	☼	06/15/16 10:33	06/21/16 01:06	1
3 & 4 Methylphenol	0.078	U	0.38	0.038	mg/Kg	☼	06/15/16 10:33	06/21/16 01:06	1
3,3'-Dichlorobenzidine	0.31	U	1.9	0.10	mg/Kg	☼	06/15/16 10:33	06/21/16 01:06	1
3-Nitroaniline	0.31	U	1.9	0.085	mg/Kg	☼	06/15/16 10:33	06/21/16 01:06	1
4,6-Dinitro-2-methylphenol	1.2	U	1.9	0.38	mg/Kg	☼	06/15/16 10:33	06/21/16 01:06	1
4-Chloroaniline	0.31	U	0.38	0.095	mg/Kg	☼	06/15/16 10:33	06/21/16 01:06	1
4-Chlorophenyl phenyl ether	0.078	U	0.38	0.024	mg/Kg	☼	06/15/16 10:33	06/21/16 01:06	1
4-Nitroaniline	0.31	U	1.9	0.084	mg/Kg	☼	06/15/16 10:33	06/21/16 01:06	1
4-Nitrophenol	0.31	U	1.9	0.11	mg/Kg	☼	06/15/16 10:33	06/21/16 01:06	1
Acenaphthene	0.038	U	0.38	0.012	mg/Kg	☼	06/15/16 10:33	06/21/16 01:06	1
Acenaphthylene	0.078	U	0.38	0.020	mg/Kg	☼	06/15/16 10:33	06/21/16 01:06	1
Anthracene	0.078	U	0.38	0.020	mg/Kg	☼	06/15/16 10:33	06/21/16 01:06	1
Benzidine	2.3	U J	4.6	1.1	mg/Kg	☼	06/15/16 10:33	06/21/16 01:06	1
Benzo[a]anthracene	0.078	U	0.38	0.023	mg/Kg	☼	06/15/16 10:33	06/21/16 01:06	1
Benzo[a]pyrene	0.078	U	0.38	0.023	mg/Kg	☼	06/15/16 10:33	06/21/16 01:06	1
Benzo[b]fluoranthene	0.078	U	0.38	0.030	mg/Kg	☼	06/15/16 10:33	06/21/16 01:06	1
Benzo[g,h,i]perylene	0.038	U	0.38	0.019	mg/Kg	☼	06/15/16 10:33	06/21/16 01:06	1
Benzo[k]fluoranthene	0.15	U	0.38	0.046	mg/Kg	☼	06/15/16 10:33	06/21/16 01:06	1
Benzoic acid	1.2	U	1.9	0.38	mg/Kg	☼	06/15/16 10:33	06/21/16 01:06	1
Benzyl alcohol	0.038	U	0.38	0.012	mg/Kg	☼	06/15/16 10:33	06/21/16 01:06	1
Bis(2-chloroethoxy)methane	0.078	U	0.38	0.027	mg/Kg	☼	06/15/16 10:33	06/21/16 01:06	1
Bis(2-chloroethyl)ether	0.038	U	0.38	0.019	mg/Kg	☼	06/15/16 10:33	06/21/16 01:06	1
Bis(2-ethylhexyl) phthalate	0.15	U	0.38	0.053	mg/Kg	☼	06/15/16 10:33	06/21/16 01:06	1
Butyl benzyl phthalate	0.15	U	0.38	0.050	mg/Kg	☼	06/15/16 10:33	06/21/16 01:06	1
Carbazole	0.15	U	0.38	0.042	mg/Kg	☼	06/15/16 10:33	06/21/16 01:06	1
Chrysene	0.078	U	0.38	0.031	mg/Kg	☼	06/15/16 10:33	06/21/16 01:06	1
Dibenz(a,h)anthracene	0.078	U	0.38	0.022	mg/Kg	☼	06/15/16 10:33	06/21/16 01:06	1
Dibenzofuran	0.078	U	0.38	0.023	mg/Kg	☼	06/15/16 10:33	06/21/16 01:06	1
Diethyl phthalate	0.078	U	0.76	0.030	mg/Kg	☼	06/15/16 10:33	06/21/16 01:06	1
Dimethyl phthalate	0.078	U	0.38	0.027	mg/Kg	☼	06/15/16 10:33	06/21/16 01:06	1
Di-n-butyl phthalate	0.078	U	0.38	0.034	mg/Kg	☼	06/15/16 10:33	06/21/16 01:06	1
Di-n-octyl phthalate	0.076	U	0.38	0.017	mg/Kg	☼	06/15/16 10:33	06/21/16 01:06	1
Fluoranthene	0.15	U	0.38	0.042	mg/Kg	☼	06/15/16 10:33	06/21/16 01:06	1

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

Client Sample ID: SC-TU008-MW001-S1012 — **Lab Sample ID: 280-84064-2**
Date Collected: 06/03/16 11:20 — **Matrix: Solid**
Date Received: 06/04/16 08:45 — **Percent Solids: 84.1**

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Fluorene	0.078	U	0.38	0.021	mg/Kg	☼	06/15/16 10:33	06/21/16 01:06	1
Hexachlorobenzene	0.078	U	0.38	0.034	mg/Kg	☼	06/15/16 10:33	06/21/16 01:06	1
Hexachlorobutadiene	0.038	U	0.38	0.012	mg/Kg	☼	06/15/16 10:33	06/21/16 01:06	1
Hexachlorocyclopentadiene	0.15	U J	2.0	0.058	mg/Kg	☼	06/15/16 10:33	06/21/16 01:06	1
Hexachloroethane	0.078	U	0.38	0.025	mg/Kg	☼	06/15/16 10:33	06/21/16 01:06	1
Indeno[1,2,3-cd]pyrene	0.078	U	0.38	0.025	mg/Kg	☼	06/15/16 10:33	06/21/16 01:06	1
Isophorone	0.078	U	0.38	0.020	mg/Kg	☼	06/15/16 10:33	06/21/16 01:06	1
Naphthalene	0.078	U	0.38	0.036	mg/Kg	☼	06/15/16 10:33	06/21/16 01:06	1
Nitrobenzene	0.078	U	0.38	0.025	mg/Kg	☼	06/15/16 10:33	06/21/16 01:06	1
N-Nitrosodimethylamine	0.15	U	0.60	0.043	mg/Kg	☼	06/15/16 10:33	06/21/16 01:06	1
N-Nitrosodi-n-propylamine	0.078	U	0.38	0.036	mg/Kg	☼	06/15/16 10:33	06/21/16 01:06	1
N-Nitrosodiphenylamine	0.078	U	0.38	0.024	mg/Kg	☼	06/15/16 10:33	06/21/16 01:06	1
N-Nitrosopyrrolidine	0.19	U	0.38	0.074	mg/Kg	☼	06/15/16 10:33	06/21/16 01:06	1
Pentachlorophenol	1.2	U	1.9	0.38	mg/Kg	☼	06/15/16 10:33	06/21/16 01:06	1
Phenanthrene	0.078	U	0.38	0.020	mg/Kg	☼	06/15/16 10:33	06/21/16 01:06	1
Phenol	0.078	U	0.38	0.021	mg/Kg	☼	06/15/16 10:33	06/21/16 01:06	1
Pyrene	0.038	U	0.46	0.014	mg/Kg	☼	06/15/16 10:33	06/21/16 01:06	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*83*		*39 - 132*	*06/15/16 10:33*	*06/21/16 01:06*	*1*
2-Fluorobiphenyl	*76*		*44 - 115*	*06/15/16 10:33*	*06/21/16 01:06*	*1*
2-Fluorophenol (Surr)	*76*		*35 - 115*	*06/15/16 10:33*	*06/21/16 01:06*	*1*
Nitrobenzene-d5 (Surr)	*73*		*37 - 122*	*06/15/16 10:33*	*06/21/16 01:06*	*1*
Phenol-d5 (Surr)	*79*		*33 - 122*	*06/15/16 10:33*	*06/21/16 01:06*	*1*
Terphenyl-d14 (Surr)	*84*		*54 - 127*	*06/15/16 10:33*	*06/21/16 01:06*	*1*

Client Sample ID: SC-TU008-MW002-S0406 — **Lab Sample ID: 280-84064-3**
Date Collected: 06/02/16 16:15 — **Matrix: Solid**
Date Received: 06/04/16 08:45 — **Percent Solids: 90.7**

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4,5-Tetrachlorobenzene	0.14	U	0.35	0.051	mg/Kg	☼	06/15/16 10:33	06/21/16 02:29	1
1,2,4-Trichlorobenzene	0.070	U	0.35	0.029	mg/Kg	☼	06/15/16 10:33	06/21/16 02:29	1
1,2-Dichlorobenzene	0.070	U	0.35	0.023	mg/Kg	☼	06/15/16 10:33	06/21/16 02:29	1
1,2-Diphenylhydrazine	0.070	U	0.35	0.023	mg/Kg	☼	06/15/16 10:33	06/21/16 02:29	1
1,3-Dichlorobenzene	0.035	U	0.35	0.013	mg/Kg	☼	06/15/16 10:33	06/21/16 02:29	1
1,4-Dichlorobenzene	0.035	U	0.35	0.014	mg/Kg	☼	06/15/16 10:33	06/21/16 02:29	1
2,2'-oxybis[1-chloropropane]	0.070	U	0.35	0.024	mg/Kg	☼	06/15/16 10:33	06/21/16 02:29	1
2,4,5-Trichlorophenol	0.035	U	0.35	0.010	mg/Kg	☼	06/15/16 10:33	06/21/16 02:29	1
2,4,6-Trichlorophenol	0.035	U	0.35	0.010	mg/Kg	☼	06/15/16 10:33	06/21/16 02:29	1
2,4-Dichlorophenol	0.035	U	0.35	0.010	mg/Kg	☼	06/15/16 10:33	06/21/16 02:29	1
2,4-Dimethylphenol	0.14	U	0.35	0.069	mg/Kg	☼	06/15/16 10:33	06/21/16 02:29	1
2,4-Dinitrophenol	1.0	U	1.7	0.35	mg/Kg	☼	06/15/16 10:33	06/21/16 02:29	1
2,4-Dinitrotoluene	0.14	U	0.35	0.069	mg/Kg	☼	06/15/16 10:33	06/21/16 02:29	1
2,6-Dichlorophenol	0.17	U	0.35	0.072	mg/Kg	☼	06/15/16 10:33	06/21/16 02:29	1
2,6-Dinitrotoluene	0.070	U	0.35	0.029	mg/Kg	☼	06/15/16 10:33	06/21/16 02:29	1
2-Chloronaphthalene	0.035	U	0.35	0.010	mg/Kg	☼	06/15/16 10:33	06/21/16 02:29	1
2-Chlorophenol	0.070	U	0.35	0.022	mg/Kg	☼	06/15/16 10:33	06/21/16 02:29	1
2-Methylnaphthalene	0.070	U	0.35	0.020	mg/Kg	☼	06/15/16 10:33	06/21/16 02:29	1
2-Methylphenol	0.035	U	0.35	0.014	mg/Kg	☼	06/15/16 10:33	06/21/16 02:29	1
3 & 4 Methylphenol	0.070	U	0.35	0.035	mg/Kg	☼	06/15/16 10:33	06/21/16 02:29	1

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

Client Sample ID: SC-TU008-MW002-S0406
Date Collected: 06/02/16 16:15
Date Received: 06/04/16 08:45

Lab Sample ID: 280-84064-3
Matrix: Solid
Percent Solids: 90.7

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
3,3'-Dichlorobenzidine	0.28	U	1.7	0.094	mg/Kg	☼	06/15/16 10:33	06/21/16 02:29	1
3-Nitroaniline	0.28	U	1.7	0.076	mg/Kg	☼	06/15/16 10:33	06/21/16 02:29	1
4,6-Dinitro-2-methylphenol	1.0	U	1.7	0.35	mg/Kg	☼	06/15/16 10:33	06/21/16 02:29	1
4-Chloroaniline	0.28	U	0.35	0.086	mg/Kg	☼	06/15/16 10:33	06/21/16 02:29	1
4-Chlorophenyl phenyl ether	0.070	U	0.35	0.022	mg/Kg	☼	06/15/16 10:33	06/21/16 02:29	1
4-Nitroaniline	0.28	U	1.7	0.076	mg/Kg	☼	06/15/16 10:33	06/21/16 02:29	1
4-Nitrophenol	0.28	U	1.7	0.10	mg/Kg	☼	06/15/16 10:33	06/21/16 02:29	1
Acenaphthene	**0.50**		0.35	0.011	mg/Kg	☼	06/15/16 10:33	06/21/16 02:29	1
Acenaphthylene	0.070	U	0.35	0.018	mg/Kg	☼	06/15/16 10:33	06/21/16 02:29	1
Anthracene	0.070	U	0.35	0.018	mg/Kg	☼	06/15/16 10:33	06/21/16 02:29	1
Benzidine	2.1	U	4.2	1.0	mg/Kg	☼	06/15/16 10:33	06/21/16 02:29	1
Benzo[a]anthracene	0.070	U	0.35	0.021	mg/Kg	☼	06/15/16 10:33	06/21/16 02:29	1
Benzo[a]pyrene	0.070	U	0.35	0.021	mg/Kg	☼	06/15/16 10:33	06/21/16 02:29	1
Benzo[b]fluoranthene	0.070	U	0.35	0.027	mg/Kg	☼	06/15/16 10:33	06/21/16 02:29	1
Benzo[g,h,i]perylene	0.035	U	0.35	0.017	mg/Kg	☼	06/15/16 10:33	06/21/16 02:29	1
Benzo[k]fluoranthene	0.14	U	0.35	0.042	mg/Kg	☼	06/15/16 10:33	06/21/16 02:29	1
Benzoic acid	1.0	U	1.7	0.35	mg/Kg	☼	06/15/16 10:33	06/21/16 02:29	1
Benzyl alcohol	0.035	U	0.35	0.010	mg/Kg	☼	06/15/16 10:33	06/21/16 02:29	1
Bis(2-chloroethoxy)methane	0.070	U	0.35	0.024	mg/Kg	☼	06/15/16 10:33	06/21/16 02:29	1
Bis(2-chloroethyl)ether	0.035	U	0.35	0.017	mg/Kg	☼	06/15/16 10:33	06/21/16 02:29	1
Bis(2-ethylhexyl) phthalate	0.14	U	0.35	0.048	mg/Kg	☼	06/15/16 10:33	06/21/16 02:29	1
Butyl benzyl phthalate	0.14	U	0.35	0.045	mg/Kg	☼	06/15/16 10:33	06/21/16 02:29	1
Carbazole	0.14	U	0.35	0.038	mg/Kg	☼	06/15/16 10:33	06/21/16 02:29	1
Chrysene	0.070	U	0.35	0.028	mg/Kg	☼	06/15/16 10:33	06/21/16 02:29	1
Dibenz(a,h)anthracene	0.070	U	0.35	0.020	mg/Kg	☼	06/15/16 10:33	06/21/16 02:29	1
Dibenzofuran	**0.50**		0.35	0.021	mg/Kg	☼	06/15/16 10:33	06/21/16 02:29	1
Diethyl phthalate	0.070	U	0.69	0.027	mg/Kg	☼	06/15/16 10:33	06/21/16 02:29	1
Dimethyl phthalate	0.070	U	0.35	0.024	mg/Kg	☼	06/15/16 10:33	06/21/16 02:29	1
Di-n-butyl phthalate	0.070	U	0.35	0.030	mg/Kg	☼	06/15/16 10:33	06/21/16 02:29	1
Di-n-octyl phthalate	0.069	U	0.35	0.015	mg/Kg	☼	06/15/16 10:33	06/21/16 02:29	1
Fluoranthene	**0.057**	**J**	0.35	0.038	mg/Kg	☼	06/15/16 10:33	06/21/16 02:29	1
Fluorene	**0.73**		0.35	0.019	mg/Kg	☼	06/15/16 10:33	06/21/16 02:29	1
Hexachlorobenzene	0.070	U	0.35	0.030	mg/Kg	☼	06/15/16 10:33	06/21/16 02:29	1
Hexachlorobutadiene	0.035	U	0.35	0.010	mg/Kg	☼	06/15/16 10:33	06/21/16 02:29	1
Hexachlorocyclopentadiene	0.14	U	1.8	0.052	mg/Kg	☼	06/15/16 10:33	06/21/16 02:29	1
Hexachloroethane	0.070	U	0.35	0.022	mg/Kg	☼	06/15/16 10:33	06/21/16 02:29	1
Indeno[1,2,3-cd]pyrene	0.070	U	0.35	0.023	mg/Kg	☼	06/15/16 10:33	06/21/16 02:29	1
Isophorone	0.070	U	0.35	0.018	mg/Kg	☼	06/15/16 10:33	06/21/16 02:29	1
Naphthalene	0.070	U	0.35	0.032	mg/Kg	☼	06/15/16 10:33	06/21/16 02:29	1
Nitrobenzene	0.070	U	0.35	0.023	mg/Kg	☼	06/15/16 10:33	06/21/16 02:29	1
N-Nitrosodimethylamine	0.14	U	0.54	0.039	mg/Kg	☼	06/15/16 10:33	06/21/16 02:29	1
N-Nitrosodi-n-propylamine	0.070	U	0.35	0.032	mg/Kg	☼	06/15/16 10:33	06/21/16 02:29	1
N-Nitrosodiphenylamine	0.070	U	0.35	0.022	mg/Kg	☼	06/15/16 10:33	06/21/16 02:29	1
N-Nitrosopyrrolidine	0.17	U	0.35	0.067	mg/Kg	☼	06/15/16 10:33	06/21/16 02:29	1
Pentachlorophenol	1.0	U	1.7	0.35	mg/Kg	☼	06/15/16 10:33	06/21/16 02:29	1
Phenanthrene	**1.6**		0.35	0.018	mg/Kg	☼	06/15/16 10:33	06/21/16 02:29	1
Phenol	0.070	U	0.35	0.019	mg/Kg	☼	06/15/16 10:33	06/21/16 02:29	1
Pyrene	**0.065**	**J**	0.42	0.013	mg/Kg	☼	06/15/16 10:33	06/21/16 02:29	1

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol (Surr)	100		39 - 132	06/15/16 10:33	06/21/16 02:29	1
2-Fluorobiphenyl	81		44 - 115	06/15/16 10:33	06/21/16 02:29	1
2-Fluorophenol (Surr)	79		35 - 115	06/15/16 10:33	06/21/16 02:29	1
Nitrobenzene-d5 (Surr)	93		37 - 122	06/15/16 10:33	06/21/16 02:29	1
Phenol-d5 (Surr)	79		33 - 122	06/15/16 10:33	06/21/16 02:29	1
Terphenyl-d14 (Surr)	77		54 - 127	06/15/16 10:33	06/21/16 02:29	1

Client Sample ID: SC-TU008-MW002-S0406-D — **Lab Sample ID: 280-84064-4**
Date Collected: 06/02/16 16:15 — **Matrix: Solid**
Date Received: 06/04/16 08:45 — **Percent Solids: 89.6**

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4,5-Tetrachlorobenzene	0.14	U	0.34	0.050	mg/Kg	☼	06/15/16 10:33	06/21/16 02:56	1
1,2,4-Trichlorobenzene	0.068	U	0.34	0.029	mg/Kg	☼	06/15/16 10:33	06/21/16 02:56	1
1,2-Dichlorobenzene	0.068	U	0.34	0.022	mg/Kg	☼	06/15/16 10:33	06/21/16 02:56	1
1,2-Diphenylhydrazine	0.068	U	0.34	0.022	mg/Kg	☼	06/15/16 10:33	06/21/16 02:56	1
1,3-Dichlorobenzene	0.034	U	0.34	0.012	mg/Kg	☼	06/15/16 10:33	06/21/16 02:56	1
1,4-Dichlorobenzene	0.034	U	0.34	0.014	mg/Kg	☼	06/15/16 10:33	06/21/16 02:56	1
2,2'-oxybis[1-chloropropane]	0.068	U	0.34	0.023	mg/Kg	☼	06/15/16 10:33	06/21/16 02:56	1
2,4,5-Trichlorophenol	0.034	U	0.34	0.010	mg/Kg	☼	06/15/16 10:33	06/21/16 02:56	1
2,4,6-Trichlorophenol	0.034	U	0.34	0.010	mg/Kg	☼	06/15/16 10:33	06/21/16 02:56	1
2,4-Dichlorophenol	0.034	U	0.34	0.010	mg/Kg	☼	06/15/16 10:33	06/21/16 02:56	1
2,4-Dimethylphenol	0.14	U	0.34	0.067	mg/Kg	☼	06/15/16 10:33	06/21/16 02:56	1
2,4-Dinitrophenol	1.0	U	1.6	0.34	mg/Kg	☼	06/15/16 10:33	06/21/16 02:56	1
2,4-Dinitrotoluene	0.14	U	0.34	0.067	mg/Kg	☼	06/15/16 10:33	06/21/16 02:56	1
2,6-Dichlorophenol	0.17	U	0.34	0.070	mg/Kg	☼	06/15/16 10:33	06/21/16 02:56	1
2,6-Dinitrotoluene	0.068	U	0.34	0.029	mg/Kg	☼	06/15/16 10:33	06/21/16 02:56	1
2-Chloronaphthalene	0.034	U	0.34	0.010	mg/Kg	☼	06/15/16 10:33	06/21/16 02:56	1
2-Chlorophenol	0.068	U	0.34	0.021	mg/Kg	☼	06/15/16 10:33	06/21/16 02:56	1
2-Methylnaphthalene	0.068	U	0.34	0.019	mg/Kg	☼	06/15/16 10:33	06/21/16 02:56	1
2-Methylphenol	0.034	U	0.34	0.013	mg/Kg	☼	06/15/16 10:33	06/21/16 02:56	1
3 & 4 Methylphenol	0.068	U	0.34	0.034	mg/Kg	☼	06/15/16 10:33	06/21/16 02:56	1
3,3'-Dichlorobenzidine	0.27	U	1.6	0.092	mg/Kg	☼	06/15/16 10:33	06/21/16 02:56	1
3-Nitroaniline	0.27	U	1.6	0.075	mg/Kg	☼	06/15/16 10:33	06/21/16 02:56	1
4,6-Dinitro-2-methylphenol	1.0	U	1.6	0.34	mg/Kg	☼	06/15/16 10:33	06/21/16 02:56	1
4-Chloroaniline	0.27	U	0.34	0.084	mg/Kg	☼	06/15/16 10:33	06/21/16 02:56	1
4-Chlorophenyl phenyl ether	0.068	U	0.34	0.021	mg/Kg	☼	06/15/16 10:33	06/21/16 02:56	1
4-Nitroaniline	0.27	U	1.6	0.074	mg/Kg	☼	06/15/16 10:33	06/21/16 02:56	1
4-Nitrophenol	0.27	U	1.6	0.099	mg/Kg	☼	06/15/16 10:33	06/21/16 02:56	1
Acenaphthene	**0.48**		0.34	0.011	mg/Kg	☼	06/15/16 10:33	06/21/16 02:56	1
Acenaphthylene	0.068	U	0.34	0.017	mg/Kg	☼	06/15/16 10:33	06/21/16 02:56	1
Anthracene	0.068	U	0.34	0.017	mg/Kg	☼	06/15/16 10:33	06/21/16 02:56	1
Benzidine	2.0	U	4.1	1.0	mg/Kg	☼	06/15/16 10:33	06/21/16 02:56	1
Benzo[a]anthracene	0.068	U	0.34	0.020	mg/Kg	☼	06/15/16 10:33	06/21/16 02:56	1
Benzo[a]pyrene	0.068	U	0.34	0.020	mg/Kg	☼	06/15/16 10:33	06/21/16 02:56	1
Benzo[b]fluoranthene	0.068	U	0.34	0.027	mg/Kg	☼	06/15/16 10:33	06/21/16 02:56	1
Benzo[g,h,i]perylene	0.034	U	0.34	0.016	mg/Kg	☼	06/15/16 10:33	06/21/16 02:56	1
Benzo[k]fluoranthene	0.14	U	0.34	0.041	mg/Kg	☼	06/15/16 10:33	06/21/16 02:56	1
Benzoic acid	1.0	U	1.6	0.34	mg/Kg	☼	06/15/16 10:33	06/21/16 02:56	1
Benzyl alcohol	0.034	U	0.34	0.010	mg/Kg	☼	06/15/16 10:33	06/21/16 02:56	1
Bis(2-chloroethoxy)methane	0.068	U	0.34	0.023	mg/Kg	☼	06/15/16 10:33	06/21/16 02:56	1
Bis(2-chloroethyl)ether	0.034	U	0.34	0.017	mg/Kg	☼	06/15/16 10:33	06/21/16 02:56	1
Bis(2-ethylhexyl) phthalate	0.14	U	0.34	0.047	mg/Kg	☼	06/15/16 10:33	06/21/16 02:56	1

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

Client Sample ID: SC-TU008-MW002-S0406-D — **Lab Sample ID: 280-84064-4**
Date Collected: 06/02/16 16:15 — **Matrix: Solid**
Date Received: 06/04/16 08:45 — **Percent Solids: 89.6**

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Butyl benzyl phthalate	0.14	U	0.34	0.044	mg/Kg	☼	06/15/16 10:33	06/21/16 02:56	1
Carbazole	0.14	U	0.34	0.037	mg/Kg	☼	06/15/16 10:33	06/21/16 02:56	1
Chrysene	0.068	U	0.34	0.028	mg/Kg	☼	06/15/16 10:33	06/21/16 02:56	1
Dibenz(a,h)anthracene	0.068	U	0.34	0.019	mg/Kg	☼	06/15/16 10:33	06/21/16 02:56	1
Dibenzofuran	0.068	U	0.34	0.020	mg/Kg	☼	06/15/16 10:33	06/21/16 02:56	1
Diethyl phthalate	0.068	U	0.67	0.027	mg/Kg	☼	06/15/16 10:33	06/21/16 02:56	1
Dimethyl phthalate	0.068	U	0.34	0.023	mg/Kg	☼	06/15/16 10:33	06/21/16 02:56	1
Di-n-butyl phthalate	0.068	U	0.34	0.030	mg/Kg	☼	06/15/16 10:33	06/21/16 02:56	1
Di-n-octyl phthalate	0.067	U	0.34	0.015	mg/Kg	☼	06/15/16 10:33	06/21/16 02:56	1
Fluoranthene	**0.043**	**J**	0.34	0.037	mg/Kg	☼	06/15/16 10:33	06/21/16 02:56	1
Fluorene	**0.70**		0.34	0.018	mg/Kg	☼	06/15/16 10:33	06/21/16 02:56	1
Hexachlorobenzene	0.068	U	0.34	0.030	mg/Kg	☼	06/15/16 10:33	06/21/16 02:56	1
Hexachlorobutadiene	0.034	U	0.34	0.010	mg/Kg	☼	06/15/16 10:33	06/21/16 02:56	1
Hexachlorocyclopentadiene	0.14	U	1.7	0.051	mg/Kg	☼	06/15/16 10:33	06/21/16 02:56	1
Hexachloroethane	0.068	U	0.34	0.022	mg/Kg	☼	06/15/16 10:33	06/21/16 02:56	1
Indeno[1,2,3-cd]pyrene	0.068	U	0.34	0.022	mg/Kg	☼	06/15/16 10:33	06/21/16 02:56	1
Isophorone	0.068	U	0.34	0.017	mg/Kg	☼	06/15/16 10:33	06/21/16 02:56	1
Naphthalene	0.068	U	0.34	0.032	mg/Kg	☼	06/15/16 10:33	06/21/16 02:56	1
Nitrobenzene	0.068	U	0.34	0.022	mg/Kg	☼	06/15/16 10:33	06/21/16 02:56	1
N-Nitrosodimethylamine	0.14	U	0.53	0.038	mg/Kg	☼	06/15/16 10:33	06/21/16 02:56	1
N-Nitrosodi-n-propylamine	0.068	U	0.34	0.032	mg/Kg	☼	06/15/16 10:33	06/21/16 02:56	1
N-Nitrosodiphenylamine	0.068	U	0.34	0.021	mg/Kg	☼	06/15/16 10:33	06/21/16 02:56	1
N-Nitrosopyrrolidine	0.17	U	0.34	0.065	mg/Kg	☼	06/15/16 10:33	06/21/16 02:56	1
Pentachlorophenol	1.0	U	1.6	0.34	mg/Kg	☼	06/15/16 10:33	06/21/16 02:56	1
Phenanthrene	**1.5**		0.34	0.017	mg/Kg	☼	06/15/16 10:33	06/21/16 02:56	1
Phenol	0.068	U	0.34	0.018	mg/Kg	☼	06/15/16 10:33	06/21/16 02:56	1
Pyrene	**0.054**	**J**	0.41	0.012	mg/Kg	☼	06/15/16 10:33	06/21/16 02:56	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*98*		*39 - 132*	*06/15/16 10:33*	*06/21/16 02:56*	*1*
2-Fluorobiphenyl	*80*		*44 - 115*	*06/15/16 10:33*	*06/21/16 02:56*	*1*
2-Fluorophenol (Surr)	*77*		*35 - 115*	*06/15/16 10:33*	*06/21/16 02:56*	*1*
Nitrobenzene-d5 (Surr)	*92*		*37 - 122*	*06/15/16 10:33*	*06/21/16 02:56*	*1*
Phenol-d5 (Surr)	*77*		*33 - 122*	*06/15/16 10:33*	*06/21/16 02:56*	*1*
Terphenyl-d14 (Surr)	*77*		*54 - 127*	*06/15/16 10:33*	*06/21/16 02:56*	*1*

Client Sample ID: SC-TU008-MW002-S0002 — **Lab Sample ID: 280-84064-5**
Date Collected: 06/02/16 16:30 — **Matrix: Solid**
Date Received: 06/04/16 08:45 — **Percent Solids: 95.4**

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4,5-Tetrachlorobenzene	0.14	U	0.34	0.050	mg/Kg	☼	06/15/16 10:33	06/21/16 16:35	1
1,2,4-Trichlorobenzene	0.068	U	0.34	0.028	mg/Kg	☼	06/15/16 10:33	06/21/16 16:35	1
1,2-Dichlorobenzene	0.068	U	0.34	0.022	mg/Kg	☼	06/15/16 10:33	06/21/16 16:35	1
1,2-Diphenylhydrazine	0.068	U	0.34	0.022	mg/Kg	☼	06/15/16 10:33	06/21/16 16:35	1
1,3-Dichlorobenzene	0.034	U	0.34	0.012	mg/Kg	☼	06/15/16 10:33	06/21/16 16:35	1
1,4-Dichlorobenzene	0.034	U	0.34	0.014	mg/Kg	☼	06/15/16 10:33	06/21/16 16:35	1
2,2'-oxybis[1-chloropropane]	0.068	U	0.34	0.023	mg/Kg	☼	06/15/16 10:33	06/21/16 16:35	1
2,4,5-Trichlorophenol	0.034	U Q	0.34	0.010	mg/Kg	☼	06/15/16 10:33	06/21/16 16:35	1
2,4,6-Trichlorophenol	0.034	U Q	0.34	0.010	mg/Kg	☼	06/15/16 10:33	06/21/16 16:35	1
2,4-Dichlorophenol	0.034	U	0.34	0.010	mg/Kg	☼	06/15/16 10:33	06/21/16 16:35	1

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

Client Sample ID: SC-TU008-MW002-S0002
Date Collected: 06/02/16 16:30
Date Received: 06/04/16 08:45

Lab Sample ID: 280-84064-5
Matrix: Solid
Percent Solids: 95.4

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
2,4-Dimethylphenol	0.14	U	0.34	0.067	mg/Kg	☼	06/15/16 10:33	06/21/16 16:35	1
2,4-Dinitrophenol	1.0	U Q	1.6	0.34	mg/Kg	☼	06/15/16 10:33	06/21/16 16:35	1
2,4-Dinitrotoluene	0.14	U	0.34	0.067	mg/Kg	☼	06/15/16 10:33	06/21/16 16:35	1
2,6-Dichlorophenol	0.17	U	0.34	0.070	mg/Kg	☼	06/15/16 10:33	06/21/16 16:35	1
2,6-Dinitrotoluene	0.068	U	0.34	0.028	mg/Kg	☼	06/15/16 10:33	06/21/16 16:35	1
2-Chloronaphthalene	0.034	U	0.34	0.010	mg/Kg	☼	06/15/16 10:33	06/21/16 16:35	1
2-Chlorophenol	0.068	U	0.34	0.021	mg/Kg	☼	06/15/16 10:33	06/21/16 16:35	1
2-Methylnaphthalene	**0.019**	**J**	0.34	0.019	mg/Kg	☼	06/15/16 10:33	06/21/16 16:35	1
2-Methylphenol	0.034	U	0.34	0.013	mg/Kg	☼	06/15/16 10:33	06/21/16 16:35	1
3 & 4 Methylphenol	0.068	U	0.34	0.034	mg/Kg	☼	06/15/16 10:33	06/21/16 16:35	1
3,3'-Dichlorobenzidine	0.27	U	1.6	0.092	mg/Kg	☼	06/15/16 10:33	06/21/16 16:35	1
3-Nitroaniline	0.27	U	1.6	0.074	mg/Kg	☼	06/15/16 10:33	06/21/16 16:35	1
4,6-Dinitro-2-methylphenol	1.0	U Q	1.6	0.34	mg/Kg	☼	06/15/16 10:33	06/21/16 16:35	1
4-Chloroaniline	0.27	U	0.34	0.083	mg/Kg	☼	06/15/16 10:33	06/21/16 16:35	1
4-Chlorophenyl phenyl ether	0.068	U	0.34	0.021	mg/Kg	☼	06/15/16 10:33	06/21/16 16:35	1
4-Nitroaniline	0.27	U	1.6	0.074	mg/Kg	☼	06/15/16 10:33	06/21/16 16:35	1
4-Nitrophenol	0.27	U Q	1.6	0.099	mg/Kg	☼	06/15/16 10:33	06/21/16 16:35	1
Acenaphthene	**0.093**	**J**	0.34	0.010	mg/Kg	☼	06/15/16 10:33	06/21/16 16:35	1
Acenaphthylene	**0.025**	**J**	0.34	0.017	mg/Kg	☼	06/15/16 10:33	06/21/16 16:35	1
Anthracene	**0.26**	**J**	0.34	0.017	mg/Kg	☼	06/15/16 10:33	06/21/16 16:35	1
Benzidine	2.0	U	4.1	1.0	mg/Kg	☼	06/15/16 10:33	06/21/16 16:35	1
Benzo[a]anthracene	**0.60**		0.34	0.020	mg/Kg	☼	06/15/16 10:33	06/21/16 16:35	1
Benzo[a]pyrene	**0.51**		0.34	0.020	mg/Kg	☼	06/15/16 10:33	06/21/16 16:35	1
Benzo[b]fluoranthene	**0.64**	**M**	0.34	0.027	mg/Kg	☼	06/15/16 10:33	06/21/16 16:35	1
Benzo[g,h,i]perylene	**0.27**	**J**	0.34	0.016	mg/Kg	☼	06/15/16 10:33	06/21/16 16:35	1
Benzo[k]fluoranthene	**0.32**	**J M**	0.34	0.041	mg/Kg	☼	06/15/16 10:33	06/21/16 16:35	1
Benzoic acid	1.0	U	1.6	0.34	mg/Kg	☼	06/15/16 10:33	06/21/16 16:35	1
Benzyl alcohol	0.034	U	0.34	0.010	mg/Kg	☼	06/15/16 10:33	06/21/16 16:35	1
Bis(2-chloroethoxy)methane	0.068	U	0.34	0.023	mg/Kg	☼	06/15/16 10:33	06/21/16 16:35	1
Bis(2-chloroethyl)ether	0.034	U	0.34	0.017	mg/Kg	☼	06/15/16 10:33	06/21/16 16:35	1
Bis(2-ethylhexyl) phthalate	0.14	U	0.34	0.047	mg/Kg	☼	06/15/16 10:33	06/21/16 16:35	1
Butyl benzyl phthalate	0.14	U	0.34	0.044	mg/Kg	☼	06/15/16 10:33	06/21/16 16:35	1
Carbazole	**0.098**	**J Q**	0.34	0.037	mg/Kg	☼	06/15/16 10:33	06/21/16 16:35	1
Chrysene	**0.60**		0.34	0.027	mg/Kg	☼	06/15/16 10:33	06/21/16 16:35	1
Dibenz(a,h)anthracene	**0.062**	**J**	0.34	0.019	mg/Kg	☼	06/15/16 10:33	06/21/16 16:35	1
Dibenzofuran	**0.047**	**J**	0.34	0.020	mg/Kg	☼	06/15/16 10:33	06/21/16 16:35	1
Diethyl phthalate	0.068	U	0.67	0.026	mg/Kg	☼	06/15/16 10:33	06/21/16 16:35	1
Dimethyl phthalate	0.068	U	0.34	0.023	mg/Kg	☼	06/15/16 10:33	06/21/16 16:35	1
Di-n-butyl phthalate	0.068	U	0.34	0.030	mg/Kg	☼	06/15/16 10:33	06/21/16 16:35	1
Di-n-octyl phthalate	0.067	U	0.34	0.015	mg/Kg	☼	06/15/16 10:33	06/21/16 16:35	1
Fluoranthene	**1.2**		0.34	0.037	mg/Kg	☼	06/15/16 10:33	06/21/16 16:35	1
Fluorene	**0.097**	**J**	0.34	0.018	mg/Kg	☼	06/15/16 10:33	06/21/16 16:35	1
Hexachlorobenzene	0.068	U	0.34	0.030	mg/Kg	☼	06/15/16 10:33	06/21/16 16:35	1
Hexachlorobutadiene	0.034	U	0.34	0.010	mg/Kg	☼	06/15/16 10:33	06/21/16 16:35	1
Hexachlorocyclopentadiene	0.14	U	1.7	0.051	mg/Kg	☼	06/15/16 10:33	06/21/16 16:35	1
Hexachloroethane	0.068	U	0.34	0.022	mg/Kg	☼	06/15/16 10:33	06/21/16 16:35	1
Indeno[1,2,3-cd]pyrene	**0.34**		0.34	0.022	mg/Kg	☼	06/15/16 10:33	06/21/16 16:35	1
Isophorone	0.068	U	0.34	0.017	mg/Kg	☼	06/15/16 10:33	06/21/16 16:35	1
Naphthalene	0.068	U	0.34	0.032	mg/Kg	☼	06/15/16 10:33	06/21/16 16:35	1

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

Client Sample ID: SC-TU008-MW002-S0002 — **Lab Sample ID: 280-84064-5**
Date Collected: 06/02/16 16:30 — **Matrix: Solid**
Date Received: 06/04/16 08:45 — **Percent Solids: 95.4**

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrobenzene	0.068	U	0.34	0.022	mg/Kg	☼	06/15/16 10:33	06/21/16 16:35	1
N-Nitrosodimethylamine	0.14	U	0.53	0.038	mg/Kg	☼	06/15/16 10:33	06/21/16 16:35	1
N-Nitrosodi-n-propylamine	0.068	U	0.34	0.032	mg/Kg	☼	06/15/16 10:33	06/21/16 16:35	1
N-Nitrosodiphenylamine	0.068	U	0.34	0.021	mg/Kg	☼	06/15/16 10:33	06/21/16 16:35	1
N-Nitrosopyrrolidine	0.17	U	0.34	0.065	mg/Kg	☼	06/15/16 10:33	06/21/16 16:35	1
Pentachlorophenol	1.0	U Q	1.6	0.34	mg/Kg	☼	06/15/16 10:33	06/21/16 16:35	1
Phenanthrene	**0.88**		0.34	0.017	mg/Kg	☼	06/15/16 10:33	06/21/16 16:35	1
Phenol	0.068	U	0.34	0.018	mg/Kg	☼	06/15/16 10:33	06/21/16 16:35	1
Pyrene	**1.0**		0.41	0.012	mg/Kg	☼	06/15/16 10:33	06/21/16 16:35	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*22*	*Q*	*39 - 132*	*06/15/16 10:33*	*06/21/16 16:35*	*1*
2-Fluorobiphenyl	*81*		*44 - 115*	*06/15/16 10:33*	*06/21/16 16:35*	*1*
2-Fluorophenol (Surr)	*74*		*35 - 115*	*06/15/16 10:33*	*06/21/16 16:35*	*1*
Nitrobenzene-d5 (Surr)	*78*		*37 - 122*	*06/15/16 10:33*	*06/21/16 16:35*	*1*
Phenol-d5 (Surr)	*81*		*33 - 122*	*06/15/16 10:33*	*06/21/16 16:35*	*1*
Terphenyl-d14 (Surr)	*90*		*54 - 127*	*06/15/16 10:33*	*06/21/16 16:35*	*1*

Client Sample ID: SC-TU008-MW003-S0204 — **Lab Sample ID: 280-84064-6**
Date Collected: 06/02/16 15:00 — **Matrix: Solid**
Date Received: 06/04/16 08:45 — **Percent Solids: 85.2**

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4,5-Tetrachlorobenzene	0.15	U	0.38	0.056	mg/Kg	☼	06/15/16 10:33	06/21/16 17:02	1
1,2,4-Trichlorobenzene	0.077	U	0.38	0.032	mg/Kg	☼	06/15/16 10:33	06/21/16 17:02	1
1,2-Dichlorobenzene	0.077	U	0.38	0.025	mg/Kg	☼	06/15/16 10:33	06/21/16 17:02	1
1,2-Diphenylhydrazine	0.077	U	0.38	0.025	mg/Kg	☼	06/15/16 10:33	06/21/16 17:02	1
1,3-Dichlorobenzene	0.038	U	0.38	0.014	mg/Kg	☼	06/15/16 10:33	06/21/16 17:02	1
1,4-Dichlorobenzene	0.038	U	0.38	0.016	mg/Kg	☼	06/15/16 10:33	06/21/16 17:02	1
2,2'-oxybis[1-chloropropane]	0.077	U	0.38	0.026	mg/Kg	☼	06/15/16 10:33	06/21/16 17:02	1
2,4,5-Trichlorophenol	0.038	U	0.38	0.011	mg/Kg	☼	06/15/16 10:33	06/21/16 17:02	1
2,4,6-Trichlorophenol	0.038	U	0.38	0.011	mg/Kg	☼	06/15/16 10:33	06/21/16 17:02	1
2,4-Dichlorophenol	0.038	U	0.38	0.011	mg/Kg	☼	06/15/16 10:33	06/21/16 17:02	1
2,4-Dimethylphenol	0.15	U	0.38	0.075	mg/Kg	☼	06/15/16 10:33	06/21/16 17:02	1
2,4-Dinitrophenol	1.1	U	1.8	0.38	mg/Kg	☼	06/15/16 10:33	06/21/16 17:02	1
2,4-Dinitrotoluene	0.15	U	0.38	0.075	mg/Kg	☼	06/15/16 10:33	06/21/16 17:02	1
2,6-Dichlorophenol	0.19	U	0.38	0.079	mg/Kg	☼	06/15/16 10:33	06/21/16 17:02	1
2,6-Dinitrotoluene	0.077	U	0.38	0.032	mg/Kg	☼	06/15/16 10:33	06/21/16 17:02	1
2-Chloronaphthalene	0.038	U	0.38	0.011	mg/Kg	☼	06/15/16 10:33	06/21/16 17:02	1
2-Chlorophenol	0.077	U	0.38	0.024	mg/Kg	☼	06/15/16 10:33	06/21/16 17:02	1
2-Methylnaphthalene	0.077	U	0.38	0.022	mg/Kg	☼	06/15/16 10:33	06/21/16 17:02	1
2-Methylphenol	0.038	U	0.38	0.015	mg/Kg	☼	06/15/16 10:33	06/21/16 17:02	1
3 & 4 Methylphenol	0.077	U	0.38	0.038	mg/Kg	☼	06/15/16 10:33	06/21/16 17:02	1
3,3'-Dichlorobenzidine	0.31	U	1.8	0.10	mg/Kg	☼	06/15/16 10:33	06/21/16 17:02	1
3-Nitroaniline	0.31	U	1.8	0.083	mg/Kg	☼	06/15/16 10:33	06/21/16 17:02	1
4,6-Dinitro-2-methylphenol	1.1	U	1.8	0.38	mg/Kg	☼	06/15/16 10:33	06/21/16 17:02	1
4-Chloroaniline	0.31	U	0.38	0.094	mg/Kg	☼	06/15/16 10:33	06/21/16 17:02	1
4-Chlorophenyl phenyl ether	0.077	U	0.38	0.024	mg/Kg	☼	06/15/16 10:33	06/21/16 17:02	1
4-Nitroaniline	0.31	U	1.8	0.083	mg/Kg	☼	06/15/16 10:33	06/21/16 17:02	1
4-Nitrophenol	0.31	U	1.8	0.11	mg/Kg	☼	06/15/16 10:33	06/21/16 17:02	1
Acenaphthene	0.038	U	0.38	0.012	mg/Kg	☼	06/15/16 10:33	06/21/16 17:02	1

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

Client Sample ID: SC-TU008-MW003-S0204
Date Collected: 06/02/16 15:00
Date Received: 06/04/16 08:45

Lab Sample ID: 280-84064-6
Matrix: Solid
Percent Solids: 85.2

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthylene	0.077	U	0.38	0.019	mg/Kg	☼	06/15/16 10:33	06/21/16 17:02	1
Anthracene	0.077	U	0.38	0.019	mg/Kg	☼	06/15/16 10:33	06/21/16 17:02	1
Benzidine	2.3	U	4.6	1.1	mg/Kg	☼	06/15/16 10:33	06/21/16 17:02	1
Benzo[a]anthracene	0.077	U	0.38	0.023	mg/Kg	☼	06/15/16 10:33	06/21/16 17:02	1
Benzo[a]pyrene	0.077	U	0.38	0.023	mg/Kg	☼	06/15/16 10:33	06/21/16 17:02	1
Benzo[b]fluoranthene	0.077	U	0.38	0.030	mg/Kg	☼	06/15/16 10:33	06/21/16 17:02	1
Benzo[g,h,i]perylene	0.038	U	0.38	0.018	mg/Kg	☼	06/15/16 10:33	06/21/16 17:02	1
Benzo[k]fluoranthene	0.15	U	0.38	0.046	mg/Kg	☼	06/15/16 10:33	06/21/16 17:02	1
Benzoic acid	1.1	U	1.8	0.38	mg/Kg	☼	06/15/16 10:33	06/21/16 17:02	1
Benzyl alcohol	0.038	U	0.38	0.011	mg/Kg	☼	06/15/16 10:33	06/21/16 17:02	1
Bis(2-chloroethoxy)methane	0.077	U	0.38	0.026	mg/Kg	☼	06/15/16 10:33	06/21/16 17:02	1
Bis(2-chloroethyl)ether	0.038	U	0.38	0.019	mg/Kg	☼	06/15/16 10:33	06/21/16 17:02	1
Bis(2-ethylhexyl) phthalate	0.15	U	0.38	0.053	mg/Kg	☼	06/15/16 10:33	06/21/16 17:02	1
Butyl benzyl phthalate	0.15	U	0.38	0.049	mg/Kg	☼	06/15/16 10:33	06/21/16 17:02	1
Carbazole	0.15	U	0.38	0.041	mg/Kg	☼	06/15/16 10:33	06/21/16 17:02	1
Chrysene	0.077	U	0.38	0.031	mg/Kg	☼	06/15/16 10:33	06/21/16 17:02	1
Dibenz(a,h)anthracene	0.077	U	0.38	0.022	mg/Kg	☼	06/15/16 10:33	06/21/16 17:02	1
Dibenzofuran	0.077	U	0.38	0.023	mg/Kg	☼	06/15/16 10:33	06/21/16 17:02	1
Diethyl phthalate	0.077	U	0.75	0.030	mg/Kg	☼	06/15/16 10:33	06/21/16 17:02	1
Dimethyl phthalate	0.077	U	0.38	0.026	mg/Kg	☼	06/15/16 10:33	06/21/16 17:02	1
Di-n-butyl phthalate	0.077	U	0.38	0.033	mg/Kg	☼	06/15/16 10:33	06/21/16 17:02	1
Di-n-octyl phthalate	0.075	U	0.38	0.016	mg/Kg	☼	06/15/16 10:33	06/21/16 17:02	1
Fluoranthene	0.15	U	0.38	0.041	mg/Kg	☼	06/15/16 10:33	06/21/16 17:02	1
Fluorene	0.077	U	0.38	0.021	mg/Kg	☼	06/15/16 10:33	06/21/16 17:02	1
Hexachlorobenzene	0.077	U	0.38	0.033	mg/Kg	☼	06/15/16 10:33	06/21/16 17:02	1
Hexachlorobutadiene	0.038	U	0.38	0.011	mg/Kg	☼	06/15/16 10:33	06/21/16 17:02	1
Hexachlorocyclopentadiene	0.15	U	1.9	0.057	mg/Kg	☼	06/15/16 10:33	06/21/16 17:02	1
Hexachloroethane	0.077	U	0.38	0.024	mg/Kg	☼	06/15/16 10:33	06/21/16 17:02	1
Indeno[1,2,3-cd]pyrene	0.077	U	0.38	0.025	mg/Kg	☼	06/15/16 10:33	06/21/16 17:02	1
Isophorone	0.077	U	0.38	0.019	mg/Kg	☼	06/15/16 10:33	06/21/16 17:02	1
Naphthalene	0.077	U	0.38	0.035	mg/Kg	☼	06/15/16 10:33	06/21/16 17:02	1
Nitrobenzene	0.077	U	0.38	0.025	mg/Kg	☼	06/15/16 10:33	06/21/16 17:02	1
N-Nitrosodimethylamine	0.15	U	0.59	0.042	mg/Kg	☼	06/15/16 10:33	06/21/16 17:02	1
N-Nitrosodi-n-propylamine	0.077	U	0.38	0.035	mg/Kg	☼	06/15/16 10:33	06/21/16 17:02	1
N-Nitrosodiphenylamine	0.077	U	0.38	0.024	mg/Kg	☼	06/15/16 10:33	06/21/16 17:02	1
N-Nitrosopyrrolidine	0.19	U	0.38	0.073	mg/Kg	☼	06/15/16 10:33	06/21/16 17:02	1
Pentachlorophenol	1.1	U	1.8	0.38	mg/Kg	☼	06/15/16 10:33	06/21/16 17:02	1
Phenanthrene	0.077	U	0.38	0.019	mg/Kg	☼	06/15/16 10:33	06/21/16 17:02	1
Phenol	0.077	U	0.38	0.021	mg/Kg	☼	06/15/16 10:33	06/21/16 17:02	1
Pyrene	0.038	U	0.46	0.014	mg/Kg	☼	06/15/16 10:33	06/21/16 17:02	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*73*		*39 - 132*	*06/15/16 10:33*	*06/21/16 17:02*	*1*
2-Fluorobiphenyl	*75*		*44 - 115*	*06/15/16 10:33*	*06/21/16 17:02*	*1*
2-Fluorophenol (Surr)	*81*		*35 - 115*	*06/15/16 10:33*	*06/21/16 17:02*	*1*
Nitrobenzene-d5 (Surr)	*74*		*37 - 122*	*06/15/16 10:33*	*06/21/16 17:02*	*1*
Phenol-d5 (Surr)	*80*		*33 - 122*	*06/15/16 10:33*	*06/21/16 17:02*	*1*
Terphenyl-d14 (Surr)	*85*		*54 - 127*	*06/15/16 10:33*	*06/21/16 17:02*	*1*

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

Client Sample ID: SC-TU008-MW003-S0405
Date Collected: 06/02/16 15:15
Date Received: 06/04/16 08:45

Lab Sample ID: 280-84064-7
Matrix: Solid
Percent Solids: 88.6

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4,5-Tetrachlorobenzene	0.15	U	0.37	0.054	mg/Kg	☼	06/15/16 10:33	06/21/16 17:29	1
1,2,4-Trichlorobenzene	0.074	U	0.37	0.031	mg/Kg	☼	06/15/16 10:33	06/21/16 17:29	1
1,2-Dichlorobenzene	0.074	U	0.37	0.024	mg/Kg	☼	06/15/16 10:33	06/21/16 17:29	1
1,2-Diphenylhydrazine	0.074	U	0.37	0.024	mg/Kg	☼	06/15/16 10:33	06/21/16 17:29	1
1,3-Dichlorobenzene	0.037	U	0.37	0.013	mg/Kg	☼	06/15/16 10:33	06/21/16 17:29	1
1,4-Dichlorobenzene	0.037	U	0.37	0.015	mg/Kg	☼	06/15/16 10:33	06/21/16 17:29	1
2,2'-oxybis[1-chloropropane]	0.074	U	0.37	0.026	mg/Kg	☼	06/15/16 10:33	06/21/16 17:29	1
2,4,5-Trichlorophenol	0.037	U	0.37	0.011	mg/Kg	☼	06/15/16 10:33	06/21/16 17:29	1
2,4,6-Trichlorophenol	0.037	U	0.37	0.011	mg/Kg	☼	06/15/16 10:33	06/21/16 17:29	1
2,4-Dichlorophenol	0.037	U	0.37	0.011	mg/Kg	☼	06/15/16 10:33	06/21/16 17:29	1
2,4-Dimethylphenol	0.15	U	0.37	0.073	mg/Kg	☼	06/15/16 10:33	06/21/16 17:29	1
2,4-Dinitrophenol	1.1	U	1.8	0.37	mg/Kg	☼	06/15/16 10:33	06/21/16 17:29	1
2,4-Dinitrotoluene	0.15	U	0.37	0.073	mg/Kg	☼	06/15/16 10:33	06/21/16 17:29	1
2,6-Dichlorophenol	0.19	U	0.37	0.077	mg/Kg	☼	06/15/16 10:33	06/21/16 17:29	1
2,6-Dinitrotoluene	0.074	U	0.37	0.031	mg/Kg	☼	06/15/16 10:33	06/21/16 17:29	1
2-Chloronaphthalene	0.037	U	0.37	0.011	mg/Kg	☼	06/15/16 10:33	06/21/16 17:29	1
2-Chlorophenol	0.074	U	0.37	0.023	mg/Kg	☼	06/15/16 10:33	06/21/16 17:29	1
2-Methylnaphthalene	0.074	U	0.37	0.021	mg/Kg	☼	06/15/16 10:33	06/21/16 17:29	1
2-Methylphenol	0.037	U	0.37	0.014	mg/Kg	☼	06/15/16 10:33	06/21/16 17:29	1
3 & 4 Methylphenol	0.074	U	0.37	0.037	mg/Kg	☼	06/15/16 10:33	06/21/16 17:29	1
3,3'-Dichlorobenzidine	0.30	U	1.8	0.10	mg/Kg	☼	06/15/16 10:33	06/21/16 17:29	1
3-Nitroaniline	0.30	U	1.8	0.081	mg/Kg	☼	06/15/16 10:33	06/21/16 17:29	1
4,6-Dinitro-2-methylphenol	1.1	U	1.8	0.37	mg/Kg	☼	06/15/16 10:33	06/21/16 17:29	1
4-Chloroaniline	0.30	U	0.37	0.091	mg/Kg	☼	06/15/16 10:33	06/21/16 17:29	1
4-Chlorophenyl phenyl ether	0.074	U	0.37	0.023	mg/Kg	☼	06/15/16 10:33	06/21/16 17:29	1
4-Nitroaniline	0.30	U	1.8	0.080	mg/Kg	☼	06/15/16 10:33	06/21/16 17:29	1
4-Nitrophenol	0.30	U	1.8	0.11	mg/Kg	☼	06/15/16 10:33	06/21/16 17:29	1
Acenaphthene	**0.037**	**J**	0.37	0.011	mg/Kg	☼	06/15/16 10:33	06/21/16 17:29	1
Acenaphthylene	0.074	U	0.37	0.019	mg/Kg	☼	06/15/16 10:33	06/21/16 17:29	1
Anthracene	**0.039**	**J**	0.37	0.019	mg/Kg	☼	06/15/16 10:33	06/21/16 17:29	1
Benzidine	2.2	U	4.4	1.1	mg/Kg	☼	06/15/16 10:33	06/21/16 17:29	1
Benzo[a]anthracene	0.074	U	0.37	0.022	mg/Kg	☼	06/15/16 10:33	06/21/16 17:29	1
Benzo[a]pyrene	0.074	U	0.37	0.022	mg/Kg	☼	06/15/16 10:33	06/21/16 17:29	1
Benzo[b]fluoranthene	0.074	U	0.37	0.029	mg/Kg	☼	06/15/16 10:33	06/21/16 17:29	1
Benzo[g,h,i]perylene	0.037	U	0.37	0.018	mg/Kg	☼	06/15/16 10:33	06/21/16 17:29	1
Benzo[k]fluoranthene	0.15	U	0.37	0.044	mg/Kg	☼	06/15/16 10:33	06/21/16 17:29	1
Benzoic acid	1.1	U	1.8	0.37	mg/Kg	☼	06/15/16 10:33	06/21/16 17:29	1
Benzyl alcohol	0.037	U	0.37	0.011	mg/Kg	☼	06/15/16 10:33	06/21/16 17:29	1
Bis(2-chloroethoxy)methane	0.074	U	0.37	0.026	mg/Kg	☼	06/15/16 10:33	06/21/16 17:29	1
Bis(2-chloroethyl)ether	0.037	U	0.37	0.018	mg/Kg	☼	06/15/16 10:33	06/21/16 17:29	1
Bis(2-ethylhexyl) phthalate	0.15	U	0.37	0.051	mg/Kg	☼	06/15/16 10:33	06/21/16 17:29	1
Butyl benzyl phthalate	0.15	U	0.37	0.048	mg/Kg	☼	06/15/16 10:33	06/21/16 17:29	1
Carbazole	0.15	U	0.37	0.040	mg/Kg	☼	06/15/16 10:33	06/21/16 17:29	1
Chrysene	0.074	U	0.37	0.030	mg/Kg	☼	06/15/16 10:33	06/21/16 17:29	1
Dibenz(a,h)anthracene	0.074	U	0.37	0.021	mg/Kg	☼	06/15/16 10:33	06/21/16 17:29	1
Dibenzofuran	**0.11**	**J**	0.37	0.022	mg/Kg	☼	06/15/16 10:33	06/21/16 17:29	1
Diethyl phthalate	0.074	U	0.73	0.029	mg/Kg	☼	06/15/16 10:33	06/21/16 17:29	1
Dimethyl phthalate	0.074	U	0.37	0.026	mg/Kg	☼	06/15/16 10:33	06/21/16 17:29	1
Di-n-butyl phthalate	0.074	U	0.37	0.032	mg/Kg	☼	06/15/16 10:33	06/21/16 17:29	1

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

Client Sample ID: SC-TU008-MW003-S0405 — **Lab Sample ID: 280-84064-7**
Date Collected: 06/02/16 15:15 — **Matrix: Solid**
Date Received: 06/04/16 08:45 — **Percent Solids: 88.6**

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Di-n-octyl phthalate	0.073	U	0.37	0.016	mg/Kg	☼	06/15/16 10:33	06/21/16 17:29	1
Fluoranthene	0.15	U	0.37	0.040	mg/Kg	☼	06/15/16 10:33	06/21/16 17:29	1
Fluorene	**0.054**	**J**	0.37	0.020	mg/Kg	☼	06/15/16 10:33	06/21/16 17:29	1
Hexachlorobenzene	0.074	U	0.37	0.032	mg/Kg	☼	06/15/16 10:33	06/21/16 17:29	1
Hexachlorobutadiene	0.037	U	0.37	0.011	mg/Kg	☼	06/15/16 10:33	06/21/16 17:29	1
Hexachlorocyclopentadiene	0.15	U	1.9	0.055	mg/Kg	☼	06/15/16 10:33	06/21/16 17:29	1
Hexachloroethane	0.074	U	0.37	0.024	mg/Kg	☼	06/15/16 10:33	06/21/16 17:29	1
Indeno[1,2,3-cd]pyrene	0.074	U	0.37	0.024	mg/Kg	☼	06/15/16 10:33	06/21/16 17:29	1
Isophorone	0.074	U	0.37	0.019	mg/Kg	☼	06/15/16 10:33	06/21/16 17:29	1
Naphthalene	0.074	U	0.37	0.034	mg/Kg	☼	06/15/16 10:33	06/21/16 17:29	1
Nitrobenzene	0.074	U	0.37	0.024	mg/Kg	☼	06/15/16 10:33	06/21/16 17:29	1
N-Nitrosodimethylamine	0.15	U	0.58	0.041	mg/Kg	☼	06/15/16 10:33	06/21/16 17:29	1
N-Nitrosodi-n-propylamine	0.074	U	0.37	0.034	mg/Kg	☼	06/15/16 10:33	06/21/16 17:29	1
N-Nitrosodiphenylamine	0.074	U	0.37	0.023	mg/Kg	☼	06/15/16 10:33	06/21/16 17:29	1
N-Nitrosopyrrolidine	0.19	U	0.37	0.071	mg/Kg	☼	06/15/16 10:33	06/21/16 17:29	1
Pentachlorophenol	1.1	U	1.8	0.37	mg/Kg	☼	06/15/16 10:33	06/21/16 17:29	1
Phenanthrene	**0.033**	**J**	0.37	0.019	mg/Kg	☼	06/15/16 10:33	06/21/16 17:29	1
Phenol	0.074	U	0.37	0.020	mg/Kg	☼	06/15/16 10:33	06/21/16 17:29	1
Pyrene	**0.015**	**J**	0.44	0.013	mg/Kg	☼	06/15/16 10:33	06/21/16 17:29	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*77*		*39 - 132*	*06/15/16 10:33*	*06/21/16 17:29*	*1*
2-Fluorobiphenyl	*79*		*44 - 115*	*06/15/16 10:33*	*06/21/16 17:29*	*1*
2-Fluorophenol (Surr)	*79*		*35 - 115*	*06/15/16 10:33*	*06/21/16 17:29*	*1*
Nitrobenzene-d5 (Surr)	*76*		*37 - 122*	*06/15/16 10:33*	*06/21/16 17:29*	*1*
Phenol-d5 (Surr)	*79*		*33 - 122*	*06/15/16 10:33*	*06/21/16 17:29*	*1*
Terphenyl-d14 (Surr)	*80*		*54 - 127*	*06/15/16 10:33*	*06/21/16 17:29*	*1*

Client Sample ID: SC-TU008-MW004-S0507 — **Lab Sample ID: 280-84064-8**
Date Collected: 06/02/16 11:30 — **Matrix: Solid**
Date Received: 06/04/16 08:45 — **Percent Solids: 90.5**

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4,5-Tetrachlorobenzene	0.14	U	0.34	0.050	mg/Kg	☼	06/15/16 10:33	06/21/16 17:55	1
1,2,4-Trichlorobenzene	0.069	U	0.34	0.029	mg/Kg	☼	06/15/16 10:33	06/21/16 17:55	1
1,2-Dichlorobenzene	0.069	U	0.34	0.023	mg/Kg	☼	06/15/16 10:33	06/21/16 17:55	1
1,2-Diphenylhydrazine	0.069	U	0.34	0.023	mg/Kg	☼	06/15/16 10:33	06/21/16 17:55	1
1,3-Dichlorobenzene	0.034	U	0.34	0.012	mg/Kg	☼	06/15/16 10:33	06/21/16 17:55	1
1,4-Dichlorobenzene	0.034	U	0.34	0.014	mg/Kg	☼	06/15/16 10:33	06/21/16 17:55	1
2,2'-oxybis[1-chloropropane]	0.069	U	0.34	0.024	mg/Kg	☼	06/15/16 10:33	06/21/16 17:55	1
2,4,5-Trichlorophenol	0.034	U	0.34	0.010	mg/Kg	☼	06/15/16 10:33	06/21/16 17:55	1
2,4,6-Trichlorophenol	0.034	U	0.34	0.010	mg/Kg	☼	06/15/16 10:33	06/21/16 17:55	1
2,4-Dichlorophenol	0.034	U	0.34	0.010	mg/Kg	☼	06/15/16 10:33	06/21/16 17:55	1
2,4-Dimethylphenol	0.14	U	0.34	0.068	mg/Kg	☼	06/15/16 10:33	06/21/16 17:55	1
2,4-Dinitrophenol	1.0	U	1.6	0.34	mg/Kg	☼	06/15/16 10:33	06/21/16 17:55	1
2,4-Dinitrotoluene	0.14	U	0.34	0.068	mg/Kg	☼	06/15/16 10:33	06/21/16 17:55	1
2,6-Dichlorophenol	0.17	U	0.34	0.071	mg/Kg	☼	06/15/16 10:33	06/21/16 17:55	1
2,6-Dinitrotoluene	0.069	U	0.34	0.029	mg/Kg	☼	06/15/16 10:33	06/21/16 17:55	1
2-Chloronaphthalene	0.034	U	0.34	0.010	mg/Kg	☼	06/15/16 10:33	06/21/16 17:55	1
2-Chlorophenol	0.069	U	0.34	0.022	mg/Kg	☼	06/15/16 10:33	06/21/16 17:55	1
2-Methylnaphthalene	0.069	U	0.34	0.020	mg/Kg	☼	06/15/16 10:33	06/21/16 17:55	1

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

Client Sample ID: SC-TU008-MW004-S0507
Date Collected: 06/02/16 11:30
Date Received: 06/04/16 08:45

Lab Sample ID: 280-84064-8
Matrix: Solid
Percent Solids: 90.5

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
2-Methylphenol	0.034	U	0.34	0.013	mg/Kg	☼	06/15/16 10:33	06/21/16 17:55	1
3 & 4 Methylphenol	0.069	U	0.34	0.034	mg/Kg	☼	06/15/16 10:33	06/21/16 17:55	1
3,3'-Dichlorobenzidine	0.27	U	1.6	0.093	mg/Kg	☼	06/15/16 10:33	06/21/16 17:55	1
3-Nitroaniline	0.27	U	1.6	0.075	mg/Kg	☼	06/15/16 10:33	06/21/16 17:55	1
4,6-Dinitro-2-methylphenol	1.0	U	1.6	0.34	mg/Kg	☼	06/15/16 10:33	06/21/16 17:55	1
4-Chloroaniline	0.27	U	0.34	0.084	mg/Kg	☼	06/15/16 10:33	06/21/16 17:55	1
4-Chlorophenyl phenyl ether	0.069	U	0.34	0.022	mg/Kg	☼	06/15/16 10:33	06/21/16 17:55	1
4-Nitroaniline	0.27	U	1.6	0.075	mg/Kg	☼	06/15/16 10:33	06/21/16 17:55	1
4-Nitrophenol	0.27	U	1.6	0.10	mg/Kg	☼	06/15/16 10:33	06/21/16 17:55	1
Acenaphthene	0.034	U	0.34	0.011	mg/Kg	☼	06/15/16 10:33	06/21/16 17:55	1
Acenaphthylene	0.069	U	0.34	0.017	mg/Kg	☼	06/15/16 10:33	06/21/16 17:55	1
Anthracene	0.069	U	0.34	0.017	mg/Kg	☼	06/15/16 10:33	06/21/16 17:55	1
Benzidine	2.1	U	4.1	1.0	mg/Kg	☼	06/15/16 10:33	06/21/16 17:55	1
Benzo[a]anthracene	0.069	U	0.34	0.021	mg/Kg	☼	06/15/16 10:33	06/21/16 17:55	1
Benzo[a]pyrene	0.069	U	0.34	0.021	mg/Kg	☼	06/15/16 10:33	06/21/16 17:55	1
Benzo[b]fluoranthene	0.069	U	0.34	0.027	mg/Kg	☼	06/15/16 10:33	06/21/16 17:55	1
Benzo[g,h,i]perylene	0.034	U	0.34	0.016	mg/Kg	☼	06/15/16 10:33	06/21/16 17:55	1
Benzo[k]fluoranthene	0.14	U	0.34	0.041	mg/Kg	☼	06/15/16 10:33	06/21/16 17:55	1
Benzoic acid	1.0	U	1.6	0.34	mg/Kg	☼	06/15/16 10:33	06/21/16 17:55	1
Benzyl alcohol	0.034	U	0.34	0.010	mg/Kg	☼	06/15/16 10:33	06/21/16 17:55	1
Bis(2-chloroethoxy)methane	0.069	U	0.34	0.024	mg/Kg	☼	06/15/16 10:33	06/21/16 17:55	1
Bis(2-chloroethyl)ether	0.034	U	0.34	0.017	mg/Kg	☼	06/15/16 10:33	06/21/16 17:55	1
Bis(2-ethylhexyl) phthalate	0.14	U	0.34	0.047	mg/Kg	☼	06/15/16 10:33	06/21/16 17:55	1
Butyl benzyl phthalate	0.14	U	0.34	0.044	mg/Kg	☼	06/15/16 10:33	06/21/16 17:55	1
Carbazole	0.14	U	0.34	0.037	mg/Kg	☼	06/15/16 10:33	06/21/16 17:55	1
Chrysene	0.069	U	0.34	0.028	mg/Kg	☼	06/15/16 10:33	06/21/16 17:55	1
Dibenz(a,h)anthracene	0.069	U	0.34	0.020	mg/Kg	☼	06/15/16 10:33	06/21/16 17:55	1
Dibenzofuran	0.069	U	0.34	0.021	mg/Kg	☼	06/15/16 10:33	06/21/16 17:55	1
Diethyl phthalate	0.069	U	0.68	0.027	mg/Kg	☼	06/15/16 10:33	06/21/16 17:55	1
Dimethyl phthalate	0.069	U	0.34	0.024	mg/Kg	☼	06/15/16 10:33	06/21/16 17:55	1
Di-n-butyl phthalate	0.069	U	0.34	0.030	mg/Kg	☼	06/15/16 10:33	06/21/16 17:55	1
Di-n-octyl phthalate	0.068	U	0.34	0.015	mg/Kg	☼	06/15/16 10:33	06/21/16 17:55	1
Fluoranthene	0.14	U	0.34	0.037	mg/Kg	☼	06/15/16 10:33	06/21/16 17:55	1
Fluorene	0.069	U	0.34	0.019	mg/Kg	☼	06/15/16 10:33	06/21/16 17:55	1
Hexachlorobenzene	0.069	U	0.34	0.030	mg/Kg	☼	06/15/16 10:33	06/21/16 17:55	1
Hexachlorobutadiene	0.034	U	0.34	0.010	mg/Kg	☼	06/15/16 10:33	06/21/16 17:55	1
Hexachlorocyclopentadiene	0.14	U	1.7	0.051	mg/Kg	☼	06/15/16 10:33	06/21/16 17:55	1
Hexachloroethane	0.069	U	0.34	0.022	mg/Kg	☼	06/15/16 10:33	06/21/16 17:55	1
Indeno[1,2,3-cd]pyrene	0.069	U	0.34	0.023	mg/Kg	☼	06/15/16 10:33	06/21/16 17:55	1
Isophorone	0.069	U	0.34	0.017	mg/Kg	☼	06/15/16 10:33	06/21/16 17:55	1
Naphthalene	0.069	U	0.34	0.032	mg/Kg	☼	06/15/16 10:33	06/21/16 17:55	1
Nitrobenzene	0.069	U	0.34	0.023	mg/Kg	☼	06/15/16 10:33	06/21/16 17:55	1
N-Nitrosodimethylamine	0.14	U	0.54	0.038	mg/Kg	☼	06/15/16 10:33	06/21/16 17:55	1
N-Nitrosodi-n-propylamine	0.069	U	0.34	0.032	mg/Kg	☼	06/15/16 10:33	06/21/16 17:55	1
N-Nitrosodiphenylamine	0.069	U	0.34	0.022	mg/Kg	☼	06/15/16 10:33	06/21/16 17:55	1
N-Nitrosopyrrolidine	0.17	U	0.34	0.066	mg/Kg	☼	06/15/16 10:33	06/21/16 17:55	1
Pentachlorophenol	1.0	U	1.6	0.34	mg/Kg	☼	06/15/16 10:33	06/21/16 17:55	1
Phenanthrene	0.069	U	0.34	0.017	mg/Kg	☼	06/15/16 10:33	06/21/16 17:55	1
Phenol	0.069	U	0.34	0.019	mg/Kg	☼	06/15/16 10:33	06/21/16 17:55	1

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

Client Sample ID: SC-TU008-MW004-S0507 — **Lab Sample ID: 280-84064-8**
Date Collected: 06/02/16 11:30 — **Matrix: Solid**
Date Received: 06/04/16 08:45 — **Percent Solids: 90.5**

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Pyrene	0.034	U	0.41	0.012	mg/Kg	☼	06/15/16 10:33	06/21/16 17:55	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*76*		*39 - 132*	*06/15/16 10:33*	*06/21/16 17:55*	*1*
2-Fluorobiphenyl	*79*		*44 - 115*	*06/15/16 10:33*	*06/21/16 17:55*	*1*
2-Fluorophenol (Surr)	*84*		*35 - 115*	*06/15/16 10:33*	*06/21/16 17:55*	*1*
Nitrobenzene-d5 (Surr)	*79*		*37 - 122*	*06/15/16 10:33*	*06/21/16 17:55*	*1*
Phenol-d5 (Surr)	*84*		*33 - 122*	*06/15/16 10:33*	*06/21/16 17:55*	*1*
Terphenyl-d14 (Surr)	*91*		*54 - 127*	*06/15/16 10:33*	*06/21/16 17:55*	*1*

Client Sample ID: SC-TU008-MW004-S0305 — **Lab Sample ID: 280-84064-9**
Date Collected: 06/02/16 11:40 — **Matrix: Solid**
Date Received: 06/04/16 08:45 — **Percent Solids: 90.4**

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4,5-Tetrachlorobenzene	0.14	U	0.35	0.052	mg/Kg	☼	06/15/16 10:33	06/21/16 18:22	1
1,2,4-Trichlorobenzene	0.071	U	0.35	0.030	mg/Kg	☼	06/15/16 10:33	06/21/16 18:22	1
1,2-Dichlorobenzene	0.071	U	0.35	0.023	mg/Kg	☼	06/15/16 10:33	06/21/16 18:22	1
1,2-Diphenylhydrazine	0.071	U	0.35	0.023	mg/Kg	☼	06/15/16 10:33	06/21/16 18:22	1
1,3-Dichlorobenzene	0.035	U	0.35	0.013	mg/Kg	☼	06/15/16 10:33	06/21/16 18:22	1
1,4-Dichlorobenzene	0.035	U	0.35	0.014	mg/Kg	☼	06/15/16 10:33	06/21/16 18:22	1
2,2'-oxybis[1-chloropropane]	0.071	U	0.35	0.024	mg/Kg	☼	06/15/16 10:33	06/21/16 18:22	1
2,4,5-Trichlorophenol	0.035	U	0.35	0.011	mg/Kg	☼	06/15/16 10:33	06/21/16 18:22	1
2,4,6-Trichlorophenol	0.035	U	0.35	0.011	mg/Kg	☼	06/15/16 10:33	06/21/16 18:22	1
2,4-Dichlorophenol	0.035	U	0.35	0.011	mg/Kg	☼	06/15/16 10:33	06/21/16 18:22	1
2,4-Dimethylphenol	0.14	U	0.35	0.070	mg/Kg	☼	06/15/16 10:33	06/21/16 18:22	1
2,4-Dinitrophenol	1.1	U	1.7	0.35	mg/Kg	☼	06/15/16 10:33	06/21/16 18:22	1
2,4-Dinitrotoluene	0.14	U	0.35	0.070	mg/Kg	☼	06/15/16 10:33	06/21/16 18:22	1
2,6-Dichlorophenol	0.18	U	0.35	0.073	mg/Kg	☼	06/15/16 10:33	06/21/16 18:22	1
2,6-Dinitrotoluene	0.071	U	0.35	0.030	mg/Kg	☼	06/15/16 10:33	06/21/16 18:22	1
2-Chloronaphthalene	0.035	U	0.35	0.011	mg/Kg	☼	06/15/16 10:33	06/21/16 18:22	1
2-Chlorophenol	0.071	U	0.35	0.022	mg/Kg	☼	06/15/16 10:33	06/21/16 18:22	1
2-Methylnaphthalene	0.071	U	0.35	0.020	mg/Kg	☼	06/15/16 10:33	06/21/16 18:22	1
2-Methylphenol	0.035	U	0.35	0.014	mg/Kg	☼	06/15/16 10:33	06/21/16 18:22	1
3 & 4 Methylphenol	0.071	U	0.35	0.035	mg/Kg	☼	06/15/16 10:33	06/21/16 18:22	1
3,3'-Dichlorobenzidine	0.28	U	1.7	0.095	mg/Kg	☼	06/15/16 10:33	06/21/16 18:22	1
3-Nitroaniline	0.28	U	1.7	0.077	mg/Kg	☼	06/15/16 10:33	06/21/16 18:22	1
4,6-Dinitro-2-methylphenol	1.1	U	1.7	0.35	mg/Kg	☼	06/15/16 10:33	06/21/16 18:22	1
4-Chloroaniline	0.28	U	0.35	0.087	mg/Kg	☼	06/15/16 10:33	06/21/16 18:22	1
4-Chlorophenyl phenyl ether	0.071	U	0.35	0.022	mg/Kg	☼	06/15/16 10:33	06/21/16 18:22	1
4-Nitroaniline	0.28	U	1.7	0.077	mg/Kg	☼	06/15/16 10:33	06/21/16 18:22	1
4-Nitrophenol	0.28	U	1.7	0.10	mg/Kg	☼	06/15/16 10:33	06/21/16 18:22	1
Acenaphthene	0.035	U	0.35	0.011	mg/Kg	☼	06/15/16 10:33	06/21/16 18:22	1
Acenaphthylene	0.071	U	0.35	0.018	mg/Kg	☼	06/15/16 10:33	06/21/16 18:22	1
Anthracene	0.071	U	0.35	0.018	mg/Kg	☼	06/15/16 10:33	06/21/16 18:22	1
Benzidine	2.1	U	4.2	1.0	mg/Kg	☼	06/15/16 10:33	06/21/16 18:22	1
Benzo[a]anthracene	0.071	U	0.35	0.021	mg/Kg	☼	06/15/16 10:33	06/21/16 18:22	1
Benzo[a]pyrene	0.071	U	0.35	0.021	mg/Kg	☼	06/15/16 10:33	06/21/16 18:22	1
Benzo[b]fluoranthene	0.071	U	0.35	0.028	mg/Kg	☼	06/15/16 10:33	06/21/16 18:22	1
Benzo[g,h,i]perylene	0.035	U	0.35	0.017	mg/Kg	☼	06/15/16 10:33	06/21/16 18:22	1
Benzo[k]fluoranthene	0.14	U	0.35	0.042	mg/Kg	☼	06/15/16 10:33	06/21/16 18:22	1

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

Client Sample ID: SC-TU008-MW004-S0305
Date Collected: 06/02/16 11:40
Date Received: 06/04/16 08:45

Lab Sample ID: 280-84064-9
Matrix: Solid
Percent Solids: 90.4

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Benzoic acid	1.1	U	1.7	0.35	mg/Kg	☼	06/15/16 10:33	06/21/16 18:22	1
Benzyl alcohol	0.035	U	0.35	0.011	mg/Kg	☼	06/15/16 10:33	06/21/16 18:22	1
Bis(2-chloroethoxy)methane	0.071	U	0.35	0.024	mg/Kg	☼	06/15/16 10:33	06/21/16 18:22	1
Bis(2-chloroethyl)ether	0.035	U	0.35	0.018	mg/Kg	☼	06/15/16 10:33	06/21/16 18:22	1
Bis(2-ethylhexyl) phthalate	0.14	U	0.35	0.049	mg/Kg	☼	06/15/16 10:33	06/21/16 18:22	1
Butyl benzyl phthalate	0.14	U	0.35	0.045	mg/Kg	☼	06/15/16 10:33	06/21/16 18:22	1
Carbazole	0.14	U	0.35	0.038	mg/Kg	☼	06/15/16 10:33	06/21/16 18:22	1
Chrysene	0.071	U	0.35	0.029	mg/Kg	☼	06/15/16 10:33	06/21/16 18:22	1
Dibenz(a,h)anthracene	0.071	U	0.35	0.020	mg/Kg	☼	06/15/16 10:33	06/21/16 18:22	1
Dibenzofuran	0.071	U	0.35	0.021	mg/Kg	☼	06/15/16 10:33	06/21/16 18:22	1
Diethyl phthalate	0.071	U	0.70	0.027	mg/Kg	☼	06/15/16 10:33	06/21/16 18:22	1
Dimethyl phthalate	0.071	U	0.35	0.024	mg/Kg	☼	06/15/16 10:33	06/21/16 18:22	1
Di-n-butyl phthalate	0.071	U	0.35	0.031	mg/Kg	☼	06/15/16 10:33	06/21/16 18:22	1
Di-n-octyl phthalate	0.070	U	0.35	0.015	mg/Kg	☼	06/15/16 10:33	06/21/16 18:22	1
Fluoranthene	0.14	U	0.35	0.038	mg/Kg	☼	06/15/16 10:33	06/21/16 18:22	1
Fluorene	0.071	U	0.35	0.019	mg/Kg	☼	06/15/16 10:33	06/21/16 18:22	1
Hexachlorobenzene	0.071	U	0.35	0.031	mg/Kg	☼	06/15/16 10:33	06/21/16 18:22	1
Hexachlorobutadiene	0.035	U	0.35	0.011	mg/Kg	☼	06/15/16 10:33	06/21/16 18:22	1
Hexachlorocyclopentadiene	0.14	U	1.8	0.053	mg/Kg	☼	06/15/16 10:33	06/21/16 18:22	1
Hexachloroethane	0.071	U	0.35	0.023	mg/Kg	☼	06/15/16 10:33	06/21/16 18:22	1
Indeno[1,2,3-cd]pyrene	0.071	U	0.35	0.023	mg/Kg	☼	06/15/16 10:33	06/21/16 18:22	1
Isophorone	0.071	U	0.35	0.018	mg/Kg	☼	06/15/16 10:33	06/21/16 18:22	1
Naphthalene	0.071	U	0.35	0.033	mg/Kg	☼	06/15/16 10:33	06/21/16 18:22	1
Nitrobenzene	0.071	U	0.35	0.023	mg/Kg	☼	06/15/16 10:33	06/21/16 18:22	1
N-Nitrosodimethylamine	0.14	U	0.55	0.039	mg/Kg	☼	06/15/16 10:33	06/21/16 18:22	1
N-Nitrosodi-n-propylamine	0.071	U	0.35	0.033	mg/Kg	☼	06/15/16 10:33	06/21/16 18:22	1
N-Nitrosodiphenylamine	0.071	U	0.35	0.022	mg/Kg	☼	06/15/16 10:33	06/21/16 18:22	1
N-Nitrosopyrrolidine	0.18	U	0.35	0.068	mg/Kg	☼	06/15/16 10:33	06/21/16 18:22	1
Pentachlorophenol	1.1	U	1.7	0.35	mg/Kg	☼	06/15/16 10:33	06/21/16 18:22	1
Phenanthrene	0.071	U	0.35	0.018	mg/Kg	☼	06/15/16 10:33	06/21/16 18:22	1
Phenol	0.071	U	0.35	0.019	mg/Kg	☼	06/15/16 10:33	06/21/16 18:22	1
Pyrene	0.035	U	0.42	0.013	mg/Kg	☼	06/15/16 10:33	06/21/16 18:22	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*73*		*39 - 132*	*06/15/16 10:33*	*06/21/16 18:22*	*1*
2-Fluorobiphenyl	*77*		*44 - 115*	*06/15/16 10:33*	*06/21/16 18:22*	*1*
2-Fluorophenol (Surr)	*80*		*35 - 115*	*06/15/16 10:33*	*06/21/16 18:22*	*1*
Nitrobenzene-d5 (Surr)	*76*		*37 - 122*	*06/15/16 10:33*	*06/21/16 18:22*	*1*
Phenol-d5 (Surr)	*80*		*33 - 122*	*06/15/16 10:33*	*06/21/16 18:22*	*1*
Terphenyl-d14 (Surr)	*85*		*54 - 127*	*06/15/16 10:33*	*06/21/16 18:22*	*1*

Default Detection Limits

Client: Weston Solutions, Inc.
Project/Site: Schenectady ANGB, TU008

TestAmerica Job ID: 280-84064-1

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

Analyte	LOQ	DL	Units	Method
1,1,1-Trichloroethane	5.0	0.29	ug/L	8260C DOD
1,1,2,2-Tetrachloroethane	5.0	0.43	ug/L	8260C DOD
1,1,2-Trichloro-1,2,2-trifluoroethane	5.0	0.25	ug/L	8260C DOD
1,1,2-Trichloroethane	5.0	0.57	ug/L	8260C DOD
1,1-Dichloroethane	5.0	0.39	ug/L	8260C DOD
1,1-Dichloroethene	5.0	0.37	ug/L	8260C DOD
1,2,3-Trichlorobenzene	5.0	0.65	ug/L	8260C DOD
1,2,4-Trichlorobenzene	5.0	0.55	ug/L	8260C DOD
1,2,4-Trimethylbenzene	5.0	0.40	ug/L	8260C DOD
1,2-Dibromo-3-Chloropropane	10	1.2	ug/L	8260C DOD
1,2-Dibromoethane	5.0	0.44	ug/L	8260C DOD
1,2-Dichlorobenzene	5.0	0.28	ug/L	8260C DOD
1,2-Dichloroethane	5.0	0.37	ug/L	8260C DOD
1,2-Dichloroethene, Total	10	0.24	ug/L	8260C DOD
1,2-Dichloropropane	5.0	0.32	ug/L	8260C DOD
1,3,5-Trimethylbenzene	5.0	0.28	ug/L	8260C DOD
1,3-Dichlorobenzene	5.0	0.23	ug/L	8260C DOD
1,4-Dichlorobenzene	5.0	0.35	ug/L	8260C DOD
2-Butanone (MEK)	20	0.39	ug/L	8260C DOD
2-Hexanone	20	0.59	ug/L	8260C DOD
4-Methyl-2-pentanone (MIBK)	20	0.33	ug/L	8260C DOD
Acetone	20	6.7	ug/L	8260C DOD
Benzene	5.0	0.25	ug/L	8260C DOD
Bromobenzene	5.0	0.33	ug/L	8260C DOD
Bromodichloromethane	5.0	0.25	ug/L	8260C DOD
Bromoform	5.0	0.37	ug/L	8260C DOD
Bromomethane	10	0.40	ug/L	8260C DOD
Carbon disulfide	5.0	0.37	ug/L	8260C DOD
Carbon tetrachloride	5.0	0.36	ug/L	8260C DOD
Chlorobenzene	5.0	0.38	ug/L	8260C DOD
Chloroethane	10	0.38	ug/L	8260C DOD
Chloroform	5.0	0.15	ug/L	8260C DOD
Chloromethane	10	0.55	ug/L	8260C DOD
cis-1,2-Dichloroethene	5.0	0.16	ug/L	8260C DOD
cis-1,3-Dichloropropene	5.0	0.34	ug/L	8260C DOD
Cyclohexane	10	0.36	ug/L	8260C DOD
Dibromochloromethane	5.0	0.33	ug/L	8260C DOD
Dichlorodifluoromethane	10	0.45	ug/L	8260C DOD
Ethylbenzene	5.0	0.30	ug/L	8260C DOD
Isopropylbenzene	5.0	0.26	ug/L	8260C DOD
Methyl acetate	25	2.3	ug/L	8260C DOD
Methyl tert-butyl ether	5.0	0.40	ug/L	8260C DOD
Methylcyclohexane	10	0.26	ug/L	8260C DOD
Methylene Chloride	7.5	1.7	ug/L	8260C DOD
m-Xylene & p-Xylene	5.0	0.57	ug/L	8260C DOD
Naphthalene	5.0	0.85	ug/L	8260C DOD
n-Butylbenzene	5.0	0.23	ug/L	8260C DOD
N-Propylbenzene	5.0	0.30	ug/L	8260C DOD
o-Xylene	5.0	0.32	ug/L	8260C DOD
sec-Butylbenzene	5.0	0.31	ug/L	8260C DOD
Styrene	5.0	0.35	ug/L	8260C DOD
tert-Butylbenzene	5.0	0.31	ug/L	8260C DOD

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

Analyte	LOQ	DL	Units	Method
Tetrachloroethene	5.0	0.28	ug/L	8260C DOD
Toluene	5.0	1.0	ug/L	8260C DOD
trans-1,2-Dichloroethene	5.0	0.18	ug/L	8260C DOD
trans-1,3-Dichloropropene	5.0	0.35	ug/L	8260C DOD
Trichloroethene	5.0	0.29	ug/L	8260C DOD
Trichlorofluoromethane	5.0	0.22	ug/L	8260C DOD
Vinyl chloride	5.0	0.43	ug/L	8260C DOD
Xylenes, Total	10	0.85	ug/L	8260C DOD

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

Prep: 5035

Analyte	LOQ	DL	Units	Method
1,1,1-Trichloroethane	5.0	0.43	ug/Kg	8260C DOD
1,1,2,2-Tetrachloroethane	5.0	0.40	ug/Kg	8260C DOD
1,1,2-Trichloro-1,2,2-trifluoroethane	5.0	1.7	ug/Kg	8260C DOD
1,1,2-Trichloroethane	5.0	0.57	ug/Kg	8260C DOD
1,1-Dichloroethane	5.0	0.39	ug/Kg	8260C DOD
1,1-Dichloroethene	5.0	1.6	ug/Kg	8260C DOD
1,2,3-Trichlorobenzene	5.0	0.44	ug/Kg	8260C DOD
1,2,4-Trichlorobenzene	5.0	0.43	ug/Kg	8260C DOD
1,2,4-Trimethylbenzene	5.0	0.60	ug/Kg	8260C DOD
1,2-Dibromo-3-Chloropropane	10	1.5	ug/Kg	8260C DOD
1,2-Dibromoethane	5.0	0.70	ug/Kg	8260C DOD
1,2-Dichlorobenzene	5.0	0.28	ug/Kg	8260C DOD
1,2-Dichloroethane	5.0	0.87	ug/Kg	8260C DOD
1,2-Dichloroethene, Total	10	0.96	ug/Kg	8260C DOD
1,2-Dichloropropane	5.0	0.38	ug/Kg	8260C DOD
1,3,5-Trimethylbenzene	5.0	0.31	ug/Kg	8260C DOD
1,3-Dichlorobenzene	5.0	0.28	ug/Kg	8260C DOD
1,4-Dichlorobenzene	5.0	0.60	ug/Kg	8260C DOD
2-Butanone (MEK)	20	1.9	ug/Kg	8260C DOD
2-Hexanone	20	1.8	ug/Kg	8260C DOD
4-Methyl-2-pentanone (MIBK)	20	0.73	ug/Kg	8260C DOD
Acetone	20	6.5	ug/Kg	8260C DOD
Benzene	5.0	0.25	ug/Kg	8260C DOD
Bromobenzene	5.0	0.37	ug/Kg	8260C DOD
Bromodichloromethane	5.0	0.25	ug/Kg	8260C DOD
Bromoform	5.0	0.37	ug/Kg	8260C DOD
Bromomethane	10	1.1	ug/Kg	8260C DOD
Carbon disulfide	5.0	0.69	ug/Kg	8260C DOD
Carbon tetrachloride	5.0	0.51	ug/Kg	8260C DOD
Chlorobenzene	5.0	0.38	ug/Kg	8260C DOD
Chloroethane	10	0.52	ug/Kg	8260C DOD
Chloroform	5.0	0.38	ug/Kg	8260C DOD
Chloromethane	10	0.65	ug/Kg	8260C DOD
cis-1,2-Dichloroethene	5.0	0.60	ug/Kg	8260C DOD
cis-1,3-Dichloropropene	5.0	0.60	ug/Kg	8260C DOD
Cyclohexane	10	0.36	ug/Kg	8260C DOD
Dibromochloromethane	5.0	0.41	ug/Kg	8260C DOD
Dichlorodifluoromethane	10	1.3	ug/Kg	8260C DOD
Ethylbenzene	5.0	0.30	ug/Kg	8260C DOD

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

Prep: 5035

Analyte	LOQ	DL	Units	Method
Isopropylbenzene	5.0	0.26	ug/Kg	8260C DOD
Methyl acetate	25	1.4	ug/Kg	8260C DOD
Methyl tert-butyl ether	5.0	0.48	ug/Kg	8260C DOD
Methylcyclohexane	10	0.26	ug/Kg	8260C DOD
Methylene Chloride	10	1.6	ug/Kg	8260C DOD
m-Xylene & p-Xylene	5.0	0.57	ug/Kg	8260C DOD
Naphthalene	5.0	0.49	ug/Kg	8260C DOD
n-Butylbenzene	5.0	0.60	ug/Kg	8260C DOD
N-Propylbenzene	5.0	0.32	ug/Kg	8260C DOD
o-Xylene	5.0	0.34	ug/Kg	8260C DOD
sec-Butylbenzene	5.0	0.31	ug/Kg	8260C DOD
Styrene	5.0	0.35	ug/Kg	8260C DOD
tert-Butylbenzene	5.0	0.31	ug/Kg	8260C DOD
Tetrachloroethene	5.0	0.32	ug/Kg	8260C DOD
Toluene	5.0	0.70	ug/Kg	8260C DOD
trans-1,2-Dichloroethene	5.0	0.94	ug/Kg	8260C DOD
trans-1,3-Dichloropropene	5.0	0.35	ug/Kg	8260C DOD
Trichloroethene	5.0	0.39	ug/Kg	8260C DOD
Trichlorofluoromethane	5.0	0.50	ug/Kg	8260C DOD
Vinyl chloride	10	0.43	ug/Kg	8260C DOD
Xylenes, Total	10	0.85	ug/Kg	8260C DOD

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

Prep: 3550C

Analyte	LOQ	DL	Units	Method
1,2,4,5-Tetrachlorobenzene	0.33	0.049	mg/Kg	8270D
1,2,4-Trichlorobenzene	0.33	0.028	mg/Kg	8270D
1,2-Dichlorobenzene	0.33	0.022	mg/Kg	8270D
1,2-Diphenylhydrazine	0.33	0.022	mg/Kg	8270D
1,3-Dichlorobenzene	0.33	0.012	mg/Kg	8270D
1,4-Dichlorobenzene	0.33	0.014	mg/Kg	8270D
2,2'-oxybis[1-chloropropane]	0.33	0.023	mg/Kg	8270D
2,4,5-Trichlorophenol	0.33	0.010	mg/Kg	8270D
2,4,6-Trichlorophenol	0.33	0.010	mg/Kg	8270D
2,4-Dichlorophenol	0.33	0.010	mg/Kg	8270D
2,4-Dimethylphenol	0.33	0.066	mg/Kg	8270D
2,4-Dinitrophenol	1.6	0.33	mg/Kg	8270D
2,4-Dinitrotoluene	0.33	0.066	mg/Kg	8270D
2,6-Dichlorophenol	0.33	0.069	mg/Kg	8270D
2,6-Dinitrotoluene	0.33	0.028	mg/Kg	8270D
2-Chloronaphthalene	0.33	0.010	mg/Kg	8270D
2-Chlorophenol	0.33	0.021	mg/Kg	8270D
2-Methylnaphthalene	0.33	0.019	mg/Kg	8270D
2-Methylphenol	0.33	0.013	mg/Kg	8270D
3 & 4 Methylphenol	0.33	0.033	mg/Kg	8270D
3,3'-Dichlorobenzidine	1.6	0.090	mg/Kg	8270D
3-Nitroaniline	1.6	0.073	mg/Kg	8270D
4,6-Dinitro-2-methylphenol	1.6	0.33	mg/Kg	8270D
4-Chloroaniline	0.33	0.082	mg/Kg	8270D
4-Chlorophenyl phenyl ether	0.33	0.021	mg/Kg	8270D

Default Detection Limits

Client: Weston Solutions, Inc.
Project/Site: Schenectady ANGB, TU008

TestAmerica Job ID: 280-84064-1

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

Prep: 3550C

Analyte	LOQ	DL	Units	Method
4-Nitroaniline	1.6	0.073	mg/Kg	8270D
4-Nitrophenol	1.6	0.097	mg/Kg	8270D
Acenaphthene	0.33	0.010	mg/Kg	8270D
Acenaphthylene	0.33	0.017	mg/Kg	8270D
Anthracene	0.33	0.017	mg/Kg	8270D
Benzidine	4.0	0.99	mg/Kg	8270D
Benzo[a]anthracene	0.33	0.020	mg/Kg	8270D
Benzo[a]pyrene	0.33	0.020	mg/Kg	8270D
Benzo[b]fluoranthene	0.33	0.026	mg/Kg	8270D
Benzo[g,h,i]perylene	0.33	0.016	mg/Kg	8270D
Benzo[k]fluoranthene	0.33	0.040	mg/Kg	8270D
Benzoic acid	1.6	0.33	mg/Kg	8270D
Benzyl alcohol	0.33	0.010	mg/Kg	8270D
Bis(2-chloroethoxy)methane	0.33	0.023	mg/Kg	8270D
Bis(2-chloroethyl)ether	0.33	0.017	mg/Kg	8270D
Bis(2-ethylhexyl) phthalate	0.33	0.046	mg/Kg	8270D
Butyl benzyl phthalate	0.33	0.043	mg/Kg	8270D
Carbazole	0.33	0.036	mg/Kg	8270D
Chrysene	0.33	0.027	mg/Kg	8270D
Dibenz(a,h)anthracene	0.33	0.019	mg/Kg	8270D
Dibenzofuran	0.33	0.020	mg/Kg	8270D
Diethyl phthalate	0.66	0.026	mg/Kg	8270D
Dimethyl phthalate	0.33	0.023	mg/Kg	8270D
Di-n-butyl phthalate	0.33	0.029	mg/Kg	8270D
Di-n-octyl phthalate	0.33	0.014	mg/Kg	8270D
Fluoranthene	0.33	0.036	mg/Kg	8270D
Fluorene	0.33	0.018	mg/Kg	8270D
Hexachlorobenzene	0.33	0.029	mg/Kg	8270D
Hexachlorobutadiene	0.33	0.010	mg/Kg	8270D
Hexachlorocyclopentadiene	1.7	0.050	mg/Kg	8270D
Hexachloroethane	0.33	0.021	mg/Kg	8270D
Indeno[1,2,3-cd]pyrene	0.33	0.022	mg/Kg	8270D
Isophorone	0.33	0.017	mg/Kg	8270D
Naphthalene	0.33	0.031	mg/Kg	8270D
Nitrobenzene	0.33	0.022	mg/Kg	8270D
N-Nitrosodimethylamine	0.52	0.037	mg/Kg	8270D
N-Nitrosodi-n-propylamine	0.33	0.031	mg/Kg	8270D
N-Nitrosodiphenylamine	0.33	0.021	mg/Kg	8270D
N-Nitrosopyrrolidine	0.33	0.064	mg/Kg	8270D
Pentachlorophenol	1.6	0.33	mg/Kg	8270D
Phenanthrene	0.33	0.017	mg/Kg	8270D
Phenol	0.33	0.018	mg/Kg	8270D
Pyrene	0.40	0.012	mg/Kg	8270D

Surrogate Summary

Client: Weston Solutions, Inc.
Project/Site: Schenectady ANGB, TU008

TestAmerica Job ID: 280-84064-1

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

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

		Percent Surrogate Recovery (Acceptance Limits)			
		BFB	DBFM	12DCE	TOL
Lab Sample ID	Client Sample ID	(79-119)	(78-119)	(71-136)	(85-116)
280-84064-1	SC-TU008-MW001-S0002	143 Q	106	117	109
280-84064-2	SC-TU008-MW001-S1012	120 Q	108	116	109
280-84064-3	SC-TU008-MW002-S0406	245 Q	109	131	105
280-84064-4	SC-TU008-MW002-S0406-D	249 Q	102	103	121 Q
280-84064-5	SC-TU008-MW002-S0002	121 Q	100	100	104
280-84064-6	SC-TU008-MW003-S0204	125 Q	115	124	109
280-84064-7	SC-TU008-MW003-S0405	204 Q	103	113	110
280-84064-8	SC-TU008-MW004-S0507	123 Q	114	114	111
280-84064-9	SC-TU008-MW004-S0305	126 Q	104	111	105
LCS 160-256112/2-A	Lab Control Sample	100	97	95	101
LCSD 160-256112/3-A	Lab Control Sample Dup	105	98	98	101
MB 160-256112/1-A	Method Blank	111	99	101	102

Surrogate Legend

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

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

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

		Percent Surrogate Recovery (Acceptance Limits)			
		BFB	12DCE	DBFM	TOL
Lab Sample ID	Client Sample ID				
280-84064-2 MSD	SC-TU008-MW001-S1012				

Surrogate Legend

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

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

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

		Percent Surrogate Recovery (Acceptance Limits)			
		12DCE	BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(81-118)	(85-114)	(80-119)	(89-112)
280-84064-10	SC-TU008-TB060316	92	116 Q	99	110
LCS 160-256397/6	Lab Control Sample	93	107	103	105
LCSD 160-256397/7	Lab Control Sample Dup	88	107	100	101
MB 160-256397/9	Method Blank	90	115 Q	98	109

Surrogate Legend

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

Surrogate Summary

Client: Weston Solutions, Inc.
Project/Site: Schenectady ANGB, TU008

TestAmerica Job ID: 280-84064-1

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

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

		Percent Surrogate Recovery (Acceptance Limits)					
		TBP	FBP	2FP	NBZ	PHL	TPH
Lab Sample ID	Client Sample ID	(39-132)	(44-115)	(35-115)	(37-122)	(33-122)	(54-127)
280-84064-1	SC-TU008-MW001-S0002	84	75	68	64	70	83
280-84064-2	SC-TU008-MW001-S1012	83	76	76	73	79	84
280-84064-2 MS	SC-TU008-MW001-S1012	83	72	73	70	72	81
280-84064-2 MSD	SC-TU008-MW001-S1012	85	75	73	71	74	83
280-84064-3	SC-TU008-MW002-S0406	100	81	79	93	79	77
280-84064-4	SC-TU008-MW002-S0406-D	98	80	77	92	77	77
280-84064-5	SC-TU008-MW002-S0002	22 Q	81	74	78	81	90
280-84064-6	SC-TU008-MW003-S0204	73	75	81	74	80	85
280-84064-7	SC-TU008-MW003-S0405	77	79	79	76	79	80
280-84064-8	SC-TU008-MW004-S0507	76	79	84	79	84	91
280-84064-9	SC-TU008-MW004-S0305	73	77	80	76	80	85
LCS 280-329894/2-A	Lab Control Sample	90	80	78	76	79	85
MB 280-329894/1-A	Method Blank	73	76	75	73	76	88

Surrogate Legend

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

QC Association Summary

Client: Weston Solutions, Inc.
Project/Site: Schenectady ANGB, TU008

TestAmerica Job ID: 280-84064-1

GC/MS VOA

Analysis Batch: 256107

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-84064-1	SC-TU008-MW001-S0002	Total/NA	Solid	8260C DOD	256112
280-84064-2	SC-TU008-MW001-S1012	Total/NA	Solid	8260C DOD	256112
280-84064-3	SC-TU008-MW002-S0406	Total/NA	Solid	8260C DOD	256112
280-84064-4	SC-TU008-MW002-S0406-D	Total/NA	Solid	8260C DOD	256112
280-84064-5	SC-TU008-MW002-S0002	Total/NA	Solid	8260C DOD	256112
280-84064-6	SC-TU008-MW003-S0204	Total/NA	Solid	8260C DOD	256112
280-84064-7	SC-TU008-MW003-S0405	Total/NA	Solid	8260C DOD	256112
280-84064-8	SC-TU008-MW004-S0507	Total/NA	Solid	8260C DOD	256112
280-84064-9	SC-TU008-MW004-S0305	Total/NA	Solid	8260C DOD	256112
MB 160-256112/1-A	Method Blank	Total/NA	Solid	8260C DOD	256112
LCS 160-256112/2-A	Lab Control Sample	Total/NA	Solid	8260C DOD	256112
LCSD 160-256112/3-A	Lab Control Sample Dup	Total/NA	Solid	8260C DOD	256112
280-84064-2 MSD	SC-TU008-MW001-S1012	Total/NA	Solid	8260C DOD	256112

Prep Batch: 256112

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-84064-1	SC-TU008-MW001-S0002	Total/NA	Solid	5035	
280-84064-2	SC-TU008-MW001-S1012	Total/NA	Solid	5035	
280-84064-3	SC-TU008-MW002-S0406	Total/NA	Solid	5035	
280-84064-4	SC-TU008-MW002-S0406-D	Total/NA	Solid	5035	
280-84064-5	SC-TU008-MW002-S0002	Total/NA	Solid	5035	
280-84064-6	SC-TU008-MW003-S0204	Total/NA	Solid	5035	
280-84064-7	SC-TU008-MW003-S0405	Total/NA	Solid	5035	
280-84064-8	SC-TU008-MW004-S0507	Total/NA	Solid	5035	
280-84064-9	SC-TU008-MW004-S0305	Total/NA	Solid	5035	
MB 160-256112/1-A	Method Blank	Total/NA	Solid	5035	
LCS 160-256112/2-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 160-256112/3-A	Lab Control Sample Dup	Total/NA	Solid	5035	
280-84064-2 MSD	SC-TU008-MW001-S1012	Total/NA	Solid	5035	

Analysis Batch: 256397

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-84064-10	SC-TU008-TB060316	Total/NA	Water	8260C DOD	
MB 160-256397/9	Method Blank	Total/NA	Water	8260C DOD	
LCS 160-256397/6	Lab Control Sample	Total/NA	Water	8260C DOD	
LCSD 160-256397/7	Lab Control Sample Dup	Total/NA	Water	8260C DOD	

GC/MS Semi VOA

Prep Batch: 329894

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-84064-1	SC-TU008-MW001-S0002	Total/NA	Solid	3550C	
280-84064-2	SC-TU008-MW001-S1012	Total/NA	Solid	3550C	
280-84064-3	SC-TU008-MW002-S0406	Total/NA	Solid	3550C	
280-84064-4	SC-TU008-MW002-S0406-D	Total/NA	Solid	3550C	
280-84064-5	SC-TU008-MW002-S0002	Total/NA	Solid	3550C	
280-84064-6	SC-TU008-MW003-S0204	Total/NA	Solid	3550C	
280-84064-7	SC-TU008-MW003-S0405	Total/NA	Solid	3550C	
280-84064-8	SC-TU008-MW004-S0507	Total/NA	Solid	3550C	
280-84064-9	SC-TU008-MW004-S0305	Total/NA	Solid	3550C	

GC/MS Semi VOA (Continued)

Prep Batch: 329894 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 280-329894/1-A	Method Blank	Total/NA	Solid	3550C	
LCS 280-329894/2-A	Lab Control Sample	Total/NA	Solid	3550C	
280-84064-2 MS	SC-TU008-MW001-S1012	Total/NA	Solid	3550C	
280-84064-2 MSD	SC-TU008-MW001-S1012	Total/NA	Solid	3550C	

Analysis Batch: 330552

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-84064-1	SC-TU008-MW001-S0002	Total/NA	Solid	8270D	329894
280-84064-2	SC-TU008-MW001-S1012	Total/NA	Solid	8270D	329894
280-84064-3	SC-TU008-MW002-S0406	Total/NA	Solid	8270D	329894
280-84064-4	SC-TU008-MW002-S0406-D	Total/NA	Solid	8270D	329894
MB 280-329894/1-A	Method Blank	Total/NA	Solid	8270D	329894
LCS 280-329894/2-A	Lab Control Sample	Total/NA	Solid	8270D	329894
280-84064-2 MS	SC-TU008-MW001-S1012	Total/NA	Solid	8270D	329894
280-84064-2 MSD	SC-TU008-MW001-S1012	Total/NA	Solid	8270D	329894

Analysis Batch: 330730

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-84064-5	SC-TU008-MW002-S0002	Total/NA	Solid	8270D	329894
280-84064-6	SC-TU008-MW003-S0204	Total/NA	Solid	8270D	329894
280-84064-7	SC-TU008-MW003-S0405	Total/NA	Solid	8270D	329894
280-84064-8	SC-TU008-MW004-S0507	Total/NA	Solid	8270D	329894
280-84064-9	SC-TU008-MW004-S0305	Total/NA	Solid	8270D	329894

General Chemistry

Analysis Batch: 328954

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-84064-1	SC-TU008-MW001-S0002	Total/NA	Solid	Moisture	
280-84064-3	SC-TU008-MW002-S0406	Total/NA	Solid	Moisture	
280-84064-4	SC-TU008-MW002-S0406-D	Total/NA	Solid	Moisture	
280-84064-5	SC-TU008-MW002-S0002	Total/NA	Solid	Moisture	
280-84064-6	SC-TU008-MW003-S0204	Total/NA	Solid	Moisture	
280-84064-7	SC-TU008-MW003-S0405	Total/NA	Solid	Moisture	
280-84064-8	SC-TU008-MW004-S0507	Total/NA	Solid	Moisture	
280-84064-9	SC-TU008-MW004-S0305	Total/NA	Solid	Moisture	
280-84064-7 DU	SC-TU008-MW003-S0405	Total/NA	Solid	Moisture	

Analysis Batch: 329551

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-84064-2	SC-TU008-MW001-S1012	Total/NA	Solid	Moisture	

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

Lab Sample ID: MB 160-256112/1-A
Matrix: Solid
Analysis Batch: 256107

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 256112

Analyte	MB Result	MB Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromo-3-Chloropropane	5.0	U	10	1.5	ug/Kg		06/13/16 10:01	06/13/16 11:23	1
1,2-Dibromoethane	1.0	U	5.0	0.70	ug/Kg		06/13/16 10:01	06/13/16 11:23	1
2-Butanone (MEK)	5.0	U	20	1.9	ug/Kg		06/13/16 10:01	06/13/16 11:23	1
1,2-Dichlorobenzene	1.0	U	5.0	0.28	ug/Kg		06/13/16 10:01	06/13/16 11:23	1
1,3-Dichlorobenzene	1.0	U	5.0	0.28	ug/Kg		06/13/16 10:01	06/13/16 11:23	1
1,4-Dichlorobenzene	1.0	U	5.0	0.60	ug/Kg		06/13/16 10:01	06/13/16 11:23	1
Acetone	10	U	20	6.5	ug/Kg		06/13/16 10:01	06/13/16 11:23	1
Benzene	1.0	U	5.0	0.25	ug/Kg		06/13/16 10:01	06/13/16 11:23	1
1,1-Dichloroethane	1.0	U	5.0	0.39	ug/Kg		06/13/16 10:01	06/13/16 11:23	1
Bromobenzene	1.0	U	5.0	0.37	ug/Kg		06/13/16 10:01	06/13/16 11:23	1
1,2-Dichloroethane	1.0	U	5.0	0.87	ug/Kg		06/13/16 10:01	06/13/16 11:23	1
Bromodichloromethane	1.0	U	5.0	0.25	ug/Kg		06/13/16 10:01	06/13/16 11:23	1
Bromoform	1.0	U	5.0	0.37	ug/Kg		06/13/16 10:01	06/13/16 11:23	1
1,1-Dichloroethene	5.0	U	5.0	1.6	ug/Kg		06/13/16 10:01	06/13/16 11:23	1
Bromomethane	5.0	U	10	1.1	ug/Kg		06/13/16 10:01	06/13/16 11:23	1
1,2-Dichloroethene, Total	2.0	U	10	0.96	ug/Kg		06/13/16 10:01	06/13/16 11:23	1
Carbon disulfide	1.0	U	5.0	0.69	ug/Kg		06/13/16 10:01	06/13/16 11:23	1
1,2-Dichloropropane	1.0	U	5.0	0.38	ug/Kg		06/13/16 10:01	06/13/16 11:23	1
Carbon tetrachloride	1.0	U	5.0	0.51	ug/Kg		06/13/16 10:01	06/13/16 11:23	1
Chlorobenzene	1.0	U	5.0	0.38	ug/Kg		06/13/16 10:01	06/13/16 11:23	1
2-Hexanone	5.0	U	20	1.8	ug/Kg		06/13/16 10:01	06/13/16 11:23	1
Chloroethane	1.0	U	10	0.52	ug/Kg		06/13/16 10:01	06/13/16 11:23	1
Chloroform	1.0	U	5.0	0.38	ug/Kg		06/13/16 10:01	06/13/16 11:23	1
Chloromethane	5.0	U	10	0.65	ug/Kg		06/13/16 10:01	06/13/16 11:23	1
cis-1,2-Dichloroethene	1.0	U	5.0	0.60	ug/Kg		06/13/16 10:01	06/13/16 11:23	1
cis-1,3-Dichloropropene	1.0	U	5.0	0.60	ug/Kg		06/13/16 10:01	06/13/16 11:23	1
4-Methyl-2-pentanone (MIBK)	5.0	U	20	0.73	ug/Kg		06/13/16 10:01	06/13/16 11:23	1
Cyclohexane	1.0	U	10	0.36	ug/Kg		06/13/16 10:01	06/13/16 11:23	1
Dibromochloromethane	1.0	U	5.0	0.41	ug/Kg		06/13/16 10:01	06/13/16 11:23	1
Dichlorodifluoromethane	5.0	U	10	1.3	ug/Kg		06/13/16 10:01	06/13/16 11:23	1
Ethylbenzene	1.0	U	5.0	0.30	ug/Kg		06/13/16 10:01	06/13/16 11:23	1
Isopropylbenzene	1.0	U	5.0	0.26	ug/Kg		06/13/16 10:01	06/13/16 11:23	1
Methyl acetate	5.0	U	25	1.4	ug/Kg		06/13/16 10:01	06/13/16 11:23	1
Methyl tert-butyl ether	1.0	U	5.0	0.48	ug/Kg		06/13/16 10:01	06/13/16 11:23	1
Methylcyclohexane	1.0	U	10	0.26	ug/Kg		06/13/16 10:01	06/13/16 11:23	1
Methylene Chloride	5.0	U	10	1.6	ug/Kg		06/13/16 10:01	06/13/16 11:23	1
1,1,2,2-Tetrachloroethane	1.0	U	5.0	0.40	ug/Kg		06/13/16 10:01	06/13/16 11:23	1
m-Xylene & p-Xylene	2.0	U	5.0	0.57	ug/Kg		06/13/16 10:01	06/13/16 11:23	1
Naphthalene	1.0	U	5.0	0.49	ug/Kg		06/13/16 10:01	06/13/16 11:23	1
n-Butylbenzene	1.0	U	5.0	0.60	ug/Kg		06/13/16 10:01	06/13/16 11:23	1
N-Propylbenzene	1.0	U	5.0	0.32	ug/Kg		06/13/16 10:01	06/13/16 11:23	1
o-Xylene	1.0	U	5.0	0.34	ug/Kg		06/13/16 10:01	06/13/16 11:23	1
sec-Butylbenzene	1.0	U	5.0	0.31	ug/Kg		06/13/16 10:01	06/13/16 11:23	1
1,2,3-Trichlorobenzene	1.0	U	5.0	0.44	ug/Kg		06/13/16 10:01	06/13/16 11:23	1
Styrene	1.0	U	5.0	0.35	ug/Kg		06/13/16 10:01	06/13/16 11:23	1
1,2,4-Trichlorobenzene	1.0	U	5.0	0.43	ug/Kg		06/13/16 10:01	06/13/16 11:23	1
tert-Butylbenzene	1.0	U	5.0	0.31	ug/Kg		06/13/16 10:01	06/13/16 11:23	1
1,1,1-Trichloroethane	1.0	U	5.0	0.43	ug/Kg		06/13/16 10:01	06/13/16 11:23	1

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

Lab Sample ID: MB 160-256112/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 256107 — **Prep Batch: 256112**

Analyte	MB Result	MB Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Tetrachloroethene	1.0	U	5.0	0.32	ug/Kg		06/13/16 10:01	06/13/16 11:23	1
1,1,2-Trichloroethane	1.0	U	5.0	0.57	ug/Kg		06/13/16 10:01	06/13/16 11:23	1
Toluene	1.0	U	5.0	0.70	ug/Kg		06/13/16 10:01	06/13/16 11:23	1
trans-1,2-Dichloroethene	1.0	U	5.0	0.94	ug/Kg		06/13/16 10:01	06/13/16 11:23	1
1,1,2-Trichloro-1,2,2-trifluoroethane	5.0	U	5.0	1.7	ug/Kg		06/13/16 10:01	06/13/16 11:23	1
trans-1,3-Dichloropropene	1.0	U	5.0	0.35	ug/Kg		06/13/16 10:01	06/13/16 11:23	1
1,2,4-Trimethylbenzene	1.0	U	5.0	0.60	ug/Kg		06/13/16 10:01	06/13/16 11:23	1
Trichloroethene	1.0	U	5.0	0.39	ug/Kg		06/13/16 10:01	06/13/16 11:23	1
1,3,5-Trimethylbenzene	1.0	U	5.0	0.31	ug/Kg		06/13/16 10:01	06/13/16 11:23	1
Trichlorofluoromethane	1.0	U	5.0	0.50	ug/Kg		06/13/16 10:01	06/13/16 11:23	1
Vinyl chloride	1.0	U	10	0.43	ug/Kg		06/13/16 10:01	06/13/16 11:23	1
Xylenes, Total	5.0	U	10	0.85	ug/Kg		06/13/16 10:01	06/13/16 11:23	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*111*		*79 - 119*	*06/13/16 10:01*	*06/13/16 11:23*	*1*
1,2-Dichloroethane-d4 (Surr)	*101*		*71 - 136*	*06/13/16 10:01*	*06/13/16 11:23*	*1*
Dibromofluoromethane (Surr)	*99*		*78 - 119*	*06/13/16 10:01*	*06/13/16 11:23*	*1*
Toluene-d8 (Surr)	*102*		*85 - 116*	*06/13/16 10:01*	*06/13/16 11:23*	*1*

Lab Sample ID: LCS 160-256112/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 256107 — **Prep Batch: 256112**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2-Dibromo-3-Chloropropane	50.0	42.7		ug/Kg		85	61 - 132
1,2-Dibromoethane	50.0	48.2		ug/Kg		96	78 - 121
2-Butanone (MEK)	50.0	45.2		ug/Kg		90	51 - 148
1,2-Dichlorobenzene	50.0	47.7		ug/Kg		95	78 - 121
1,3-Dichlorobenzene	50.0	49.2		ug/Kg		98	77 - 121
1,4-Dichlorobenzene	50.0	49.2		ug/Kg		98	75 - 120
Acetone	50.0	47.5		ug/Kg		95	36 - 164
Benzene	50.0	50.0		ug/Kg		100	77 - 121
1,1-Dichloroethane	50.0	51.0		ug/Kg		102	76 - 125
Bromobenzene	50.0	48.1		ug/Kg		96	78 - 121
1,2-Dichloroethane	50.0	49.4		ug/Kg		99	73 - 128
Bromodichloromethane	50.0	49.9		ug/Kg		100	75 - 127
Bromoform	50.0	48.5		ug/Kg		97	67 - 132
1,1-Dichloroethene	50.0	51.5		ug/Kg		103	70 - 131
Bromomethane	50.0	36.2		ug/Kg		72	53 - 143
1,2-Dichloroethene, Total	100	100		ug/Kg		100	78 - 122
Carbon disulfide	50.0	51.8		ug/Kg		104	63 - 132
1,2-Dichloropropane	50.0	51.1		ug/Kg		102	76 - 123
Carbon tetrachloride	50.0	49.3		ug/Kg		99	70 - 135
Chlorobenzene	50.0	49.4		ug/Kg		99	79 - 120
2-Hexanone	50.0	48.4		ug/Kg		97	53 - 145
Chloroethane	50.0	39.5		ug/Kg		79	59 - 139
Chloroform	50.0	49.0		ug/Kg		98	78 - 123
Chloromethane	50.0	51.7		ug/Kg		103	50 - 136

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

Lab Sample ID: LCS 160-256112/2-A
Matrix: Solid
Analysis Batch: 256107

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 256112

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
cis-1,2-Dichloroethene	50.0	50.2		ug/Kg		100	77 - 123
cis-1,3-Dichloropropene	50.0	51.4		ug/Kg		103	74 - 126
4-Methyl-2-pentanone (MIBK)	50.0	49.8		ug/Kg		100	65 - 135
Cyclohexane	50.0	49.1		ug/Kg		98	67 - 131
Dibromochloromethane	50.0	50.0		ug/Kg		100	74 - 126
Dichlorodifluoromethane	50.0	55.2		ug/Kg		110	29 - 149
Ethylbenzene	50.0	50.4		ug/Kg		101	76 - 122
Isopropylbenzene	50.0	50.9		ug/Kg		102	68 - 134
Methyl acetate	250	256		ug/Kg		102	53 - 144
Methyl tert-butyl ether	50.0	48.9		ug/Kg		98	73 - 125
Methylcyclohexane	50.0	51.3		ug/Kg		103	66 - 133
Methylene Chloride	50.0	49.5		ug/Kg		99	70 - 128
1,1,2,2-Tetrachloroethane	50.0	46.5		ug/Kg		93	70 - 124
m-Xylene & p-Xylene	50.0	49.3		ug/Kg		99	77 - 124
Naphthalene	50.0	48.5		ug/Kg		97	62 - 129
n-Butylbenzene	50.0	50.9		ug/Kg		102	70 - 128
N-Propylbenzene	50.0	51.0		ug/Kg		102	73 - 125
o-Xylene	50.0	49.2		ug/Kg		98	77 - 123
sec-Butylbenzene	50.0	49.7		ug/Kg		99	73 - 126
1,2,3-Trichlorobenzene	50.0	47.1		ug/Kg		94	66 - 130
Styrene	50.0	50.7		ug/Kg		101	76 - 124
1,2,4-Trichlorobenzene	50.0	49.3		ug/Kg		99	67 - 129
tert-Butylbenzene	50.0	52.3		ug/Kg		105	73 - 125
1,1,1-Trichloroethane	50.0	48.7		ug/Kg		97	73 - 130
Tetrachloroethene	50.0	49.9		ug/Kg		100	73 - 128
1,1,2-Trichloroethane	50.0	49.7		ug/Kg		99	78 - 121
Toluene	50.0	51.4		ug/Kg		103	77 - 121
trans-1,2-Dichloroethene	50.0	50.2		ug/Kg		100	74 - 125
1,1,2-Trichloro-1,2,2-trifluoroethane	50.0	48.0		ug/Kg		96	66 - 136
trans-1,3-Dichloropropene	50.0	50.7		ug/Kg		101	71 - 130
1,2,4-Trimethylbenzene	50.0	51.0		ug/Kg		102	75 - 123
Trichloroethene	50.0	50.5		ug/Kg		101	77 - 123
1,3,5-Trimethylbenzene	50.0	51.4		ug/Kg		103	73 - 124
Trichlorofluoromethane	50.0	43.5		ug/Kg		87	62 - 140
Vinyl chloride	50.0	50.4		ug/Kg		101	56 - 135
Xylenes, Total	100	98.5		ug/Kg		99	78 - 124

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*100*		*79 - 119*
1,2-Dichloroethane-d4 (Surr)	*95*		*71 - 136*
Dibromofluoromethane (Surr)	*97*		*78 - 119*
Toluene-d8 (Surr)	*101*		*85 - 116*

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

Lab Sample ID: LCSD 160-256112/3-A
Matrix: Solid
Analysis Batch: 256107

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 256112

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,2-Dibromo-3-Chloropropane	50.0	48.0		ug/Kg		96	61 - 132	12	20
1,2-Dibromoethane	50.0	49.7		ug/Kg		99	78 - 121	3	20
2-Butanone (MEK)	50.0	50.4		ug/Kg		101	51 - 148	11	20
1,2-Dichlorobenzene	50.0	49.6		ug/Kg		99	78 - 121	4	20
1,3-Dichlorobenzene	50.0	51.2		ug/Kg		102	77 - 121	4	20
1,4-Dichlorobenzene	50.0	50.6		ug/Kg		101	75 - 120	3	20
Acetone	50.0	44.2		ug/Kg		88	36 - 164	7	20
Benzene	50.0	51.7		ug/Kg		103	77 - 121	3	20
1,1-Dichloroethane	50.0	51.0		ug/Kg		102	76 - 125	0	20
Bromobenzene	50.0	51.4		ug/Kg		103	78 - 121	7	20
1,2-Dichloroethane	50.0	51.1		ug/Kg		102	73 - 128	3	20
Bromodichloromethane	50.0	51.1		ug/Kg		102	75 - 127	3	20
Bromoform	50.0	51.8		ug/Kg		104	67 - 132	6	20
1,1-Dichloroethene	50.0	50.7		ug/Kg		101	70 - 131	1	20
Bromomethane	50.0	34.6		ug/Kg		69	53 - 143	5	20
1,2-Dichloroethene, Total	100	100		ug/Kg		100	78 - 122	0	20
Carbon disulfide	50.0	51.8		ug/Kg		104	63 - 132	0	20
1,2-Dichloropropane	50.0	52.2		ug/Kg		104	76 - 123	2	20
Carbon tetrachloride	50.0	50.5		ug/Kg		101	70 - 135	2	20
Chlorobenzene	50.0	50.1		ug/Kg		100	79 - 120	1	20
2-Hexanone	50.0	52.6		ug/Kg		105	53 - 145	8	20
Chloroethane	50.0	38.0		ug/Kg		76	59 - 139	4	20
Chloroform	50.0	49.8		ug/Kg		100	78 - 123	2	20
Chloromethane	50.0	51.3		ug/Kg		103	50 - 136	1	20
cis-1,2-Dichloroethene	50.0	50.3		ug/Kg		101	77 - 123	0	20
cis-1,3-Dichloropropene	50.0	54.0		ug/Kg		108	74 - 126	5	20
4-Methyl-2-pentanone (MIBK)	50.0	52.7		ug/Kg		105	65 - 135	6	20
Cyclohexane	50.0	49.1		ug/Kg		98	67 - 131	0	20
Dibromochloromethane	50.0	51.6		ug/Kg		103	74 - 126	3	20
Dichlorodifluoromethane	50.0	55.3		ug/Kg		111	29 - 149	0	20
Ethylbenzene	50.0	52.1		ug/Kg		104	76 - 122	3	20
Isopropylbenzene	50.0	53.5		ug/Kg		107	68 - 134	5	20
Methyl acetate	250	270		ug/Kg		108	53 - 144	5	20
Methyl tert-butyl ether	50.0	50.6		ug/Kg		101	73 - 125	4	20
Methylcyclohexane	50.0	52.1		ug/Kg		104	66 - 133	2	20
Methylene Chloride	50.0	48.2		ug/Kg		96	70 - 128	3	20
1,1,2,2-Tetrachloroethane	50.0	49.2		ug/Kg		98	70 - 124	6	20
m-Xylene & p-Xylene	50.0	50.5		ug/Kg		101	77 - 124	2	20
Naphthalene	50.0	48.9		ug/Kg		98	62 - 129	1	20
n-Butylbenzene	50.0	51.2		ug/Kg		102	70 - 128	1	20
N-Propylbenzene	50.0	52.7		ug/Kg		105	73 - 125	3	20
o-Xylene	50.0	49.6		ug/Kg		99	77 - 123	1	20
sec-Butylbenzene	50.0	51.5		ug/Kg		103	73 - 126	4	20
1,2,3-Trichlorobenzene	50.0	46.5		ug/Kg		93	66 - 130	1	20
Styrene	50.0	51.0		ug/Kg		102	76 - 124	1	20
1,2,4-Trichlorobenzene	50.0	48.9		ug/Kg		98	67 - 129	1	20
tert-Butylbenzene	50.0	52.5		ug/Kg		105	73 - 125	0	20
1,1,1-Trichloroethane	50.0	50.9		ug/Kg		102	73 - 130	4	20

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

Lab Sample ID: LCSD 160-256112/3-A
Matrix: Solid
Analysis Batch: 256107

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 256112

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Tetrachloroethene	50.0	51.2		ug/Kg		102	73 - 128	3	20
1,1,2-Trichloroethane	50.0	50.4		ug/Kg		101	78 - 121	1	20
Toluene	50.0	52.2		ug/Kg		104	77 - 121	2	20
trans-1,2-Dichloroethene	50.0	50.0		ug/Kg		100	74 - 125	0	20
1,1,2-Trichloro-1,2,2-trifluoroethane	50.0	46.5		ug/Kg		93	66 - 136	3	20
trans-1,3-Dichloropropene	50.0	53.0		ug/Kg		106	71 - 130	4	20
1,2,4-Trimethylbenzene	50.0	52.5		ug/Kg		105	75 - 123	3	20
Trichloroethene	50.0	52.1		ug/Kg		104	77 - 123	3	20
1,3,5-Trimethylbenzene	50.0	52.6		ug/Kg		105	73 - 124	2	20
Trichlorofluoromethane	50.0	43.1		ug/Kg		86	62 - 140	1	20
Vinyl chloride	50.0	50.2		ug/Kg		100	56 - 135	0	20
Xylenes, Total	100	100		ug/Kg		100	78 - 124	2	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*105*		*79 - 119*
1,2-Dichloroethane-d4 (Surr)	*98*		*71 - 136*
Dibromofluoromethane (Surr)	*98*		*78 - 119*
Toluene-d8 (Surr)	*101*		*85 - 116*

Lab Sample ID: 280-84064-2 MSD
Matrix: Solid
Analysis Batch: 256107

Client Sample ID: SC-TU008-MW001-S1012
Prep Type: Total/NA
Prep Batch: 256112

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,2-Dibromo-3-Chloropropane	4.5	U Q	45.2	47.8		ug/Kg	☼				
1,2-Dibromoethane	0.91	U	45.2	51.8		ug/Kg	☼				
2-Butanone (MEK)	4.5	U	45.2	57.0		ug/Kg	☼				
1,2-Dichlorobenzene	0.91	U Q	45.2	45.9		ug/Kg	☼				
1,3-Dichlorobenzene	0.91	U Q	45.2	46.0		ug/Kg	☼				
1,4-Dichlorobenzene	0.91	U Q	45.2	45.7		ug/Kg	☼				
Acetone	9.1	U	45.2	57.0		ug/Kg	☼				
Benzene	0.91	U	45.2	47.8		ug/Kg	☼				
1,1-Dichloroethane	0.91	U	45.2	47.5		ug/Kg	☼				
Bromobenzene	0.91	U Q	45.2	49.3		ug/Kg	☼				
1,2-Dichloroethane	0.91	U	45.2	51.0		ug/Kg	☼				
Bromodichloromethane	0.91	U	45.2	51.5		ug/Kg	☼				
Bromoform	0.91	U	45.2	54.1		ug/Kg	☼				
1,1-Dichloroethene	4.5	U	45.2	47.4		ug/Kg	☼				
Bromomethane	4.5	U Q	45.2	36.8		ug/Kg	☼				
1,2-Dichloroethene, Total	1.8	U	90.4	94.6		ug/Kg	☼				
Carbon disulfide	0.91	U	45.2	47.9		ug/Kg	☼				
1,2-Dichloropropane	0.91	U	45.2	50.1		ug/Kg	☼				
Carbon tetrachloride	0.91	U	45.2	47.3		ug/Kg	☼				
Chlorobenzene	0.91	U	45.2	47.1		ug/Kg	☼				
2-Hexanone	4.5	U	45.2	59.0		ug/Kg	☼				
Chloroethane	0.91	U	45.2	30.6		ug/Kg	☼				
Chloroform	0.91	U	45.2	47.8		ug/Kg	☼				

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

Lab Sample ID: 280-84064-2 MSD — **Client Sample ID: SC-TU008-MW001-S1012**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 256107 — **Prep Batch: 256112**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloromethane	4.5	U	45.2	39.3		ug/Kg	☼				
cis-1,2-Dichloroethene	0.91	U	45.2	47.7		ug/Kg	☼				
cis-1,3-Dichloropropene	0.91	U	45.2	52.7		ug/Kg	☼				
4-Methyl-2-pentanone (MIBK)	4.5	U	45.2	59.0		ug/Kg	☼				
Cyclohexane	0.91	U	45.2	43.7		ug/Kg	☼				
Dibromochloromethane	0.91	U	45.2	52.6		ug/Kg	☼				
Dichlorodifluoromethane	4.5	U Q	45.2	52.4		ug/Kg	☼				
Ethylbenzene	0.91	U	45.2	47.5		ug/Kg	☼				
Isopropylbenzene	0.91	U	45.2	49.3		ug/Kg	☼				
Methyl acetate	4.5	U	226	322		ug/Kg	☼				
Methyl tert-butyl ether	0.91	U	45.2	51.6		ug/Kg	☼				
Methylcyclohexane	0.91	U	45.2	45.5		ug/Kg	☼				
Methylene Chloride	4.5	U	45.2	47.6		ug/Kg	☼				
1,1,2,2-Tetrachloroethane	0.91	U Q	45.2	52.9		ug/Kg	☼				
m-Xylene & p-Xylene	1.8	U	45.2	47.1		ug/Kg	☼				
Naphthalene	0.91	U Q	45.2	42.2		ug/Kg	☼				
n-Butylbenzene	0.91	U Q	45.2	42.3		ug/Kg	☼				
N-Propylbenzene	0.91	U Q	45.2	47.3		ug/Kg	☼				
o-Xylene	0.91	U	45.2	47.3		ug/Kg	☼				
sec-Butylbenzene	0.91	U Q	45.2	44.8		ug/Kg	☼				
1,2,3-Trichlorobenzene	0.91	U Q	45.2	37.3		ug/Kg	☼				
Styrene	0.91	U	45.2	42.7		ug/Kg	☼				
1,2,4-Trichlorobenzene	0.91	U Q	45.2	38.4		ug/Kg	☼				
tert-Butylbenzene	0.91	U Q	45.2	48.2		ug/Kg	☼				
1,1,1-Trichloroethane	0.91	U	45.2	46.6		ug/Kg	☼				
Tetrachloroethene	0.91	U	45.2	47.2		ug/Kg	☼				
1,1,2-Trichloroethane	0.91	U	45.2	52.5		ug/Kg	☼				
Toluene	0.91	U	45.2	47.7		ug/Kg	☼				
trans-1,2-Dichloroethene	0.91	U	45.2	46.9		ug/Kg	☼				
1,1,2-Trichloro-1,2,2-trifluoroetha ne	4.5	U	45.2	47.0		ug/Kg	☼				
trans-1,3-Dichloropropene	0.91	U	45.2	50.4		ug/Kg	☼				
1,2,4-Trimethylbenzene	0.91	U Q	45.2	48.5		ug/Kg	☼				
Trichloroethene	0.91	U	45.2	48.4		ug/Kg	☼				
1,3,5-Trimethylbenzene	0.91	U Q	45.2	48.6		ug/Kg	☼				
Trichlorofluoromethane	0.91	U	45.2	40.8		ug/Kg	☼				
Vinyl chloride	0.91	U	45.2	46.6		ug/Kg	☼				
Xylenes, Total	4.5	U	90.4	94.4		ug/Kg	☼				

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)			
1,2-Dichloroethane-d4 (Surr)			
Dibromofluoromethane (Surr)			
Toluene-d8 (Surr)			

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

Lab Sample ID: MB 160-256397/9
Matrix: Water
Analysis Batch: 256397

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

Analyte	MB Result	MB Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromo-3-Chloropropane	2.0	U Q	10	1.2	ug/L			06/15/16 09:30	1
1,2-Dibromoethane	2.0	U	5.0	0.44	ug/L			06/15/16 09:30	1
2-Butanone (MEK)	5.0	U	20	0.39	ug/L			06/15/16 09:30	1
1,2-Dichlorobenzene	2.0	U Q	5.0	0.28	ug/L			06/15/16 09:30	1
1,3-Dichlorobenzene	2.0	U Q	5.0	0.23	ug/L			06/15/16 09:30	1
1,4-Dichlorobenzene	2.0	U Q	5.0	0.35	ug/L			06/15/16 09:30	1
Acetone	10	U	20	6.7	ug/L			06/15/16 09:30	1
Benzene	1.0	U	5.0	0.25	ug/L			06/15/16 09:30	1
1,1-Dichloroethane	1.0	U	5.0	0.39	ug/L			06/15/16 09:30	1
Bromobenzene	2.0	U Q	5.0	0.33	ug/L			06/15/16 09:30	1
1,2-Dichloroethane	1.0	U	5.0	0.37	ug/L			06/15/16 09:30	1
Bromodichloromethane	2.0	U	5.0	0.25	ug/L			06/15/16 09:30	1
Bromoform	1.0	U	5.0	0.37	ug/L			06/15/16 09:30	1
1,1-Dichloroethene	1.0	U	5.0	0.37	ug/L			06/15/16 09:30	1
Bromomethane	2.0	U	10	0.40	ug/L			06/15/16 09:30	1
1,2-Dichloroethene, Total	2.0	U	10	0.24	ug/L			06/15/16 09:30	1
Carbon disulfide	1.0	U	5.0	0.37	ug/L			06/15/16 09:30	1
1,2-Dichloropropane	1.0	U	5.0	0.32	ug/L			06/15/16 09:30	1
Carbon tetrachloride	1.0	U	5.0	0.36	ug/L			06/15/16 09:30	1
Chlorobenzene	1.0	U	5.0	0.38	ug/L			06/15/16 09:30	1
2-Hexanone	2.0	U	20	0.59	ug/L			06/15/16 09:30	1
Chloroethane	1.0	U	10	0.38	ug/L			06/15/16 09:30	1
Chloroform	1.0	U	5.0	0.15	ug/L			06/15/16 09:30	1
Chloromethane	2.0	U	10	0.55	ug/L			06/15/16 09:30	1
cis-1,2-Dichloroethene	1.0	U	5.0	0.16	ug/L			06/15/16 09:30	1
cis-1,3-Dichloropropene	1.0	U	5.0	0.34	ug/L			06/15/16 09:30	1
4-Methyl-2-pentanone (MIBK)	2.0	U	20	0.33	ug/L			06/15/16 09:30	1
Cyclohexane	2.0	U	10	0.36	ug/L			06/15/16 09:30	1
Dibromochloromethane	1.0	U	5.0	0.33	ug/L			06/15/16 09:30	1
Dichlorodifluoromethane	2.0	U	10	0.45	ug/L			06/15/16 09:30	1
Ethylbenzene	1.0	U	5.0	0.30	ug/L			06/15/16 09:30	1
Isopropylbenzene	2.0	U	5.0	0.26	ug/L			06/15/16 09:30	1
Methyl acetate	5.0	U	25	2.3	ug/L			06/15/16 09:30	1
Methyl tert-butyl ether	2.0	U	5.0	0.40	ug/L			06/15/16 09:30	1
Methylcyclohexane	2.0	U	10	0.26	ug/L			06/15/16 09:30	1
Methylene Chloride	5.0	U	7.5	1.7	ug/L			06/15/16 09:30	1
1,1,2,2-Tetrachloroethane	2.0	U Q	5.0	0.43	ug/L			06/15/16 09:30	1
m-Xylene & p-Xylene	1.0	U	5.0	0.57	ug/L			06/15/16 09:30	1
Naphthalene	2.0	U Q	5.0	0.85	ug/L			06/15/16 09:30	1
n-Butylbenzene	2.0	U Q	5.0	0.23	ug/L			06/15/16 09:30	1
N-Propylbenzene	2.0	U Q	5.0	0.30	ug/L			06/15/16 09:30	1
o-Xylene	0.653	J	5.0	0.32	ug/L			06/15/16 09:30	1
sec-Butylbenzene	2.0	U Q	5.0	0.31	ug/L			06/15/16 09:30	1
1,2,3-Trichlorobenzene	2.0	U Q	5.0	0.65	ug/L			06/15/16 09:30	1
Styrene	1.0	U	5.0	0.35	ug/L			06/15/16 09:30	1
1,2,4-Trichlorobenzene	2.0	U Q	5.0	0.55	ug/L			06/15/16 09:30	1
tert-Butylbenzene	2.0	U Q	5.0	0.31	ug/L			06/15/16 09:30	1
1,1,1-Trichloroethane	1.0	U	5.0	0.29	ug/L			06/15/16 09:30	1

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

Lab Sample ID: MB 160-256397/9
Matrix: Water
Analysis Batch: 256397

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

Analyte	MB Result	MB Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Tetrachloroethene	1.0	U	5.0	0.28	ug/L			06/15/16 09:30	1
1,1,2-Trichloroethane	1.0	U	5.0	0.57	ug/L			06/15/16 09:30	1
Toluene	1.0	U	5.0	1.0	ug/L			06/15/16 09:30	1
trans-1,2-Dichloroethene	1.0	U	5.0	0.18	ug/L			06/15/16 09:30	1
1,1,2-Trichloro-1,2,2-trifluoroethane	2.0	U	5.0	0.25	ug/L			06/15/16 09:30	1
trans-1,3-Dichloropropene	1.0	U	5.0	0.35	ug/L			06/15/16 09:30	1
1,2,4-Trimethylbenzene	2.0	U Q	5.0	0.40	ug/L			06/15/16 09:30	1
Trichloroethene	1.0	U	5.0	0.29	ug/L			06/15/16 09:30	1
1,3,5-Trimethylbenzene	2.0	U Q	5.0	0.28	ug/L			06/15/16 09:30	1
Trichlorofluoromethane	2.0	U	5.0	0.22	ug/L			06/15/16 09:30	1
Vinyl chloride	1.0	U	5.0	0.43	ug/L			06/15/16 09:30	1
Xylenes, Total	5.0	U	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*	*Q*	*85 - 114*		*06/15/16 09:30*	*1*
1,2-Dichloroethane-d4 (Surr)	*90*		*81 - 118*		*06/15/16 09:30*	*1*
Dibromofluoromethane (Surr)	*98*		*80 - 119*		*06/15/16 09:30*	*1*
Toluene-d8 (Surr)	*109*		*89 - 112*		*06/15/16 09:30*	*1*

Lab Sample ID: LCS 160-256397/6
Matrix: Water
Analysis Batch: 256397

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2-Dibromo-3-Chloropropane	50.0	52.6		ug/L		105	62 - 128
1,2-Dibromoethane	50.0	51.1		ug/L		102	80 - 120
2-Butanone (MEK)	50.0	49.5		ug/L		99	56 - 143
1,2-Dichlorobenzene	50.0	50.8		ug/L		102	80 - 119
1,3-Dichlorobenzene	50.0	52.0		ug/L		104	80 - 119
1,4-Dichlorobenzene	50.0	50.9		ug/L		102	79 - 118
Acetone	50.0	50.7		ug/L		101	39 - 160
Benzene	50.0	49.3		ug/L		99	79 - 120
1,1-Dichloroethane	50.0	47.2		ug/L		94	77 - 125
Bromobenzene	50.0	49.8		ug/L		100	80 - 120
1,2-Dichloroethane	50.0	47.1		ug/L		94	73 - 128
Bromodichloromethane	50.0	49.8		ug/L		100	79 - 125
Bromoform	50.0	52.4		ug/L		105	66 - 130
1,1-Dichloroethene	50.0	49.3		ug/L		99	71 - 131
Bromomethane	50.0	44.5		ug/L		89	53 - 141
1,2-Dichloroethene, Total	100	104		ug/L		104	79 - 121
Carbon disulfide	50.0	48.1		ug/L		96	64 - 133
1,2-Dichloropropane	50.0	49.0		ug/L		98	78 - 122
Carbon tetrachloride	50.0	50.6		ug/L		101	72 - 136
Chlorobenzene	50.0	51.0		ug/L		102	82 - 118
2-Hexanone	50.0	54.7		ug/L		109	57 - 139
Chloroethane	50.0	44.0		ug/L		88	60 - 138
Chloroform	50.0	47.2		ug/L		94	79 - 124
Chloromethane	50.0	45.8		ug/L		92	50 - 139

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

Lab Sample ID: LCS 160-256397/6
Matrix: Water
Analysis Batch: 256397

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
cis-1,2-Dichloroethene	50.0	52.4		ug/L		105	78 - 123
cis-1,3-Dichloropropene	50.0	54.3		ug/L		109	75 - 124
4-Methyl-2-pentanone (MIBK)	50.0	54.5		ug/L		109	67 - 130
Cyclohexane	50.0	53.5		ug/L		107	71 - 130
Dibromochloromethane	50.0	52.0		ug/L		104	74 - 126
Dichlorodifluoromethane	50.0	47.8		ug/L		96	32 - 152
Ethylbenzene	50.0	52.0		ug/L		104	79 - 121
Isopropylbenzene	50.0	56.3		ug/L		113	72 - 131
Methyl acetate	250	251		ug/L		100	56 - 136
Methyl tert-butyl ether	50.0	53.2		ug/L		106	71 - 124
Methylcyclohexane	50.0	50.3		ug/L		101	72 - 132
Methylene Chloride	50.0	47.2		ug/L		94	74 - 124
1,1,2,2-Tetrachloroethane	50.0	45.8		ug/L		92	71 - 121
m-Xylene & p-Xylene	50.0	57.3		ug/L		115	80 - 121
Naphthalene	50.0	55.8		ug/L		112	61 - 128
n-Butylbenzene	50.0	48.1		ug/L		96	75 - 128
N-Propylbenzene	50.0	46.4		ug/L		93	76 - 126
o-Xylene	50.0	52.3		ug/L		105	78 - 122
sec-Butylbenzene	50.0	46.6		ug/L		93	77 - 126
1,2,3-Trichlorobenzene	50.0	51.7		ug/L		103	69 - 129
Styrene	50.0	56.3		ug/L		113	78 - 123
1,2,4-Trichlorobenzene	50.0	54.2		ug/L		108	69 - 130
tert-Butylbenzene	50.0	52.6		ug/L		105	78 - 124
1,1,1-Trichloroethane	50.0	49.4		ug/L		99	74 - 131
Tetrachloroethene	50.0	51.5		ug/L		103	74 - 129
1,1,2-Trichloroethane	50.0	49.2		ug/L		98	80 - 119
Toluene	50.0	52.4		ug/L		105	80 - 121
trans-1,2-Dichloroethene	50.0	52.0		ug/L		104	75 - 124
1,1,2-Trichloro-1,2,2-trifluoroethane	50.0	48.1		ug/L		96	70 - 136
trans-1,3-Dichloropropene	50.0	52.4		ug/L		105	73 - 127
1,2,4-Trimethylbenzene	50.0	55.1		ug/L		110	76 - 124
Trichloroethene	50.0	51.1		ug/L		102	79 - 123
1,3,5-Trimethylbenzene	50.0	52.6		ug/L		105	75 - 124
Trichlorofluoromethane	50.0	45.8		ug/L		92	65 - 141
Vinyl chloride	50.0	48.2		ug/L		96	58 - 137
Xylenes, Total	100	110		ug/L		110	79 - 121

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*107*		*85 - 114*
1,2-Dichloroethane-d4 (Surr)	*93*		*81 - 118*
Dibromofluoromethane (Surr)	*103*		*80 - 119*
Toluene-d8 (Surr)	*105*		*89 - 112*

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

Lab Sample ID: LCSD 160-256397/7
Matrix: Water
Analysis Batch: 256397

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
1,2-Dibromo-3-Chloropropane	50.0	49.2		ug/L		98	62 - 128	7	20
1,2-Dibromoethane	50.0	48.4		ug/L		97	80 - 120	6	20
2-Butanone (MEK)	50.0	44.6		ug/L		89	56 - 143	10	20
1,2-Dichlorobenzene	50.0	50.6		ug/L		101	80 - 119	0	20
1,3-Dichlorobenzene	50.0	52.5		ug/L		105	80 - 119	1	20
1,4-Dichlorobenzene	50.0	49.9		ug/L		100	79 - 118	2	20
Acetone	50.0	46.4		ug/L		93	39 - 160	9	20
Benzene	50.0	48.2		ug/L		96	79 - 120	2	20
1,1-Dichloroethane	50.0	46.6		ug/L		93	77 - 125	1	20
Bromobenzene	50.0	50.6		ug/L		101	80 - 120	2	20
1,2-Dichloroethane	50.0	44.7		ug/L		89	73 - 128	5	20
Bromodichloromethane	50.0	48.0		ug/L		96	79 - 125	4	20
Bromoform	50.0	51.0		ug/L		102	66 - 130	3	20
1,1-Dichloroethene	50.0	49.3		ug/L		99	71 - 131	0	20
Bromomethane	50.0	41.3		ug/L		83	53 - 141	7	20
1,2-Dichloroethene, Total	100	102		ug/L		102	79 - 121	2	20
Carbon disulfide	50.0	47.4		ug/L		95	64 - 133	2	20
1,2-Dichloropropane	50.0	48.5		ug/L		97	78 - 122	1	20
Carbon tetrachloride	50.0	50.5		ug/L		101	72 - 136	0	20
Chlorobenzene	50.0	49.4		ug/L		99	82 - 118	3	20
2-Hexanone	50.0	49.3		ug/L		99	57 - 139	10	20
Chloroethane	50.0	40.7		ug/L		81	60 - 138	8	20
Chloroform	50.0	46.5		ug/L		93	79 - 124	1	20
Chloromethane	50.0	45.6		ug/L		91	50 - 139	1	20
cis-1,2-Dichloroethene	50.0	51.7		ug/L		103	78 - 123	1	20
cis-1,3-Dichloropropene	50.0	52.5		ug/L		105	75 - 124	3	20
4-Methyl-2-pentanone (MIBK)	50.0	50.1		ug/L		100	67 - 130	8	20
Cyclohexane	50.0	52.5		ug/L		105	71 - 130	2	20
Dibromochloromethane	50.0	49.3		ug/L		99	74 - 126	5	20
Dichlorodifluoromethane	50.0	47.0		ug/L		94	32 - 152	2	20
Ethylbenzene	50.0	51.0		ug/L		102	79 - 121	2	20
Isopropylbenzene	50.0	57.6		ug/L		115	72 - 131	2	20
Methyl acetate	250	236		ug/L		95	56 - 136	6	20
Methyl tert-butyl ether	50.0	50.6		ug/L		101	71 - 124	5	20
Methylcyclohexane	50.0	48.3		ug/L		97	72 - 132	4	20
Methylene Chloride	50.0	46.7		ug/L		93	74 - 124	1	20
1,1,2,2-Tetrachloroethane	50.0	43.6		ug/L		87	71 - 121	5	20
m-Xylene & p-Xylene	50.0	54.3		ug/L		109	80 - 121	5	20
Naphthalene	50.0	54.1		ug/L		108	61 - 128	3	20
n-Butylbenzene	50.0	49.4		ug/L		99	75 - 128	3	20
N-Propylbenzene	50.0	47.2		ug/L		94	76 - 126	2	20
o-Xylene	50.0	50.7		ug/L		101	78 - 122	3	20
sec-Butylbenzene	50.0	47.5		ug/L		95	77 - 126	2	20
1,2,3-Trichlorobenzene	50.0	50.8		ug/L		102	69 - 129	2	20
Styrene	50.0	54.4		ug/L		109	78 - 123	3	20
1,2,4-Trichlorobenzene	50.0	52.9		ug/L		106	69 - 130	2	20
tert-Butylbenzene	50.0	54.0		ug/L		108	78 - 124	3	20
1,1,1-Trichloroethane	50.0	49.6		ug/L		99	74 - 131	0	20

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

Lab Sample ID: LCSD 160-256397/7
Matrix: Water
Analysis Batch: 256397

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
Tetrachloroethene	50.0	49.0		ug/L		98	74 - 129	5	20
1,1,2-Trichloroethane	50.0	46.0		ug/L		92	80 - 119	7	20
Toluene	50.0	50.3		ug/L		101	80 - 121	4	20
trans-1,2-Dichloroethene	50.0	50.6		ug/L		101	75 - 124	3	20
1,1,2-Trichloro-1,2,2-trifluoroethane	50.0	48.8		ug/L		98	70 - 136	1	20
trans-1,3-Dichloropropene	50.0	48.3		ug/L		97	73 - 127	8	20
1,2,4-Trimethylbenzene	50.0	55.8		ug/L		112	76 - 124	1	20
Trichloroethene	50.0	49.6		ug/L		99	79 - 123	3	20
1,3,5-Trimethylbenzene	50.0	54.3		ug/L		109	75 - 124	3	20
Trichlorofluoromethane	50.0	44.4		ug/L		89	65 - 141	3	20
Vinyl chloride	50.0	46.7		ug/L		93	58 - 137	3	20
Xylenes, Total	100	105		ug/L		105	79 - 121	4	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*107*		*85 - 114*
1,2-Dichloroethane-d4 (Surr)	*88*		*81 - 118*
Dibromofluoromethane (Surr)	*100*		*80 - 119*
Toluene-d8 (Surr)	*101*		*89 - 112*

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

Lab Sample ID: MB 280-329894/1-A
Matrix: Solid
Analysis Batch: 330552

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 329894

Analyte	MB Result	MB Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4,5-Tetrachlorobenzene	0.13	U	0.33	0.049	mg/Kg		06/15/16 10:33	06/20/16 19:09	1
1,2,4-Trichlorobenzene	0.067	U	0.33	0.028	mg/Kg		06/15/16 10:33	06/20/16 19:09	1
1,2-Dichlorobenzene	0.067	U	0.33	0.022	mg/Kg		06/15/16 10:33	06/20/16 19:09	1
1,2-Diphenylhydrazine	0.067	U	0.33	0.022	mg/Kg		06/15/16 10:33	06/20/16 19:09	1
1,3-Dichlorobenzene	0.033	U	0.33	0.012	mg/Kg		06/15/16 10:33	06/20/16 19:09	1
1,4-Dichlorobenzene	0.033	U	0.33	0.014	mg/Kg		06/15/16 10:33	06/20/16 19:09	1
2,2'-oxybis[1-chloropropane]	0.067	U	0.33	0.023	mg/Kg		06/15/16 10:33	06/20/16 19:09	1
2,4,5-Trichlorophenol	0.033	U	0.33	0.010	mg/Kg		06/15/16 10:33	06/20/16 19:09	1
2,4,6-Trichlorophenol	0.033	U	0.33	0.010	mg/Kg		06/15/16 10:33	06/20/16 19:09	1
2,4-Dichlorophenol	0.033	U	0.33	0.010	mg/Kg		06/15/16 10:33	06/20/16 19:09	1
2,4-Dimethylphenol	0.13	U	0.33	0.066	mg/Kg		06/15/16 10:33	06/20/16 19:09	1
2,4-Dinitrophenol	1.0	U	1.6	0.33	mg/Kg		06/15/16 10:33	06/20/16 19:09	1
2,4-Dinitrotoluene	0.13	U	0.33	0.066	mg/Kg		06/15/16 10:33	06/20/16 19:09	1
2,6-Dichlorophenol	0.17	U	0.33	0.069	mg/Kg		06/15/16 10:33	06/20/16 19:09	1
2,6-Dinitrotoluene	0.067	U	0.33	0.028	mg/Kg		06/15/16 10:33	06/20/16 19:09	1
2-Chloronaphthalene	0.033	U	0.33	0.010	mg/Kg		06/15/16 10:33	06/20/16 19:09	1
2-Chlorophenol	0.067	U	0.33	0.021	mg/Kg		06/15/16 10:33	06/20/16 19:09	1
2-Methylnaphthalene	0.067	U	0.33	0.019	mg/Kg		06/15/16 10:33	06/20/16 19:09	1
2-Methylphenol	0.033	U	0.33	0.013	mg/Kg		06/15/16 10:33	06/20/16 19:09	1
3 & 4 Methylphenol	0.067	U	0.33	0.033	mg/Kg		06/15/16 10:33	06/20/16 19:09	1
3,3'-Dichlorobenzidine	0.27	U	1.6	0.090	mg/Kg		06/15/16 10:33	06/20/16 19:09	1

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

Lab Sample ID: MB 280-329894/1-A
Matrix: Solid
Analysis Batch: 330552

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 329894

Analyte	MB Result	MB Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
3-Nitroaniline	0.27	U	1.6	0.073	mg/Kg		06/15/16 10:33	06/20/16 19:09	1
4,6-Dinitro-2-methylphenol	1.0	U	1.6	0.33	mg/Kg		06/15/16 10:33	06/20/16 19:09	1
4-Chloroaniline	0.27	U	0.33	0.082	mg/Kg		06/15/16 10:33	06/20/16 19:09	1
4-Chlorophenyl phenyl ether	0.067	U	0.33	0.021	mg/Kg		06/15/16 10:33	06/20/16 19:09	1
4-Nitroaniline	0.27	U	1.6	0.073	mg/Kg		06/15/16 10:33	06/20/16 19:09	1
4-Nitrophenol	0.27	U	1.6	0.097	mg/Kg		06/15/16 10:33	06/20/16 19:09	1
Acenaphthene	0.033	U	0.33	0.010	mg/Kg		06/15/16 10:33	06/20/16 19:09	1
Acenaphthylene	0.067	U	0.33	0.017	mg/Kg		06/15/16 10:33	06/20/16 19:09	1
Anthracene	0.067	U	0.33	0.017	mg/Kg		06/15/16 10:33	06/20/16 19:09	1
Benzidine	2.0	U	4.0	0.99	mg/Kg		06/15/16 10:33	06/20/16 19:09	1
Benzo[a]anthracene	0.067	U	0.33	0.020	mg/Kg		06/15/16 10:33	06/20/16 19:09	1
Benzo[a]pyrene	0.067	U	0.33	0.020	mg/Kg		06/15/16 10:33	06/20/16 19:09	1
Benzo[b]fluoranthene	0.067	U	0.33	0.026	mg/Kg		06/15/16 10:33	06/20/16 19:09	1
Benzo[g,h,i]perylene	0.033	U	0.33	0.016	mg/Kg		06/15/16 10:33	06/20/16 19:09	1
Benzo[k]fluoranthene	0.13	U	0.33	0.040	mg/Kg		06/15/16 10:33	06/20/16 19:09	1
Benzoic acid	1.0	U	1.6	0.33	mg/Kg		06/15/16 10:33	06/20/16 19:09	1
Benzyl alcohol	0.033	U	0.33	0.010	mg/Kg		06/15/16 10:33	06/20/16 19:09	1
Bis(2-chloroethoxy)methane	0.067	U	0.33	0.023	mg/Kg		06/15/16 10:33	06/20/16 19:09	1
Bis(2-chloroethyl)ether	0.033	U	0.33	0.017	mg/Kg		06/15/16 10:33	06/20/16 19:09	1
Bis(2-ethylhexyl) phthalate	0.13	U	0.33	0.046	mg/Kg		06/15/16 10:33	06/20/16 19:09	1
Butyl benzyl phthalate	0.13	U	0.33	0.043	mg/Kg		06/15/16 10:33	06/20/16 19:09	1
Carbazole	0.13	U	0.33	0.036	mg/Kg		06/15/16 10:33	06/20/16 19:09	1
Chrysene	0.067	U	0.33	0.027	mg/Kg		06/15/16 10:33	06/20/16 19:09	1
Dibenz(a,h)anthracene	0.067	U	0.33	0.019	mg/Kg		06/15/16 10:33	06/20/16 19:09	1
Dibenzofuran	0.067	U	0.33	0.020	mg/Kg		06/15/16 10:33	06/20/16 19:09	1
Diethyl phthalate	0.067	U	0.66	0.026	mg/Kg		06/15/16 10:33	06/20/16 19:09	1
Dimethyl phthalate	0.067	U	0.33	0.023	mg/Kg		06/15/16 10:33	06/20/16 19:09	1
Di-n-butyl phthalate	0.067	U	0.33	0.029	mg/Kg		06/15/16 10:33	06/20/16 19:09	1
Di-n-octyl phthalate	0.066	U	0.33	0.014	mg/Kg		06/15/16 10:33	06/20/16 19:09	1
Fluoranthene	0.13	U	0.33	0.036	mg/Kg		06/15/16 10:33	06/20/16 19:09	1
Fluorene	0.067	U	0.33	0.018	mg/Kg		06/15/16 10:33	06/20/16 19:09	1
Hexachlorobenzene	0.067	U	0.33	0.029	mg/Kg		06/15/16 10:33	06/20/16 19:09	1
Hexachlorobutadiene	0.033	U	0.33	0.010	mg/Kg		06/15/16 10:33	06/20/16 19:09	1
Hexachlorocyclopentadiene	0.13	U	1.7	0.050	mg/Kg		06/15/16 10:33	06/20/16 19:09	1
Hexachloroethane	0.067	U	0.33	0.021	mg/Kg		06/15/16 10:33	06/20/16 19:09	1
Indeno[1,2,3-cd]pyrene	0.067	U	0.33	0.022	mg/Kg		06/15/16 10:33	06/20/16 19:09	1
Isophorone	0.067	U	0.33	0.017	mg/Kg		06/15/16 10:33	06/20/16 19:09	1
Naphthalene	0.067	U	0.33	0.031	mg/Kg		06/15/16 10:33	06/20/16 19:09	1
Nitrobenzene	0.067	U	0.33	0.022	mg/Kg		06/15/16 10:33	06/20/16 19:09	1
N-Nitrosodimethylamine	0.13	U	0.52	0.037	mg/Kg		06/15/16 10:33	06/20/16 19:09	1
N-Nitrosodi-n-propylamine	0.067	U	0.33	0.031	mg/Kg		06/15/16 10:33	06/20/16 19:09	1
N-Nitrosodiphenylamine	0.067	U	0.33	0.021	mg/Kg		06/15/16 10:33	06/20/16 19:09	1
N-Nitrosopyrrolidine	0.17	U	0.33	0.064	mg/Kg		06/15/16 10:33	06/20/16 19:09	1
Pentachlorophenol	1.0	U	1.6	0.33	mg/Kg		06/15/16 10:33	06/20/16 19:09	1
Phenanthrene	0.067	U	0.33	0.017	mg/Kg		06/15/16 10:33	06/20/16 19:09	1
Phenol	0.067	U	0.33	0.018	mg/Kg		06/15/16 10:33	06/20/16 19:09	1
Pyrene	0.033	U	0.40	0.012	mg/Kg		06/15/16 10:33	06/20/16 19:09	1

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

Lab Sample ID: MB 280-329894/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 330552 — **Prep Batch: 329894**

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol (Surr)	73		39 - 132	06/15/16 10:33	06/20/16 19:09	1
2-Fluorobiphenyl	76		44 - 115	06/15/16 10:33	06/20/16 19:09	1
2-Fluorophenol (Surr)	75		35 - 115	06/15/16 10:33	06/20/16 19:09	1
Nitrobenzene-d5 (Surr)	73		37 - 122	06/15/16 10:33	06/20/16 19:09	1
Phenol-d5 (Surr)	76		33 - 122	06/15/16 10:33	06/20/16 19:09	1
Terphenyl-d14 (Surr)	88		54 - 127	06/15/16 10:33	06/20/16 19:09	1

Lab Sample ID: LCS 280-329894/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 330552 — **Prep Batch: 329894**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2,4,5-Tetrachlorobenzene	2.67	2.28		mg/Kg		85	37 - 119
1,2,4-Trichlorobenzene	2.67	2.20		mg/Kg		82	34 - 118
1,2-Dichlorobenzene	2.67	2.18		mg/Kg		82	33 - 117
1,2-Diphenylhydrazine	2.70	2.40		mg/Kg		89	41 - 125
1,3-Dichlorobenzene	2.67	2.12		mg/Kg		80	30 - 115
1,4-Dichlorobenzene	2.67	2.15		mg/Kg		81	31 - 115
2,2'-oxybis[1-chloropropane]	2.67	2.03		mg/Kg		76	33 - 131
2,4,5-Trichlorophenol	2.67	2.35		mg/Kg		88	41 - 124
2,4,6-Trichlorophenol	2.67	2.38		mg/Kg		89	39 - 126
2,4-Dichlorophenol	2.67	2.21		mg/Kg		83	40 - 122
2,4-Dimethylphenol	2.67	2.12		mg/Kg		80	30 - 127
2,4-Dinitrophenol	5.33	4.08		mg/Kg		77	46 - 120
2,4-Dinitrotoluene	2.67	2.59		mg/Kg		97	48 - 126
2,6-Dichlorophenol	2.67	2.26		mg/Kg		85	41 - 117
2,6-Dinitrotoluene	2.67	2.50		mg/Kg		94	46 - 124
2-Chloronaphthalene	2.67	2.24		mg/Kg		84	41 - 114
2-Chlorophenol	2.67	2.21		mg/Kg		83	34 - 121
2-Methylnaphthalene	2.67	2.28		mg/Kg		85	38 - 122
2-Methylphenol	2.67	2.17		mg/Kg		82	32 - 122
3 & 4 Methylphenol	2.67	2.17		mg/Kg		81	34 - 119
3,3'-Dichlorobenzidine	2.67	2.04		mg/Kg		77	22 - 121
3-Nitroaniline	2.67	1.80		mg/Kg		68	33 - 119
4,6-Dinitro-2-methylphenol	5.33	4.41		mg/Kg		83	29 - 132
4-Chloroaniline	2.67	1.32		mg/Kg		49	17 - 106
4-Chlorophenyl phenyl ether	2.67	2.33		mg/Kg		88	45 - 121
4-Nitroaniline	2.67	2.18		mg/Kg		82	64 - 120
4-Nitrophenol	5.33	5.15		mg/Kg		97	30 - 132
Acenaphthene	2.67	2.32		mg/Kg		87	40 - 123
Acenaphthylene	2.67	2.30		mg/Kg		86	32 - 132
Anthracene	2.67	2.38		mg/Kg		89	47 - 123
Benzidine	2.67	2.0	U Q	mg/Kg		0	5 - 150
Benzo[a]anthracene	2.67	2.41		mg/Kg		90	49 - 126
Benzo[a]pyrene	2.67	2.36		mg/Kg		89	45 - 129
Benzo[b]fluoranthene	2.67	2.39		mg/Kg		90	45 - 132
Benzo[g,h,i]perylene	2.67	2.47		mg/Kg		92	43 - 134
Benzo[k]fluoranthene	2.67	2.51		mg/Kg		94	47 - 132

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

Lab Sample ID: LCS 280-329894/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 330552 — **Prep Batch: 329894**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzoic acid	2.67	2.17		mg/Kg		81	32 - 120
Benzyl alcohol	2.67	2.16		mg/Kg		81	29 - 122
Bis(2-chloroethoxy)methane	2.67	2.25		mg/Kg		84	36 - 121
Bis(2-chloroethyl)ether	2.67	2.27		mg/Kg		85	31 - 120
Bis(2-ethylhexyl) phthalate	2.67	2.41		mg/Kg		91	51 - 133
Butyl benzyl phthalate	2.67	2.39		mg/Kg		90	48 - 132
Carbazole	2.67	2.40		mg/Kg		90	50 - 123
Chrysene	2.67	2.46		mg/Kg		92	50 - 124
Dibenz(a,h)anthracene	2.67	2.42		mg/Kg		91	45 - 134
Dibenzofuran	2.67	2.37		mg/Kg		89	44 - 120
Diethyl phthalate	2.67	2.48		mg/Kg		93	50 - 124
Dimethyl phthalate	2.67	2.39		mg/Kg		90	48 - 124
Di-n-butyl phthalate	2.67	2.47		mg/Kg		93	51 - 128
Di-n-octyl phthalate	2.67	2.36		mg/Kg		89	45 - 140
Fluoranthene	2.67	2.48		mg/Kg		93	50 - 127
Fluorene	2.67	2.37		mg/Kg		89	43 - 125
Hexachlorobenzene	2.67	2.41		mg/Kg		90	45 - 122
Hexachlorobutadiene	2.67	2.23		mg/Kg		84	32 - 123
Hexachlorocyclopentadiene	2.67	1.79		mg/Kg		67	47 - 120
Hexachloroethane	2.67	2.10		mg/Kg		79	28 - 117
Indeno[1,2,3-cd]pyrene	2.67	2.39		mg/Kg		90	45 - 133
Isophorone	2.67	2.15		mg/Kg		80	30 - 122
Naphthalene	2.67	2.22		mg/Kg		83	35 - 123
Nitrobenzene	2.67	2.17		mg/Kg		81	34 - 122
N-Nitrosodimethylamine	2.67	2.08		mg/Kg		78	23 - 120
N-Nitrosodi-n-propylamine	2.67	2.22		mg/Kg		83	36 - 120
N-Nitrosodiphenylamine	2.67	2.36		mg/Kg		89	38 - 127
Pentachlorophenol	5.33	4.38		mg/Kg		82	25 - 133
Phenanthrene	2.67	2.41		mg/Kg		90	50 - 121
Phenol	2.67	2.16		mg/Kg		81	34 - 121
Pyrene	2.67	2.32		mg/Kg		87	47 - 127

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2,4,6-Tribromophenol (Surr)	*90*		*39 - 132*
2-Fluorobiphenyl	*80*		*44 - 115*
2-Fluorophenol (Surr)	*78*		*35 - 115*
Nitrobenzene-d5 (Surr)	*76*		*37 - 122*
Phenol-d5 (Surr)	*79*		*33 - 122*
Terphenyl-d14 (Surr)	*85*		*54 - 127*

Lab Sample ID: 280-84064-2 MS — **Client Sample ID: SC-TU008-MW001-S1012**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 330552 — **Prep Batch: 329894**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2,4,5-Tetrachlorobenzene	0.15	U	3.03	2.40		mg/Kg	☼	79	37 - 119
1,2,4-Trichlorobenzene	0.078	U	3.03	2.29		mg/Kg	☼	75	34 - 118
1,2-Dichlorobenzene	0.078	U	3.03	2.25		mg/Kg	☼	74	33 - 117

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

Lab Sample ID: 280-84064-2 MS **Client Sample ID: SC-TU008-MW001-S1012**
Matrix: Solid **Prep Type: Total/NA**
Analysis Batch: 330552 **Prep Batch: 329894**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2-Diphenylhydrazine	0.078	U	3.06	2.49		mg/Kg	☼	81	41 - 125
1,3-Dichlorobenzene	0.038	U	3.03	2.18		mg/Kg	☼	72	30 - 115
1,4-Dichlorobenzene	0.038	U	3.03	2.21		mg/Kg	☼	73	31 - 115
2,2'-oxybis[1-chloropropane]	0.078	U	3.03	2.26		mg/Kg	☼	75	33 - 131
2,4,5-Trichlorophenol	0.038	U	3.03	2.49		mg/Kg	☼	82	41 - 124
2,4,6-Trichlorophenol	0.038	U	3.03	2.49		mg/Kg	☼	82	39 - 126
2,4-Dichlorophenol	0.038	U	3.03	2.30		mg/Kg	☼	76	40 - 122
2,4-Dimethylphenol	0.15	U	3.03	2.26		mg/Kg	☼	75	30 - 127
2,4-Dinitrophenol	1.2	U	6.06	4.38		mg/Kg	☼	72	46 - 120
2,4-Dinitrotoluene	0.15	U	3.03	2.66		mg/Kg	☼	88	48 - 126
2,6-Dichlorophenol	0.19	U	3.03	2.35		mg/Kg	☼	77	41 - 117
2,6-Dinitrotoluene	0.078	U	3.03	2.57		mg/Kg	☼	85	46 - 124
2-Chloronaphthalene	0.038	U	3.03	2.31		mg/Kg	☼	76	41 - 114
2-Chlorophenol	0.078	U	3.03	2.31		mg/Kg	☼	76	34 - 121
2-Methylnaphthalene	0.078	U	3.03	2.34		mg/Kg	☼	77	38 - 122
2-Methylphenol	0.038	U	3.03	2.26		mg/Kg	☼	74	32 - 122
3 & 4 Methylphenol	0.078	U	3.03	2.24		mg/Kg	☼	74	34 - 119
3,3'-Dichlorobenzidine	0.31	U	3.03	2.49		mg/Kg	☼	82	22 - 121
3-Nitroaniline	0.31	U	3.03	1.82		mg/Kg	☼	60	33 - 119
4,6-Dinitro-2-methylphenol	1.2	U	6.06	4.52		mg/Kg	☼	74	29 - 132
4-Chloroaniline	0.31	U	3.03	1.56		mg/Kg	☼	52	17 - 106
4-Chlorophenyl phenyl ether	0.078	U	3.03	2.46		mg/Kg	☼	81	45 - 121
4-Nitroaniline	0.31	U	3.03	2.31		mg/Kg	☼	76	64 - 120
4-Nitrophenol	0.31	U	6.06	5.31		mg/Kg	☼	88	30 - 132
Acenaphthene	0.038	U	3.03	2.40		mg/Kg	☼	79	40 - 123
Acenaphthylene	0.078	U	3.03	2.36		mg/Kg	☼	78	32 - 132
Anthracene	0.078	U	3.03	2.48		mg/Kg	☼	82	47 - 123
Benzidine	2.3	U J	3.03	2.3	U J	mg/Kg	☼	0	5 - 150
Benzo[a]anthracene	0.078	U	3.03	2.51		mg/Kg	☼	83	49 - 126
Benzo[a]pyrene	0.078	U	3.03	2.48		mg/Kg	☼	82	45 - 129
Benzo[b]fluoranthene	0.078	U	3.03	2.48		mg/Kg	☼	82	45 - 132
Benzo[g,h,i]perylene	0.038	U	3.03	2.53		mg/Kg	☼	84	43 - 134
Benzo[k]fluoranthene	0.15	U	3.03	2.58		mg/Kg	☼	85	47 - 132
Benzoic acid	1.2	U	3.03	2.32		mg/Kg	☼	77	32 - 120
Benzyl alcohol	0.038	U	3.03	2.29		mg/Kg	☼	76	29 - 122
Bis(2-chloroethoxy)methane	0.078	U	3.03	2.32		mg/Kg	☼	77	36 - 121
Bis(2-chloroethyl)ether	0.038	U	3.03	2.44		mg/Kg	☼	80	31 - 120
Bis(2-ethylhexyl) phthalate	0.15	U	3.03	2.64		mg/Kg	☼	87	51 - 133
Butyl benzyl phthalate	0.15	U	3.03	2.59		mg/Kg	☼	85	48 - 132
Carbazole	0.15	U	3.03	2.46		mg/Kg	☼	81	50 - 123
Chrysene	0.078	U	3.03	2.55		mg/Kg	☼	84	50 - 124
Dibenz(a,h)anthracene	0.078	U	3.03	2.56		mg/Kg	☼	85	45 - 134
Dibenzofuran	0.078	U	3.03	2.44		mg/Kg	☼	80	44 - 120
Diethyl phthalate	0.078	U	3.03	2.61		mg/Kg	☼	86	50 - 124
Dimethyl phthalate	0.078	U	3.03	2.54		mg/Kg	☼	84	48 - 124
Di-n-butyl phthalate	0.078	U	3.03	2.54		mg/Kg	☼	84	51 - 128
Di-n-octyl phthalate	0.076	U	3.03	2.78		mg/Kg	☼	92	45 - 140
Fluoranthene	0.15	U	3.03	2.56		mg/Kg	☼	84	50 - 127

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

Lab Sample ID: 280-84064-2 MS — **Client Sample ID: SC-TU008-MW001-S1012**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 330552 — **Prep Batch: 329894**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluorene	0.078	U	3.03	2.49		mg/Kg	☼	82	43 - 125
Hexachlorobenzene	0.078	U	3.03	2.50		mg/Kg	☼	82	45 - 122
Hexachlorobutadiene	0.038	U	3.03	2.32		mg/Kg	☼	77	32 - 123
Hexachlorocyclopentadiene	0.15	U J	3.03	0.250	J	mg/Kg	☼	8	47 - 120
Hexachloroethane	0.078	U	3.03	1.96		mg/Kg	☼	65	28 - 117
Indeno[1,2,3-cd]pyrene	0.078	U	3.03	2.58		mg/Kg	☼	85	45 - 133
Isophorone	0.078	U	3.03	2.25		mg/Kg	☼	74	30 - 122
Naphthalene	0.078	U	3.03	2.28		mg/Kg	☼	75	35 - 123
Nitrobenzene	0.078	U	3.03	2.30		mg/Kg	☼	76	34 - 122
N-Nitrosodimethylamine	0.15	U	3.03	2.17		mg/Kg	☼	72	23 - 120
N-Nitrosodi-n-propylamine	0.078	U	3.03	2.31		mg/Kg	☼	76	36 - 120
N-Nitrosodiphenylamine	0.078	U	3.03	2.48		mg/Kg	☼	82	38 - 127
Pentachlorophenol	1.2	U	6.06	4.85		mg/Kg	☼	80	25 - 133
Phenanthrene	0.078	U	3.03	2.49		mg/Kg	☼	82	50 - 121
Phenol	0.078	U	3.03	2.27		mg/Kg	☼	75	34 - 121
Pyrene	0.038	U	3.03	2.48		mg/Kg	☼	82	47 - 127

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
2,4,6-Tribromophenol (Surr)	*83*		*39 - 132*
2-Fluorobiphenyl	*72*		*44 - 115*
2-Fluorophenol (Surr)	*73*		*35 - 115*
Nitrobenzene-d5 (Surr)	*70*		*37 - 122*
Phenol-d5 (Surr)	*72*		*33 - 122*
Terphenyl-d14 (Surr)	*81*		*54 - 127*

Lab Sample ID: 280-84064-2 MSD — **Client Sample ID: SC-TU008-MW001-S1012**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 330552 — **Prep Batch: 329894**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,2,4,5-Tetrachlorobenzene	0.15	U	3.15	2.59		mg/Kg	☼	82	37 - 119	8	20
1,2,4-Trichlorobenzene	0.078	U	3.15	2.45		mg/Kg	☼	78	34 - 118	7	20
1,2-Dichlorobenzene	0.078	U	3.15	2.41		mg/Kg	☼	76	33 - 117	7	20
1,2-Diphenylhydrazine	0.078	U	3.19	2.67		mg/Kg	☼	84	41 - 125	7	20
1,3-Dichlorobenzene	0.038	U	3.15	2.35		mg/Kg	☼	75	30 - 115	8	20
1,4-Dichlorobenzene	0.038	U	3.15	2.33		mg/Kg	☼	74	31 - 115	6	20
2,2'-oxybis[1-chloropropane]	0.078	U	3.15	2.39		mg/Kg	☼	76	33 - 131	5	20
2,4,5-Trichlorophenol	0.038	U	3.15	2.65		mg/Kg	☼	84	41 - 124	6	20
2,4,6-Trichlorophenol	0.038	U	3.15	2.67		mg/Kg	☼	85	39 - 126	7	20
2,4-Dichlorophenol	0.038	U	3.15	2.46		mg/Kg	☼	78	40 - 122	6	20
2,4-Dimethylphenol	0.15	U	3.15	2.43		mg/Kg	☼	77	30 - 127	7	20
2,4-Dinitrophenol	1.2	U	6.30	4.58		mg/Kg	☼	73	46 - 120	5	20
2,4-Dinitrotoluene	0.15	U	3.15	2.92		mg/Kg	☼	93	48 - 126	9	20
2,6-Dichlorophenol	0.19	U	3.15	2.48		mg/Kg	☼	79	41 - 117	5	20
2,6-Dinitrotoluene	0.078	U	3.15	2.83		mg/Kg	☼	90	46 - 124	10	20
2-Chloronaphthalene	0.038	U	3.15	2.51		mg/Kg	☼	79	41 - 114	8	20
2-Chlorophenol	0.078	U	3.15	2.46		mg/Kg	☼	78	34 - 121	6	20
2-Methylnaphthalene	0.078	U	3.15	2.51		mg/Kg	☼	80	38 - 122	7	20

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

Lab Sample ID: 280-84064-2 MSD — **Client Sample ID: SC-TU008-MW001-S1012**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 330552 — **Prep Batch: 329894**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
2-Methylphenol	0.038	U	3.15	2.38		mg/Kg	☼	75	32 - 122	5	20
3 & 4 Methylphenol	0.078	U	3.15	2.35		mg/Kg	☼	75	34 - 119	5	20
3,3'-Dichlorobenzidine	0.31	U	3.15	2.66		mg/Kg	☼	85	22 - 121	7	20
3-Nitroaniline	0.31	U	3.15	2.07		mg/Kg	☼	66	33 - 119	13	20
4,6-Dinitro-2-methylphenol	1.2	U	6.30	4.92		mg/Kg	☼	78	29 - 132	9	20
4-Chloroaniline	0.31	U	3.15	1.77		mg/Kg	☼	56	17 - 106	13	20
4-Chlorophenyl phenyl ether	0.078	U	3.15	2.63		mg/Kg	☼	83	45 - 121	7	20
4-Nitroaniline	0.31	U	3.15	2.55		mg/Kg	☼	81	64 - 120	10	20
4-Nitrophenol	0.31	U	6.30	5.35		mg/Kg	☼	85	30 - 132	1	20
Acenaphthene	0.038	U	3.15	2.57		mg/Kg	☼	82	40 - 123	7	20
Acenaphthylene	0.078	U	3.15	2.53		mg/Kg	☼	80	32 - 132	7	20
Anthracene	0.078	U	3.15	2.66		mg/Kg	☼	84	47 - 123	7	20
Benzidine	2.3	U J	3.15	2.4	U J	mg/Kg	☼	0	5 - 150	NC	20
Benzo[a]anthracene	0.078	U	3.15	2.69		mg/Kg	☼	85	49 - 126	7	20
Benzo[a]pyrene	0.078	U	3.15	2.61		mg/Kg	☼	83	45 - 129	5	20
Benzo[b]fluoranthene	0.078	U	3.15	2.65		mg/Kg	☼	84	45 - 132	6	20
Benzo[g,h,i]perylene	0.038	U	3.15	2.67		mg/Kg	☼	85	43 - 134	5	20
Benzo[k]fluoranthene	0.15	U	3.15	2.71		mg/Kg	☼	86	47 - 132	5	20
Benzoic acid	1.2	U	3.15	2.35		mg/Kg	☼	74	32 - 120	1	20
Benzyl alcohol	0.038	U	3.15	2.43		mg/Kg	☼	77	29 - 122	6	20
Bis(2-chloroethoxy)methane	0.078	U	3.15	2.49		mg/Kg	☼	79	36 - 121	7	20
Bis(2-chloroethyl)ether	0.038	U	3.15	2.58		mg/Kg	☼	82	31 - 120	6	20
Bis(2-ethylhexyl) phthalate	0.15	U	3.15	2.83		mg/Kg	☼	90	51 - 133	7	20
Butyl benzyl phthalate	0.15	U	3.15	2.75		mg/Kg	☼	87	48 - 132	6	20
Carbazole	0.15	U	3.15	2.65		mg/Kg	☼	84	50 - 123	7	20
Chrysene	0.078	U	3.15	2.71		mg/Kg	☼	86	50 - 124	6	20
Dibenz(a,h)anthracene	0.078	U	3.15	2.74		mg/Kg	☼	87	45 - 134	7	20
Dibenzofuran	0.078	U	3.15	2.60		mg/Kg	☼	82	44 - 120	6	20
Diethyl phthalate	0.078	U	3.15	2.78		mg/Kg	☼	88	50 - 124	7	20
Dimethyl phthalate	0.078	U	3.15	2.70		mg/Kg	☼	86	48 - 124	6	20
Di-n-butyl phthalate	0.078	U	3.15	2.72		mg/Kg	☼	86	51 - 128	7	20
Di-n-octyl phthalate	0.076	U	3.15	2.93		mg/Kg	☼	93	45 - 140	5	20
Fluoranthene	0.15	U	3.15	2.69		mg/Kg	☼	85	50 - 127	5	20
Fluorene	0.078	U	3.15	2.64		mg/Kg	☼	84	43 - 125	6	20
Hexachlorobenzene	0.078	U	3.15	2.70		mg/Kg	☼	86	45 - 122	8	20
Hexachlorobutadiene	0.038	U	3.15	2.49		mg/Kg	☼	79	32 - 123	7	20
Hexachlorocyclopentadiene	0.15	U J	3.15	0.334	J	mg/Kg	☼	11	47 - 120	29	20
Hexachloroethane	0.078	U	3.15	2.13		mg/Kg	☼	68	28 - 117	8	20
Indeno[1,2,3-cd]pyrene	0.078	U	3.15	2.74		mg/Kg	☼	87	45 - 133	6	20
Isophorone	0.078	U	3.15	2.39		mg/Kg	☼	76	30 - 122	6	20
Naphthalene	0.078	U	3.15	2.45		mg/Kg	☼	78	35 - 123	8	20
Nitrobenzene	0.078	U	3.15	2.44		mg/Kg	☼	78	34 - 122	6	20
N-Nitrosodimethylamine	0.15	U	3.15	2.33		mg/Kg	☼	74	23 - 120	7	20
N-Nitrosodi-n-propylamine	0.078	U	3.15	2.44		mg/Kg	☼	78	36 - 120	6	20
N-Nitrosodiphenylamine	0.078	U	3.15	2.62		mg/Kg	☼	83	38 - 127	6	20
Pentachlorophenol	1.2	U	6.30	5.14		mg/Kg	☼	82	25 - 133	6	20
Phenanthrene	0.078	U	3.15	2.64		mg/Kg	☼	84	50 - 121	6	20
Phenol	0.078	U	3.15	2.41		mg/Kg	☼	76	34 - 121	6	20

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

Lab Sample ID: 280-84064-2 MSD
Matrix: Solid
Analysis Batch: 330552

Client Sample ID: SC-TU008-MW001-S1012
Prep Type: Total/NA
Prep Batch: 329894

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Pyrene	0.038	U	3.15	2.67		mg/Kg	☼	85	47 - 127	7	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
2,4,6-Tribromophenol (Surr)	*85*		*39 - 132*
2-Fluorobiphenyl	*75*		*44 - 115*
2-Fluorophenol (Surr)	*73*		*35 - 115*
Nitrobenzene-d5 (Surr)	*71*		*37 - 122*
Phenol-d5 (Surr)	*74*		*33 - 122*
Terphenyl-d14 (Surr)	*83*		*54 - 127*

Client Sample ID: SC-TU008-MW001-S0002 — Lab Sample ID: 280-84064-1

Date Collected: 06/03/16 11:00 — **Matrix: Solid**
Date Received: 06/04/16 08:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			328954	06/08/16 14:11	MRD	TAL DEN

Client Sample ID: SC-TU008-MW001-S0002 — Lab Sample ID: 280-84064-1

Date Collected: 06/03/16 11:00 — **Matrix: Solid**
Date Received: 06/04/16 08:45 — **Percent Solids: 88.3**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.8114 g	5 mL	256112	06/13/16 10:01	ADB	TAL SL
Total/NA	Analysis	8260C DOD		1	5 mL	5 mL	256107	06/13/16 15:08	ADB	TAL SL
Total/NA	Prep	3550C			31.5 g	1 mL	329894	06/15/16 10:33	SJC	TAL DEN
Total/NA	Analysis	8270D		1			330552	06/21/16 00:39	AFH	TAL DEN

Client Sample ID: SC-TU008-MW001-S1012 — Lab Sample ID: 280-84064-2

Date Collected: 06/03/16 11:20 — **Matrix: Solid**
Date Received: 06/04/16 08:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			329551	06/13/16 11:08	MRD	TAL DEN

Client Sample ID: SC-TU008-MW001-S1012 — Lab Sample ID: 280-84064-2

Date Collected: 06/03/16 11:20 — **Matrix: Solid**
Date Received: 06/04/16 08:45 — **Percent Solids: 84.1**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			6.552 g	5 mL	256112	06/13/16 10:01	ADB	TAL SL
Total/NA	Analysis	8260C DOD		1	5 mL	5 mL	256107	06/13/16 11:49	ADB	TAL SL
Total/NA	Prep	3550C			30.8 g	1 mL	329894	06/15/16 10:33	SJC	TAL DEN
Total/NA	Analysis	8270D		1			330552	06/21/16 01:06	AFH	TAL DEN

Client Sample ID: SC-TU008-MW002-S0406 — Lab Sample ID: 280-84064-3

Date Collected: 06/02/16 16:15 — **Matrix: Solid**
Date Received: 06/04/16 08:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			328954	06/08/16 14:11	MRD	TAL DEN

Client Sample ID: SC-TU008-MW002-S0406 — Lab Sample ID: 280-84064-3

Date Collected: 06/02/16 16:15 — **Matrix: Solid**
Date Received: 06/04/16 08:45 — **Percent Solids: 90.7**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.8733 g	5 mL	256112	06/13/16 10:01	ADB	TAL SL

Client Sample ID: SC-TU008-MW002-S0406 — Lab Sample ID: 280-84064-3

Date Collected: 06/02/16 16:15 — **Matrix: Solid**
Date Received: 06/04/16 08:45 — **Percent Solids: 90.7**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C DOD		1	5 mL	5 mL	256107	06/13/16 15:33	ADB	TAL SL
Total/NA	Prep	3550C			31.6 g	1 mL	329894	06/15/16 10:33	SJC	TAL DEN
Total/NA	Analysis	8270D		1			330552	06/21/16 02:29	AFH	TAL DEN

Client Sample ID: SC-TU008-MW002-S0406-D — Lab Sample ID: 280-84064-4

Date Collected: 06/02/16 16:15 — **Matrix: Solid**
Date Received: 06/04/16 08:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			328954	06/08/16 14:11	MRD	TAL DEN

Client Sample ID: SC-TU008-MW002-S0406-D — Lab Sample ID: 280-84064-4

Date Collected: 06/02/16 16:15 — **Matrix: Solid**
Date Received: 06/04/16 08:45 — **Percent Solids: 89.6**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			7.0751 g	5 mL	256112	06/13/16 10:01	ADB	TAL SL
Total/NA	Analysis	8260C DOD		1	5 mL	5 mL	256107	06/13/16 15:59	ADB	TAL SL
Total/NA	Prep	3550C			32.8 g	1 mL	329894	06/15/16 10:33	SJC	TAL DEN
Total/NA	Analysis	8270D		1			330552	06/21/16 02:56	AFH	TAL DEN

Client Sample ID: SC-TU008-MW002-S0002 — Lab Sample ID: 280-84064-5

Date Collected: 06/02/16 16:30 — **Matrix: Solid**
Date Received: 06/04/16 08:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			328954	06/08/16 14:11	MRD	TAL DEN

Client Sample ID: SC-TU008-MW002-S0002 — Lab Sample ID: 280-84064-5

Date Collected: 06/02/16 16:30 — **Matrix: Solid**
Date Received: 06/04/16 08:45 — **Percent Solids: 95.4**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.9696 g	5 mL	256112	06/13/16 10:01	ADB	TAL SL
Total/NA	Analysis	8260C DOD		1	5 mL	5 mL	256107	06/13/16 16:25	ADB	TAL SL
Total/NA	Prep	3550C			30.9 g	1 mL	329894	06/15/16 10:33	SJC	TAL DEN
Total/NA	Analysis	8270D		1			330730	06/21/16 16:35	DCK	TAL DEN

Client Sample ID: SC-TU008-MW003-S0204 — Lab Sample ID: 280-84064-6

Date Collected: 06/02/16 15:00 — **Matrix: Solid**
Date Received: 06/04/16 08:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			328954	06/08/16 14:11	MRD	TAL DEN

Client Sample ID: SC-TU008-MW003-S0204 — Lab Sample ID: 280-84064-6

Date Collected: 06/02/16 15:00 — **Matrix: Solid**
Date Received: 06/04/16 08:45 — **Percent Solids: 85.2**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			6.6885 g	5 mL	256112	06/13/16 10:01	ADB	TAL SL
Total/NA	Analysis	8260C DOD		1	5 mL	5 mL	256107	06/13/16 16:50	ADB	TAL SL
Total/NA	Prep	3550C			30.8 g	1 mL	329894	06/15/16 10:33	SJC	TAL DEN
Total/NA	Analysis	8270D		1			330730	06/21/16 17:02	DCK	TAL DEN

Client Sample ID: SC-TU008-MW003-S0405 — Lab Sample ID: 280-84064-7

Date Collected: 06/02/16 15:15 — **Matrix: Solid**
Date Received: 06/04/16 08:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			328954	06/08/16 14:11	MRD	TAL DEN

Client Sample ID: SC-TU008-MW003-S0405 — Lab Sample ID: 280-84064-7

Date Collected: 06/02/16 15:15 — **Matrix: Solid**
Date Received: 06/04/16 08:45 — **Percent Solids: 88.6**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			7.0471 g	5 mL	256112	06/13/16 10:01	ADB	TAL SL
Total/NA	Analysis	8260C DOD		1	5 mL	5 mL	256107	06/13/16 17:16	ADB	TAL SL
Total/NA	Prep	3550C			30.5 g	1 mL	329894	06/15/16 10:33	SJC	TAL DEN
Total/NA	Analysis	8270D		1			330730	06/21/16 17:29	DCK	TAL DEN

Client Sample ID: SC-TU008-MW004-S0507 — Lab Sample ID: 280-84064-8

Date Collected: 06/02/16 11:30 — **Matrix: Solid**
Date Received: 06/04/16 08:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			328954	06/08/16 14:11	MRD	TAL DEN

Client Sample ID: SC-TU008-MW004-S0507 — Lab Sample ID: 280-84064-8

Date Collected: 06/02/16 11:30 — **Matrix: Solid**
Date Received: 06/04/16 08:45 — **Percent Solids: 90.5**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			6.9771 g	5 mL	256112	06/13/16 10:01	ADB	TAL SL

Lab Chronicle

Client: Weston Solutions, Inc.
Project/Site: Schenectady ANGB, TU008

TestAmerica Job ID: 280-84064-1

Client Sample ID: SC-TU008-MW004-S0507

Lab Sample ID: 280-84064-8
Date Collected: 06/02/16 11:30
Matrix: Solid
Date Received: 06/04/16 08:45
Percent Solids: 90.5

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C DOD		1	5 mL	5 mL	256107	06/13/16 17:42	ADB	TAL SL
Total/NA	Prep	3550C			32.2 g	1 mL	329894	06/15/16 10:33	SJC	TAL DEN
Total/NA	Analysis	8270D		1			330730	06/21/16 17:55	DCK	TAL DEN

Client Sample ID: SC-TU008-MW004-S0305

Lab Sample ID: 280-84064-9
Date Collected: 06/02/16 11:40
Matrix: Solid
Date Received: 06/04/16 08:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			328954	06/08/16 14:11	MRD	TAL DEN

Client Sample ID: SC-TU008-MW004-S0305

Lab Sample ID: 280-84064-9
Date Collected: 06/02/16 11:40
Matrix: Solid
Date Received: 06/04/16 08:45
Percent Solids: 90.4

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.222 g	5 mL	256112	06/13/16 10:01	ADB	TAL SL
Total/NA	Analysis	8260C DOD		1	5 mL	5 mL	256107	06/13/16 18:07	ADB	TAL SL
Total/NA	Prep	3550C			31.4 g	1 mL	329894	06/15/16 10:33	SJC	TAL DEN
Total/NA	Analysis	8270D		1			330730	06/21/16 18:22	DCK	TAL DEN

Client Sample ID: SC-TU008-TB060316

Lab Sample ID: 280-84064-10
Date Collected: 06/03/16 15:00
Matrix: Water
Date Received: 06/04/16 08:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C DOD		1	5 mL	5 mL	256397	06/15/16 12:51	SMR	TAL SL

Laboratory References:

TAL DEN = TestAmerica Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

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

Certification Summary

Client: Weston Solutions, Inc.
Project/Site: Schenectady ANGB, TU008

TestAmerica Job ID: 280-84064-1

Laboratory: TestAmerica Denver

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
A2LA	DoD ELAP		2907.01	10-31-17
A2LA	ISO/IEC 17025		2907.01	10-31-17
Alabama	State Program	4	40730	09-30-12 *
Alaska (UST)	State Program	10	UST-30	04-05-17
Arizona	State Program	9	AZ0713	12-19-16
Arkansas DEQ	State Program	6	88-0687	06-01-17
California	State Program	9	2513	08-31-16 *
Connecticut	State Program	1	PH-0686	09-30-16
Florida	NELAP	4	E87667	06-30-16 *
Georgia	State Program	4	N/A	01-09-17
Illinois	NELAP	5	200017	04-30-17
Iowa	State Program	7	370	11-30-16
Kansas	NELAP	7	E-10166	07-31-16 *
Louisiana	NELAP	6	02096	06-30-17
Maine	State Program	1	CO0002	03-03-17
Minnesota	NELAP	5	8-999-405	12-31-16
Nevada	State Program	9	CO0026	07-31-17
New Hampshire	NELAP	1	205310	04-28-17
New Jersey	NELAP	2	CO004	06-30-17
New York	NELAP	2	11964	04-01-17
North Carolina (WW/SW)	State Program	4	358	12-31-16
North Dakota	State Program	8	R-034	01-09-17
Oklahoma	State Program	6	8614	08-31-16 *
Oregon	NELAP	10	4025	01-09-17
Pennsylvania	NELAP	3	68-00664	07-31-17
South Carolina	State Program	4	72002001	01-09-17
Texas	NELAP	6	T104704183-15-11	09-30-16
USDA	Federal		P330-13-00369	12-17-16
Utah	NELAP	8	CO00026	07-31-16 *
Virginia	NELAP	3	460232	06-14-17
Washington	State Program	10	C583	08-03-17
West Virginia DEP	State Program	3	354	11-30-16
Wisconsin	State Program	5	999615430	08-31-16 *
Wyoming (UST)	A2LA	8	2907.01	10-31-17

Laboratory: TestAmerica St. Louis

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Alaska	State Program	10	MO00054	06-30-17
California	State Program	9	2886	03-31-18
Connecticut	State Program	1	PH-0241	03-31-17
Florida	NELAP	4	E87689	06-30-17
Illinois	NELAP	5	003757	11-30-16
Iowa	State Program	7	373	12-01-16
Kansas	NELAP	7	E-10236	07-31-16 *
Kentucky (DW)	State Program	4	90125	12-31-16
L-A-B	DoD ELAP		L2305	04-06-19
Louisiana	NELAP	6	04080	06-30-17
Louisiana (DW)	NELAP	6	LA160008	12-31-16

* Certification renewal pending - certification considered valid.

Laboratory: TestAmerica St. Louis (Continued)

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Maryland	State Program	3	310	09-30-17
Missouri	State Program	7	780	06-30-17
Nevada	State Program	9	MO000542016-1	07-31-17
New Jersey	NELAP	2	MO002	06-30-17
New York	NELAP	2	11616	03-31-17
North Dakota	State Program	8	R207	06-30-17
NRC	NRC		24-24817-01	12-31-22
Oklahoma	State Program	6	9997	08-31-16 *
Pennsylvania	NELAP	3	68-00540	02-28-17 *
South Carolina	State Program	4	85002001	06-30-16 *
Texas	NELAP	6	T104704193-15-9	07-31-17
USDA	Federal		P330-07-00122	01-09-17
Utah	NELAP	8	MO000542015-7	07-31-16 *
Virginia	NELAP	3	460230	06-14-17
Washington	State Program	10	C592	08-30-16 *
West Virginia DEP	State Program	3	381	08-31-16 *

* Certification renewal pending - certification considered valid.

GENERAL CHEMISTRY

COVER PAGE
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job Number: 280-84064-1

SDG No.:

Project: Schenectady ANGB, TU008

Client Sample ID	Lab Sample ID
SC-TU008-MW001-S0002	280-84064-1
SC-TU008-MW001-S1012	280-84064-2
SC-TU008-MW002-S0406	280-84064-3
SC-TU008-MW002-S0406-D	280-84064-4
SC-TU008-MW002-S0002	280-84064-5
SC-TU008-MW003-S0204	280-84064-6
SC-TU008-MW003-S0405	280-84064-7
SC-TU008-MW004-S0507	280-84064-8
SC-TU008-MW004-S0305	280-84064-9

Comments:

9-IN
DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job Number: 280-84064-1

SDG Number:

Matrix: Solid Instrument ID: NOEQUIP

Method: Moisture LOQ Date: 11/01/2009 00:00

Analyte	Wavelength/ Mass	LOQ (%)	
Percent Moisture		0.1	

FORM IX - IN

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job No.: 280-84064-1

SDG No.:

Instrument ID: NOEQUIP Analysis Method: Moisture

Start Date: 06/08/2016 14:11 End Date: 06/08/2016 14:11

Lab Sample Id	D/F	Type	Time	Analytes																							
				Moist																							
ZZZZZZ			14:11																								
ZZZZZZ			14:11																								
ZZZZZZ			14:11																								
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280-84064-1	1	T	14:11	X																							
280-84064-3	1	T	14:11	X																							
280-84064-4	1	T	14:11	X																							
280-84064-5	1	T	14:11	X																							
280-84064-6	1	T	14:11	X																							
280-84064-7	1	T	14:11	X																							
280-84064-7 DU	1	T	14:11	X																							
280-84064-8	1	T	14:11	X																							
280-84064-9	1	T	14:11	X																							
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Prep Types:
T = Total/NA

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job No.: 280-84064-1

SDG No.:

Instrument ID: NOEQUIP Analysis Method: Moisture

Start Date: 06/13/2016 11:08 End Date: 06/13/2016 11:50

Lab Sample Id	D/F	Type	Time	Analytes																							
				Moist																							
ZZZZZZ			11:08																								
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FORM XIII-IN

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job No.: 280-84064-1

SDG No.:

Instrument ID: NOEQUIP Analysis Method: Moisture

Start Date: 06/13/2016 11:08 End Date: 06/13/2016 11:50

Lab Sample Id	D/F	Type	Time	Analytes																							
				Moist																							
ZZZZZZ			11:08																								
ZZZZZZ			11:08																								
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280-84064-2	1	T	11:08	X																							
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ZZZZZZ			11:08																								
ZZZZZZ			11:50																								

Prep Types:
T = Total/NA

FORM XIII-IN

TestAmerica Denver

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Top-Loading Balance Calibration Verification Log

DV-QA-0014

ACCEPTANCE CRITERIA: **0.01 READABILITY:** For <20 g, true mass ± 0.02 g: for ≥ 20 g, true mass ± 0.1%
0.1 READABILITY: For <200 g, true mass ± 0.2 g: for ≥ 200 g, true mass ± 0.1%

Date	Weight Serial Number	Weight Used	Balance Reading (g)	Initials	Acceptable? (Y/N)/Comments
6/05/16	66040	1g	0.99g	[illegible]	Y
	66040	10g	9.98g		Y
	66040	100g	100.00g		Y
6/7/16	66040	1g	1.00 g	MRD	Y
	66040	10g	9.99 g		Y
	66040	100g	99.98 g		Y
6/8/16	66040	1g	0.99g	MRD	Y
	66040	10g	10.03		Y
	66040	100g	99.98g		Y
6/~~8~~9/16 MRD 6/9/16	66040	1 g	1.01 g	MRD	Y
	66040	10 g	10.01		Y
	66040	100 g	99.99		Y

TestAmerica Denver

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Gravimetric-Solids Data Review Checklist

LIMS Batch Number: 328954		Instrument ID: 20160607
Analyst/1st Reviewer/Date: MARCIA 6/9/16	Method: MOISTURE	QC Type (circle): Standard LCSD DOD Q4 DoD Q5 QAPP_____ Other_____
Method (circle): 2540B 2540C 2540D 160.4 1664A 1664B 9071		D5057 D1429 (D2216)
Matrix (circle): Water (Solid) Waste		

Review Items	Yes	No	NA	2nd rev	If No, why is data reportable?
A. Balance, Oven and DI water Checks					
Was the balance calibration verified before and after processing samples and noted in the "Balance Calibration Log" for the date(s) the samples were processed?	✓			✓	
Was the daily conductivity check of the deionized water recorded in the "Conductivity Logbook"?			✓	✓	
Temps. within the required temperature of the method: % Moisture: 100°C ± 5°C % Vol. 103°C - 105°C % Solids, TS, TSS, TVSS, VSS 103°C - 105°C TDS 180°C ± 2°C %Vol, TVSS, VSS 550°C ± 50°C Other:_____ _____	✓			✓	
B. Method Requirements					
QC Batch contains no greater than 20 samples?	✓			✓	
If sample is visibly oily, was this noted on the benchsheet?			✓	✓	
Was final residue weight within minimum/maximum requirements?	✓			✓	
Were the initial and final drying dates and times recorded on the benchsheet/TALS and were all samples dried for at least one hour?	✓			✓	
C. Preparation/ Matrix QC					
Matrix Duplicate (RPD ± 5 %) (If > 5 %, determine corrective per SOP.) The RPD limit of 5% applies to TSS, TDS and TS, 20% RPD for all others	✓			✓	
Method blank < ½ RL or all reported samples > 10 X RL? - **(HEM, SGT HEM, and TDS the MB <RL)**			✓	✓	
LCS/LCSD run for batch and within QC limits?			✓	✓	
D. Preparation/ Matrix QC					
TDS/Conductivity ratio or historical data checked?			✓	✓	
For % Moisture, was the Final Dried Weight < the Initial Pan Weight or is the result greater than 100%?	✓			✓	
Were sample analyses done within holding time? **If no, create HTV NCM. NCM#**	✓			✓	
Were special client requirements met?	✓			✓	
Were data that were manually transcribed from instrument printouts into TALS verified 100% including dilution factors, significant figures and units?	✓			✓	
Do the prep and analysis dates in TALS reflect the actual dates?	✓			✓	
STD/True Value information is updated and included?	✓			✓	

Review Items	NA	Yes	No	2nd rev	If No, why is data reportable?
F. Data and TALS review					
1. Raw Data					
a. Unused data is clearly identified with reason not used	✓			✓	
b. All cross outs are initialed and dated		✓	✓	✓	
c. Raw data includes the method, date, and analyst initials/signature		✓	✓	✓	
2. TALS Samples Tab					
a. LIMS Sample IDs / Containers are correct		✓		✓	
b. Method and matrix are correct		✓		✓	
c. Date and time match raw data		✓		✓	
d. Dilutions are correct		✓		✓	
e. Correct suffix (DU, MS, MSD) designated (where applicable)		✓		✓	
3. TALS Worksheet Tab is complete and correct (Initial Amount, Final Amount, pH, etc.)		✓		✓	
4. TALS Reagent Tab is complete and correct and properly associated with QC samples. Confirm that reagent amounts are correct. If reagents are new verify that the correct COA has been attached to the source standard	✓			✓	
5. TALS QC Links Tab is correct		✓		✓	
6. TALS Sample Results Tab		✓		✓	
a. All unused data are marked Rejected or Accepted		✓		✓	
b. Set status for samples based on QC and sample results info (i.e., set to primary analysis with passing QC or reject samples without passing QC or samples that are over-range.)		✓		✓	
c. Any data that has a qualifier is commented on with appropriate action taken		✓		✓	
7. TALS Batch Information Screen documentation is complete		✓		✓	
8. Historical Data Checker: Check historical data. Print charts for outliers. Take corrective action as is appropriate		✓		✓	
9. TALS Status set to appropriate review level		✓		✓	
E. Final Report and NCMs (2nd level review only)					
1. Were all job/project requirements met?				✓	
2. Results for samples and QC correct on final report?				✓	
3. Are all necessary scanned documents in TALS?				✓	
4. NCMs reviewed for applicability, correct references to batches, grammar/typographical errors?				✓	

Comments: CMR 6/9/16

2nd Reviewer: Caitlyn M Hall **Review Date:** 6/9/16

TestAmerica Denver

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Gravimetric-Solids Data Review Checklist

LIMS Batch Number: 329531		Instrument ID:
Analyst/1st Reviewer/Date: MARCIA 6/14/2016	Method: MOISTURE	QC Type (circle): Standard LCSD DOD Q4 DoD Q5 QAPP_____ Other_____
Method (circle): 2540B 2540C 2540D 160.4 1664A 1664B 9071		D5057 D1429 D2216
Matrix (circle): Water Solid Waste		

Review Items	Yes	No	NA	2nd rev	If No, why is data reportable?
A. Balance, Oven and DI water Checks					
Was the balance calibration verified before and after processing samples and noted in the "Balance Calibration Log" for the date(s) the samples were processed?	✓			✓	
Was the daily conductivity check of the deionized water recorded in the "Conductivity Logbook"?			✓	✓	
Temps. within the required temperature of the method: % Moisture: 100°C ± 5°C % Vol. 103°C - 105°C % Solids, TS, TSS, TVSS, VSS 103°C - 105°C TDS 180°C ± 2°C %Vol, TVSS, VSS 550°C ± 50°C Other:_____ _____	✓			✓	
B. Method Requirements					
QC Batch contains no greater than 20 samples?	✓			✓	
If sample is visibly oily, was this noted on the benchsheet?			✓	✓	
Was final residue weight within minimum/maximum requirements?	✓			✓	
Were the initial and final drying dates and times recorded on the benchsheet/TALS and were all samples dried for at least one hour?	✓			✓	
C. Preparation/ Matrix QC				✓	
Matrix Duplicate (RPD ± 5 %) (If > 5 %, determine corrective per SOP.) The RPD limit of 5% applies to TSS, TDS and TS, 20% RPD for all others	✓			✓	
Method blank < ½ RL or all reported samples > 10 X RL? - **(HEM, SGT HEM, and TDS the MB <RL)**			✓	✓	
LCS/LCSD run for batch and within QC limits?			✓	✓	
D. Preparation/ Matrix QC				✓	
TDS/Conductivity ratio or historical data checked?			✓	✓	
For % Moisture, was the Final Dried Weight < the Initial Pan Weight or is the result greater than 100%?	✓			✓	
Were sample analyses done within holding time? **If no, create HTV NCM. NCM#**	✓			✓	
Were special client requirements met?				✓	
Were data that were manually transcribed from instrument printouts into TALS verified 100% including dilution factors, significant figures and units?	✓			✓	
Do the prep and analysis dates in TALS reflect the actual dates?	✓			✓	
STD/True Value information is updated and included?	✓			✓	

Review Items	NA	Yes	No	2nd rev	If No, why is data reportable?
F. Data and TALS review					
1. Raw Data					
a. Unused data is clearly identified with reason not used	✓			✓	
b. All cross outs are initialed and dated		✓		✓	
c. Raw data includes the method, date, and analyst initials/signature		✓		✓	
2. TALS Samples Tab				✓	
a. LIMS Sample IDs / Containers are correct		✓		✓	
b. Method and matrix are correct		✓		✓	
c. Date and time match raw data		✓		✓	
d. Dilutions are correct		✓		✓	
e. Correct suffix (DU, MS, MSD) designated (where applicable)		✓		✓	
3. TALS Worksheet Tab is complete and correct (Initial Amount, Final Amount, pH, etc.)		✓		✓	
4. TALS Reagent Tab is complete and correct and properly associated with QC samples. Confirm that reagent amounts are correct. If reagents are new verify that the correct COA has been attached to the source standard	✓			✓	
5. TALS QC Links Tab is correct		✓		✓	
6. TALS Sample Results Tab				✓	
a. All unused data are marked Rejected or Accepted		✓		✓	
b. Set status for samples based on QC and sample results info (i.e., set to primary analysis with passing QC or reject samples without passing QC or samples that are over-range.)		✓		✓	
c. Any data that has a qualifier is commented on with appropriate action taken		✓		✓	
7. TALS Batch Information Screen documentation is complete		✓		✓	
8. Historical Data Checker: Check historical data. Print charts for outliers. Take corrective action as is appropriate		✓		✓	
9. TALS Status set to appropriate review level		✓		✓	
E. Final Report and NCMs (2nd level review only)					
1. Were all job/project requirements met?				✓	
2. Results for samples and QC correct on final report?				✓	
3. Are all necessary scanned documents in TALS?				✓	
4. NCMs reviewed for applicability, correct references to batches, grammar/typographical errors?				✓	

Comments: _____

2nd Reviewer: _____ **Review Date:** 6/14/16

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-84064-1

SDG No.:

Batch Number: 328954 Batch Start Date: 06/08/16 14:11 Batch Analyst: Derosia, Marcia R

Batch Method: Moisture Batch End Date: 06/09/16 00:00

Lab Sample ID	Client Sample ID	Method Chain	Basis	DISH#	DishWeight	SampleMassWet	SampleMassDry	AnalysisComment	
280-84064-C-1	SC-TU008-MW001-S 0002	Moisture	T	17	1.26 g	16.59 g	14.8 g		
280-84064-B-3	SC-TU008-MW002-S 0406	Moisture	T	18	1.29 g	15.48 g	14.16 g	Rocky	
280-84064-A-4	SC-TU008-MW002-S 0406-D	Moisture	T	19	1.29 g	15.58 g	14.09 g		
280-84064-B-5	SC-TU008-MW002-S 0002	Moisture	T	20	1.28 g	16.71 g	16.00 g	Rocky	
280-84064-B-6	SC-TU008-MW003-S 0204	Moisture	T	21	1.28 g	15.59 g	13.47 g		
280-84064-A-7	SC-TU008-MW003-S 0405	Moisture	T	22	1.29 g	15.64 g	14.01 g		
280-84064-A-7 DU	SC-TU008-MW003-S 0405	Moisture	T	23	1.29 g	15.98 g	14.37 g		
280-84064-A-8	SC-TU008-MW004-S 0507	Moisture	T	24	1.28 g	16.93 g	15.45 g		
280-84064-A-9	SC-TU008-MW004-S 0305	Moisture	T	25	1.29 g	15.49 g	14.13 g		

Batch Notes	
Balance ID	20160607
Date and Time Samples in Desiccator	6/09/16 1000 mrd
Date and Time Samples out of Desiccator	6/08/16 Tray 1, 1230 mrd; Tray 2 1245 mrd
Date samples were placed in the oven	06/08/16
Oven Temp In	103 Degrees C
Time samples were place in the oven	Tray 1: 1540 mrd
Date samples were removed from oven	06/09/16
Oven Temp Out	104 Degrees C
Time Samples were removed from oven	1000 mrd
Oven ID	F
Thermometer ID	227-694
Uncorrected In Temperature	103 Celsius
Uncorrected Out Temperature	104 Celsius

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-84064-1

SDG No.:

Batch Number: 328954 Batch Start Date: 06/08/16 14:11 Batch Analyst: Derosia, Marcia R

Batch Method: Moisture Batch End Date: 06/09/16 00:00

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-84064-1

SDG No.:

Batch Number: 329551 Batch Start Date: 06/13/16 11:07 Batch Analyst: Derosia, Marcia R

Batch Method: Moisture Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	DISH#	DishWeight	SampleMassWet	SampleMassDry		
280-84064-K-2	SC-TU008-MW001-S 1012	Moisture	T	49	1.29 g	16.66 g	14.21 g		

Batch Notes	
Balance ID	H31422
Date and Time Samples in Desiccator	6/14/16 1026 mrd
Date and Time Samples out of Desiccator	6/14/16 Tray1, 1150 mrd. Tray 2 1210 mrd
Date samples were placed in the oven	06/13/16
Oven Temp In	104 Degrees C
Time samples were place in the oven	1607 mrd
Date samples were removed from oven	06/14/16
Oven Temp Out	103 Degrees C
Time Samples were removed from oven	1026 mrd
Oven ID	F
Thermometer ID	227-694
Uncorrected In Temperature	104 Celsius
Uncorrected Out Temperature	103 Celsius

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

Subcontract Data

Shipping and Receiving Documents

TestAmerica Denver
4955 Yarrow Street
Arvada, CO 80002
Phone (303) 736-0100 Fax (303) 431-7171

480501-Albany

Chain of Custody Record

280-84064 Chain of Custody

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information	Sampler: D. Kormos	Lab PM: Rydberg, Donna R	COC No: 280-53289-19163.2
Client Contact: Ms. Gretchen Fodor	Phone: 860-912-9892	E-Mail: donna.rydberg@testamericainc.com	Page: Page 2 of 2
Company: Weston Solutions, Inc.			Job #:
Address: 1400 Weston Way PO BOX 2653	Due Date Requested:		
City: West Chester	TAT Requested (days): 15 Days		
State, Zip: PA, 19380			
Phone: 703-724-0544(Tel)	PO #: 0090139		
Email: gretchen.fodor@westonsolutions.com	WO #: 15363.100.001.1103		
Project Name: Schenectady ANGB, TU008	Project #: 28015256		
Site: TU008	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)	8260C - 8270D SVOCs	% Moisture	Total Number of containers	Special Instructions/Note:
			Preservation Code:				N	N		
SC-TU008-MW001-S002	06-03-16	1100	G	S	N	Y	X	X	6	
SC-TU008-MW001-S1012	06-03-16	1120			N	N	X	X	3	
SC-TU008-MW002-S0406	06-02-16	1615			N	N	X	X	3	
SC-TU008-MW002-S0406-D		1615			N	N	X	X	3	
SC-TU008-MW002-S0002		1630			N	N	X	X	3	
SC-TU008-MW003-S0204		1500			N	N	X	X	2	
SC-TU008-MW003-S0405		1515			N	N	X	X	2	
SC-TU008-MW004-S0507		1130			N	N	X	X	2	
SC-TU008-MW004-S0305		1140			N	N	X	X	2	

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) IV

Special Instructions/QC Requirements:

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

Relinquished by	Date/Time	Company	Received by	Date/Time	Company
[signature] (Weston)	06-03-16 / 1635		Tim Knoller	6-3-16 1635	TA Albany
Tim Knoller	6-3-16 1800	TA Albany	[signature]	6/4/16 0845	TAD
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: 1.4 +0.0 IR#5 Transferred by DW 6/4/16

TestAmerica Denver
4955 Yarrow Street
Arvada, CO 80002
Phone (303) 736-0100 Fax (303) 431-7171

480501-Albany

Chain of Custody Record

280-84064 Chain of Custody

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information			
Client Contact: Ms. Gretchen Fodor	Sampler: D. Kormos	Lab PM: Rydberg, Donna R	COC No: 280-53289-19163.2
	Phone: 860-912-9892	E-Mail: donna.rydberg@testamericainc.com	Page: Page 2 of 2
Company: Weston Solutions, Inc.			Job #:
Address: 1400 Weston Way PO BOX 2653	Due Date Requested:		
City: West Chester	TAT Requested (days): 15 Days		
State, Zip: PA, 19380			
Phone: 703-724-0544(Tel)	PO #: 0090139		
Email: gretchen.fodor@westonsolutions.com	WO #: 15363.100.001.1103		
Project Name: Schenectady ANGB, TU008	Project #: 28015256		
Site: TU 008	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)	SVOCs - 8270D	% Moisture	Total Number of containers	Special Instructions/Note:
			Preservation Code				N	N		
SC-TU008-MW001-S002	06-03-16	1100	G	S	N	Y	X	X	6	
SC-TU008-MW001-S1012	06-03-16	1120			N	N	X	X	3	
SC-TU008-MW002-S0406	06-02-16	1615			N	N	X	X	3	
SC-TU008-MW002-S0406-D		1615			N	N	X	X	3	
SC-TU008-MW002-S0002		1630			N	N	X	X	3	
SC-TU008-MW003-S0204		1500			N	N	X	X	3	
SC-TU008-MW003-S0405		1515			N	N	X	X	3	
SC-TU008-MW004-S0507		1130			N	N	X	X	3	
SC-TU008-MW004-S0305		1140			N	N	X	X	3	
	06-0-									

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) IV

Special Instructions/QC Requirements:

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

Relinquished by:	Date/Time	Company	Received by:	Date/Time:	Company
[signature] (Weston)	06-03-16 / 1635		Tim Kneller	6-3-16 1635	TA Albany
Tim Kneller	6-3-16 1800	TA Albany	[signature]	6/4/16 0845	DHL
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: 1.4+0.0 IR#5 Transferred by DW 6/4/16

08/16/2016

TestAmerica Denver
4955 Yarrow Street
Arvada, CO 80002
Phone (303) 736-0100 Fax (303) 431-7171

480501-Albany

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information	Sampler: D. Kormos	Lab PM: Rydberg, Donna R	Carrier Tracking No(s):	COC No: 280-53289-19163.2
Client Contact: Ms. Gretchen Fodor	Phone: 860-912-9842	E-Mail: donna.rydberg@testamericainc.com		Page: Page 2 of 2
Company: Weston Solutions, Inc.				Job #:
Address: 1400 Weston Way PO BOX 2653	Due Date Requested:			
City: West Chester	TAT Requested (days): 15 Days.			
State, Zip: PA, 19380				
Phone: 703-724-0544(Tel)	PO #: 0090139			
Email: gretchen.fodor@westonsolutions.com	WO #: 15363.100.001.1103			
Project Name: Schenectady ANGB, TU008	Project #: 28015256			
Site: TU008	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)	VOCs - 8260C	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
SC-TU008-MW001-S0002	06-03-16	1100	G	S	N	Y	X	3	
SC-TU008-MW001-S1012	06-03-16	1120			N	N	X	3	
SC-TU008-MW002-S0406	06-02-16	1615			N	N	X	3	
SC-TU008-MW002-S0406-D		1615			N	N	X	3	
SC-TU008-MW002-S0002		1630			N	N	X	3	
SC-TU008-MW003-S0204		1500			N	N	X	3	
SC-TU008-MW004-S0507		1130			N	N	X	3	
SC-TU008-MW004-S0305		1140			N	N	X	3	
SC-TU008-MW003-S0405		1515			N	N	X	3	
SC-TU008-TB060316	06-03-16	1500	G	W	N	N	X	2	*HCl, Lab Prepared.

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) IV

Special Instructions/QC Requirements:

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

Relinquished by	Date/Time	Company	Received by	Date/Time	Company
[signature]	06/03/16 1635		[signature]	6-3-16 1635	TA Alb
[signature]	6-3-16 1800	TA Albany			

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

TestAmerica Denver
4955 Yarrow Street
Arvada, CO 80002
Phone (303) 736-0100 Fax (303) 431-7171

480501-Albany

Chain of Custody Record

280-84064 Chain of Custody

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information	Sampler: D. Kormos	Lab PM: Rydberg, Donna R	COC No: 280-53289-19163.2
Client Contact: Ms. Gretchen Fodor	Phone: 860-912-9892	E-Mail: donna.rydberg@testamericainc.com	Page: Page 2 of 2
Company: Weston Solutions, Inc.			Job #:
Address: 1400 Weston Way PO BOX 2653	Due Date Requested:		
City: West Chester	TAT Requested (days): 15 Days		
State, Zip: PA, 19380			
Phone: 703-724-0544(Tel)	PO #: 0090139		
Email: gretchen.fodor@westonsolutions.com	WO #: 15363.100.001.1103		
Project Name: Schenectady ANGB, TU008	Project #: 28015256		
Site: TU 008	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)	SVOCs - 8270D	% Moisture	Total Number of containers	Special Instructions/Note:
			Preservation Code:				N	N		
SC-TU008-MW001-S002	06-03-16	1100	G	S	N	Y	X	X	6	
SC-TU008-MW001-S1012	06-03-16	1120	↓	↓	N	N	X	X	3	
SC-TU008-MW002-S0406	06-02-16	1615	↓	↓	N	N	X	X	3	
SC-TU008-MW002-S0406-D	↓	1615	↓	↓	N	N	X	X	3	
SC-TU008-MW002-S0002	↓	1630	↓	↓	N	N	X	X	3	
SC-TU008-MW003-S0204	↓	1500	↓	↓	N	N	X	X	2	
SC-TU008-MW003-S0405	↓	1515	↓	↓	N	N	X	X	2	
SC-TU008-MW004-S0507	↓	1130	↓	↓	N	N	X	X	2	
SC-TU008-MW004-S0305	↓	1140	↓	↓	N	N	X	X	2	
~~06-0~~										

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) IV

Special Instructions/QC Requirements:

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

Relinquished by	Date/Time	Company	Received by	Date/Time	Company
[signature] (Weston)	06-03-16 / 1635		Tim Kneller	6-3-16 1635	TA Albany
Tim Kneller	6-3-16 1800	TA Albany	[signature]	6/4/16 0845	TAD

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.:

Cooler Temperature(s) °C and Other Remarks: 1.4+0.0 IR#5 Transferred by DW 6/4/16

TestAmerica Denver
4955 Yarrow Street
Arvada, CO 80002
Phone (303) 736-0100 Fax (303) 431-7171

180325

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

BALTIMORE

Client Information	Sampler: Dane Karmes	Lab PM: Rydberg, Donna R	Carrier Tracking No(s):	COC No: 280-53289-19163.2
Client Contact: Ms. Gretchen Fodor	Phone: (860) 912-9892	E-Mail: donna.rydberg@testamericainc.com		Page: ~~Page 2 of 2~~ 1 of 1
Company: Weston Solutions, Inc.				Job #:
Address: 1400 Weston Way PO BOX 2653	Due Date Requested:			
City: West Chester	TAT Requested (days): 15 day			
State, Zip: PA, 19380				
Phone: 703-724-0544(Tel)	PO #: 0090139			
Email: gretchen.fodor@westonsolutions.com	WO #: 15363.100.001.1103			
Project Name: Schenectady ANGB, ~~TU009~~	Project #: 28015256			
Site: TU008	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)	SVOCs - 8270D	Moisture	Total Number of containers	Special Instructions/Note:
Preservation Code:										
~~SC-TU008-MW001-S0002~~	~~6-3-16~~	~~1100~~	~~G~~	~~S~~						
SC-TU008-MW001-S1012	6-3-16	1120			N	Y	X	X	9	
~~SC-TU008-MW002-S0406~~	~~6-2-16~~	~~1615~~								
~~SC-TU008-MW002-S0406-D~~		~~1615~~								
~~SC-TU008-MW002-S0002~~		~~1630~~								
~~SC-TU008-MW003-S0204~~		~~1500~~								
~~SC-TU008-MW003-S0405~~		~~1515~~								
~~SC-TU008-MW004-S0507~~		~~1130~~								
~~SC-TU008-MW004-S0305~~		~~1140~~								

Page 1417 of 1423

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) IV

Special Instructions/QC Requirements:

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

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
[signature]	6/9/16 1441		[signature]	6/9/16 1441	TT
[signature]	6/9/16 1715	TA	[signature]	6-10-16 0925	TAD

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.:

Cooler Temperature(s) °C and Other Remarks: 20, IR#5 10.0 Transferred by RP 6-10-10

08/16/2016

TestAmerica Denver
4955 Yarrow Street
Arvada, CO 80002
Phone (303) 736-0100 Fax (303) 431-7171

480501-Albany

Chain of Custody Record

280-84064 Chain of Custody

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information	Sampler: D. Kormos	Lab PM: Rydberg, Donna R	COC No: 280-53289-19163.2
Client Contact: Ms. Gretchen Fodor	Phone: 860-912-9892	E-Mail: donna.rydberg@testamericainc.com	Page: Page 2 of 2
Company: Weston Solutions, Inc.			Job #:
Address: 1400 Weston Way PO BOX 2653	Due Date Requested:		
City: West Chester	TAT Requested (days): 15 Days		
State, Zip: PA, 19380			
Phone: 703-724-0544(Tel)	PO #: 0090139		
Email: gretchen.fodor@westonsolutions.com	WO #: 15363.100.001.1103		
Project Name: Schenectady ANGB, TU008	Project #: 28015256		
Site: TU 008	SSOW#:		

Analysis Requested

SVOCs – 8270D
% Moisture

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)	SVOCs – 8270D	% Moisture										Total Number of containers	Special Instructions/Note:
			Preservation Code:				N	N											
SC-TU008-MW001-S002	06-03-16	1100	G	S	N	Y	X	X										3	
SC-TU008-MW001-S1012	06-03-16	1120			N	N	X	X										3	
SC-TU008-MW002-S0406	06-02-16	1615			N	N	X	X										3	
SC-TU008-MW002-S0406-D		1615			N	N	X	X										3	
SC-TU008-MW002-S0002		1630			N	N	X	X										3	
SC-TU008-MW003-S0204		1500			N	N	X	X										3	
SC-TU008-MW003-S0405		1515			N	N	X	X										3	
SC-TU008-MW004-S0507		1130			N	N	X	X										3	
SC-TU008-MW004-S0305		1140			N	N	X	X										3	
	06-0[illegible]																		

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) IV

Special Instructions/QC Requirements:

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

Relinquished by	Date/Time	Company	Received by	Date/Time	Company
[signature] (Weston)	06-03-16 / 1635		Tim Kneller	6-3-16 1635	TA Albany
Tim Kneller	6-3-16 1800	TA Albany	[signature]	6/4/16 0845	TAD
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: 1.4+0.0 IR#5 Transferred by DW 6/4/16

TestAmerica Denver
4955 Yarrow Street
Arvada, CO 80002
Phone (303) 736-0100 Fax (303) 431-7171

180325

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

BALTIMORE

Client Information	Sampler: Dane Karmes	Lab PM: Rydberg, Donna R	Carrier Tracking No(s):	COC No: 280-53289-19163.2
Client Contact: Ms. Gretchen Fodor	Phone: (860) 912-9892	E-Mail: donna.rydberg@testamericainc.com		Page: ~~Page 2 of 2~~ 1 of 1
Company: Weston Solutions, Inc.				Job #:
Address: 1400 Weston Way PO BOX 2653	Due Date Requested:			
City: West Chester	TAT Requested (days): 15 day			
State, Zip: PA, 19380				
Phone: 703-724-0544(Tel)	PO #: 0090139			
Email: gretchen.fodor@westonsolutions.com	WO #: 15363.100.001.1103			
Project Name: Schenectady ANGB, ~~TU009~~	Project #: 28015256			
Site: TU008	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)	Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	SVOCs - 8270D	Moisture	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
~~SC-TU008-MW001-S0002~~	~~6-3-16~~	~~1100~~	~~G~~	~~S~~						
SC-TU008-MW001-S1012	6-3-16	1120			N	Y	X	X	9	
~~SC-TU008-MW002-S0406~~	~~6-2-16~~	~~1615~~								
~~SC-TU008-MW002-S0406-D~~		~~1615~~								
~~SC-TU008-MW002-S0002~~		~~1630~~								
~~SC-TU008-MW003-S0204~~		~~1500~~								
~~SC-TU008-MW003-S0405~~		~~1515~~								
~~SC-TU008-MW004-S0507~~		~~1130~~								
~~SC-TU008-MW004-S0305~~		~~1110~~								

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) IV

Special Instructions/QC Requirements:

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

	Date/Time	Company		Date/Time	Company
Relinquished by:	6/9/16 1441		Received by:	6/9/16 1441	TA
Relinquished by:	6/9/16 1715	TA	Received by:	6-10-16 0925	TAD
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: 2.0, IR#5 +0.0 Transferred by RP 6-10-16

08/16/2016

TestAmerica Denver
4955 Yarrow Street
Arvada, CO 80002
Phone (303) 736-0100 Fax (303) 431-7171

480501-Albany

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information	Sampler: D. Korno	Lab PM: Rydberg, Donna R	Carrier Tracking No(s):	COC No: 280-53289-19163.2
Client Contact: Ms. Gretchen Fodor	Phone: 860-912-9842	E-Mail: donna.rydberg@testamericainc.com		Page: Page 2 of 2
Company: Weston Solutions, Inc.				Job #:
Address: 1400 Weston Way PO BOX 2653	Due Date Requested:			
City: West Chester	TAT Requested (days): 15 Days			
State, Zip: PA, 19380				
Phone: 703-724-0544(Tel)	PO #: 0090139			
Email: gretchen.fodor@westonsolutions.com	WO #: 15363.100.001.1103			
Project Name: Schenectady ANGB, TU008	Project #: 28015256			
Site: TU008	SSOW#:			

Analysis Requested

VOCs - 8260C

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)	VOCs - 8260C											Total Number of containers	Special Instructions/Note:
			Preservation Code:																
SC-TU008-MW001-S0002	06-03-16	1100	G	S	N	Y	X											3	
SC-TU008-MW001-S1012	06-03-16	1120			N	N	X											3	
SC-TU008-MW002-S0406	06-02-16	1615			N	N	X											3	
SC-TU008-MW002-S0406-D		1615			N	N	X											3	
SC-TU008-MW002-S0002		1630			N	N	X											3	
SC-TU008-MW003-S0204		1500			N	N	X											3	
SC-TU008-MW004-S0507		1130			N	N	X											3	
SC-TU008-MW004-S0305		1140			N	N	X											3	
SC-TU008-MW003-S0405		1515			N	N	X											3	
SC-TU008-TB060316	06-03-16	1500	G	W	N	N	X											2	*HCl, Lab Prepared.

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) IV

Special Instructions/QC Requirements:

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

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
[signature]	06/03/16 1635		Tim Knoller	6-3-16 1635	TA Alb
Tim Knoller	6-3-16 1800	TA Albany			

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

TestAmerica Denver
4955 Yarrow Street
Arvada, CO 80002
Phone (303) 736-0100 Fax (303) 431-7171

480501-Albany

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information	Sampler: D. Kormos	Lab PM: Rydberg, Donna R	Carrier Tracking No(s):	COC No: 280-53289-19163.2
Client Contact: Ms. Gretchen Fodor	Phone: 860-912-9892	E-Mail: donna.rydberg@testamericainc.com		Page: Page 2 of 2
Company: Weston Solutions, Inc.				Job #:
Address: 1400 Weston Way PO BOX 2653	Due Date Requested:			
City: West Chester	TAT Requested (days): 15 Days			
State, Zip: PA, 19380				
Phone: 703-724-0544(Tel)	PO #: 0090139			
Email: gretchen.fodor@westonsolutions.com	WO #: 15363.100.001.1103			
Project Name: Schenectady ANGB, TU008	Project #: 28015256			
Site: TU008	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)	VOCs - 8260C												Total Number of containers	Special Instructions/Note:
			Preservation Code:				Eff													
SC-TU008-MW001-S0002	06-03-16	1100	G	S	N	N	X												9	
SC-TU008-MW001-S1012	06-03-16	1120			N	N	X												3	
SC-TU008-MW002-S0406	06-02-16	1615			N	N	X												3	
SC-TU008-MW002-S0406-D		1615			N	N	X												3	
SC-TU008-MW002-S0002		1630			N	N	X												3	
SC-TU008-MW003-S0204		1500			N	N	X												3	
SC-TU008-MW004-S0507		1130			N	N	X												3	
SC-TU008-MW004-S0305		1140			N	N	X												3	
SC-TU008-MW003-S0405		1515			N	N	X												3	
SC-TU008-TB060316	06-03-16	1500	G	W	N	N	X												2	*HCl, Lab Prepared.

280-84064 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) IV

Special Instructions/QC Requirements:

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

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
[signature]	06/03/16 1635		Tim Knollm	6-3-16 1635	TA Alb
Tim Knollm	6-3-16 1800	TA Albany	[signature]	06/04/16 0820	
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:

08/16/2016

Login Sample Receipt Checklist

Client: Weston Solutions, Inc.

Job Number: 280-84064-1

Login Number: 84064
List Number: 1
Creator: White, Denise E

List Source: TestAmerica Denver

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	False	MISSING CONTAINERS ACCORDING TO COC, MAY BE IN ST. LOUIS
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	

Login Sample Receipt Checklist

Client: Weston Solutions, Inc.

Job Number: 280-84064-1

Login Number: 84064
List Number: 2
Creator: Daniels, Brian J

List Source: TestAmerica St. Louis
List Creation: 06/09/16 02:24 PM

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.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	3.5
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	

ANALYTICAL REPORT

Job Number: 280-84351-1

Job Description: Schenectady ANGB, ZZ007

For:
Weston Solutions, Inc.
1400 Weston Way
PO BOX 2653
West Chester, PA 19380

Attention: Ms. Gretchen Fodor

Approved for release.
Kathryn E Smith
Project Manager II
6/29/2016 4:36 PM

Designee for
Donna R Rydberg, Senior Project Manager
4955 Yarrow Street, Arvada, CO, 80002
(303)736-0192
donna.rydberg@testamericainc.com
06/29/2016

The test results in this report relate only to the samples in this report and meet all requirements of NELAC, with any exceptions noted. Pursuant to NELAP, this report shall not be reproduced except in full, without the written approval of the laboratory. All questions regarding this report should be directed to the TestAmerica Denver Project Manager.

The Lab Certification ID# is 4025.

Reporting limits are adjusted for sample size used, dilutions and moisture content if applicable.

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Qualifiers

Metals

Qualifier	Qualifier Description
U	Undetected at the Limit of Detection.
Q	One or more quality control criteria failed.
J	Estimated: The analyte was positively identified; the quantitation is an estimation
D	The reported value is from a dilution.

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)

CASE NARRATIVE
Client: Weston Solutions, Inc.
Project: Schenectady ANGB, ZZ007

Report Number: 280-84351-1

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 the event of interference or analytes present at high concentrations, samples may be diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

RECEIPT
The samples were received on 06/10/2016; the samples arrived in good condition, properly preserved and on ice. The temperatures of the 6 coolers at receipt time were 0.2º C, 2.0º C, 2.3º C, 2.4º C, 2.4º C and 4.0º C.

Receipt Exceptions

Sample containers were received for both total and dissolved metals. However, dissolved metals was crossed off at the top of the chain of custody. The samples were logged for dissolved metals per the volume received. The client was notified on 6/13/2016.

METALS (ICP)
Samples SC-ZZ007-MW001-G-1 (280-84351-1), SC-ZZ007-MW002-G-1 (280-84351-2), SC-ZZ007-MWUNK-G-1 (280-84351-3), SC-ZZ007-MWUNK-G-1-D (280-84351-4) and SC-ZZ007-EB060716 (280-84351-5) were analyzed for Metals (ICP) in accordance with EPA SW-846 Method 6010C. The samples were prepared on 06/22/2016 and analyzed on 06/26/2016 and 06/27/2016.

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

Arsenic was detected in method blank MB 280-330578/1-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.

METALS (ICP)
Samples SC-ZZ007-MW001-G-1 (280-84351-1), SC-ZZ007-MW002-G-1 (280-84351-2), SC-ZZ007-MWUNK-G-1 (280-84351-3), SC-ZZ007-MWUNK-G-1-D (280-84351-4) and SC-ZZ007-EB060716 (280-84351-5) were analyzed for Metals (ICP) in accordance with EPA SW-846 Method 6010C. The samples were prepared on 06/20/2016 and analyzed on 06/25/2016 and 06/27/2016.

Calcium was detected in method blank MB 280-330579/1-A at a level exceeding the reporting limit. If the associated sample reported a result above the MDL and/or RL, the result has been flagged. Manganese and Sodium were detected in method blank MB 280-330579/1-A at levels that were above the method detection limit but below the reporting limit. The values should be considered estimates, and have 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.

The interference check standard solution (ICSA) associated with the following samples showed results for Cd & Mn at a level greater than the limit of detection (LOD). It is believed that the solution contains trace impurities of these elements and the results are not due to matrix interference. These results are consistent with those found by the manufacturer of the ICSA solution.

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

MERCURY
Samples SC-ZZ007-MW001-G-1 (280-84351-1), SC-ZZ007-MW002-G-1 (280-84351-2), SC-ZZ007-MWUNK-G-1 (280-84351-3), SC-ZZ007-MWUNK-G-1-D (280-84351-4) and SC-ZZ007-EB060716 (280-84351-5) were analyzed for Mercury in accordance with EPA SW-846 7470A. The samples were prepared and analyzed on 06/16/2016.

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

MERCURY
Samples SC-ZZ007-MW001-G-1 (280-84351-1), SC-ZZ007-MW002-G-1 (280-84351-2), SC-ZZ007-MWUNK-G-1 (280-84351-3), SC-ZZ007-MWUNK-G-1-D (280-84351-4) and SC-ZZ007-EB060716 (280-84351-5) were analyzed for mercury in accordance with EPA SW-846 Method 7470A. The samples were prepared and analyzed on 06/16/2016.

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

Detection Summary

Client: Weston Solutions, Inc.
Project/Site: Schenectady ANGB, ZZ007

TestAmerica Job ID: 280-84351-1

Client Sample ID: SC-ZZ007-MW001-G-1 — Lab Sample ID: 280-84351-1

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	130000		300	18	ug/L	1		6010C	Total/NA
Arsenic	94		25	4.4	ug/L	1		6010C	Total/NA
Barium	1600		10	0.58	ug/L	1		6010C	Total/NA
Beryllium	7.8		1.5	0.47	ug/L	1		6010C	Total/NA
Cadmium	5.7	Q	5.0	0.45	ug/L	1		6010C	Total/NA
Calcium	64000		1000	35	ug/L	1		6010C	Total/NA
Chromium	280		15	0.66	ug/L	1		6010C	Total/NA
Cobalt	180		15	1.2	ug/L	1		6010C	Total/NA
Copper	450		15	4.2	ug/L	1		6010C	Total/NA
Iron	360000		100	22	ug/L	1		6010C	Total/NA
Lead	160		15	2.6	ug/L	1		6010C	Total/NA
Magnesium	86000		500	11	ug/L	1		6010C	Total/NA
Manganese	7700	Q	10	0.25	ug/L	1		6010C	Total/NA
Nickel	530		40	1.3	ug/L	1		6010C	Total/NA
Potassium	20000		3000	240	ug/L	1		6010C	Total/NA
Sodium	16000		5000	92	ug/L	1		6010C	Total/NA
Vanadium	220		15	1.1	ug/L	1		6010C	Total/NA
Zinc	850		150	4.5	ug/L	1		6010C	Total/NA
Barium	59		10	0.58	ug/L	1		6010C	Dissolved
Cadmium	0.70	J	5.0	0.45	ug/L	1		6010C	Dissolved
Calcium	42000		1000	35	ug/L	1		6010C	Dissolved
Chromium	0.68	J	15	0.66	ug/L	1		6010C	Dissolved
Cobalt	17		15	1.2	ug/L	1		6010C	Dissolved
Iron	120		100	22	ug/L	1		6010C	Dissolved
Magnesium	27000		500	11	ug/L	1		6010C	Dissolved
Manganese	3800		10	0.25	ug/L	1		6010C	Dissolved
Nickel	46		40	1.3	ug/L	1		6010C	Dissolved
Potassium	4900		3000	240	ug/L	1		6010C	Dissolved
Sodium	17000		5000	92	ug/L	1		6010C	Dissolved
Thallium	5.8	J	40	4.9	ug/L	1		6010C	Dissolved
Mercury	0.26		0.20	0.027	ug/L	1		7470A	Total/NA

Client Sample ID: SC-ZZ007-MW002-G-1 — Lab Sample ID: 280-84351-2

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	4200		300	18	ug/L	1		6010C	Total/NA
Arsenic	10	J	25	4.4	ug/L	1		6010C	Total/NA
Barium	88		10	0.58	ug/L	1		6010C	Total/NA
Cadmium	1.1	J Q	5.0	0.45	ug/L	1		6010C	Total/NA
Calcium	170000		1000	35	ug/L	1		6010C	Total/NA
Chromium	23		15	0.66	ug/L	1		6010C	Total/NA
Cobalt	24		15	1.2	ug/L	1		6010C	Total/NA
Copper	17		15	4.2	ug/L	1		6010C	Total/NA
Iron	12000		100	22	ug/L	1		6010C	Total/NA
Lead	5.6	J	15	2.6	ug/L	1		6010C	Total/NA
Magnesium	75000		500	11	ug/L	1		6010C	Total/NA
Manganese	4800	Q	10	0.25	ug/L	1		6010C	Total/NA
Nickel	56		40	1.3	ug/L	1		6010C	Total/NA
Potassium	13000		3000	240	ug/L	1		6010C	Total/NA
Sodium	42000		5000	92	ug/L	1		6010C	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Weston Solutions, Inc.
Project/Site: Schenectady ANGB, ZZ007

TestAmerica Job ID: 280-84351-1

Client Sample ID: SC-ZZ007-MW002-G-1 (Continued) — Lab Sample ID: 280-84351-2

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Vanadium	11	J	15	1.1	ug/L	1		6010C	Total/NA
Zinc	40	J	150	4.5	ug/L	1		6010C	Total/NA
Barium	49		10	0.58	ug/L	1		6010C	Dissolved
Cadmium	0.84	J	5.0	0.45	ug/L	1		6010C	Dissolved
Calcium	170000		1000	35	ug/L	1		6010C	Dissolved
Cobalt	19		15	1.2	ug/L	1		6010C	Dissolved
Iron	230		100	22	ug/L	1		6010C	Dissolved
Magnesium	72000		500	11	ug/L	1		6010C	Dissolved
Manganese	4700		10	0.25	ug/L	1		6010C	Dissolved
Nickel	42		40	1.3	ug/L	1		6010C	Dissolved
Potassium	11000		3000	240	ug/L	1		6010C	Dissolved
Sodium	39000		5000	92	ug/L	1		6010C	Dissolved
Zinc	12	J	150	4.5	ug/L	1		6010C	Dissolved

Client Sample ID: SC-ZZ007-MWUNK-G-1 — Lab Sample ID: 280-84351-3

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	32	J	300	18	ug/L	1		6010C	Total/NA
Antimony	5.3	J	20	3.1	ug/L	1		6010C	Total/NA
Arsenic	8.7	J	25	4.4	ug/L	1		6010C	Total/NA
Barium	83		10	0.58	ug/L	1		6010C	Total/NA
Cadmium	0.47	J Q	5.0	0.45	ug/L	1		6010C	Total/NA
Calcium	79000		1000	35	ug/L	1		6010C	Total/NA
Iron	110		100	22	ug/L	1		6010C	Total/NA
Magnesium	28000		500	11	ug/L	1		6010C	Total/NA
Manganese	85	Q	10	0.25	ug/L	1		6010C	Total/NA
Nickel	1.9	J	40	1.3	ug/L	1		6010C	Total/NA
Potassium	2500	J	3000	240	ug/L	1		6010C	Total/NA
Sodium	40000		5000	92	ug/L	1		6010C	Total/NA
Thallium	10	J	40	4.9	ug/L	1		6010C	Total/NA
Zinc	13	J	150	4.5	ug/L	1		6010C	Total/NA
Antimony	3.4	J	20	3.1	ug/L	1		6010C	Dissolved
Barium	78		10	0.58	ug/L	1		6010C	Dissolved
Calcium	85000		1000	35	ug/L	1		6010C	Dissolved
Magnesium	28000		500	11	ug/L	1		6010C	Dissolved
Manganese	18		10	0.25	ug/L	1		6010C	Dissolved
Potassium	2400	J	3000	240	ug/L	1		6010C	Dissolved
Selenium	9.5	J	22	4.9	ug/L	1		6010C	Dissolved
Sodium	39000		5000	92	ug/L	1		6010C	Dissolved
Thallium	14	J	40	4.9	ug/L	1		6010C	Dissolved
Zinc	11	J	150	4.5	ug/L	1		6010C	Dissolved

Client Sample ID: SC-ZZ007-MWUNK-G-1-D — Lab Sample ID: 280-84351-4

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	30	J	300	18	ug/L	1		6010C	Total/NA
Arsenic	5.0	J	25	4.4	ug/L	1		6010C	Total/NA
Barium	86		10	0.58	ug/L	1		6010C	Total/NA
Calcium	79000		1000	35	ug/L	1		6010C	Total/NA
Iron	130		100	22	ug/L	1		6010C	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: SC-ZZ007-MWUNK-G-1-D (Continued) — Lab Sample ID: 280-84351-4

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Magnesium	27000		500	11	ug/L	1		6010C	Total/NA
Manganese	95	Q	10	0.25	ug/L	1		6010C	Total/NA
Nickel	1.9	J	40	1.3	ug/L	1		6010C	Total/NA
Potassium	2600	J	3000	240	ug/L	1		6010C	Total/NA
Sodium	40000		5000	92	ug/L	1		6010C	Total/NA
Zinc	15	J	150	4.5	ug/L	1		6010C	Total/NA
Barium	79		10	0.58	ug/L	1		6010C	Dissolved
Cadmium	0.47	J	5.0	0.45	ug/L	1		6010C	Dissolved
Calcium	85000		1000	35	ug/L	1		6010C	Dissolved
Magnesium	29000		500	11	ug/L	1		6010C	Dissolved
Manganese	18		10	0.25	ug/L	1		6010C	Dissolved
Potassium	2500	J	3000	240	ug/L	1		6010C	Dissolved
Sodium	39000		5000	92	ug/L	1		6010C	Dissolved
Zinc	9.4	J	150	4.5	ug/L	1		6010C	Dissolved

Client Sample ID: SC-ZZ007-EB060716 — Lab Sample ID: 280-84351-5

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.69	J	10	0.58	ug/L	1		6010C	Total/NA
Calcium	150	J	1000	35	ug/L	1		6010C	Total/NA
Iron	43	J	100	22	ug/L	1		6010C	Total/NA
Magnesium	18	J	500	11	ug/L	1		6010C	Total/NA
Manganese	0.66	J Q	10	0.25	ug/L	1		6010C	Total/NA
Potassium	240	J	3000	240	ug/L	1		6010C	Total/NA
Sodium	310	J	5000	92	ug/L	1		6010C	Total/NA
Iron	36	J	100	22	ug/L	1		6010C	Dissolved
Manganese	0.32	J	10	0.25	ug/L	1		6010C	Dissolved

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: Weston Solutions, Inc.
Project/Site: Schenectady ANGB, ZZ007

TestAmerica Job ID: 280-84351-1

Client Sample ID: SC-ZZ007-MW001-G-1

Lab Sample ID: 280-84351-1

Date Collected: 06/07/16 16:25
Matrix: Water
Date Received: 06/10/16 09:25

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**130000**		300	18	ug/L		06/20/16 22:16	06/25/16 02:14	1
Antimony	12	U	20	3.1	ug/L		06/20/16 22:16	06/25/16 02:14	1
Arsenic	**94**		25	4.4	ug/L		06/20/16 22:16	06/25/16 15:40	1
Barium	**1600**		10	0.58	ug/L		06/20/16 22:16	06/25/16 02:14	1
Beryllium	**7.8**		1.5	0.47	ug/L		06/20/16 22:16	06/25/16 15:40	1
Cadmium	**5.7**	**Q**	5.0	0.45	ug/L		06/20/16 22:16	06/25/16 02:14	1
Calcium	**64000**		1000	35	ug/L		06/20/16 22:16	06/25/16 02:14	1
Chromium	**280**		15	0.66	ug/L		06/20/16 22:16	06/25/16 02:14	1
Cobalt	**180**		15	1.2	ug/L		06/20/16 22:16	06/25/16 02:14	1
Copper	**450**		15	4.2	ug/L		06/20/16 22:16	06/25/16 02:14	1
Iron	**360000**		100	22	ug/L		06/20/16 22:16	06/27/16 10:10	1
Lead	**160**		15	2.6	ug/L		06/20/16 22:16	06/25/16 02:14	1
Magnesium	**86000**		500	11	ug/L		06/20/16 22:16	06/25/16 02:14	1
Manganese	**7700**	**Q**	10	0.25	ug/L		06/20/16 22:16	06/25/16 02:14	1
Nickel	**530**		40	1.3	ug/L		06/20/16 22:16	06/25/16 02:14	1
Potassium	**20000**		3000	240	ug/L		06/20/16 22:16	06/25/16 02:14	1
Selenium	19	U	22	4.9	ug/L		06/20/16 22:16	06/25/16 02:14	1
Silver	3.5	U	15	0.93	ug/L		06/20/16 22:16	06/25/16 02:14	1
Sodium	**16000**		5000	92	ug/L		06/20/16 22:16	06/25/16 15:40	1
Thallium	19	U	40	4.9	ug/L		06/20/16 22:16	06/25/16 02:14	1
Vanadium	**220**		15	1.1	ug/L		06/20/16 22:16	06/25/16 02:14	1
Zinc	**850**		150	4.5	ug/L		06/20/16 22:16	06/25/16 02:14	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	70	U	300	18	ug/L		06/22/16 08:10	06/26/16 19:35	1
Antimony	12	U	20	3.1	ug/L		06/22/16 08:10	06/27/16 15:37	1
Arsenic	15	U	25	4.4	ug/L		06/22/16 08:10	06/26/16 19:35	1
Barium	**59**		10	0.58	ug/L		06/22/16 08:10	06/26/16 19:35	1
Beryllium	1.2	U	1.5	0.47	ug/L		06/22/16 08:10	06/26/16 19:35	1
Cadmium	**0.70**	**J**	5.0	0.45	ug/L		06/22/16 08:10	06/26/16 19:35	1
Calcium	**42000**		1000	35	ug/L		06/22/16 08:10	06/26/16 19:35	1
Chromium	**0.68**	**J**	15	0.66	ug/L		06/22/16 08:10	06/26/16 19:35	1
Cobalt	**17**		15	1.2	ug/L		06/22/16 08:10	06/26/16 19:35	1
Copper	10	U	15	4.2	ug/L		06/22/16 08:10	06/26/16 19:35	1
Iron	**120**		100	22	ug/L		06/22/16 08:10	06/26/16 19:35	1
Lead	10	U	15	2.6	ug/L		06/22/16 08:10	06/26/16 19:35	1
Magnesium	**27000**		500	11	ug/L		06/22/16 08:10	06/26/16 19:35	1
Manganese	**3800**		10	0.25	ug/L		06/22/16 08:10	06/26/16 19:35	1
Nickel	**46**		40	1.3	ug/L		06/22/16 08:10	06/26/16 19:35	1
Potassium	**4900**		3000	240	ug/L		06/22/16 08:10	06/26/16 19:35	1
Selenium	19	U	22	4.9	ug/L		06/22/16 08:10	06/27/16 15:37	1
Silver	3.5	U	15	0.93	ug/L		06/22/16 08:10	06/26/16 19:35	1
Sodium	**17000**		5000	92	ug/L		06/22/16 08:10	06/26/16 19:35	1
Thallium	**5.8**	**J**	40	4.9	ug/L		06/22/16 08:10	06/26/16 19:35	1
Vanadium	4.0	U	15	1.1	ug/L		06/22/16 08:10	06/26/16 19:35	1
Zinc	15	U	150	4.5	ug/L		06/22/16 08:10	06/26/16 19:35	1

Client Sample ID: SC-ZZ007-MW001-G-1

Lab Sample ID: 280-84351-1

Date Collected: 06/07/16 16:25

Matrix: Water

Date Received: 06/10/16 09:25

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.26		0.20	0.027	ug/L		06/16/16 11:20	06/16/16 17:59	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	0.080	U	0.20	0.027	ug/L		06/16/16 11:20	06/16/16 17:07	1

Client Sample ID: SC-ZZ007-MW002-G-1

Lab Sample ID: 280-84351-2

Date Collected: 06/07/16 16:30

Matrix: Water

Date Received: 06/10/16 09:25

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	4200		300	18	ug/L		06/20/16 22:16	06/25/16 02:16	1
Antimony	12	U	20	3.1	ug/L		06/20/16 22:16	06/25/16 02:16	1
Arsenic	10	J	25	4.4	ug/L		06/20/16 22:16	06/25/16 15:53	1
Barium	88		10	0.58	ug/L		06/20/16 22:16	06/25/16 02:16	1
Beryllium	1.2	U	1.5	0.47	ug/L		06/20/16 22:16	06/25/16 15:53	1
Cadmium	1.1	J Q	5.0	0.45	ug/L		06/20/16 22:16	06/25/16 02:16	1
Calcium	170000		1000	35	ug/L		06/20/16 22:16	06/25/16 02:16	1
Chromium	23		15	0.66	ug/L		06/20/16 22:16	06/25/16 02:16	1
Cobalt	24		15	1.2	ug/L		06/20/16 22:16	06/25/16 02:16	1
Copper	17		15	4.2	ug/L		06/20/16 22:16	06/25/16 02:16	1
Iron	12000		100	22	ug/L		06/20/16 22:16	06/27/16 10:13	1
Lead	5.6	J	15	2.6	ug/L		06/20/16 22:16	06/25/16 02:16	1
Magnesium	75000		500	11	ug/L		06/20/16 22:16	06/25/16 02:16	1
Manganese	4800	Q	10	0.25	ug/L		06/20/16 22:16	06/25/16 02:16	1
Nickel	56		40	1.3	ug/L		06/20/16 22:16	06/25/16 02:16	1
Potassium	13000		3000	240	ug/L		06/20/16 22:16	06/25/16 02:16	1
Selenium	19	U	22	4.9	ug/L		06/20/16 22:16	06/25/16 02:16	1
Silver	3.5	U	15	0.93	ug/L		06/20/16 22:16	06/25/16 02:16	1
Sodium	42000		5000	92	ug/L		06/20/16 22:16	06/25/16 15:53	1
Thallium	19	U	40	4.9	ug/L		06/20/16 22:16	06/25/16 02:16	1
Vanadium	11	J	15	1.1	ug/L		06/20/16 22:16	06/25/16 02:16	1
Zinc	40	J	150	4.5	ug/L		06/20/16 22:16	06/25/16 02:16	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	70	U	300	18	ug/L		06/22/16 08:10	06/26/16 19:37	1
Antimony	12	U	20	3.1	ug/L		06/22/16 08:10	06/27/16 15:40	1
Arsenic	15	U	25	4.4	ug/L		06/22/16 08:10	06/26/16 19:37	1
Barium	49		10	0.58	ug/L		06/22/16 08:10	06/26/16 19:37	1
Beryllium	1.2	U	1.5	0.47	ug/L		06/22/16 08:10	06/26/16 19:37	1
Cadmium	0.84	J	5.0	0.45	ug/L		06/22/16 08:10	06/26/16 19:37	1
Calcium	170000		1000	35	ug/L		06/22/16 08:10	06/26/16 19:37	1
Chromium	2.6	U	15	0.66	ug/L		06/22/16 08:10	06/26/16 19:37	1
Cobalt	19		15	1.2	ug/L		06/22/16 08:10	06/26/16 19:37	1
Copper	10	U	15	4.2	ug/L		06/22/16 08:10	06/26/16 19:37	1
Iron	230		100	22	ug/L		06/22/16 08:10	06/26/16 19:37	1
Lead	10	U	15	2.6	ug/L		06/22/16 08:10	06/26/16 19:37	1
Magnesium	72000		500	11	ug/L		06/22/16 08:10	06/26/16 19:37	1

Client Sample ID: SC-ZZ007-MW002-G-1 — Lab Sample ID: 280-84351-2

Date Collected: 06/07/16 16:30 — **Matrix: Water**
Date Received: 06/10/16 09:25

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

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	4700		10	0.25	ug/L		06/22/16 08:10	06/26/16 19:37	1
Nickel	42		40	1.3	ug/L		06/22/16 08:10	06/26/16 19:37	1
Potassium	11000		3000	240	ug/L		06/22/16 08:10	06/26/16 19:37	1
Selenium	19	U	22	4.9	ug/L		06/22/16 08:10	06/27/16 15:40	1
Silver	3.5	U	15	0.93	ug/L		06/22/16 08:10	06/26/16 19:37	1
Sodium	39000		5000	92	ug/L		06/22/16 08:10	06/26/16 19:37	1
Thallium	19	U	40	4.9	ug/L		06/22/16 08:10	06/26/16 19:37	1
Vanadium	4.0	U	15	1.1	ug/L		06/22/16 08:10	06/26/16 19:37	1
Zinc	12	J	150	4.5	ug/L		06/22/16 08:10	06/26/16 19:37	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.080	U	0.20	0.027	ug/L		06/16/16 11:20	06/16/16 18:02	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	0.080	U	0.20	0.027	ug/L		06/16/16 11:20	06/16/16 17:10	1

Client Sample ID: SC-ZZ007-MWUNK-G-1 — Lab Sample ID: 280-84351-3

Date Collected: 06/07/16 15:00 — **Matrix: Water**
Date Received: 06/10/16 09:25

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	32	J	300	18	ug/L		06/20/16 22:16	06/25/16 02:01	1
Antimony	5.3	J	20	3.1	ug/L		06/20/16 22:16	06/25/16 02:01	1
Arsenic	8.7	J	25	4.4	ug/L		06/20/16 22:16	06/25/16 15:28	1
Barium	83		10	0.58	ug/L		06/20/16 22:16	06/25/16 02:01	1
Beryllium	1.2	U	1.5	0.47	ug/L		06/20/16 22:16	06/25/16 15:28	1
Cadmium	0.47	J Q	5.0	0.45	ug/L		06/20/16 22:16	06/25/16 02:01	1
Calcium	79000		1000	35	ug/L		06/20/16 22:16	06/25/16 02:01	1
Chromium	2.6	U	15	0.66	ug/L		06/20/16 22:16	06/25/16 02:01	1
Cobalt	4.5	U	15	1.2	ug/L		06/20/16 22:16	06/25/16 02:01	1
Copper	10	U	15	4.2	ug/L		06/20/16 22:16	06/25/16 02:01	1
Iron	110		100	22	ug/L		06/20/16 22:16	06/27/16 09:57	1
Lead	10	U	15	2.6	ug/L		06/20/16 22:16	06/25/16 02:01	1
Magnesium	28000		500	11	ug/L		06/20/16 22:16	06/25/16 02:01	1
Manganese	85	Q	10	0.25	ug/L		06/20/16 22:16	06/25/16 02:01	1
Nickel	1.9	J	40	1.3	ug/L		06/20/16 22:16	06/25/16 02:01	1
Potassium	2500	J	3000	240	ug/L		06/20/16 22:16	06/25/16 02:01	1
Selenium	19	U	22	4.9	ug/L		06/20/16 22:16	06/25/16 02:01	1
Silver	3.5	U	15	0.93	ug/L		06/20/16 22:16	06/25/16 02:01	1
Sodium	40000		5000	92	ug/L		06/20/16 22:16	06/25/16 15:28	1
Thallium	10	J	40	4.9	ug/L		06/20/16 22:16	06/25/16 02:01	1
Vanadium	4.0	U	15	1.1	ug/L		06/20/16 22:16	06/25/16 02:01	1
Zinc	13	J	150	4.5	ug/L		06/20/16 22:16	06/25/16 02:01	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	70	U	300	18	ug/L		06/22/16 08:10	06/26/16 19:22	1

Client Sample ID: SC-ZZ007-MWUNK-G-1

Lab Sample ID: 280-84351-3

Date Collected: 06/07/16 15:00
Matrix: Water
Date Received: 06/10/16 09:25

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

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	**3.4**	**J**	20	3.1	ug/L		06/22/16 08:10	06/27/16 15:24	1
Arsenic	15	U	25	4.4	ug/L		06/22/16 08:10	06/26/16 19:22	1
Barium	**78**		10	0.58	ug/L		06/22/16 08:10	06/26/16 19:22	1
Beryllium	1.2	U	1.5	0.47	ug/L		06/22/16 08:10	06/26/16 19:22	1
Cadmium	1.8	U	5.0	0.45	ug/L		06/22/16 08:10	06/26/16 19:22	1
Calcium	**85000**		1000	35	ug/L		06/22/16 08:10	06/26/16 19:22	1
Chromium	2.6	U	15	0.66	ug/L		06/22/16 08:10	06/26/16 19:22	1
Cobalt	4.5	U	15	1.2	ug/L		06/22/16 08:10	06/26/16 19:22	1
Copper	10	U	15	4.2	ug/L		06/22/16 08:10	06/26/16 19:22	1
Iron	85	U	100	22	ug/L		06/22/16 08:10	06/26/16 19:22	1
Lead	10	U	15	2.6	ug/L		06/22/16 08:10	06/26/16 19:22	1
Magnesium	**28000**		500	11	ug/L		06/22/16 08:10	06/26/16 19:22	1
Manganese	**18**		10	0.25	ug/L		06/22/16 08:10	06/26/16 19:22	1
Nickel	5.0	U	40	1.3	ug/L		06/22/16 08:10	06/26/16 19:22	1
Potassium	**2400**	**J**	3000	240	ug/L		06/22/16 08:10	06/26/16 19:22	1
Selenium	**9.5**	**J**	22	4.9	ug/L		06/22/16 08:10	06/27/16 15:24	1
Silver	3.5	U	15	0.93	ug/L		06/22/16 08:10	06/26/16 19:22	1
Sodium	**39000**		5000	92	ug/L		06/22/16 08:10	06/26/16 19:22	1
Thallium	**14**	**J**	40	4.9	ug/L		06/22/16 08:10	06/26/16 19:22	1
Vanadium	4.0	U	15	1.1	ug/L		06/22/16 08:10	06/26/16 19:22	1
Zinc	**11**	**J**	150	4.5	ug/L		06/22/16 08:10	06/26/16 19:22	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.080	U	0.20	0.027	ug/L		06/16/16 11:20	06/16/16 18:04	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	0.080	U	0.20	0.027	ug/L		06/16/16 11:20	06/16/16 17:12	1

Client Sample ID: SC-ZZ007-MWUNK-G-1-D

Lab Sample ID: 280-84351-4

Date Collected: 06/07/16 15:10
Matrix: Water
Date Received: 06/10/16 09:25

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**30**	**J**	300	18	ug/L		06/20/16 22:16	06/25/16 02:29	1
Antimony	12	U	20	3.1	ug/L		06/20/16 22:16	06/25/16 02:29	1
Arsenic	**5.0**	**J**	25	4.4	ug/L		06/20/16 22:16	06/25/16 15:56	1
Barium	**86**		10	0.58	ug/L		06/20/16 22:16	06/25/16 02:29	1
Beryllium	1.2	U	1.5	0.47	ug/L		06/20/16 22:16	06/25/16 15:56	1
Cadmium	1.8	U Q	5.0	0.45	ug/L		06/20/16 22:16	06/25/16 02:29	1
Calcium	**79000**		1000	35	ug/L		06/20/16 22:16	06/25/16 02:29	1
Chromium	2.6	U	15	0.66	ug/L		06/20/16 22:16	06/25/16 02:29	1
Cobalt	4.5	U	15	1.2	ug/L		06/20/16 22:16	06/25/16 02:29	1
Copper	10	U	15	4.2	ug/L		06/20/16 22:16	06/25/16 02:29	1
Iron	**130**		100	22	ug/L		06/20/16 22:16	06/27/16 10:25	1
Lead	10	U	15	2.6	ug/L		06/20/16 22:16	06/25/16 02:29	1
Magnesium	**27000**		500	11	ug/L		06/20/16 22:16	06/25/16 02:29	1
Manganese	**95**	**Q**	10	0.25	ug/L		06/20/16 22:16	06/25/16 02:29	1

Client Sample ID: SC-ZZ007-MWUNK-G-1-D — Lab Sample ID: 280-84351-4

Date Collected: 06/07/16 15:10 — **Matrix: Water**
Date Received: 06/10/16 09:25

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

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Nickel	**1.9**	**J**	40	1.3	ug/L		06/20/16 22:16	06/25/16 02:29	1
Potassium	**2600**	**J**	3000	240	ug/L		06/20/16 22:16	06/25/16 02:29	1
Selenium	19	U	22	4.9	ug/L		06/20/16 22:16	06/27/16 10:25	1
Silver	3.5	U	15	0.93	ug/L		06/20/16 22:16	06/25/16 02:29	1
Sodium	**40000**		5000	92	ug/L		06/20/16 22:16	06/25/16 15:56	1
Thallium	19	U	40	4.9	ug/L		06/20/16 22:16	06/25/16 02:29	1
Vanadium	4.0	U	15	1.1	ug/L		06/20/16 22:16	06/25/16 02:29	1
Zinc	**15**	**J**	150	4.5	ug/L		06/20/16 22:16	06/25/16 02:29	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	70	U	300	18	ug/L		06/22/16 08:10	06/26/16 19:40	1
Antimony	12	U	20	3.1	ug/L		06/22/16 08:10	06/27/16 15:42	1
Arsenic	15	U	25	4.4	ug/L		06/22/16 08:10	06/26/16 19:40	1
Barium	**79**		10	0.58	ug/L		06/22/16 08:10	06/26/16 19:40	1
Beryllium	1.2	U	1.5	0.47	ug/L		06/22/16 08:10	06/26/16 19:40	1
Cadmium	**0.47**	**J**	5.0	0.45	ug/L		06/22/16 08:10	06/26/16 19:40	1
Calcium	**85000**		1000	35	ug/L		06/22/16 08:10	06/26/16 19:40	1
Chromium	2.6	U	15	0.66	ug/L		06/22/16 08:10	06/26/16 19:40	1
Cobalt	4.5	U	15	1.2	ug/L		06/22/16 08:10	06/26/16 19:40	1
Copper	10	U	15	4.2	ug/L		06/22/16 08:10	06/26/16 19:40	1
Iron	85	U	100	22	ug/L		06/22/16 08:10	06/26/16 19:40	1
Lead	10	U	15	2.6	ug/L		06/22/16 08:10	06/26/16 19:40	1
Magnesium	**29000**		500	11	ug/L		06/22/16 08:10	06/26/16 19:40	1
Manganese	**18**		10	0.25	ug/L		06/22/16 08:10	06/26/16 19:40	1
Nickel	5.0	U	40	1.3	ug/L		06/22/16 08:10	06/26/16 19:40	1
Potassium	**2500**	**J**	3000	240	ug/L		06/22/16 08:10	06/26/16 19:40	1
Selenium	19	U	22	4.9	ug/L		06/22/16 08:10	06/27/16 15:42	1
Silver	3.5	U	15	0.93	ug/L		06/22/16 08:10	06/26/16 19:40	1
Sodium	**39000**		5000	92	ug/L		06/22/16 08:10	06/26/16 19:40	1
Thallium	19	U	40	4.9	ug/L		06/22/16 08:10	06/26/16 19:40	1
Vanadium	4.0	U	15	1.1	ug/L		06/22/16 08:10	06/26/16 19:40	1
Zinc	**9.4**	**J**	150	4.5	ug/L		06/22/16 08:10	06/26/16 19:40	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.080	U	0.20	0.027	ug/L		06/16/16 11:20	06/16/16 18:17	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	0.080	U	0.20	0.027	ug/L		06/16/16 11:20	06/16/16 17:29	1

Client Sample ID: SC-ZZ007-EB060716 — Lab Sample ID: 280-84351-5

Date Collected: 06/07/16 18:00 — **Matrix: Water**
Date Received: 06/10/16 09:25

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	70	U	300	18	ug/L		06/20/16 22:16	06/25/16 02:32	1
Antimony	12	U	20	3.1	ug/L		06/20/16 22:16	06/25/16 02:32	1

Client Sample Results

Client: Weston Solutions, Inc.
Project/Site: Schenectady ANGB, ZZ007

TestAmerica Job ID: 280-84351-1

Client Sample ID: SC-ZZ007-EB060716

Date Collected: 06/07/16 18:00
Date Received: 06/10/16 09:25

Lab Sample ID: 280-84351-5

Matrix: Water

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

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	15	U	25	4.4	ug/L		06/20/16 22:16	06/25/16 15:58	1
Barium	**0.69**	**J**	10	0.58	ug/L		06/20/16 22:16	06/25/16 02:32	1
Beryllium	1.2	U	1.5	0.47	ug/L		06/20/16 22:16	06/25/16 15:58	1
Cadmium	1.8	U Q	5.0	0.45	ug/L		06/20/16 22:16	06/25/16 02:32	1
Calcium	**150**	**J**	1000	35	ug/L		06/20/16 22:16	06/25/16 02:32	1
Chromium	2.6	U	15	0.66	ug/L		06/20/16 22:16	06/25/16 02:32	1
Cobalt	4.5	U	15	1.2	ug/L		06/20/16 22:16	06/25/16 02:32	1
Copper	10	U	15	4.2	ug/L		06/20/16 22:16	06/25/16 02:32	1
Iron	**43**	**J**	100	22	ug/L		06/20/16 22:16	06/27/16 10:28	1
Lead	10	U	15	2.6	ug/L		06/20/16 22:16	06/25/16 02:32	1
Magnesium	**18**	**J**	500	11	ug/L		06/20/16 22:16	06/25/16 02:32	1
Manganese	**0.66**	**J Q**	10	0.25	ug/L		06/20/16 22:16	06/25/16 02:32	1
Nickel	5.0	U	40	1.3	ug/L		06/20/16 22:16	06/25/16 02:32	1
Potassium	**240**	**J**	3000	240	ug/L		06/20/16 22:16	06/25/16 02:32	1
Selenium	19	U	22	4.9	ug/L		06/20/16 22:16	06/27/16 10:28	1
Silver	3.5	U	15	0.93	ug/L		06/20/16 22:16	06/25/16 02:32	1
Sodium	**310**	**J**	5000	92	ug/L		06/20/16 22:16	06/25/16 15:58	1
Thallium	19	U	40	4.9	ug/L		06/20/16 22:16	06/25/16 02:32	1
Vanadium	4.0	U	15	1.1	ug/L		06/20/16 22:16	06/25/16 02:32	1
Zinc	15	U	150	4.5	ug/L		06/20/16 22:16	06/25/16 02:32	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	70	U	300	18	ug/L		06/22/16 08:10	06/26/16 19:53	1
Antimony	12	U	20	3.1	ug/L		06/22/16 08:10	06/27/16 15:55	1
Arsenic	15	U	25	4.4	ug/L		06/22/16 08:10	06/26/16 19:53	1
Barium	2.0	U	10	0.58	ug/L		06/22/16 08:10	06/26/16 19:53	1
Beryllium	1.2	U	1.5	0.47	ug/L		06/22/16 08:10	06/26/16 19:53	1
Cadmium	1.8	U	5.0	0.45	ug/L		06/22/16 08:10	06/26/16 19:53	1
Calcium	140	U	1000	35	ug/L		06/22/16 08:10	06/26/16 19:53	1
Chromium	2.6	U	15	0.66	ug/L		06/22/16 08:10	06/26/16 19:53	1
Cobalt	4.5	U	15	1.2	ug/L		06/22/16 08:10	06/26/16 19:53	1
Copper	10	U	15	4.2	ug/L		06/22/16 08:10	06/26/16 19:53	1
Iron	**36**	**J**	100	22	ug/L		06/22/16 08:10	06/26/16 19:53	1
Lead	10	U	15	2.6	ug/L		06/22/16 08:10	06/26/16 19:53	1
Magnesium	40	U	500	11	ug/L		06/22/16 08:10	06/26/16 19:53	1
Manganese	**0.32**	**J**	10	0.25	ug/L		06/22/16 08:10	06/26/16 19:53	1
Nickel	5.0	U	40	1.3	ug/L		06/22/16 08:10	06/26/16 19:53	1
Potassium	940	U	3000	240	ug/L		06/22/16 08:10	06/26/16 19:53	1
Selenium	19	U	22	4.9	ug/L		06/22/16 08:10	06/27/16 15:55	1
Silver	3.5	U	15	0.93	ug/L		06/22/16 08:10	06/26/16 19:53	1
Sodium	350	U	5000	92	ug/L		06/22/16 08:10	06/26/16 19:53	1
Thallium	19	U	40	4.9	ug/L		06/22/16 08:10	06/26/16 19:53	1
Vanadium	4.0	U	15	1.1	ug/L		06/22/16 08:10	06/26/16 19:53	1
Zinc	15	U	150	4.5	ug/L		06/22/16 08:10	06/26/16 19:53	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.080	U	0.20	0.027	ug/L		06/16/16 11:20	06/16/16 18:19	1

Client Sample Results

Client: Weston Solutions, Inc.
Project/Site: Schenectady ANGB, ZZ007

TestAmerica Job ID: 280-84351-1

Client Sample ID: SC-ZZ007-EB060716

Lab Sample ID: 280-84351-5

Date Collected: 06/07/16 18:00

Matrix: Water

Date Received: 06/10/16 09:25

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	0.080	U	0.20	0.027	ug/L		06/16/16 11:20	06/16/16 17:32	1

Default Detection Limits

Client: Weston Solutions, Inc.
Project/Site: Schenectady ANGB, ZZ007

TestAmerica Job ID: 280-84351-1

Method: 6010C - Metals (ICP)

Prep: 3010A

Analyte	LOQ	DL	Units	Method
Aluminum	300	18	ug/L	6010C
Antimony	20	3.1	ug/L	6010C
Arsenic	25	4.4	ug/L	6010C
Barium	10	0.58	ug/L	6010C
Beryllium	1.5	0.47	ug/L	6010C
Cadmium	5.0	0.45	ug/L	6010C
Calcium	1000	35	ug/L	6010C
Chromium	15	0.66	ug/L	6010C
Cobalt	15	1.2	ug/L	6010C
Copper	15	4.2	ug/L	6010C
Iron	100	22	ug/L	6010C
Lead	15	2.6	ug/L	6010C
Magnesium	500	11	ug/L	6010C
Manganese	10	0.25	ug/L	6010C
Nickel	40	1.3	ug/L	6010C
Potassium	3000	240	ug/L	6010C
Selenium	22	4.9	ug/L	6010C
Silver	15	0.93	ug/L	6010C
Sodium	5000	92	ug/L	6010C
Thallium	40	4.9	ug/L	6010C
Vanadium	15	1.1	ug/L	6010C
Zinc	150	4.5	ug/L	6010C

Method: 6010C - Metals (ICP) - Dissolved

Prep: 3005A

Analyte	LOQ	DL	Units	Method
Aluminum	300	18	ug/L	6010C
Antimony	20	3.1	ug/L	6010C
Arsenic	25	4.4	ug/L	6010C
Barium	10	0.58	ug/L	6010C
Beryllium	1.5	0.47	ug/L	6010C
Cadmium	5.0	0.45	ug/L	6010C
Calcium	1000	35	ug/L	6010C
Chromium	15	0.66	ug/L	6010C
Cobalt	15	1.2	ug/L	6010C
Copper	15	4.2	ug/L	6010C
Iron	100	22	ug/L	6010C
Lead	15	2.6	ug/L	6010C
Magnesium	500	11	ug/L	6010C
Manganese	10	0.25	ug/L	6010C
Nickel	40	1.3	ug/L	6010C
Potassium	3000	240	ug/L	6010C
Selenium	22	4.9	ug/L	6010C
Silver	15	0.93	ug/L	6010C
Sodium	5000	92	ug/L	6010C
Thallium	40	4.9	ug/L	6010C
Vanadium	15	1.1	ug/L	6010C
Zinc	150	4.5	ug/L	6010C

Method: 7470A - Mercury (CVAA)

Default Detection Limits

Client: Weston Solutions, Inc.
Project/Site: Schenectady ANGB, ZZ007

TestAmerica Job ID: 280-84351-1

Method: 7470A - Mercury (CVAA)

Prep: 7470A

Analyte	LOQ	DL	Units	Method
Mercury	0.20	0.027	ug/L	7470A

Method: 7470A - Mercury (CVAA) - Dissolved

Prep: 7470A

Analyte	LOQ	DL	Units	Method
Hg	0.20	0.027	ug/L	7470A

Method: 6010C - Metals (ICP)

Lab Sample ID: MB 280-330579/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 331269 — **Prep Batch: 330579**

Analyte	MB Result	MB Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	70	U	300	18	ug/L		06/20/16 22:16	06/25/16 01:56	1
Antimony	12	U	20	3.1	ug/L		06/20/16 22:16	06/25/16 01:56	1
Barium	2.0	U	10	0.58	ug/L		06/20/16 22:16	06/25/16 01:56	1
Cadmium	1.8	U Q	5.0	0.45	ug/L		06/20/16 22:16	06/25/16 01:56	1
Calcium	48.6	J	1000	35	ug/L		06/20/16 22:16	06/25/16 01:56	1
Chromium	2.6	U	15	0.66	ug/L		06/20/16 22:16	06/25/16 01:56	1
Cobalt	4.5	U	15	1.2	ug/L		06/20/16 22:16	06/25/16 01:56	1
Copper	10	U	15	4.2	ug/L		06/20/16 22:16	06/25/16 01:56	1
Lead	10	U	15	2.6	ug/L		06/20/16 22:16	06/25/16 01:56	1
Magnesium	40	U	500	11	ug/L		06/20/16 22:16	06/25/16 01:56	1
Manganese	0.340	J Q	10	0.25	ug/L		06/20/16 22:16	06/25/16 01:56	1
Nickel	5.0	U	40	1.3	ug/L		06/20/16 22:16	06/25/16 01:56	1
Potassium	940	U	3000	240	ug/L		06/20/16 22:16	06/25/16 01:56	1
Selenium	19	U	22	4.9	ug/L		06/20/16 22:16	06/25/16 01:56	1
Silver	3.5	U	15	0.93	ug/L		06/20/16 22:16	06/25/16 01:56	1
Thallium	19	U	40	4.9	ug/L		06/20/16 22:16	06/25/16 01:56	1
Vanadium	4.0	U	15	1.1	ug/L		06/20/16 22:16	06/25/16 01:56	1
Zinc	15	U	150	4.5	ug/L		06/20/16 22:16	06/25/16 01:56	1

Lab Sample ID: MB 280-330579/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 331349 — **Prep Batch: 330579**

Analyte	MB Result	MB Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	15	U	25	4.4	ug/L		06/20/16 22:16	06/25/16 15:23	1
Beryllium	1.2	U	1.5	0.47	ug/L		06/20/16 22:16	06/25/16 15:23	1
Sodium	133	J	5000	92	ug/L		06/20/16 22:16	06/25/16 15:23	1

Lab Sample ID: MB 280-330579/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 331465 — **Prep Batch: 330579**

Analyte	MB Result	MB Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	85	U	100	22	ug/L		06/20/16 22:16	06/27/16 09:52	1

Lab Sample ID: LCS 280-330579/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 331269 — **Prep Batch: 330579**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aluminum	2000	1930		ug/L		97	86 - 115
Antimony	500	521		ug/L		104	88 - 113
Barium	2000	2100		ug/L		105	88 - 113
Cadmium	100	99.7	Q	ug/L		100	88 - 113
Calcium	50000	46700		ug/L		93	87 - 113
Chromium	200	196		ug/L		98	90 - 113
Cobalt	500	481		ug/L		96	89 - 114
Copper	250	250		ug/L		100	86 - 114
Lead	500	492		ug/L		98	86 - 113

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

Lab Sample ID: LCS 280-330579/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 331269 — **Prep Batch: 330579**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Magnesium	50000	47300		ug/L		95	85 - 113
Manganese	500	470	Q	ug/L		94	90 - 114
Nickel	500	482		ug/L		96	88 - 113
Potassium	50000	55100		ug/L		110	86 - 114
Selenium	2000	2040		ug/L		102	83 - 114
Silver	50.0	49.9		ug/L		100	84 - 115
Thallium	2000	1940		ug/L		97	85 - 114
Vanadium	500	486		ug/L		97	90 - 111
Zinc	500	465		ug/L		93	87 - 115

Lab Sample ID: LCS 280-330579/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 331349 — **Prep Batch: 330579**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	1000	992		ug/L		99	87 - 113
Beryllium	50.0	47.6		ug/L		95	89 - 112
Sodium	50000	53800		ug/L		108	87 - 115

Lab Sample ID: LCS 280-330579/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 331465 — **Prep Batch: 330579**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Iron	1000	1050		ug/L		105	87 - 115

Lab Sample ID: 280-84351-3 MS — **Client Sample ID: SC-ZZ007-MWUNK-G-1**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 331269 — **Prep Batch: 330579**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Aluminum	32	J	2000	1910		ug/L		94	86 - 115
Antimony	5.3	J	500	509		ug/L		101	88 - 113
Barium	83		2000	2130		ug/L		102	88 - 113
Cadmium	0.47	J Q	100	97.8	Q	ug/L		97	88 - 113
Calcium	79000		50000	122000		ug/L		87	87 - 113
Chromium	2.6	U	200	191		ug/L		95	90 - 113
Cobalt	4.5	U	500	463		ug/L		93	89 - 114
Copper	10	U	250	247		ug/L		99	86 - 114
Lead	10	U	500	476		ug/L		95	86 - 113
Magnesium	28000		50000	73900		ug/L		92	85 - 113
Manganese	85	Q	500	543	Q	ug/L		92	90 - 114
Nickel	1.9	J	500	467		ug/L		93	88 - 113
Potassium	2500	J	50000	56900		ug/L		109	86 - 114
Selenium	19	U	2000	2010		ug/L		100	83 - 114
Silver	3.5	U	50.0	49.1		ug/L		98	84 - 115
Thallium	10	J	2000	1820		ug/L		90	85 - 114
Vanadium	4.0	U	500	479		ug/L		96	90 - 111
Zinc	13	J	500	464		ug/L		90	87 - 115

QC Sample Results

Client: Weston Solutions, Inc.
Project/Site: Schenectady ANGB, ZZ007

TestAmerica Job ID: 280-84351-1

Lab Sample ID: 280-84351-3 MS — **Client Sample ID: SC-ZZ007-MWUNK-G-1**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 331349 — **Prep Batch: 330579**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	8.7	J	1000	988		ug/L		98	87 - 113
Beryllium	1.2	U	50.0	46.8		ug/L		94	89 - 112
Sodium	40000		50000	90700		ug/L		102	87 - 115

Lab Sample ID: 280-84351-3 MS — **Client Sample ID: SC-ZZ007-MWUNK-G-1**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 331465 — **Prep Batch: 330579**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Iron	110		1000	1240		ug/L		113	87 - 115

Lab Sample ID: 280-84351-3 MSD — **Client Sample ID: SC-ZZ007-MWUNK-G-1**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 331269 — **Prep Batch: 330579**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Aluminum	32	J	2000	1930		ug/L		95	86 - 115	1	20
Antimony	5.3	J	500	516		ug/L		102	88 - 113	1	20
Barium	83		2000	2160		ug/L		104	88 - 113	1	20
Cadmium	0.47	J Q	100	99.3	Q	ug/L		99	88 - 113	2	20
Calcium	79000		50000	123000		ug/L		88	87 - 113	1	20
Chromium	2.6	U	200	194		ug/L		97	90 - 113	2	20
Cobalt	4.5	U	500	470		ug/L		94	89 - 114	1	20
Copper	10	U	250	249		ug/L		100	86 - 114	1	20
Lead	10	U	500	482		ug/L		96	86 - 113	1	20
Magnesium	28000		50000	74500		ug/L		93	85 - 113	1	20
Manganese	85	Q	500	546	Q	ug/L		92	90 - 114	0	20
Nickel	1.9	J	500	473		ug/L		94	88 - 113	1	20
Potassium	2500	J	50000	57600		ug/L		110	86 - 114	1	20
Selenium	19	U	2000	2040		ug/L		102	83 - 114	2	20
Silver	3.5	U	50.0	49.6		ug/L		99	84 - 115	1	20
Thallium	10	J	2000	1860		ug/L		92	85 - 114	2	20
Vanadium	4.0	U	500	486		ug/L		97	90 - 111	1	20
Zinc	13	J	500	468		ug/L		91	87 - 115	1	20

Lab Sample ID: 280-84351-3 MSD — **Client Sample ID: SC-ZZ007-MWUNK-G-1**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 331349 — **Prep Batch: 330579**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	8.7	J	1000	995		ug/L		99	87 - 113	1	20
Beryllium	1.2	U	50.0	47.0		ug/L		94	89 - 112	0	20
Sodium	40000		50000	90500		ug/L		102	87 - 115	0	20

Lab Sample ID: 280-84351-3 MSD — **Client Sample ID: SC-ZZ007-MWUNK-G-1**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 331465 — **Prep Batch: 330579**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Iron	110		1000	1120		ug/L		101	87 - 115	10	20

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

Lab Sample ID: MB 280-330578/1-A
Matrix: Water
Analysis Batch: 331399

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 330578

Analyte	MB Result	MB Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	70	U	300	18	ug/L		06/22/16 08:10	06/26/16 19:17	1
Arsenic	4.49	J	25	4.4	ug/L		06/22/16 08:10	06/26/16 19:17	1
Barium	2.0	U	10	0.58	ug/L		06/22/16 08:10	06/26/16 19:17	1
Beryllium	1.2	U	1.5	0.47	ug/L		06/22/16 08:10	06/26/16 19:17	1
Cadmium	1.8	U	5.0	0.45	ug/L		06/22/16 08:10	06/26/16 19:17	1
Calcium	140	U	1000	35	ug/L		06/22/16 08:10	06/26/16 19:17	1
Chromium	2.6	U	15	0.66	ug/L		06/22/16 08:10	06/26/16 19:17	1
Cobalt	4.5	U	15	1.2	ug/L		06/22/16 08:10	06/26/16 19:17	1
Copper	10	U	15	4.2	ug/L		06/22/16 08:10	06/26/16 19:17	1
Iron	85	U	100	22	ug/L		06/22/16 08:10	06/26/16 19:17	1
Lead	10	U	15	2.6	ug/L		06/22/16 08:10	06/26/16 19:17	1
Magnesium	40	U	500	11	ug/L		06/22/16 08:10	06/26/16 19:17	1
Manganese	1.0	U	10	0.25	ug/L		06/22/16 08:10	06/26/16 19:17	1
Nickel	5.0	U	40	1.3	ug/L		06/22/16 08:10	06/26/16 19:17	1
Potassium	940	U	3000	240	ug/L		06/22/16 08:10	06/26/16 19:17	1
Silver	3.5	U	15	0.93	ug/L		06/22/16 08:10	06/26/16 19:17	1
Sodium	350	U	5000	92	ug/L		06/22/16 08:10	06/26/16 19:17	1
Thallium	19	U	40	4.9	ug/L		06/22/16 08:10	06/26/16 19:17	1
Vanadium	4.0	U	15	1.1	ug/L		06/22/16 08:10	06/26/16 19:17	1
Zinc	15	U	150	4.5	ug/L		06/22/16 08:10	06/26/16 19:17	1

Lab Sample ID: MB 280-330578/1-A
Matrix: Water
Analysis Batch: 331602

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 330578

Analyte	MB Result	MB Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	12	U	20	3.1	ug/L		06/22/16 08:10	06/27/16 15:20	1
Selenium	19	U	22	4.9	ug/L		06/22/16 08:10	06/27/16 15:20	1

Lab Sample ID: LCS 280-330578/2-A
Matrix: Water
Analysis Batch: 331399

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 330578

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aluminum	2000	2080		ug/L		104	86 - 115
Arsenic	1000	1030		ug/L		103	87 - 113
Barium	2000	2050		ug/L		102	88 - 113
Beryllium	50.0	50.5		ug/L		101	89 - 112
Cadmium	100	101		ug/L		101	88 - 113
Calcium	50000	50700		ug/L		101	87 - 113
Chromium	200	202		ug/L		101	90 - 113
Cobalt	500	495		ug/L		99	89 - 114
Copper	250	253		ug/L		101	86 - 114
Iron	1000	1000		ug/L		100	87 - 115
Lead	500	504		ug/L		101	86 - 113
Magnesium	50000	50600		ug/L		101	85 - 113
Manganese	500	497		ug/L		99	90 - 114
Nickel	500	497		ug/L		99	88 - 113

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

Lab Sample ID: LCS 280-330578/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total Recoverable**
Analysis Batch: 331399 — **Prep Batch: 330578**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Potassium	50000	51700		ug/L		103	86 - 114
Silver	50.0	50.4		ug/L		101	84 - 115
Sodium	50000	53000		ug/L		106	87 - 115
Thallium	2000	1920		ug/L		96	85 - 114
Vanadium	500	512		ug/L		102	90 - 111
Zinc	500	505		ug/L		101	87 - 115

Lab Sample ID: LCS 280-330578/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total Recoverable**
Analysis Batch: 331602 — **Prep Batch: 330578**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	500	536		ug/L		107	88 - 113
Selenium	2000	2100		ug/L		105	83 - 114

Lab Sample ID: 280-84351-3 MS — **Client Sample ID: SC-ZZ007-MWUNK-G-1**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 331399 — **Prep Batch: 330578**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Aluminum	70	U	2000	1980		ug/L		99	86 - 115
Arsenic	15	U	1000	1010		ug/L		101	87 - 113
Barium	78		2000	2060		ug/L		99	88 - 113
Beryllium	1.2	U	50.0	48.9		ug/L		98	89 - 112
Cadmium	1.8	U	100	97.6		ug/L		98	88 - 113
Calcium	85000		50000	135000		ug/L		102	87 - 113
Chromium	2.6	U	200	194		ug/L		97	90 - 113
Cobalt	4.5	U	500	471		ug/L		94	89 - 114
Copper	10	U	250	246		ug/L		99	86 - 114
Iron	85	U	1000	963		ug/L		96	87 - 115
Lead	10	U	500	477		ug/L		95	86 - 113
Magnesium	28000		50000	77300		ug/L		98	85 - 113
Manganese	18		500	492		ug/L		95	90 - 114
Nickel	5.0	U	500	474		ug/L		95	88 - 113
Potassium	2400	J	50000	52800		ug/L		101	86 - 114
Silver	3.5	U	50.0	48.9		ug/L		98	84 - 115
Sodium	39000		50000	90900		ug/L		103	87 - 115
Thallium	14	J	2000	1770		ug/L		88	85 - 114
Vanadium	4.0	U	500	493		ug/L		99	90 - 111
Zinc	11	J	500	487		ug/L		95	87 - 115

Lab Sample ID: 280-84351-3 MS — **Client Sample ID: SC-ZZ007-MWUNK-G-1**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 331602 — **Prep Batch: 330578**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	3.4	J	500	523		ug/L		104	88 - 113
Selenium	9.5	J	2000	2010		ug/L		100	83 - 114

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

Lab Sample ID: 280-84351-3 MSD — **Client Sample ID: SC-ZZ007-MWUNK-G-1**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 331399 — **Prep Batch: 330578**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Aluminum	70	U	2000	2030		ug/L		102	86 - 115	3	20
Arsenic	15	U	1000	1050		ug/L		105	87 - 113	4	20
Barium	78		2000	2120		ug/L		102	88 - 113	3	20
Beryllium	1.2	U	50.0	50.3		ug/L		101	89 - 112	3	20
Cadmium	1.8	U	100	101		ug/L		101	88 - 113	4	20
Calcium	85000		50000	138000		ug/L		106	87 - 113	2	20
Chromium	2.6	U	200	200		ug/L		100	90 - 113	3	20
Cobalt	4.5	U	500	486		ug/L		97	89 - 114	3	20
Copper	10	U	250	256		ug/L		103	86 - 114	4	20
Iron	85	U	1000	1030		ug/L		103	87 - 115	7	20
Lead	10	U	500	497		ug/L		99	86 - 113	4	20
Magnesium	28000		50000	79900		ug/L		103	85 - 113	3	20
Manganese	18		500	511		ug/L		99	90 - 114	4	20
Nickel	5.0	U	500	489		ug/L		98	88 - 113	3	20
Potassium	2400	J	50000	54200		ug/L		104	86 - 114	3	20
Silver	3.5	U	50.0	50.9		ug/L		102	84 - 115	4	20
Sodium	39000		50000	92900		ug/L		107	87 - 115	2	20
Thallium	14	J	2000	1830		ug/L		91	85 - 114	3	20
Vanadium	4.0	U	500	512		ug/L		102	90 - 111	4	20
Zinc	11	J	500	506		ug/L		99	87 - 115	4	20

Lab Sample ID: 280-84351-3 MSD — **Client Sample ID: SC-ZZ007-MWUNK-G-1**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 331602 — **Prep Batch: 330578**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Antimony	3.4	J	500	529		ug/L		105	88 - 113	1	20
Selenium	9.5	J	2000	2080		ug/L		104	83 - 114	3	20

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 280-329782/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 330194 — **Prep Batch: 329782**

Analyte	MB Result	MB Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	0.080	U	0.20	0.027	ug/L		06/16/16 11:20	06/16/16 17:02	1

Lab Sample ID: LCS 280-329782/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 330194 — **Prep Batch: 329782**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Hg	5.00	5.11		ug/L		102	82 - 119

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

Lab Sample ID: MB 280-329784/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 330194 — **Prep Batch: 329784**

Analyte	MB Result	MB Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.080	U	0.20	0.027	ug/L		06/16/16 11:20	06/16/16 17:49	1

Lab Sample ID: LCS 280-329784/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 330194 — **Prep Batch: 329784**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	5.00	5.17		ug/L		103	82 - 119

Lab Sample ID: 280-84351-3 MS — **Client Sample ID: SC-ZZ007-MWUNK-G-1**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 330194 — **Prep Batch: 329784**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.080	U	5.00	4.88		ug/L		98	82 - 119

Lab Sample ID: 280-84351-3 MSD — **Client Sample ID: SC-ZZ007-MWUNK-G-1**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 330194 — **Prep Batch: 329784**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	0.080	U	5.00	4.93		ug/L		99	82 - 119	1	20

Lab Sample ID: 280-84351-3 MS — **Client Sample ID: SC-ZZ007-MWUNK-G-1**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 330194 — **Prep Batch: 329782**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Hg	0.080	U	5.00	4.85		ug/L		97	82 - 119

Lab Sample ID: 280-84351-3 MSD — **Client Sample ID: SC-ZZ007-MWUNK-G-1**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 330194 — **Prep Batch: 329782**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Hg	0.080	U	5.00	4.80		ug/L		96	82 - 119	1	20

QC Association Summary

Client: Weston Solutions, Inc.
Project/Site: Schenectady ANGB, ZZ007

TestAmerica Job ID: 280-84351-1

Metals

Prep Batch: 329782

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-84351-1	SC-ZZ007-MW001-G-1	Dissolved	Water	7470A	
280-84351-2	SC-ZZ007-MW002-G-1	Dissolved	Water	7470A	
280-84351-3	SC-ZZ007-MWUNK-G-1	Dissolved	Water	7470A	
280-84351-3 MS	SC-ZZ007-MWUNK-G-1	Dissolved	Water	7470A	
280-84351-3 MSD	SC-ZZ007-MWUNK-G-1	Dissolved	Water	7470A	
280-84351-3 PDS	SC-ZZ007-MWUNK-G-1	Dissolved	Water	7470A	
280-84351-3 SD	SC-ZZ007-MWUNK-G-1	Dissolved	Water	7470A	
280-84351-4	SC-ZZ007-MWUNK-G-1-D	Dissolved	Water	7470A	
280-84351-5	SC-ZZ007-EB060716	Dissolved	Water	7470A	
LCS 280-329782/2-A	Lab Control Sample	Total/NA	Water	7470A	
MB 280-329782/1-A	Method Blank	Total/NA	Water	7470A	

Prep Batch: 329784

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-84351-1	SC-ZZ007-MW001-G-1	Total/NA	Water	7470A	
280-84351-2	SC-ZZ007-MW002-G-1	Total/NA	Water	7470A	
280-84351-3	SC-ZZ007-MWUNK-G-1	Total/NA	Water	7470A	
280-84351-3 MS	SC-ZZ007-MWUNK-G-1	Total/NA	Water	7470A	
280-84351-3 MSD	SC-ZZ007-MWUNK-G-1	Total/NA	Water	7470A	
280-84351-3 PDS	SC-ZZ007-MWUNK-G-1	Total/NA	Water	7470A	
280-84351-3 SD	SC-ZZ007-MWUNK-G-1	Total/NA	Water	7470A	
280-84351-4	SC-ZZ007-MWUNK-G-1-D	Total/NA	Water	7470A	
280-84351-5	SC-ZZ007-EB060716	Total/NA	Water	7470A	
LCS 280-329784/2-A	Lab Control Sample	Total/NA	Water	7470A	
MB 280-329784/1-A	Method Blank	Total/NA	Water	7470A	

Analysis Batch: 330194

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-84351-1	SC-ZZ007-MW001-G-1	Dissolved	Water	7470A	329782
280-84351-1	SC-ZZ007-MW001-G-1	Total/NA	Water	7470A	329784
280-84351-2	SC-ZZ007-MW002-G-1	Dissolved	Water	7470A	329782
280-84351-2	SC-ZZ007-MW002-G-1	Total/NA	Water	7470A	329784
280-84351-3	SC-ZZ007-MWUNK-G-1	Dissolved	Water	7470A	329782
280-84351-3	SC-ZZ007-MWUNK-G-1	Total/NA	Water	7470A	329784
280-84351-3 MS	SC-ZZ007-MWUNK-G-1	Dissolved	Water	7470A	329782
280-84351-3 MS	SC-ZZ007-MWUNK-G-1	Total/NA	Water	7470A	329784
280-84351-3 MSD	SC-ZZ007-MWUNK-G-1	Dissolved	Water	7470A	329782
280-84351-3 MSD	SC-ZZ007-MWUNK-G-1	Total/NA	Water	7470A	329784
280-84351-3 PDS	SC-ZZ007-MWUNK-G-1	Dissolved	Water	7470A	329782
280-84351-3 PDS	SC-ZZ007-MWUNK-G-1	Total/NA	Water	7470A	329784
280-84351-3 SD	SC-ZZ007-MWUNK-G-1	Dissolved	Water	7470A	329782
280-84351-3 SD	SC-ZZ007-MWUNK-G-1	Total/NA	Water	7470A	329784
280-84351-4	SC-ZZ007-MWUNK-G-1-D	Dissolved	Water	7470A	329782
280-84351-4	SC-ZZ007-MWUNK-G-1-D	Total/NA	Water	7470A	329784
280-84351-5	SC-ZZ007-EB060716	Dissolved	Water	7470A	329782
280-84351-5	SC-ZZ007-EB060716	Total/NA	Water	7470A	329784
LCS 280-329782/2-A	Lab Control Sample	Total/NA	Water	7470A	329782
LCS 280-329784/2-A	Lab Control Sample	Total/NA	Water	7470A	329784
MB 280-329782/1-A	Method Blank	Total/NA	Water	7470A	329782
MB 280-329784/1-A	Method Blank	Total/NA	Water	7470A	329784

Metals (Continued)

Prep Batch: 330578

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-84351-1	SC-ZZ007-MW001-G-1	Dissolved	Water	3005A	
280-84351-2	SC-ZZ007-MW002-G-1	Dissolved	Water	3005A	
280-84351-3	SC-ZZ007-MWUNK-G-1	Dissolved	Water	3005A	
280-84351-3 MS	SC-ZZ007-MWUNK-G-1	Dissolved	Water	3005A	
280-84351-3 MSD	SC-ZZ007-MWUNK-G-1	Dissolved	Water	3005A	
280-84351-3 PDS	SC-ZZ007-MWUNK-G-1	Dissolved	Water	3005A	
280-84351-3 SD	SC-ZZ007-MWUNK-G-1	Dissolved	Water	3005A	
280-84351-4	SC-ZZ007-MWUNK-G-1-D	Dissolved	Water	3005A	
280-84351-5	SC-ZZ007-EB060716	Dissolved	Water	3005A	
LCS 280-330578/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
MB 280-330578/1-A	Method Blank	Total Recoverable	Water	3005A	

Prep Batch: 330579

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-84351-1	SC-ZZ007-MW001-G-1	Total/NA	Water	3010A	
280-84351-2	SC-ZZ007-MW002-G-1	Total/NA	Water	3010A	
280-84351-3	SC-ZZ007-MWUNK-G-1	Total/NA	Water	3010A	
280-84351-3 MS	SC-ZZ007-MWUNK-G-1	Total/NA	Water	3010A	
280-84351-3 MSD	SC-ZZ007-MWUNK-G-1	Total/NA	Water	3010A	
280-84351-3 PDS	SC-ZZ007-MWUNK-G-1	Total/NA	Water	3010A	
280-84351-3 SD	SC-ZZ007-MWUNK-G-1	Total/NA	Water	3010A	
280-84351-4	SC-ZZ007-MWUNK-G-1-D	Total/NA	Water	3010A	
280-84351-5	SC-ZZ007-EB060716	Total/NA	Water	3010A	
LCS 280-330579/2-A	Lab Control Sample	Total/NA	Water	3010A	
MB 280-330579/1-A	Method Blank	Total/NA	Water	3010A	

Analysis Batch: 331269

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-84351-1	SC-ZZ007-MW001-G-1	Total/NA	Water	6010C	330579
280-84351-2	SC-ZZ007-MW002-G-1	Total/NA	Water	6010C	330579
280-84351-3	SC-ZZ007-MWUNK-G-1	Total/NA	Water	6010C	330579
280-84351-3 MS	SC-ZZ007-MWUNK-G-1	Total/NA	Water	6010C	330579
280-84351-3 MSD	SC-ZZ007-MWUNK-G-1	Total/NA	Water	6010C	330579
280-84351-3 PDS	SC-ZZ007-MWUNK-G-1	Total/NA	Water	6010C	330579
280-84351-3 SD	SC-ZZ007-MWUNK-G-1	Total/NA	Water	6010C	330579
280-84351-4	SC-ZZ007-MWUNK-G-1-D	Total/NA	Water	6010C	330579
280-84351-5	SC-ZZ007-EB060716	Total/NA	Water	6010C	330579
CRI 280-331269/12	DL		Water	6010C	
CRI 280-331269/13	DL		Water	6010C	
CRI 280-331269/14	DL		Water	6010C	
ICSA 280-331269/15	ICS		Water	6010C	
ICSAB 280-331269/16	ICS		Water	6010C	
LCS 280-330579/2-A	Lab Control Sample	Total/NA	Water	6010C	330579
MB 280-330579/1-A	Method Blank	Total/NA	Water	6010C	330579

Analysis Batch: 331349

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-84351-1	SC-ZZ007-MW001-G-1	Total/NA	Water	6010C	330579
280-84351-2	SC-ZZ007-MW002-G-1	Total/NA	Water	6010C	330579
280-84351-3	SC-ZZ007-MWUNK-G-1	Total/NA	Water	6010C	330579
280-84351-3 MS	SC-ZZ007-MWUNK-G-1	Total/NA	Water	6010C	330579

Metals (Continued)

Analysis Batch: 331349 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-84351-3 MSD	SC-ZZ007-MWUNK-G-1	Total/NA	Water	6010C	330579
280-84351-3 PDS	SC-ZZ007-MWUNK-G-1	Total/NA	Water	6010C	330579
280-84351-3 SD	SC-ZZ007-MWUNK-G-1	Total/NA	Water	6010C	330579
280-84351-4	SC-ZZ007-MWUNK-G-1-D	Total/NA	Water	6010C	330579
280-84351-5	SC-ZZ007-EB060716	Total/NA	Water	6010C	330579
CRI 280-331349/14	DL		Water	6010C	
CRI 280-331349/22	DL		Water	6010C	
ICSA 280-331349/15	ICS		Water	6010C	
ICSAB 280-331349/16	ICS		Water	6010C	
LCS 280-330579/2-A	Lab Control Sample	Total/NA	Water	6010C	330579
MB 280-330579/1-A	Method Blank	Total/NA	Water	6010C	330579

Analysis Batch: 331399

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-84351-1	SC-ZZ007-MW001-G-1	Dissolved	Water	6010C	330578
280-84351-2	SC-ZZ007-MW002-G-1	Dissolved	Water	6010C	330578
280-84351-3	SC-ZZ007-MWUNK-G-1	Dissolved	Water	6010C	330578
280-84351-3 MS	SC-ZZ007-MWUNK-G-1	Dissolved	Water	6010C	330578
280-84351-3 MSD	SC-ZZ007-MWUNK-G-1	Dissolved	Water	6010C	330578
280-84351-3 PDS	SC-ZZ007-MWUNK-G-1	Dissolved	Water	6010C	330578
280-84351-3 SD	SC-ZZ007-MWUNK-G-1	Dissolved	Water	6010C	330578
280-84351-4	SC-ZZ007-MWUNK-G-1-D	Dissolved	Water	6010C	330578
280-84351-5	SC-ZZ007-EB060716	Dissolved	Water	6010C	330578
CRI 280-331399/12	DL		Water	6010C	
ICSA 280-331399/13	ICS		Water	6010C	
ICSAB 280-331399/14	ICS		Water	6010C	
LCS 280-330578/2-A	Lab Control Sample	Total Recoverable	Water	6010C	330578
MB 280-330578/1-A	Method Blank	Total Recoverable	Water	6010C	330578

Analysis Batch: 331465

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-84351-1	SC-ZZ007-MW001-G-1	Total/NA	Water	6010C	330579
280-84351-2	SC-ZZ007-MW002-G-1	Total/NA	Water	6010C	330579
280-84351-3	SC-ZZ007-MWUNK-G-1	Total/NA	Water	6010C	330579
280-84351-3 MS	SC-ZZ007-MWUNK-G-1	Total/NA	Water	6010C	330579
280-84351-3 MSD	SC-ZZ007-MWUNK-G-1	Total/NA	Water	6010C	330579
280-84351-3 PDS	SC-ZZ007-MWUNK-G-1	Total/NA	Water	6010C	330579
280-84351-3 SD	SC-ZZ007-MWUNK-G-1	Total/NA	Water	6010C	330579
280-84351-4	SC-ZZ007-MWUNK-G-1-D	Total/NA	Water	6010C	330579
280-84351-5	SC-ZZ007-EB060716	Total/NA	Water	6010C	330579
CRI 280-331465/12	DL		Water	6010C	
CRI 280-331465/20	DL		Water	6010C	
ICSA 280-331465/13	ICS		Water	6010C	
ICSAB 280-331465/14	ICS		Water	6010C	
LCS 280-330579/2-A	Lab Control Sample	Total/NA	Water	6010C	330579
MB 280-330579/1-A	Method Blank	Total/NA	Water	6010C	330579

Analysis Batch: 331602

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-84351-1	SC-ZZ007-MW001-G-1	Dissolved	Water	6010C	330578
280-84351-2	SC-ZZ007-MW002-G-1	Dissolved	Water	6010C	330578

Metals (Continued)

Analysis Batch: 331602 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-84351-3	SC-ZZ007-MWUNK-G-1	Dissolved	Water	6010C	330578
280-84351-3 MS	SC-ZZ007-MWUNK-G-1	Dissolved	Water	6010C	330578
280-84351-3 MSD	SC-ZZ007-MWUNK-G-1	Dissolved	Water	6010C	330578
280-84351-3 PDS	SC-ZZ007-MWUNK-G-1	Dissolved	Water	6010C	330578
280-84351-3 SD	SC-ZZ007-MWUNK-G-1	Dissolved	Water	6010C	330578
280-84351-4	SC-ZZ007-MWUNK-G-1-D	Dissolved	Water	6010C	330578
280-84351-5	SC-ZZ007-EB060716	Dissolved	Water	6010C	330578
CRI 280-331602/12	DL		Water	6010C	
CRI 280-331602/20	DL		Water	6010C	
ICSA 280-331602/13	ICS		Water	6010C	
ICSAB 280-331602/14	ICS		Water	6010C	
LCS 280-330578/2-A	Lab Control Sample	Total Recoverable	Water	6010C	330578
MB 280-330578/1-A	Method Blank	Total Recoverable	Water	6010C	330578

Client Sample ID: SC-ZZ007-MW001-G-1 — Lab Sample ID: 280-84351-1

Date Collected: 06/07/16 16:25
Matrix: Water
Date Received: 06/10/16 09:25

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			50 mL	50 mL	330578	06/22/16 08:10	TEB	TAL DEN
Dissolved	Analysis	6010C		1	50 mL	50 mL	331399	06/26/16 19:35	SJS	TAL DEN
Dissolved	Prep	3005A			50 mL	50 mL	330578	06/22/16 08:10	TEB	TAL DEN
Dissolved	Analysis	6010C		1	50 mL	50 mL	331602	06/27/16 15:37	CRR	TAL DEN
Total/NA	Prep	3010A			50 mL	50 mL	330579	06/20/16 22:16	TEB	TAL DEN
Total/NA	Analysis	6010C		1	50 mL	50 mL	331269	06/25/16 02:14	CRR	TAL DEN
Total/NA	Prep	3010A			50 mL	50 mL	330579	06/20/16 22:16	TEB	TAL DEN
Total/NA	Analysis	6010C		1	50 mL	50 mL	331349	06/25/16 15:40	CRR	TAL DEN
Total/NA	Prep	3010A			50 mL	50 mL	330579	06/20/16 22:16	TEB	TAL DEN
Total/NA	Analysis	6010C		1	50 mL	50 mL	331465	06/27/16 10:10	CRR	TAL DEN
Dissolved	Prep	7470A			30 mL	50 mL	329782	06/16/16 11:20	CDH	TAL DEN
Dissolved	Analysis	7470A		1	30 mL	50 mL	330194	06/16/16 17:07	CDH	TAL DEN
Total/NA	Prep	7470A			30 mL	50 mL	329784	06/16/16 11:20	CDH	TAL DEN
Total/NA	Analysis	7470A		1	30 mL	50 mL	330194	06/16/16 17:59	CDH	TAL DEN

Client Sample ID: SC-ZZ007-MW002-G-1 — Lab Sample ID: 280-84351-2

Date Collected: 06/07/16 16:30
Matrix: Water
Date Received: 06/10/16 09:25

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			50 mL	50 mL	330578	06/22/16 08:10	TEB	TAL DEN
Dissolved	Analysis	6010C		1	50 mL	50 mL	331399	06/26/16 19:37	SJS	TAL DEN
Dissolved	Prep	3005A			50 mL	50 mL	330578	06/22/16 08:10	TEB	TAL DEN
Dissolved	Analysis	6010C		1	50 mL	50 mL	331602	06/27/16 15:40	CRR	TAL DEN
Total/NA	Prep	3010A			50 mL	50 mL	330579	06/20/16 22:16	TEB	TAL DEN
Total/NA	Analysis	6010C		1	50 mL	50 mL	331269	06/25/16 02:16	CRR	TAL DEN
Total/NA	Prep	3010A			50 mL	50 mL	330579	06/20/16 22:16	TEB	TAL DEN
Total/NA	Analysis	6010C		1	50 mL	50 mL	331349	06/25/16 15:53	CRR	TAL DEN
Total/NA	Prep	3010A			50 mL	50 mL	330579	06/20/16 22:16	TEB	TAL DEN
Total/NA	Analysis	6010C		1	50 mL	50 mL	331465	06/27/16 10:13	CRR	TAL DEN
Dissolved	Prep	7470A			30 mL	50 mL	329782	06/16/16 11:20	CDH	TAL DEN
Dissolved	Analysis	7470A		1	30 mL	50 mL	330194	06/16/16 17:10	CDH	TAL DEN
Total/NA	Prep	7470A			30 mL	50 mL	329784	06/16/16 11:20	CDH	TAL DEN
Total/NA	Analysis	7470A		1	30 mL	50 mL	330194	06/16/16 18:02	CDH	TAL DEN

Client Sample ID: SC-ZZ007-MWUNK-G-1 — Lab Sample ID: 280-84351-3

Date Collected: 06/07/16 15:00
Matrix: Water
Date Received: 06/10/16 09:25

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			50 mL	50 mL	330578	06/22/16 08:10	TEB	TAL DEN
Dissolved	Analysis	6010C		1	50 mL	50 mL	331399	06/26/16 19:22	SJS	TAL DEN
Dissolved	Prep	3005A			50 mL	50 mL	330578	06/22/16 08:10	TEB	TAL DEN

Client Sample ID: SC-ZZ007-MWUNK-G-1 — Lab Sample ID: 280-84351-3

Date Collected: 06/07/16 15:00 — **Matrix: Water**
Date Received: 06/10/16 09:25

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Analysis	6010C		1	50 mL	50 mL	331602	06/27/16 15:24	CRR	TAL DEN
Total/NA	Prep	3010A			50 mL	50 mL	330579	06/20/16 22:16	TEB	TAL DEN
Total/NA	Analysis	6010C		1	50 mL	50 mL	331269	06/25/16 02:01	CRR	TAL DEN
Total/NA	Prep	3010A			50 mL	50 mL	330579	06/20/16 22:16	TEB	TAL DEN
Total/NA	Analysis	6010C		1	50 mL	50 mL	331349	06/25/16 15:28	CRR	TAL DEN
Total/NA	Prep	3010A			50 mL	50 mL	330579	06/20/16 22:16	TEB	TAL DEN
Total/NA	Analysis	6010C		1	50 mL	50 mL	331465	06/27/16 09:57	CRR	TAL DEN
Dissolved	Prep	7470A			30 mL	50 mL	329782	06/16/16 11:20	CDH	TAL DEN
Dissolved	Analysis	7470A		1	30 mL	50 mL	330194	06/16/16 17:12	CDH	TAL DEN
Total/NA	Prep	7470A			30 mL	50 mL	329784	06/16/16 11:20	CDH	TAL DEN
Total/NA	Analysis	7470A		1	30 mL	50 mL	330194	06/16/16 18:04	CDH	TAL DEN

Client Sample ID: SC-ZZ007-MWUNK-G-1-D — Lab Sample ID: 280-84351-4

Date Collected: 06/07/16 15:10 — **Matrix: Water**
Date Received: 06/10/16 09:25

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			50 mL	50 mL	330578	06/22/16 08:10	TEB	TAL DEN
Dissolved	Analysis	6010C		1	50 mL	50 mL	331399	06/26/16 19:40	SJS	TAL DEN
Dissolved	Prep	3005A			50 mL	50 mL	330578	06/22/16 08:10	TEB	TAL DEN
Dissolved	Analysis	6010C		1	50 mL	50 mL	331602	06/27/16 15:42	CRR	TAL DEN
Total/NA	Prep	3010A			50 mL	50 mL	330579	06/20/16 22:16	TEB	TAL DEN
Total/NA	Analysis	6010C		1	50 mL	50 mL	331269	06/25/16 02:29	CRR	TAL DEN
Total/NA	Prep	3010A			50 mL	50 mL	330579	06/20/16 22:16	TEB	TAL DEN
Total/NA	Analysis	6010C		1	50 mL	50 mL	331349	06/25/16 15:56	CRR	TAL DEN
Total/NA	Prep	3010A			50 mL	50 mL	330579	06/20/16 22:16	TEB	TAL DEN
Total/NA	Analysis	6010C		1	50 mL	50 mL	331465	06/27/16 10:25	CRR	TAL DEN
Dissolved	Prep	7470A			30 mL	50 mL	329782	06/16/16 11:20	CDH	TAL DEN
Dissolved	Analysis	7470A		1	30 mL	50 mL	330194	06/16/16 17:29	CDH	TAL DEN
Total/NA	Prep	7470A			30 mL	50 mL	329784	06/16/16 11:20	CDH	TAL DEN
Total/NA	Analysis	7470A		1	30 mL	50 mL	330194	06/16/16 18:17	CDH	TAL DEN

Client Sample ID: SC-ZZ007-EB060716 — Lab Sample ID: 280-84351-5

Date Collected: 06/07/16 18:00 — **Matrix: Water**
Date Received: 06/10/16 09:25

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			50 mL	50 mL	330578	06/22/16 08:10	TEB	TAL DEN
Dissolved	Analysis	6010C		1	50 mL	50 mL	331399	06/26/16 19:53	SJS	TAL DEN
Dissolved	Prep	3005A			50 mL	50 mL	330578	06/22/16 08:10	TEB	TAL DEN
Dissolved	Analysis	6010C		1	50 mL	50 mL	331602	06/27/16 15:55	CRR	TAL DEN
Total/NA	Prep	3010A			50 mL	50 mL	330579	06/20/16 22:16	TEB	TAL DEN
Total/NA	Analysis	6010C		1	50 mL	50 mL	331269	06/25/16 02:32	CRR	TAL DEN

Lab Chronicle

Client: Weston Solutions, Inc.
Project/Site: Schenectady ANGB, ZZ007

TestAmerica Job ID: 280-84351-1

Client Sample ID: SC-ZZ007-EB060716

Lab Sample ID: 280-84351-5

Date Collected: 06/07/16 18:00
Date Received: 06/10/16 09:25

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3010A			50 mL	50 mL	330579	06/20/16 22:16	TEB	TAL DEN
Total/NA	Analysis	6010C		1	50 mL	50 mL	331349	06/25/16 15:58	CRR	TAL DEN
Total/NA	Prep	3010A			50 mL	50 mL	330579	06/20/16 22:16	TEB	TAL DEN
Total/NA	Analysis	6010C		1	50 mL	50 mL	331465	06/27/16 10:28	CRR	TAL DEN
Dissolved	Prep	7470A			30 mL	50 mL	329782	06/16/16 11:20	CDH	TAL DEN
Dissolved	Analysis	7470A		1	30 mL	50 mL	330194	06/16/16 17:32	CDH	TAL DEN
Total/NA	Prep	7470A			30 mL	50 mL	329784	06/16/16 11:20	CDH	TAL DEN
Total/NA	Analysis	7470A		1	30 mL	50 mL	330194	06/16/16 18:19	CDH	TAL DEN

Laboratory References:

TAL DEN = TestAmerica Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

Certification Summary

Client: Weston Solutions, Inc.
Project/Site: Schenectady ANGB, ZZ007

TestAmerica Job ID: 280-84351-1

Laboratory: TestAmerica Denver

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

Authority	Program	EPA Region	Certification ID	Expiration Date
A2LA	DoD ELAP		2907.01	10-31-17
Connecticut	State Program	1	PH-0686	09-30-16

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

Analysis Method	Prep Method	Matrix	Analyte
6010C	3005A	Water	Aluminum
6010C	3005A	Water	Antimony
6010C	3005A	Water	Arsenic
6010C	3005A	Water	Barium
6010C	3005A	Water	Beryllium
6010C	3005A	Water	Cadmium
6010C	3005A	Water	Calcium
6010C	3005A	Water	Chromium
6010C	3005A	Water	Cobalt
6010C	3005A	Water	Copper
6010C	3005A	Water	Iron
6010C	3005A	Water	Lead
6010C	3005A	Water	Magnesium
6010C	3005A	Water	Manganese
6010C	3005A	Water	Nickel
6010C	3005A	Water	Potassium
6010C	3005A	Water	Selenium
6010C	3005A	Water	Silver
6010C	3005A	Water	Sodium
6010C	3005A	Water	Thallium
6010C	3005A	Water	Vanadium
6010C	3005A	Water	Zinc
6010C	3010A	Water	Aluminum
6010C	3010A	Water	Antimony
6010C	3010A	Water	Arsenic
6010C	3010A	Water	Barium
6010C	3010A	Water	Beryllium
6010C	3010A	Water	Cadmium
6010C	3010A	Water	Calcium
6010C	3010A	Water	Chromium
6010C	3010A	Water	Cobalt
6010C	3010A	Water	Copper
6010C	3010A	Water	Iron
6010C	3010A	Water	Lead
6010C	3010A	Water	Magnesium
6010C	3010A	Water	Manganese
6010C	3010A	Water	Nickel
6010C	3010A	Water	Potassium
6010C	3010A	Water	Selenium
6010C	3010A	Water	Silver
6010C	3010A	Water	Sodium
6010C	3010A	Water	Thallium

Laboratory: TestAmerica Denver (Continued)

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

Authority	Program	EPA Region	Certification ID	Expiration Date
Connecticut	State Program	1	PH-0686	09-30-16

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

Analysis Method	Prep Method	Matrix	Analyte
6010C	3010A	Water	Vanadium
6010C	3010A	Water	Zinc
7470A	7470A	Water	Hg
7470A	7470A	Water	Mercury

Maine	State Program	1	CO0002	03-03-17

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

Analysis Method	Prep Method	Matrix	Analyte
6010C	3005A	Water	Aluminum
6010C	3005A	Water	Antimony
6010C	3005A	Water	Arsenic
6010C	3005A	Water	Barium
6010C	3005A	Water	Beryllium
6010C	3005A	Water	Cadmium
6010C	3005A	Water	Calcium
6010C	3005A	Water	Chromium
6010C	3005A	Water	Cobalt
6010C	3005A	Water	Copper
6010C	3005A	Water	Iron
6010C	3005A	Water	Lead
6010C	3005A	Water	Magnesium
6010C	3005A	Water	Manganese
6010C	3005A	Water	Nickel
6010C	3005A	Water	Potassium
6010C	3005A	Water	Selenium
6010C	3005A	Water	Silver
6010C	3005A	Water	Sodium
6010C	3005A	Water	Thallium
6010C	3005A	Water	Vanadium
6010C	3005A	Water	Zinc
6010C	3010A	Water	Aluminum
6010C	3010A	Water	Antimony
6010C	3010A	Water	Arsenic
6010C	3010A	Water	Barium
6010C	3010A	Water	Beryllium
6010C	3010A	Water	Cadmium
6010C	3010A	Water	Calcium
6010C	3010A	Water	Chromium
6010C	3010A	Water	Cobalt
6010C	3010A	Water	Copper
6010C	3010A	Water	Iron
6010C	3010A	Water	Lead
6010C	3010A	Water	Magnesium
6010C	3010A	Water	Manganese
6010C	3010A	Water	Nickel
6010C	3010A	Water	Potassium
6010C	3010A	Water	Selenium

Laboratory: TestAmerica Denver (Continued)

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

Authority	Program	EPA Region	Certification ID	Expiration Date
Maine	State Program	1	CO0002	03-03-17

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

Analysis Method	Prep Method	Matrix	Analyte
6010C	3010A	Water	Silver
6010C	3010A	Water	Sodium
6010C	3010A	Water	Thallium
6010C	3010A	Water	Vanadium
6010C	3010A	Water	Zinc
7470A	7470A	Water	Hg
7470A	7470A	Water	Mercury

New Hampshire	NELAP	1	205310	04-28-17

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

Analysis Method	Prep Method	Matrix	Analyte
6010C	3005A	Water	Aluminum
6010C	3005A	Water	Antimony
6010C	3005A	Water	Arsenic
6010C	3005A	Water	Barium
6010C	3005A	Water	Beryllium
6010C	3005A	Water	Cadmium
6010C	3005A	Water	Calcium
6010C	3005A	Water	Chromium
6010C	3005A	Water	Cobalt
6010C	3005A	Water	Copper
6010C	3005A	Water	Iron
6010C	3005A	Water	Lead
6010C	3005A	Water	Magnesium
6010C	3005A	Water	Manganese
6010C	3005A	Water	Nickel
6010C	3005A	Water	Potassium
6010C	3005A	Water	Selenium
6010C	3005A	Water	Silver
6010C	3005A	Water	Sodium
6010C	3005A	Water	Thallium
6010C	3005A	Water	Vanadium
6010C	3005A	Water	Zinc
6010C	3010A	Water	Aluminum
6010C	3010A	Water	Antimony
6010C	3010A	Water	Arsenic
6010C	3010A	Water	Barium
6010C	3010A	Water	Beryllium
6010C	3010A	Water	Cadmium
6010C	3010A	Water	Calcium
6010C	3010A	Water	Chromium
6010C	3010A	Water	Cobalt
6010C	3010A	Water	Copper
6010C	3010A	Water	Iron
6010C	3010A	Water	Lead
6010C	3010A	Water	Magnesium
6010C	3010A	Water	Manganese

Laboratory: TestAmerica Denver (Continued)

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

Authority	Program	EPA Region	Certification ID	Expiration Date
New Hampshire	NELAP	1	205310	04-28-17

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

Analysis Method	Prep Method	Matrix	Analyte
6010C	3010A	Water	Nickel
6010C	3010A	Water	Potassium
6010C	3010A	Water	Selenium
6010C	3010A	Water	Silver
6010C	3010A	Water	Sodium
6010C	3010A	Water	Thallium
6010C	3010A	Water	Vanadium
6010C	3010A	Water	Zinc
7470A	7470A	Water	Hg
7470A	7470A	Water	Mercury

New York	NELAP	2	11964	04-01-17

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

Analysis Method	Prep Method	Matrix	Analyte
6010C	3005A	Water	Aluminum
6010C	3005A	Water	Antimony
6010C	3005A	Water	Arsenic
6010C	3005A	Water	Barium
6010C	3005A	Water	Beryllium
6010C	3005A	Water	Cadmium
6010C	3005A	Water	Calcium
6010C	3005A	Water	Chromium
6010C	3005A	Water	Cobalt
6010C	3005A	Water	Copper
6010C	3005A	Water	Iron
6010C	3005A	Water	Lead
6010C	3005A	Water	Magnesium
6010C	3005A	Water	Manganese
6010C	3005A	Water	Nickel
6010C	3005A	Water	Potassium
6010C	3005A	Water	Selenium
6010C	3005A	Water	Silver
6010C	3005A	Water	Sodium
6010C	3005A	Water	Thallium
6010C	3005A	Water	Vanadium
6010C	3005A	Water	Zinc
6010C	3010A	Water	Aluminum
6010C	3010A	Water	Antimony
6010C	3010A	Water	Arsenic
6010C	3010A	Water	Barium
6010C	3010A	Water	Beryllium
6010C	3010A	Water	Cadmium
6010C	3010A	Water	Calcium
6010C	3010A	Water	Chromium
6010C	3010A	Water	Cobalt
6010C	3010A	Water	Copper
6010C	3010A	Water	Iron

Laboratory: TestAmerica Denver (Continued)

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

Authority	Program	EPA Region	Certification ID	Expiration Date
New York	NELAP	2	11964	04-01-17

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

Analysis Method	Prep Method	Matrix	Analyte
6010C	3010A	Water	Lead
6010C	3010A	Water	Magnesium
6010C	3010A	Water	Manganese
6010C	3010A	Water	Nickel
6010C	3010A	Water	Potassium
6010C	3010A	Water	Selenium
6010C	3010A	Water	Silver
6010C	3010A	Water	Sodium
6010C	3010A	Water	Thallium
6010C	3010A	Water	Vanadium
6010C	3010A	Water	Zinc
7470A	7470A	Water	Hg
7470A	7470A	Water	Mercury

Pennsylvania	NELAP	3	68-00664	07-31-16

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

Analysis Method	Prep Method	Matrix	Analyte
6010C	3005A	Water	Aluminum
6010C	3005A	Water	Antimony
6010C	3005A	Water	Arsenic
6010C	3005A	Water	Barium
6010C	3005A	Water	Beryllium
6010C	3005A	Water	Cadmium
6010C	3005A	Water	Calcium
6010C	3005A	Water	Chromium
6010C	3005A	Water	Cobalt
6010C	3005A	Water	Copper
6010C	3005A	Water	Iron
6010C	3005A	Water	Lead
6010C	3005A	Water	Magnesium
6010C	3005A	Water	Manganese
6010C	3005A	Water	Nickel
6010C	3005A	Water	Potassium
6010C	3005A	Water	Selenium
6010C	3005A	Water	Silver
6010C	3005A	Water	Sodium
6010C	3005A	Water	Thallium
6010C	3005A	Water	Vanadium
6010C	3005A	Water	Zinc
6010C	3010A	Water	Aluminum
6010C	3010A	Water	Antimony
6010C	3010A	Water	Arsenic
6010C	3010A	Water	Barium
6010C	3010A	Water	Beryllium
6010C	3010A	Water	Cadmium
6010C	3010A	Water	Calcium
6010C	3010A	Water	Chromium

Laboratory: TestAmerica Denver (Continued)

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

Authority	Program	EPA Region	Certification ID	Expiration Date
Pennsylvania	NELAP	3	68-00664	07-31-16

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

Analysis Method	Prep Method	Matrix	Analyte
6010C	3010A	Water	Cobalt
6010C	3010A	Water	Copper
6010C	3010A	Water	Iron
6010C	3010A	Water	Lead
6010C	3010A	Water	Magnesium
6010C	3010A	Water	Manganese
6010C	3010A	Water	Nickel
6010C	3010A	Water	Potassium
6010C	3010A	Water	Selenium
6010C	3010A	Water	Silver
6010C	3010A	Water	Sodium
6010C	3010A	Water	Thallium
6010C	3010A	Water	Vanadium
6010C	3010A	Water	Zinc
7470A	7470A	Water	Hg
7470A	7470A	Water	Mercury

West Virginia DEP	State Program	3	354	11-30-16

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

Analysis Method	Prep Method	Matrix	Analyte
6010C	3005A	Water	Aluminum
6010C	3005A	Water	Antimony
6010C	3005A	Water	Arsenic
6010C	3005A	Water	Barium
6010C	3005A	Water	Beryllium
6010C	3005A	Water	Cadmium
6010C	3005A	Water	Calcium
6010C	3005A	Water	Chromium
6010C	3005A	Water	Cobalt
6010C	3005A	Water	Copper
6010C	3005A	Water	Iron
6010C	3005A	Water	Lead
6010C	3005A	Water	Magnesium
6010C	3005A	Water	Manganese
6010C	3005A	Water	Nickel
6010C	3005A	Water	Potassium
6010C	3005A	Water	Selenium
6010C	3005A	Water	Silver
6010C	3005A	Water	Sodium
6010C	3005A	Water	Thallium
6010C	3005A	Water	Vanadium
6010C	3005A	Water	Zinc
6010C	3010A	Water	Aluminum
6010C	3010A	Water	Antimony
6010C	3010A	Water	Arsenic
6010C	3010A	Water	Barium
6010C	3010A	Water	Beryllium

Laboratory: TestAmerica Denver (Continued)

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

Authority	Program	EPA Region	Certification ID	Expiration Date
West Virginia DEP	State Program	3	354	11-30-16

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

Analysis Method	Prep Method	Matrix	Analyte
6010C	3010A	Water	Cadmium
6010C	3010A	Water	Calcium
6010C	3010A	Water	Chromium
6010C	3010A	Water	Cobalt
6010C	3010A	Water	Copper
6010C	3010A	Water	Iron
6010C	3010A	Water	Lead
6010C	3010A	Water	Magnesium
6010C	3010A	Water	Manganese
6010C	3010A	Water	Nickel
6010C	3010A	Water	Potassium
6010C	3010A	Water	Selenium
6010C	3010A	Water	Silver
6010C	3010A	Water	Sodium
6010C	3010A	Water	Thallium
6010C	3010A	Water	Vanadium
6010C	3010A	Water	Zinc
7470A	7470A	Water	Hg
7470A	7470A	Water	Mercury

Method Summary

Client: Weston Solutions, Inc.
Project/Site: Schenectady ANGB, ZZ007

TestAmerica Job ID: 280-84351-1

Method	Method Description	Protocol	Laboratory
6010C	Metals (ICP)	SW846	TAL DEN
7470A	Mercury (CVAA)	SW846	TAL DEN

Protocol References:

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

Laboratory References:

TAL DEN = TestAmerica Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

Sample Summary

Client: Weston Solutions, Inc.
Project/Site: Schenectady ANGB, ZZ007

TestAmerica Job ID: 280-84351-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
280-84351-1	SC-ZZ007-MW001-G-1	Water	06/07/16 16:25	06/10/16 09:25
280-84351-2	SC-ZZ007-MW002-G-1	Water	06/07/16 16:30	06/10/16 09:25
280-84351-3	SC-ZZ007-MWUNK-G-1	Water	06/07/16 15:00	06/10/16 09:25
280-84351-4	SC-ZZ007-MWUNK-G-1-D	Water	06/07/16 15:10	06/10/16 09:25
280-84351-5	SC-ZZ007-EB060716	Water	06/07/16 18:00	06/10/16 09:25

Shipping and Receiving Documents

180325

BALTIMORE

TestAmerica Denver
4955 Yarrow Street
Arvada, CO 80002
Phone (303) 736-0100 Fax (303) 431-7171

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information	Sampler: DANE KOLMOS	Lab PM: Rydberg, Donna R	Carrier Tracking No(s):	COC No: 280-53289-19163.2
Client Contact: Ms. Gretchen Fodor	Phone: 860 912 9892	E-Mail: donna.rydberg@testamericainc.com		Page: ~~Page 2 of 2~~ 1 of 1
Company: Weston Solutions, Inc.				Job #:
Address: 1400 Weston Way PO BOX 2653	Due Date Requested:			
City: West Chester	TAT Requested (days): 15 DAYS			
State, Zip: PA, 19380				
Phone: 703-724-0544(Tel)	PO #: 0090139			
Email: gretchen.fodor@westonsolutions.com	WO #: 15363.100.001.1102			
Project Name: Schenectady ANGB, ZZ007	Project #: 28015256			
Site: ZZ007	SSOW#:			

Analysis Requested

280-84351 Chain of Custody

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)	Total Metals 6010C/7470A	Dissolved Metals 6010C/7470A	Total Metals	Total Number of containers	Special Instructions/Note:
			Preservation Code:				D	D			
SC-ZZ007-MW001-G1	06-07-16	1625	G	W	N	N	X			1	
SC-ZZ007-MW001-G-1	06-07-16	1625	G	W	Y	N		X		1	
SC-ZZ007-MW002-G-1	06-07-16	1630	G	W	N	N	X			1	
SC-ZZ007-MW002-G-1	06-07-16	1630	G	W	Y	N		X		1	
SC-ZZ007-MWUNK-G-1	06-07-16	1500	G	W	N	Y	X			3	
SC-ZZ007-MWUNK-G-1	06-07-16	1500	G	W	Y	Y		X		3	
SC-ZZ007-MWUNK-G-1-D	06-07-16	1510	G	W	N	N	X			1	
SC-ZZ007-MWUNK-G-1-D	06-07-16	1510	G	W	Y	N		X		1	
SC-ZZ007-EB060716	06-07-16	1800	G	W	Y	N	X	~~X~~	X	2	Filtered + Non-Filtered

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) IV

Special Instructions/QC Requirements:

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

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
[signature]	6/9/16 1441	TA	[signature]	6/9/16 1441	TA
[signature]	6/9/16 1715	TA	[signature]	6-10-16 0925	TAD
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: 0.2, 4.0, 2.4, 2.3, 2.0, 2.4 IR#5 +0.0 Transferred by RP 6-10-16

Login Sample Receipt Checklist

Client: Weston Solutions, Inc.

Job Number: 280-84351-1

Login Number: 84351
List Number: 1
Creator: Pottruff, Reed W

List Source: TestAmerica Denver

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
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	

ANALYTICAL REPORT

Job Number: 280-84353-1

Job Description: Schenectady ANGB, TU009

For:
Weston Solutions, Inc.
1400 Weston Way
PO BOX 2653
West Chester, PA 19380

Attention: Ms. Gretchen Fodor

Approved for release.
Donna R Rydberg
Senior Project Manager
8/16/2016 3:50 AM

Donna R Rydberg, Senior Project Manager
4955 Yarrow Street, Arvada, CO, 80002
(303)736-0192
donna.rydberg@testamericainc.com
08/16/2016
Revision: 1

The test results in this report relate only to the samples in this report and meet all requirements of NELAC, with any exceptions noted. Pursuant to NELAP, this report shall not be reproduced except in full, without the written approval of the laboratory. All questions regarding this report should be directed to the TestAmerica Denver Project Manager.

The Lab Certification ID# is 4025.

Reporting limits are adjusted for sample size used, dilutions and moisture content if applicable.

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Qualifiers

GC/MS Semi VOA

Qualifier	Qualifier Description
U	Undetected at the Limit of Detection.
J	Estimated: The quantitation is an estimation due to discrepancies in meeting certain analyte-specific quality control criteria.
J	Estimated: The analyte was positively identified; the quantitation is an estimation
M	Manual integrated compound.
Q	One or more quality control criteria failed.

Metals

Qualifier	Qualifier Description
D	The reported value is from a dilution.
J	Estimated: The quantitation is an estimation due to discrepancies in meeting certain analyte-specific quality control criteria.
U	Undetected at the Limit of Detection.
Q	One or more quality control criteria failed.
J	Estimated: The analyte was positively identified; the quantitation is an estimation
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.
V	Serial Dilution exceeds the control limits

Glossary

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

CASE NARRATIVE

Client: Weston Solutions, Inc.

Project: Schenectady ANGB, TU009

Report Number: 280-84353-1

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

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

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

REVISION 1 8/16/16
The data was returned to the lab for fixes on the LCS for Benzidine. The LCS was listed with a %R of 8% in LCS 280-329894/2-A. Since the analyte is effectively reported as ND (result <MDL), the LCS should not be calculating a percent recovery. This was corrected by the laboratory. Data was flagged per DOD QSM.

RECEIPT
The samples were received on 6/10/2016 9:25 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 6 coolers at receipt time were 0.2º C, 2.0º C, 2.3º C, 2.4º C, 2.4º C and 4.0º C.

Receipt Exceptions

Limited volume was received for samples SC-TU009-6MW24-G-1 and SC-TU009-MW003-G-1. However, sufficient volume is available to proceed with the requested analyses. The client was notified on 6/13/2016.

SEMIVOLATILE ORGANIC COMPOUNDS - SOILS
Samples SC-TU009-MW001-S0305 (280-84353-1), SC-TU009-MW001-S0608 (280-84353-2), SC-TU009-MW002-S0507 (280-84353-3), SC-TU009-MW002-S0305 (280-84353-4), SC-TU009-MW002-S0507-D (280-84353-5), SC-TU009-MW003-S0507 (280-84353-6) and SC-TU009-MW003-S0305 (280-84353-7) were analyzed for 8270D in accordance with 8270D. The samples were prepared on 06/17/2016 and analyzed on 06/28/2016 and 06/29/2016.

The following samples could not be thoroughly homogenized before sub-sampling was performed due to sample matrix: SC-TU009-MW002-S0507 (280-84353-3), SC-TU009-MW002-S0305 (280-84353-4) and SC-TU009-MW003-S0507 (280-84353-6). The samples were wet clay.

The MS and MSD spike recoveries for Benzidine were outside the recovery criteria in batch 280-331745 which was performed on sample SC-TU009-MW001-S0305 (280-84353-1). The associated LCS was in control and provides evidence that operating procedurse were in control. Data was flagged per DOD QSM.

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

SEMIVOLATILE ORGANIC COMPOUNDS - WATERS
Samples SC-TU009-EB060610 (280-84353-8), SC-TU009-MW003-G-1 (280-84353-9), SC-TU009-6MW24-G-1 (280-84353-10), SC-TU009-6MW22-G-1 (280-84353-11) and SC-TU009-6MW22-G-1-D (280-84353-12) were analyzed for Semivolatile organic compounds in accordance with SW-846 8270D. The samples were prepared on 06/11/2016 and analyzed on 06/27/2016.

Elevated reporting limits are provided for sample SC-TU009-6MW24-G-1 (280-84353-10) due to insufficient sample provided for preparation. The following sample had a volume of 712.1 mL, the method requires one liter of sample.
The samples were filled to one liter and then extracted as normal.

Surrogate recoveries for the following samples were outside the surrogate recovery criteria: SC-TU009-6MW22-G-1 (280-84353-11), SC-TU009-6MW22-G-1 (280-84353-11[MS]) and SC-TU009-6MW22-G-1 (280-84353-11[MSD]). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed. Data was flagged per DOD QSM.

Surrogate recoveries for the following samples were outside the surrogate recovery criteria: SC-TU009-6MW24-G-1 (280-84353-10) and SC-TU009-6MW22-G-1-D (280-84353-12). Evidence of matrix interferences is not obvious so the samples went back to the lab to

re-extract and re-analyze. Sample 10 had no volume left for re-extraction so was therefore reported as is and narrated. Sample 84353-12 was re-extracted and re-analyzed outside of holding time with similar results, confirming matrix interference. The original data was reported. Data was flagged per DOD QSM.

Benzyl alcohol and Bis(2-ethylhexyl) phthalate were detected in method blank MB 280-329438/1-A at levels that were less than one half the LOQ; therefore, corrective action was deemed unnecessary. The values should be considered estimates, and have been flagged “J” in accordance with the DoD QSM.

The recovery for surrogate Terphenyl-d14 was outside the surrogate recovery criteria in sample SC-TU009-6MW24-G-1 (280-84353-10). Surrogates 2,4,6-Tribromophenol (Surr), 2-Fluorophenol (Surr), Phenol-d5 (Surr) and Terphenyl-d14 (Surr) failed the surrogate recovery criteria low for SC-TU009-6MW22-G-1 (280-84353-11). 2,4,6-Tribromophenol (Surr), 2-Fluorophenol (Surr) and Phenol-d5 (Surr) failed the surrogate recovery criteria low for SC-TU009-6MW22-G-1-D (280-84353-12). 2,4,6-Tribromophenol (Surr), 2-Fluorophenol (Surr), Phenol-d5 (Surr) and Terphenyl-d14 (Surr) failed the surrogate recovery criteria low for SC-TU009-6MW22-G-1MS (280-84353-11MS). 2,4,6-Tribromophenol (Surr) and 2-Fluorophenol (Surr) failed the surrogate recovery criteria low for SC-TU009-6MW22-G-1MSD (280-84353-11MSD). Refer to the QC report for details.

Several analytes were outside the spike and RPD recovery criteria in the MS and MSD performed on sample SC-TU009-6MW22-G-1 (280-84353-11) in batch 280-331506. The associated LCS was in control and provides evidence that operating procedures were in control. Data was flagged per DOD QSM.

The interference check standard solution (ICSA) associated with the following samples showed results for Chromium and Manganese at a level greater than the limit of detection (LOD). It is believed that the solution contains trace impurities of these elements and the results are not due to matrix interference. These results are consistent with those found by the manufacturer of the ICSA solution (ICSA 280-331269/15). Data was flagged per DOD QSM.

The analysis of the ICSA solution, which is used as the interference check standard, shows results for Manganese at a level greater than the LOD for analytical batch 331399. We believe that the solution contains trace impurities of these elements and that the results are not due to matrix interference. These results are consistent with those found by the manufacturer of the ICSA solution. Data was flagged per DOD QSM.

The interference check standard solution (ICSA) associated with the following samples showed results for Manganese at a level greater than the limit of detection (LOD). It is believed that the solution contains trace impurities of this element and the results are not due to matrix interference. These results are consistent with those found by the manufacturer of the ICSA solution (ICSA 280-331602/13). Data was flagged per DOD QSM.

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

METALS (ICP) - SOILS

Samples SC-TU009-MW001-S0305 (280-84353-1), SC-TU009-MW001-S0608 (280-84353-2), SC-TU009-MW002-S0507 (280-84353-3), SC-TU009-MW002-S0305 (280-84353-4), SC-TU009-MW002-S0507-D (280-84353-5), SC-TU009-MW003-S0507 (280-84353-6) and SC-TU009-MW003-S0305 (280-84353-7) were analyzed for Metals (ICP) in accordance with SW 846 6010C. The samples were prepared on 06/27/2016 and analyzed on 06/30/2016, 07/01/2016 and 07/04/2016.

Samples SC-TU009-MW001-S0305 (280-84353-1)[5X], SC-TU009-MW001-S0608 (280-84353-2)[5X], SC-TU009-MW002-S0507 (280-84353-3)[5X], SC-TU009-MW002-S0305 (280-84353-4)[5X], SC-TU009-MW002-S0507-D (280-84353-5)[5X], SC-TU009-MW003-S0507 (280-84353-6)[5X] and SC-TU009-MW003-S0305 (280-84353-7)[5X] required dilutions prior to analysis. The reporting limits have been adjusted accordingly.

The interference check standard solution (ICSA) associated with batch showed results for Cadmium and Manganese at a level greater than the limit of detection (LOD). It is believed that the solution contains trace impurities of these elements and the results are not due to matrix interference. These results are consistent with those found by the manufacturer of the ICSA solution. Data was flagged "Q" per DOD QSM.

Several analytes were detected in method blank MB 280-331450/1-A at levels that were less than one half the LOQ; therefore, corrective action was deemed unnecessary. The values should be considered estimates, and have been flagged “J” in accordance with the DoD QSM.

Several analytes were outside the spike and RPD recovery criteria in the MS and MSD performed on sample SC-TU009-MW001-S0305MS (280-84353-1) in batch 280-332346. The associated LCS was in control and provides evidence that operating procedures were in control. Data was flagged per DOD QSM.

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

DISSOLVED METALS (ICP) - WATERS

Samples SC-TU009-MW003-G-1 (280-84353-9), SC-TU009-6MW24-G-1 (280-84353-10), SC-TU009-6MW22-G-1 (280-84353-11) and SC-TU009-6MW22-G-1-D (280-84353-12) were analyzed for Dissolved Metals (ICP) in accordance with 6010C. The samples were prepared on 06/22/2016 and analyzed on 06/26/2016, 06/27/2016 and 06/28/2016.

Arsenic was detected in method blank MB 280-330578/1-A at a level exceeding the reporting limit. 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

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

TOTAL METALS (ICP)- SOILS

Samples SC-TU009-EB060610 (280-84353-8), SC-TU009-MW003-G-1 (280-84353-9), SC-TU009-6MW24-G-1 (280-84353-10), SC-TU009-6MW22-G-1 (280-84353-11) and SC-TU009-6MW22-G-1-D (280-84353-12) were analyzed for Total Metals (ICP) in accordance with 6010C. The samples were prepared on 06/20/2016 and analyzed on 06/25/2016 and 06/27/2016.

Calcium was detected in method blank MB 280-330579/1-A at a level exceeding the reporting limit. If the associated sample reported a result above the MDL and/or RL, the result has been flagged. Manganese and Sodium were detected in method blank MB 280-330579/1-A at levels that were above the method detection limit but below the reporting limit. The values should be considered estimates, and have 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.

Calcium and Manganese were outside the recovery criteria in the MS and MSD performed on sample SC-TU009-6MW22-G-1 (280-84353-11) in batch 280-331269. The associated LCS was in control and provides evidence that operating procedures were in control. Data was flagged per DOD QSM.

The interference check standard solution (ICSA) associated with the following samples showed results for Cadmium and Manganese at a level greater than the limit of detection (LOD). It is believed that the solution contains trace impurities of these elements and the results are not due to matrix interference. These results are consistent with those found by the manufacturer of the ICSA solution. (ICSA 280-332132/14). Data was flagged per DOD QSM.

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

MERCURY -WATERS

Samples SC-TU009-MW003-G-1 (280-84353-9), SC-TU009-6MW24-G-1 (280-84353-10), SC-TU009-6MW22-G-1 (280-84353-11) and SC-TU009-6MW22-G-1-D (280-84353-12) were analyzed for mercury in accordance with 7470A. The samples were prepared and analyzed on 06/16/2016.

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

MERCURY - WATERS

Samples SC-TU009-EB060610 (280-84353-8), SC-TU009-MW003-G-1 (280-84353-9), SC-TU009-6MW24-G-1 (280-84353-10), SC-TU009-6MW22-G-1 (280-84353-11) and SC-TU009-6MW22-G-1-D (280-84353-12) were analyzed for mercury in accordance with 7470A. The samples were prepared and analyzed on 06/16/2016.

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

MERCURY (CVAA) - SOILS

Samples SC-TU009-MW001-S0305 (280-84353-1), SC-TU009-MW001-S0608 (280-84353-2), SC-TU009-MW002-S0507 (280-84353-3), SC-TU009-MW002-S0305 (280-84353-4), SC-TU009-MW002-S0507-D (280-84353-5), SC-TU009-MW003-S0507 (280-84353-6) and SC-TU009-MW003-S0305 (280-84353-7) were analyzed for Mercury (CVAA) in accordance with EPA SW-846 Method 7471A. The samples were prepared and analyzed on 06/17/2016.

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

PERCENT SOLIDS

Samples SC-TU009-MW001-S0305 (280-84353-1), SC-TU009-MW001-S0608 (280-84353-2), SC-TU009-MW002-S0507 (280-84353-3), SC-TU009-MW002-S0305 (280-84353-4), SC-TU009-MW002-S0507-D (280-84353-5), SC-TU009-MW003-S0507 (280-84353-6) and SC-TU009-MW003-S0305 (280-84353-7) were analyzed for percent solids in accordance with ASTM D2216-90. The samples were analyzed on 06/14/2016.

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

GC/MS SEMI VOA MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-84353-1

SDG No.:

Instrument ID: SMS_G6 Analysis Batch Number: 328727

Lab Sample ID: STD020 280-328727/6 IC Client Sample ID:

Date Analyzed: 06/07/16 13:19 Lab File ID: G6_23361.D GC Column: Rxi-5Sil MS ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
1,4-Dioxane	2.17	Missed Peak	kiekeld	06/08/16 07:51

Lab Sample ID: STD160 280-328727/9 IC Client Sample ID:

Date Analyzed: 06/07/16 14:38 Lab File ID: G6_23364.D GC Column: Rxi-5Sil MS ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Indeno[1,2,3-cd]pyrene	20.15	Shouldering	kiekeld	06/08/16 07:45

Lab Sample ID: STD200 280-328727/10 IC Client Sample ID:

Date Analyzed: 06/07/16 15:04 Lab File ID: G6_23365.D GC Column: Rxi-5Sil MS ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Indeno[1,2,3-cd]pyrene	20.16	Shouldering	kiekeld	06/08/16 07:46

GC/MS SEMI VOA MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-84353-1

SDG No.:

Instrument ID: SMS_G6 Analysis Batch Number: 328728

Lab Sample ID: STD120 280-328728/18 IC Client Sample ID:

Date Analyzed: 06/07/16 18:36 Lab File ID: G6_23373.D GC Column: Rxi-5Sil MS ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
alpha,alpha-Dimethyl phenethylamine	5.67	Split Peak	kiekeld	06/08/16 08:11

Lab Sample ID: STD160 280-328728/19 IC Client Sample ID:

Date Analyzed: 06/07/16 19:03 Lab File ID: G6_23374.D GC Column: Rxi-5Sil MS ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
alpha,alpha-Dimethyl phenethylamine	5.67	Split Peak	kiekeld	06/08/16 08:11

Lab Sample ID: STD200 280-328728/20 IC Client Sample ID:

Date Analyzed: 06/07/16 19:29 Lab File ID: G6_23375.D GC Column: Rxi-5Sil MS ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
alpha,alpha-Dimethyl phenethylamine	5.67	Split Peak	kiekeld	06/08/16 08:12

GC/MS SEMI VOA MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-84353-1

SDG No.:

Instrument ID: SMS_G6 Analysis Batch Number: 331745

Lab Sample ID: CCV 280-331745/5 Client Sample ID:

Date Analyzed: 06/28/16 19:34 Lab File ID: G6_23836.D GC Column: Rxi-5Sil MS ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
alpha,alpha-Dimethyl phenethylamine	5.70	Split Peak	hoeflera	06/28/16 19:59

Lab Sample ID: 280-84353-1 MSD Client Sample ID: SC-TU009-MW001-S0305 MSD

Date Analyzed: 06/28/16 22:12 Lab File ID: G6_23842.D GC Column: Rxi-5Sil MS ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Indeno[1,2,3-cd]pyrene	20.02	Shouldering	kiekeld	06/29/16 08:15

Lab Sample ID: 280-84353-4 Client Sample ID: SC-TU009-MW002-S0305

Date Analyzed: 06/28/16 23:31 Lab File ID: G6_23845.D GC Column: Rxi-5Sil MS ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Benzo[b]fluoranthene	15.85	Shouldering	kiekeld	06/29/16 08:17
Benzo[k]fluoranthene	15.92	Shouldering	kiekeld	06/29/16 08:17

GC/MS SEMI VOA MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-84353-1

SDG No.:

Instrument ID: SMS_K Analysis Batch Number: 328920

Lab Sample ID: STD080 280-328920/14 IC Client Sample ID:

Date Analyzed: 06/08/16 17:32 Lab File ID: K16236.D GC Column: Rxi-5Sil MS ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
alpha,alpha-Dimethyl phenethylamine	5.70	Split Peak	hoeflera	06/09/16 11:10

Lab Sample ID: STD120 280-328920/18 IC Client Sample ID:

Date Analyzed: 06/08/16 19:19 Lab File ID: K16240.D GC Column: Rxi-5Sil MS ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
alpha,alpha-Dimethyl phenethylamine	5.70	Split Peak	hoeflera	06/09/16 11:26

Lab Sample ID: STD160 280-328920/19 IC Client Sample ID:

Date Analyzed: 06/08/16 19:46 Lab File ID: K16241.D GC Column: Rxi-5Sil MS ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
alpha,alpha-Dimethyl phenethylamine	5.70	Split Peak	hoeflera	06/09/16 11:47

Lab Sample ID: STD200 280-328920/20 IC Client Sample ID:

Date Analyzed: 06/08/16 20:12 Lab File ID: K16242.D GC Column: Rxi-5Sil MS ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
alpha,alpha-Dimethyl phenethylamine	5.70	Split Peak	hoeflera	06/09/16 11:53

GC/MS SEMI VOA MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-84353-1

SDG No.:

Instrument ID: SMS_K Analysis Batch Number: 328920

Lab Sample ID: ICV 280-328920/22 Client Sample ID:

Date Analyzed: 06/08/16 21:06 Lab File ID: K16244.D GC Column: Rxi-5Sil MS ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
alpha,alpha-Dimethyl phenethylamine	5.73	Split Peak	hoeflera	06/09/16 11:58

GC/MS SEMI VOA MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-84353-1

SDG No.:

Instrument ID: SMS_K Analysis Batch Number: 331506

Lab Sample ID: CCV 280-331506/5 Client Sample ID:

Date Analyzed: 06/27/16 15:20 Lab File ID: K16534.D GC Column: Rxi-5Sil MS ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
alpha,alpha-Dimethyl phenethylamine	5.70	Split Peak	kiekeld	06/27/16 17:21

Lab Sample ID: CCVC 280-331506/45 Client Sample ID:

Date Analyzed: 06/28/16 00:57 Lab File ID: K16555.D GC Column: Rxi-5Sil MS ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
alpha,alpha-Dimethyl phenethylamine	5.79	Split Peak	kiekeld	06/28/16 08:20

GC/MS SEMI VOA MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-84353-1

SDG No.:

Instrument ID: SMS_Y Analysis Batch Number: 331037

Lab Sample ID: STD200 280-331037/10 IC Client Sample ID:

Date Analyzed: 06/23/16 12:57 Lab File ID: Y9543.D GC Column: Rxi-5Sil MS ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Indeno[1,2,3-cd]pyrene	20.25	Split Peak	kiekeld	06/23/16 14:24

GC/MS SEMI VOA MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-84353-1

SDG No.:

Instrument ID: SMS_Y Analysis Batch Number: 331038

Lab Sample ID: STD080 280-331038/14 IC Client Sample ID:

Date Analyzed: 06/23/16 14:47 Lab File ID: Y9547.D GC Column: Rxi-5Sil MS ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
alpha,alpha-Dimethyl phenethylamine	5.66	Split Peak	kiekeld	06/24/16 08:06

Lab Sample ID: STD050 280-331038/17 IC Client Sample ID:

Date Analyzed: 06/23/16 16:10 Lab File ID: Y9550.D GC Column: Rxi-5Sil MS ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
alpha,alpha-Dimethyl phenethylamine	5.67	Split Peak	kiekeld	06/24/16 08:10

Lab Sample ID: STD120 280-331038/18 IC Client Sample ID:

Date Analyzed: 06/23/16 16:37 Lab File ID: Y9551.D GC Column: Rxi-5Sil MS ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
alpha,alpha-Dimethyl phenethylamine	5.66	Split Peak	kiekeld	06/24/16 08:10

Lab Sample ID: STD160 280-331038/19 IC Client Sample ID:

Date Analyzed: 06/23/16 17:05 Lab File ID: Y9552.D GC Column: Rxi-5Sil MS ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
alpha,alpha-Dimethyl phenethylamine	5.67	Split Peak	kiekeld	06/24/16 08:10

GC/MS SEMI VOA MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-84353-1

SDG No.:

Instrument ID: SMS_Y Analysis Batch Number: 331038

Lab Sample ID: STD200 280-331038/20 IC Client Sample ID:

Date Analyzed: 06/23/16 17:32 Lab File ID: Y9553.D GC Column: Rxi-5Sil MS ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
alpha,alpha-Dimethyl phenethylamine	5.66	Split Peak	kiekeld	06/24/16 08:10

GC/MS SEMI VOA MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-84353-1

SDG No.:

Instrument ID: SMS_Y Analysis Batch Number: 331547

Lab Sample ID: CCV 280-331547/5 Client Sample ID:

Date Analyzed: 06/27/16 17:11 Lab File ID: Y9587.D GC Column: Rxi-5Sil MS ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
alpha,alpha-Dimethyl phenethylamine	5.67	Split Peak	kiekeld	06/28/16 08:11

Detection Summary

Client: Weston Solutions, Inc.
Project/Site: Schenectady ANGB, TU009

TestAmerica Job ID: 280-84353-1

Client Sample ID: SC-TU009-MW001-S0305 — Lab Sample ID: 280-84353-1

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	24000	J D	240	7.3	mg/Kg	5	☼	6010C	Total/NA
Arsenic	10	D J	12	3.1	mg/Kg	5	☼	6010C	Total/NA
Barium	190	J D	9.4	0.36	mg/Kg	5	☼	6010C	Total/NA
Beryllium	1.4	J D	2.4	0.16	mg/Kg	5	☼	6010C	Total/NA
Calcium	3000	J D	470	66	mg/Kg	5	☼	6010C	Total/NA
Chromium	27	J D	16	0.27	mg/Kg	5	☼	6010C	Total/NA
Cobalt	14	J D	4.7	0.47	mg/Kg	5	☼	6010C	Total/NA
Copper	32	J D	24	1.0	mg/Kg	5	☼	6010C	Total/NA
Iron	38000	J D	380	18	mg/Kg	5	☼	6010C	Total/NA
Lead	13	J D	4.2	1.3	mg/Kg	5	☼	6010C	Total/NA
Magnesium	5600	J D	140	17	mg/Kg	5	☼	6010C	Total/NA
Manganese	530	J Q D	21	0.47	mg/Kg	5	☼	6010C	Total/NA
Nickel	33	J D	19	0.58	mg/Kg	5	☼	6010C	Total/NA
Potassium	2400	J D	1400	190	mg/Kg	5	☼	6010C	Total/NA
Thallium	3.7	J D	14	3.1	mg/Kg	5	☼	6010C	Total/NA
Vanadium	43	J D	9.4	0.44	mg/Kg	5	☼	6010C	Total/NA
Zinc	80	D	38	1.9	mg/Kg	5	☼	6010C	Total/NA
Mercury	0.042		0.022	0.0072	mg/Kg	1	☼	7471A	Total/NA

Client Sample ID: SC-TU009-MW001-S0608 — Lab Sample ID: 280-84353-2

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	16000	D	200	6.3	mg/Kg	5	☼	6010C	Total/NA
Arsenic	11	D	10	2.7	mg/Kg	5	☼	6010C	Total/NA
Barium	90	D	8.2	0.31	mg/Kg	5	☼	6010C	Total/NA
Beryllium	1.1	J D	2.0	0.14	mg/Kg	5	☼	6010C	Total/NA
Cadmium	0.29	J Q D	2.0	0.17	mg/Kg	5	☼	6010C	Total/NA
Calcium	1300	D	410	58	mg/Kg	5	☼	6010C	Total/NA
Chromium	24	D	14	0.24	mg/Kg	5	☼	6010C	Total/NA
Cobalt	23	D	4.1	0.41	mg/Kg	5	☼	6010C	Total/NA
Copper	52	D	20	0.89	mg/Kg	5	☼	6010C	Total/NA
Iron	39000	D	330	16	mg/Kg	5	☼	6010C	Total/NA
Lead	22	D	3.7	1.1	mg/Kg	5	☼	6010C	Total/NA
Magnesium	6600	D	120	15	mg/Kg	5	☼	6010C	Total/NA
Manganese	810	Q D	18	0.41	mg/Kg	5	☼	6010C	Total/NA
Nickel	46	D	16	0.50	mg/Kg	5	☼	6010C	Total/NA
Potassium	2400	D	1200	170	mg/Kg	5	☼	6010C	Total/NA
Vanadium	23	D	8.2	0.38	mg/Kg	5	☼	6010C	Total/NA
Zinc	100	D	33	1.6	mg/Kg	5	☼	6010C	Total/NA
Mercury	0.064		0.022	0.0071	mg/Kg	1	☼	7471A	Total/NA

Client Sample ID: SC-TU009-MW002-S0507 — Lab Sample ID: 280-84353-3

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Benzo[g,h,i]perylene	0.021	J	0.35	0.017	mg/Kg	1	☼	8270D	Total/NA
Pyrene	0.013	J	0.42	0.013	mg/Kg	1	☼	8270D	Total/NA
Aluminum	15000	D	220	6.7	mg/Kg	5	☼	6010C	Total/NA
Arsenic	8.0	J D	11	2.9	mg/Kg	5	☼	6010C	Total/NA
Barium	83	D	8.7	0.33	mg/Kg	5	☼	6010C	Total/NA
Beryllium	0.88	J D	2.2	0.14	mg/Kg	5	☼	6010C	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: SC-TU009-MW002-S0507 (Continued) — Lab Sample ID: 280-84353-3

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Cadmium	0.22	J Q D	2.2	0.18	mg/Kg	5	☼	6010C	Total/NA
Calcium	3700	D	430	61	mg/Kg	5	☼	6010C	Total/NA
Chromium	21	D	15	0.25	mg/Kg	5	☼	6010C	Total/NA
Cobalt	15	D	4.3	0.43	mg/Kg	5	☼	6010C	Total/NA
Copper	35	D	22	0.94	mg/Kg	5	☼	6010C	Total/NA
Iron	31000	D	350	16	mg/Kg	5	☼	6010C	Total/NA
Lead	16	D	3.9	1.2	mg/Kg	5	☼	6010C	Total/NA
Magnesium	5300	D	130	16	mg/Kg	5	☼	6010C	Total/NA
Manganese	480	Q D	20	0.43	mg/Kg	5	☼	6010C	Total/NA
Nickel	31	D	17	0.53	mg/Kg	5	☼	6010C	Total/NA
Potassium	2100	D	1300	180	mg/Kg	5	☼	6010C	Total/NA
Vanadium	26	D	8.7	0.41	mg/Kg	5	☼	6010C	Total/NA
Zinc	76	D	35	1.7	mg/Kg	5	☼	6010C	Total/NA
Mercury	0.060		0.024	0.0077	mg/Kg	1	☼	7471A	Total/NA

Client Sample ID: SC-TU009-MW002-S0305 — Lab Sample ID: 280-84353-4

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Anthracene	0.030	J	0.38	0.020	mg/Kg	1	☼	8270D	Total/NA
Benzo[a]anthracene	0.10	J	0.38	0.023	mg/Kg	1	☼	8270D	Total/NA
Benzo[a]pyrene	0.089	J	0.38	0.023	mg/Kg	1	☼	8270D	Total/NA
Benzo[b]fluoranthene	0.13	J M	0.38	0.030	mg/Kg	1	☼	8270D	Total/NA
Benzo[g,h,i]perylene	0.052	J	0.38	0.018	mg/Kg	1	☼	8270D	Total/NA
Benzo[k]fluoranthene	0.052	J M	0.38	0.046	mg/Kg	1	☼	8270D	Total/NA
Chrysene	0.12	J	0.38	0.031	mg/Kg	1	☼	8270D	Total/NA
Fluoranthene	0.29	J	0.38	0.041	mg/Kg	1	☼	8270D	Total/NA
Indeno[1,2,3-cd]pyrene	0.060	J	0.38	0.025	mg/Kg	1	☼	8270D	Total/NA
Phenanthrene	0.19	J	0.38	0.020	mg/Kg	1	☼	8270D	Total/NA
Pyrene	0.23	J	0.46	0.014	mg/Kg	1	☼	8270D	Total/NA
Aluminum	15000	D	210	6.6	mg/Kg	5	☼	6010C	Total/NA
Arsenic	7.1	J D	11	2.8	mg/Kg	5	☼	6010C	Total/NA
Barium	95	D	8.5	0.32	mg/Kg	5	☼	6010C	Total/NA
Beryllium	0.87	J D	2.1	0.14	mg/Kg	5	☼	6010C	Total/NA
Cadmium	0.35	J Q D	2.1	0.17	mg/Kg	5	☼	6010C	Total/NA
Calcium	11000	D	430	60	mg/Kg	5	☼	6010C	Total/NA
Chromium	20	D	15	0.25	mg/Kg	5	☼	6010C	Total/NA
Cobalt	14	D	4.3	0.43	mg/Kg	5	☼	6010C	Total/NA
Copper	32	D	21	0.92	mg/Kg	5	☼	6010C	Total/NA
Iron	30000	D	340	16	mg/Kg	5	☼	6010C	Total/NA
Lead	17	D	3.8	1.1	mg/Kg	5	☼	6010C	Total/NA
Magnesium	8100	D	130	16	mg/Kg	5	☼	6010C	Total/NA
Manganese	540	Q D	19	0.43	mg/Kg	5	☼	6010C	Total/NA
Nickel	29	D	17	0.52	mg/Kg	5	☼	6010C	Total/NA
Potassium	1900	D	1300	170	mg/Kg	5	☼	6010C	Total/NA
Vanadium	26	D	8.5	0.40	mg/Kg	5	☼	6010C	Total/NA
Zinc	81	D	34	1.7	mg/Kg	5	☼	6010C	Total/NA
Mercury	0.057		0.024	0.0078	mg/Kg	1	☼	7471A	Total/NA

Client Sample ID: SC-TU009-MW002-S0507-D — Lab Sample ID: 280-84353-5

This Detection Summary does not include radiochemical test results.

Client Sample ID: SC-TU009-MW002-S0507-D (Continued) — Lab Sample ID: 280-84353-5

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Benzo[g,h,i]perylene	0.017	J	0.35	0.017	mg/Kg	1	☼	8270D	Total/NA
Pyrene	0.015	J	0.43	0.013	mg/Kg	1	☼	8270D	Total/NA
Aluminum	15000	D	280	8.6	mg/Kg	5	☼	6010C	Total/NA
Arsenic	13	J D	14	3.7	mg/Kg	5	☼	6010C	Total/NA
Barium	72	D	11	0.42	mg/Kg	5	☼	6010C	Total/NA
Beryllium	0.83	J D	2.8	0.18	mg/Kg	5	☼	6010C	Total/NA
Calcium	2600	D	560	78	mg/Kg	5	☼	6010C	Total/NA
Chromium	22	D	19	0.32	mg/Kg	5	☼	6010C	Total/NA
Cobalt	18	D	5.6	0.56	mg/Kg	5	☼	6010C	Total/NA
Copper	41	D	28	1.2	mg/Kg	5	☼	6010C	Total/NA
Iron	35000	D	440	21	mg/Kg	5	☼	6010C	Total/NA
Lead	19	D	5.0	1.5	mg/Kg	5	☼	6010C	Total/NA
Magnesium	5800	D	170	21	mg/Kg	5	☼	6010C	Total/NA
Manganese	440	Q D	25	0.56	mg/Kg	5	☼	6010C	Total/NA
Nickel	37	D	22	0.68	mg/Kg	5	☼	6010C	Total/NA
Potassium	2200	D	1700	230	mg/Kg	5	☼	6010C	Total/NA
Vanadium	23	D	11	0.52	mg/Kg	5	☼	6010C	Total/NA
Zinc	87	D	44	2.2	mg/Kg	5	☼	6010C	Total/NA
Mercury	0.057		0.020	0.0066	mg/Kg	1	☼	7471A	Total/NA

Client Sample ID: SC-TU009-MW003-S0507 — Lab Sample ID: 280-84353-6

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Pyrene	0.014	J	0.45	0.014	mg/Kg	1	☼	8270D	Total/NA
Aluminum	14000	D	240	7.3	mg/Kg	5	☼	6010C	Total/NA
Arsenic	7.0	J D	12	3.1	mg/Kg	5	☼	6010C	Total/NA
Barium	100	D	9.4	0.36	mg/Kg	5	☼	6010C	Total/NA
Beryllium	0.86	J D	2.4	0.16	mg/Kg	5	☼	6010C	Total/NA
Cadmium	0.23	J Q D	2.4	0.19	mg/Kg	5	☼	6010C	Total/NA
Calcium	4700	D	470	66	mg/Kg	5	☼	6010C	Total/NA
Chromium	21	D	16	0.27	mg/Kg	5	☼	6010C	Total/NA
Cobalt	17	D	4.7	0.47	mg/Kg	5	☼	6010C	Total/NA
Copper	41	D	24	1.0	mg/Kg	5	☼	6010C	Total/NA
Iron	34000	D	380	18	mg/Kg	5	☼	6010C	Total/NA
Lead	19	D	4.2	1.3	mg/Kg	5	☼	6010C	Total/NA
Magnesium	6100	D	140	17	mg/Kg	5	☼	6010C	Total/NA
Manganese	780	Q D	21	0.47	mg/Kg	5	☼	6010C	Total/NA
Nickel	40	D	19	0.58	mg/Kg	5	☼	6010C	Total/NA
Potassium	2100	D	1400	190	mg/Kg	5	☼	6010C	Total/NA
Vanadium	23	D	9.4	0.44	mg/Kg	5	☼	6010C	Total/NA
Zinc	85	D	38	1.9	mg/Kg	5	☼	6010C	Total/NA
Mercury	0.047		0.020	0.0066	mg/Kg	1	☼	7471A	Total/NA

Client Sample ID: SC-TU009-MW003-S0305 — Lab Sample ID: 280-84353-7

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Pyrene	0.015	J	0.43	0.013	mg/Kg	1	☼	8270D	Total/NA
Aluminum	16000	D	210	6.5	mg/Kg	5	☼	6010C	Total/NA
Arsenic	11	D	11	2.8	mg/Kg	5	☼	6010C	Total/NA
Barium	100	D	8.4	0.32	mg/Kg	5	☼	6010C	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Weston Solutions, Inc.
Project/Site: Schenectady ANGB, TU009

TestAmerica Job ID: 280-84353-1

Client Sample ID: SC-TU009-MW003-S0305 (Continued) — Lab Sample ID: 280-84353-7

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Beryllium	0.91	J D	2.1	0.14	mg/Kg	5	☼	6010C	Total/NA
Cadmium	0.29	J Q D	2.1	0.17	mg/Kg	5	☼	6010C	Total/NA
Calcium	5400	D	420	60	mg/Kg	5	☼	6010C	Total/NA
Chromium	23	D	15	0.25	mg/Kg	5	☼	6010C	Total/NA
Cobalt	16	D	4.2	0.42	mg/Kg	5	☼	6010C	Total/NA
Copper	40	D	21	0.92	mg/Kg	5	☼	6010C	Total/NA
Iron	37000	D	340	16	mg/Kg	5	☼	6010C	Total/NA
Lead	20	D	3.8	1.1	mg/Kg	5	☼	6010C	Total/NA
Magnesium	6800	D	130	16	mg/Kg	5	☼	6010C	Total/NA
Manganese	510	Q D	19	0.42	mg/Kg	5	☼	6010C	Total/NA
Nickel	38	D	17	0.52	mg/Kg	5	☼	6010C	Total/NA
Potassium	2000	D	1300	170	mg/Kg	5	☼	6010C	Total/NA
Vanadium	25	D	8.4	0.40	mg/Kg	5	☼	6010C	Total/NA
Zinc	81	D	34	1.7	mg/Kg	5	☼	6010C	Total/NA
Mercury	0.056		0.022	0.0072	mg/Kg	1	☼	7471A	Total/NA

Client Sample ID: SC-TU009-EB060616 — Lab Sample ID: 280-84353-8

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Benzyl alcohol	2.2	J	24	0.22	ug/L	1		8270D	Total/NA
Bis(2-ethylhexyl) phthalate	2.6	J	9.6	0.54	ug/L	1		8270D	Total/NA
Calcium	84	J	1000	35	ug/L	1		6010C	Total/NA
Copper	5.5	J	15	4.2	ug/L	1		6010C	Total/NA
Iron	140		100	22	ug/L	1		6010C	Total/NA
Magnesium	24	J	500	11	ug/L	1		6010C	Total/NA
Manganese	3.2	J Q	10	0.25	ug/L	1		6010C	Total/NA
Sodium	210	J	5000	92	ug/L	1		6010C	Total/NA
Zinc	4.6	J	150	4.5	ug/L	1		6010C	Total/NA

Client Sample ID: SC-TU009-MW003-G-1 — Lab Sample ID: 280-84353-9

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Benzoic acid	13	J	81	10	ug/L	1		8270D	Total/NA
Benzyl alcohol	0.42	J	25	0.23	ug/L	1		8270D	Total/NA
Aluminum	4200		300	18	ug/L	1		6010C	Total/NA
Arsenic	12	J	25	4.4	ug/L	1		6010C	Total/NA
Barium	37		10	0.58	ug/L	1		6010C	Total/NA
Beryllium	0.64	J	1.5	0.47	ug/L	1		6010C	Total/NA
Cadmium	1.7	J Q	5.0	0.45	ug/L	1		6010C	Total/NA
Calcium	200000		1000	35	ug/L	1		6010C	Total/NA
Chromium	4.7	J	15	0.66	ug/L	1		6010C	Total/NA
Cobalt	110		15	1.2	ug/L	1		6010C	Total/NA
Copper	8.4	J	15	4.2	ug/L	1		6010C	Total/NA
Iron	30000		100	22	ug/L	1		6010C	Total/NA
Lead	2.6	J	15	2.6	ug/L	1		6010C	Total/NA
Magnesium	51000		500	11	ug/L	1		6010C	Total/NA
Manganese	11000	Q	10	0.25	ug/L	1		6010C	Total/NA
Nickel	190		40	1.3	ug/L	1		6010C	Total/NA
Potassium	34000		3000	240	ug/L	1		6010C	Total/NA
Sodium	110000		5000	92	ug/L	1		6010C	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: SC-TU009-MW003-G-1 (Continued) — Lab Sample ID: 280-84353-9

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Vanadium	1.8	J	15	1.1	ug/L	1		6010C	Total/NA
Zinc	120	J	150	4.5	ug/L	1		6010C	Total/NA
Aluminum	800		300	18	ug/L	1		6010C	Dissolved
Barium	34		10	0.58	ug/L	1		6010C	Dissolved
Cadmium	1.9	J	5.0	0.45	ug/L	1		6010C	Dissolved
Calcium	220000		1000	35	ug/L	1		6010C	Dissolved
Chromium	0.71	J	15	0.66	ug/L	1		6010C	Dissolved
Cobalt	120		15	1.2	ug/L	1		6010C	Dissolved
Copper	5.7	J	15	4.2	ug/L	1		6010C	Dissolved
Iron	23000		100	22	ug/L	1		6010C	Dissolved
Lead	3.7	J	15	2.6	ug/L	1		6010C	Dissolved
Magnesium	56000		500	11	ug/L	1		6010C	Dissolved
Manganese	13000	D Q	20	0.51	ug/L	2		6010C	Dissolved
Nickel	210		40	1.3	ug/L	1		6010C	Dissolved
Potassium	33000		3000	240	ug/L	1		6010C	Dissolved
Sodium	110000		5000	92	ug/L	1		6010C	Dissolved
Zinc	120	J	150	4.5	ug/L	1		6010C	Dissolved

Client Sample ID: SC-TU009-6MW24-G-1 — Lab Sample ID: 280-84353-10

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Benzyl alcohol	1.9	J	35	0.32	ug/L	1		8270D	Total/NA
Aluminum	540		300	18	ug/L	1		6010C	Total/NA
Barium	84		10	0.58	ug/L	1		6010C	Total/NA
Calcium	180000		1000	35	ug/L	1		6010C	Total/NA
Chromium	2.1	J	15	0.66	ug/L	1		6010C	Total/NA
Copper	4.3	J	15	4.2	ug/L	1		6010C	Total/NA
Iron	1200		100	22	ug/L	1		6010C	Total/NA
Magnesium	26000		500	11	ug/L	1		6010C	Total/NA
Manganese	1500	Q	10	0.25	ug/L	1		6010C	Total/NA
Nickel	3.1	J	40	1.3	ug/L	1		6010C	Total/NA
Potassium	5200		3000	240	ug/L	1		6010C	Total/NA
Sodium	63000		5000	92	ug/L	1		6010C	Total/NA
Vanadium	1.5	J	15	1.1	ug/L	1		6010C	Total/NA
Zinc	30	J	150	4.5	ug/L	1		6010C	Total/NA
Antimony	4.6	J	20	3.1	ug/L	1		6010C	Dissolved
Barium	53		10	0.58	ug/L	1		6010C	Dissolved
Calcium	190000		1000	35	ug/L	1		6010C	Dissolved
Chromium	0.68	J	15	0.66	ug/L	1		6010C	Dissolved
Copper	4.6	J	15	4.2	ug/L	1		6010C	Dissolved
Magnesium	28000		500	11	ug/L	1		6010C	Dissolved
Manganese	31	Q	10	0.25	ug/L	1		6010C	Dissolved
Potassium	4400		3000	240	ug/L	1		6010C	Dissolved
Sodium	63000		5000	92	ug/L	1		6010C	Dissolved
Zinc	5.9	J	150	4.5	ug/L	1		6010C	Dissolved

Client Sample ID: SC-TU009-6MW22-G-1 — Lab Sample ID: 280-84353-11

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Benzyl alcohol	1.3	J	25	0.23	ug/L	1		8270D	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: SC-TU009-6MW22-G-1 (Continued) — Lab Sample ID: 280-84353-11

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Fluoranthene	0.27	Q J	20	0.20	ug/L	1		8270D	Total/NA
Aluminum	130	J	300	18	ug/L	1		6010C	Total/NA
Barium	1.9	J	10	0.58	ug/L	1		6010C	Total/NA
Calcium	180000	J	1000	35	ug/L	1		6010C	Total/NA
Iron	180		100	22	ug/L	1		6010C	Total/NA
Magnesium	40000		500	11	ug/L	1		6010C	Total/NA
Manganese	3500	Q J	10	0.25	ug/L	1		6010C	Total/NA
Nickel	6.2	J	40	1.3	ug/L	1		6010C	Total/NA
Potassium	3700		3000	240	ug/L	1		6010C	Total/NA
Sodium	52000		5000	92	ug/L	1		6010C	Total/NA
Zinc	15	J	150	4.5	ug/L	1		6010C	Total/NA
Cadmium	0.57	J	5.0	0.45	ug/L	1		6010C	Dissolved
Calcium	190000		1000	35	ug/L	1		6010C	Dissolved
Lead	4.0	J	15	2.6	ug/L	1		6010C	Dissolved
Magnesium	42000		500	11	ug/L	1		6010C	Dissolved
Manganese	2300	Q	10	0.25	ug/L	1		6010C	Dissolved
Nickel	4.9	J	40	1.3	ug/L	1		6010C	Dissolved
Potassium	3500		3000	240	ug/L	1		6010C	Dissolved
Sodium	48000		5000	92	ug/L	1		6010C	Dissolved
Zinc	9.1	J	150	4.5	ug/L	1		6010C	Dissolved

Client Sample ID: SC-TU009-6MW22-G-1-D — Lab Sample ID: 280-84353-12

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Benzyl alcohol	0.67	J	25	0.23	ug/L	1		8270D	Total/NA
Aluminum	130	J	300	18	ug/L	1		6010C	Total/NA
Antimony	3.9	J	20	3.1	ug/L	1		6010C	Total/NA
Barium	2.5	J	10	0.58	ug/L	1		6010C	Total/NA
Calcium	180000		1000	35	ug/L	1		6010C	Total/NA
Iron	180		100	22	ug/L	1		6010C	Total/NA
Lead	2.7	J	15	2.6	ug/L	1		6010C	Total/NA
Magnesium	38000		500	11	ug/L	1		6010C	Total/NA
Manganese	4200	Q	10	0.25	ug/L	1		6010C	Total/NA
Nickel	6.2	J	40	1.3	ug/L	1		6010C	Total/NA
Potassium	3600		3000	240	ug/L	1		6010C	Total/NA
Sodium	51000		5000	92	ug/L	1		6010C	Total/NA
Zinc	16	J	150	4.5	ug/L	1		6010C	Total/NA
Arsenic	5.0	J	25	4.4	ug/L	1		6010C	Dissolved
Cadmium	0.52	J	5.0	0.45	ug/L	1		6010C	Dissolved
Calcium	200000		1000	35	ug/L	1		6010C	Dissolved
Lead	2.8	J	15	2.6	ug/L	1		6010C	Dissolved
Magnesium	43000		500	11	ug/L	1		6010C	Dissolved
Manganese	2300	Q	10	0.25	ug/L	1		6010C	Dissolved
Nickel	4.4	J	40	1.3	ug/L	1		6010C	Dissolved
Potassium	3500		3000	240	ug/L	1		6010C	Dissolved
Sodium	50000		5000	92	ug/L	1		6010C	Dissolved
Zinc	8.9	J	150	4.5	ug/L	1		6010C	Dissolved

This Detection Summary does not include radiochemical test results.

Method Summary

Client: Weston Solutions, Inc.
Project/Site: Schenectady ANGB, TU009

TestAmerica Job ID: 280-84353-1

Method	Method Description	Protocol	Laboratory
8270D	Semivolatile Organic Compounds (GC/MS)	SW846	TAL DEN
6010C	Metals (ICP)	SW846	TAL DEN
7470A	Mercury (CVAA)	SW846	TAL DEN
7471A	Mercury (CVAA)	SW846	TAL DEN
Moisture	Percent Moisture	EPA	TAL DEN

Protocol References:

EPA = US Environmental Protection Agency

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

Laboratory References:

TAL DEN = TestAmerica Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

Sample Summary

Client: Weston Solutions, Inc.
Project/Site: Schenectady ANGB, TU009

TestAmerica Job ID: 280-84353-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
280-84353-1	SC-TU009-MW001-S0305	Solid	06/06/16 16:00	06/10/16 09:25
280-84353-2	SC-TU009-MW001-S0608	Solid	06/06/16 16:10	06/10/16 09:25
280-84353-3	SC-TU009-MW002-S0507	Solid	06/06/16 16:40	06/10/16 09:25
280-84353-4	SC-TU009-MW002-S0305	Solid	06/06/16 16:35	06/10/16 09:25
280-84353-5	SC-TU009-MW002-S0507-D	Solid	06/06/16 16:40	06/10/16 09:25
280-84353-6	SC-TU009-MW003-S0507	Solid	06/06/16 17:10	06/10/16 09:25
280-84353-7	SC-TU009-MW003-S0305	Solid	06/06/16 17:00	06/10/16 09:25
280-84353-8	SC-TU009-EB060616	Water	06/06/16 15:00	06/10/16 09:25
280-84353-9	SC-TU009-MW003-G-1	Water	06/08/16 12:45	06/10/16 09:25
280-84353-10	SC-TU009-6MW24-G-1	Water	06/08/16 13:00	06/10/16 09:25
280-84353-11	SC-TU009-6MW22-G-1	Water	06/08/16 12:30	06/10/16 09:25
280-84353-12	SC-TU009-6MW22-G-1-D	Water	06/08/16 12:35	06/10/16 09:25

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

Client Sample ID: SC-TU009-MW001-S0305
Date Collected: 06/06/16 16:00
Date Received: 06/10/16 09:25

Lab Sample ID: 280-84353-1
Matrix: Solid
Percent Solids: 76.3

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4,5-Tetrachlorobenzene	0.17	U	0.43	0.064	mg/Kg	☼	06/17/16 15:01	06/28/16 21:18	1
1,2,4-Trichlorobenzene	0.087	U	0.43	0.037	mg/Kg	☼	06/17/16 15:01	06/28/16 21:18	1
1,2-Dichlorobenzene	0.087	U	0.43	0.029	mg/Kg	☼	06/17/16 15:01	06/28/16 21:18	1
1,2-Diphenylhydrazine	0.087	U	0.43	0.029	mg/Kg	☼	06/17/16 15:01	06/28/16 21:18	1
1,3-Dichlorobenzene	0.043	U	0.43	0.016	mg/Kg	☼	06/17/16 15:01	06/28/16 21:18	1
1,4-Dichlorobenzene	0.043	U	0.43	0.018	mg/Kg	☼	06/17/16 15:01	06/28/16 21:18	1
2,2'-oxybis[1-chloropropane]	0.087	U	0.43	0.030	mg/Kg	☼	06/17/16 15:01	06/28/16 21:18	1
2,4,5-Trichlorophenol	0.043	U	0.43	0.013	mg/Kg	☼	06/17/16 15:01	06/28/16 21:18	1
2,4,6-Trichlorophenol	0.043	U	0.43	0.013	mg/Kg	☼	06/17/16 15:01	06/28/16 21:18	1
2,4-Dichlorophenol	0.043	U	0.43	0.013	mg/Kg	☼	06/17/16 15:01	06/28/16 21:18	1
2,4-Dimethylphenol	0.17	U	0.43	0.086	mg/Kg	☼	06/17/16 15:01	06/28/16 21:18	1
2,4-Dinitrophenol	1.3	U	2.1	0.43	mg/Kg	☼	06/17/16 15:01	06/28/16 21:18	1
2,4-Dinitrotoluene	0.17	U	0.43	0.086	mg/Kg	☼	06/17/16 15:01	06/28/16 21:18	1
2,6-Dichlorophenol	0.22	U	0.43	0.090	mg/Kg	☼	06/17/16 15:01	06/28/16 21:18	1
2,6-Dinitrotoluene	0.087	U	0.43	0.037	mg/Kg	☼	06/17/16 15:01	06/28/16 21:18	1
2-Chloronaphthalene	0.043	U	0.43	0.013	mg/Kg	☼	06/17/16 15:01	06/28/16 21:18	1
2-Chlorophenol	0.087	U	0.43	0.027	mg/Kg	☼	06/17/16 15:01	06/28/16 21:18	1
2-Methylnaphthalene	0.087	U	0.43	0.025	mg/Kg	☼	06/17/16 15:01	06/28/16 21:18	1
2-Methylphenol	0.043	U	0.43	0.017	mg/Kg	☼	06/17/16 15:01	06/28/16 21:18	1
3 & 4 Methylphenol	0.087	U	0.43	0.043	mg/Kg	☼	06/17/16 15:01	06/28/16 21:18	1
3,3'-Dichlorobenzidine	0.35	U	2.1	0.12	mg/Kg	☼	06/17/16 15:01	06/28/16 21:18	1
3-Nitroaniline	0.35	U	2.1	0.095	mg/Kg	☼	06/17/16 15:01	06/28/16 21:18	1
4,6-Dinitro-2-methylphenol	1.3	U	2.1	0.43	mg/Kg	☼	06/17/16 15:01	06/28/16 21:18	1
4-Chloroaniline	0.35	U	0.43	0.11	mg/Kg	☼	06/17/16 15:01	06/28/16 21:18	1
4-Chlorophenyl phenyl ether	0.087	U	0.43	0.027	mg/Kg	☼	06/17/16 15:01	06/28/16 21:18	1
4-Nitroaniline	0.35	U	2.1	0.095	mg/Kg	☼	06/17/16 15:01	06/28/16 21:18	1
4-Nitrophenol	0.35	U	2.1	0.13	mg/Kg	☼	06/17/16 15:01	06/28/16 21:18	1
Acenaphthene	0.043	U	0.43	0.013	mg/Kg	☼	06/17/16 15:01	06/28/16 21:18	1
Acenaphthylene	0.087	U	0.43	0.022	mg/Kg	☼	06/17/16 15:01	06/28/16 21:18	1
Anthracene	0.087	U	0.43	0.022	mg/Kg	☼	06/17/16 15:01	06/28/16 21:18	1
Benzidine	2.6	U J	5.2	1.3	mg/Kg	☼	06/17/16 15:01	06/28/16 21:18	1
Benzo[a]anthracene	0.087	U	0.43	0.026	mg/Kg	☼	06/17/16 15:01	06/28/16 21:18	1
Benzo[a]pyrene	0.087	U	0.43	0.026	mg/Kg	☼	06/17/16 15:01	06/28/16 21:18	1
Benzo[b]fluoranthene	0.087	U	0.43	0.034	mg/Kg	☼	06/17/16 15:01	06/28/16 21:18	1
Benzo[g,h,i]perylene	0.043	U	0.43	0.021	mg/Kg	☼	06/17/16 15:01	06/28/16 21:18	1
Benzo[k]fluoranthene	0.17	U	0.43	0.052	mg/Kg	☼	06/17/16 15:01	06/28/16 21:18	1
Benzoic acid	1.3	U	2.1	0.43	mg/Kg	☼	06/17/16 15:01	06/28/16 21:18	1
Benzyl alcohol	0.043	U	0.43	0.013	mg/Kg	☼	06/17/16 15:01	06/28/16 21:18	1
Bis(2-chloroethoxy)methane	0.087	U	0.43	0.030	mg/Kg	☼	06/17/16 15:01	06/28/16 21:18	1
Bis(2-chloroethyl)ether	0.043	U	0.43	0.022	mg/Kg	☼	06/17/16 15:01	06/28/16 21:18	1
Bis(2-ethylhexyl) phthalate	0.17	U	0.43	0.060	mg/Kg	☼	06/17/16 15:01	06/28/16 21:18	1
Butyl benzyl phthalate	0.17	U	0.43	0.056	mg/Kg	☼	06/17/16 15:01	06/28/16 21:18	1
Carbazole	0.17	U	0.43	0.047	mg/Kg	☼	06/17/16 15:01	06/28/16 21:18	1
Chrysene	0.087	U	0.43	0.035	mg/Kg	☼	06/17/16 15:01	06/28/16 21:18	1
Dibenz(a,h)anthracene	0.087	U	0.43	0.025	mg/Kg	☼	06/17/16 15:01	06/28/16 21:18	1
Dibenzofuran	0.087	U	0.43	0.026	mg/Kg	☼	06/17/16 15:01	06/28/16 21:18	1
Diethyl phthalate	0.087	U	0.86	0.034	mg/Kg	☼	06/17/16 15:01	06/28/16 21:18	1
Dimethyl phthalate	0.087	U	0.43	0.030	mg/Kg	☼	06/17/16 15:01	06/28/16 21:18	1
Di-n-butyl phthalate	0.087	U	0.43	0.038	mg/Kg	☼	06/17/16 15:01	06/28/16 21:18	1

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

Client Sample ID: SC-TU009-MW001-S0305 — **Lab Sample ID: 280-84353-1**
Date Collected: 06/06/16 16:00 — **Matrix: Solid**
Date Received: 06/10/16 09:25 — **Percent Solids: 76.3**

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Di-n-octyl phthalate	0.086	U	0.43	0.019	mg/Kg	☼	06/17/16 15:01	06/28/16 21:18	1
Fluoranthene	0.17	U	0.43	0.047	mg/Kg	☼	06/17/16 15:01	06/28/16 21:18	1
Fluorene	0.087	U	0.43	0.024	mg/Kg	☼	06/17/16 15:01	06/28/16 21:18	1
Hexachlorobenzene	0.087	U	0.43	0.038	mg/Kg	☼	06/17/16 15:01	06/28/16 21:18	1
Hexachlorobutadiene	0.043	U	0.43	0.013	mg/Kg	☼	06/17/16 15:01	06/28/16 21:18	1
Hexachlorocyclopentadiene	0.17	U	2.2	0.065	mg/Kg	☼	06/17/16 15:01	06/28/16 21:18	1
Hexachloroethane	0.087	U	0.43	0.028	mg/Kg	☼	06/17/16 15:01	06/28/16 21:18	1
Indeno[1,2,3-cd]pyrene	0.087	U	0.43	0.029	mg/Kg	☼	06/17/16 15:01	06/28/16 21:18	1
Isophorone	0.087	U	0.43	0.022	mg/Kg	☼	06/17/16 15:01	06/28/16 21:18	1
Naphthalene	0.087	U	0.43	0.040	mg/Kg	☼	06/17/16 15:01	06/28/16 21:18	1
Nitrobenzene	0.087	U	0.43	0.029	mg/Kg	☼	06/17/16 15:01	06/28/16 21:18	1
N-Nitrosodimethylamine	0.17	U	0.68	0.048	mg/Kg	☼	06/17/16 15:01	06/28/16 21:18	1
N-Nitrosodi-n-propylamine	0.087	U	0.43	0.040	mg/Kg	☼	06/17/16 15:01	06/28/16 21:18	1
N-Nitrosodiphenylamine	0.087	U	0.43	0.027	mg/Kg	☼	06/17/16 15:01	06/28/16 21:18	1
N-Nitrosopyrrolidine	0.22	U	0.43	0.084	mg/Kg	☼	06/17/16 15:01	06/28/16 21:18	1
Pentachlorophenol	1.3	U	2.1	0.43	mg/Kg	☼	06/17/16 15:01	06/28/16 21:18	1
Phenanthrene	0.087	U	0.43	0.022	mg/Kg	☼	06/17/16 15:01	06/28/16 21:18	1
Phenol	0.087	U	0.43	0.024	mg/Kg	☼	06/17/16 15:01	06/28/16 21:18	1
Pyrene	0.043	U	0.52	0.016	mg/Kg	☼	06/17/16 15:01	06/28/16 21:18	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*64*		*39 - 132*	*06/17/16 15:01*	*06/28/16 21:18*	*1*
2-Fluorobiphenyl	*69*		*44 - 115*	*06/17/16 15:01*	*06/28/16 21:18*	*1*
2-Fluorophenol (Surr)	*72*		*35 - 115*	*06/17/16 15:01*	*06/28/16 21:18*	*1*
Nitrobenzene-d5 (Surr)	*68*		*37 - 122*	*06/17/16 15:01*	*06/28/16 21:18*	*1*
Phenol-d5 (Surr)	*71*		*33 - 122*	*06/17/16 15:01*	*06/28/16 21:18*	*1*
Terphenyl-d14 (Surr)	*77*		*54 - 127*	*06/17/16 15:01*	*06/28/16 21:18*	*1*

Client Sample ID: SC-TU009-MW001-S0608 — **Lab Sample ID: 280-84353-2**
Date Collected: 06/06/16 16:10 — **Matrix: Solid**
Date Received: 06/10/16 09:25 — **Percent Solids: 91.9**

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4,5-Tetrachlorobenzene	0.13	U	0.33	0.049	mg/Kg	☼	06/17/16 15:01	06/28/16 22:38	1
1,2,4-Trichlorobenzene	0.066	U	0.33	0.028	mg/Kg	☼	06/17/16 15:01	06/28/16 22:38	1
1,2-Dichlorobenzene	0.066	U	0.33	0.022	mg/Kg	☼	06/17/16 15:01	06/28/16 22:38	1
1,2-Diphenylhydrazine	0.066	U	0.33	0.022	mg/Kg	☼	06/17/16 15:01	06/28/16 22:38	1
1,3-Dichlorobenzene	0.033	U	0.33	0.012	mg/Kg	☼	06/17/16 15:01	06/28/16 22:38	1
1,4-Dichlorobenzene	0.033	U	0.33	0.013	mg/Kg	☼	06/17/16 15:01	06/28/16 22:38	1
2,2'-oxybis[1-chloropropane]	0.066	U	0.33	0.023	mg/Kg	☼	06/17/16 15:01	06/28/16 22:38	1
2,4,5-Trichlorophenol	0.033	U	0.33	0.0099	mg/Kg	☼	06/17/16 15:01	06/28/16 22:38	1
2,4,6-Trichlorophenol	0.033	U	0.33	0.0099	mg/Kg	☼	06/17/16 15:01	06/28/16 22:38	1
2,4-Dichlorophenol	0.033	U	0.33	0.0099	mg/Kg	☼	06/17/16 15:01	06/28/16 22:38	1
2,4-Dimethylphenol	0.13	U	0.33	0.065	mg/Kg	☼	06/17/16 15:01	06/28/16 22:38	1
2,4-Dinitrophenol	0.99	U	1.6	0.33	mg/Kg	☼	06/17/16 15:01	06/28/16 22:38	1
2,4-Dinitrotoluene	0.13	U	0.33	0.065	mg/Kg	☼	06/17/16 15:01	06/28/16 22:38	1
2,6-Dichlorophenol	0.17	U	0.33	0.068	mg/Kg	☼	06/17/16 15:01	06/28/16 22:38	1
2,6-Dinitrotoluene	0.066	U	0.33	0.028	mg/Kg	☼	06/17/16 15:01	06/28/16 22:38	1
2-Chloronaphthalene	0.033	U	0.33	0.0099	mg/Kg	☼	06/17/16 15:01	06/28/16 22:38	1
2-Chlorophenol	0.066	U	0.33	0.021	mg/Kg	☼	06/17/16 15:01	06/28/16 22:38	1
2-Methylnaphthalene	0.066	U	0.33	0.019	mg/Kg	☼	06/17/16 15:01	06/28/16 22:38	1

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

Client Sample ID: SC-TU009-MW001-S0608
Date Collected: 06/06/16 16:10
Date Received: 06/10/16 09:25

Lab Sample ID: 280-84353-2
Matrix: Solid
Percent Solids: 91.9

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
2-Methylphenol	0.033	U	0.33	0.013	mg/Kg	☼	06/17/16 15:01	06/28/16 22:38	1
3 & 4 Methylphenol	0.066	U	0.33	0.033	mg/Kg	☼	06/17/16 15:01	06/28/16 22:38	1
3,3'-Dichlorobenzidine	0.26	U	1.6	0.089	mg/Kg	☼	06/17/16 15:01	06/28/16 22:38	1
3-Nitroaniline	0.26	U	1.6	0.072	mg/Kg	☼	06/17/16 15:01	06/28/16 22:38	1
4,6-Dinitro-2-methylphenol	0.99	U	1.6	0.33	mg/Kg	☼	06/17/16 15:01	06/28/16 22:38	1
4-Chloroaniline	0.26	U	0.33	0.081	mg/Kg	☼	06/17/16 15:01	06/28/16 22:38	1
4-Chlorophenyl phenyl ether	0.066	U	0.33	0.021	mg/Kg	☼	06/17/16 15:01	06/28/16 22:38	1
4-Nitroaniline	0.26	U	1.6	0.072	mg/Kg	☼	06/17/16 15:01	06/28/16 22:38	1
4-Nitrophenol	0.26	U	1.6	0.096	mg/Kg	☼	06/17/16 15:01	06/28/16 22:38	1
Acenaphthene	0.033	U	0.33	0.010	mg/Kg	☼	06/17/16 15:01	06/28/16 22:38	1
Acenaphthylene	0.066	U	0.33	0.017	mg/Kg	☼	06/17/16 15:01	06/28/16 22:38	1
Anthracene	0.066	U	0.33	0.017	mg/Kg	☼	06/17/16 15:01	06/28/16 22:38	1
Benzidine	2.0	U	4.0	0.98	mg/Kg	☼	06/17/16 15:01	06/28/16 22:38	1
Benzo[a]anthracene	0.066	U	0.33	0.020	mg/Kg	☼	06/17/16 15:01	06/28/16 22:38	1
Benzo[a]pyrene	0.066	U	0.33	0.020	mg/Kg	☼	06/17/16 15:01	06/28/16 22:38	1
Benzo[b]fluoranthene	0.066	U	0.33	0.026	mg/Kg	☼	06/17/16 15:01	06/28/16 22:38	1
Benzo[g,h,i]perylene	0.033	U	0.33	0.016	mg/Kg	☼	06/17/16 15:01	06/28/16 22:38	1
Benzo[k]fluoranthene	0.13	U	0.33	0.040	mg/Kg	☼	06/17/16 15:01	06/28/16 22:38	1
Benzoic acid	0.99	U	1.6	0.33	mg/Kg	☼	06/17/16 15:01	06/28/16 22:38	1
Benzyl alcohol	0.033	U	0.33	0.0099	mg/Kg	☼	06/17/16 15:01	06/28/16 22:38	1
Bis(2-chloroethoxy)methane	0.066	U	0.33	0.023	mg/Kg	☼	06/17/16 15:01	06/28/16 22:38	1
Bis(2-chloroethyl)ether	0.033	U	0.33	0.016	mg/Kg	☼	06/17/16 15:01	06/28/16 22:38	1
Bis(2-ethylhexyl) phthalate	0.13	U	0.33	0.046	mg/Kg	☼	06/17/16 15:01	06/28/16 22:38	1
Butyl benzyl phthalate	0.13	U	0.33	0.043	mg/Kg	☼	06/17/16 15:01	06/28/16 22:38	1
Carbazole	0.13	U	0.33	0.036	mg/Kg	☼	06/17/16 15:01	06/28/16 22:38	1
Chrysene	0.066	U	0.33	0.027	mg/Kg	☼	06/17/16 15:01	06/28/16 22:38	1
Dibenz(a,h)anthracene	0.066	U	0.33	0.019	mg/Kg	☼	06/17/16 15:01	06/28/16 22:38	1
Dibenzofuran	0.066	U	0.33	0.020	mg/Kg	☼	06/17/16 15:01	06/28/16 22:38	1
Diethyl phthalate	0.066	U	0.65	0.026	mg/Kg	☼	06/17/16 15:01	06/28/16 22:38	1
Dimethyl phthalate	0.066	U	0.33	0.023	mg/Kg	☼	06/17/16 15:01	06/28/16 22:38	1
Di-n-butyl phthalate	0.066	U	0.33	0.029	mg/Kg	☼	06/17/16 15:01	06/28/16 22:38	1
Di-n-octyl phthalate	0.065	U	0.33	0.014	mg/Kg	☼	06/17/16 15:01	06/28/16 22:38	1
Fluoranthene	0.13	U	0.33	0.036	mg/Kg	☼	06/17/16 15:01	06/28/16 22:38	1
Fluorene	0.066	U	0.33	0.018	mg/Kg	☼	06/17/16 15:01	06/28/16 22:38	1
Hexachlorobenzene	0.066	U	0.33	0.029	mg/Kg	☼	06/17/16 15:01	06/28/16 22:38	1
Hexachlorobutadiene	0.033	U	0.33	0.0099	mg/Kg	☼	06/17/16 15:01	06/28/16 22:38	1
Hexachlorocyclopentadiene	0.13	U	1.7	0.050	mg/Kg	☼	06/17/16 15:01	06/28/16 22:38	1
Hexachloroethane	0.066	U	0.33	0.021	mg/Kg	☼	06/17/16 15:01	06/28/16 22:38	1
Indeno[1,2,3-cd]pyrene	0.066	U	0.33	0.022	mg/Kg	☼	06/17/16 15:01	06/28/16 22:38	1
Isophorone	0.066	U	0.33	0.017	mg/Kg	☼	06/17/16 15:01	06/28/16 22:38	1
Naphthalene	0.066	U	0.33	0.031	mg/Kg	☼	06/17/16 15:01	06/28/16 22:38	1
Nitrobenzene	0.066	U	0.33	0.022	mg/Kg	☼	06/17/16 15:01	06/28/16 22:38	1
N-Nitrosodimethylamine	0.13	U	0.52	0.037	mg/Kg	☼	06/17/16 15:01	06/28/16 22:38	1
N-Nitrosodi-n-propylamine	0.066	U	0.33	0.031	mg/Kg	☼	06/17/16 15:01	06/28/16 22:38	1
N-Nitrosodiphenylamine	0.066	U	0.33	0.021	mg/Kg	☼	06/17/16 15:01	06/28/16 22:38	1
N-Nitrosopyrrolidine	0.17	U	0.33	0.064	mg/Kg	☼	06/17/16 15:01	06/28/16 22:38	1
Pentachlorophenol	0.99	U	1.6	0.33	mg/Kg	☼	06/17/16 15:01	06/28/16 22:38	1
Phenanthrene	0.066	U	0.33	0.017	mg/Kg	☼	06/17/16 15:01	06/28/16 22:38	1
Phenol	0.066	U	0.33	0.018	mg/Kg	☼	06/17/16 15:01	06/28/16 22:38	1

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

Client Sample ID: SC-TU009-MW001-S0608 — **Lab Sample ID: 280-84353-2**
Date Collected: 06/06/16 16:10 — **Matrix: Solid**
Date Received: 06/10/16 09:25 — **Percent Solids: 91.9**

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Pyrene	0.033	U	0.40	0.012	mg/Kg	☼	06/17/16 15:01	06/28/16 22:38	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*65*		*39 - 132*	*06/17/16 15:01*	*06/28/16 22:38*	*1*
2-Fluorobiphenyl	*65*		*44 - 115*	*06/17/16 15:01*	*06/28/16 22:38*	*1*
2-Fluorophenol (Surr)	*69*		*35 - 115*	*06/17/16 15:01*	*06/28/16 22:38*	*1*
Nitrobenzene-d5 (Surr)	*64*		*37 - 122*	*06/17/16 15:01*	*06/28/16 22:38*	*1*
Phenol-d5 (Surr)	*68*		*33 - 122*	*06/17/16 15:01*	*06/28/16 22:38*	*1*
Terphenyl-d14 (Surr)	*73*		*54 - 127*	*06/17/16 15:01*	*06/28/16 22:38*	*1*

Client Sample ID: SC-TU009-MW002-S0507 — **Lab Sample ID: 280-84353-3**
Date Collected: 06/06/16 16:40 — **Matrix: Solid**
Date Received: 06/10/16 09:25 — **Percent Solids: 86.0**

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4,5-Tetrachlorobenzene	0.14	U	0.35	0.052	mg/Kg	☼	06/17/16 15:01	06/28/16 23:05	1
1,2,4-Trichlorobenzene	0.071	U	0.35	0.030	mg/Kg	☼	06/17/16 15:01	06/28/16 23:05	1
1,2-Dichlorobenzene	0.071	U	0.35	0.023	mg/Kg	☼	06/17/16 15:01	06/28/16 23:05	1
1,2-Diphenylhydrazine	0.071	U	0.35	0.023	mg/Kg	☼	06/17/16 15:01	06/28/16 23:05	1
1,3-Dichlorobenzene	0.035	U	0.35	0.013	mg/Kg	☼	06/17/16 15:01	06/28/16 23:05	1
1,4-Dichlorobenzene	0.035	U	0.35	0.014	mg/Kg	☼	06/17/16 15:01	06/28/16 23:05	1
2,2'-oxybis[1-chloropropane]	0.071	U	0.35	0.024	mg/Kg	☼	06/17/16 15:01	06/28/16 23:05	1
2,4,5-Trichlorophenol	0.035	U	0.35	0.011	mg/Kg	☼	06/17/16 15:01	06/28/16 23:05	1
2,4,6-Trichlorophenol	0.035	U	0.35	0.011	mg/Kg	☼	06/17/16 15:01	06/28/16 23:05	1
2,4-Dichlorophenol	0.035	U	0.35	0.011	mg/Kg	☼	06/17/16 15:01	06/28/16 23:05	1
2,4-Dimethylphenol	0.14	U	0.35	0.070	mg/Kg	☼	06/17/16 15:01	06/28/16 23:05	1
2,4-Dinitrophenol	1.1	U	1.7	0.35	mg/Kg	☼	06/17/16 15:01	06/28/16 23:05	1
2,4-Dinitrotoluene	0.14	U	0.35	0.070	mg/Kg	☼	06/17/16 15:01	06/28/16 23:05	1
2,6-Dichlorophenol	0.18	U	0.35	0.073	mg/Kg	☼	06/17/16 15:01	06/28/16 23:05	1
2,6-Dinitrotoluene	0.071	U	0.35	0.030	mg/Kg	☼	06/17/16 15:01	06/28/16 23:05	1
2-Chloronaphthalene	0.035	U	0.35	0.011	mg/Kg	☼	06/17/16 15:01	06/28/16 23:05	1
2-Chlorophenol	0.071	U	0.35	0.022	mg/Kg	☼	06/17/16 15:01	06/28/16 23:05	1
2-Methylnaphthalene	0.071	U	0.35	0.020	mg/Kg	☼	06/17/16 15:01	06/28/16 23:05	1
2-Methylphenol	0.035	U	0.35	0.014	mg/Kg	☼	06/17/16 15:01	06/28/16 23:05	1
3 & 4 Methylphenol	0.071	U	0.35	0.035	mg/Kg	☼	06/17/16 15:01	06/28/16 23:05	1
3,3'-Dichlorobenzidine	0.28	U	1.7	0.095	mg/Kg	☼	06/17/16 15:01	06/28/16 23:05	1
3-Nitroaniline	0.28	U	1.7	0.077	mg/Kg	☼	06/17/16 15:01	06/28/16 23:05	1
4,6-Dinitro-2-methylphenol	1.1	U	1.7	0.35	mg/Kg	☼	06/17/16 15:01	06/28/16 23:05	1
4-Chloroaniline	0.28	U	0.35	0.087	mg/Kg	☼	06/17/16 15:01	06/28/16 23:05	1
4-Chlorophenyl phenyl ether	0.071	U	0.35	0.022	mg/Kg	☼	06/17/16 15:01	06/28/16 23:05	1
4-Nitroaniline	0.28	U	1.7	0.077	mg/Kg	☼	06/17/16 15:01	06/28/16 23:05	1
4-Nitrophenol	0.28	U	1.7	0.10	mg/Kg	☼	06/17/16 15:01	06/28/16 23:05	1
Acenaphthene	0.035	U	0.35	0.011	mg/Kg	☼	06/17/16 15:01	06/28/16 23:05	1
Acenaphthylene	0.071	U	0.35	0.018	mg/Kg	☼	06/17/16 15:01	06/28/16 23:05	1
Anthracene	0.071	U	0.35	0.018	mg/Kg	☼	06/17/16 15:01	06/28/16 23:05	1
Benzidine	2.1	U	4.2	1.0	mg/Kg	☼	06/17/16 15:01	06/28/16 23:05	1
Benzo[a]anthracene	0.071	U	0.35	0.021	mg/Kg	☼	06/17/16 15:01	06/28/16 23:05	1
Benzo[a]pyrene	0.071	U	0.35	0.021	mg/Kg	☼	06/17/16 15:01	06/28/16 23:05	1
Benzo[b]fluoranthene	0.071	U	0.35	0.028	mg/Kg	☼	06/17/16 15:01	06/28/16 23:05	1
Benzo[g,h,i]perylene	**0.021**	**J**	0.35	0.017	mg/Kg	☼	06/17/16 15:01	06/28/16 23:05	1
Benzo[k]fluoranthene	0.14	U	0.35	0.042	mg/Kg	☼	06/17/16 15:01	06/28/16 23:05	1

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

Client Sample ID: SC-TU009-MW002-S0507 — **Lab Sample ID: 280-84353-3**
Date Collected: 06/06/16 16:40 — **Matrix: Solid**
Date Received: 06/10/16 09:25 — **Percent Solids: 86.0**

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Benzoic acid	1.1	U	1.7	0.35	mg/Kg	☼	06/17/16 15:01	06/28/16 23:05	1
Benzyl alcohol	0.035	U	0.35	0.011	mg/Kg	☼	06/17/16 15:01	06/28/16 23:05	1
Bis(2-chloroethoxy)methane	0.071	U	0.35	0.024	mg/Kg	☼	06/17/16 15:01	06/28/16 23:05	1
Bis(2-chloroethyl)ether	0.035	U	0.35	0.018	mg/Kg	☼	06/17/16 15:01	06/28/16 23:05	1
Bis(2-ethylhexyl) phthalate	0.14	U	0.35	0.049	mg/Kg	☼	06/17/16 15:01	06/28/16 23:05	1
Butyl benzyl phthalate	0.14	U	0.35	0.046	mg/Kg	☼	06/17/16 15:01	06/28/16 23:05	1
Carbazole	0.14	U	0.35	0.038	mg/Kg	☼	06/17/16 15:01	06/28/16 23:05	1
Chrysene	0.071	U	0.35	0.029	mg/Kg	☼	06/17/16 15:01	06/28/16 23:05	1
Dibenz(a,h)anthracene	0.071	U	0.35	0.020	mg/Kg	☼	06/17/16 15:01	06/28/16 23:05	1
Dibenzofuran	0.071	U	0.35	0.021	mg/Kg	☼	06/17/16 15:01	06/28/16 23:05	1
Diethyl phthalate	0.071	U	0.70	0.028	mg/Kg	☼	06/17/16 15:01	06/28/16 23:05	1
Dimethyl phthalate	0.071	U	0.35	0.024	mg/Kg	☼	06/17/16 15:01	06/28/16 23:05	1
Di-n-butyl phthalate	0.071	U	0.35	0.031	mg/Kg	☼	06/17/16 15:01	06/28/16 23:05	1
Di-n-octyl phthalate	0.070	U	0.35	0.015	mg/Kg	☼	06/17/16 15:01	06/28/16 23:05	1
Fluoranthene	0.14	U	0.35	0.038	mg/Kg	☼	06/17/16 15:01	06/28/16 23:05	1
Fluorene	0.071	U	0.35	0.019	mg/Kg	☼	06/17/16 15:01	06/28/16 23:05	1
Hexachlorobenzene	0.071	U	0.35	0.031	mg/Kg	☼	06/17/16 15:01	06/28/16 23:05	1
Hexachlorobutadiene	0.035	U	0.35	0.011	mg/Kg	☼	06/17/16 15:01	06/28/16 23:05	1
Hexachlorocyclopentadiene	0.14	U	1.8	0.053	mg/Kg	☼	06/17/16 15:01	06/28/16 23:05	1
Hexachloroethane	0.071	U	0.35	0.023	mg/Kg	☼	06/17/16 15:01	06/28/16 23:05	1
Indeno[1,2,3-cd]pyrene	0.071	U	0.35	0.023	mg/Kg	☼	06/17/16 15:01	06/28/16 23:05	1
Isophorone	0.071	U	0.35	0.018	mg/Kg	☼	06/17/16 15:01	06/28/16 23:05	1
Naphthalene	0.071	U	0.35	0.033	mg/Kg	☼	06/17/16 15:01	06/28/16 23:05	1
Nitrobenzene	0.071	U	0.35	0.023	mg/Kg	☼	06/17/16 15:01	06/28/16 23:05	1
N-Nitrosodimethylamine	0.14	U	0.55	0.039	mg/Kg	☼	06/17/16 15:01	06/28/16 23:05	1
N-Nitrosodi-n-propylamine	0.071	U	0.35	0.033	mg/Kg	☼	06/17/16 15:01	06/28/16 23:05	1
N-Nitrosodiphenylamine	0.071	U	0.35	0.022	mg/Kg	☼	06/17/16 15:01	06/28/16 23:05	1
N-Nitrosopyrrolidine	0.18	U	0.35	0.068	mg/Kg	☼	06/17/16 15:01	06/28/16 23:05	1
Pentachlorophenol	1.1	U	1.7	0.35	mg/Kg	☼	06/17/16 15:01	06/28/16 23:05	1
Phenanthrene	0.071	U	0.35	0.018	mg/Kg	☼	06/17/16 15:01	06/28/16 23:05	1
Phenol	0.071	U	0.35	0.019	mg/Kg	☼	06/17/16 15:01	06/28/16 23:05	1
Pyrene	**0.013**	**J**	0.42	0.013	mg/Kg	☼	06/17/16 15:01	06/28/16 23:05	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*67*		*39 - 132*	*06/17/16 15:01*	*06/28/16 23:05*	*1*
2-Fluorobiphenyl	*66*		*44 - 115*	*06/17/16 15:01*	*06/28/16 23:05*	*1*
2-Fluorophenol (Surr)	*64*		*35 - 115*	*06/17/16 15:01*	*06/28/16 23:05*	*1*
Nitrobenzene-d5 (Surr)	*58*		*37 - 122*	*06/17/16 15:01*	*06/28/16 23:05*	*1*
Phenol-d5 (Surr)	*67*		*33 - 122*	*06/17/16 15:01*	*06/28/16 23:05*	*1*
Terphenyl-d14 (Surr)	*75*		*54 - 127*	*06/17/16 15:01*	*06/28/16 23:05*	*1*

Client Sample ID: SC-TU009-MW002-S0305 — **Lab Sample ID: 280-84353-4**
Date Collected: 06/06/16 16:35 — **Matrix: Solid**
Date Received: 06/10/16 09:25 — **Percent Solids: 84.5**

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4,5-Tetrachlorobenzene	0.15	U	0.38	0.056	mg/Kg	☼	06/17/16 15:01	06/28/16 23:31	1
1,2,4-Trichlorobenzene	0.077	U	0.38	0.032	mg/Kg	☼	06/17/16 15:01	06/28/16 23:31	1
1,2-Dichlorobenzene	0.077	U	0.38	0.025	mg/Kg	☼	06/17/16 15:01	06/28/16 23:31	1
1,2-Diphenylhydrazine	0.077	U	0.38	0.025	mg/Kg	☼	06/17/16 15:01	06/28/16 23:31	1
1,3-Dichlorobenzene	0.038	U	0.38	0.014	mg/Kg	☼	06/17/16 15:01	06/28/16 23:31	1

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

Client Sample ID: SC-TU009-MW002-S0305
Date Collected: 06/06/16 16:35
Date Received: 06/10/16 09:25

Lab Sample ID: 280-84353-4
Matrix: Solid
Percent Solids: 84.5

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dichlorobenzene	0.038	U	0.38	0.016	mg/Kg	☼	06/17/16 15:01	06/28/16 23:31	1
2,2'-oxybis[1-chloropropane]	0.077	U	0.38	0.026	mg/Kg	☼	06/17/16 15:01	06/28/16 23:31	1
2,4,5-Trichlorophenol	0.038	U	0.38	0.012	mg/Kg	☼	06/17/16 15:01	06/28/16 23:31	1
2,4,6-Trichlorophenol	0.038	U	0.38	0.012	mg/Kg	☼	06/17/16 15:01	06/28/16 23:31	1
2,4-Dichlorophenol	0.038	U	0.38	0.012	mg/Kg	☼	06/17/16 15:01	06/28/16 23:31	1
2,4-Dimethylphenol	0.15	U	0.38	0.076	mg/Kg	☼	06/17/16 15:01	06/28/16 23:31	1
2,4-Dinitrophenol	1.2	U	1.8	0.38	mg/Kg	☼	06/17/16 15:01	06/28/16 23:31	1
2,4-Dinitrotoluene	0.15	U	0.38	0.076	mg/Kg	☼	06/17/16 15:01	06/28/16 23:31	1
2,6-Dichlorophenol	0.19	U	0.38	0.079	mg/Kg	☼	06/17/16 15:01	06/28/16 23:31	1
2,6-Dinitrotoluene	0.077	U	0.38	0.032	mg/Kg	☼	06/17/16 15:01	06/28/16 23:31	1
2-Chloronaphthalene	0.038	U	0.38	0.012	mg/Kg	☼	06/17/16 15:01	06/28/16 23:31	1
2-Chlorophenol	0.077	U	0.38	0.024	mg/Kg	☼	06/17/16 15:01	06/28/16 23:31	1
2-Methylnaphthalene	0.077	U	0.38	0.022	mg/Kg	☼	06/17/16 15:01	06/28/16 23:31	1
2-Methylphenol	0.038	U	0.38	0.015	mg/Kg	☼	06/17/16 15:01	06/28/16 23:31	1
3 & 4 Methylphenol	0.077	U	0.38	0.038	mg/Kg	☼	06/17/16 15:01	06/28/16 23:31	1
3,3'-Dichlorobenzidine	0.31	U	1.8	0.10	mg/Kg	☼	06/17/16 15:01	06/28/16 23:31	1
3-Nitroaniline	0.31	U	1.8	0.084	mg/Kg	☼	06/17/16 15:01	06/28/16 23:31	1
4,6-Dinitro-2-methylphenol	1.2	U	1.8	0.38	mg/Kg	☼	06/17/16 15:01	06/28/16 23:31	1
4-Chloroaniline	0.31	U	0.38	0.094	mg/Kg	☼	06/17/16 15:01	06/28/16 23:31	1
4-Chlorophenyl phenyl ether	0.077	U	0.38	0.024	mg/Kg	☼	06/17/16 15:01	06/28/16 23:31	1
4-Nitroaniline	0.31	U	1.8	0.084	mg/Kg	☼	06/17/16 15:01	06/28/16 23:31	1
4-Nitrophenol	0.31	U	1.8	0.11	mg/Kg	☼	06/17/16 15:01	06/28/16 23:31	1
Acenaphthene	0.038	U	0.38	0.012	mg/Kg	☼	06/17/16 15:01	06/28/16 23:31	1
Acenaphthylene	0.077	U	0.38	0.020	mg/Kg	☼	06/17/16 15:01	06/28/16 23:31	1
Anthracene	**0.030**	**J**	0.38	0.020	mg/Kg	☼	06/17/16 15:01	06/28/16 23:31	1
Benzidine	2.3	U	4.6	1.1	mg/Kg	☼	06/17/16 15:01	06/28/16 23:31	1
Benzo[a]anthracene	**0.10**	**J**	0.38	0.023	mg/Kg	☼	06/17/16 15:01	06/28/16 23:31	1
Benzo[a]pyrene	**0.089**	**J**	0.38	0.023	mg/Kg	☼	06/17/16 15:01	06/28/16 23:31	1
Benzo[b]fluoranthene	**0.13**	**J M**	0.38	0.030	mg/Kg	☼	06/17/16 15:01	06/28/16 23:31	1
Benzo[g,h,i]perylene	**0.052**	**J**	0.38	0.018	mg/Kg	☼	06/17/16 15:01	06/28/16 23:31	1
Benzo[k]fluoranthene	**0.052**	**J M**	0.38	0.046	mg/Kg	☼	06/17/16 15:01	06/28/16 23:31	1
Benzoic acid	1.2	U	1.8	0.38	mg/Kg	☼	06/17/16 15:01	06/28/16 23:31	1
Benzyl alcohol	0.038	U	0.38	0.012	mg/Kg	☼	06/17/16 15:01	06/28/16 23:31	1
Bis(2-chloroethoxy)methane	0.077	U	0.38	0.026	mg/Kg	☼	06/17/16 15:01	06/28/16 23:31	1
Bis(2-chloroethyl)ether	0.038	U	0.38	0.019	mg/Kg	☼	06/17/16 15:01	06/28/16 23:31	1
Bis(2-ethylhexyl) phthalate	0.15	U	0.38	0.053	mg/Kg	☼	06/17/16 15:01	06/28/16 23:31	1
Butyl benzyl phthalate	0.15	U	0.38	0.050	mg/Kg	☼	06/17/16 15:01	06/28/16 23:31	1
Carbazole	0.15	U	0.38	0.041	mg/Kg	☼	06/17/16 15:01	06/28/16 23:31	1
Chrysene	**0.12**	**J**	0.38	0.031	mg/Kg	☼	06/17/16 15:01	06/28/16 23:31	1
Dibenz(a,h)anthracene	0.077	U	0.38	0.022	mg/Kg	☼	06/17/16 15:01	06/28/16 23:31	1
Dibenzofuran	0.077	U	0.38	0.023	mg/Kg	☼	06/17/16 15:01	06/28/16 23:31	1
Diethyl phthalate	0.077	U	0.76	0.030	mg/Kg	☼	06/17/16 15:01	06/28/16 23:31	1
Dimethyl phthalate	0.077	U	0.38	0.026	mg/Kg	☼	06/17/16 15:01	06/28/16 23:31	1
Di-n-butyl phthalate	0.077	U	0.38	0.033	mg/Kg	☼	06/17/16 15:01	06/28/16 23:31	1
Di-n-octyl phthalate	0.076	U	0.38	0.017	mg/Kg	☼	06/17/16 15:01	06/28/16 23:31	1
Fluoranthene	**0.29**	**J**	0.38	0.041	mg/Kg	☼	06/17/16 15:01	06/28/16 23:31	1
Fluorene	0.077	U	0.38	0.021	mg/Kg	☼	06/17/16 15:01	06/28/16 23:31	1
Hexachlorobenzene	0.077	U	0.38	0.033	mg/Kg	☼	06/17/16 15:01	06/28/16 23:31	1
Hexachlorobutadiene	0.038	U	0.38	0.012	mg/Kg	☼	06/17/16 15:01	06/28/16 23:31	1

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

Client Sample ID: SC-TU009-MW002-S0305 — **Lab Sample ID: 280-84353-4**
Date Collected: 06/06/16 16:35 — **Matrix: Solid**
Date Received: 06/10/16 09:25 — **Percent Solids: 84.5**

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Hexachlorocyclopentadiene	0.15	U	2.0	0.058	mg/Kg	☼	06/17/16 15:01	06/28/16 23:31	1
Hexachloroethane	0.077	U	0.38	0.025	mg/Kg	☼	06/17/16 15:01	06/28/16 23:31	1
Indeno[1,2,3-cd]pyrene	**0.060**	**J**	0.38	0.025	mg/Kg	☼	06/17/16 15:01	06/28/16 23:31	1
Isophorone	0.077	U	0.38	0.020	mg/Kg	☼	06/17/16 15:01	06/28/16 23:31	1
Naphthalene	0.077	U	0.38	0.036	mg/Kg	☼	06/17/16 15:01	06/28/16 23:31	1
Nitrobenzene	0.077	U	0.38	0.025	mg/Kg	☼	06/17/16 15:01	06/28/16 23:31	1
N-Nitrosodimethylamine	0.15	U	0.60	0.043	mg/Kg	☼	06/17/16 15:01	06/28/16 23:31	1
N-Nitrosodi-n-propylamine	0.077	U	0.38	0.036	mg/Kg	☼	06/17/16 15:01	06/28/16 23:31	1
N-Nitrosodiphenylamine	0.077	U	0.38	0.024	mg/Kg	☼	06/17/16 15:01	06/28/16 23:31	1
N-Nitrosopyrrolidine	0.19	U	0.38	0.074	mg/Kg	☼	06/17/16 15:01	06/28/16 23:31	1
Pentachlorophenol	1.2	U	1.8	0.38	mg/Kg	☼	06/17/16 15:01	06/28/16 23:31	1
Phenanthrene	**0.19**	**J**	0.38	0.020	mg/Kg	☼	06/17/16 15:01	06/28/16 23:31	1
Phenol	0.077	U	0.38	0.021	mg/Kg	☼	06/17/16 15:01	06/28/16 23:31	1
Pyrene	**0.23**	**J**	0.46	0.014	mg/Kg	☼	06/17/16 15:01	06/28/16 23:31	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*66*		*39 - 132*	*06/17/16 15:01*	*06/28/16 23:31*	*1*
2-Fluorobiphenyl	*68*		*44 - 115*	*06/17/16 15:01*	*06/28/16 23:31*	*1*
2-Fluorophenol (Surr)	*70*		*35 - 115*	*06/17/16 15:01*	*06/28/16 23:31*	*1*
Nitrobenzene-d5 (Surr)	*65*		*37 - 122*	*06/17/16 15:01*	*06/28/16 23:31*	*1*
Phenol-d5 (Surr)	*71*		*33 - 122*	*06/17/16 15:01*	*06/28/16 23:31*	*1*
Terphenyl-d14 (Surr)	*75*		*54 - 127*	*06/17/16 15:01*	*06/28/16 23:31*	*1*

Client Sample ID: SC-TU009-MW002-S0507-D — **Lab Sample ID: 280-84353-5**
Date Collected: 06/06/16 16:40 — **Matrix: Solid**
Date Received: 06/10/16 09:25 — **Percent Solids: 87.3**

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4,5-Tetrachlorobenzene	0.14	U	0.35	0.052	mg/Kg	☼	06/17/16 15:01	06/28/16 23:58	1
1,2,4-Trichlorobenzene	0.072	U	0.35	0.030	mg/Kg	☼	06/17/16 15:01	06/28/16 23:58	1
1,2-Dichlorobenzene	0.072	U	0.35	0.024	mg/Kg	☼	06/17/16 15:01	06/28/16 23:58	1
1,2-Diphenylhydrazine	0.072	U	0.35	0.024	mg/Kg	☼	06/17/16 15:01	06/28/16 23:58	1
1,3-Dichlorobenzene	0.035	U	0.35	0.013	mg/Kg	☼	06/17/16 15:01	06/28/16 23:58	1
1,4-Dichlorobenzene	0.035	U	0.35	0.015	mg/Kg	☼	06/17/16 15:01	06/28/16 23:58	1
2,2'-oxybis[1-chloropropane]	0.072	U	0.35	0.025	mg/Kg	☼	06/17/16 15:01	06/28/16 23:58	1
2,4,5-Trichlorophenol	0.035	U	0.35	0.011	mg/Kg	☼	06/17/16 15:01	06/28/16 23:58	1
2,4,6-Trichlorophenol	0.035	U	0.35	0.011	mg/Kg	☼	06/17/16 15:01	06/28/16 23:58	1
2,4-Dichlorophenol	0.035	U	0.35	0.011	mg/Kg	☼	06/17/16 15:01	06/28/16 23:58	1
2,4-Dimethylphenol	0.14	U	0.35	0.071	mg/Kg	☼	06/17/16 15:01	06/28/16 23:58	1
2,4-Dinitrophenol	1.1	U	1.7	0.36	mg/Kg	☼	06/17/16 15:01	06/28/16 23:58	1
2,4-Dinitrotoluene	0.14	U	0.35	0.071	mg/Kg	☼	06/17/16 15:01	06/28/16 23:58	1
2,6-Dichlorophenol	0.18	U	0.35	0.074	mg/Kg	☼	06/17/16 15:01	06/28/16 23:58	1
2,6-Dinitrotoluene	0.072	U	0.35	0.030	mg/Kg	☼	06/17/16 15:01	06/28/16 23:58	1
2-Chloronaphthalene	0.035	U	0.35	0.011	mg/Kg	☼	06/17/16 15:01	06/28/16 23:58	1
2-Chlorophenol	0.072	U	0.35	0.022	mg/Kg	☼	06/17/16 15:01	06/28/16 23:58	1
2-Methylnaphthalene	0.072	U	0.35	0.020	mg/Kg	☼	06/17/16 15:01	06/28/16 23:58	1
2-Methylphenol	0.035	U	0.35	0.014	mg/Kg	☼	06/17/16 15:01	06/28/16 23:58	1
3 & 4 Methylphenol	0.072	U	0.35	0.035	mg/Kg	☼	06/17/16 15:01	06/28/16 23:58	1
3,3'-Dichlorobenzidine	0.29	U	1.7	0.096	mg/Kg	☼	06/17/16 15:01	06/28/16 23:58	1
3-Nitroaniline	0.29	U	1.7	0.078	mg/Kg	☼	06/17/16 15:01	06/28/16 23:58	1
4,6-Dinitro-2-methylphenol	1.1	U	1.7	0.35	mg/Kg	☼	06/17/16 15:01	06/28/16 23:58	1

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

Client Sample ID: SC-TU009-MW002-S0507-D
Date Collected: 06/06/16 16:40
Date Received: 06/10/16 09:25

Lab Sample ID: 280-84353-5
Matrix: Solid
Percent Solids: 87.3

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chloroaniline	0.29	U	0.35	0.088	mg/Kg	☼	06/17/16 15:01	06/28/16 23:58	1
4-Chlorophenyl phenyl ether	0.072	U	0.35	0.022	mg/Kg	☼	06/17/16 15:01	06/28/16 23:58	1
4-Nitroaniline	0.29	U	1.7	0.078	mg/Kg	☼	06/17/16 15:01	06/28/16 23:58	1
4-Nitrophenol	0.29	U	1.7	0.10	mg/Kg	☼	06/17/16 15:01	06/28/16 23:58	1
Acenaphthene	0.035	U	0.35	0.011	mg/Kg	☼	06/17/16 15:01	06/28/16 23:58	1
Acenaphthylene	0.072	U	0.35	0.018	mg/Kg	☼	06/17/16 15:01	06/28/16 23:58	1
Anthracene	0.072	U	0.35	0.018	mg/Kg	☼	06/17/16 15:01	06/28/16 23:58	1
Benzidine	2.1	U	4.3	1.1	mg/Kg	☼	06/17/16 15:01	06/28/16 23:58	1
Benzo[a]anthracene	0.072	U	0.35	0.021	mg/Kg	☼	06/17/16 15:01	06/28/16 23:58	1
Benzo[a]pyrene	0.072	U	0.35	0.021	mg/Kg	☼	06/17/16 15:01	06/28/16 23:58	1
Benzo[b]fluoranthene	0.072	U	0.35	0.028	mg/Kg	☼	06/17/16 15:01	06/28/16 23:58	1
Benzo[g,h,i]perylene	**0.017**	**J**	0.35	0.017	mg/Kg	☼	06/17/16 15:01	06/28/16 23:58	1
Benzo[k]fluoranthene	0.14	U	0.35	0.043	mg/Kg	☼	06/17/16 15:01	06/28/16 23:58	1
Benzoic acid	1.1	U	1.7	0.35	mg/Kg	☼	06/17/16 15:01	06/28/16 23:58	1
Benzyl alcohol	0.035	U	0.35	0.011	mg/Kg	☼	06/17/16 15:01	06/28/16 23:58	1
Bis(2-chloroethoxy)methane	0.072	U	0.35	0.025	mg/Kg	☼	06/17/16 15:01	06/28/16 23:58	1
Bis(2-chloroethyl)ether	0.035	U	0.35	0.018	mg/Kg	☼	06/17/16 15:01	06/28/16 23:58	1
Bis(2-ethylhexyl) phthalate	0.14	U	0.35	0.049	mg/Kg	☼	06/17/16 15:01	06/28/16 23:58	1
Butyl benzyl phthalate	0.14	U	0.35	0.046	mg/Kg	☼	06/17/16 15:01	06/28/16 23:58	1
Carbazole	0.14	U	0.35	0.039	mg/Kg	☼	06/17/16 15:01	06/28/16 23:58	1
Chrysene	0.072	U	0.35	0.029	mg/Kg	☼	06/17/16 15:01	06/28/16 23:58	1
Dibenz(a,h)anthracene	0.072	U	0.35	0.020	mg/Kg	☼	06/17/16 15:01	06/28/16 23:58	1
Dibenzofuran	0.072	U	0.35	0.021	mg/Kg	☼	06/17/16 15:01	06/28/16 23:58	1
Diethyl phthalate	0.072	U	0.71	0.028	mg/Kg	☼	06/17/16 15:01	06/28/16 23:58	1
Dimethyl phthalate	0.072	U	0.35	0.025	mg/Kg	☼	06/17/16 15:01	06/28/16 23:58	1
Di-n-butyl phthalate	0.072	U	0.35	0.031	mg/Kg	☼	06/17/16 15:01	06/28/16 23:58	1
Di-n-octyl phthalate	0.071	U	0.35	0.015	mg/Kg	☼	06/17/16 15:01	06/28/16 23:58	1
Fluoranthene	0.14	U	0.35	0.039	mg/Kg	☼	06/17/16 15:01	06/28/16 23:58	1
Fluorene	0.072	U	0.35	0.019	mg/Kg	☼	06/17/16 15:01	06/28/16 23:58	1
Hexachlorobenzene	0.072	U	0.35	0.031	mg/Kg	☼	06/17/16 15:01	06/28/16 23:58	1
Hexachlorobutadiene	0.035	U	0.35	0.011	mg/Kg	☼	06/17/16 15:01	06/28/16 23:58	1
Hexachlorocyclopentadiene	0.14	U	1.8	0.054	mg/Kg	☼	06/17/16 15:01	06/28/16 23:58	1
Hexachloroethane	0.072	U	0.35	0.023	mg/Kg	☼	06/17/16 15:01	06/28/16 23:58	1
Indeno[1,2,3-cd]pyrene	0.072	U	0.35	0.024	mg/Kg	☼	06/17/16 15:01	06/28/16 23:58	1
Isophorone	0.072	U	0.35	0.018	mg/Kg	☼	06/17/16 15:01	06/28/16 23:58	1
Naphthalene	0.072	U	0.35	0.033	mg/Kg	☼	06/17/16 15:01	06/28/16 23:58	1
Nitrobenzene	0.072	U	0.35	0.024	mg/Kg	☼	06/17/16 15:01	06/28/16 23:58	1
N-Nitrosodimethylamine	0.14	U	0.56	0.040	mg/Kg	☼	06/17/16 15:01	06/28/16 23:58	1
N-Nitrosodi-n-propylamine	0.072	U	0.35	0.033	mg/Kg	☼	06/17/16 15:01	06/28/16 23:58	1
N-Nitrosodiphenylamine	0.072	U	0.35	0.022	mg/Kg	☼	06/17/16 15:01	06/28/16 23:58	1
N-Nitrosopyrrolidine	0.18	U	0.35	0.069	mg/Kg	☼	06/17/16 15:01	06/28/16 23:58	1
Pentachlorophenol	1.1	U	1.7	0.35	mg/Kg	☼	06/17/16 15:01	06/28/16 23:58	1
Phenanthrene	0.072	U	0.35	0.018	mg/Kg	☼	06/17/16 15:01	06/28/16 23:58	1
Phenol	0.072	U	0.35	0.019	mg/Kg	☼	06/17/16 15:01	06/28/16 23:58	1
Pyrene	**0.015**	**J**	0.43	0.013	mg/Kg	☼	06/17/16 15:01	06/28/16 23:58	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*70*		*39 - 132*	*06/17/16 15:01*	*06/28/16 23:58*	*1*
2-Fluorobiphenyl	*66*		*44 - 115*	*06/17/16 15:01*	*06/28/16 23:58*	*1*
2-Fluorophenol (Surr)	*70*		*35 - 115*	*06/17/16 15:01*	*06/28/16 23:58*	*1*

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

Client Sample ID: SC-TU009-MW002-S0507-D — **Lab Sample ID: 280-84353-5**
Date Collected: 06/06/16 16:40 — **Matrix: Solid**
Date Received: 06/10/16 09:25 — **Percent Solids: 87.3**

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Nitrobenzene-d5 (Surr)	*64*		*37 - 122*	*06/17/16 15:01*	*06/28/16 23:58*	*1*
Phenol-d5 (Surr)	*69*		*33 - 122*	*06/17/16 15:01*	*06/28/16 23:58*	*1*
Terphenyl-d14 (Surr)	*76*		*54 - 127*	*06/17/16 15:01*	*06/28/16 23:58*	*1*

Client Sample ID: SC-TU009-MW003-S0507 — **Lab Sample ID: 280-84353-6**
Date Collected: 06/06/16 17:10 — **Matrix: Solid**
Date Received: 06/10/16 09:25 — **Percent Solids: 87.0**

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4,5-Tetrachlorobenzene	0.15	U	0.37	0.055	mg/Kg	☼	06/17/16 15:01	06/29/16 00:24	1
1,2,4-Trichlorobenzene	0.075	U	0.37	0.031	mg/Kg	☼	06/17/16 15:01	06/29/16 00:24	1
1,2-Dichlorobenzene	0.075	U	0.37	0.025	mg/Kg	☼	06/17/16 15:01	06/29/16 00:24	1
1,2-Diphenylhydrazine	0.075	U	0.37	0.025	mg/Kg	☼	06/17/16 15:01	06/29/16 00:24	1
1,3-Dichlorobenzene	0.037	U	0.37	0.013	mg/Kg	☼	06/17/16 15:01	06/29/16 00:24	1
1,4-Dichlorobenzene	0.037	U	0.37	0.015	mg/Kg	☼	06/17/16 15:01	06/29/16 00:24	1
2,2'-oxybis[1-chloropropane]	0.075	U	0.37	0.026	mg/Kg	☼	06/17/16 15:01	06/29/16 00:24	1
2,4,5-Trichlorophenol	0.037	U	0.37	0.011	mg/Kg	☼	06/17/16 15:01	06/29/16 00:24	1
2,4,6-Trichlorophenol	0.037	U	0.37	0.011	mg/Kg	☼	06/17/16 15:01	06/29/16 00:24	1
2,4-Dichlorophenol	0.037	U	0.37	0.011	mg/Kg	☼	06/17/16 15:01	06/29/16 00:24	1
2,4-Dimethylphenol	0.15	U	0.37	0.074	mg/Kg	☼	06/17/16 15:01	06/29/16 00:24	1
2,4-Dinitrophenol	1.1	U	1.8	0.37	mg/Kg	☼	06/17/16 15:01	06/29/16 00:24	1
2,4-Dinitrotoluene	0.15	U	0.37	0.074	mg/Kg	☼	06/17/16 15:01	06/29/16 00:24	1
2,6-Dichlorophenol	0.19	U	0.37	0.077	mg/Kg	☼	06/17/16 15:01	06/29/16 00:24	1
2,6-Dinitrotoluene	0.075	U	0.37	0.031	mg/Kg	☼	06/17/16 15:01	06/29/16 00:24	1
2-Chloronaphthalene	0.037	U	0.37	0.011	mg/Kg	☼	06/17/16 15:01	06/29/16 00:24	1
2-Chlorophenol	0.075	U	0.37	0.024	mg/Kg	☼	06/17/16 15:01	06/29/16 00:24	1
2-Methylnaphthalene	0.075	U	0.37	0.021	mg/Kg	☼	06/17/16 15:01	06/29/16 00:24	1
2-Methylphenol	0.037	U	0.37	0.015	mg/Kg	☼	06/17/16 15:01	06/29/16 00:24	1
3 & 4 Methylphenol	0.075	U	0.37	0.037	mg/Kg	☼	06/17/16 15:01	06/29/16 00:24	1
3,3'-Dichlorobenzidine	0.30	U	1.8	0.10	mg/Kg	☼	06/17/16 15:01	06/29/16 00:24	1
3-Nitroaniline	0.30	U	1.8	0.082	mg/Kg	☼	06/17/16 15:01	06/29/16 00:24	1
4,6-Dinitro-2-methylphenol	1.1	U	1.8	0.37	mg/Kg	☼	06/17/16 15:01	06/29/16 00:24	1
4-Chloroaniline	0.30	U	0.37	0.092	mg/Kg	☼	06/17/16 15:01	06/29/16 00:24	1
4-Chlorophenyl phenyl ether	0.075	U	0.37	0.024	mg/Kg	☼	06/17/16 15:01	06/29/16 00:24	1
4-Nitroaniline	0.30	U	1.8	0.081	mg/Kg	☼	06/17/16 15:01	06/29/16 00:24	1
4-Nitrophenol	0.30	U	1.8	0.11	mg/Kg	☼	06/17/16 15:01	06/29/16 00:24	1
Acenaphthene	0.037	U	0.37	0.012	mg/Kg	☼	06/17/16 15:01	06/29/16 00:24	1
Acenaphthylene	0.075	U	0.37	0.019	mg/Kg	☼	06/17/16 15:01	06/29/16 00:24	1
Anthracene	0.075	U	0.37	0.019	mg/Kg	☼	06/17/16 15:01	06/29/16 00:24	1
Benzidine	2.2	U	4.5	1.1	mg/Kg	☼	06/17/16 15:01	06/29/16 00:24	1
Benzo[a]anthracene	0.075	U	0.37	0.022	mg/Kg	☼	06/17/16 15:01	06/29/16 00:24	1
Benzo[a]pyrene	0.075	U	0.37	0.022	mg/Kg	☼	06/17/16 15:01	06/29/16 00:24	1
Benzo[b]fluoranthene	0.075	U	0.37	0.029	mg/Kg	☼	06/17/16 15:01	06/29/16 00:24	1
Benzo[g,h,i]perylene	0.037	U	0.37	0.018	mg/Kg	☼	06/17/16 15:01	06/29/16 00:24	1
Benzo[k]fluoranthene	0.15	U	0.37	0.045	mg/Kg	☼	06/17/16 15:01	06/29/16 00:24	1
Benzoic acid	1.1	U	1.8	0.37	mg/Kg	☼	06/17/16 15:01	06/29/16 00:24	1
Benzyl alcohol	0.037	U	0.37	0.011	mg/Kg	☼	06/17/16 15:01	06/29/16 00:24	1
Bis(2-chloroethoxy)methane	0.075	U	0.37	0.026	mg/Kg	☼	06/17/16 15:01	06/29/16 00:24	1
Bis(2-chloroethyl)ether	0.037	U	0.37	0.019	mg/Kg	☼	06/17/16 15:01	06/29/16 00:24	1
Bis(2-ethylhexyl) phthalate	0.15	U	0.37	0.052	mg/Kg	☼	06/17/16 15:01	06/29/16 00:24	1

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

Client Sample ID: SC-TU009-MW003-S0507 — **Lab Sample ID: 280-84353-6**
Date Collected: 06/06/16 17:10 — **Matrix: Solid**
Date Received: 06/10/16 09:25 — **Percent Solids: 87.0**

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Butyl benzyl phthalate	0.15	U	0.37	0.048	mg/Kg	☼	06/17/16 15:01	06/29/16 00:24	1
Carbazole	0.15	U	0.37	0.040	mg/Kg	☼	06/17/16 15:01	06/29/16 00:24	1
Chrysene	0.075	U	0.37	0.030	mg/Kg	☼	06/17/16 15:01	06/29/16 00:24	1
Dibenz(a,h)anthracene	0.075	U	0.37	0.021	mg/Kg	☼	06/17/16 15:01	06/29/16 00:24	1
Dibenzofuran	0.075	U	0.37	0.022	mg/Kg	☼	06/17/16 15:01	06/29/16 00:24	1
Diethyl phthalate	0.075	U	0.74	0.029	mg/Kg	☼	06/17/16 15:01	06/29/16 00:24	1
Dimethyl phthalate	0.075	U	0.37	0.026	mg/Kg	☼	06/17/16 15:01	06/29/16 00:24	1
Di-n-butyl phthalate	0.075	U	0.37	0.033	mg/Kg	☼	06/17/16 15:01	06/29/16 00:24	1
Di-n-octyl phthalate	0.074	U	0.37	0.016	mg/Kg	☼	06/17/16 15:01	06/29/16 00:24	1
Fluoranthene	0.15	U	0.37	0.040	mg/Kg	☼	06/17/16 15:01	06/29/16 00:24	1
Fluorene	0.075	U	0.37	0.020	mg/Kg	☼	06/17/16 15:01	06/29/16 00:24	1
Hexachlorobenzene	0.075	U	0.37	0.033	mg/Kg	☼	06/17/16 15:01	06/29/16 00:24	1
Hexachlorobutadiene	0.037	U	0.37	0.011	mg/Kg	☼	06/17/16 15:01	06/29/16 00:24	1
Hexachlorocyclopentadiene	0.15	U	1.9	0.056	mg/Kg	☼	06/17/16 15:01	06/29/16 00:24	1
Hexachloroethane	0.075	U	0.37	0.024	mg/Kg	☼	06/17/16 15:01	06/29/16 00:24	1
Indeno[1,2,3-cd]pyrene	0.075	U	0.37	0.025	mg/Kg	☼	06/17/16 15:01	06/29/16 00:24	1
Isophorone	0.075	U	0.37	0.019	mg/Kg	☼	06/17/16 15:01	06/29/16 00:24	1
Naphthalene	0.075	U	0.37	0.035	mg/Kg	☼	06/17/16 15:01	06/29/16 00:24	1
Nitrobenzene	0.075	U	0.37	0.025	mg/Kg	☼	06/17/16 15:01	06/29/16 00:24	1
N-Nitrosodimethylamine	0.15	U	0.58	0.042	mg/Kg	☼	06/17/16 15:01	06/29/16 00:24	1
N-Nitrosodi-n-propylamine	0.075	U	0.37	0.035	mg/Kg	☼	06/17/16 15:01	06/29/16 00:24	1
N-Nitrosodiphenylamine	0.075	U	0.37	0.024	mg/Kg	☼	06/17/16 15:01	06/29/16 00:24	1
N-Nitrosopyrrolidine	0.19	U	0.37	0.072	mg/Kg	☼	06/17/16 15:01	06/29/16 00:24	1
Pentachlorophenol	1.1	U	1.8	0.37	mg/Kg	☼	06/17/16 15:01	06/29/16 00:24	1
Phenanthrene	0.075	U	0.37	0.019	mg/Kg	☼	06/17/16 15:01	06/29/16 00:24	1
Phenol	0.075	U	0.37	0.020	mg/Kg	☼	06/17/16 15:01	06/29/16 00:24	1
Pyrene	**0.014**	**J**	0.45	0.014	mg/Kg	☼	06/17/16 15:01	06/29/16 00:24	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*64*		*39 - 132*	*06/17/16 15:01*	*06/29/16 00:24*	*1*
2-Fluorobiphenyl	*68*		*44 - 115*	*06/17/16 15:01*	*06/29/16 00:24*	*1*
2-Fluorophenol (Surr)	*70*		*35 - 115*	*06/17/16 15:01*	*06/29/16 00:24*	*1*
Nitrobenzene-d5 (Surr)	*64*		*37 - 122*	*06/17/16 15:01*	*06/29/16 00:24*	*1*
Phenol-d5 (Surr)	*72*		*33 - 122*	*06/17/16 15:01*	*06/29/16 00:24*	*1*
Terphenyl-d14 (Surr)	*76*		*54 - 127*	*06/17/16 15:01*	*06/29/16 00:24*	*1*

Client Sample ID: SC-TU009-MW003-S0305 — **Lab Sample ID: 280-84353-7**
Date Collected: 06/06/16 17:00 — **Matrix: Solid**
Date Received: 06/10/16 09:25 — **Percent Solids: 91.8**

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4,5-Tetrachlorobenzene	0.14	U	0.36	0.053	mg/Kg	☼	06/17/16 15:01	06/29/16 00:51	1
1,2,4-Trichlorobenzene	0.072	U	0.36	0.030	mg/Kg	☼	06/17/16 15:01	06/29/16 00:51	1
1,2-Dichlorobenzene	0.072	U	0.36	0.024	mg/Kg	☼	06/17/16 15:01	06/29/16 00:51	1
1,2-Diphenylhydrazine	0.072	U	0.36	0.024	mg/Kg	☼	06/17/16 15:01	06/29/16 00:51	1
1,3-Dichlorobenzene	0.036	U	0.36	0.013	mg/Kg	☼	06/17/16 15:01	06/29/16 00:51	1
1,4-Dichlorobenzene	0.036	U	0.36	0.015	mg/Kg	☼	06/17/16 15:01	06/29/16 00:51	1
2,2'-oxybis[1-chloropropane]	0.072	U	0.36	0.025	mg/Kg	☼	06/17/16 15:01	06/29/16 00:51	1
2,4,5-Trichlorophenol	0.036	U	0.36	0.011	mg/Kg	☼	06/17/16 15:01	06/29/16 00:51	1
2,4,6-Trichlorophenol	0.036	U	0.36	0.011	mg/Kg	☼	06/17/16 15:01	06/29/16 00:51	1
2,4-Dichlorophenol	0.036	U	0.36	0.011	mg/Kg	☼	06/17/16 15:01	06/29/16 00:51	1

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

Client Sample ID: SC-TU009-MW003-S0305
Date Collected: 06/06/16 17:00
Date Received: 06/10/16 09:25

Lab Sample ID: 280-84353-7
Matrix: Solid
Percent Solids: 91.8

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
2,4-Dimethylphenol	0.14	U	0.36	0.071	mg/Kg	☼	06/17/16 15:01	06/29/16 00:51	1
2,4-Dinitrophenol	1.1	U	1.7	0.36	mg/Kg	☼	06/17/16 15:01	06/29/16 00:51	1
2,4-Dinitrotoluene	0.14	U	0.36	0.071	mg/Kg	☼	06/17/16 15:01	06/29/16 00:51	1
2,6-Dichlorophenol	0.18	U	0.36	0.074	mg/Kg	☼	06/17/16 15:01	06/29/16 00:51	1
2,6-Dinitrotoluene	0.072	U	0.36	0.030	mg/Kg	☼	06/17/16 15:01	06/29/16 00:51	1
2-Chloronaphthalene	0.036	U	0.36	0.011	mg/Kg	☼	06/17/16 15:01	06/29/16 00:51	1
2-Chlorophenol	0.072	U	0.36	0.023	mg/Kg	☼	06/17/16 15:01	06/29/16 00:51	1
2-Methylnaphthalene	0.072	U	0.36	0.021	mg/Kg	☼	06/17/16 15:01	06/29/16 00:51	1
2-Methylphenol	0.036	U	0.36	0.014	mg/Kg	☼	06/17/16 15:01	06/29/16 00:51	1
3 & 4 Methylphenol	0.072	U	0.36	0.036	mg/Kg	☼	06/17/16 15:01	06/29/16 00:51	1
3,3'-Dichlorobenzidine	0.29	U	1.7	0.097	mg/Kg	☼	06/17/16 15:01	06/29/16 00:51	1
3-Nitroaniline	0.29	U	1.7	0.079	mg/Kg	☼	06/17/16 15:01	06/29/16 00:51	1
4,6-Dinitro-2-methylphenol	1.1	U	1.7	0.36	mg/Kg	☼	06/17/16 15:01	06/29/16 00:51	1
4-Chloroaniline	0.29	U	0.36	0.088	mg/Kg	☼	06/17/16 15:01	06/29/16 00:51	1
4-Chlorophenyl phenyl ether	0.072	U	0.36	0.023	mg/Kg	☼	06/17/16 15:01	06/29/16 00:51	1
4-Nitroaniline	0.29	U	1.7	0.078	mg/Kg	☼	06/17/16 15:01	06/29/16 00:51	1
4-Nitrophenol	0.29	U	1.7	0.10	mg/Kg	☼	06/17/16 15:01	06/29/16 00:51	1
Acenaphthene	0.036	U	0.36	0.011	mg/Kg	☼	06/17/16 15:01	06/29/16 00:51	1
Acenaphthylene	0.072	U	0.36	0.018	mg/Kg	☼	06/17/16 15:01	06/29/16 00:51	1
Anthracene	0.072	U	0.36	0.018	mg/Kg	☼	06/17/16 15:01	06/29/16 00:51	1
Benzidine	2.2	U	4.3	1.1	mg/Kg	☼	06/17/16 15:01	06/29/16 00:51	1
Benzo[a]anthracene	0.072	U	0.36	0.022	mg/Kg	☼	06/17/16 15:01	06/29/16 00:51	1
Benzo[a]pyrene	0.072	U	0.36	0.022	mg/Kg	☼	06/17/16 15:01	06/29/16 00:51	1
Benzo[b]fluoranthene	0.072	U	0.36	0.028	mg/Kg	☼	06/17/16 15:01	06/29/16 00:51	1
Benzo[g,h,i]perylene	0.036	U	0.36	0.017	mg/Kg	☼	06/17/16 15:01	06/29/16 00:51	1
Benzo[k]fluoranthene	0.14	U	0.36	0.043	mg/Kg	☼	06/17/16 15:01	06/29/16 00:51	1
Benzoic acid	1.1	U	1.7	0.36	mg/Kg	☼	06/17/16 15:01	06/29/16 00:51	1
Benzyl alcohol	0.036	U	0.36	0.011	mg/Kg	☼	06/17/16 15:01	06/29/16 00:51	1
Bis(2-chloroethoxy)methane	0.072	U	0.36	0.025	mg/Kg	☼	06/17/16 15:01	06/29/16 00:51	1
Bis(2-chloroethyl)ether	0.036	U	0.36	0.018	mg/Kg	☼	06/17/16 15:01	06/29/16 00:51	1
Bis(2-ethylhexyl) phthalate	0.14	U	0.36	0.050	mg/Kg	☼	06/17/16 15:01	06/29/16 00:51	1
Butyl benzyl phthalate	0.14	U	0.36	0.046	mg/Kg	☼	06/17/16 15:01	06/29/16 00:51	1
Carbazole	0.14	U	0.36	0.039	mg/Kg	☼	06/17/16 15:01	06/29/16 00:51	1
Chrysene	0.072	U	0.36	0.029	mg/Kg	☼	06/17/16 15:01	06/29/16 00:51	1
Dibenz(a,h)anthracene	0.072	U	0.36	0.021	mg/Kg	☼	06/17/16 15:01	06/29/16 00:51	1
Dibenzofuran	0.072	U	0.36	0.022	mg/Kg	☼	06/17/16 15:01	06/29/16 00:51	1
Diethyl phthalate	0.072	U	0.71	0.028	mg/Kg	☼	06/17/16 15:01	06/29/16 00:51	1
Dimethyl phthalate	0.072	U	0.36	0.025	mg/Kg	☼	06/17/16 15:01	06/29/16 00:51	1
Di-n-butyl phthalate	0.072	U	0.36	0.031	mg/Kg	☼	06/17/16 15:01	06/29/16 00:51	1
Di-n-octyl phthalate	0.071	U	0.36	0.016	mg/Kg	☼	06/17/16 15:01	06/29/16 00:51	1
Fluoranthene	0.14	U	0.36	0.039	mg/Kg	☼	06/17/16 15:01	06/29/16 00:51	1
Fluorene	0.072	U	0.36	0.019	mg/Kg	☼	06/17/16 15:01	06/29/16 00:51	1
Hexachlorobenzene	0.072	U	0.36	0.031	mg/Kg	☼	06/17/16 15:01	06/29/16 00:51	1
Hexachlorobutadiene	0.036	U	0.36	0.011	mg/Kg	☼	06/17/16 15:01	06/29/16 00:51	1
Hexachlorocyclopentadiene	0.14	U	1.8	0.054	mg/Kg	☼	06/17/16 15:01	06/29/16 00:51	1
Hexachloroethane	0.072	U	0.36	0.023	mg/Kg	☼	06/17/16 15:01	06/29/16 00:51	1
Indeno[1,2,3-cd]pyrene	0.072	U	0.36	0.024	mg/Kg	☼	06/17/16 15:01	06/29/16 00:51	1
Isophorone	0.072	U	0.36	0.018	mg/Kg	☼	06/17/16 15:01	06/29/16 00:51	1
Naphthalene	0.072	U	0.36	0.033	mg/Kg	☼	06/17/16 15:01	06/29/16 00:51	1

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

Client Sample ID: SC-TU009-MW003-S0305 — **Lab Sample ID: 280-84353-7**
Date Collected: 06/06/16 17:00 — **Matrix: Solid**
Date Received: 06/10/16 09:25 — **Percent Solids: 91.8**

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrobenzene	0.072	U	0.36	0.024	mg/Kg	☼	06/17/16 15:01	06/29/16 00:51	1
N-Nitrosodimethylamine	0.14	U	0.56	0.040	mg/Kg	☼	06/17/16 15:01	06/29/16 00:51	1
N-Nitrosodi-n-propylamine	0.072	U	0.36	0.033	mg/Kg	☼	06/17/16 15:01	06/29/16 00:51	1
N-Nitrosodiphenylamine	0.072	U	0.36	0.023	mg/Kg	☼	06/17/16 15:01	06/29/16 00:51	1
N-Nitrosopyrrolidine	0.18	U	0.36	0.069	mg/Kg	☼	06/17/16 15:01	06/29/16 00:51	1
Pentachlorophenol	1.1	U	1.7	0.36	mg/Kg	☼	06/17/16 15:01	06/29/16 00:51	1
Phenanthrene	0.072	U	0.36	0.018	mg/Kg	☼	06/17/16 15:01	06/29/16 00:51	1
Phenol	0.072	U	0.36	0.019	mg/Kg	☼	06/17/16 15:01	06/29/16 00:51	1
Pyrene	**0.015**	**J**	0.43	0.013	mg/Kg	☼	06/17/16 15:01	06/29/16 00:51	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*65*		*39 - 132*	*06/17/16 15:01*	*06/29/16 00:51*	*1*
2-Fluorobiphenyl	*69*		*44 - 115*	*06/17/16 15:01*	*06/29/16 00:51*	*1*
2-Fluorophenol (Surr)	*70*		*35 - 115*	*06/17/16 15:01*	*06/29/16 00:51*	*1*
Nitrobenzene-d5 (Surr)	*65*		*37 - 122*	*06/17/16 15:01*	*06/29/16 00:51*	*1*
Phenol-d5 (Surr)	*72*		*33 - 122*	*06/17/16 15:01*	*06/29/16 00:51*	*1*
Terphenyl-d14 (Surr)	*78*		*54 - 127*	*06/17/16 15:01*	*06/29/16 00:51*	*1*

Client Sample ID: SC-TU009-EB060616 — **Lab Sample ID: 280-84353-8**
Date Collected: 06/06/16 15:00 — **Matrix: Water**
Date Received: 06/10/16 09:25

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4,5-Tetrachlorobenzene	4.2	U	9.6	1.7	ug/L		06/11/16 15:20	06/27/16 16:42	1
1,2,4-Trichlorobenzene	0.96	U	9.6	0.27	ug/L		06/11/16 15:20	06/27/16 16:42	1
1,2-Dichlorobenzene	0.48	U	9.6	0.22	ug/L		06/11/16 15:20	06/27/16 16:42	1
1,2-Diphenylhydrazine	0.49	U	9.6	0.22	ug/L		06/11/16 15:20	06/27/16 16:42	1
1,3-Dichlorobenzene	0.96	U	9.6	0.29	ug/L		06/11/16 15:20	06/27/16 16:42	1
1,4-Dichlorobenzene	0.96	U	9.6	0.31	ug/L		06/11/16 15:20	06/27/16 16:42	1
2,2'-oxybis[1-chloropropane]	0.96	U	9.6	0.27	ug/L		06/11/16 15:20	06/27/16 16:42	1
2,4,5-Trichlorophenol	0.96	U	19	0.43	ug/L		06/11/16 15:20	06/27/16 16:42	1
2,4,6-Trichlorophenol	0.96	U	19	0.28	ug/L		06/11/16 15:20	06/27/16 16:42	1
2,4-Dichlorophenol	1.9	U	9.6	0.61	ug/L		06/11/16 15:20	06/27/16 16:42	1
2,4-Dimethylphenol	1.9	U	9.6	0.56	ug/L		06/11/16 15:20	06/27/16 16:42	1
2,4-Dinitrophenol	29	U	77	9.6	ug/L		06/11/16 15:20	06/27/16 16:42	1
2,4-Dinitrotoluene	4.2	U	19	1.6	ug/L		06/11/16 15:20	06/27/16 16:42	1
2,6-Dichlorophenol	3.8	U	9.6	1.3	ug/L		06/11/16 15:20	06/27/16 16:42	1
2,6-Dinitrotoluene	4.2	U	19	1.8	ug/L		06/11/16 15:20	06/27/16 16:42	1
2-Chloronaphthalene	0.96	U	9.6	0.25	ug/L		06/11/16 15:20	06/27/16 16:42	1
2-Chlorophenol	4.2	U	9.6	1.9	ug/L		06/11/16 15:20	06/27/16 16:42	1
2-Methylnaphthalene	0.96	U	9.6	0.28	ug/L		06/11/16 15:20	06/27/16 16:42	1
2-Methylphenol	1.9	U	9.6	0.94	ug/L		06/11/16 15:20	06/27/16 16:42	1
3 & 4 Methylphenol	0.48	U	19	0.24	ug/L		06/11/16 15:20	06/27/16 16:42	1
3,3'-Dichlorobenzidine	4.2	U	48	1.9	ug/L		06/11/16 15:20	06/27/16 16:42	1
3-Nitroaniline	4.2	U	48	1.9	ug/L		06/11/16 15:20	06/27/16 16:42	1
4,6-Dinitro-2-methylphenol	8.5	U	77	3.8	ug/L		06/11/16 15:20	06/27/16 16:42	1
4-Chloroaniline	4.2	U	24	2.1	ug/L		06/11/16 15:20	06/27/16 16:42	1
4-Chlorophenyl phenyl ether	4.2	U	9.6	1.6	ug/L		06/11/16 15:20	06/27/16 16:42	1
4-Nitroaniline	4.2	U	48	1.9	ug/L		06/11/16 15:20	06/27/16 16:42	1
4-Nitrophenol	3.8	U	48	1.2	ug/L		06/11/16 15:20	06/27/16 16:42	1
Acenaphthene	0.96	U	9.6	0.27	ug/L		06/11/16 15:20	06/27/16 16:42	1

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

Client Sample ID: SC-TU009-EB060616
Date Collected: 06/06/16 15:00
Date Received: 06/10/16 09:25

Lab Sample ID: 280-84353-8
Matrix: Water

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthylene	0.96	U	9.6	0.47	ug/L		06/11/16 15:20	06/27/16 16:42	1
Anthracene	0.96	U	9.6	0.40	ug/L		06/11/16 15:20	06/27/16 16:42	1
Benzidine	96	U	190	48	ug/L		06/11/16 15:20	06/27/16 16:42	1
Benzo[a]anthracene	0.96	U	9.6	0.34	ug/L		06/11/16 15:20	06/27/16 16:42	1
Benzo[a]pyrene	0.96	U	9.6	0.30	ug/L		06/11/16 15:20	06/27/16 16:42	1
Benzo[b]fluoranthene	1.9	U	9.6	0.51	ug/L		06/11/16 15:20	06/27/16 16:42	1
Benzo[g,h,i]perylene	0.96	U	9.6	0.48	ug/L		06/11/16 15:20	06/27/16 16:42	1
Benzo[k]fluoranthene	0.96	U	9.6	0.44	ug/L		06/11/16 15:20	06/27/16 16:42	1
Benzoic acid	29	U	77	9.6	ug/L		06/11/16 15:20	06/27/16 16:42	1
Benzyl alcohol	**2.2**	**J**	24	0.22	ug/L		06/11/16 15:20	06/27/16 16:42	1
Bis(2-chloroethoxy)methane	1.9	U	9.6	0.93	ug/L		06/11/16 15:20	06/27/16 16:42	1
Bis(2-chloroethyl)ether	0.96	U	19	0.39	ug/L		06/11/16 15:20	06/27/16 16:42	1
Bis(2-ethylhexyl) phthalate	**2.6**	**J**	9.6	0.54	ug/L		06/11/16 15:20	06/27/16 16:42	1
Butyl benzyl phthalate	1.9	U	19	0.96	ug/L		06/11/16 15:20	06/27/16 16:42	1
Carbazole	0.96	U	9.6	0.41	ug/L		06/11/16 15:20	06/27/16 16:42	1
Chrysene	1.9	U	9.6	0.52	ug/L		06/11/16 15:20	06/27/16 16:42	1
Dibenz(a,h)anthracene	1.9	U	9.6	0.49	ug/L		06/11/16 15:20	06/27/16 16:42	1
Dibenzofuran	0.96	U	9.6	0.28	ug/L		06/11/16 15:20	06/27/16 16:42	1
Diethyl phthalate	0.96	U	19	0.36	ug/L		06/11/16 15:20	06/27/16 16:42	1
Dimethyl phthalate	0.48	U	19	0.20	ug/L		06/11/16 15:20	06/27/16 16:42	1
Di-n-butyl phthalate	4.2	U	19	1.1	ug/L		06/11/16 15:20	06/27/16 16:42	1
Di-n-octyl phthalate	0.96	U	19	0.34	ug/L		06/11/16 15:20	06/27/16 16:42	1
Fluoranthene	0.48	U	19	0.19	ug/L		06/11/16 15:20	06/27/16 16:42	1
Fluorene	0.96	U	9.6	0.30	ug/L		06/11/16 15:20	06/27/16 16:42	1
Hexachlorobenzene	1.9	U	9.6	0.63	ug/L		06/11/16 15:20	06/27/16 16:42	1
Hexachlorobutadiene	9.6	U	29	3.2	ug/L		06/11/16 15:20	06/27/16 16:42	1
Hexachlorocyclopentadiene	29	U	48	9.6	ug/L		06/11/16 15:20	06/27/16 16:42	1
Hexachloroethane	4.2	U	9.6	2.0	ug/L		06/11/16 15:20	06/27/16 16:42	1
Indeno[1,2,3-cd]pyrene	1.9	U	9.6	0.62	ug/L		06/11/16 15:20	06/27/16 16:42	1
Isophorone	0.48	U	9.6	0.20	ug/L		06/11/16 15:20	06/27/16 16:42	1
Naphthalene	0.96	U	9.6	0.28	ug/L		06/11/16 15:20	06/27/16 16:42	1
Nitrobenzene	1.9	U	19	0.78	ug/L		06/11/16 15:20	06/27/16 16:42	1
N-Nitrosodimethylamine	0.96	U	9.6	0.28	ug/L		06/11/16 15:20	06/27/16 16:42	1
N-Nitrosodi-n-propylamine	0.96	U	19	0.34	ug/L		06/11/16 15:20	06/27/16 16:42	1
N-Nitrosodiphenylamine	0.96	U	9.6	0.42	ug/L		06/11/16 15:20	06/27/16 16:42	1
N-Nitrosopyrrolidine	1.9	U	9.6	0.77	ug/L		06/11/16 15:20	06/27/16 16:42	1
Pentachlorophenol	58	U	77	19	ug/L		06/11/16 15:20	06/27/16 16:42	1
Phenanthrene	0.96	U	9.6	0.25	ug/L		06/11/16 15:20	06/27/16 16:42	1
Phenol	4.2	U	9.6	1.9	ug/L		06/11/16 15:20	06/27/16 16:42	1
Pyrene	0.96	U	9.6	0.36	ug/L		06/11/16 15:20	06/27/16 16:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*85*		*43 - 140*	*06/11/16 15:20*	*06/27/16 16:42*	*1*
2-Fluorobiphenyl	*64*		*44 - 119*	*06/11/16 15:20*	*06/27/16 16:42*	*1*
2-Fluorophenol (Surr)	*62*		*19 - 119*	*06/11/16 15:20*	*06/27/16 16:42*	*1*
Nitrobenzene-d5 (Surr)	*60*		*44 - 120*	*06/11/16 15:20*	*06/27/16 16:42*	*1*
Phenol-d5 (Surr)	*63*		*10 - 115*	*06/11/16 15:20*	*06/27/16 16:42*	*1*
Terphenyl-d14 (Surr)	*96*		*50 - 134*	*06/11/16 15:20*	*06/27/16 16:42*	*1*

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

Client Sample ID: SC-TU009-MW003-G-1
Date Collected: 06/08/16 12:45
Date Received: 06/10/16 09:25

Lab Sample ID: 280-84353-9
Matrix: Water

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4,5-Tetrachlorobenzene	4.4	U	10	1.7	ug/L		06/11/16 15:20	06/27/16 17:10	1
1,2,4-Trichlorobenzene	1.0	U	10	0.28	ug/L		06/11/16 15:20	06/27/16 17:10	1
1,2-Dichlorobenzene	0.50	U	10	0.23	ug/L		06/11/16 15:20	06/27/16 17:10	1
1,2-Diphenylhydrazine	0.51	U	10	0.23	ug/L		06/11/16 15:20	06/27/16 17:10	1
1,3-Dichlorobenzene	1.0	U	10	0.30	ug/L		06/11/16 15:20	06/27/16 17:10	1
1,4-Dichlorobenzene	1.0	U	10	0.32	ug/L		06/11/16 15:20	06/27/16 17:10	1
2,2'-oxybis[1-chloropropane]	1.0	U	10	0.28	ug/L		06/11/16 15:20	06/27/16 17:10	1
2,4,5-Trichlorophenol	1.0	U	20	0.45	ug/L		06/11/16 15:20	06/27/16 17:10	1
2,4,6-Trichlorophenol	1.0	U	20	0.29	ug/L		06/11/16 15:20	06/27/16 17:10	1
2,4-Dichlorophenol	2.0	U	10	0.65	ug/L		06/11/16 15:20	06/27/16 17:10	1
2,4-Dimethylphenol	2.0	U	10	0.58	ug/L		06/11/16 15:20	06/27/16 17:10	1
2,4-Dinitrophenol	30	U	81	10	ug/L		06/11/16 15:20	06/27/16 17:10	1
2,4-Dinitrotoluene	4.4	U	20	1.7	ug/L		06/11/16 15:20	06/27/16 17:10	1
2,6-Dichlorophenol	4.0	U	10	1.4	ug/L		06/11/16 15:20	06/27/16 17:10	1
2,6-Dinitrotoluene	4.4	U	20	1.9	ug/L		06/11/16 15:20	06/27/16 17:10	1
2-Chloronaphthalene	1.0	U	10	0.26	ug/L		06/11/16 15:20	06/27/16 17:10	1
2-Chlorophenol	4.4	U	10	2.0	ug/L		06/11/16 15:20	06/27/16 17:10	1
2-Methylnaphthalene	1.0	U	10	0.29	ug/L		06/11/16 15:20	06/27/16 17:10	1
2-Methylphenol	2.0	U	10	0.99	ug/L		06/11/16 15:20	06/27/16 17:10	1
3 & 4 Methylphenol	0.50	U	20	0.25	ug/L		06/11/16 15:20	06/27/16 17:10	1
3,3'-Dichlorobenzidine	4.4	U	50	2.0	ug/L		06/11/16 15:20	06/27/16 17:10	1
3-Nitroaniline	4.4	U	50	2.0	ug/L		06/11/16 15:20	06/27/16 17:10	1
4,6-Dinitro-2-methylphenol	8.9	U	81	4.0	ug/L		06/11/16 15:20	06/27/16 17:10	1
4-Chloroaniline	4.4	U	25	2.2	ug/L		06/11/16 15:20	06/27/16 17:10	1
4-Chlorophenyl phenyl ether	4.4	U	10	1.7	ug/L		06/11/16 15:20	06/27/16 17:10	1
4-Nitroaniline	4.4	U	50	2.0	ug/L		06/11/16 15:20	06/27/16 17:10	1
4-Nitrophenol	4.0	U	50	1.2	ug/L		06/11/16 15:20	06/27/16 17:10	1
Acenaphthene	1.0	U	10	0.28	ug/L		06/11/16 15:20	06/27/16 17:10	1
Acenaphthylene	1.0	U	10	0.49	ug/L		06/11/16 15:20	06/27/16 17:10	1
Anthracene	1.0	U	10	0.42	ug/L		06/11/16 15:20	06/27/16 17:10	1
Benzidine	100	U	200	50	ug/L		06/11/16 15:20	06/27/16 17:10	1
Benzo[a]anthracene	1.0	U	10	0.35	ug/L		06/11/16 15:20	06/27/16 17:10	1
Benzo[a]pyrene	1.0	U	10	0.31	ug/L		06/11/16 15:20	06/27/16 17:10	1
Benzo[b]fluoranthene	2.0	U	10	0.54	ug/L		06/11/16 15:20	06/27/16 17:10	1
Benzo[g,h,i]perylene	1.0	U	10	0.50	ug/L		06/11/16 15:20	06/27/16 17:10	1
Benzo[k]fluoranthene	1.0	U	10	0.46	ug/L		06/11/16 15:20	06/27/16 17:10	1
Benzoic acid	**13**	**J**	81	10	ug/L		06/11/16 15:20	06/27/16 17:10	1
Benzyl alcohol	**0.42**	**J**	25	0.23	ug/L		06/11/16 15:20	06/27/16 17:10	1
Bis(2-chloroethoxy)methane	2.0	U	10	0.98	ug/L		06/11/16 15:20	06/27/16 17:10	1
Bis(2-chloroethyl)ether	1.0	U	20	0.41	ug/L		06/11/16 15:20	06/27/16 17:10	1
Bis(2-ethylhexyl) phthalate	2.0	U	10	0.56	ug/L		06/11/16 15:20	06/27/16 17:10	1
Butyl benzyl phthalate	2.0	U	20	1.0	ug/L		06/11/16 15:20	06/27/16 17:10	1
Carbazole	1.0	U	10	0.43	ug/L		06/11/16 15:20	06/27/16 17:10	1
Chrysene	2.0	U	10	0.54	ug/L		06/11/16 15:20	06/27/16 17:10	1
Dibenz(a,h)anthracene	2.0	U	10	0.51	ug/L		06/11/16 15:20	06/27/16 17:10	1
Dibenzofuran	1.0	U	10	0.29	ug/L		06/11/16 15:20	06/27/16 17:10	1
Diethyl phthalate	1.0	U	20	0.38	ug/L		06/11/16 15:20	06/27/16 17:10	1
Dimethyl phthalate	0.50	U	20	0.21	ug/L		06/11/16 15:20	06/27/16 17:10	1
Di-n-butyl phthalate	4.4	U	20	1.2	ug/L		06/11/16 15:20	06/27/16 17:10	1

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

Client Sample ID: SC-TU009-MW003-G-1 **Lab Sample ID: 280-84353-9**
Date Collected: 06/08/16 12:45 **Matrix: Water**
Date Received: 06/10/16 09:25

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Di-n-octyl phthalate	1.0	U	20	0.35	ug/L		06/11/16 15:20	06/27/16 17:10	1
Fluoranthene	0.50	U	20	0.20	ug/L		06/11/16 15:20	06/27/16 17:10	1
Fluorene	1.0	U	10	0.31	ug/L		06/11/16 15:20	06/27/16 17:10	1
Hexachlorobenzene	2.0	U	10	0.67	ug/L		06/11/16 15:20	06/27/16 17:10	1
Hexachlorobutadiene	10	U	30	3.3	ug/L		06/11/16 15:20	06/27/16 17:10	1
Hexachlorocyclopentadiene	30	U	50	10	ug/L		06/11/16 15:20	06/27/16 17:10	1
Hexachloroethane	4.4	U	10	2.1	ug/L		06/11/16 15:20	06/27/16 17:10	1
Indeno[1,2,3-cd]pyrene	2.0	U	10	0.66	ug/L		06/11/16 15:20	06/27/16 17:10	1
Isophorone	0.50	U	10	0.21	ug/L		06/11/16 15:20	06/27/16 17:10	1
Naphthalene	1.0	U	10	0.29	ug/L		06/11/16 15:20	06/27/16 17:10	1
Nitrobenzene	2.0	U	20	0.82	ug/L		06/11/16 15:20	06/27/16 17:10	1
N-Nitrosodimethylamine	1.0	U	10	0.29	ug/L		06/11/16 15:20	06/27/16 17:10	1
N-Nitrosodi-n-propylamine	1.0	U	20	0.35	ug/L		06/11/16 15:20	06/27/16 17:10	1
N-Nitrosodiphenylamine	1.0	U	10	0.44	ug/L		06/11/16 15:20	06/27/16 17:10	1
N-Nitrosopyrrolidine	2.0	U	10	0.81	ug/L		06/11/16 15:20	06/27/16 17:10	1
Pentachlorophenol	60	U	81	20	ug/L		06/11/16 15:20	06/27/16 17:10	1
Phenanthrene	1.0	U	10	0.26	ug/L		06/11/16 15:20	06/27/16 17:10	1
Phenol	4.4	U	10	2.0	ug/L		06/11/16 15:20	06/27/16 17:10	1
Pyrene	1.0	U	10	0.37	ug/L		06/11/16 15:20	06/27/16 17:10	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*86*		*43 - 140*	*06/11/16 15:20*	*06/27/16 17:10*	*1*
2-Fluorobiphenyl	*60*		*44 - 119*	*06/11/16 15:20*	*06/27/16 17:10*	*1*
2-Fluorophenol (Surr)	*55*		*19 - 119*	*06/11/16 15:20*	*06/27/16 17:10*	*1*
Nitrobenzene-d5 (Surr)	*52*		*44 - 120*	*06/11/16 15:20*	*06/27/16 17:10*	*1*
Phenol-d5 (Surr)	*57*		*10 - 115*	*06/11/16 15:20*	*06/27/16 17:10*	*1*
Terphenyl-d14 (Surr)	*60*		*50 - 134*	*06/11/16 15:20*	*06/27/16 17:10*	*1*

Client Sample ID: SC-TU009-6MW24-G-1 **Lab Sample ID: 280-84353-10**
Date Collected: 06/08/16 13:00 **Matrix: Water**
Date Received: 06/10/16 09:25

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4,5-Tetrachlorobenzene	6.2	U	14	2.4	ug/L		06/11/16 15:20	06/27/16 17:38	1
1,2,4-Trichlorobenzene	1.4	U	14	0.39	ug/L		06/11/16 15:20	06/27/16 17:38	1
1,2-Dichlorobenzene	0.70	U	14	0.32	ug/L		06/11/16 15:20	06/27/16 17:38	1
1,2-Diphenylhydrazine	0.71	U	14	0.32	ug/L		06/11/16 15:20	06/27/16 17:38	1
1,3-Dichlorobenzene	1.4	U	14	0.42	ug/L		06/11/16 15:20	06/27/16 17:38	1
1,4-Dichlorobenzene	1.4	U	14	0.45	ug/L		06/11/16 15:20	06/27/16 17:38	1
2,2'-oxybis[1-chloropropane]	1.4	U	14	0.39	ug/L		06/11/16 15:20	06/27/16 17:38	1
2,4,5-Trichlorophenol	1.4	U	28	0.63	ug/L		06/11/16 15:20	06/27/16 17:38	1
2,4,6-Trichlorophenol	1.4	U	28	0.41	ug/L		06/11/16 15:20	06/27/16 17:38	1
2,4-Dichlorophenol	2.8	U	14	0.90	ug/L		06/11/16 15:20	06/27/16 17:38	1
2,4-Dimethylphenol	2.8	U	14	0.81	ug/L		06/11/16 15:20	06/27/16 17:38	1
2,4-Dinitrophenol	42	U	110	14	ug/L		06/11/16 15:20	06/27/16 17:38	1
2,4-Dinitrotoluene	6.2	U	28	2.3	ug/L		06/11/16 15:20	06/27/16 17:38	1
2,6-Dichlorophenol	5.6	U	14	1.9	ug/L		06/11/16 15:20	06/27/16 17:38	1
2,6-Dinitrotoluene	6.2	U	28	2.7	ug/L		06/11/16 15:20	06/27/16 17:38	1
2-Chloronaphthalene	1.4	U	14	0.37	ug/L		06/11/16 15:20	06/27/16 17:38	1
2-Chlorophenol	6.2	U	14	2.8	ug/L		06/11/16 15:20	06/27/16 17:38	1
2-Methylnaphthalene	1.4	U	14	0.41	ug/L		06/11/16 15:20	06/27/16 17:38	1

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

Client Sample ID: SC-TU009-6MW24-G-1
Date Collected: 06/08/16 13:00
Date Received: 06/10/16 09:25

Lab Sample ID: 280-84353-10
Matrix: Water

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
2-Methylphenol	2.8	U	14	1.4	ug/L		06/11/16 15:20	06/27/16 17:38	1
3 & 4 Methylphenol	0.70	U	28	0.35	ug/L		06/11/16 15:20	06/27/16 17:38	1
3,3'-Dichlorobenzidine	6.2	U	70	2.8	ug/L		06/11/16 15:20	06/27/16 17:38	1
3-Nitroaniline	6.2	U	70	2.8	ug/L		06/11/16 15:20	06/27/16 17:38	1
4,6-Dinitro-2-methylphenol	12	U	110	5.6	ug/L		06/11/16 15:20	06/27/16 17:38	1
4-Chloroaniline	6.2	U	35	3.0	ug/L		06/11/16 15:20	06/27/16 17:38	1
4-Chlorophenyl phenyl ether	6.2	U	14	2.3	ug/L		06/11/16 15:20	06/27/16 17:38	1
4-Nitroaniline	6.2	U	70	2.8	ug/L		06/11/16 15:20	06/27/16 17:38	1
4-Nitrophenol	5.6	U	70	1.7	ug/L		06/11/16 15:20	06/27/16 17:38	1
Acenaphthene	1.4	U Q	14	0.39	ug/L		06/11/16 15:20	06/27/16 17:38	1
Acenaphthylene	1.4	U Q	14	0.69	ug/L		06/11/16 15:20	06/27/16 17:38	1
Anthracene	1.4	U Q	14	0.59	ug/L		06/11/16 15:20	06/27/16 17:38	1
Benzidine	140	U Q	280	70	ug/L		06/11/16 15:20	06/27/16 17:38	1
Benzo[a]anthracene	1.4	U Q	14	0.49	ug/L		06/11/16 15:20	06/27/16 17:38	1
Benzo[a]pyrene	1.4	U Q	14	0.44	ug/L		06/11/16 15:20	06/27/16 17:38	1
Benzo[b]fluoranthene	2.8	U Q	14	0.75	ug/L		06/11/16 15:20	06/27/16 17:38	1
Benzo[g,h,i]perylene	1.4	U Q	14	0.70	ug/L		06/11/16 15:20	06/27/16 17:38	1
Benzo[k]fluoranthene	1.4	U Q	14	0.65	ug/L		06/11/16 15:20	06/27/16 17:38	1
Benzoic acid	42	U	110	14	ug/L		06/11/16 15:20	06/27/16 17:38	1
Benzyl alcohol	**1.9**	**J**	35	0.32	ug/L		06/11/16 15:20	06/27/16 17:38	1
Bis(2-chloroethoxy)methane	2.8	U	14	1.4	ug/L		06/11/16 15:20	06/27/16 17:38	1
Bis(2-chloroethyl)ether	1.4	U	28	0.58	ug/L		06/11/16 15:20	06/27/16 17:38	1
Bis(2-ethylhexyl) phthalate	2.8	U	14	0.79	ug/L		06/11/16 15:20	06/27/16 17:38	1
Butyl benzyl phthalate	2.8	U	28	1.4	ug/L		06/11/16 15:20	06/27/16 17:38	1
Carbazole	1.4	U	14	0.60	ug/L		06/11/16 15:20	06/27/16 17:38	1
Chrysene	2.8	U Q	14	0.76	ug/L		06/11/16 15:20	06/27/16 17:38	1
Dibenz(a,h)anthracene	2.8	U	14	0.72	ug/L		06/11/16 15:20	06/27/16 17:38	1
Dibenzofuran	1.4	U	14	0.41	ug/L		06/11/16 15:20	06/27/16 17:38	1
Diethyl phthalate	1.4	U	28	0.53	ug/L		06/11/16 15:20	06/27/16 17:38	1
Dimethyl phthalate	0.70	U	28	0.29	ug/L		06/11/16 15:20	06/27/16 17:38	1
Di-n-butyl phthalate	6.2	U	28	1.6	ug/L		06/11/16 15:20	06/27/16 17:38	1
Di-n-octyl phthalate	1.4	U	28	0.49	ug/L		06/11/16 15:20	06/27/16 17:38	1
Fluoranthene	0.70	U Q	28	0.28	ug/L		06/11/16 15:20	06/27/16 17:38	1
Fluorene	1.4	U Q	14	0.44	ug/L		06/11/16 15:20	06/27/16 17:38	1
Hexachlorobenzene	2.8	U	14	0.93	ug/L		06/11/16 15:20	06/27/16 17:38	1
Hexachlorobutadiene	14	U	42	4.6	ug/L		06/11/16 15:20	06/27/16 17:38	1
Hexachlorocyclopentadiene	42	U	70	14	ug/L		06/11/16 15:20	06/27/16 17:38	1
Hexachloroethane	6.2	U	14	2.9	ug/L		06/11/16 15:20	06/27/16 17:38	1
Indeno[1,2,3-cd]pyrene	2.8	U Q	14	0.91	ug/L		06/11/16 15:20	06/27/16 17:38	1
Isophorone	0.70	U	14	0.29	ug/L		06/11/16 15:20	06/27/16 17:38	1
Naphthalene	1.4	U Q	14	0.41	ug/L		06/11/16 15:20	06/27/16 17:38	1
Nitrobenzene	2.8	U	28	1.1	ug/L		06/11/16 15:20	06/27/16 17:38	1
N-Nitrosodimethylamine	1.4	U	14	0.41	ug/L		06/11/16 15:20	06/27/16 17:38	1
N-Nitrosodi-n-propylamine	1.4	U	28	0.49	ug/L		06/11/16 15:20	06/27/16 17:38	1
N-Nitrosodiphenylamine	1.4	U	14	0.62	ug/L		06/11/16 15:20	06/27/16 17:38	1
N-Nitrosopyrrolidine	2.8	U	14	1.1	ug/L		06/11/16 15:20	06/27/16 17:38	1
Pentachlorophenol	84	U	110	28	ug/L		06/11/16 15:20	06/27/16 17:38	1
Phenanthrene	1.4	U Q	14	0.37	ug/L		06/11/16 15:20	06/27/16 17:38	1
Phenol	6.2	U	14	2.8	ug/L		06/11/16 15:20	06/27/16 17:38	1

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

Client Sample ID: SC-TU009-6MW24-G-1 **Lab Sample ID: 280-84353-10**
Date Collected: 06/08/16 13:00 **Matrix: Water**
Date Received: 06/10/16 09:25

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Pyrene	1.4	U Q	14	0.52	ug/L		06/11/16 15:20	06/27/16 17:38	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*62*		*43 - 140*	*06/11/16 15:20*	*06/27/16 17:38*	*1*
2-Fluorobiphenyl	*62*		*44 - 119*	*06/11/16 15:20*	*06/27/16 17:38*	*1*
2-Fluorophenol (Surr)	*43*		*19 - 119*	*06/11/16 15:20*	*06/27/16 17:38*	*1*
Nitrobenzene-d5 (Surr)	*53*		*44 - 120*	*06/11/16 15:20*	*06/27/16 17:38*	*1*
Phenol-d5 (Surr)	*44*		*10 - 115*	*06/11/16 15:20*	*06/27/16 17:38*	*1*
Terphenyl-d14 (Surr)	*49*	*Q*	*50 - 134*	*06/11/16 15:20*	*06/27/16 17:38*	*1*

Client Sample ID: SC-TU009-6MW22-G-1 **Lab Sample ID: 280-84353-11**
Date Collected: 06/08/16 12:30 **Matrix: Water**
Date Received: 06/10/16 09:25

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4,5-Tetrachlorobenzene	4.4	U	9.9	1.7	ug/L		06/11/16 15:20	06/27/16 18:06	1
1,2,4-Trichlorobenzene	0.99	U	9.9	0.28	ug/L		06/11/16 15:20	06/27/16 18:06	1
1,2-Dichlorobenzene	0.50	U	9.9	0.23	ug/L		06/11/16 15:20	06/27/16 18:06	1
1,2-Diphenylhydrazine	0.50	U	9.9	0.23	ug/L		06/11/16 15:20	06/27/16 18:06	1
1,3-Dichlorobenzene	0.99	U	9.9	0.30	ug/L		06/11/16 15:20	06/27/16 18:06	1
1,4-Dichlorobenzene	0.99	U	9.9	0.32	ug/L		06/11/16 15:20	06/27/16 18:06	1
2,2'-oxybis[1-chloropropane]	0.99	U	9.9	0.28	ug/L		06/11/16 15:20	06/27/16 18:06	1
2,4,5-Trichlorophenol	0.99	U Q J	20	0.45	ug/L		06/11/16 15:20	06/27/16 18:06	1
2,4,6-Trichlorophenol	0.99	U Q J	20	0.29	ug/L		06/11/16 15:20	06/27/16 18:06	1
2,4-Dichlorophenol	2.0	U Q J	9.9	0.63	ug/L		06/11/16 15:20	06/27/16 18:06	1
2,4-Dimethylphenol	2.0	U Q J	9.9	0.58	ug/L		06/11/16 15:20	06/27/16 18:06	1
2,4-Dinitrophenol	30	U Q	79	9.9	ug/L		06/11/16 15:20	06/27/16 18:06	1
2,4-Dinitrotoluene	4.4	U	20	1.6	ug/L		06/11/16 15:20	06/27/16 18:06	1
2,6-Dichlorophenol	4.0	U J	9.9	1.3	ug/L		06/11/16 15:20	06/27/16 18:06	1
2,6-Dinitrotoluene	4.4	U	20	1.9	ug/L		06/11/16 15:20	06/27/16 18:06	1
2-Chloronaphthalene	0.99	U	9.9	0.26	ug/L		06/11/16 15:20	06/27/16 18:06	1
2-Chlorophenol	4.4	U Q J	9.9	2.0	ug/L		06/11/16 15:20	06/27/16 18:06	1
2-Methylnaphthalene	0.99	U	9.9	0.29	ug/L		06/11/16 15:20	06/27/16 18:06	1
2-Methylphenol	2.0	U Q J	9.9	0.97	ug/L		06/11/16 15:20	06/27/16 18:06	1
3 & 4 Methylphenol	0.50	U Q J	20	0.25	ug/L		06/11/16 15:20	06/27/16 18:06	1
3,3'-Dichlorobenzidine	4.4	U J	50	2.0	ug/L		06/11/16 15:20	06/27/16 18:06	1
3-Nitroaniline	4.4	U J	50	2.0	ug/L		06/11/16 15:20	06/27/16 18:06	1
4,6-Dinitro-2-methylphenol	8.7	U Q	79	4.0	ug/L		06/11/16 15:20	06/27/16 18:06	1
4-Chloroaniline	4.4	U J	25	2.1	ug/L		06/11/16 15:20	06/27/16 18:06	1
4-Chlorophenyl phenyl ether	4.4	U	9.9	1.6	ug/L		06/11/16 15:20	06/27/16 18:06	1
4-Nitroaniline	4.4	U J	50	2.0	ug/L		06/11/16 15:20	06/27/16 18:06	1
4-Nitrophenol	4.0	U Q	50	1.2	ug/L		06/11/16 15:20	06/27/16 18:06	1
Acenaphthene	0.99	U Q J	9.9	0.28	ug/L		06/11/16 15:20	06/27/16 18:06	1
Acenaphthylene	0.99	U Q J	9.9	0.49	ug/L		06/11/16 15:20	06/27/16 18:06	1
Anthracene	0.99	U Q J	9.9	0.42	ug/L		06/11/16 15:20	06/27/16 18:06	1
Benzidine	99	U Q J	200	50	ug/L		06/11/16 15:20	06/27/16 18:06	1
Benzo[a]anthracene	0.99	U Q J	9.9	0.35	ug/L		06/11/16 15:20	06/27/16 18:06	1
Benzo[a]pyrene	0.99	U Q J	9.9	0.31	ug/L		06/11/16 15:20	06/27/16 18:06	1
Benzo[b]fluoranthene	2.0	U Q J	9.9	0.53	ug/L		06/11/16 15:20	06/27/16 18:06	1
Benzo[g,h,i]perylene	0.99	U Q J	9.9	0.50	ug/L		06/11/16 15:20	06/27/16 18:06	1
Benzo[k]fluoranthene	0.99	U Q J	9.9	0.46	ug/L		06/11/16 15:20	06/27/16 18:06	1

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

Client Sample ID: SC-TU009-6MW22-G-1 **Lab Sample ID: 280-84353-11**
Date Collected: 06/08/16 12:30 **Matrix: Water**
Date Received: 06/10/16 09:25

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Benzoic acid	30	U Q	79	9.9	ug/L		06/11/16 15:20	06/27/16 18:06	1
Benzyl alcohol	**1.3**	**J**	25	0.23	ug/L		06/11/16 15:20	06/27/16 18:06	1
Bis(2-chloroethoxy)methane	2.0	U	9.9	0.96	ug/L		06/11/16 15:20	06/27/16 18:06	1
Bis(2-chloroethyl)ether	0.99	U	20	0.41	ug/L		06/11/16 15:20	06/27/16 18:06	1
Bis(2-ethylhexyl) phthalate	2.0	U J	9.9	0.56	ug/L		06/11/16 15:20	06/27/16 18:06	1
Butyl benzyl phthalate	2.0	U J	20	0.99	ug/L		06/11/16 15:20	06/27/16 18:06	1
Carbazole	0.99	U Q J	9.9	0.43	ug/L		06/11/16 15:20	06/27/16 18:06	1
Chrysene	2.0	U Q J	9.9	0.54	ug/L		06/11/16 15:20	06/27/16 18:06	1
Dibenz(a,h)anthracene	2.0	U J	9.9	0.51	ug/L		06/11/16 15:20	06/27/16 18:06	1
Dibenzofuran	0.99	U	9.9	0.29	ug/L		06/11/16 15:20	06/27/16 18:06	1
Diethyl phthalate	0.99	U	20	0.38	ug/L		06/11/16 15:20	06/27/16 18:06	1
Dimethyl phthalate	0.50	U	20	0.21	ug/L		06/11/16 15:20	06/27/16 18:06	1
Di-n-butyl phthalate	4.4	U J	20	1.2	ug/L		06/11/16 15:20	06/27/16 18:06	1
Di-n-octyl phthalate	0.99	U J	20	0.35	ug/L		06/11/16 15:20	06/27/16 18:06	1
Fluoranthene	**0.27**	**Q J**	20	0.20	ug/L		06/11/16 15:20	06/27/16 18:06	1
Fluorene	0.99	U Q J	9.9	0.31	ug/L		06/11/16 15:20	06/27/16 18:06	1
Hexachlorobenzene	2.0	U J	9.9	0.65	ug/L		06/11/16 15:20	06/27/16 18:06	1
Hexachlorobutadiene	9.9	U	30	3.3	ug/L		06/11/16 15:20	06/27/16 18:06	1
Hexachlorocyclopentadiene	30	U	50	9.9	ug/L		06/11/16 15:20	06/27/16 18:06	1
Hexachloroethane	4.4	U	9.9	2.1	ug/L		06/11/16 15:20	06/27/16 18:06	1
Indeno[1,2,3-cd]pyrene	2.0	U Q J	9.9	0.64	ug/L		06/11/16 15:20	06/27/16 18:06	1
Isophorone	0.50	U	9.9	0.21	ug/L		06/11/16 15:20	06/27/16 18:06	1
Naphthalene	0.99	U Q	9.9	0.29	ug/L		06/11/16 15:20	06/27/16 18:06	1
Nitrobenzene	2.0	U	20	0.80	ug/L		06/11/16 15:20	06/27/16 18:06	1
N-Nitrosodimethylamine	0.99	U Q	9.9	0.29	ug/L		06/11/16 15:20	06/27/16 18:06	1
N-Nitrosodi-n-propylamine	0.99	U	20	0.35	ug/L		06/11/16 15:20	06/27/16 18:06	1
N-Nitrosodiphenylamine	0.99	U J	9.9	0.44	ug/L		06/11/16 15:20	06/27/16 18:06	1
N-Nitrosopyrrolidine	2.0	U Q	9.9	0.80	ug/L		06/11/16 15:20	06/27/16 18:06	1
Pentachlorophenol	60	U Q J	79	20	ug/L		06/11/16 15:20	06/27/16 18:06	1
Phenanthrene	0.99	U Q J	9.9	0.26	ug/L		06/11/16 15:20	06/27/16 18:06	1
Phenol	4.4	U Q J	9.9	2.0	ug/L		06/11/16 15:20	06/27/16 18:06	1
Pyrene	0.99	U Q J	9.9	0.37	ug/L		06/11/16 15:20	06/27/16 18:06	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*7*	*Q*	*43 - 140*	*06/11/16 15:20*	*06/27/16 18:06*	*1*
2-Fluorobiphenyl	*77*		*44 - 119*	*06/11/16 15:20*	*06/27/16 18:06*	*1*
2-Fluorophenol (Surr)	*4*	*Q*	*19 - 119*	*06/11/16 15:20*	*06/27/16 18:06*	*1*
Nitrobenzene-d5 (Surr)	*68*		*44 - 120*	*06/11/16 15:20*	*06/27/16 18:06*	*1*
Phenol-d5 (Surr)	*3*	*Q*	*10 - 115*	*06/11/16 15:20*	*06/27/16 18:06*	*1*
Terphenyl-d14 (Surr)	*32*	*Q*	*50 - 134*	*06/11/16 15:20*	*06/27/16 18:06*	*1*

Client Sample ID: SC-TU009-6MW22-G-1-D **Lab Sample ID: 280-84353-12**
Date Collected: 06/08/16 12:35 **Matrix: Water**
Date Received: 06/10/16 09:25

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4,5-Tetrachlorobenzene	4.4	U	10	1.7	ug/L		06/11/16 15:20	06/27/16 19:29	1
1,2,4-Trichlorobenzene	1.0	U	10	0.28	ug/L		06/11/16 15:20	06/27/16 19:29	1
1,2-Dichlorobenzene	0.50	U	10	0.23	ug/L		06/11/16 15:20	06/27/16 19:29	1
1,2-Diphenylhydrazine	0.51	U	10	0.23	ug/L		06/11/16 15:20	06/27/16 19:29	1
1,3-Dichlorobenzene	1.0	U	10	0.30	ug/L		06/11/16 15:20	06/27/16 19:29	1

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

Client Sample ID: SC-TU009-6MW22-G-1-D **Lab Sample ID: 280-84353-12**
Date Collected: 06/08/16 12:35 **Matrix: Water**
Date Received: 06/10/16 09:25

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dichlorobenzene	1.0	U	10	0.32	ug/L		06/11/16 15:20	06/27/16 19:29	1
2,2'-oxybis[1-chloropropane]	1.0	U	10	0.28	ug/L		06/11/16 15:20	06/27/16 19:29	1
2,4,5-Trichlorophenol	1.0	U Q	20	0.45	ug/L		06/11/16 15:20	06/27/16 19:29	1
2,4,6-Trichlorophenol	1.0	U Q	20	0.29	ug/L		06/11/16 15:20	06/27/16 19:29	1
2,4-Dichlorophenol	2.0	U Q	10	0.65	ug/L		06/11/16 15:20	06/27/16 19:29	1
2,4-Dimethylphenol	2.0	U Q	10	0.59	ug/L		06/11/16 15:20	06/27/16 19:29	1
2,4-Dinitrophenol	30	U Q	81	10	ug/L		06/11/16 15:20	06/27/16 19:29	1
2,4-Dinitrotoluene	4.4	U	20	1.7	ug/L		06/11/16 15:20	06/27/16 19:29	1
2,6-Dichlorophenol	4.0	U	10	1.4	ug/L		06/11/16 15:20	06/27/16 19:29	1
2,6-Dinitrotoluene	4.4	U	20	1.9	ug/L		06/11/16 15:20	06/27/16 19:29	1
2-Chloronaphthalene	1.0	U	10	0.26	ug/L		06/11/16 15:20	06/27/16 19:29	1
2-Chlorophenol	4.4	U Q	10	2.0	ug/L		06/11/16 15:20	06/27/16 19:29	1
2-Methylnaphthalene	1.0	U	10	0.29	ug/L		06/11/16 15:20	06/27/16 19:29	1
2-Methylphenol	2.0	U Q	10	0.99	ug/L		06/11/16 15:20	06/27/16 19:29	1
3 & 4 Methylphenol	0.50	U Q	20	0.25	ug/L		06/11/16 15:20	06/27/16 19:29	1
3,3'-Dichlorobenzidine	4.4	U	50	2.0	ug/L		06/11/16 15:20	06/27/16 19:29	1
3-Nitroaniline	4.4	U	50	2.0	ug/L		06/11/16 15:20	06/27/16 19:29	1
4,6-Dinitro-2-methylphenol	8.9	U Q	81	4.0	ug/L		06/11/16 15:20	06/27/16 19:29	1
4-Chloroaniline	4.4	U	25	2.2	ug/L		06/11/16 15:20	06/27/16 19:29	1
4-Chlorophenyl phenyl ether	4.4	U	10	1.7	ug/L		06/11/16 15:20	06/27/16 19:29	1
4-Nitroaniline	4.4	U	50	2.0	ug/L		06/11/16 15:20	06/27/16 19:29	1
4-Nitrophenol	4.0	U Q	50	1.2	ug/L		06/11/16 15:20	06/27/16 19:29	1
Acenaphthene	1.0	U	10	0.28	ug/L		06/11/16 15:20	06/27/16 19:29	1
Acenaphthylene	1.0	U	10	0.49	ug/L		06/11/16 15:20	06/27/16 19:29	1
Anthracene	1.0	U	10	0.42	ug/L		06/11/16 15:20	06/27/16 19:29	1
Benzidine	100	U	200	50	ug/L		06/11/16 15:20	06/27/16 19:29	1
Benzo[a]anthracene	1.0	U	10	0.35	ug/L		06/11/16 15:20	06/27/16 19:29	1
Benzo[a]pyrene	1.0	U	10	0.31	ug/L		06/11/16 15:20	06/27/16 19:29	1
Benzo[b]fluoranthene	2.0	U	10	0.54	ug/L		06/11/16 15:20	06/27/16 19:29	1
Benzo[g,h,i]perylene	1.0	U	10	0.50	ug/L		06/11/16 15:20	06/27/16 19:29	1
Benzo[k]fluoranthene	1.0	U	10	0.46	ug/L		06/11/16 15:20	06/27/16 19:29	1
Benzoic acid	30	U Q	81	10	ug/L		06/11/16 15:20	06/27/16 19:29	1
Benzyl alcohol	**0.67**	**J**	25	0.23	ug/L		06/11/16 15:20	06/27/16 19:29	1
Bis(2-chloroethoxy)methane	2.0	U	10	0.98	ug/L		06/11/16 15:20	06/27/16 19:29	1
Bis(2-chloroethyl)ether	1.0	U	20	0.41	ug/L		06/11/16 15:20	06/27/16 19:29	1
Bis(2-ethylhexyl) phthalate	2.0	U	10	0.57	ug/L		06/11/16 15:20	06/27/16 19:29	1
Butyl benzyl phthalate	2.0	U	20	1.0	ug/L		06/11/16 15:20	06/27/16 19:29	1
Carbazole	1.0	U Q	10	0.43	ug/L		06/11/16 15:20	06/27/16 19:29	1
Chrysene	2.0	U	10	0.55	ug/L		06/11/16 15:20	06/27/16 19:29	1
Dibenz(a,h)anthracene	2.0	U	10	0.51	ug/L		06/11/16 15:20	06/27/16 19:29	1
Dibenzofuran	1.0	U	10	0.29	ug/L		06/11/16 15:20	06/27/16 19:29	1
Diethyl phthalate	1.0	U	20	0.38	ug/L		06/11/16 15:20	06/27/16 19:29	1
Dimethyl phthalate	0.50	U	20	0.21	ug/L		06/11/16 15:20	06/27/16 19:29	1
Di-n-butyl phthalate	4.4	U	20	1.2	ug/L		06/11/16 15:20	06/27/16 19:29	1
Di-n-octyl phthalate	1.0	U	20	0.35	ug/L		06/11/16 15:20	06/27/16 19:29	1
Fluoranthene	0.50	U	20	0.20	ug/L		06/11/16 15:20	06/27/16 19:29	1
Fluorene	1.0	U	10	0.31	ug/L		06/11/16 15:20	06/27/16 19:29	1
Hexachlorobenzene	2.0	U	10	0.67	ug/L		06/11/16 15:20	06/27/16 19:29	1
Hexachlorobutadiene	10	U	30	3.3	ug/L		06/11/16 15:20	06/27/16 19:29	1

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

Client Sample ID: SC-TU009-6MW22-G-1-D — **Lab Sample ID: 280-84353-12**
Date Collected: 06/08/16 12:35 — **Matrix: Water**
Date Received: 06/10/16 09:25

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Hexachlorocyclopentadiene	30	U	50	10	ug/L		06/11/16 15:20	06/27/16 19:29	1
Hexachloroethane	4.4	U	10	2.1	ug/L		06/11/16 15:20	06/27/16 19:29	1
Indeno[1,2,3-cd]pyrene	2.0	U	10	0.66	ug/L		06/11/16 15:20	06/27/16 19:29	1
Isophorone	0.50	U	10	0.21	ug/L		06/11/16 15:20	06/27/16 19:29	1
Naphthalene	1.0	U	10	0.29	ug/L		06/11/16 15:20	06/27/16 19:29	1
Nitrobenzene	2.0	U	20	0.82	ug/L		06/11/16 15:20	06/27/16 19:29	1
N-Nitrosodimethylamine	1.0	U Q	10	0.29	ug/L		06/11/16 15:20	06/27/16 19:29	1
N-Nitrosodi-n-propylamine	1.0	U	20	0.35	ug/L		06/11/16 15:20	06/27/16 19:29	1
N-Nitrosodiphenylamine	1.0	U	10	0.44	ug/L		06/11/16 15:20	06/27/16 19:29	1
N-Nitrosopyrrolidine	2.0	U Q	10	0.81	ug/L		06/11/16 15:20	06/27/16 19:29	1
Pentachlorophenol	61	U Q	81	20	ug/L		06/11/16 15:20	06/27/16 19:29	1
Phenanthrene	1.0	U	10	0.26	ug/L		06/11/16 15:20	06/27/16 19:29	1
Phenol	4.4	U Q	10	2.0	ug/L		06/11/16 15:20	06/27/16 19:29	1
Pyrene	1.0	U	10	0.37	ug/L		06/11/16 15:20	06/27/16 19:29	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*7*	*Q*	*43 - 140*	*06/11/16 15:20*	*06/27/16 19:29*	*1*
2-Fluorobiphenyl	*59*		*44 - 119*	*06/11/16 15:20*	*06/27/16 19:29*	*1*
2-Fluorophenol (Surr)	*4*	*Q*	*19 - 119*	*06/11/16 15:20*	*06/27/16 19:29*	*1*
Nitrobenzene-d5 (Surr)	*55*		*44 - 120*	*06/11/16 15:20*	*06/27/16 19:29*	*1*
Phenol-d5 (Surr)	*4*	*Q*	*10 - 115*	*06/11/16 15:20*	*06/27/16 19:29*	*1*
Terphenyl-d14 (Surr)	*63*		*50 - 134*	*06/11/16 15:20*	*06/27/16 19:29*	*1*

Method: 6010C - Metals (ICP)

Client Sample ID: SC-TU009-MW001-S0305 — **Lab Sample ID: 280-84353-1**
Date Collected: 06/06/16 16:00 — **Matrix: Solid**
Date Received: 06/10/16 09:25 — **Percent Solids: 76.3**

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**24000**	**J D**	240	7.3	mg/Kg	☼	06/27/16 14:25	06/30/16 21:16	5
Antimony	7.1	U J	9.4	1.8	mg/Kg	☼	06/27/16 14:25	06/30/16 21:16	5
Arsenic	**10**	**D J**	12	3.1	mg/Kg	☼	06/27/16 14:25	07/04/16 13:51	5
Barium	**190**	**J D**	9.4	0.36	mg/Kg	☼	06/27/16 14:25	06/30/16 21:16	5
Beryllium	**1.4**	**J D**	2.4	0.16	mg/Kg	☼	06/27/16 14:25	07/04/16 13:51	5
Cadmium	0.71	U J Q	2.4	0.19	mg/Kg	☼	06/27/16 14:25	06/30/16 21:16	5
Calcium	**3000**	**J D**	470	66	mg/Kg	☼	06/27/16 14:25	06/30/16 21:16	5
Chromium	**27**	**J D**	16	0.27	mg/Kg	☼	06/27/16 14:25	06/30/16 21:16	5
Cobalt	**14**	**J D**	4.7	0.47	mg/Kg	☼	06/27/16 14:25	06/30/16 21:16	5
Copper	**32**	**J D**	24	1.0	mg/Kg	☼	06/27/16 14:25	06/30/16 21:16	5
Iron	**38000**	**J D**	380	18	mg/Kg	☼	06/27/16 14:25	06/30/16 21:16	5
Lead	**13**	**J D**	4.2	1.3	mg/Kg	☼	06/27/16 14:25	06/30/16 21:16	5
Magnesium	**5600**	**J D**	140	17	mg/Kg	☼	06/27/16 14:25	06/30/16 21:16	5
Manganese	**530**	**J Q D**	21	0.47	mg/Kg	☼	06/27/16 14:25	06/30/16 21:16	5
Nickel	**33**	**J D**	19	0.58	mg/Kg	☼	06/27/16 14:25	06/30/16 21:16	5
Potassium	**2400**	**J D**	1400	190	mg/Kg	☼	06/27/16 14:25	06/30/16 21:16	5
Selenium	14	U J	14	4.1	mg/Kg	☼	06/27/16 14:25	06/30/16 21:16	5
Silver	2.8	U J	7.1	0.75	mg/Kg	☼	06/27/16 14:25	07/04/16 13:51	5
Sodium	940	U J	2400	280	mg/Kg	☼	06/27/16 14:25	06/30/16 21:16	5
Thallium	**3.7**	**J D**	14	3.1	mg/Kg	☼	06/27/16 14:25	06/30/16 21:16	5
Vanadium	**43**	**J D**	9.4	0.44	mg/Kg	☼	06/27/16 14:25	06/30/16 21:16	5

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

Client Sample ID: SC-TU009-MW001-S0305 — **Lab Sample ID: 280-84353-1**
Date Collected: 06/06/16 16:00 — **Matrix: Solid**
Date Received: 06/10/16 09:25 — **Percent Solids: 76.3**

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Zinc	80	D	38	1.9	mg/Kg	☼	06/27/16 14:25	07/04/16 13:51	5

Client Sample ID: SC-TU009-MW001-S0608 — **Lab Sample ID: 280-84353-2**
Date Collected: 06/06/16 16:10 — **Matrix: Solid**
Date Received: 06/10/16 09:25 — **Percent Solids: 91.9**

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	16000	D	200	6.3	mg/Kg	☼	06/27/16 14:25	06/30/16 21:39	5
Antimony	6.1	U	8.2	1.6	mg/Kg	☼	06/27/16 14:25	06/30/16 21:39	5
Arsenic	11	D	10	2.7	mg/Kg	☼	06/27/16 14:25	07/01/16 17:10	5
Barium	90	D	8.2	0.31	mg/Kg	☼	06/27/16 14:25	06/30/16 21:39	5
Beryllium	1.1	J D	2.0	0.14	mg/Kg	☼	06/27/16 14:25	07/01/16 00:22	5
Cadmium	0.29	J Q D	2.0	0.17	mg/Kg	☼	06/27/16 14:25	06/30/16 21:39	5
Calcium	1300	D	410	58	mg/Kg	☼	06/27/16 14:25	06/30/16 21:39	5
Chromium	24	D	14	0.24	mg/Kg	☼	06/27/16 14:25	06/30/16 21:39	5
Cobalt	23	D	4.1	0.41	mg/Kg	☼	06/27/16 14:25	06/30/16 21:39	5
Copper	52	D	20	0.89	mg/Kg	☼	06/27/16 14:25	06/30/16 21:39	5
Iron	39000	D	330	16	mg/Kg	☼	06/27/16 14:25	06/30/16 21:39	5
Lead	22	D	3.7	1.1	mg/Kg	☼	06/27/16 14:25	06/30/16 21:39	5
Magnesium	6600	D	120	15	mg/Kg	☼	06/27/16 14:25	06/30/16 21:39	5
Manganese	810	Q D	18	0.41	mg/Kg	☼	06/27/16 14:25	06/30/16 21:39	5
Nickel	46	D	16	0.50	mg/Kg	☼	06/27/16 14:25	06/30/16 21:39	5
Potassium	2400	D	1200	170	mg/Kg	☼	06/27/16 14:25	06/30/16 21:39	5
Selenium	12	U	12	3.5	mg/Kg	☼	06/27/16 14:25	06/30/16 21:39	5
Silver	2.5	U	6.1	0.65	mg/Kg	☼	06/27/16 14:25	07/01/16 00:22	5
Sodium	820	U	2000	240	mg/Kg	☼	06/27/16 14:25	06/30/16 21:39	5
Thallium	10	U	12	2.7	mg/Kg	☼	06/27/16 14:25	06/30/16 21:39	5
Vanadium	23	D	8.2	0.38	mg/Kg	☼	06/27/16 14:25	06/30/16 21:39	5
Zinc	100	D	33	1.6	mg/Kg	☼	06/27/16 14:25	07/01/16 00:22	5

Client Sample ID: SC-TU009-MW002-S0507 — **Lab Sample ID: 280-84353-3**
Date Collected: 06/06/16 16:40 — **Matrix: Solid**
Date Received: 06/10/16 09:25 — **Percent Solids: 86.0**

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	15000	D	220	6.7	mg/Kg	☼	06/27/16 14:25	06/30/16 21:42	5
Antimony	6.5	U	8.7	1.6	mg/Kg	☼	06/27/16 14:25	06/30/16 21:42	5
Arsenic	8.0	J D	11	2.9	mg/Kg	☼	06/27/16 14:25	07/01/16 17:13	5
Barium	83	D	8.7	0.33	mg/Kg	☼	06/27/16 14:25	06/30/16 21:42	5
Beryllium	0.88	J D	2.2	0.14	mg/Kg	☼	06/27/16 14:25	07/01/16 00:24	5
Cadmium	0.22	J Q D	2.2	0.18	mg/Kg	☼	06/27/16 14:25	06/30/16 21:42	5
Calcium	3700	D	430	61	mg/Kg	☼	06/27/16 14:25	06/30/16 21:42	5
Chromium	21	D	15	0.25	mg/Kg	☼	06/27/16 14:25	06/30/16 21:42	5
Cobalt	15	D	4.3	0.43	mg/Kg	☼	06/27/16 14:25	06/30/16 21:42	5
Copper	35	D	22	0.94	mg/Kg	☼	06/27/16 14:25	06/30/16 21:42	5
Iron	31000	D	350	16	mg/Kg	☼	06/27/16 14:25	06/30/16 21:42	5
Lead	16	D	3.9	1.2	mg/Kg	☼	06/27/16 14:25	06/30/16 21:42	5
Magnesium	5300	D	130	16	mg/Kg	☼	06/27/16 14:25	06/30/16 21:42	5
Manganese	480	Q D	20	0.43	mg/Kg	☼	06/27/16 14:25	06/30/16 21:42	5
Nickel	31	D	17	0.53	mg/Kg	☼	06/27/16 14:25	06/30/16 21:42	5
Potassium	2100	D	1300	180	mg/Kg	☼	06/27/16 14:25	06/30/16 21:42	5
Selenium	13	U	13	3.7	mg/Kg	☼	06/27/16 14:25	06/30/16 21:42	5

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

Client Sample ID: SC-TU009-MW002-S0507 — **Lab Sample ID: 280-84353-3**
Date Collected: 06/06/16 16:40 — **Matrix: Solid**
Date Received: 06/10/16 09:25 — **Percent Solids: 86.0**

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	2.6	U	6.5	0.69	mg/Kg	☼	06/27/16 14:25	07/01/16 00:24	5
Sodium	870	U	2200	260	mg/Kg	☼	06/27/16 14:25	06/30/16 21:42	5
Thallium	11	U	13	2.8	mg/Kg	☼	06/27/16 14:25	06/30/16 21:42	5
Vanadium	**26**	**D**	8.7	0.41	mg/Kg	☼	06/27/16 14:25	06/30/16 21:42	5
Zinc	**76**	**D**	35	1.7	mg/Kg	☼	06/27/16 14:25	07/01/16 00:24	5

Client Sample ID: SC-TU009-MW002-S0305 — **Lab Sample ID: 280-84353-4**
Date Collected: 06/06/16 16:35 — **Matrix: Solid**
Date Received: 06/10/16 09:25 — **Percent Solids: 84.5**

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**15000**	**D**	210	6.6	mg/Kg	☼	06/27/16 14:25	06/30/16 21:44	5
Antimony	6.4	U	8.5	1.6	mg/Kg	☼	06/27/16 14:25	06/30/16 21:44	5
Arsenic	**7.1**	**J D**	11	2.8	mg/Kg	☼	06/27/16 14:25	07/01/16 17:15	5
Barium	**95**	**D**	8.5	0.32	mg/Kg	☼	06/27/16 14:25	06/30/16 21:44	5
Beryllium	**0.87**	**J D**	2.1	0.14	mg/Kg	☼	06/27/16 14:25	07/01/16 00:27	5
Cadmium	**0.35**	**J Q D**	2.1	0.17	mg/Kg	☼	06/27/16 14:25	06/30/16 21:44	5
Calcium	**11000**	**D**	430	60	mg/Kg	☼	06/27/16 14:25	06/30/16 21:44	5
Chromium	**20**	**D**	15	0.25	mg/Kg	☼	06/27/16 14:25	06/30/16 21:44	5
Cobalt	**14**	**D**	4.3	0.43	mg/Kg	☼	06/27/16 14:25	06/30/16 21:44	5
Copper	**32**	**D**	21	0.92	mg/Kg	☼	06/27/16 14:25	06/30/16 21:44	5
Iron	**30000**	**D**	340	16	mg/Kg	☼	06/27/16 14:25	06/30/16 21:44	5
Lead	**17**	**D**	3.8	1.1	mg/Kg	☼	06/27/16 14:25	06/30/16 21:44	5
Magnesium	**8100**	**D**	130	16	mg/Kg	☼	06/27/16 14:25	06/30/16 21:44	5
Manganese	**540**	**Q D**	19	0.43	mg/Kg	☼	06/27/16 14:25	06/30/16 21:44	5
Nickel	**29**	**D**	17	0.52	mg/Kg	☼	06/27/16 14:25	06/30/16 21:44	5
Potassium	**1900**	**D**	1300	170	mg/Kg	☼	06/27/16 14:25	06/30/16 21:44	5
Selenium	13	U	13	3.7	mg/Kg	☼	06/27/16 14:25	06/30/16 21:44	5
Silver	2.6	U	6.4	0.68	mg/Kg	☼	06/27/16 14:25	07/01/16 00:27	5
Sodium	850	U	2100	250	mg/Kg	☼	06/27/16 14:25	06/30/16 21:44	5
Thallium	11	U	13	2.8	mg/Kg	☼	06/27/16 14:25	06/30/16 21:44	5
Vanadium	**26**	**D**	8.5	0.40	mg/Kg	☼	06/27/16 14:25	06/30/16 21:44	5
Zinc	**81**	**D**	34	1.7	mg/Kg	☼	06/27/16 14:25	07/01/16 00:27	5

Client Sample ID: SC-TU009-MW002-S0507-D — **Lab Sample ID: 280-84353-5**
Date Collected: 06/06/16 16:40 — **Matrix: Solid**
Date Received: 06/10/16 09:25 — **Percent Solids: 87.3**

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**15000**	**D**	280	8.6	mg/Kg	☼	06/27/16 14:25	06/30/16 21:47	5
Antimony	8.3	U	11	2.1	mg/Kg	☼	06/27/16 14:25	06/30/16 21:47	5
Arsenic	**13**	**J D**	14	3.7	mg/Kg	☼	06/27/16 14:25	07/01/16 17:18	5
Barium	**72**	**D**	11	0.42	mg/Kg	☼	06/27/16 14:25	06/30/16 21:47	5
Beryllium	**0.83**	**J D**	2.8	0.18	mg/Kg	☼	06/27/16 14:25	07/01/16 00:29	5
Cadmium	0.83	U	2.8	0.23	mg/Kg	☼	06/27/16 14:25	07/01/16 17:18	5
Calcium	**2600**	**D**	560	78	mg/Kg	☼	06/27/16 14:25	07/01/16 17:18	5
Chromium	**22**	**D**	19	0.32	mg/Kg	☼	06/27/16 14:25	06/30/16 21:47	5
Cobalt	**18**	**D**	5.6	0.56	mg/Kg	☼	06/27/16 14:25	06/30/16 21:47	5
Copper	**41**	**D**	28	1.2	mg/Kg	☼	06/27/16 14:25	06/30/16 21:47	5
Iron	**35000**	**D**	440	21	mg/Kg	☼	06/27/16 14:25	06/30/16 21:47	5
Lead	**19**	**D**	5.0	1.5	mg/Kg	☼	06/27/16 14:25	06/30/16 21:47	5
Magnesium	**5800**	**D**	170	21	mg/Kg	☼	06/27/16 14:25	06/30/16 21:47	5

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

Client Sample ID: SC-TU009-MW002-S0507-D — **Lab Sample ID: 280-84353-5**
Date Collected: 06/06/16 16:40 — **Matrix: Solid**
Date Received: 06/10/16 09:25 — **Percent Solids: 87.3**

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	440	Q D	25	0.56	mg/Kg	☼	06/27/16 14:25	06/30/16 21:47	5
Nickel	37	D	22	0.68	mg/Kg	☼	06/27/16 14:25	06/30/16 21:47	5
Potassium	2200	D	1700	230	mg/Kg	☼	06/27/16 14:25	06/30/16 21:47	5
Selenium	17	U	17	4.8	mg/Kg	☼	06/27/16 14:25	06/30/16 21:47	5
Silver	3.3	U	8.3	0.89	mg/Kg	☼	06/27/16 14:25	07/01/16 00:29	5
Sodium	1100	U	2800	330	mg/Kg	☼	06/27/16 14:25	06/30/16 21:47	5
Thallium	14	U	17	3.6	mg/Kg	☼	06/27/16 14:25	06/30/16 21:47	5
Vanadium	23	D	11	0.52	mg/Kg	☼	06/27/16 14:25	06/30/16 21:47	5
Zinc	87	D	44	2.2	mg/Kg	☼	06/27/16 14:25	07/01/16 00:29	5

Client Sample ID: SC-TU009-MW003-S0507 — **Lab Sample ID: 280-84353-6**
Date Collected: 06/06/16 17:10 — **Matrix: Solid**
Date Received: 06/10/16 09:25 — **Percent Solids: 87.0**

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	14000	D	240	7.3	mg/Kg	☼	06/27/16 14:25	06/30/16 21:49	5
Antimony	7.1	U	9.4	1.8	mg/Kg	☼	06/27/16 14:25	06/30/16 21:49	5
Arsenic	7.0	J D	12	3.1	mg/Kg	☼	06/27/16 14:25	07/01/16 17:20	5
Barium	100	D	9.4	0.36	mg/Kg	☼	06/27/16 14:25	06/30/16 21:49	5
Beryllium	0.86	J D	2.4	0.16	mg/Kg	☼	06/27/16 14:25	07/01/16 00:32	5
Cadmium	0.23	J Q D	2.4	0.19	mg/Kg	☼	06/27/16 14:25	06/30/16 21:49	5
Calcium	4700	D	470	66	mg/Kg	☼	06/27/16 14:25	06/30/16 21:49	5
Chromium	21	D	16	0.27	mg/Kg	☼	06/27/16 14:25	06/30/16 21:49	5
Cobalt	17	D	4.7	0.47	mg/Kg	☼	06/27/16 14:25	06/30/16 21:49	5
Copper	41	D	24	1.0	mg/Kg	☼	06/27/16 14:25	06/30/16 21:49	5
Iron	34000	D	380	18	mg/Kg	☼	06/27/16 14:25	06/30/16 21:49	5
Lead	19	D	4.2	1.3	mg/Kg	☼	06/27/16 14:25	06/30/16 21:49	5
Magnesium	6100	D	140	17	mg/Kg	☼	06/27/16 14:25	06/30/16 21:49	5
Manganese	780	Q D	21	0.47	mg/Kg	☼	06/27/16 14:25	06/30/16 21:49	5
Nickel	40	D	19	0.58	mg/Kg	☼	06/27/16 14:25	06/30/16 21:49	5
Potassium	2100	D	1400	190	mg/Kg	☼	06/27/16 14:25	06/30/16 21:49	5
Selenium	14	U	14	4.0	mg/Kg	☼	06/27/16 14:25	06/30/16 21:49	5
Silver	2.8	U	7.1	0.75	mg/Kg	☼	06/27/16 14:25	07/01/16 00:32	5
Sodium	940	U	2400	280	mg/Kg	☼	06/27/16 14:25	06/30/16 21:49	5
Thallium	12	U	14	3.1	mg/Kg	☼	06/27/16 14:25	06/30/16 21:49	5
Vanadium	23	D	9.4	0.44	mg/Kg	☼	06/27/16 14:25	06/30/16 21:49	5
Zinc	85	D	38	1.9	mg/Kg	☼	06/27/16 14:25	07/01/16 00:32	5

Client Sample ID: SC-TU009-MW003-S0305 — **Lab Sample ID: 280-84353-7**
Date Collected: 06/06/16 17:00 — **Matrix: Solid**
Date Received: 06/10/16 09:25 — **Percent Solids: 91.8**

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	16000	D	210	6.5	mg/Kg	☼	06/27/16 14:25	06/30/16 21:52	5
Antimony	6.3	U	8.4	1.6	mg/Kg	☼	06/27/16 14:25	06/30/16 21:52	5
Arsenic	11	D	11	2.8	mg/Kg	☼	06/27/16 14:25	07/01/16 17:23	5
Barium	100	D	8.4	0.32	mg/Kg	☼	06/27/16 14:25	06/30/16 21:52	5
Beryllium	0.91	J D	2.1	0.14	mg/Kg	☼	06/27/16 14:25	07/01/16 00:35	5
Cadmium	0.29	J Q D	2.1	0.17	mg/Kg	☼	06/27/16 14:25	06/30/16 21:52	5
Calcium	5400	D	420	60	mg/Kg	☼	06/27/16 14:25	06/30/16 21:52	5
Chromium	23	D	15	0.25	mg/Kg	☼	06/27/16 14:25	06/30/16 21:52	5
Cobalt	16	D	4.2	0.42	mg/Kg	☼	06/27/16 14:25	06/30/16 21:52	5

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

Client Sample ID: SC-TU009-MW003-S0305 — **Lab Sample ID: 280-84353-7**
Date Collected: 06/06/16 17:00 — **Matrix: Solid**
Date Received: 06/10/16 09:25 — **Percent Solids: 91.8**

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Copper	**40**	**D**	21	0.92	mg/Kg	☼	06/27/16 14:25	06/30/16 21:52	5
Iron	**37000**	**D**	340	16	mg/Kg	☼	06/27/16 14:25	06/30/16 21:52	5
Lead	**20**	**D**	3.8	1.1	mg/Kg	☼	06/27/16 14:25	06/30/16 21:52	5
Magnesium	**6800**	**D**	130	16	mg/Kg	☼	06/27/16 14:25	06/30/16 21:52	5
Manganese	**510**	**Q D**	19	0.42	mg/Kg	☼	06/27/16 14:25	06/30/16 21:52	5
Nickel	**38**	**D**	17	0.52	mg/Kg	☼	06/27/16 14:25	06/30/16 21:52	5
Potassium	**2000**	**D**	1300	170	mg/Kg	☼	06/27/16 14:25	06/30/16 21:52	5
Selenium	13	U	13	3.6	mg/Kg	☼	06/27/16 14:25	06/30/16 21:52	5
Silver	2.5	U	6.3	0.68	mg/Kg	☼	06/27/16 14:25	07/01/16 00:35	5
Sodium	840	U	2100	250	mg/Kg	☼	06/27/16 14:25	06/30/16 21:52	5
Thallium	11	U	13	2.7	mg/Kg	☼	06/27/16 14:25	06/30/16 21:52	5
Vanadium	**25**	**D**	8.4	0.40	mg/Kg	☼	06/27/16 14:25	06/30/16 21:52	5
Zinc	**81**	**D**	34	1.7	mg/Kg	☼	06/27/16 14:25	07/01/16 00:35	5

Client Sample ID: SC-TU009-EB060616 — **Lab Sample ID: 280-84353-8**
Date Collected: 06/06/16 15:00 — **Matrix: Water**
Date Received: 06/10/16 09:25

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	70	U	300	18	ug/L		06/20/16 22:16	06/25/16 02:34	1
Antimony	12	U	20	3.1	ug/L		06/20/16 22:16	06/25/16 02:34	1
Arsenic	15	U	25	4.4	ug/L		06/20/16 22:16	06/25/16 16:01	1
Barium	2.0	U	10	0.58	ug/L		06/20/16 22:16	06/25/16 02:34	1
Beryllium	1.2	U	1.5	0.47	ug/L		06/20/16 22:16	06/25/16 16:01	1
Cadmium	1.8	U Q	5.0	0.45	ug/L		06/20/16 22:16	06/25/16 02:34	1
Calcium	**84**	**J**	1000	35	ug/L		06/20/16 22:16	06/25/16 02:34	1
Chromium	2.6	U	15	0.66	ug/L		06/20/16 22:16	06/25/16 02:34	1
Cobalt	4.5	U	15	1.2	ug/L		06/20/16 22:16	06/25/16 02:34	1
Copper	**5.5**	**J**	15	4.2	ug/L		06/20/16 22:16	06/25/16 02:34	1
Iron	**140**		100	22	ug/L		06/20/16 22:16	06/27/16 10:30	1
Lead	10	U	15	2.6	ug/L		06/20/16 22:16	06/25/16 02:34	1
Magnesium	**24**	**J**	500	11	ug/L		06/20/16 22:16	06/25/16 02:34	1
Manganese	**3.2**	**J Q**	10	0.25	ug/L		06/20/16 22:16	06/25/16 02:34	1
Nickel	5.0	U	40	1.3	ug/L		06/20/16 22:16	06/25/16 02:34	1
Potassium	940	U	3000	240	ug/L		06/20/16 22:16	06/25/16 02:34	1
Selenium	19	U	22	4.9	ug/L		06/20/16 22:16	06/27/16 10:30	1
Silver	3.5	U	15	0.93	ug/L		06/20/16 22:16	06/25/16 02:34	1
Sodium	**210**	**J**	5000	92	ug/L		06/20/16 22:16	06/25/16 16:01	1
Thallium	19	U	40	4.9	ug/L		06/20/16 22:16	06/25/16 02:34	1
Vanadium	4.0	U	15	1.1	ug/L		06/20/16 22:16	06/25/16 02:34	1
Zinc	**4.6**	**J**	150	4.5	ug/L		06/20/16 22:16	06/25/16 02:34	1

Client Sample ID: SC-TU009-MW003-G-1 — **Lab Sample ID: 280-84353-9**
Date Collected: 06/08/16 12:45 — **Matrix: Water**
Date Received: 06/10/16 09:25

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**4200**		300	18	ug/L		06/20/16 22:16	06/25/16 02:37	1
Antimony	12	U	20	3.1	ug/L		06/20/16 22:16	06/25/16 02:37	1
Arsenic	**12**	**J**	25	4.4	ug/L		06/20/16 22:16	06/25/16 16:03	1
Barium	**37**		10	0.58	ug/L		06/20/16 22:16	06/25/16 02:37	1
Beryllium	**0.64**	**J**	1.5	0.47	ug/L		06/20/16 22:16	06/25/16 16:03	1

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

Client Sample ID: SC-TU009-MW003-G-1 — **Lab Sample ID: 280-84353-9**
Date Collected: 06/08/16 12:45 — **Matrix: Water**
Date Received: 06/10/16 09:25

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	1.7	J Q	5.0	0.45	ug/L		06/20/16 22:16	06/25/16 02:37	1
Calcium	200000		1000	35	ug/L		06/20/16 22:16	06/25/16 02:37	1
Chromium	4.7	J	15	0.66	ug/L		06/20/16 22:16	06/25/16 02:37	1
Cobalt	110		15	1.2	ug/L		06/20/16 22:16	06/25/16 02:37	1
Copper	8.4	J	15	4.2	ug/L		06/20/16 22:16	06/25/16 02:37	1
Iron	30000		100	22	ug/L		06/20/16 22:16	06/27/16 10:33	1
Lead	2.6	J	15	2.6	ug/L		06/20/16 22:16	06/25/16 02:37	1
Magnesium	51000		500	11	ug/L		06/20/16 22:16	06/25/16 02:37	1
Manganese	11000	Q	10	0.25	ug/L		06/20/16 22:16	06/25/16 02:37	1
Nickel	190		40	1.3	ug/L		06/20/16 22:16	06/25/16 02:37	1
Potassium	34000		3000	240	ug/L		06/20/16 22:16	06/25/16 02:37	1
Selenium	19	U	22	4.9	ug/L		06/20/16 22:16	06/27/16 10:33	1
Silver	3.5	U	15	0.93	ug/L		06/20/16 22:16	06/25/16 02:37	1
Sodium	110000		5000	92	ug/L		06/20/16 22:16	06/25/16 16:03	1
Thallium	19	U	40	4.9	ug/L		06/20/16 22:16	06/25/16 02:37	1
Vanadium	1.8	J	15	1.1	ug/L		06/20/16 22:16	06/25/16 02:37	1
Zinc	120	J	150	4.5	ug/L		06/20/16 22:16	06/25/16 02:37	1

Client Sample ID: SC-TU009-6MW24-G-1 — **Lab Sample ID: 280-84353-10**
Date Collected: 06/08/16 13:00 — **Matrix: Water**
Date Received: 06/10/16 09:25

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	540		300	18	ug/L		06/20/16 22:16	06/25/16 02:39	1
Antimony	12	U	20	3.1	ug/L		06/20/16 22:16	06/25/16 02:39	1
Arsenic	15	U	25	4.4	ug/L		06/20/16 22:16	06/25/16 16:06	1
Barium	84		10	0.58	ug/L		06/20/16 22:16	06/25/16 02:39	1
Beryllium	1.2	U	1.5	0.47	ug/L		06/20/16 22:16	06/25/16 16:06	1
Cadmium	1.8	U Q	5.0	0.45	ug/L		06/20/16 22:16	06/25/16 02:39	1
Calcium	180000		1000	35	ug/L		06/20/16 22:16	06/25/16 02:39	1
Chromium	2.1	J	15	0.66	ug/L		06/20/16 22:16	06/25/16 02:39	1
Cobalt	4.5	U	15	1.2	ug/L		06/20/16 22:16	06/25/16 02:39	1
Copper	4.3	J	15	4.2	ug/L		06/20/16 22:16	06/25/16 02:39	1
Iron	1200		100	22	ug/L		06/20/16 22:16	06/27/16 10:35	1
Lead	10	U	15	2.6	ug/L		06/20/16 22:16	06/25/16 02:39	1
Magnesium	26000		500	11	ug/L		06/20/16 22:16	06/25/16 02:39	1
Manganese	1500	Q	10	0.25	ug/L		06/20/16 22:16	06/25/16 02:39	1
Nickel	3.1	J	40	1.3	ug/L		06/20/16 22:16	06/25/16 02:39	1
Potassium	5200		3000	240	ug/L		06/20/16 22:16	06/25/16 02:39	1
Selenium	19	U	22	4.9	ug/L		06/20/16 22:16	06/27/16 10:35	1
Silver	3.5	U	15	0.93	ug/L		06/20/16 22:16	06/25/16 02:39	1
Sodium	63000		5000	92	ug/L		06/20/16 22:16	06/25/16 16:06	1
Thallium	19	U	40	4.9	ug/L		06/20/16 22:16	06/25/16 02:39	1
Vanadium	1.5	J	15	1.1	ug/L		06/20/16 22:16	06/25/16 02:39	1
Zinc	30	J	150	4.5	ug/L		06/20/16 22:16	06/25/16 02:39	1

Client Sample ID: SC-TU009-6MW22-G-1 — **Lab Sample ID: 280-84353-11**
Date Collected: 06/08/16 12:30 — **Matrix: Water**
Date Received: 06/10/16 09:25

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	130	J	300	18	ug/L		06/20/16 22:16	06/25/16 02:44	1

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

Client Sample ID: SC-TU009-6MW22-G-1 — **Lab Sample ID: 280-84353-11**
Date Collected: 06/08/16 12:30 — **Matrix: Water**
Date Received: 06/10/16 09:25

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	12	U	20	3.1	ug/L		06/20/16 22:16	06/25/16 02:44	1
Arsenic	15	U	25	4.4	ug/L		06/20/16 22:16	06/25/16 16:11	1
Barium	**1.9**	**J**	10	0.58	ug/L		06/20/16 22:16	06/25/16 02:44	1
Beryllium	1.2	U	1.5	0.47	ug/L		06/20/16 22:16	06/25/16 16:11	1
Cadmium	1.8	U Q	5.0	0.45	ug/L		06/20/16 22:16	06/25/16 02:44	1
Calcium	**180000**	**J**	1000	35	ug/L		06/20/16 22:16	06/25/16 02:44	1
Chromium	2.6	U	15	0.66	ug/L		06/20/16 22:16	06/25/16 02:44	1
Cobalt	4.5	U	15	1.2	ug/L		06/20/16 22:16	06/25/16 02:44	1
Copper	10	U	15	4.2	ug/L		06/20/16 22:16	06/25/16 02:44	1
Iron	**180**		100	22	ug/L		06/20/16 22:16	06/27/16 10:41	1
Lead	10	U	15	2.6	ug/L		06/20/16 22:16	06/25/16 02:44	1
Magnesium	**40000**		500	11	ug/L		06/20/16 22:16	06/25/16 02:44	1
Manganese	**3500**	**Q J**	10	0.25	ug/L		06/20/16 22:16	06/25/16 02:44	1
Nickel	**6.2**	**J**	40	1.3	ug/L		06/20/16 22:16	06/25/16 02:44	1
Potassium	**3700**		3000	240	ug/L		06/20/16 22:16	06/25/16 02:44	1
Selenium	19	U	22	4.9	ug/L		06/20/16 22:16	06/27/16 10:41	1
Silver	3.5	U	15	0.93	ug/L		06/20/16 22:16	06/25/16 02:44	1
Sodium	**52000**		5000	92	ug/L		06/20/16 22:16	06/25/16 16:11	1
Thallium	19	U	40	4.9	ug/L		06/20/16 22:16	06/25/16 02:44	1
Vanadium	4.0	U	15	1.1	ug/L		06/20/16 22:16	06/25/16 02:44	1
Zinc	**15**	**J**	150	4.5	ug/L		06/20/16 22:16	06/25/16 02:44	1

Client Sample ID: SC-TU009-6MW22-G-1-D — **Lab Sample ID: 280-84353-12**
Date Collected: 06/08/16 12:35 — **Matrix: Water**
Date Received: 06/10/16 09:25

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**130**	**J**	300	18	ug/L		06/20/16 22:16	06/25/16 02:42	1
Antimony	**3.9**	**J**	20	3.1	ug/L		06/20/16 22:16	06/25/16 02:42	1
Arsenic	15	U	25	4.4	ug/L		06/20/16 22:16	06/25/16 16:08	1
Barium	**2.5**	**J**	10	0.58	ug/L		06/20/16 22:16	06/25/16 02:42	1
Beryllium	1.2	U	1.5	0.47	ug/L		06/20/16 22:16	06/25/16 16:08	1
Cadmium	1.8	U Q	5.0	0.45	ug/L		06/20/16 22:16	06/25/16 02:42	1
Calcium	**180000**		1000	35	ug/L		06/20/16 22:16	06/25/16 02:42	1
Chromium	2.6	U	15	0.66	ug/L		06/20/16 22:16	06/25/16 02:42	1
Cobalt	4.5	U	15	1.2	ug/L		06/20/16 22:16	06/25/16 02:42	1
Copper	10	U	15	4.2	ug/L		06/20/16 22:16	06/25/16 02:42	1
Iron	**180**		100	22	ug/L		06/20/16 22:16	06/27/16 10:38	1
Lead	**2.7**	**J**	15	2.6	ug/L		06/20/16 22:16	06/25/16 02:42	1
Magnesium	**38000**		500	11	ug/L		06/20/16 22:16	06/25/16 02:42	1
Manganese	**4200**	**Q**	10	0.25	ug/L		06/20/16 22:16	06/25/16 02:42	1
Nickel	**6.2**	**J**	40	1.3	ug/L		06/20/16 22:16	06/25/16 02:42	1
Potassium	**3600**		3000	240	ug/L		06/20/16 22:16	06/25/16 02:42	1
Selenium	19	U	22	4.9	ug/L		06/20/16 22:16	06/27/16 10:38	1
Silver	3.5	U	15	0.93	ug/L		06/20/16 22:16	06/25/16 02:42	1
Sodium	**51000**		5000	92	ug/L		06/20/16 22:16	06/25/16 16:08	1
Thallium	19	U	40	4.9	ug/L		06/20/16 22:16	06/25/16 02:42	1
Vanadium	4.0	U	15	1.1	ug/L		06/20/16 22:16	06/25/16 02:42	1
Zinc	**16**	**J**	150	4.5	ug/L		06/20/16 22:16	06/25/16 02:42	1

Client Sample Results

Client: Weston Solutions, Inc.
Project/Site: Schenectady ANGB, TU009

TestAmerica Job ID: 280-84353-1

Method: 6010C - Metals (ICP) - Dissolved

Client Sample ID: SC-TU009-MW003-G-1 — **Lab Sample ID: 280-84353-9**
Date Collected: 06/08/16 12:45 — **Matrix: Water**
Date Received: 06/10/16 09:25

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**800**		300	18	ug/L		06/22/16 08:10	06/26/16 19:55	1
Antimony	12	U	20	3.1	ug/L		06/22/16 08:10	06/27/16 15:57	1
Arsenic	15	U	25	4.4	ug/L		06/22/16 08:10	06/26/16 19:55	1
Barium	**34**		10	0.58	ug/L		06/22/16 08:10	06/26/16 19:55	1
Beryllium	1.2	U	1.5	0.47	ug/L		06/22/16 08:10	06/26/16 19:55	1
Cadmium	**1.9**	**J**	5.0	0.45	ug/L		06/22/16 08:10	06/26/16 19:55	1
Calcium	**220000**		1000	35	ug/L		06/22/16 08:10	06/26/16 19:55	1
Chromium	**0.71**	**J**	15	0.66	ug/L		06/22/16 08:10	06/26/16 19:55	1
Cobalt	**120**		15	1.2	ug/L		06/22/16 08:10	06/26/16 19:55	1
Copper	**5.7**	**J**	15	4.2	ug/L		06/22/16 08:10	06/26/16 19:55	1
Iron	**23000**		100	22	ug/L		06/22/16 08:10	06/26/16 19:55	1
Lead	**3.7**	**J**	15	2.6	ug/L		06/22/16 08:10	06/26/16 19:55	1
Magnesium	**56000**		500	11	ug/L		06/22/16 08:10	06/26/16 19:55	1
Manganese	**13000**	**D Q**	20	0.51	ug/L		06/22/16 08:10	06/28/16 06:36	2
Nickel	**210**		40	1.3	ug/L		06/22/16 08:10	06/26/16 19:55	1
Potassium	**33000**		3000	240	ug/L		06/22/16 08:10	06/26/16 19:55	1
Selenium	19	U	22	4.9	ug/L		06/22/16 08:10	06/27/16 15:57	1
Silver	3.5	U	15	0.93	ug/L		06/22/16 08:10	06/26/16 19:55	1
Sodium	**110000**		5000	92	ug/L		06/22/16 08:10	06/26/16 19:55	1
Thallium	19	U	40	4.9	ug/L		06/22/16 08:10	06/26/16 19:55	1
Vanadium	4.0	U	15	1.1	ug/L		06/22/16 08:10	06/26/16 19:55	1
Zinc	**120**	**J**	150	4.5	ug/L		06/22/16 08:10	06/26/16 19:55	1

Client Sample ID: SC-TU009-6MW24-G-1 — **Lab Sample ID: 280-84353-10**
Date Collected: 06/08/16 13:00 — **Matrix: Water**
Date Received: 06/10/16 09:25

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	70	U	300	18	ug/L		06/22/16 08:10	06/26/16 19:58	1
Antimony	**4.6**	**J**	20	3.1	ug/L		06/22/16 08:10	06/27/16 16:00	1
Arsenic	15	U	25	4.4	ug/L		06/22/16 08:10	06/26/16 19:58	1
Barium	**53**		10	0.58	ug/L		06/22/16 08:10	06/26/16 19:58	1
Beryllium	1.2	U	1.5	0.47	ug/L		06/22/16 08:10	06/26/16 19:58	1
Cadmium	1.8	U	5.0	0.45	ug/L		06/22/16 08:10	06/26/16 19:58	1
Calcium	**190000**		1000	35	ug/L		06/22/16 08:10	06/26/16 19:58	1
Chromium	**0.68**	**J**	15	0.66	ug/L		06/22/16 08:10	06/26/16 19:58	1
Cobalt	4.5	U	15	1.2	ug/L		06/22/16 08:10	06/26/16 19:58	1
Copper	**4.6**	**J**	15	4.2	ug/L		06/22/16 08:10	06/26/16 19:58	1
Iron	85	U	100	22	ug/L		06/22/16 08:10	06/26/16 19:58	1
Lead	10	U	15	2.6	ug/L		06/22/16 08:10	06/26/16 19:58	1
Magnesium	**28000**		500	11	ug/L		06/22/16 08:10	06/26/16 19:58	1
Manganese	**31**	**Q**	10	0.25	ug/L		06/22/16 08:10	06/26/16 19:58	1
Nickel	5.0	U	40	1.3	ug/L		06/22/16 08:10	06/26/16 19:58	1
Potassium	**4400**		3000	240	ug/L		06/22/16 08:10	06/26/16 19:58	1
Selenium	19	U	22	4.9	ug/L		06/22/16 08:10	06/27/16 16:00	1
Silver	3.5	U	15	0.93	ug/L		06/22/16 08:10	06/26/16 19:58	1
Sodium	**63000**		5000	92	ug/L		06/22/16 08:10	06/26/16 19:58	1
Thallium	19	U	40	4.9	ug/L		06/22/16 08:10	06/26/16 19:58	1
Vanadium	4.0	U	15	1.1	ug/L		06/22/16 08:10	06/26/16 19:58	1
Zinc	**5.9**	**J**	150	4.5	ug/L		06/22/16 08:10	06/26/16 19:58	1

Method: 6010C - Metals (ICP) - Dissolved

Client Sample ID: SC-TU009-6MW22-G-1 — **Lab Sample ID: 280-84353-11**
Date Collected: 06/08/16 12:30 — **Matrix: Water**
Date Received: 06/10/16 09:25

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	70	U	300	18	ug/L		06/22/16 08:10	06/26/16 20:03	1
Antimony	12	U	20	3.1	ug/L		06/22/16 08:10	06/27/16 16:05	1
Arsenic	15	U	25	4.4	ug/L		06/22/16 08:10	06/26/16 20:03	1
Barium	2.0	U	10	0.58	ug/L		06/22/16 08:10	06/26/16 20:03	1
Beryllium	1.2	U	1.5	0.47	ug/L		06/22/16 08:10	06/26/16 20:03	1
Cadmium	**0.57**	**J**	5.0	0.45	ug/L		06/22/16 08:10	06/26/16 20:03	1
Calcium	**190000**		1000	35	ug/L		06/22/16 08:10	06/26/16 20:03	1
Chromium	2.6	U	15	0.66	ug/L		06/22/16 08:10	06/26/16 20:03	1
Cobalt	4.5	U	15	1.2	ug/L		06/22/16 08:10	06/26/16 20:03	1
Copper	10	U	15	4.2	ug/L		06/22/16 08:10	06/26/16 20:03	1
Iron	85	U	100	22	ug/L		06/22/16 08:10	06/26/16 20:03	1
Lead	**4.0**	**J**	15	2.6	ug/L		06/22/16 08:10	06/26/16 20:03	1
Magnesium	**42000**		500	11	ug/L		06/22/16 08:10	06/26/16 20:03	1
Manganese	**2300**	**Q**	10	0.25	ug/L		06/22/16 08:10	06/26/16 20:03	1
Nickel	**4.9**	**J**	40	1.3	ug/L		06/22/16 08:10	06/26/16 20:03	1
Potassium	**3500**		3000	240	ug/L		06/22/16 08:10	06/26/16 20:03	1
Selenium	19	U	22	4.9	ug/L		06/22/16 08:10	06/27/16 16:05	1
Silver	3.5	U	15	0.93	ug/L		06/22/16 08:10	06/26/16 20:03	1
Sodium	**48000**		5000	92	ug/L		06/22/16 08:10	06/26/16 20:03	1
Thallium	19	U	40	4.9	ug/L		06/22/16 08:10	06/26/16 20:03	1
Vanadium	4.0	U	15	1.1	ug/L		06/22/16 08:10	06/26/16 20:03	1
Zinc	**9.1**	**J**	150	4.5	ug/L		06/22/16 08:10	06/26/16 20:03	1

Client Sample ID: SC-TU009-6MW22-G-1-D — **Lab Sample ID: 280-84353-12**
Date Collected: 06/08/16 12:35 — **Matrix: Water**
Date Received: 06/10/16 09:25

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	70	U	300	18	ug/L		06/22/16 08:10	06/26/16 20:00	1
Antimony	12	U	20	3.1	ug/L		06/22/16 08:10	06/27/16 16:03	1
Arsenic	**5.0**	**J**	25	4.4	ug/L		06/22/16 08:10	06/26/16 20:00	1
Barium	2.0	U	10	0.58	ug/L		06/22/16 08:10	06/26/16 20:00	1
Beryllium	1.2	U	1.5	0.47	ug/L		06/22/16 08:10	06/26/16 20:00	1
Cadmium	**0.52**	**J**	5.0	0.45	ug/L		06/22/16 08:10	06/26/16 20:00	1
Calcium	**200000**		1000	35	ug/L		06/22/16 08:10	06/26/16 20:00	1
Chromium	2.6	U	15	0.66	ug/L		06/22/16 08:10	06/26/16 20:00	1
Cobalt	4.5	U	15	1.2	ug/L		06/22/16 08:10	06/26/16 20:00	1
Copper	10	U	15	4.2	ug/L		06/22/16 08:10	06/26/16 20:00	1
Iron	85	U	100	22	ug/L		06/22/16 08:10	06/26/16 20:00	1
Lead	**2.8**	**J**	15	2.6	ug/L		06/22/16 08:10	06/26/16 20:00	1
Magnesium	**43000**		500	11	ug/L		06/22/16 08:10	06/26/16 20:00	1
Manganese	**2300**	**Q**	10	0.25	ug/L		06/22/16 08:10	06/26/16 20:00	1
Nickel	**4.4**	**J**	40	1.3	ug/L		06/22/16 08:10	06/26/16 20:00	1
Potassium	**3500**		3000	240	ug/L		06/22/16 08:10	06/26/16 20:00	1
Selenium	19	U	22	4.9	ug/L		06/22/16 08:10	06/27/16 16:03	1
Silver	3.5	U	15	0.93	ug/L		06/22/16 08:10	06/26/16 20:00	1
Sodium	**50000**		5000	92	ug/L		06/22/16 08:10	06/26/16 20:00	1
Thallium	19	U	40	4.9	ug/L		06/22/16 08:10	06/26/16 20:00	1
Vanadium	4.0	U	15	1.1	ug/L		06/22/16 08:10	06/26/16 20:00	1
Zinc	**8.9**	**J**	150	4.5	ug/L		06/22/16 08:10	06/26/16 20:00	1

Method: 7470A - Mercury (CVAA)

Client Sample ID: SC-TU009-EB060616 — **Lab Sample ID: 280-84353-8**
Date Collected: 06/06/16 15:00 — **Matrix: Water**
Date Received: 06/10/16 09:25

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.080	U	0.20	0.027	ug/L		06/16/16 11:20	06/16/16 18:26	1

Client Sample ID: SC-TU009-MW003-G-1 — **Lab Sample ID: 280-84353-9**
Date Collected: 06/08/16 12:45 — **Matrix: Water**
Date Received: 06/10/16 09:25

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.080	U	0.20	0.027	ug/L		06/16/16 11:20	06/16/16 18:29	1

Client Sample ID: SC-TU009-6MW24-G-1 — **Lab Sample ID: 280-84353-10**
Date Collected: 06/08/16 13:00 — **Matrix: Water**
Date Received: 06/10/16 09:25

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.080	U	0.20	0.027	ug/L		06/16/16 11:20	06/16/16 18:31	1

Client Sample ID: SC-TU009-6MW22-G-1 — **Lab Sample ID: 280-84353-11**
Date Collected: 06/08/16 12:30 — **Matrix: Water**
Date Received: 06/10/16 09:25

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.080	U	0.20	0.027	ug/L		06/16/16 11:20	06/16/16 18:34	1

Client Sample ID: SC-TU009-6MW22-G-1-D — **Lab Sample ID: 280-84353-12**
Date Collected: 06/08/16 12:35 — **Matrix: Water**
Date Received: 06/10/16 09:25

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.080	U	0.20	0.027	ug/L		06/16/16 11:20	06/16/16 18:41	1

Method: 7470A - Mercury (CVAA) - Dissolved

Client Sample ID: SC-TU009-MW003-G-1 — **Lab Sample ID: 280-84353-9**
Date Collected: 06/08/16 12:45 — **Matrix: Water**
Date Received: 06/10/16 09:25

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	0.080	U	0.20	0.027	ug/L		06/16/16 11:20	06/16/16 17:34	1

Client Sample ID: SC-TU009-6MW24-G-1 — **Lab Sample ID: 280-84353-10**
Date Collected: 06/08/16 13:00 — **Matrix: Water**
Date Received: 06/10/16 09:25

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	0.080	U	0.20	0.027	ug/L		06/16/16 11:20	06/16/16 17:37	1

Client Sample ID: SC-TU009-6MW22-G-1 — **Lab Sample ID: 280-84353-11**
Date Collected: 06/08/16 12:30 — **Matrix: Water**
Date Received: 06/10/16 09:25

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	0.080	U	0.20	0.027	ug/L		06/16/16 11:20	06/16/16 17:39	1

Client Sample ID: SC-TU009-6MW22-G-1-D — **Lab Sample ID: 280-84353-12**
Date Collected: 06/08/16 12:35 — **Matrix: Water**
Date Received: 06/10/16 09:25

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	0.080	U	0.20	0.027	ug/L		06/16/16 11:20	06/16/16 17:47	1

Client Sample Results

Client: Weston Solutions, Inc.
Project/Site: Schenectady ANGB, TU009

TestAmerica Job ID: 280-84353-1

Method: 7471A - Mercury (CVAA)

Client Sample ID: SC-TU009-MW001-S0305 — **Lab Sample ID: 280-84353-1**
Date Collected: 06/06/16 16:00 — **Matrix: Solid**
Date Received: 06/10/16 09:25 — **Percent Solids: 76.3**

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.042		0.022	0.0072	mg/Kg	☼	06/17/16 13:40	06/17/16 18:17	1

Client Sample ID: SC-TU009-MW001-S0608 — **Lab Sample ID: 280-84353-2**
Date Collected: 06/06/16 16:10 — **Matrix: Solid**
Date Received: 06/10/16 09:25 — **Percent Solids: 91.9**

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.064		0.022	0.0071	mg/Kg	☼	06/17/16 13:40	06/17/16 18:29	1

Client Sample ID: SC-TU009-MW002-S0507 — **Lab Sample ID: 280-84353-3**
Date Collected: 06/06/16 16:40 — **Matrix: Solid**
Date Received: 06/10/16 09:25 — **Percent Solids: 86.0**

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.060		0.024	0.0077	mg/Kg	☼	06/17/16 13:40	06/17/16 18:32	1

Client Sample ID: SC-TU009-MW002-S0305 — **Lab Sample ID: 280-84353-4**
Date Collected: 06/06/16 16:35 — **Matrix: Solid**
Date Received: 06/10/16 09:25 — **Percent Solids: 84.5**

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.057		0.024	0.0078	mg/Kg	☼	06/17/16 13:40	06/17/16 18:34	1

Client Sample ID: SC-TU009-MW002-S0507-D — **Lab Sample ID: 280-84353-5**
Date Collected: 06/06/16 16:40 — **Matrix: Solid**
Date Received: 06/10/16 09:25 — **Percent Solids: 87.3**

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.057		0.020	0.0066	mg/Kg	☼	06/17/16 13:40	06/17/16 18:42	1

Client Sample ID: SC-TU009-MW003-S0507 — **Lab Sample ID: 280-84353-6**
Date Collected: 06/06/16 17:10 — **Matrix: Solid**
Date Received: 06/10/16 09:25 — **Percent Solids: 87.0**

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.047		0.020	0.0066	mg/Kg	☼	06/17/16 13:40	06/17/16 18:44	1

Client Sample ID: SC-TU009-MW003-S0305 — **Lab Sample ID: 280-84353-7**
Date Collected: 06/06/16 17:00 — **Matrix: Solid**
Date Received: 06/10/16 09:25 — **Percent Solids: 91.8**

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.056		0.022	0.0072	mg/Kg	☼	06/17/16 13:40	06/17/16 18:46	1

Default Detection Limits

Client: Weston Solutions, Inc.
Project/Site: Schenectady ANGB, TU009

TestAmerica Job ID: 280-84353-1

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

Prep: 3520C

Analyte	LOQ	DL	Units	Method
1,2,4,5-Tetrachlorobenzene	10	1.7	ug/L	8270D
1,2,4-Trichlorobenzene	10	0.28	ug/L	8270D
1,2-Dichlorobenzene	10	0.23	ug/L	8270D
1,2-Diphenylhydrazine	10	0.23	ug/L	8270D
1,3-Dichlorobenzene	10	0.30	ug/L	8270D
1,4-Dichlorobenzene	10	0.32	ug/L	8270D
2,2'-oxybis[1-chloropropane]	10	0.28	ug/L	8270D
2,4,5-Trichlorophenol	20	0.45	ug/L	8270D
2,4,6-Trichlorophenol	20	0.29	ug/L	8270D
2,4-Dichlorophenol	10	0.64	ug/L	8270D
2,4-Dimethylphenol	10	0.58	ug/L	8270D
2,4-Dinitrophenol	80	10	ug/L	8270D
2,4-Dinitrotoluene	20	1.7	ug/L	8270D
2,6-Dichlorophenol	10	1.4	ug/L	8270D
2,6-Dinitrotoluene	20	1.9	ug/L	8270D
2-Chloronaphthalene	10	0.26	ug/L	8270D
2-Chlorophenol	10	2.0	ug/L	8270D
2-Methylnaphthalene	10	0.29	ug/L	8270D
2-Methylphenol	10	0.98	ug/L	8270D
3 & 4 Methylphenol	20	0.25	ug/L	8270D
3,3'-Dichlorobenzidine	50	2.0	ug/L	8270D
3-Nitroaniline	50	2.0	ug/L	8270D
4,6-Dinitro-2-methylphenol	80	4.0	ug/L	8270D
4-Chloroaniline	25	2.1	ug/L	8270D
4-Chlorophenyl phenyl ether	10	1.7	ug/L	8270D
4-Nitroaniline	50	2.0	ug/L	8270D
4-Nitrophenol	50	1.2	ug/L	8270D
Acenaphthene	10	0.28	ug/L	8270D
Acenaphthylene	10	0.49	ug/L	8270D
Anthracene	10	0.42	ug/L	8270D
Benzidine	200	50	ug/L	8270D
Benzo[a]anthracene	10	0.35	ug/L	8270D
Benzo[a]pyrene	10	0.31	ug/L	8270D
Benzo[b]fluoranthene	10	0.53	ug/L	8270D
Benzo[g,h,i]perylene	10	0.50	ug/L	8270D
Benzo[k]fluoranthene	10	0.46	ug/L	8270D
Benzoic acid	80	10	ug/L	8270D
Benzyl alcohol	25	0.23	ug/L	8270D
Bis(2-chloroethoxy)methane	10	0.97	ug/L	8270D
Bis(2-chloroethyl)ether	20	0.41	ug/L	8270D
Bis(2-ethylhexyl) phthalate	10	0.56	ug/L	8270D
Butyl benzyl phthalate	20	1.0	ug/L	8270D
Carbazole	10	0.43	ug/L	8270D
Chrysene	10	0.54	ug/L	8270D
Dibenz(a,h)anthracene	10	0.51	ug/L	8270D
Dibenzofuran	10	0.29	ug/L	8270D
Diethyl phthalate	20	0.38	ug/L	8270D
Dimethyl phthalate	20	0.21	ug/L	8270D
Di-n-butyl phthalate	20	1.2	ug/L	8270D
Di-n-octyl phthalate	20	0.35	ug/L	8270D
Fluoranthene	20	0.20	ug/L	8270D

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)
Prep: 3520C

Analyte	LOQ	DL	Units	Method
Fluorene	10	0.31	ug/L	8270D
Hexachlorobenzene	10	0.66	ug/L	8270D
Hexachlorobutadiene	30	3.3	ug/L	8270D
Hexachlorocyclopentadiene	50	10	ug/L	8270D
Hexachloroethane	10	2.1	ug/L	8270D
Indeno[1,2,3-cd]pyrene	10	0.65	ug/L	8270D
Isophorone	10	0.21	ug/L	8270D
Naphthalene	10	0.29	ug/L	8270D
Nitrobenzene	20	0.81	ug/L	8270D
N-Nitrosodimethylamine	10	0.29	ug/L	8270D
N-Nitrosodi-n-propylamine	20	0.35	ug/L	8270D
N-Nitrosodiphenylamine	10	0.44	ug/L	8270D
N-Nitrosopyrrolidine	10	0.80	ug/L	8270D
Pentachlorophenol	80	20	ug/L	8270D
Phenanthrene	10	0.26	ug/L	8270D
Phenol	10	2.0	ug/L	8270D
Pyrene	10	0.37	ug/L	8270D

Method: 8270D - Semivolatile Organic Compounds (GC/MS)
Prep: 3550C

Analyte	LOQ	DL	Units	Method
1,2,4,5-Tetrachlorobenzene	0.33	0.049	mg/Kg	8270D
1,2,4-Trichlorobenzene	0.33	0.028	mg/Kg	8270D
1,2-Dichlorobenzene	0.33	0.022	mg/Kg	8270D
1,2-Diphenylhydrazine	0.33	0.022	mg/Kg	8270D
1,3-Dichlorobenzene	0.33	0.012	mg/Kg	8270D
1,4-Dichlorobenzene	0.33	0.014	mg/Kg	8270D
2,2'-oxybis[1-chloropropane]	0.33	0.023	mg/Kg	8270D
2,4,5-Trichlorophenol	0.33	0.010	mg/Kg	8270D
2,4,6-Trichlorophenol	0.33	0.010	mg/Kg	8270D
2,4-Dichlorophenol	0.33	0.010	mg/Kg	8270D
2,4-Dimethylphenol	0.33	0.066	mg/Kg	8270D
2,4-Dinitrophenol	1.6	0.33	mg/Kg	8270D
2,4-Dinitrotoluene	0.33	0.066	mg/Kg	8270D
2,6-Dichlorophenol	0.33	0.069	mg/Kg	8270D
2,6-Dinitrotoluene	0.33	0.028	mg/Kg	8270D
2-Chloronaphthalene	0.33	0.010	mg/Kg	8270D
2-Chlorophenol	0.33	0.021	mg/Kg	8270D
2-Methylnaphthalene	0.33	0.019	mg/Kg	8270D
2-Methylphenol	0.33	0.013	mg/Kg	8270D
3 & 4 Methylphenol	0.33	0.033	mg/Kg	8270D
3,3'-Dichlorobenzidine	1.6	0.090	mg/Kg	8270D
3-Nitroaniline	1.6	0.073	mg/Kg	8270D
4,6-Dinitro-2-methylphenol	1.6	0.33	mg/Kg	8270D
4-Chloroaniline	0.33	0.082	mg/Kg	8270D
4-Chlorophenyl phenyl ether	0.33	0.021	mg/Kg	8270D
4-Nitroaniline	1.6	0.073	mg/Kg	8270D
4-Nitrophenol	1.6	0.097	mg/Kg	8270D
Acenaphthene	0.33	0.010	mg/Kg	8270D
Acenaphthylene	0.33	0.017	mg/Kg	8270D

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

Prep: 3550C

Analyte	LOQ	DL	Units	Method
Anthracene	0.33	0.017	mg/Kg	8270D
Benzidine	4.0	0.99	mg/Kg	8270D
Benzo[a]anthracene	0.33	0.020	mg/Kg	8270D
Benzo[a]pyrene	0.33	0.020	mg/Kg	8270D
Benzo[b]fluoranthene	0.33	0.026	mg/Kg	8270D
Benzo[g,h,i]perylene	0.33	0.016	mg/Kg	8270D
Benzo[k]fluoranthene	0.33	0.040	mg/Kg	8270D
Benzoic acid	1.6	0.33	mg/Kg	8270D
Benzyl alcohol	0.33	0.010	mg/Kg	8270D
Bis(2-chloroethoxy)methane	0.33	0.023	mg/Kg	8270D
Bis(2-chloroethyl)ether	0.33	0.017	mg/Kg	8270D
Bis(2-ethylhexyl) phthalate	0.33	0.046	mg/Kg	8270D
Butyl benzyl phthalate	0.33	0.043	mg/Kg	8270D
Carbazole	0.33	0.036	mg/Kg	8270D
Chrysene	0.33	0.027	mg/Kg	8270D
Dibenz(a,h)anthracene	0.33	0.019	mg/Kg	8270D
Dibenzofuran	0.33	0.020	mg/Kg	8270D
Diethyl phthalate	0.66	0.026	mg/Kg	8270D
Dimethyl phthalate	0.33	0.023	mg/Kg	8270D
Di-n-butyl phthalate	0.33	0.029	mg/Kg	8270D
Di-n-octyl phthalate	0.33	0.014	mg/Kg	8270D
Fluoranthene	0.33	0.036	mg/Kg	8270D
Fluorene	0.33	0.018	mg/Kg	8270D
Hexachlorobenzene	0.33	0.029	mg/Kg	8270D
Hexachlorobutadiene	0.33	0.010	mg/Kg	8270D
Hexachlorocyclopentadiene	1.7	0.050	mg/Kg	8270D
Hexachloroethane	0.33	0.021	mg/Kg	8270D
Indeno[1,2,3-cd]pyrene	0.33	0.022	mg/Kg	8270D
Isophorone	0.33	0.017	mg/Kg	8270D
Naphthalene	0.33	0.031	mg/Kg	8270D
Nitrobenzene	0.33	0.022	mg/Kg	8270D
N-Nitrosodimethylamine	0.52	0.037	mg/Kg	8270D
N-Nitrosodi-n-propylamine	0.33	0.031	mg/Kg	8270D
N-Nitrosodiphenylamine	0.33	0.021	mg/Kg	8270D
N-Nitrosopyrrolidine	0.33	0.064	mg/Kg	8270D
Pentachlorophenol	1.6	0.33	mg/Kg	8270D
Phenanthrene	0.33	0.017	mg/Kg	8270D
Phenol	0.33	0.018	mg/Kg	8270D
Pyrene	0.40	0.012	mg/Kg	8270D

Method: 6010C - Metals (ICP)

Prep: 3010A

Analyte	LOQ	DL	Units	Method
Aluminum	300	18	ug/L	6010C
Antimony	20	3.1	ug/L	6010C
Arsenic	25	4.4	ug/L	6010C
Barium	10	0.58	ug/L	6010C
Beryllium	1.5	0.47	ug/L	6010C
Cadmium	5.0	0.45	ug/L	6010C
Calcium	1000	35	ug/L	6010C

Method: 6010C - Metals (ICP) (Continued)
Prep: 3010A

Analyte	LOQ	DL	Units	Method
Chromium	15	0.66	ug/L	6010C
Cobalt	15	1.2	ug/L	6010C
Copper	15	4.2	ug/L	6010C
Iron	100	22	ug/L	6010C
Lead	15	2.6	ug/L	6010C
Magnesium	500	11	ug/L	6010C
Manganese	10	0.25	ug/L	6010C
Nickel	40	1.3	ug/L	6010C
Potassium	3000	240	ug/L	6010C
Selenium	22	4.9	ug/L	6010C
Silver	15	0.93	ug/L	6010C
Sodium	5000	92	ug/L	6010C
Thallium	40	4.9	ug/L	6010C
Vanadium	15	1.1	ug/L	6010C
Zinc	150	4.5	ug/L	6010C

Method: 6010C - Metals (ICP)
Prep: 3050B

Analyte	LOQ	DL	Units	Method
Aluminum	50	1.6	mg/Kg	6010C
Antimony	2.0	0.38	mg/Kg	6010C
Arsenic	2.5	0.66	mg/Kg	6010C
Barium	2.0	0.076	mg/Kg	6010C
Beryllium	0.50	0.033	mg/Kg	6010C
Cadmium	0.50	0.041	mg/Kg	6010C
Calcium	100	14	mg/Kg	6010C
Chromium	3.5	0.058	mg/Kg	6010C
Cobalt	1.0	0.10	mg/Kg	6010C
Copper	5.0	0.22	mg/Kg	6010C
Iron	80	3.8	mg/Kg	6010C
Lead	0.90	0.27	mg/Kg	6010C
Magnesium	30	3.7	mg/Kg	6010C
Manganese	4.5	0.10	mg/Kg	6010C
Nickel	4.0	0.12	mg/Kg	6010C
Potassium	300	41	mg/Kg	6010C
Selenium	3.0	0.86	mg/Kg	6010C
Silver	1.5	0.16	mg/Kg	6010C
Sodium	500	59	mg/Kg	6010C
Thallium	3.0	0.65	mg/Kg	6010C
Vanadium	2.0	0.094	mg/Kg	6010C
Zinc	8.0	0.40	mg/Kg	6010C

Method: 6010C - Metals (ICP) - Dissolved
Prep: 3005A

Analyte	LOQ	DL	Units	Method
Aluminum	300	18	ug/L	6010C
Antimony	20	3.1	ug/L	6010C
Arsenic	25	4.4	ug/L	6010C
Barium	10	0.58	ug/L	6010C
Beryllium	1.5	0.47	ug/L	6010C

Default Detection Limits

Client: Weston Solutions, Inc.
Project/Site: Schenectady ANGB, TU009

TestAmerica Job ID: 280-84353-1

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

Prep: 3005A

Analyte	LOQ	DL	Units	Method
Cadmium	5.0	0.45	ug/L	6010C
Calcium	1000	35	ug/L	6010C
Chromium	15	0.66	ug/L	6010C
Cobalt	15	1.2	ug/L	6010C
Copper	15	4.2	ug/L	6010C
Iron	100	22	ug/L	6010C
Lead	15	2.6	ug/L	6010C
Magnesium	500	11	ug/L	6010C
Manganese	10	0.25	ug/L	6010C
Nickel	40	1.3	ug/L	6010C
Potassium	3000	240	ug/L	6010C
Selenium	22	4.9	ug/L	6010C
Silver	15	0.93	ug/L	6010C
Sodium	5000	92	ug/L	6010C
Thallium	40	4.9	ug/L	6010C
Vanadium	15	1.1	ug/L	6010C
Zinc	150	4.5	ug/L	6010C

Method: 7470A - Mercury (CVAA)

Prep: 7470A

Analyte	LOQ	DL	Units	Method
Mercury	0.20	0.027	ug/L	7470A

Method: 7470A - Mercury (CVAA) - Dissolved

Prep: 7470A

Analyte	LOQ	DL	Units	Method
Hg	0.20	0.027	ug/L	7470A

Method: 7471A - Mercury (CVAA)

Prep: 7471A

Analyte	LOQ	DL	Units	Method
Mercury	0.017	0.0055	mg/Kg	7471A

Surrogate Summary

Client: Weston Solutions, Inc.
Project/Site: Schenectady ANGB, TU009

TestAmerica Job ID: 280-84353-1

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

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

		Percent Surrogate Recovery (Acceptance Limits)					
		TBP	FBP	2FP	NBZ	PHL	TPH
Lab Sample ID	Client Sample ID	(39-132)	(44-115)	(35-115)	(37-122)	(33-122)	(54-127)
280-84353-1	SC-TU009-MW001-S0305	64	69	72	68	71	77
280-84353-1 MS	SC-TU009-MW001-S0305	65	66	70	64	68	72
280-84353-1 MSD	SC-TU009-MW001-S0305	70	66	69	64	67	76
280-84353-2	SC-TU009-MW001-S0608	65	65	69	64	68	73
280-84353-3	SC-TU009-MW002-S0507	67	66	64	58	67	75
280-84353-4	SC-TU009-MW002-S0305	66	68	70	65	71	75
280-84353-5	SC-TU009-MW002-S0507-D	70	66	70	64	69	76
280-84353-6	SC-TU009-MW003-S0507	64	68	70	64	72	76
280-84353-7	SC-TU009-MW003-S0305	65	69	70	65	72	78
LCS 280-330220/2-A	Lab Control Sample	88	74	70	71	73	83
MB 280-330220/1-A	Method Blank	69	74	73	70	71	85

Surrogate Legend

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

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

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

		Percent Surrogate Recovery (Acceptance Limits)					
		TBP	FBP	2FP	NBZ	PHL	TPH
Lab Sample ID	Client Sample ID	(43-140)	(44-119)	(19-119)	(44-120)	(10-115)	(50-134)
280-84353-8	SC-TU009-EB060616	85	64	62	60	63	96
280-84353-9	SC-TU009-MW003-G-1	86	60	55	52	57	60
280-84353-10	SC-TU009-6MW24-G-1	62	62	43	53	44	49 Q
280-84353-11	SC-TU009-6MW22-G-1	7 Q	77	4 Q	68	3 Q	32 Q
280-84353-11 MS	SC-TU009-6MW22-G-1	7 Q	72	4 Q	67	4 Q	33 Q
280-84353-11 MSD	SC-TU009-6MW22-G-1	10 Q	72	9 Q	63	12	76
280-84353-12	SC-TU009-6MW22-G-1-D	7 Q	59	4 Q	55	4 Q	63
LCS 280-329438/2-A	Lab Control Sample	87	78	72	74	76	84
MB 280-329438/1-A	Method Blank	80	69	74	74	71	89

Surrogate Legend

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

QC Association Summary

Client: Weston Solutions, Inc.
Project/Site: Schenectady ANGB, TU009

TestAmerica Job ID: 280-84353-1

GC/MS Semi VOA

Prep Batch: 329438

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-84353-8	SC-TU009-EB060616	Total/NA	Water	3520C	
280-84353-9	SC-TU009-MW003-G-1	Total/NA	Water	3520C	
280-84353-10	SC-TU009-6MW24-G-1	Total/NA	Water	3520C	
280-84353-11	SC-TU009-6MW22-G-1	Total/NA	Water	3520C	
280-84353-12	SC-TU009-6MW22-G-1-D	Total/NA	Water	3520C	
MB 280-329438/1-A	Method Blank	Total/NA	Water	3520C	
LCS 280-329438/2-A	Lab Control Sample	Total/NA	Water	3520C	
280-84353-11 MS	SC-TU009-6MW22-G-1	Total/NA	Water	3520C	
280-84353-11 MSD	SC-TU009-6MW22-G-1	Total/NA	Water	3520C	

Prep Batch: 330220

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-84353-1	SC-TU009-MW001-S0305	Total/NA	Solid	3550C	
280-84353-2	SC-TU009-MW001-S0608	Total/NA	Solid	3550C	
280-84353-3	SC-TU009-MW002-S0507	Total/NA	Solid	3550C	
280-84353-4	SC-TU009-MW002-S0305	Total/NA	Solid	3550C	
280-84353-5	SC-TU009-MW002-S0507-D	Total/NA	Solid	3550C	
280-84353-6	SC-TU009-MW003-S0507	Total/NA	Solid	3550C	
280-84353-7	SC-TU009-MW003-S0305	Total/NA	Solid	3550C	
MB 280-330220/1-A	Method Blank	Total/NA	Solid	3550C	
LCS 280-330220/2-A	Lab Control Sample	Total/NA	Solid	3550C	
280-84353-1 MS	SC-TU009-MW001-S0305	Total/NA	Solid	3550C	
280-84353-1 MSD	SC-TU009-MW001-S0305	Total/NA	Solid	3550C	

Analysis Batch: 331506

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-84353-8	SC-TU009-EB060616	Total/NA	Water	8270D	329438
280-84353-9	SC-TU009-MW003-G-1	Total/NA	Water	8270D	329438
280-84353-10	SC-TU009-6MW24-G-1	Total/NA	Water	8270D	329438
280-84353-11	SC-TU009-6MW22-G-1	Total/NA	Water	8270D	329438
280-84353-12	SC-TU009-6MW22-G-1-D	Total/NA	Water	8270D	329438
MB 280-329438/1-A	Method Blank	Total/NA	Water	8270D	329438
LCS 280-329438/2-A	Lab Control Sample	Total/NA	Water	8270D	329438
280-84353-11 MS	SC-TU009-6MW22-G-1	Total/NA	Water	8270D	329438
280-84353-11 MSD	SC-TU009-6MW22-G-1	Total/NA	Water	8270D	329438

Analysis Batch: 331547

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 280-330220/1-A	Method Blank	Total/NA	Solid	8270D	330220
LCS 280-330220/2-A	Lab Control Sample	Total/NA	Solid	8270D	330220

Analysis Batch: 331745

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-84353-1	SC-TU009-MW001-S0305	Total/NA	Solid	8270D	330220
280-84353-2	SC-TU009-MW001-S0608	Total/NA	Solid	8270D	330220
280-84353-3	SC-TU009-MW002-S0507	Total/NA	Solid	8270D	330220
280-84353-4	SC-TU009-MW002-S0305	Total/NA	Solid	8270D	330220
280-84353-5	SC-TU009-MW002-S0507-D	Total/NA	Solid	8270D	330220
280-84353-6	SC-TU009-MW003-S0507	Total/NA	Solid	8270D	330220
280-84353-7	SC-TU009-MW003-S0305	Total/NA	Solid	8270D	330220
280-84353-1 MS	SC-TU009-MW001-S0305	Total/NA	Solid	8270D	330220

GC/MS Semi VOA (Continued)

Analysis Batch: 331745 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-84353-1 MSD	SC-TU009-MW001-S0305	Total/NA	Solid	8270D	330220

Metals

Prep Batch: 329782

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-84353-9	SC-TU009-MW003-G-1	Dissolved	Water	7470A	
280-84353-10	SC-TU009-6MW24-G-1	Dissolved	Water	7470A	
280-84353-11	SC-TU009-6MW22-G-1	Dissolved	Water	7470A	
280-84353-12	SC-TU009-6MW22-G-1-D	Dissolved	Water	7470A	
MB 280-329782/1-A	Method Blank	Total/NA	Water	7470A	
LCS 280-329782/2-A	Lab Control Sample	Total/NA	Water	7470A	
280-84353-11 MS	SC-TU009-6MW22-G-1	Dissolved	Water	7470A	
280-84353-11 MSD	SC-TU009-6MW22-G-1	Dissolved	Water	7470A	

Prep Batch: 329784

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-84353-8	SC-TU009-EB060616	Total/NA	Water	7470A	
280-84353-9	SC-TU009-MW003-G-1	Total/NA	Water	7470A	
280-84353-10	SC-TU009-6MW24-G-1	Total/NA	Water	7470A	
280-84353-11	SC-TU009-6MW22-G-1	Total/NA	Water	7470A	
280-84353-12	SC-TU009-6MW22-G-1-D	Total/NA	Water	7470A	
MB 280-329784/1-A	Method Blank	Total/NA	Water	7470A	
LCS 280-329784/2-A	Lab Control Sample	Total/NA	Water	7470A	
280-84353-11 MS	SC-TU009-6MW22-G-1	Total/NA	Water	7470A	
280-84353-11 MSD	SC-TU009-6MW22-G-1	Total/NA	Water	7470A	

Prep Batch: 329790

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-84353-1	SC-TU009-MW001-S0305	Total/NA	Solid	7471A	
280-84353-2	SC-TU009-MW001-S0608	Total/NA	Solid	7471A	
280-84353-3	SC-TU009-MW002-S0507	Total/NA	Solid	7471A	
280-84353-4	SC-TU009-MW002-S0305	Total/NA	Solid	7471A	
280-84353-5	SC-TU009-MW002-S0507-D	Total/NA	Solid	7471A	
280-84353-6	SC-TU009-MW003-S0507	Total/NA	Solid	7471A	
280-84353-7	SC-TU009-MW003-S0305	Total/NA	Solid	7471A	
MB 280-329790/1-A	Method Blank	Total/NA	Solid	7471A	
LCS 280-329790/2-A	Lab Control Sample	Total/NA	Solid	7471A	
280-84353-1 MS	SC-TU009-MW001-S0305	Total/NA	Solid	7471A	
280-84353-1 MSD	SC-TU009-MW001-S0305	Total/NA	Solid	7471A	

Analysis Batch: 330194

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-84353-8	SC-TU009-EB060616	Total/NA	Water	7470A	329784
280-84353-9	SC-TU009-MW003-G-1	Dissolved	Water	7470A	329782
280-84353-9	SC-TU009-MW003-G-1	Total/NA	Water	7470A	329784
280-84353-10	SC-TU009-6MW24-G-1	Dissolved	Water	7470A	329782
280-84353-10	SC-TU009-6MW24-G-1	Total/NA	Water	7470A	329784
280-84353-11	SC-TU009-6MW22-G-1	Dissolved	Water	7470A	329782
280-84353-11	SC-TU009-6MW22-G-1	Total/NA	Water	7470A	329784

Metals (Continued)

Analysis Batch: 330194 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-84353-12	SC-TU009-6MW22-G-1-D	Dissolved	Water	7470A	329782
280-84353-12	SC-TU009-6MW22-G-1-D	Total/NA	Water	7470A	329784
MB 280-329782/1-A	Method Blank	Total/NA	Water	7470A	329782
MB 280-329784/1-A	Method Blank	Total/NA	Water	7470A	329784
LCS 280-329782/2-A	Lab Control Sample	Total/NA	Water	7470A	329782
LCS 280-329784/2-A	Lab Control Sample	Total/NA	Water	7470A	329784
280-84353-11 MS	SC-TU009-6MW22-G-1	Dissolved	Water	7470A	329782
280-84353-11 MS	SC-TU009-6MW22-G-1	Total/NA	Water	7470A	329784
280-84353-11 MSD	SC-TU009-6MW22-G-1	Dissolved	Water	7470A	329782
280-84353-11 MSD	SC-TU009-6MW22-G-1	Total/NA	Water	7470A	329784

Analysis Batch: 330428

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-84353-1	SC-TU009-MW001-S0305	Total/NA	Solid	7471A	329790
280-84353-2	SC-TU009-MW001-S0608	Total/NA	Solid	7471A	329790
280-84353-3	SC-TU009-MW002-S0507	Total/NA	Solid	7471A	329790
280-84353-4	SC-TU009-MW002-S0305	Total/NA	Solid	7471A	329790
280-84353-5	SC-TU009-MW002-S0507-D	Total/NA	Solid	7471A	329790
280-84353-6	SC-TU009-MW003-S0507	Total/NA	Solid	7471A	329790
280-84353-7	SC-TU009-MW003-S0305	Total/NA	Solid	7471A	329790
MB 280-329790/1-A	Method Blank	Total/NA	Solid	7471A	329790
LCS 280-329790/2-A	Lab Control Sample	Total/NA	Solid	7471A	329790
280-84353-1 MS	SC-TU009-MW001-S0305	Total/NA	Solid	7471A	329790
280-84353-1 MSD	SC-TU009-MW001-S0305	Total/NA	Solid	7471A	329790

Prep Batch: 330578

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-84353-9	SC-TU009-MW003-G-1	Dissolved	Water	3005A	
280-84353-10	SC-TU009-6MW24-G-1	Dissolved	Water	3005A	
280-84353-11	SC-TU009-6MW22-G-1	Dissolved	Water	3005A	
280-84353-12	SC-TU009-6MW22-G-1-D	Dissolved	Water	3005A	
MB 280-330578/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 280-330578/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
280-84353-11 MS	SC-TU009-6MW22-G-1	Dissolved	Water	3005A	
280-84353-11 MSD	SC-TU009-6MW22-G-1	Dissolved	Water	3005A	

Prep Batch: 330579

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-84353-8	SC-TU009-EB060616	Total/NA	Water	3010A	
280-84353-9	SC-TU009-MW003-G-1	Total/NA	Water	3010A	
280-84353-10	SC-TU009-6MW24-G-1	Total/NA	Water	3010A	
280-84353-11	SC-TU009-6MW22-G-1	Total/NA	Water	3010A	
280-84353-12	SC-TU009-6MW22-G-1-D	Total/NA	Water	3010A	
MB 280-330579/1-A	Method Blank	Total/NA	Water	3010A	
LCS 280-330579/2-A	Lab Control Sample	Total/NA	Water	3010A	
280-84353-11 MS	SC-TU009-6MW22-G-1	Total/NA	Water	3010A	
280-84353-11 MSD	SC-TU009-6MW22-G-1	Total/NA	Water	3010A	

Analysis Batch: 331269

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-84353-8	SC-TU009-EB060616	Total/NA	Water	6010C	330579

Metals (Continued)

Analysis Batch: 331269 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-84353-9	SC-TU009-MW003-G-1	Total/NA	Water	6010C	330579
280-84353-10	SC-TU009-6MW24-G-1	Total/NA	Water	6010C	330579
280-84353-11	SC-TU009-6MW22-G-1	Total/NA	Water	6010C	330579
280-84353-12	SC-TU009-6MW22-G-1-D	Total/NA	Water	6010C	330579
MB 280-330579/1-A	Method Blank	Total/NA	Water	6010C	330579
LCS 280-330579/2-A	Lab Control Sample	Total/NA	Water	6010C	330579
280-84353-11 MS	SC-TU009-6MW22-G-1	Total/NA	Water	6010C	330579
280-84353-11 MSD	SC-TU009-6MW22-G-1	Total/NA	Water	6010C	330579

Analysis Batch: 331349

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-84353-8	SC-TU009-EB060616	Total/NA	Water	6010C	330579
280-84353-9	SC-TU009-MW003-G-1	Total/NA	Water	6010C	330579
280-84353-10	SC-TU009-6MW24-G-1	Total/NA	Water	6010C	330579
280-84353-11	SC-TU009-6MW22-G-1	Total/NA	Water	6010C	330579
280-84353-12	SC-TU009-6MW22-G-1-D	Total/NA	Water	6010C	330579
MB 280-330579/1-A	Method Blank	Total/NA	Water	6010C	330579
LCS 280-330579/2-A	Lab Control Sample	Total/NA	Water	6010C	330579
280-84353-11 MS	SC-TU009-6MW22-G-1	Total/NA	Water	6010C	330579
280-84353-11 MSD	SC-TU009-6MW22-G-1	Total/NA	Water	6010C	330579

Analysis Batch: 331399

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-84353-9	SC-TU009-MW003-G-1	Dissolved	Water	6010C	330578
280-84353-10	SC-TU009-6MW24-G-1	Dissolved	Water	6010C	330578
280-84353-11	SC-TU009-6MW22-G-1	Dissolved	Water	6010C	330578
280-84353-12	SC-TU009-6MW22-G-1-D	Dissolved	Water	6010C	330578
MB 280-330578/1-A	Method Blank	Total Recoverable	Water	6010C	330578
LCS 280-330578/2-A	Lab Control Sample	Total Recoverable	Water	6010C	330578
280-84353-11 MS	SC-TU009-6MW22-G-1	Dissolved	Water	6010C	330578
280-84353-11 MSD	SC-TU009-6MW22-G-1	Dissolved	Water	6010C	330578

Prep Batch: 331450

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-84353-1	SC-TU009-MW001-S0305	Total/NA	Solid	3050B	
280-84353-2	SC-TU009-MW001-S0608	Total/NA	Solid	3050B	
280-84353-3	SC-TU009-MW002-S0507	Total/NA	Solid	3050B	
280-84353-4	SC-TU009-MW002-S0305	Total/NA	Solid	3050B	
280-84353-5	SC-TU009-MW002-S0507-D	Total/NA	Solid	3050B	
280-84353-6	SC-TU009-MW003-S0507	Total/NA	Solid	3050B	
280-84353-7	SC-TU009-MW003-S0305	Total/NA	Solid	3050B	
MB 280-331450/1-A	Method Blank	Total/NA	Solid	3050B	
LCS 280-331450/2-A	Lab Control Sample	Total/NA	Solid	3050B	
280-84353-1 MS	SC-TU009-MW001-S0305	Total/NA	Solid	3050B	
280-84353-1 MSD	SC-TU009-MW001-S0305	Total/NA	Solid	3050B	

Analysis Batch: 331465

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-84353-8	SC-TU009-EB060616	Total/NA	Water	6010C	330579
280-84353-9	SC-TU009-MW003-G-1	Total/NA	Water	6010C	330579
280-84353-10	SC-TU009-6MW24-G-1	Total/NA	Water	6010C	330579

Metals (Continued)

Analysis Batch: 331465 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-84353-11	SC-TU009-6MW22-G-1	Total/NA	Water	6010C	330579
280-84353-12	SC-TU009-6MW22-G-1-D	Total/NA	Water	6010C	330579
MB 280-330579/1-A	Method Blank	Total/NA	Water	6010C	330579
LCS 280-330579/2-A	Lab Control Sample	Total/NA	Water	6010C	330579
280-84353-11 MS	SC-TU009-6MW22-G-1	Total/NA	Water	6010C	330579
280-84353-11 MSD	SC-TU009-6MW22-G-1	Total/NA	Water	6010C	330579

Analysis Batch: 331602

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-84353-9	SC-TU009-MW003-G-1	Dissolved	Water	6010C	330578
280-84353-9	SC-TU009-MW003-G-1	Dissolved	Water	6010C	330578
280-84353-10	SC-TU009-6MW24-G-1	Dissolved	Water	6010C	330578
280-84353-11	SC-TU009-6MW22-G-1	Dissolved	Water	6010C	330578
280-84353-12	SC-TU009-6MW22-G-1-D	Dissolved	Water	6010C	330578
MB 280-330578/1-A	Method Blank	Total Recoverable	Water	6010C	330578
LCS 280-330578/2-A	Lab Control Sample	Total Recoverable	Water	6010C	330578
280-84353-11 MS	SC-TU009-6MW22-G-1	Dissolved	Water	6010C	330578
280-84353-11 MSD	SC-TU009-6MW22-G-1	Dissolved	Water	6010C	330578

Analysis Batch: 332132

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-84353-1	SC-TU009-MW001-S0305	Total/NA	Solid	6010C	331450
280-84353-2	SC-TU009-MW001-S0608	Total/NA	Solid	6010C	331450
280-84353-3	SC-TU009-MW002-S0507	Total/NA	Solid	6010C	331450
280-84353-4	SC-TU009-MW002-S0305	Total/NA	Solid	6010C	331450
280-84353-5	SC-TU009-MW002-S0507-D	Total/NA	Solid	6010C	331450
280-84353-6	SC-TU009-MW003-S0507	Total/NA	Solid	6010C	331450
280-84353-7	SC-TU009-MW003-S0305	Total/NA	Solid	6010C	331450
MB 280-331450/1-A	Method Blank	Total/NA	Solid	6010C	331450
LCS 280-331450/2-A	Lab Control Sample	Total/NA	Solid	6010C	331450
280-84353-1 MS	SC-TU009-MW001-S0305	Total/NA	Solid	6010C	331450
280-84353-1 MSD	SC-TU009-MW001-S0305	Total/NA	Solid	6010C	331450

Analysis Batch: 332145

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-84353-2	SC-TU009-MW001-S0608	Total/NA	Solid	6010C	331450
280-84353-3	SC-TU009-MW002-S0507	Total/NA	Solid	6010C	331450
280-84353-4	SC-TU009-MW002-S0305	Total/NA	Solid	6010C	331450
280-84353-5	SC-TU009-MW002-S0507-D	Total/NA	Solid	6010C	331450
280-84353-6	SC-TU009-MW003-S0507	Total/NA	Solid	6010C	331450
280-84353-7	SC-TU009-MW003-S0305	Total/NA	Solid	6010C	331450
MB 280-331450/1-A	Method Blank	Total/NA	Solid	6010C	331450
LCS 280-331450/2-A	Lab Control Sample	Total/NA	Solid	6010C	331450

Analysis Batch: 332314

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-84353-2	SC-TU009-MW001-S0608	Total/NA	Solid	6010C	331450
280-84353-3	SC-TU009-MW002-S0507	Total/NA	Solid	6010C	331450
280-84353-4	SC-TU009-MW002-S0305	Total/NA	Solid	6010C	331450
280-84353-5	SC-TU009-MW002-S0507-D	Total/NA	Solid	6010C	331450
280-84353-6	SC-TU009-MW003-S0507	Total/NA	Solid	6010C	331450

Metals (Continued)

Analysis Batch: 332314 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-84353-7	SC-TU009-MW003-S0305	Total/NA	Solid	6010C	331450

Analysis Batch: 332346

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-84353-1	SC-TU009-MW001-S0305	Total/NA	Solid	6010C	331450
MB 280-331450/1-A	Method Blank	Total/NA	Solid	6010C	331450
LCS 280-331450/2-A	Lab Control Sample	Total/NA	Solid	6010C	331450
280-84353-1 MS	SC-TU009-MW001-S0305	Total/NA	Solid	6010C	331450
280-84353-1 MSD	SC-TU009-MW001-S0305	Total/NA	Solid	6010C	331450

General Chemistry

Analysis Batch: 329700

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-84353-1	SC-TU009-MW001-S0305	Total/NA	Solid	Moisture	
280-84353-2	SC-TU009-MW001-S0608	Total/NA	Solid	Moisture	
280-84353-3	SC-TU009-MW002-S0507	Total/NA	Solid	Moisture	
280-84353-4	SC-TU009-MW002-S0305	Total/NA	Solid	Moisture	
280-84353-5	SC-TU009-MW002-S0507-D	Total/NA	Solid	Moisture	
280-84353-6	SC-TU009-MW003-S0507	Total/NA	Solid	Moisture	
280-84353-7	SC-TU009-MW003-S0305	Total/NA	Solid	Moisture	
280-84353-1 DU	SC-TU009-MW001-S0305	Total/NA	Solid	Moisture	

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

Lab Sample ID: MB 280-329438/1-A
Matrix: Water
Analysis Batch: 331506

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 329438

Analyte	MB Result	MB Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4,5-Tetrachlorobenzene	4.4	U	10	1.7	ug/L		06/11/16 15:20	06/27/16 15:47	1
1,2,4-Trichlorobenzene	1.0	U	10	0.28	ug/L		06/11/16 15:20	06/27/16 15:47	1
1,2-Dichlorobenzene	0.50	U	10	0.23	ug/L		06/11/16 15:20	06/27/16 15:47	1
1,2-Diphenylhydrazine	0.51	U	10	0.23	ug/L		06/11/16 15:20	06/27/16 15:47	1
1,3-Dichlorobenzene	1.0	U	10	0.30	ug/L		06/11/16 15:20	06/27/16 15:47	1
1,4-Dichlorobenzene	1.0	U	10	0.32	ug/L		06/11/16 15:20	06/27/16 15:47	1
2,2'-oxybis[1-chloropropane]	1.0	U	10	0.28	ug/L		06/11/16 15:20	06/27/16 15:47	1
2,4,5-Trichlorophenol	1.0	U	20	0.45	ug/L		06/11/16 15:20	06/27/16 15:47	1
2,4,6-Trichlorophenol	1.0	U	20	0.29	ug/L		06/11/16 15:20	06/27/16 15:47	1
2,4-Dichlorophenol	2.0	U	10	0.64	ug/L		06/11/16 15:20	06/27/16 15:47	1
2,4-Dimethylphenol	2.0	U	10	0.58	ug/L		06/11/16 15:20	06/27/16 15:47	1
2,4-Dinitrophenol	30	U	80	10	ug/L		06/11/16 15:20	06/27/16 15:47	1
2,4-Dinitrotoluene	4.4	U	20	1.7	ug/L		06/11/16 15:20	06/27/16 15:47	1
2,6-Dichlorophenol	4.0	U	10	1.4	ug/L		06/11/16 15:20	06/27/16 15:47	1
2,6-Dinitrotoluene	4.4	U	20	1.9	ug/L		06/11/16 15:20	06/27/16 15:47	1
2-Chloronaphthalene	1.0	U	10	0.26	ug/L		06/11/16 15:20	06/27/16 15:47	1
2-Chlorophenol	4.4	U	10	2.0	ug/L		06/11/16 15:20	06/27/16 15:47	1
2-Methylnaphthalene	1.0	U	10	0.29	ug/L		06/11/16 15:20	06/27/16 15:47	1
2-Methylphenol	2.0	U	10	0.98	ug/L		06/11/16 15:20	06/27/16 15:47	1
3 & 4 Methylphenol	0.50	U	20	0.25	ug/L		06/11/16 15:20	06/27/16 15:47	1
3,3'-Dichlorobenzidine	4.4	U	50	2.0	ug/L		06/11/16 15:20	06/27/16 15:47	1
3-Nitroaniline	4.4	U	50	2.0	ug/L		06/11/16 15:20	06/27/16 15:47	1
4,6-Dinitro-2-methylphenol	8.8	U	80	4.0	ug/L		06/11/16 15:20	06/27/16 15:47	1
4-Chloroaniline	4.4	U	25	2.1	ug/L		06/11/16 15:20	06/27/16 15:47	1
4-Chlorophenyl phenyl ether	4.4	U	10	1.7	ug/L		06/11/16 15:20	06/27/16 15:47	1
4-Nitroaniline	4.4	U	50	2.0	ug/L		06/11/16 15:20	06/27/16 15:47	1
4-Nitrophenol	4.0	U	50	1.2	ug/L		06/11/16 15:20	06/27/16 15:47	1
Acenaphthene	1.0	U	10	0.28	ug/L		06/11/16 15:20	06/27/16 15:47	1
Acenaphthylene	1.0	U	10	0.49	ug/L		06/11/16 15:20	06/27/16 15:47	1
Anthracene	1.0	U	10	0.42	ug/L		06/11/16 15:20	06/27/16 15:47	1
Benzidine	100	U	200	50	ug/L		06/11/16 15:20	06/27/16 15:47	1
Benzo[a]anthracene	1.0	U	10	0.35	ug/L		06/11/16 15:20	06/27/16 15:47	1
Benzo[a]pyrene	1.0	U	10	0.31	ug/L		06/11/16 15:20	06/27/16 15:47	1
Benzo[b]fluoranthene	2.0	U	10	0.53	ug/L		06/11/16 15:20	06/27/16 15:47	1
Benzo[g,h,i]perylene	1.0	U	10	0.50	ug/L		06/11/16 15:20	06/27/16 15:47	1
Benzo[k]fluoranthene	1.0	U	10	0.46	ug/L		06/11/16 15:20	06/27/16 15:47	1
Benzoic acid	30	U	80	10	ug/L		06/11/16 15:20	06/27/16 15:47	1
Benzyl alcohol	0.692	J	25	0.23	ug/L		06/11/16 15:20	06/27/16 15:47	1
Bis(2-chloroethoxy)methane	2.0	U	10	0.97	ug/L		06/11/16 15:20	06/27/16 15:47	1
Bis(2-chloroethyl)ether	1.0	U	20	0.41	ug/L		06/11/16 15:20	06/27/16 15:47	1
Bis(2-ethylhexyl) phthalate	1.57	J	10	0.56	ug/L		06/11/16 15:20	06/27/16 15:47	1
Butyl benzyl phthalate	2.0	U	20	1.0	ug/L		06/11/16 15:20	06/27/16 15:47	1
Carbazole	1.0	U	10	0.43	ug/L		06/11/16 15:20	06/27/16 15:47	1
Chrysene	2.0	U	10	0.54	ug/L		06/11/16 15:20	06/27/16 15:47	1
Dibenz(a,h)anthracene	2.0	U	10	0.51	ug/L		06/11/16 15:20	06/27/16 15:47	1
Dibenzofuran	1.0	U	10	0.29	ug/L		06/11/16 15:20	06/27/16 15:47	1
Diethyl phthalate	1.0	U	20	0.38	ug/L		06/11/16 15:20	06/27/16 15:47	1
Dimethyl phthalate	0.50	U	20	0.21	ug/L		06/11/16 15:20	06/27/16 15:47	1

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

Lab Sample ID: MB 280-329438/1-A
Matrix: Water
Analysis Batch: 331506

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 329438

Analyte	MB Result	MB Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Di-n-butyl phthalate	4.4	U	20	1.2	ug/L		06/11/16 15:20	06/27/16 15:47	1
Di-n-octyl phthalate	1.0	U	20	0.35	ug/L		06/11/16 15:20	06/27/16 15:47	1
Fluoranthene	0.50	U	20	0.20	ug/L		06/11/16 15:20	06/27/16 15:47	1
Fluorene	1.0	U	10	0.31	ug/L		06/11/16 15:20	06/27/16 15:47	1
Hexachlorobenzene	2.0	U	10	0.66	ug/L		06/11/16 15:20	06/27/16 15:47	1
Hexachlorobutadiene	10	U	30	3.3	ug/L		06/11/16 15:20	06/27/16 15:47	1
Hexachlorocyclopentadiene	30	U	50	10	ug/L		06/11/16 15:20	06/27/16 15:47	1
Hexachloroethane	4.4	U	10	2.1	ug/L		06/11/16 15:20	06/27/16 15:47	1
Indeno[1,2,3-cd]pyrene	2.0	U	10	0.65	ug/L		06/11/16 15:20	06/27/16 15:47	1
Isophorone	0.50	U	10	0.21	ug/L		06/11/16 15:20	06/27/16 15:47	1
Naphthalene	1.0	U	10	0.29	ug/L		06/11/16 15:20	06/27/16 15:47	1
Nitrobenzene	2.0	U	20	0.81	ug/L		06/11/16 15:20	06/27/16 15:47	1
N-Nitrosodimethylamine	1.0	U	10	0.29	ug/L		06/11/16 15:20	06/27/16 15:47	1
N-Nitrosodi-n-propylamine	1.0	U	20	0.35	ug/L		06/11/16 15:20	06/27/16 15:47	1
N-Nitrosodiphenylamine	1.0	U	10	0.44	ug/L		06/11/16 15:20	06/27/16 15:47	1
N-Nitrosopyrrolidine	2.0	U	10	0.80	ug/L		06/11/16 15:20	06/27/16 15:47	1
Pentachlorophenol	60	U	80	20	ug/L		06/11/16 15:20	06/27/16 15:47	1
Phenanthrene	1.0	U	10	0.26	ug/L		06/11/16 15:20	06/27/16 15:47	1
Phenol	4.4	U	10	2.0	ug/L		06/11/16 15:20	06/27/16 15:47	1
Pyrene	1.0	U	10	0.37	ug/L		06/11/16 15:20	06/27/16 15:47	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*80*		*43 - 140*	*06/11/16 15:20*	*06/27/16 15:47*	*1*
2-Fluorobiphenyl	*69*		*44 - 119*	*06/11/16 15:20*	*06/27/16 15:47*	*1*
2-Fluorophenol (Surr)	*74*		*19 - 119*	*06/11/16 15:20*	*06/27/16 15:47*	*1*
Nitrobenzene-d5 (Surr)	*74*		*44 - 120*	*06/11/16 15:20*	*06/27/16 15:47*	*1*
Phenol-d5 (Surr)	*71*		*10 - 115*	*06/11/16 15:20*	*06/27/16 15:47*	*1*
Terphenyl-d14 (Surr)	*89*		*50 - 134*	*06/11/16 15:20*	*06/27/16 15:47*	*1*

Lab Sample ID: LCS 280-329438/2-A
Matrix: Water
Analysis Batch: 331506

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 329438

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2,4,5-Tetrachlorobenzene	80.0	50.6		ug/L		63	35 - 121
1,2,4-Trichlorobenzene	80.0	34.1		ug/L		43	29 - 116
1,2-Dichlorobenzene	80.0	31.3		ug/L		39	32 - 111
1,2-Diphenylhydrazine	80.9	61.5		ug/L		76	49 - 122
1,3-Dichlorobenzene	80.0	28.7		ug/L		36	28 - 110
1,4-Dichlorobenzene	80.0	29.5		ug/L		37	29 - 112
2,2'-oxybis[1-chloropropane]	80.0	49.9		ug/L		62	37 - 130
2,4,5-Trichlorophenol	80.0	62.7		ug/L		78	53 - 123
2,4,6-Trichlorophenol	80.0	65.0		ug/L		81	50 - 125
2,4-Dichlorophenol	80.0	62.6		ug/L		78	47 - 121
2,4-Dimethylphenol	80.0	57.3		ug/L		72	31 - 124
2,4-Dinitrophenol	160	115		ug/L		72	23 - 143
2,4-Dinitrotoluene	80.0	68.0		ug/L		85	57 - 128
2,6-Dichlorophenol	80.0	64.1		ug/L		80	50 - 118

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

Lab Sample ID: LCS 280-329438/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 331506 — **Prep Batch: 329438**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
2,6-Dinitrotoluene	80.0	67.8		ug/L		85	57 - 124
2-Chloronaphthalene	80.0	52.2		ug/L		65	40 - 116
2-Chlorophenol	80.0	58.5		ug/L		73	38 - 117
2-Methylnaphthalene	80.0	48.9		ug/L		61	40 - 121
2-Methylphenol	80.0	58.1		ug/L		73	30 - 117
3 & 4 Methylphenol	80.0	58.5		ug/L		73	29 - 110
3,3'-Dichlorobenzidine	80.0	77.4		ug/L		97	27 - 129
3-Nitroaniline	80.0	63.4		ug/L		79	41 - 128
4,6-Dinitro-2-methylphenol	160	120		ug/L		75	44 - 137
4-Chloroaniline	80.0	56.6		ug/L		71	33 - 117
4-Chlorophenyl phenyl ether	80.0	59.5		ug/L		74	53 - 121
4-Nitroaniline	80.0	64.2		ug/L		80	70 - 120
4-Nitrophenol	160	137		ug/L		85	59 - 129
Acenaphthene	80.0	58.2		ug/L		73	47 - 122
Acenaphthylene	80.0	57.5		ug/L		72	41 - 130
Anthracene	80.0	63.7		ug/L		80	57 - 123
Benzidine	80.0	100	U Q	ug/L		0	27 - 150
Benzo[a]anthracene	80.0	64.1		ug/L		80	58 - 125
Benzo[a]pyrene	80.0	62.6		ug/L		78	54 - 128
Benzo[b]fluoranthene	80.0	65.5		ug/L		82	53 - 131
Benzo[g,h,i]perylene	80.0	65.4		ug/L		82	50 - 134
Benzo[k]fluoranthene	80.0	63.9		ug/L		80	57 - 129
Benzoic acid	80.0	56.4	J	ug/L		70	41 - 120
Benzyl alcohol	80.0	61.0		ug/L		76	31 - 112
Bis(2-chloroethoxy)methane	80.0	62.7		ug/L		78	48 - 120
Bis(2-chloroethyl)ether	80.0	58.5		ug/L		73	43 - 118
Bis(2-ethylhexyl) phthalate	80.0	69.9		ug/L		87	55 - 135
Butyl benzyl phthalate	80.0	65.1		ug/L		81	53 - 134
Carbazole	80.0	65.0		ug/L		81	60 - 122
Chrysene	80.0	65.8		ug/L		82	59 - 123
Dibenz(a,h)anthracene	80.0	63.2		ug/L		79	51 - 134
Dibenzofuran	80.0	60.0		ug/L		75	53 - 118
Diethyl phthalate	80.0	67.3		ug/L		84	56 - 125
Dimethyl phthalate	80.0	66.6		ug/L		83	45 - 127
Di-n-butyl phthalate	80.0	65.0		ug/L		81	59 - 127
Di-n-octyl phthalate	80.0	65.9		ug/L		82	51 - 140
Fluoranthene	80.0	64.2		ug/L		80	57 - 128
Fluorene	80.0	60.5		ug/L		76	52 - 124
Hexachlorobenzene	80.0	63.6		ug/L		80	53 - 125
Hexachlorobutadiene	80.0	28.1	J	ug/L		35	22 - 124
Hexachlorocyclopentadiene	80.0	18.8	J	ug/L		24	10 - 120
Hexachloroethane	80.0	25.0		ug/L		31	21 - 115
Indeno[1,2,3-cd]pyrene	80.0	61.8		ug/L		77	52 - 134
Isophorone	80.0	60.9		ug/L		76	42 - 124
Naphthalene	80.0	43.8		ug/L		55	40 - 121
Nitrobenzene	80.0	58.9		ug/L		74	45 - 121
N-Nitrosodimethylamine	80.0	57.1		ug/L		71	56 - 120
N-Nitrosodi-n-propylamine	80.0	58.5		ug/L		73	49 - 119

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

Lab Sample ID: LCS 280-329438/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 331506 — **Prep Batch: 329438**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
N-Nitrosodiphenylamine	80.0	63.8		ug/L		80	51 - 123
Pentachlorophenol	160	119		ug/L		74	35 - 138
Phenanthrene	80.0	64.2		ug/L		80	59 - 120
Phenol	80.0	57.0		ug/L		71	61 - 120
Pyrene	80.0	64.4		ug/L		80	57 - 126

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2,4,6-Tribromophenol (Surr)	*87*		*43 - 140*
2-Fluorobiphenyl	*78*		*44 - 119*
2-Fluorophenol (Surr)	*72*		*19 - 119*
Nitrobenzene-d5 (Surr)	*74*		*44 - 120*
Phenol-d5 (Surr)	*76*		*10 - 115*
Terphenyl-d14 (Surr)	*84*		*50 - 134*

Lab Sample ID: 280-84353-11 MS — **Client Sample ID: SC-TU009-6MW22-G-1**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 331506 — **Prep Batch: 329438**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2,4,5-Tetrachlorobenzene	4.4	U	80.4	48.5		ug/L		60	35 - 121
1,2,4-Trichlorobenzene	0.99	U	80.4	44.5		ug/L		55	29 - 116
1,2-Dichlorobenzene	0.50	U	80.4	40.7		ug/L		51	32 - 111
1,2-Diphenylhydrazine	0.50	U	81.3	57.3		ug/L		71	49 - 122
1,3-Dichlorobenzene	0.99	U	80.4	38.1		ug/L		47	28 - 110
1,4-Dichlorobenzene	0.99	U	80.4	39.0		ug/L		49	29 - 112
2,2'-oxybis[1-chloropropane]	0.99	U	80.4	47.9		ug/L		60	37 - 130
2,4,5-Trichlorophenol	0.99	U Q J	80.4	9.37	Q J	ug/L		12	53 - 123
2,4,6-Trichlorophenol	0.99	U Q J	80.4	6.46	Q J	ug/L		8	50 - 125
2,4-Dichlorophenol	2.0	U Q J	80.4	5.62	Q J	ug/L		7	47 - 121
2,4-Dimethylphenol	2.0	U Q J	80.4	4.27	Q J	ug/L		5	31 - 124
2,4-Dinitrophenol	30	U Q	161	129	Q	ug/L		80	23 - 143
2,4-Dinitrotoluene	4.4	U	80.4	68.1		ug/L		85	57 - 128
2,6-Dichlorophenol	4.0	U J	80.4	4.83	J	ug/L		6	50 - 118
2,6-Dinitrotoluene	4.4	U	80.4	65.5		ug/L		81	57 - 124
2-Chloronaphthalene	0.99	U	80.4	54.0		ug/L		67	40 - 116
2-Chlorophenol	4.4	U Q J	80.4	4.43	Q J	ug/L		6	38 - 117
2-Methylnaphthalene	0.99	U	80.4	49.6		ug/L		62	40 - 121
2-Methylphenol	2.0	U Q J	80.4	3.64	Q J	ug/L		5	30 - 117
3 & 4 Methylphenol	0.50	U Q J	80.4	3.24	Q J	ug/L		4	29 - 110
3,3'-Dichlorobenzidine	4.4	U J	80.4	4.4	U J	ug/L		0	27 - 129
3-Nitroaniline	4.4	U J	80.4	3.82	J	ug/L		5	41 - 128
4,6-Dinitro-2-methylphenol	8.7	U Q	161	125	Q	ug/L		78	44 - 137
4-Chloroaniline	4.4	U J	80.4	4.4	U J	ug/L		0	33 - 117
4-Chlorophenyl phenyl ether	4.4	U	80.4	57.0		ug/L		71	53 - 121
4-Nitroaniline	4.4	U J	80.4	15.7	J	ug/L		20	70 - 120
4-Nitrophenol	4.0	U Q	161	133	Q	ug/L		83	59 - 129
Acenaphthene	0.99	U Q J	80.4	31.6	Q J	ug/L		39	47 - 122
Acenaphthylene	0.99	U Q J	80.4	27.9	Q J	ug/L		35	41 - 130

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

Lab Sample ID: 280-84353-11 MS **Client Sample ID: SC-TU009-6MW22-G-1**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 331506 **Prep Batch: 329438**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Anthracene	0.99	U Q J	80.4	42.8	Q J	ug/L		53	57 - 123
Benzidine	99	U Q J	80.4	100	U Q J	ug/L		0	27 - 150
Benzo[a]anthracene	0.99	U Q J	80.4	50.2	Q	ug/L		62	58 - 125
Benzo[a]pyrene	0.99	U Q J	80.4	45.2	Q	ug/L		56	54 - 128
Benzo[b]fluoranthene	2.0	U Q J	80.4	51.7	Q	ug/L		64	53 - 131
Benzo[g,h,i]perylene	0.99	U Q J	80.4	52.2	Q	ug/L		65	50 - 134
Benzo[k]fluoranthene	0.99	U Q J	80.4	52.0	Q	ug/L		65	57 - 129
Benzoic acid	30	U Q	80.4	62.5	J Q	ug/L		78	41 - 120
Benzyl alcohol	1.3	J	80.4	52.7		ug/L		64	31 - 112
Bis(2-chloroethoxy)methane	2.0	U	80.4	54.6		ug/L		68	48 - 120
Bis(2-chloroethyl)ether	0.99	U	80.4	49.3		ug/L		61	43 - 118
Bis(2-ethylhexyl) phthalate	2.0	U J	80.4	56.1		ug/L		70	55 - 135
Butyl benzyl phthalate	2.0	U J	80.4	55.1		ug/L		69	53 - 134
Carbazole	0.99	U Q J	80.4	30.8	Q J	ug/L		38	60 - 122
Chrysene	2.0	U Q J	80.4	53.5	Q	ug/L		67	59 - 123
Dibenz(a,h)anthracene	2.0	U J	80.4	53.9		ug/L		67	51 - 134
Dibenzofuran	0.99	U	80.4	56.9		ug/L		71	53 - 118
Diethyl phthalate	0.99	U	80.4	66.3		ug/L		82	56 - 125
Dimethyl phthalate	0.50	U	80.4	64.1		ug/L		80	45 - 127
Di-n-butyl phthalate	4.4	U J	80.4	58.1		ug/L		72	59 - 127
Di-n-octyl phthalate	0.99	U J	80.4	57.7		ug/L		72	51 - 140
Fluoranthene	0.27	J Q J	80.4	53.4	Q	ug/L		66	57 - 128
Fluorene	0.99	U Q J	80.4	52.8	Q	ug/L		66	52 - 124
Hexachlorobenzene	2.0	U J	80.4	54.4		ug/L		68	53 - 125
Hexachlorobutadiene	9.9	U	80.4	37.1		ug/L		46	22 - 124
Hexachlorocyclopentadiene	30	U	80.4	37.2	J	ug/L		46	10 - 120
Hexachloroethane	4.4	U	80.4	34.2		ug/L		43	21 - 115
Indeno[1,2,3-cd]pyrene	2.0	U Q J	80.4	56.1	Q	ug/L		70	52 - 134
Isophorone	0.50	U	80.4	55.6		ug/L		69	42 - 124
Naphthalene	0.99	U Q	80.4	49.7	Q	ug/L		62	40 - 121
Nitrobenzene	2.0	U	80.4	53.7		ug/L		67	45 - 121
N-Nitrosodimethylamine	0.99	U Q	80.4	45.7	Q	ug/L		57	56 - 120
N-Nitrosodi-n-propylamine	0.99	U	80.4	54.0		ug/L		67	49 - 119
N-Nitrosodiphenylamine	0.99	U J	80.4	24.2	J	ug/L		30	51 - 123
Pentachlorophenol	60	U Q J	161	60	U Q J	ug/L		0	35 - 138
Phenanthrene	0.99	U Q J	80.4	55.7	Q	ug/L		69	59 - 120
Phenol	4.4	U Q J	80.4	2.80	Q J	ug/L		3	61 - 120
Pyrene	0.99	U Q J	80.4	44.8	Q J	ug/L		56	57 - 126

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
2,4,6-Tribromophenol (Surr)	*7*	*Q*	*43 - 140*
2-Fluorobiphenyl	*72*		*44 - 119*
2-Fluorophenol (Surr)	*4*	*Q*	*19 - 119*
Nitrobenzene-d5 (Surr)	*67*		*44 - 120*
Phenol-d5 (Surr)	*4*	*Q*	*10 - 115*
Terphenyl-d14 (Surr)	*33*	*Q*	*50 - 134*

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

Lab Sample ID: 280-84353-11 MSD — **Client Sample ID: SC-TU009-6MW22-G-1**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 331506 — **Prep Batch: 329438**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,2,4,5-Tetrachlorobenzene	4.4	U	82.9	52.5		ug/L		63	35 - 121	8	20
1,2,4-Trichlorobenzene	0.99	U	82.9	45.4		ug/L		55	29 - 116	2	20
1,2-Dichlorobenzene	0.50	U	82.9	42.3		ug/L		51	32 - 111	4	20
1,2-Diphenylhydrazine	0.50	U	83.8	67.5		ug/L		81	49 - 122	16	20
1,3-Dichlorobenzene	0.99	U	82.9	40.0		ug/L		48	28 - 110	5	20
1,4-Dichlorobenzene	0.99	U	82.9	40.9		ug/L		49	29 - 112	5	20
2,2'-oxybis[1-chloropropane]	0.99	U	82.9	47.4		ug/L		57	37 - 130	1	20
2,4,5-Trichlorophenol	0.99	U Q J	82.9	28.5	Q J	ug/L		34	53 - 123	101	20
2,4,6-Trichlorophenol	0.99	U Q J	82.9	9.60	Q J	ug/L		12	50 - 125	39	20
2,4-Dichlorophenol	2.0	U Q J	82.9	13.0	Q J	ug/L		16	47 - 121	80	20
2,4-Dimethylphenol	2.0	U Q J	82.9	4.50	Q J	ug/L		5	31 - 124	5	20
2,4-Dinitrophenol	30	U Q	166	151	Q	ug/L		91	23 - 143	16	20
2,4-Dinitrotoluene	4.4	U	82.9	77.1		ug/L		93	57 - 128	12	20
2,6-Dichlorophenol	4.0	U J	82.9	11.8	J	ug/L		14	50 - 118	84	20
2,6-Dinitrotoluene	4.4	U	82.9	74.0		ug/L		89	57 - 124	12	20
2-Chloronaphthalene	0.99	U	82.9	56.8		ug/L		69	40 - 116	5	20
2-Chlorophenol	4.4	U Q J	82.9	14.2	Q J	ug/L		17	38 - 117	105	20
2-Methylnaphthalene	0.99	U	82.9	53.9		ug/L		65	40 - 121	8	20
2-Methylphenol	2.0	U Q J	82.9	4.38	Q J	ug/L		5	30 - 117	19	20
3 & 4 Methylphenol	0.50	U Q J	82.9	5.82	Q J	ug/L		7	29 - 110	57	20
3,3'-Dichlorobenzidine	4.4	U J	82.9	2.35	J	ug/L		3	27 - 129	200	20
3-Nitroaniline	4.4	U J	82.9	14.4	J	ug/L		17	41 - 128	116	20
4,6-Dinitro-2-methylphenol	8.7	U Q	166	146	Q	ug/L		88	44 - 137	15	20
4-Chloroaniline	4.4	U J	82.9	4.6	U J	ug/L		0	33 - 117	NC	20
4-Chlorophenyl phenyl ether	4.4	U	82.9	67.9		ug/L		82	53 - 121	17	20
4-Nitroaniline	4.4	U J	82.9	38.1	J	ug/L		46	70 - 120	83	20
4-Nitrophenol	4.0	U Q	166	151	Q	ug/L		91	59 - 129	13	20
Acenaphthene	0.99	U Q J	82.9	37.6	J	ug/L		45	47 - 122	17	20
Acenaphthylene	0.99	U Q J	82.9	39.7	J	ug/L		48	41 - 130	35	20
Anthracene	0.99	U Q J	82.9	56.9	J	ug/L		69	57 - 123	28	20
Benzidine	99	U Q J	82.9	100	U J	ug/L		0	27 - 150	NC	20
Benzo[a]anthracene	0.99	U Q J	82.9	67.5	J	ug/L		81	58 - 125	29	20
Benzo[a]pyrene	0.99	U Q J	82.9	63.0	J	ug/L		76	54 - 128	33	20
Benzo[b]fluoranthene	2.0	U Q J	82.9	70.2	J	ug/L		85	53 - 131	30	20
Benzo[g,h,i]perylene	0.99	U Q J	82.9	69.3	J	ug/L		84	50 - 134	28	20
Benzo[k]fluoranthene	0.99	U Q J	82.9	70.0	J	ug/L		84	57 - 129	30	20
Benzoic acid	30	U Q	82.9	71.9	J Q	ug/L		87	41 - 120	14	20
Benzyl alcohol	1.3	J	82.9	52.5		ug/L		62	31 - 112	0	20
Bis(2-chloroethoxy)methane	2.0	U	82.9	53.1		ug/L		64	48 - 120	3	20
Bis(2-chloroethyl)ether	0.99	U	82.9	50.0		ug/L		60	43 - 118	1	20
Bis(2-ethylhexyl) phthalate	2.0	U J	82.9	76.0	J	ug/L		92	55 - 135	30	20
Butyl benzyl phthalate	2.0	U J	82.9	72.5	J	ug/L		87	53 - 134	27	20
Carbazole	0.99	U Q J	82.9	33.3	Q J	ug/L		40	60 - 122	8	20
Chrysene	2.0	U Q J	82.9	71.6	J	ug/L		86	59 - 123	29	20
Dibenz(a,h)anthracene	2.0	U J	82.9	71.7	J	ug/L		87	51 - 134	28	20
Dibenzofuran	0.99	U	82.9	64.7		ug/L		78	53 - 118	13	20
Diethyl phthalate	0.99	U	82.9	74.6		ug/L		90	56 - 125	12	20
Dimethyl phthalate	0.50	U	82.9	72.3		ug/L		87	45 - 127	12	20

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

Lab Sample ID: 280-84353-11 MSD — **Client Sample ID: SC-TU009-6MW22-G-1**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 331506 — **Prep Batch: 329438**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Di-n-butyl phthalate	4.4	U J	82.9	73.6	J	ug/L		89	59 - 127	24	20
Di-n-octyl phthalate	0.99	U J	82.9	78.6	J	ug/L		95	51 - 140	31	20
Fluoranthene	0.27	J Q J	82.9	71.0	J	ug/L		85	57 - 128	28	20
Fluorene	0.99	U Q J	82.9	66.8	J	ug/L		81	52 - 124	24	20
Hexachlorobenzene	2.0	U J	82.9	71.1	J	ug/L		86	53 - 125	27	20
Hexachlorobutadiene	9.9	U	82.9	40.3		ug/L		49	22 - 124	8	20
Hexachlorocyclopentadiene	30	U	82.9	41.2	J	ug/L		50	10 - 120	10	20
Hexachloroethane	4.4	U	82.9	35.3		ug/L		43	21 - 115	3	20
Indeno[1,2,3-cd]pyrene	2.0	U Q J	82.9	71.4	J	ug/L		86	52 - 134	24	20
Isophorone	0.50	U	82.9	53.9		ug/L		65	42 - 124	3	20
Naphthalene	0.99	U Q	82.9	50.6		ug/L		61	40 - 121	2	20
Nitrobenzene	2.0	U	82.9	54.0		ug/L		65	45 - 121	1	20
N-Nitrosodimethylamine	0.99	U Q	82.9	46.4	Q	ug/L		56	56 - 120	1	20
N-Nitrosodi-n-propylamine	0.99	U	82.9	52.7		ug/L		64	49 - 119	2	20
N-Nitrosodiphenylamine	0.99	U J	82.9	23.7	J	ug/L		29	51 - 123	2	20
Pentachlorophenol	60	U Q J	166	31.5	Q J	ug/L		19	35 - 138	200	20
Phenanthrene	0.99	U Q J	82.9	71.7	J	ug/L		87	59 - 120	25	20
Phenol	4.4	U Q J	82.9	9.71	J	ug/L		12	61 - 120	111	20
Pyrene	0.99	U Q J	82.9	60.1	J	ug/L		73	57 - 126	29	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
2,4,6-Tribromophenol (Surr)	*10*	*Q*	*43 - 140*
2-Fluorobiphenyl	*72*		*44 - 119*
2-Fluorophenol (Surr)	*9*	*Q*	*19 - 119*
Nitrobenzene-d5 (Surr)	*63*		*44 - 120*
Phenol-d5 (Surr)	*12*		*10 - 115*
Terphenyl-d14 (Surr)	*76*		*50 - 134*

Lab Sample ID: MB 280-330220/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 331547 — **Prep Batch: 330220**

Analyte	MB Result	MB Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4,5-Tetrachlorobenzene	0.13	U	0.33	0.049	mg/Kg		06/17/16 15:01	06/27/16 19:02	1
1,2,4-Trichlorobenzene	0.067	U	0.33	0.028	mg/Kg		06/17/16 15:01	06/27/16 19:02	1
1,2-Dichlorobenzene	0.067	U	0.33	0.022	mg/Kg		06/17/16 15:01	06/27/16 19:02	1
1,2-Diphenylhydrazine	0.067	U	0.33	0.022	mg/Kg		06/17/16 15:01	06/27/16 19:02	1
1,3-Dichlorobenzene	0.033	U	0.33	0.012	mg/Kg		06/17/16 15:01	06/27/16 19:02	1
1,4-Dichlorobenzene	0.033	U	0.33	0.014	mg/Kg		06/17/16 15:01	06/27/16 19:02	1
2,2'-oxybis[1-chloropropane]	0.067	U	0.33	0.023	mg/Kg		06/17/16 15:01	06/27/16 19:02	1
2,4,5-Trichlorophenol	0.033	U	0.33	0.010	mg/Kg		06/17/16 15:01	06/27/16 19:02	1
2,4,6-Trichlorophenol	0.033	U	0.33	0.010	mg/Kg		06/17/16 15:01	06/27/16 19:02	1
2,4-Dichlorophenol	0.033	U	0.33	0.010	mg/Kg		06/17/16 15:01	06/27/16 19:02	1
2,4-Dimethylphenol	0.13	U	0.33	0.066	mg/Kg		06/17/16 15:01	06/27/16 19:02	1
2,4-Dinitrophenol	1.0	U	1.6	0.33	mg/Kg		06/17/16 15:01	06/27/16 19:02	1
2,4-Dinitrotoluene	0.13	U	0.33	0.066	mg/Kg		06/17/16 15:01	06/27/16 19:02	1
2,6-Dichlorophenol	0.17	U	0.33	0.069	mg/Kg		06/17/16 15:01	06/27/16 19:02	1
2,6-Dinitrotoluene	0.067	U	0.33	0.028	mg/Kg		06/17/16 15:01	06/27/16 19:02	1

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

Lab Sample ID: MB 280-330220/1-A
Matrix: Solid
Analysis Batch: 331547

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 330220

Analyte	MB Result	MB Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
2-Chloronaphthalene	0.033	U	0.33	0.010	mg/Kg		06/17/16 15:01	06/27/16 19:02	1
2-Chlorophenol	0.067	U	0.33	0.021	mg/Kg		06/17/16 15:01	06/27/16 19:02	1
2-Methylnaphthalene	0.067	U	0.33	0.019	mg/Kg		06/17/16 15:01	06/27/16 19:02	1
2-Methylphenol	0.033	U	0.33	0.013	mg/Kg		06/17/16 15:01	06/27/16 19:02	1
3 & 4 Methylphenol	0.067	U	0.33	0.033	mg/Kg		06/17/16 15:01	06/27/16 19:02	1
3,3'-Dichlorobenzidine	0.27	U	1.6	0.090	mg/Kg		06/17/16 15:01	06/27/16 19:02	1
3-Nitroaniline	0.27	U	1.6	0.073	mg/Kg		06/17/16 15:01	06/27/16 19:02	1
4,6-Dinitro-2-methylphenol	1.0	U	1.6	0.33	mg/Kg		06/17/16 15:01	06/27/16 19:02	1
4-Chloroaniline	0.27	U	0.33	0.082	mg/Kg		06/17/16 15:01	06/27/16 19:02	1
4-Chlorophenyl phenyl ether	0.067	U	0.33	0.021	mg/Kg		06/17/16 15:01	06/27/16 19:02	1
4-Nitroaniline	0.27	U	1.6	0.073	mg/Kg		06/17/16 15:01	06/27/16 19:02	1
4-Nitrophenol	0.27	U	1.6	0.097	mg/Kg		06/17/16 15:01	06/27/16 19:02	1
Acenaphthene	0.033	U	0.33	0.010	mg/Kg		06/17/16 15:01	06/27/16 19:02	1
Acenaphthylene	0.067	U	0.33	0.017	mg/Kg		06/17/16 15:01	06/27/16 19:02	1
Anthracene	0.067	U	0.33	0.017	mg/Kg		06/17/16 15:01	06/27/16 19:02	1
Benzidine	2.0	U	4.0	0.99	mg/Kg		06/17/16 15:01	06/27/16 19:02	1
Benzo[a]anthracene	0.067	U	0.33	0.020	mg/Kg		06/17/16 15:01	06/27/16 19:02	1
Benzo[a]pyrene	0.067	U	0.33	0.020	mg/Kg		06/17/16 15:01	06/27/16 19:02	1
Benzo[b]fluoranthene	0.067	U	0.33	0.026	mg/Kg		06/17/16 15:01	06/27/16 19:02	1
Benzo[g,h,i]perylene	0.033	U	0.33	0.016	mg/Kg		06/17/16 15:01	06/27/16 19:02	1
Benzo[k]fluoranthene	0.13	U	0.33	0.040	mg/Kg		06/17/16 15:01	06/27/16 19:02	1
Benzoic acid	1.0	U	1.6	0.33	mg/Kg		06/17/16 15:01	06/27/16 19:02	1
Benzyl alcohol	0.033	U	0.33	0.010	mg/Kg		06/17/16 15:01	06/27/16 19:02	1
Bis(2-chloroethoxy)methane	0.067	U	0.33	0.023	mg/Kg		06/17/16 15:01	06/27/16 19:02	1
Bis(2-chloroethyl)ether	0.033	U	0.33	0.017	mg/Kg		06/17/16 15:01	06/27/16 19:02	1
Bis(2-ethylhexyl) phthalate	0.13	U	0.33	0.046	mg/Kg		06/17/16 15:01	06/27/16 19:02	1
Butyl benzyl phthalate	0.13	U	0.33	0.043	mg/Kg		06/17/16 15:01	06/27/16 19:02	1
Carbazole	0.13	U	0.33	0.036	mg/Kg		06/17/16 15:01	06/27/16 19:02	1
Chrysene	0.067	U	0.33	0.027	mg/Kg		06/17/16 15:01	06/27/16 19:02	1
Dibenz(a,h)anthracene	0.067	U	0.33	0.019	mg/Kg		06/17/16 15:01	06/27/16 19:02	1
Dibenzofuran	0.067	U	0.33	0.020	mg/Kg		06/17/16 15:01	06/27/16 19:02	1
Diethyl phthalate	0.067	U	0.66	0.026	mg/Kg		06/17/16 15:01	06/27/16 19:02	1
Dimethyl phthalate	0.067	U	0.33	0.023	mg/Kg		06/17/16 15:01	06/27/16 19:02	1
Di-n-butyl phthalate	0.067	U	0.33	0.029	mg/Kg		06/17/16 15:01	06/27/16 19:02	1
Di-n-octyl phthalate	0.066	U	0.33	0.014	mg/Kg		06/17/16 15:01	06/27/16 19:02	1
Fluoranthene	0.13	U	0.33	0.036	mg/Kg		06/17/16 15:01	06/27/16 19:02	1
Fluorene	0.067	U	0.33	0.018	mg/Kg		06/17/16 15:01	06/27/16 19:02	1
Hexachlorobenzene	0.067	U	0.33	0.029	mg/Kg		06/17/16 15:01	06/27/16 19:02	1
Hexachlorobutadiene	0.033	U	0.33	0.010	mg/Kg		06/17/16 15:01	06/27/16 19:02	1
Hexachlorocyclopentadiene	0.13	U	1.7	0.050	mg/Kg		06/17/16 15:01	06/27/16 19:02	1
Hexachloroethane	0.067	U	0.33	0.021	mg/Kg		06/17/16 15:01	06/27/16 19:02	1
Indeno[1,2,3-cd]pyrene	0.067	U	0.33	0.022	mg/Kg		06/17/16 15:01	06/27/16 19:02	1
Isophorone	0.067	U	0.33	0.017	mg/Kg		06/17/16 15:01	06/27/16 19:02	1
Naphthalene	0.067	U	0.33	0.031	mg/Kg		06/17/16 15:01	06/27/16 19:02	1
Nitrobenzene	0.067	U	0.33	0.022	mg/Kg		06/17/16 15:01	06/27/16 19:02	1
N-Nitrosodimethylamine	0.13	U	0.52	0.037	mg/Kg		06/17/16 15:01	06/27/16 19:02	1
N-Nitrosodi-n-propylamine	0.067	U	0.33	0.031	mg/Kg		06/17/16 15:01	06/27/16 19:02	1
N-Nitrosodiphenylamine	0.067	U	0.33	0.021	mg/Kg		06/17/16 15:01	06/27/16 19:02	1

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

Lab Sample ID: MB 280-330220/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 331547 — **Prep Batch: 330220**

Analyte	MB Result	MB Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosopyrrolidine	0.17	U	0.33	0.064	mg/Kg		06/17/16 15:01	06/27/16 19:02	1
Pentachlorophenol	1.0	U	1.6	0.33	mg/Kg		06/17/16 15:01	06/27/16 19:02	1
Phenanthrene	0.067	U	0.33	0.017	mg/Kg		06/17/16 15:01	06/27/16 19:02	1
Phenol	0.067	U	0.33	0.018	mg/Kg		06/17/16 15:01	06/27/16 19:02	1
Pyrene	0.033	U	0.40	0.012	mg/Kg		06/17/16 15:01	06/27/16 19:02	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*69*		*39 - 132*	*06/17/16 15:01*	*06/27/16 19:02*	*1*
2-Fluorobiphenyl	*74*		*44 - 115*	*06/17/16 15:01*	*06/27/16 19:02*	*1*
2-Fluorophenol (Surr)	*73*		*35 - 115*	*06/17/16 15:01*	*06/27/16 19:02*	*1*
Nitrobenzene-d5 (Surr)	*70*		*37 - 122*	*06/17/16 15:01*	*06/27/16 19:02*	*1*
Phenol-d5 (Surr)	*71*		*33 - 122*	*06/17/16 15:01*	*06/27/16 19:02*	*1*
Terphenyl-d14 (Surr)	*85*		*54 - 127*	*06/17/16 15:01*	*06/27/16 19:02*	*1*

Lab Sample ID: LCS 280-330220/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 331547 — **Prep Batch: 330220**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2,4,5-Tetrachlorobenzene	2.67	2.06		mg/Kg		77	37 - 119
1,2,4-Trichlorobenzene	2.67	1.92		mg/Kg		72	34 - 118
1,2-Dichlorobenzene	2.67	1.79		mg/Kg		67	33 - 117
1,2-Diphenylhydrazine	2.70	2.11		mg/Kg		78	41 - 125
1,3-Dichlorobenzene	2.67	1.73		mg/Kg		65	30 - 115
1,4-Dichlorobenzene	2.67	1.70		mg/Kg		64	31 - 115
2,2'-oxybis[1-chloropropane]	2.67	1.78		mg/Kg		67	33 - 131
2,4,5-Trichlorophenol	2.67	2.20		mg/Kg		83	41 - 124
2,4,6-Trichlorophenol	2.67	2.21		mg/Kg		83	39 - 126
2,4-Dichlorophenol	2.67	2.06		mg/Kg		77	40 - 122
2,4-Dimethylphenol	2.67	1.99		mg/Kg		75	30 - 127
2,4-Dinitrophenol	5.33	4.31		mg/Kg		81	46 - 120
2,4-Dinitrotoluene	2.67	2.24		mg/Kg		84	48 - 126
2,6-Dichlorophenol	2.67	2.05		mg/Kg		77	41 - 117
2,6-Dinitrotoluene	2.67	2.20		mg/Kg		83	46 - 124
2-Chloronaphthalene	2.67	2.05		mg/Kg		77	41 - 114
2-Chlorophenol	2.67	1.92		mg/Kg		72	34 - 121
2-Methylnaphthalene	2.67	2.01		mg/Kg		75	38 - 122
2-Methylphenol	2.67	1.95		mg/Kg		73	32 - 122
3 & 4 Methylphenol	2.67	2.02		mg/Kg		76	34 - 119
3,3'-Dichlorobenzidine	2.67	1.96		mg/Kg		73	22 - 121
3-Nitroaniline	2.67	1.81		mg/Kg		68	33 - 119
4,6-Dinitro-2-methylphenol	5.33	4.46		mg/Kg		84	29 - 132
4-Chloroaniline	2.67	1.56		mg/Kg		59	17 - 106
4-Chlorophenyl phenyl ether	2.67	2.14		mg/Kg		80	45 - 121
4-Nitroaniline	2.67	1.96		mg/Kg		74	64 - 120
4-Nitrophenol	5.33	4.50		mg/Kg		84	30 - 132
Acenaphthene	2.67	2.01		mg/Kg		75	40 - 123
Acenaphthylene	2.67	2.02		mg/Kg		76	32 - 132

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

Lab Sample ID: LCS 280-330220/2-A
Matrix: Solid
Analysis Batch: 331547

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 330220

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Anthracene	2.67	2.22		mg/Kg		83	47 - 123
Benzidine	2.67	2.0	U	mg/Kg		9	5 - 150
Benzo[a]anthracene	2.67	2.23		mg/Kg		84	49 - 126
Benzo[a]pyrene	2.67	2.20		mg/Kg		83	45 - 129
Benzo[b]fluoranthene	2.67	2.21		mg/Kg		83	45 - 132
Benzo[g,h,i]perylene	2.67	2.22		mg/Kg		83	43 - 134
Benzo[k]fluoranthene	2.67	2.32		mg/Kg		87	47 - 132
Benzoic acid	2.67	2.10		mg/Kg		79	32 - 120
Benzyl alcohol	2.67	1.98		mg/Kg		74	29 - 122
Bis(2-chloroethoxy)methane	2.67	1.94		mg/Kg		73	36 - 121
Bis(2-chloroethyl)ether	2.67	1.82		mg/Kg		68	31 - 120
Bis(2-ethylhexyl) phthalate	2.67	2.24		mg/Kg		84	51 - 133
Butyl benzyl phthalate	2.67	2.21		mg/Kg		83	48 - 132
Carbazole	2.67	2.19		mg/Kg		82	50 - 123
Chrysene	2.67	2.24		mg/Kg		84	50 - 124
Dibenz(a,h)anthracene	2.67	2.22		mg/Kg		83	45 - 134
Dibenzofuran	2.67	2.11		mg/Kg		79	44 - 120
Diethyl phthalate	2.67	2.22		mg/Kg		83	50 - 124
Dimethyl phthalate	2.67	2.18		mg/Kg		82	48 - 124
Di-n-butyl phthalate	2.67	2.23		mg/Kg		83	51 - 128
Di-n-octyl phthalate	2.67	2.22		mg/Kg		83	45 - 140
Fluoranthene	2.67	2.25		mg/Kg		85	50 - 127
Fluorene	2.67	2.09		mg/Kg		78	43 - 125
Hexachlorobenzene	2.67	2.22		mg/Kg		83	45 - 122
Hexachlorobutadiene	2.67	1.91		mg/Kg		72	32 - 123
Hexachlorocyclopentadiene	2.67	1.53	J	mg/Kg		57	47 - 120
Hexachloroethane	2.67	1.71		mg/Kg		64	28 - 117
Indeno[1,2,3-cd]pyrene	2.67	2.17		mg/Kg		81	45 - 133
Isophorone	2.67	1.83		mg/Kg		69	30 - 122
Naphthalene	2.67	1.94		mg/Kg		73	35 - 123
Nitrobenzene	2.67	1.86		mg/Kg		70	34 - 122
N-Nitrosodimethylamine	2.67	1.58		mg/Kg		59	23 - 120
N-Nitrosodi-n-propylamine	2.67	1.87		mg/Kg		70	36 - 120
N-Nitrosodiphenylamine	2.67	2.16		mg/Kg		81	38 - 127
Pentachlorophenol	5.33	4.28		mg/Kg		80	25 - 133
Phenanthrene	2.67	2.18		mg/Kg		82	50 - 121
Phenol	2.67	1.89		mg/Kg		71	34 - 121
Pyrene	2.67	2.23		mg/Kg		84	47 - 127

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2,4,6-Tribromophenol (Surr)	*88*		*39 - 132*
2-Fluorobiphenyl	*74*		*44 - 115*
2-Fluorophenol (Surr)	*70*		*35 - 115*
Nitrobenzene-d5 (Surr)	*71*		*37 - 122*
Phenol-d5 (Surr)	*73*		*33 - 122*
Terphenyl-d14 (Surr)	*83*		*54 - 127*

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

Lab Sample ID: 280-84353-1 MS | **Client Sample ID: SC-TU009-MW001-S0305**
Matrix: Solid | **Prep Type: Total/NA**
Analysis Batch: 331745 | **Prep Batch: 330220**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2,4,5-Tetrachlorobenzene	0.17	U	3.48	2.21		mg/Kg	☼	64	37 - 119
1,2,4-Trichlorobenzene	0.087	U	3.48	2.14		mg/Kg	☼	61	34 - 118
1,2-Dichlorobenzene	0.087	U	3.48	2.13		mg/Kg	☼	61	33 - 117
1,2-Diphenylhydrazine	0.087	U	3.52	2.56		mg/Kg	☼	73	41 - 125
1,3-Dichlorobenzene	0.043	U	3.48	2.06		mg/Kg	☼	59	30 - 115
1,4-Dichlorobenzene	0.043	U	3.48	2.09		mg/Kg	☼	60	31 - 115
2,2'-oxybis[1-chloropropane]	0.087	U	3.48	2.20		mg/Kg	☼	63	33 - 131
2,4,5-Trichlorophenol	0.043	U	3.48	2.39		mg/Kg	☼	69	41 - 124
2,4,6-Trichlorophenol	0.043	U	3.48	2.48		mg/Kg	☼	71	39 - 126
2,4-Dichlorophenol	0.043	U	3.48	2.30		mg/Kg	☼	66	40 - 122
2,4-Dimethylphenol	0.17	U	3.48	2.17		mg/Kg	☼	62	30 - 127
2,4-Dinitrophenol	1.3	U	6.96	4.60		mg/Kg	☼	66	46 - 120
2,4-Dinitrotoluene	0.17	U	3.48	2.55		mg/Kg	☼	73	48 - 126
2,6-Dichlorophenol	0.22	U	3.48	2.29		mg/Kg	☼	66	41 - 117
2,6-Dinitrotoluene	0.087	U	3.48	2.49		mg/Kg	☼	71	46 - 124
2-Chloronaphthalene	0.043	U	3.48	2.35		mg/Kg	☼	68	41 - 114
2-Chlorophenol	0.087	U	3.48	2.37		mg/Kg	☼	68	34 - 121
2-Methylnaphthalene	0.087	U	3.48	2.28		mg/Kg	☼	65	38 - 122
2-Methylphenol	0.043	U	3.48	2.33		mg/Kg	☼	67	32 - 122
3 & 4 Methylphenol	0.087	U	3.48	2.31		mg/Kg	☼	66	34 - 119
3,3'-Dichlorobenzidine	0.35	U	3.48	1.61	J	mg/Kg	☼	46	22 - 121
3-Nitroaniline	0.35	U	3.48	2.23		mg/Kg	☼	64	33 - 119
4,6-Dinitro-2-methylphenol	1.3	U	6.96	4.91		mg/Kg	☼	71	29 - 132
4-Chloroaniline	0.35	U	3.48	1.75		mg/Kg	☼	50	17 - 106
4-Chlorophenyl phenyl ether	0.087	U	3.48	2.33		mg/Kg	☼	67	45 - 121
4-Nitroaniline	0.35	U	3.48	2.28		mg/Kg	☼	65	64 - 120
4-Nitrophenol	0.35	U	6.96	5.25		mg/Kg	☼	75	30 - 132
Acenaphthene	0.043	U	3.48	2.35		mg/Kg	☼	67	40 - 123
Acenaphthylene	0.087	U	3.48	2.34		mg/Kg	☼	67	32 - 132
Anthracene	0.087	U	3.48	2.49		mg/Kg	☼	72	47 - 123
Benzidine	2.6	U J	3.48	2.6	U J	mg/Kg	☼	0	5 - 150
Benzo[a]anthracene	0.087	U	3.48	2.45		mg/Kg	☼	70	49 - 126
Benzo[a]pyrene	0.087	U	3.48	2.37		mg/Kg	☼	68	45 - 129
Benzo[b]fluoranthene	0.087	U	3.48	2.47		mg/Kg	☼	71	45 - 132
Benzo[g,h,i]perylene	0.043	U	3.48	2.43		mg/Kg	☼	70	43 - 134
Benzo[k]fluoranthene	0.17	U	3.48	2.54		mg/Kg	☼	73	47 - 132
Benzoic acid	1.3	U	3.48	2.09	J	mg/Kg	☼	60	32 - 120
Benzyl alcohol	0.043	U	3.48	2.39		mg/Kg	☼	69	29 - 122
Bis(2-chloroethoxy)methane	0.087	U	3.48	2.31		mg/Kg	☼	66	36 - 121
Bis(2-chloroethyl)ether	0.043	U	3.48	2.37		mg/Kg	☼	68	31 - 120
Bis(2-ethylhexyl) phthalate	0.17	U	3.48	2.71		mg/Kg	☼	78	51 - 133
Butyl benzyl phthalate	0.17	U	3.48	2.69		mg/Kg	☼	77	48 - 132
Carbazole	0.17	U	3.48	2.51		mg/Kg	☼	72	50 - 123
Chrysene	0.087	U	3.48	2.51		mg/Kg	☼	72	50 - 124
Dibenz(a,h)anthracene	0.087	U	3.48	2.46		mg/Kg	☼	71	45 - 134
Dibenzofuran	0.087	U	3.48	2.38		mg/Kg	☼	68	44 - 120
Diethyl phthalate	0.087	U	3.48	2.50		mg/Kg	☼	72	50 - 124
Dimethyl phthalate	0.087	U	3.48	2.45		mg/Kg	☼	70	48 - 124

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

Lab Sample ID: 280-84353-1 MS — **Client Sample ID: SC-TU009-MW001-S0305**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 331745 — **Prep Batch: 330220**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Di-n-butyl phthalate	0.087	U	3.48	2.65		mg/Kg	☼	76	51 - 128
Di-n-octyl phthalate	0.086	U	3.48	2.58		mg/Kg	☼	74	45 - 140
Fluoranthene	0.17	U	3.48	2.49		mg/Kg	☼	72	50 - 127
Fluorene	0.087	U	3.48	2.36		mg/Kg	☼	68	43 - 125
Hexachlorobenzene	0.087	U	3.48	2.37		mg/Kg	☼	68	45 - 122
Hexachlorobutadiene	0.043	U	3.48	2.03		mg/Kg	☼	58	32 - 123
Hexachlorocyclopentadiene	0.17	U	3.48	1.96	J	mg/Kg	☼	56	47 - 120
Hexachloroethane	0.087	U	3.48	2.10		mg/Kg	☼	60	28 - 117
Indeno[1,2,3-cd]pyrene	0.087	U	3.48	2.37		mg/Kg	☼	68	45 - 133
Isophorone	0.087	U	3.48	2.19		mg/Kg	☼	63	30 - 122
Naphthalene	0.087	U	3.48	2.25		mg/Kg	☼	65	35 - 123
Nitrobenzene	0.087	U	3.48	2.30		mg/Kg	☼	66	34 - 122
N-Nitrosodimethylamine	0.17	U	3.48	2.16		mg/Kg	☼	62	23 - 120
N-Nitrosodi-n-propylamine	0.087	U	3.48	2.26		mg/Kg	☼	65	36 - 120
N-Nitrosodiphenylamine	0.087	U	3.48	2.33		mg/Kg	☼	67	38 - 127
Pentachlorophenol	1.3	U	6.96	4.30		mg/Kg	☼	62	25 - 133
Phenanthrene	0.087	U	3.48	2.50		mg/Kg	☼	72	50 - 121
Phenol	0.087	U	3.48	2.40		mg/Kg	☼	69	34 - 121
Pyrene	0.043	U	3.48	2.53		mg/Kg	☼	73	47 - 127

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
2,4,6-Tribromophenol (Surr)	*65*		*39 - 132*
2-Fluorobiphenyl	*66*		*44 - 115*
2-Fluorophenol (Surr)	*70*		*35 - 115*
Nitrobenzene-d5 (Surr)	*64*		*37 - 122*
Phenol-d5 (Surr)	*68*		*33 - 122*
Terphenyl-d14 (Surr)	*72*		*54 - 127*

Lab Sample ID: 280-84353-1 MSD — **Client Sample ID: SC-TU009-MW001-S0305**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 331745 — **Prep Batch: 330220**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,2,4,5-Tetrachlorobenzene	0.17	U	3.49	2.27		mg/Kg	☼	65	37 - 119	3	20
1,2,4-Trichlorobenzene	0.087	U	3.49	2.22		mg/Kg	☼	64	34 - 118	4	20
1,2-Dichlorobenzene	0.087	U	3.49	2.23		mg/Kg	☼	64	33 - 117	4	20
1,2-Diphenylhydrazine	0.087	U	3.53	2.71		mg/Kg	☼	77	41 - 125	5	20
1,3-Dichlorobenzene	0.043	U	3.49	2.17		mg/Kg	☼	62	30 - 115	5	20
1,4-Dichlorobenzene	0.043	U	3.49	2.20		mg/Kg	☼	63	31 - 115	5	20
2,2'-oxybis[1-chloropropane]	0.087	U	3.49	2.28		mg/Kg	☼	65	33 - 131	4	20
2,4,5-Trichlorophenol	0.043	U	3.49	2.55		mg/Kg	☼	73	41 - 124	7	20
2,4,6-Trichlorophenol	0.043	U	3.49	2.64		mg/Kg	☼	76	39 - 126	6	20
2,4-Dichlorophenol	0.043	U	3.49	2.46		mg/Kg	☼	70	40 - 122	6	20
2,4-Dimethylphenol	0.17	U	3.49	2.25		mg/Kg	☼	64	30 - 127	3	20
2,4-Dinitrophenol	1.3	U	6.99	4.98		mg/Kg	☼	71	46 - 120	8	20
2,4-Dinitrotoluene	0.17	U	3.49	2.76		mg/Kg	☼	79	48 - 126	8	20
2,6-Dichlorophenol	0.22	U	3.49	2.37		mg/Kg	☼	68	41 - 117	4	20
2,6-Dinitrotoluene	0.087	U	3.49	2.67		mg/Kg	☼	76	46 - 124	7	20

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

Lab Sample ID: 280-84353-1 MSD | **Client Sample ID: SC-TU009-MW001-S0305**
Matrix: Solid | **Prep Type: Total/NA**
Analysis Batch: 331745 | **Prep Batch: 330220**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
2-Chloronaphthalene	0.043	U	3.49	2.47		mg/Kg	☼	71	41 - 114	5	20
2-Chlorophenol	0.087	U	3.49	2.42		mg/Kg	☼	69	34 - 121	2	20
2-Methylnaphthalene	0.087	U	3.49	2.36		mg/Kg	☼	67	38 - 122	3	20
2-Methylphenol	0.043	U	3.49	2.41		mg/Kg	☼	69	32 - 122	3	20
3 & 4 Methylphenol	0.087	U	3.49	2.36		mg/Kg	☼	68	34 - 119	2	20
3,3'-Dichlorobenzidine	0.35	U	3.49	1.63	J	mg/Kg	☼	47	22 - 121	1	20
3-Nitroaniline	0.35	U	3.49	2.38		mg/Kg	☼	68	33 - 119	7	20
4,6-Dinitro-2-methylphenol	1.3	U	6.99	5.22		mg/Kg	☼	75	29 - 132	6	20
4-Chloroaniline	0.35	U	3.49	1.79		mg/Kg	☼	51	17 - 106	2	20
4-Chlorophenyl phenyl ether	0.087	U	3.49	2.48		mg/Kg	☼	71	45 - 121	6	20
4-Nitroaniline	0.35	U	3.49	2.36		mg/Kg	☼	68	64 - 120	4	20
4-Nitrophenol	0.35	U	6.99	5.65		mg/Kg	☼	81	30 - 132	7	20
Acenaphthene	0.043	U	3.49	2.51		mg/Kg	☼	72	40 - 123	7	20
Acenaphthylene	0.087	U	3.49	2.52		mg/Kg	☼	72	32 - 132	7	20
Anthracene	0.087	U	3.49	2.62		mg/Kg	☼	75	47 - 123	5	20
Benzidine	2.6	U J	3.49	2.6	U J	mg/Kg	☼	0	5 - 150	NC	20
Benzo[a]anthracene	0.087	U	3.49	2.63		mg/Kg	☼	75	49 - 126	7	20
Benzo[a]pyrene	0.087	U	3.49	2.57		mg/Kg	☼	74	45 - 129	8	20
Benzo[b]fluoranthene	0.087	U	3.49	2.64		mg/Kg	☼	76	45 - 132	6	20
Benzo[g,h,i]perylene	0.043	U	3.49	2.56		mg/Kg	☼	73	43 - 134	5	20
Benzo[k]fluoranthene	0.17	U	3.49	2.68		mg/Kg	☼	77	47 - 132	6	20
Benzoic acid	1.3	U	3.49	2.05	J	mg/Kg	☼	59	32 - 120	2	20
Benzyl alcohol	0.043	U	3.49	2.42		mg/Kg	☼	69	29 - 122	1	20
Bis(2-chloroethoxy)methane	0.087	U	3.49	2.38		mg/Kg	☼	68	36 - 121	3	20
Bis(2-chloroethyl)ether	0.043	U	3.49	2.45		mg/Kg	☼	70	31 - 120	3	20
Bis(2-ethylhexyl) phthalate	0.17	U	3.49	2.91		mg/Kg	☼	83	51 - 133	7	20
Butyl benzyl phthalate	0.17	U	3.49	2.91		mg/Kg	☼	83	48 - 132	8	20
Carbazole	0.17	U	3.49	2.65		mg/Kg	☼	76	50 - 123	5	20
Chrysene	0.087	U	3.49	2.67		mg/Kg	☼	76	50 - 124	6	20
Dibenz(a,h)anthracene	0.087	U	3.49	2.62		mg/Kg	☼	75	45 - 134	6	20
Dibenzofuran	0.087	U	3.49	2.54		mg/Kg	☼	73	44 - 120	7	20
Diethyl phthalate	0.087	U	3.49	2.69		mg/Kg	☼	77	50 - 124	7	20
Dimethyl phthalate	0.087	U	3.49	2.62		mg/Kg	☼	75	48 - 124	7	20
Di-n-butyl phthalate	0.087	U	3.49	2.75		mg/Kg	☼	79	51 - 128	4	20
Di-n-octyl phthalate	0.086	U	3.49	2.80		mg/Kg	☼	80	45 - 140	8	20
Fluoranthene	0.17	U	3.49	2.62		mg/Kg	☼	75	50 - 127	5	20
Fluorene	0.087	U	3.49	2.53		mg/Kg	☼	72	43 - 125	7	20
Hexachlorobenzene	0.087	U	3.49	2.53		mg/Kg	☼	72	45 - 122	7	20
Hexachlorobutadiene	0.043	U	3.49	2.14		mg/Kg	☼	61	32 - 123	5	20
Hexachlorocyclopentadiene	0.17	U	3.49	2.03	J	mg/Kg	☼	58	47 - 120	4	20
Hexachloroethane	0.087	U	3.49	2.23		mg/Kg	☼	64	28 - 117	6	20
Indeno[1,2,3-cd]pyrene	0.087	U	3.49	2.50	M	mg/Kg	☼	71	45 - 133	5	20
Isophorone	0.087	U	3.49	2.28		mg/Kg	☼	65	30 - 122	4	20
Naphthalene	0.087	U	3.49	2.33		mg/Kg	☼	67	35 - 123	3	20
Nitrobenzene	0.087	U	3.49	2.37		mg/Kg	☼	68	34 - 122	3	20
N-Nitrosodimethylamine	0.17	U	3.49	2.19		mg/Kg	☼	63	23 - 120	1	20
N-Nitrosodi-n-propylamine	0.087	U	3.49	2.35		mg/Kg	☼	67	36 - 120	4	20
N-Nitrosodiphenylamine	0.087	U	3.49	2.44		mg/Kg	☼	70	38 - 127	4	20

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

Lab Sample ID: 280-84353-1 MSD — **Client Sample ID: SC-TU009-MW001-S0305**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 331745 — **Prep Batch: 330220**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Pentachlorophenol	1.3	U	6.99	4.65		mg/Kg	☼	66	25 - 133	8	20
Phenanthrene	0.087	U	3.49	2.63		mg/Kg	☼	75	50 - 121	5	20
Phenol	0.087	U	3.49	2.45		mg/Kg	☼	70	34 - 121	2	20
Pyrene	0.043	U	3.49	2.72		mg/Kg	☼	78	47 - 127	7	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
2,4,6-Tribromophenol (Surr)	*70*		*39 - 132*
2-Fluorobiphenyl	*66*		*44 - 115*
2-Fluorophenol (Surr)	*69*		*35 - 115*
Nitrobenzene-d5 (Surr)	*64*		*37 - 122*
Phenol-d5 (Surr)	*67*		*33 - 122*
Terphenyl-d14 (Surr)	*76*		*54 - 127*

Method: 6010C - Metals (ICP)

Lab Sample ID: MB 280-330579/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 331269 — **Prep Batch: 330579**

Analyte	MB Result	MB Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	70	U	300	18	ug/L		06/20/16 22:16	06/25/16 01:56	1
Antimony	12	U	20	3.1	ug/L		06/20/16 22:16	06/25/16 01:56	1
Barium	2.0	U	10	0.58	ug/L		06/20/16 22:16	06/25/16 01:56	1
Cadmium	1.8	U Q	5.0	0.45	ug/L		06/20/16 22:16	06/25/16 01:56	1
Calcium	48.6	J	1000	35	ug/L		06/20/16 22:16	06/25/16 01:56	1
Chromium	2.6	U	15	0.66	ug/L		06/20/16 22:16	06/25/16 01:56	1
Cobalt	4.5	U	15	1.2	ug/L		06/20/16 22:16	06/25/16 01:56	1
Copper	10	U	15	4.2	ug/L		06/20/16 22:16	06/25/16 01:56	1
Lead	10	U	15	2.6	ug/L		06/20/16 22:16	06/25/16 01:56	1
Magnesium	40	U	500	11	ug/L		06/20/16 22:16	06/25/16 01:56	1
Manganese	0.340	J Q	10	0.25	ug/L		06/20/16 22:16	06/25/16 01:56	1
Nickel	5.0	U	40	1.3	ug/L		06/20/16 22:16	06/25/16 01:56	1
Potassium	940	U	3000	240	ug/L		06/20/16 22:16	06/25/16 01:56	1
Selenium	19	U	22	4.9	ug/L		06/20/16 22:16	06/25/16 01:56	1
Silver	3.5	U	15	0.93	ug/L		06/20/16 22:16	06/25/16 01:56	1
Thallium	19	U	40	4.9	ug/L		06/20/16 22:16	06/25/16 01:56	1
Vanadium	4.0	U	15	1.1	ug/L		06/20/16 22:16	06/25/16 01:56	1
Zinc	15	U	150	4.5	ug/L		06/20/16 22:16	06/25/16 01:56	1

Lab Sample ID: MB 280-330579/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 331349 — **Prep Batch: 330579**

Analyte	MB Result	MB Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	15	U	25	4.4	ug/L		06/20/16 22:16	06/25/16 15:23	1
Beryllium	1.2	U	1.5	0.47	ug/L		06/20/16 22:16	06/25/16 15:23	1
Sodium	133	J	5000	92	ug/L		06/20/16 22:16	06/25/16 15:23	1

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

Lab Sample ID: MB 280-330579/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 331465 — **Prep Batch: 330579**

Analyte	MB Result	MB Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	85	U	100	22	ug/L		06/20/16 22:16	06/27/16 09:52	1

Lab Sample ID: LCS 280-330579/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 331269 — **Prep Batch: 330579**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aluminum	2000	1930		ug/L		97	86 - 115
Antimony	500	521		ug/L		104	88 - 113
Barium	2000	2100		ug/L		105	88 - 113
Cadmium	100	99.7	Q	ug/L		100	88 - 113
Calcium	50000	46700		ug/L		93	87 - 113
Chromium	200	196		ug/L		98	90 - 113
Cobalt	500	481		ug/L		96	89 - 114
Copper	250	250		ug/L		100	86 - 114
Lead	500	492		ug/L		98	86 - 113
Magnesium	50000	47300		ug/L		95	85 - 113
Manganese	500	470	Q	ug/L		94	90 - 114
Nickel	500	482		ug/L		96	88 - 113
Potassium	50000	55100		ug/L		110	86 - 114
Selenium	2000	2040		ug/L		102	83 - 114
Silver	50.0	49.9		ug/L		100	84 - 115
Thallium	2000	1940		ug/L		97	85 - 114
Vanadium	500	486		ug/L		97	90 - 111
Zinc	500	465		ug/L		93	87 - 115

Lab Sample ID: LCS 280-330579/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 331349 — **Prep Batch: 330579**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	1000	992		ug/L		99	87 - 113
Beryllium	50.0	47.6		ug/L		95	89 - 112
Sodium	50000	53800		ug/L		108	87 - 115

Lab Sample ID: LCS 280-330579/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 331465 — **Prep Batch: 330579**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Iron	1000	1050		ug/L		105	87 - 115

Lab Sample ID: 280-84353-11 MS — **Client Sample ID: SC-TU009-6MW22-G-1**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 331269 — **Prep Batch: 330579**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Aluminum	130	J	2000	2220		ug/L		105	86 - 115
Antimony	12	U	500	524		ug/L		105	88 - 113

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

Lab Sample ID: 280-84353-11 MS — **Client Sample ID: SC-TU009-6MW22-G-1**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 331269 — **Prep Batch: 330579**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Barium	1.9	J	2000	2060		ug/L		103	88 - 113
Cadmium	1.8	U Q	100	99.6	Q	ug/L		100	88 - 113
Calcium	180000	J	50000	226000	J	ug/L		83	87 - 113
Chromium	2.6	U	200	193		ug/L		96	90 - 113
Cobalt	4.5	U	500	465		ug/L		93	89 - 114
Copper	10	U	250	252		ug/L		101	86 - 114
Lead	10	U	500	477		ug/L		95	86 - 113
Magnesium	40000		50000	85600		ug/L		92	85 - 113
Manganese	3500	Q J	500	3900	Q 4	ug/L		73	90 - 114
Nickel	6.2	J	500	473		ug/L		93	88 - 113
Potassium	3700		50000	58900		ug/L		110	86 - 114
Silver	3.5	U	50.0	50.1		ug/L		100	84 - 115
Thallium	19	U	2000	1800		ug/L		90	85 - 114
Vanadium	4.0	U	500	478		ug/L		96	90 - 111
Zinc	15	J	500	465		ug/L		90	87 - 115

Lab Sample ID: 280-84353-11 MS — **Client Sample ID: SC-TU009-6MW22-G-1**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 331349 — **Prep Batch: 330579**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	15	U	1000	1000		ug/L		100	87 - 113
Beryllium	1.2	U	50.0	46.3		ug/L		93	89 - 112
Sodium	52000		50000	104000		ug/L		104	87 - 115

Lab Sample ID: 280-84353-11 MS — **Client Sample ID: SC-TU009-6MW22-G-1**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 331465 — **Prep Batch: 330579**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Iron	180		1000	1210		ug/L		103	87 - 115
Selenium	19	U	2000	2130		ug/L		107	83 - 114

Lab Sample ID: 280-84353-11 MSD — **Client Sample ID: SC-TU009-6MW22-G-1**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 331269 — **Prep Batch: 330579**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Aluminum	130	J	2000	2200		ug/L		103	86 - 115	1	20
Antimony	12	U	500	519		ug/L		104	88 - 113	1	20
Barium	1.9	J	2000	2070		ug/L		103	88 - 113	0	20
Cadmium	1.8	U Q	100	98.7	Q	ug/L		99	88 - 113	1	20
Calcium	180000	J	50000	225000	J	ug/L		80	87 - 113	1	20
Chromium	2.6	U	200	192		ug/L		96	90 - 113	1	20
Cobalt	4.5	U	500	461		ug/L		92	89 - 114	1	20
Copper	10	U	250	251		ug/L		101	86 - 114	0	20
Lead	10	U	500	473		ug/L		95	86 - 113	1	20
Magnesium	40000		50000	85100		ug/L		91	85 - 113	1	20
Manganese	3500	Q J	500	3850	Q 4	ug/L		64	90 - 114	1	20

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

Lab Sample ID: 280-84353-11 MSD — **Client Sample ID: SC-TU009-6MW22-G-1**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 331269 — **Prep Batch: 330579**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Nickel	6.2	J	500	470		ug/L		93	88 - 113	1	20
Potassium	3700		50000	58800		ug/L		110	86 - 114	0	20
Silver	3.5	U	50.0	49.4		ug/L		99	84 - 115	1	20
Thallium	19	U	2000	1810		ug/L		90	85 - 114	0	20
Vanadium	4.0	U	500	477		ug/L		95	90 - 111	0	20
Zinc	15	J	500	461		ug/L		89	87 - 115	1	20

Lab Sample ID: 280-84353-11 MSD — **Client Sample ID: SC-TU009-6MW22-G-1**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 331349 — **Prep Batch: 330579**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	15	U	1000	1010		ug/L		101	87 - 113	1	20
Beryllium	1.2	U	50.0	46.8		ug/L		94	89 - 112	1	20
Sodium	52000		50000	104000		ug/L		105	87 - 115	0	20

Lab Sample ID: 280-84353-11 MSD — **Client Sample ID: SC-TU009-6MW22-G-1**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 331465 — **Prep Batch: 330579**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Iron	180		1000	1210		ug/L		103	87 - 115	0	20
Selenium	19	U	2000	2130		ug/L		107	83 - 114	0	20

Lab Sample ID: MB 280-331450/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 332132 — **Prep Batch: 331450**

Analyte	MB Result	MB Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	16.2	J	50	1.6	mg/Kg		06/27/16 14:25	06/30/16 21:11	1
Antimony	1.5	U	2.0	0.38	mg/Kg		06/27/16 14:25	06/30/16 21:11	1
Barium	0.161	J	2.0	0.076	mg/Kg		06/27/16 14:25	06/30/16 21:11	1
Cadmium	0.15	U Q	0.50	0.041	mg/Kg		06/27/16 14:25	06/30/16 21:11	1
Calcium	21.7	J	100	14	mg/Kg		06/27/16 14:25	06/30/16 21:11	1
Chromium	0.20	U	3.5	0.058	mg/Kg		06/27/16 14:25	06/30/16 21:11	1
Cobalt	0.40	U	1.0	0.10	mg/Kg		06/27/16 14:25	06/30/16 21:11	1
Copper	0.226	J	5.0	0.22	mg/Kg		06/27/16 14:25	06/30/16 21:11	1
Iron	11.4	J	80	3.8	mg/Kg		06/27/16 14:25	06/30/16 21:11	1
Lead	0.80	U	0.90	0.27	mg/Kg		06/27/16 14:25	06/30/16 21:11	1
Magnesium	6.34	J	30	3.7	mg/Kg		06/27/16 14:25	06/30/16 21:11	1
Manganese	0.275	J Q	4.5	0.10	mg/Kg		06/27/16 14:25	06/30/16 21:11	1
Nickel	0.45	U	4.0	0.12	mg/Kg		06/27/16 14:25	06/30/16 21:11	1
Potassium	160	U	300	41	mg/Kg		06/27/16 14:25	06/30/16 21:11	1
Selenium	3.0	U	3.0	0.86	mg/Kg		06/27/16 14:25	06/30/16 21:11	1
Sodium	200	U	500	59	mg/Kg		06/27/16 14:25	06/30/16 21:11	1
Thallium	2.5	U	3.0	0.65	mg/Kg		06/27/16 14:25	06/30/16 21:11	1
Vanadium	0.35	U	2.0	0.094	mg/Kg		06/27/16 14:25	06/30/16 21:11	1

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

Lab Sample ID: MB 280-331450/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 332145 — **Prep Batch: 331450**

Analyte	MB Result	MB Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	0.12	U	0.50	0.033	mg/Kg		06/27/16 14:25	06/30/16 23:54	1
Silver	0.60	U	1.5	0.16	mg/Kg		06/27/16 14:25	06/30/16 23:54	1
Zinc	1.5	U	8.0	0.40	mg/Kg		06/27/16 14:25	06/30/16 23:54	1

Lab Sample ID: MB 280-331450/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 332346 — **Prep Batch: 331450**

Analyte	MB Result	MB Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	2.5	U	2.5	0.66	mg/Kg		06/27/16 14:25	07/04/16 13:46	1

Lab Sample ID: LCS 280-331450/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 332132 — **Prep Batch: 331450**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aluminum	200	190		mg/Kg		95	74 - 119
Antimony	50.0	50.1		mg/Kg		100	79 - 114
Barium	200	196		mg/Kg		98	83 - 113
Cadmium	10.0	9.87	Q	mg/Kg		99	82 - 113
Calcium	5000	4630		mg/Kg		93	81 - 116
Chromium	20.0	19.3		mg/Kg		96	85 - 113
Cobalt	50.0	47.2		mg/Kg		94	85 - 112
Copper	25.0	25.1		mg/Kg		100	81 - 117
Iron	100	101		mg/Kg		101	81 - 118
Lead	50.0	47.5		mg/Kg		95	81 - 112
Magnesium	5000	4630		mg/Kg		93	78 - 115
Manganese	50.0	46.0	Q	mg/Kg		92	84 - 114
Nickel	50.0	47.1		mg/Kg		94	83 - 113
Potassium	5000	5030		mg/Kg		101	81 - 116
Selenium	200	191		mg/Kg		96	78 - 111
Sodium	5000	5400		mg/Kg		108	83 - 118
Thallium	200	190		mg/Kg		95	83 - 111
Vanadium	50.0	47.2		mg/Kg		94	82 - 114

Lab Sample ID: LCS 280-331450/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 332145 — **Prep Batch: 331450**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Beryllium	5.00	4.90		mg/Kg		98	83 - 113
Silver	5.00	4.88		mg/Kg		98	82 - 112
Zinc	50.0	47.9		mg/Kg		96	82 - 113

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

Lab Sample ID: LCS 280-331450/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 332346 — **Prep Batch: 331450**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	100	105		mg/Kg		105	82 - 111

Lab Sample ID: 280-84353-1 MS — **Client Sample ID: SC-TU009-MW001-S0305**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 332132 — **Prep Batch: 331450**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Aluminum	24000	J D	230	31900	4 D	mg/Kg	☼	3407	74 - 119
Antimony	7.1	U J	57.5	16.1	J D	mg/Kg	☼	28	79 - 114
Barium	190	J D	230	442	D	mg/Kg	☼	110	83 - 113
Cadmium	0.71	U J Q	11.5	11.0	Q D	mg/Kg	☼	96	82 - 113
Calcium	3000	J D	5750	8250	D	mg/Kg	☼	91	81 - 116
Chromium	27	J D	23.0	53.7	J D	mg/Kg	☼	116	85 - 113
Cobalt	14	J D	57.5	69.6	D	mg/Kg	☼	97	85 - 112
Copper	32	J D	28.7	62.2	D	mg/Kg	☼	106	81 - 117
Iron	38000	J D	115	40400	4 D	mg/Kg	☼	2483	81 - 118
Lead	13	J D	57.5	67.2	D	mg/Kg	☼	94	81 - 112
Magnesium	5600	J D	5750	11700	D	mg/Kg	☼	105	78 - 115
Manganese	530	J Q D	57.5	854	Q 4 D	mg/Kg	☼	573	84 - 114
Nickel	33	J D	57.5	89.3	D	mg/Kg	☼	99	83 - 113
Potassium	2400	J D	5750	10500	J D	mg/Kg	☼	140	81 - 116
Selenium	14	U J	230	204	D	mg/Kg	☼	89	78 - 111
Sodium	940	U J	5750	5540	D	mg/Kg	☼	96	83 - 118
Thallium	3.7	J J D	230	195	D	mg/Kg	☼	83	83 - 111
Vanadium	43	J D	57.5	106	D	mg/Kg	☼	111	82 - 114

Lab Sample ID: 280-84353-1 MS — **Client Sample ID: SC-TU009-MW001-S0305**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 332346 — **Prep Batch: 331450**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	10	J D J	115	126	D	mg/Kg	☼	101	82 - 111
Beryllium	1.4	J D	5.75	6.79	D	mg/Kg	☼	94	83 - 113
Silver	2.8	U J	5.75	4.56	D J	mg/Kg	☼	79	82 - 112
Zinc	80	D	57.5	139	D	mg/Kg	☼	102	82 - 113

Lab Sample ID: 280-84353-1 MSD — **Client Sample ID: SC-TU009-MW001-S0305**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 332132 — **Prep Batch: 331450**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Aluminum	24000	J D	185	33700	4 D	mg/Kg	☼	5196	74 - 119	5	20
Antimony	7.1	U J	46.1	13.5	D J	mg/Kg	☼	29	79 - 114	18	20
Barium	190	J D	185	399	D	mg/Kg	☼	113	83 - 113	10	20
Cadmium	0.71	U J Q	9.23	8.66	Q D J	mg/Kg	☼	94	82 - 113	24	20
Calcium	3000	J D	4610	7050	D	mg/Kg	☼	87	81 - 116	16	20
Chromium	27	J D	18.5	50.6	J D	mg/Kg	☼	127	85 - 113	6	20
Cobalt	14	J D	46.1	55.5	D J	mg/Kg	☼	90	85 - 112	23	20
Copper	32	J D	23.1	54.7	D	mg/Kg	☼	99	81 - 117	13	20

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

Lab Sample ID: 280-84353-1 MSD — **Client Sample ID: SC-TU009-MW001-S0305**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 332132 — **Prep Batch: 331450**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Iron	38000	J D	92.3	39200	4 D	mg/Kg	☼	1867	81 - 118	3	20
Lead	13	J D	46.1	53.1	D J	mg/Kg	☼	87	81 - 112	23	20
Magnesium	5600	J D	4610	10600	D	mg/Kg	☼	108	78 - 115	10	20
Manganese	530	J Q D	46.1	630	Q 4 D J	mg/Kg	☼	227	84 - 114	30	20
Nickel	33	J D	46.1	77.7	D	mg/Kg	☼	98	83 - 113	14	20
Potassium	2400	J D	4610	10200	J D	mg/Kg	☼	169	81 - 116	3	20
Selenium	14	U J	185	162	D J	mg/Kg	☼	88	78 - 111	23	20
Sodium	940	U J	4610	4440	D J	mg/Kg	☼	96	83 - 118	22	20
Thallium	3.7	J J D	185	158	D J	mg/Kg	☼	84	83 - 111	21	20
Vanadium	43	J D	46.1	100	J D	mg/Kg	☼	125	82 - 114	6	20

Lab Sample ID: 280-84353-1 MSD — **Client Sample ID: SC-TU009-MW001-S0305**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 332346 — **Prep Batch: 331450**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	10	J D J	92.3	101	D J	mg/Kg	☼	98	82 - 111	22	20
Beryllium	1.4	J D	4.61	5.79	D	mg/Kg	☼	95	83 - 113	16	20
Silver	2.8	U J	4.61	3.47	D J	mg/Kg	☼	75	82 - 112	27	20
Zinc	80	D	46.1	125	D	mg/Kg	☼	98	82 - 113	10	20

Lab Sample ID: MB 280-330578/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total Recoverable**
Analysis Batch: 331399 — **Prep Batch: 330578**

Analyte	MB Result	MB Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	70	U	300	18	ug/L		06/22/16 08:10	06/26/16 19:17	1
Arsenic	4.49	J	25	4.4	ug/L		06/22/16 08:10	06/26/16 19:17	1
Barium	2.0	U	10	0.58	ug/L		06/22/16 08:10	06/26/16 19:17	1
Beryllium	1.2	U	1.5	0.47	ug/L		06/22/16 08:10	06/26/16 19:17	1
Cadmium	1.8	U	5.0	0.45	ug/L		06/22/16 08:10	06/26/16 19:17	1
Calcium	140	U	1000	35	ug/L		06/22/16 08:10	06/26/16 19:17	1
Chromium	2.6	U	15	0.66	ug/L		06/22/16 08:10	06/26/16 19:17	1
Cobalt	4.5	U	15	1.2	ug/L		06/22/16 08:10	06/26/16 19:17	1
Copper	10	U	15	4.2	ug/L		06/22/16 08:10	06/26/16 19:17	1
Iron	85	U	100	22	ug/L		06/22/16 08:10	06/26/16 19:17	1
Lead	10	U	15	2.6	ug/L		06/22/16 08:10	06/26/16 19:17	1
Magnesium	40	U	500	11	ug/L		06/22/16 08:10	06/26/16 19:17	1
Manganese	1.0	U Q	10	0.25	ug/L		06/22/16 08:10	06/26/16 19:17	1
Nickel	5.0	U	40	1.3	ug/L		06/22/16 08:10	06/26/16 19:17	1
Potassium	940	U	3000	240	ug/L		06/22/16 08:10	06/26/16 19:17	1
Silver	3.5	U	15	0.93	ug/L		06/22/16 08:10	06/26/16 19:17	1
Sodium	350	U	5000	92	ug/L		06/22/16 08:10	06/26/16 19:17	1
Thallium	19	U	40	4.9	ug/L		06/22/16 08:10	06/26/16 19:17	1
Vanadium	4.0	U	15	1.1	ug/L		06/22/16 08:10	06/26/16 19:17	1
Zinc	15	U	150	4.5	ug/L		06/22/16 08:10	06/26/16 19:17	1

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

Lab Sample ID: MB 280-330578/1-A
Matrix: Water
Analysis Batch: 331602

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 330578

Analyte	MB Result	MB Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	12	U	20	3.1	ug/L		06/22/16 08:10	06/27/16 15:20	1
Selenium	19	U	22	4.9	ug/L		06/22/16 08:10	06/27/16 15:20	1

Lab Sample ID: LCS 280-330578/2-A
Matrix: Water
Analysis Batch: 331399

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 330578

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aluminum	2000	2080		ug/L		104	86 - 115
Arsenic	1000	1030		ug/L		103	87 - 113
Barium	2000	2050		ug/L		102	88 - 113
Beryllium	50.0	50.5		ug/L		101	89 - 112
Cadmium	100	101		ug/L		101	88 - 113
Calcium	50000	50700		ug/L		101	87 - 113
Chromium	200	202		ug/L		101	90 - 113
Cobalt	500	495		ug/L		99	89 - 114
Copper	250	253		ug/L		101	86 - 114
Iron	1000	1000		ug/L		100	87 - 115
Lead	500	504		ug/L		101	86 - 113
Magnesium	50000	50600		ug/L		101	85 - 113
Manganese	500	497	Q	ug/L		99	90 - 114
Nickel	500	497		ug/L		99	88 - 113
Potassium	50000	51700		ug/L		103	86 - 114
Silver	50.0	50.4		ug/L		101	84 - 115
Sodium	50000	53000		ug/L		106	87 - 115
Thallium	2000	1920		ug/L		96	85 - 114
Vanadium	500	512		ug/L		102	90 - 111
Zinc	500	505		ug/L		101	87 - 115

Lab Sample ID: LCS 280-330578/2-A
Matrix: Water
Analysis Batch: 331602

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 330578

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	500	536		ug/L		107	88 - 113
Selenium	2000	2100		ug/L		105	83 - 114

Lab Sample ID: 280-84353-11 MS
Matrix: Water
Analysis Batch: 331399

Client Sample ID: SC-TU009-6MW22-G-1
Prep Type: Dissolved
Prep Batch: 330578

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Aluminum	70	U	2000	2020		ug/L		101	86 - 115
Arsenic	15	U	1000	1070		ug/L		107	87 - 113
Barium	2.0	U	2000	2040		ug/L		102	88 - 113
Beryllium	1.2	U	50.0	50.1		ug/L		100	89 - 112
Cadmium	0.57	J	100	106		ug/L		106	88 - 113
Calcium	190000		50000	242000		ug/L		98	87 - 113
Chromium	2.6	U	200	201		ug/L		100	90 - 113

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

Lab Sample ID: 280-84353-11 MS — **Client Sample ID: SC-TU009-6MW22-G-1**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 331399 — **Prep Batch: 330578**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Cobalt	4.5	U	500	488		ug/L		98	89 - 114
Copper	10	U	250	268		ug/L		107	86 - 114
Iron	85	U	1000	996		ug/L		100	87 - 115
Lead	4.0	J	500	500		ug/L		99	86 - 113
Magnesium	42000		50000	92600		ug/L		101	85 - 113
Manganese	2300	Q	500	2740	Q 4	ug/L		93	90 - 114
Nickel	4.9	J	500	494		ug/L		98	88 - 113
Potassium	3500		50000	55500		ug/L		104	86 - 114
Silver	3.5	U	50.0	52.2		ug/L		104	84 - 115
Sodium	48000		50000	101000		ug/L		105	87 - 115
Thallium	19	U	2000	1870		ug/L		94	85 - 114
Vanadium	4.0	U	500	511		ug/L		102	90 - 111
Zinc	9.1	J	500	493		ug/L		97	87 - 115

Lab Sample ID: 280-84353-11 MS — **Client Sample ID: SC-TU009-6MW22-G-1**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 331602 — **Prep Batch: 330578**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	12	U	500	534		ug/L		107	88 - 113
Selenium	19	U	2000	2090		ug/L		105	83 - 114

Lab Sample ID: 280-84353-11 MSD — **Client Sample ID: SC-TU009-6MW22-G-1**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 331399 — **Prep Batch: 330578**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Aluminum	70	U	2000	2000		ug/L		100	86 - 115	1	20
Arsenic	15	U	1000	1080		ug/L		108	87 - 113	1	20
Barium	2.0	U	2000	2020		ug/L		101	88 - 113	1	20
Beryllium	1.2	U	50.0	49.6		ug/L		99	89 - 112	1	20
Cadmium	0.57	J	100	105		ug/L		105	88 - 113	1	20
Calcium	190000		50000	241000		ug/L		96	87 - 113	0	20
Chromium	2.6	U	200	199		ug/L		99	90 - 113	1	20
Cobalt	4.5	U	500	482		ug/L		96	89 - 114	1	20
Copper	10	U	250	267		ug/L		107	86 - 114	1	20
Iron	85	U	1000	980		ug/L		98	87 - 115	2	20
Lead	4.0	J	500	496		ug/L		98	86 - 113	1	20
Magnesium	42000		50000	92200		ug/L		100	85 - 113	0	20
Manganese	2300	Q	500	2740	Q 4	ug/L		95	90 - 114	0	20
Nickel	4.9	J	500	489		ug/L		97	88 - 113	1	20
Potassium	3500		50000	54700		ug/L		103	86 - 114	1	20
Silver	3.5	U	50.0	53.0		ug/L		106	84 - 115	2	20
Sodium	48000		50000	101000		ug/L		104	87 - 115	0	20
Thallium	19	U	2000	1870		ug/L		94	85 - 114	0	20
Vanadium	4.0	U	500	503		ug/L		101	90 - 111	1	20
Zinc	9.1	J	500	485		ug/L		95	87 - 115	2	20

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

Lab Sample ID: 280-84353-11 MSD — **Client Sample ID: SC-TU009-6MW22-G-1**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 331602 — **Prep Batch: 330578**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Antimony	12	U	500	532		ug/L		106	88 - 113	0	20
Selenium	19	U	2000	2100		ug/L		105	83 - 114	1	20

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 280-329782/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 330194 — **Prep Batch: 329782**

Analyte	MB Result	MB Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	0.080	U	0.20	0.027	ug/L		06/16/16 11:20	06/16/16 17:02	1

Lab Sample ID: LCS 280-329782/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 330194 — **Prep Batch: 329782**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Hg	5.00	5.11		ug/L		102	82 - 119

Lab Sample ID: MB 280-329784/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 330194 — **Prep Batch: 329784**

Analyte	MB Result	MB Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.080	U	0.20	0.027	ug/L		06/16/16 11:20	06/16/16 17:49	1

Lab Sample ID: LCS 280-329784/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 330194 — **Prep Batch: 329784**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	5.00	5.17		ug/L		103	82 - 119

Lab Sample ID: 280-84353-11 MS — **Client Sample ID: SC-TU009-6MW22-G-1**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 330194 — **Prep Batch: 329784**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.080	U	5.00	5.10		ug/L		102	82 - 119

Lab Sample ID: 280-84353-11 MSD — **Client Sample ID: SC-TU009-6MW22-G-1**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 330194 — **Prep Batch: 329784**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	0.080	U	5.00	5.12		ug/L		102	82 - 119	0	20

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

Lab Sample ID: 280-84353-11 MS — **Client Sample ID: SC-TU009-6MW22-G-1**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 330194 — **Prep Batch: 329782**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Hg	0.080	U	5.00	5.10		ug/L		102	82 - 119		

Lab Sample ID: 280-84353-11 MSD — **Client Sample ID: SC-TU009-6MW22-G-1**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 330194 — **Prep Batch: 329782**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Hg	0.080	U	5.00	5.13		ug/L		103	82 - 119	1	20

Method: 7471A - Mercury (CVAA)

Lab Sample ID: MB 280-329790/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 330428 — **Prep Batch: 329790**

Analyte	MB Result	MB Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.013	U	0.017	0.0055	mg/Kg		06/17/16 13:40	06/17/16 18:12	1

Lab Sample ID: LCS 280-329790/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 330428 — **Prep Batch: 329790**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Mercury			0.417	0.445		mg/Kg		107	80 - 124		

Lab Sample ID: 280-84353-1 MS — **Client Sample ID: SC-TU009-MW001-S0305**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 330428 — **Prep Batch: 329790**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Mercury	0.042		0.607	0.674		mg/Kg	☼	104	80 - 124		

Lab Sample ID: 280-84353-1 MSD — **Client Sample ID: SC-TU009-MW001-S0305**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 330428 — **Prep Batch: 329790**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	0.042		0.585	0.645		mg/Kg	☼	103	80 - 124	4	20

Lab Chronicle

Client: Weston Solutions, Inc.
Project/Site: Schenectady ANGB, TU009

TestAmerica Job ID: 280-84353-1

Client Sample ID: SC-TU009-MW001-S0305 — Lab Sample ID: 280-84353-1

Date Collected: 06/06/16 16:00 — **Matrix: Solid**
Date Received: 06/10/16 09:25

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			329700	06/14/16 10:59	MRD	TAL DEN

Client Sample ID: SC-TU009-MW001-S0305 — Lab Sample ID: 280-84353-1

Date Collected: 06/06/16 16:00 — **Matrix: Solid**
Date Received: 06/10/16 09:25 — **Percent Solids: 76.3**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550C			30.1 g	1 mL	330220	06/17/16 15:01	DFB1	TAL DEN
Total/NA	Analysis	8270D		1			331745	06/28/16 21:18	DCK	TAL DEN
Total/NA	Prep	3050B			1.39 g	100 mL	331450	06/27/16 14:25	MLS	TAL DEN
Total/NA	Analysis	6010C		5			332132	06/30/16 21:16	LMT	TAL DEN
Total/NA	Prep	3050B			1.39 g	100 mL	331450	06/27/16 14:25	MLS	TAL DEN
Total/NA	Analysis	6010C		5			332346	07/04/16 13:51	LMT	TAL DEN
Total/NA	Prep	7471A			0.60 g	50 mL	329790	06/17/16 13:40	CDH	TAL DEN
Total/NA	Analysis	7471A		1			330428	06/17/16 18:17	CDH	TAL DEN

Client Sample ID: SC-TU009-MW001-S0608 — Lab Sample ID: 280-84353-2

Date Collected: 06/06/16 16:10 — **Matrix: Solid**
Date Received: 06/10/16 09:25

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			329700	06/14/16 10:59	MRD	TAL DEN

Client Sample ID: SC-TU009-MW001-S0608 — Lab Sample ID: 280-84353-2

Date Collected: 06/06/16 16:10 — **Matrix: Solid**
Date Received: 06/10/16 09:25 — **Percent Solids: 91.9**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550C			32.9 g	1 mL	330220	06/17/16 15:01	DFB1	TAL DEN
Total/NA	Analysis	8270D		1			331745	06/28/16 22:38	DCK	TAL DEN
Total/NA	Prep	3050B			1.33 g	100 mL	331450	06/27/16 14:25	MLS	TAL DEN
Total/NA	Analysis	6010C		5			332132	06/30/16 21:39	LMT	TAL DEN
Total/NA	Prep	3050B			1.33 g	100 mL	331450	06/27/16 14:25	MLS	TAL DEN
Total/NA	Analysis	6010C		5			332145	07/01/16 00:22	LMT	TAL DEN
Total/NA	Prep	3050B			1.33 g	100 mL	331450	06/27/16 14:25	MLS	TAL DEN
Total/NA	Analysis	6010C		5			332314	07/01/16 17:10	LRD	TAL DEN
Total/NA	Prep	7471A			0.51 g	50 mL	329790	06/17/16 13:40	CDH	TAL DEN
Total/NA	Analysis	7471A		1			330428	06/17/16 18:29	CDH	TAL DEN

Client Sample ID: SC-TU009-MW002-S0507 — Lab Sample ID: 280-84353-3

Date Collected: 06/06/16 16:40 — **Matrix: Solid**
Date Received: 06/10/16 09:25

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			329700	06/14/16 10:59	MRD	TAL DEN

Client Sample ID: SC-TU009-MW002-S0507 — Lab Sample ID: 280-84353-3

Date Collected: 06/06/16 16:40 — **Matrix: Solid**
Date Received: 06/10/16 09:25 — **Percent Solids: 86.0**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550C			32.9 g	1 mL	330220	06/17/16 15:01	DFB1	TAL DEN
Total/NA	Analysis	8270D		1			331745	06/28/16 23:05	DCK	TAL DEN
Total/NA	Prep	3050B			1.34 g	100 mL	331450	06/27/16 14:25	MLS	TAL DEN
Total/NA	Analysis	6010C		5			332132	06/30/16 21:42	LMT	TAL DEN
Total/NA	Prep	3050B			1.34 g	100 mL	331450	06/27/16 14:25	MLS	TAL DEN
Total/NA	Analysis	6010C		5			332145	07/01/16 00:24	LMT	TAL DEN
Total/NA	Prep	3050B			1.34 g	100 mL	331450	06/27/16 14:25	MLS	TAL DEN
Total/NA	Analysis	6010C		5			332314	07/01/16 17:13	LRD	TAL DEN
Total/NA	Prep	7471A			0.50 g	50 mL	329790	06/17/16 13:40	CDH	TAL DEN
Total/NA	Analysis	7471A		1			330428	06/17/16 18:32	CDH	TAL DEN

Client Sample ID: SC-TU009-MW002-S0305 — Lab Sample ID: 280-84353-4

Date Collected: 06/06/16 16:35 — **Matrix: Solid**
Date Received: 06/10/16 09:25

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			329700	06/14/16 10:59	MRD	TAL DEN

Client Sample ID: SC-TU009-MW002-S0305 — Lab Sample ID: 280-84353-4

Date Collected: 06/06/16 16:35 — **Matrix: Solid**
Date Received: 06/10/16 09:25 — **Percent Solids: 84.5**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550C			30.8 g	1 mL	330220	06/17/16 15:01	DFB1	TAL DEN
Total/NA	Analysis	8270D		1			331745	06/28/16 23:31	DCK	TAL DEN
Total/NA	Prep	3050B			1.39 g	100 mL	331450	06/27/16 14:25	MLS	TAL DEN
Total/NA	Analysis	6010C		5			332132	06/30/16 21:44	LMT	TAL DEN
Total/NA	Prep	3050B			1.39 g	100 mL	331450	06/27/16 14:25	MLS	TAL DEN
Total/NA	Analysis	6010C		5			332145	07/01/16 00:27	LMT	TAL DEN
Total/NA	Prep	3050B			1.39 g	100 mL	331450	06/27/16 14:25	MLS	TAL DEN
Total/NA	Analysis	6010C		5			332314	07/01/16 17:15	LRD	TAL DEN
Total/NA	Prep	7471A			0.50 g	50 mL	329790	06/17/16 13:40	CDH	TAL DEN
Total/NA	Analysis	7471A		1			330428	06/17/16 18:34	CDH	TAL DEN

Client Sample ID: SC-TU009-MW002-S0507-D — Lab Sample ID: 280-84353-5

Date Collected: 06/06/16 16:40 — **Matrix: Solid**
Date Received: 06/10/16 09:25

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			329700	06/14/16 10:59	MRD	TAL DEN

Client Sample ID: SC-TU009-MW002-S0507-D — Lab Sample ID: 280-84353-5

Date Collected: 06/06/16 16:40 — **Matrix: Solid**
Date Received: 06/10/16 09:25 — **Percent Solids: 87.3**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550C			32.1 g	1 mL	330220	06/17/16 15:01	DFB1	TAL DEN
Total/NA	Analysis	8270D		1			331745	06/28/16 23:58	DCK	TAL DEN
Total/NA	Prep	3050B			1.03 g	100 mL	331450	06/27/16 14:25	MLS	TAL DEN
Total/NA	Analysis	6010C		5			332132	06/30/16 21:47	LMT	TAL DEN
Total/NA	Prep	3050B			1.03 g	100 mL	331450	06/27/16 14:25	MLS	TAL DEN
Total/NA	Analysis	6010C		5			332145	07/01/16 00:29	LMT	TAL DEN
Total/NA	Prep	3050B			1.03 g	100 mL	331450	06/27/16 14:25	MLS	TAL DEN
Total/NA	Analysis	6010C		5			332314	07/01/16 17:18	LRD	TAL DEN
Total/NA	Prep	7471A			0.58 g	50 mL	329790	06/17/16 13:40	CDH	TAL DEN
Total/NA	Analysis	7471A		1			330428	06/17/16 18:42	CDH	TAL DEN

Client Sample ID: SC-TU009-MW003-S0507 — Lab Sample ID: 280-84353-6

Date Collected: 06/06/16 17:10 — **Matrix: Solid**
Date Received: 06/10/16 09:25

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			329700	06/14/16 10:59	MRD	TAL DEN

Client Sample ID: SC-TU009-MW003-S0507 — Lab Sample ID: 280-84353-6

Date Collected: 06/06/16 17:10 — **Matrix: Solid**
Date Received: 06/10/16 09:25 — **Percent Solids: 87.0**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550C			30.7 g	1 mL	330220	06/17/16 15:01	DFB1	TAL DEN
Total/NA	Analysis	8270D		1			331745	06/29/16 00:24	DCK	TAL DEN
Total/NA	Prep	3050B			1.22 g	100 mL	331450	06/27/16 14:25	MLS	TAL DEN
Total/NA	Analysis	6010C		5			332132	06/30/16 21:49	LMT	TAL DEN
Total/NA	Prep	3050B			1.22 g	100 mL	331450	06/27/16 14:25	MLS	TAL DEN
Total/NA	Analysis	6010C		5			332145	07/01/16 00:32	LMT	TAL DEN
Total/NA	Prep	3050B			1.22 g	100 mL	331450	06/27/16 14:25	MLS	TAL DEN
Total/NA	Analysis	6010C		5			332314	07/01/16 17:20	LRD	TAL DEN
Total/NA	Prep	7471A			0.58 g	50 mL	329790	06/17/16 13:40	CDH	TAL DEN
Total/NA	Analysis	7471A		1			330428	06/17/16 18:44	CDH	TAL DEN

Client Sample ID: SC-TU009-MW003-S0305 — Lab Sample ID: 280-84353-7

Date Collected: 06/06/16 17:00
Date Received: 06/10/16 09:25
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			329700	06/14/16 10:59	MRD	TAL DEN

Client Sample ID: SC-TU009-MW003-S0305 — Lab Sample ID: 280-84353-7

Date Collected: 06/06/16 17:00
Date Received: 06/10/16 09:25
Matrix: Solid
Percent Solids: 91.8

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550C			30.3 g	1 mL	330220	06/17/16 15:01	DFB1	TAL DEN
Total/NA	Analysis	8270D		1			331745	06/29/16 00:51	DCK	TAL DEN
Total/NA	Prep	3050B			1.29 g	100 mL	331450	06/27/16 14:25	MLS	TAL DEN
Total/NA	Analysis	6010C		5			332132	06/30/16 21:52	LMT	TAL DEN
Total/NA	Prep	3050B			1.29 g	100 mL	331450	06/27/16 14:25	MLS	TAL DEN
Total/NA	Analysis	6010C		5			332145	07/01/16 00:35	LMT	TAL DEN
Total/NA	Prep	3050B			1.29 g	100 mL	331450	06/27/16 14:25	MLS	TAL DEN
Total/NA	Analysis	6010C		5			332314	07/01/16 17:23	LRD	TAL DEN
Total/NA	Prep	7471A			0.50 g	50 mL	329790	06/17/16 13:40	CDH	TAL DEN
Total/NA	Analysis	7471A		1			330428	06/17/16 18:46	CDH	TAL DEN

Client Sample ID: SC-TU009-EB060616 — Lab Sample ID: 280-84353-8

Date Collected: 06/06/16 15:00
Date Received: 06/10/16 09:25
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1041.1 mL	1 mL	329438	06/11/16 15:20	JRA	TAL DEN
Total/NA	Analysis	8270D		1			331506	06/27/16 16:42	DCK	TAL DEN
Total/NA	Prep	3010A			50 mL	50 mL	330579	06/20/16 22:16	TEB	TAL DEN
Total/NA	Analysis	6010C		1			331269	06/25/16 02:34	CRR	TAL DEN
Total/NA	Prep	3010A			50 mL	50 mL	330579	06/20/16 22:16	TEB	TAL DEN
Total/NA	Analysis	6010C		1			331349	06/25/16 16:01	CRR	TAL DEN
Total/NA	Prep	3010A			50 mL	50 mL	330579	06/20/16 22:16	TEB	TAL DEN
Total/NA	Analysis	6010C		1			331465	06/27/16 10:30	CRR	TAL DEN
Total/NA	Prep	7470A			30 mL	50 mL	329784	06/16/16 11:20	CDH	TAL DEN
Total/NA	Analysis	7470A		1			330194	06/16/16 18:26	CDH	TAL DEN

Client Sample ID: SC-TU009-MW003-G-1 — Lab Sample ID: 280-84353-9

Date Collected: 06/08/16 12:45
Date Received: 06/10/16 09:25
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			992.2 mL	1 mL	329438	06/11/16 15:20	JRA	TAL DEN
Total/NA	Analysis	8270D		1			331506	06/27/16 17:10	DCK	TAL DEN
Dissolved	Prep	3005A			50 mL	50 mL	330578	06/22/16 08:10	TEB	TAL DEN
Dissolved	Analysis	6010C		1			331399	06/26/16 19:55	SJS	TAL DEN

Client Sample ID: SC-TU009-MW003-G-1 — Lab Sample ID: 280-84353-9

Date Collected: 06/08/16 12:45 — **Matrix: Water**
Date Received: 06/10/16 09:25

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			50 mL	50 mL	330578	06/22/16 08:10	TEB	TAL DEN
Dissolved	Analysis	6010C		1			331602	06/27/16 15:57	CRR	TAL DEN
Dissolved	Prep	3005A			50 mL	50 mL	330578	06/22/16 08:10	TEB	TAL DEN
Dissolved	Analysis	6010C		2			331602	06/28/16 06:36	CRR	TAL DEN
Total/NA	Prep	3010A			50 mL	50 mL	330579	06/20/16 22:16	TEB	TAL DEN
Total/NA	Analysis	6010C		1			331269	06/25/16 02:37	CRR	TAL DEN
Total/NA	Prep	3010A			50 mL	50 mL	330579	06/20/16 22:16	TEB	TAL DEN
Total/NA	Analysis	6010C		1			331349	06/25/16 16:03	CRR	TAL DEN
Total/NA	Prep	3010A			50 mL	50 mL	330579	06/20/16 22:16	TEB	TAL DEN
Total/NA	Analysis	6010C		1			331465	06/27/16 10:33	CRR	TAL DEN
Dissolved	Prep	7470A			30 mL	50 mL	329782	06/16/16 11:20	CDH	TAL DEN
Dissolved	Analysis	7470A		1			330194	06/16/16 17:34	CDH	TAL DEN
Total/NA	Prep	7470A			30 mL	50 mL	329784	06/16/16 11:20	CDH	TAL DEN
Total/NA	Analysis	7470A		1			330194	06/16/16 18:29	CDH	TAL DEN

Client Sample ID: SC-TU009-6MW24-G-1 — Lab Sample ID: 280-84353-10

Date Collected: 06/08/16 13:00 — **Matrix: Water**
Date Received: 06/10/16 09:25

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			712.1 mL	1 mL	329438	06/11/16 15:20	JRA	TAL DEN
Total/NA	Analysis	8270D		1			331506	06/27/16 17:38	DCK	TAL DEN
Dissolved	Prep	3005A			50 mL	50 mL	330578	06/22/16 08:10	TEB	TAL DEN
Dissolved	Analysis	6010C		1			331399	06/26/16 19:58	SJS	TAL DEN
Dissolved	Prep	3005A			50 mL	50 mL	330578	06/22/16 08:10	TEB	TAL DEN
Dissolved	Analysis	6010C		1			331602	06/27/16 16:00	CRR	TAL DEN
Total/NA	Prep	3010A			50 mL	50 mL	330579	06/20/16 22:16	TEB	TAL DEN
Total/NA	Analysis	6010C		1			331269	06/25/16 02:39	CRR	TAL DEN
Total/NA	Prep	3010A			50 mL	50 mL	330579	06/20/16 22:16	TEB	TAL DEN
Total/NA	Analysis	6010C		1			331349	06/25/16 16:06	CRR	TAL DEN
Total/NA	Prep	3010A			50 mL	50 mL	330579	06/20/16 22:16	TEB	TAL DEN
Total/NA	Analysis	6010C		1			331465	06/27/16 10:35	CRR	TAL DEN
Dissolved	Prep	7470A			30 mL	50 mL	329782	06/16/16 11:20	CDH	TAL DEN
Dissolved	Analysis	7470A		1			330194	06/16/16 17:37	CDH	TAL DEN
Total/NA	Prep	7470A			30 mL	50 mL	329784	06/16/16 11:20	CDH	TAL DEN
Total/NA	Analysis	7470A		1			330194	06/16/16 18:31	CDH	TAL DEN

Client Sample ID: SC-TU009-6MW22-G-1 — Lab Sample ID: 280-84353-11

Date Collected: 06/08/16 12:30 — **Matrix: Water**
Date Received: 06/10/16 09:25

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1008 mL	1 mL	329438	06/11/16 15:20	JRA	TAL DEN

Lab Chronicle

Client: Weston Solutions, Inc.
Project/Site: Schenectady ANGB, TU009

TestAmerica Job ID: 280-84353-1

Client Sample ID: SC-TU009-6MW22-G-1

Lab Sample ID: 280-84353-11

Date Collected: 06/08/16 12:30
Matrix: Water
Date Received: 06/10/16 09:25

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8270D		1			331506	06/27/16 18:06	DCK	TAL DEN
Dissolved	Prep	3005A			50 mL	50 mL	330578	06/22/16 08:10	TEB	TAL DEN
Dissolved	Analysis	6010C		1			331399	06/26/16 20:03	SJS	TAL DEN
Dissolved	Prep	3005A			50 mL	50 mL	330578	06/22/16 08:10	TEB	TAL DEN
Dissolved	Analysis	6010C		1			331602	06/27/16 16:05	CRR	TAL DEN
Total/NA	Prep	3010A			50 mL	50 mL	330579	06/20/16 22:16	TEB	TAL DEN
Total/NA	Analysis	6010C		1			331269	06/25/16 02:44	CRR	TAL DEN
Total/NA	Prep	3010A			50 mL	50 mL	330579	06/20/16 22:16	TEB	TAL DEN
Total/NA	Analysis	6010C		1			331349	06/25/16 16:11	CRR	TAL DEN
Total/NA	Prep	3010A			50 mL	50 mL	330579	06/20/16 22:16	TEB	TAL DEN
Total/NA	Analysis	6010C		1			331465	06/27/16 10:41	CRR	TAL DEN
Dissolved	Prep	7470A			30 mL	50 mL	329782	06/16/16 11:20	CDH	TAL DEN
Dissolved	Analysis	7470A		1			330194	06/16/16 17:39	CDH	TAL DEN
Total/NA	Prep	7470A			30 mL	50 mL	329784	06/16/16 11:20	CDH	TAL DEN
Total/NA	Analysis	7470A		1			330194	06/16/16 18:34	CDH	TAL DEN

Client Sample ID: SC-TU009-6MW22-G-1-D

Lab Sample ID: 280-84353-12

Date Collected: 06/08/16 12:35
Matrix: Water
Date Received: 06/10/16 09:25

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			990.8 mL	1 mL	329438	06/11/16 15:20	JRA	TAL DEN
Total/NA	Analysis	8270D		1			331506	06/27/16 19:29	DCK	TAL DEN
Dissolved	Prep	3005A			50 mL	50 mL	330578	06/22/16 08:10	TEB	TAL DEN
Dissolved	Analysis	6010C		1			331399	06/26/16 20:00	SJS	TAL DEN
Dissolved	Prep	3005A			50 mL	50 mL	330578	06/22/16 08:10	TEB	TAL DEN
Dissolved	Analysis	6010C		1			331602	06/27/16 16:03	CRR	TAL DEN
Total/NA	Prep	3010A			50 mL	50 mL	330579	06/20/16 22:16	TEB	TAL DEN
Total/NA	Analysis	6010C		1			331269	06/25/16 02:42	CRR	TAL DEN
Total/NA	Prep	3010A			50 mL	50 mL	330579	06/20/16 22:16	TEB	TAL DEN
Total/NA	Analysis	6010C		1			331349	06/25/16 16:08	CRR	TAL DEN
Total/NA	Prep	3010A			50 mL	50 mL	330579	06/20/16 22:16	TEB	TAL DEN
Total/NA	Analysis	6010C		1			331465	06/27/16 10:38	CRR	TAL DEN
Dissolved	Prep	7470A			30 mL	50 mL	329782	06/16/16 11:20	CDH	TAL DEN
Dissolved	Analysis	7470A		1			330194	06/16/16 17:47	CDH	TAL DEN
Total/NA	Prep	7470A			30 mL	50 mL	329784	06/16/16 11:20	CDH	TAL DEN
Total/NA	Analysis	7470A		1			330194	06/16/16 18:41	CDH	TAL DEN

Laboratory References:

TAL DEN = TestAmerica Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

Certification Summary

Client: Weston Solutions, Inc.
Project/Site: Schenectady ANGB, TU009

TestAmerica Job ID: 280-84353-1

Laboratory: TestAmerica Denver

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

Authority	Program	EPA Region	Certification ID	Expiration Date
A2LA	DoD ELAP		2907.01	10-31-17

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

Analysis Method	Prep Method	Matrix	Analyte
Moisture		Solid	Percent Moisture

Connecticut	State Program	1	PH-0686	09-30-16

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

Analysis Method	Prep Method	Matrix	Analyte
6010C	3005A	Water	Aluminum
6010C	3005A	Water	Antimony
6010C	3005A	Water	Arsenic
6010C	3005A	Water	Barium
6010C	3005A	Water	Beryllium
6010C	3005A	Water	Cadmium
6010C	3005A	Water	Calcium
6010C	3005A	Water	Chromium
6010C	3005A	Water	Cobalt
6010C	3005A	Water	Copper
6010C	3005A	Water	Iron
6010C	3005A	Water	Lead
6010C	3005A	Water	Magnesium
6010C	3005A	Water	Manganese
6010C	3005A	Water	Nickel
6010C	3005A	Water	Potassium
6010C	3005A	Water	Selenium
6010C	3005A	Water	Silver
6010C	3005A	Water	Sodium
6010C	3005A	Water	Thallium
6010C	3005A	Water	Vanadium
6010C	3005A	Water	Zinc
6010C	3010A	Water	Aluminum
6010C	3010A	Water	Antimony
6010C	3010A	Water	Arsenic
6010C	3010A	Water	Barium
6010C	3010A	Water	Beryllium
6010C	3010A	Water	Cadmium
6010C	3010A	Water	Calcium
6010C	3010A	Water	Chromium
6010C	3010A	Water	Cobalt
6010C	3010A	Water	Copper
6010C	3010A	Water	Iron
6010C	3010A	Water	Lead
6010C	3010A	Water	Magnesium
6010C	3010A	Water	Manganese
6010C	3010A	Water	Nickel
6010C	3010A	Water	Potassium
6010C	3010A	Water	Selenium
6010C	3010A	Water	Silver
6010C	3010A	Water	Sodium
6010C	3010A	Water	Thallium

Laboratory: TestAmerica Denver (Continued)

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

Authority	Program	EPA Region	Certification ID	Expiration Date
Connecticut	State Program	1	PH-0686	09-30-16

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

Analysis Method	Prep Method	Matrix	Analyte
6010C	3010A	Water	Vanadium
6010C	3010A	Water	Zinc
6010C	3050B	Solid	Aluminum
6010C	3050B	Solid	Antimony
6010C	3050B	Solid	Arsenic
6010C	3050B	Solid	Barium
6010C	3050B	Solid	Beryllium
6010C	3050B	Solid	Cadmium
6010C	3050B	Solid	Calcium
6010C	3050B	Solid	Chromium
6010C	3050B	Solid	Cobalt
6010C	3050B	Solid	Copper
6010C	3050B	Solid	Iron
6010C	3050B	Solid	Lead
6010C	3050B	Solid	Magnesium
6010C	3050B	Solid	Manganese
6010C	3050B	Solid	Nickel
6010C	3050B	Solid	Potassium
6010C	3050B	Solid	Selenium
6010C	3050B	Solid	Silver
6010C	3050B	Solid	Sodium
6010C	3050B	Solid	Thallium
6010C	3050B	Solid	Vanadium
6010C	3050B	Solid	Zinc
7470A	7470A	Water	Hg
7470A	7470A	Water	Mercury
7471A	7471A	Solid	Mercury
8270D	3520C	Water	1,2,4,5-Tetrachlorobenzene
8270D	3520C	Water	1,2,4-Trichlorobenzene
8270D	3520C	Water	1,2-Dichlorobenzene
8270D	3520C	Water	1,2-Diphenylhydrazine
8270D	3520C	Water	1,3-Dichlorobenzene
8270D	3520C	Water	1,4-Dichlorobenzene
8270D	3520C	Water	2,2'-oxybis[1-chloropropane]
8270D	3520C	Water	2,4,5-Trichlorophenol
8270D	3520C	Water	2,4,6-Trichlorophenol
8270D	3520C	Water	2,4-Dichlorophenol
8270D	3520C	Water	2,4-Dimethylphenol
8270D	3520C	Water	2,4-Dinitrophenol
8270D	3520C	Water	2,4-Dinitrotoluene
8270D	3520C	Water	2,6-Dichlorophenol
8270D	3520C	Water	2,6-Dinitrotoluene
8270D	3520C	Water	2-Chloronaphthalene
8270D	3520C	Water	2-Chlorophenol
8270D	3520C	Water	2-Methylnaphthalene
8270D	3520C	Water	2-Methylphenol

Laboratory: TestAmerica Denver (Continued)

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

Authority	Program	EPA Region	Certification ID	Expiration Date
Connecticut	State Program	1	PH-0686	09-30-16

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

Analysis Method	Prep Method	Matrix	Analyte
8270D	3520C	Water	3 & 4 Methylphenol
8270D	3520C	Water	3,3'-Dichlorobenzidine
8270D	3520C	Water	3-Nitroaniline
8270D	3520C	Water	4,6-Dinitro-2-methylphenol
8270D	3520C	Water	4-Chloroaniline
8270D	3520C	Water	4-Chlorophenyl phenyl ether
8270D	3520C	Water	4-Nitroaniline
8270D	3520C	Water	4-Nitrophenol
8270D	3520C	Water	Acenaphthene
8270D	3520C	Water	Acenaphthylene
8270D	3520C	Water	Anthracene
8270D	3520C	Water	Benzidine
8270D	3520C	Water	Benzo[a]anthracene
8270D	3520C	Water	Benzo[a]pyrene
8270D	3520C	Water	Benzo[b]fluoranthene
8270D	3520C	Water	Benzo[g,h,i]perylene
8270D	3520C	Water	Benzo[k]fluoranthene
8270D	3520C	Water	Benzoic acid
8270D	3520C	Water	Benzyl alcohol
8270D	3520C	Water	Bis(2-chloroethoxy)methane
8270D	3520C	Water	Bis(2-chloroethyl)ether
8270D	3520C	Water	Bis(2-ethylhexyl) phthalate
8270D	3520C	Water	Butyl benzyl phthalate
8270D	3520C	Water	Carbazole
8270D	3520C	Water	Chrysene
8270D	3520C	Water	Dibenz(a,h)anthracene
8270D	3520C	Water	Dibenzofuran
8270D	3520C	Water	Diethyl phthalate
8270D	3520C	Water	Dimethyl phthalate
8270D	3520C	Water	Di-n-butyl phthalate
8270D	3520C	Water	Di-n-octyl phthalate
8270D	3520C	Water	Fluoranthene
8270D	3520C	Water	Fluorene
8270D	3520C	Water	Hexachlorobenzene
8270D	3520C	Water	Hexachlorobutadiene
8270D	3520C	Water	Hexachlorocyclopentadiene
8270D	3520C	Water	Hexachloroethane
8270D	3520C	Water	Indeno[1,2,3-cd]pyrene
8270D	3520C	Water	Isophorone
8270D	3520C	Water	Naphthalene
8270D	3520C	Water	Nitrobenzene
8270D	3520C	Water	N-Nitrosodimethylamine
8270D	3520C	Water	N-Nitrosodi-n-propylamine
8270D	3520C	Water	N-Nitrosodiphenylamine
8270D	3520C	Water	N-Nitrosopyrrolidine
8270D	3520C	Water	Pentachlorophenol

Laboratory: TestAmerica Denver (Continued)

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

Authority	Program	EPA Region	Certification ID	Expiration Date
Connecticut	State Program	1	PH-0686	09-30-16

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

Analysis Method	Prep Method	Matrix	Analyte
8270D	3520C	Water	Phenanthrene
8270D	3520C	Water	Phenol
8270D	3520C	Water	Pyrene
8270D	3550C	Solid	1,2,4,5-Tetrachlorobenzene
8270D	3550C	Solid	1,2,4-Trichlorobenzene
8270D	3550C	Solid	1,2-Dichlorobenzene
8270D	3550C	Solid	1,2-Diphenylhydrazine
8270D	3550C	Solid	1,3-Dichlorobenzene
8270D	3550C	Solid	1,4-Dichlorobenzene
8270D	3550C	Solid	2,2'-oxybis[1-chloropropane]
8270D	3550C	Solid	2,4,5-Trichlorophenol
8270D	3550C	Solid	2,4,6-Trichlorophenol
8270D	3550C	Solid	2,4-Dichlorophenol
8270D	3550C	Solid	2,4-Dimethylphenol
8270D	3550C	Solid	2,4-Dinitrophenol
8270D	3550C	Solid	2,4-Dinitrotoluene
8270D	3550C	Solid	2,6-Dichlorophenol
8270D	3550C	Solid	2,6-Dinitrotoluene
8270D	3550C	Solid	2-Chloronaphthalene
8270D	3550C	Solid	2-Chlorophenol
8270D	3550C	Solid	2-Methylnaphthalene
8270D	3550C	Solid	2-Methylphenol
8270D	3550C	Solid	3 & 4 Methylphenol
8270D	3550C	Solid	3,3'-Dichlorobenzidine
8270D	3550C	Solid	3-Nitroaniline
8270D	3550C	Solid	4,6-Dinitro-2-methylphenol
8270D	3550C	Solid	4-Chloroaniline
8270D	3550C	Solid	4-Chlorophenyl phenyl ether
8270D	3550C	Solid	4-Nitroaniline
8270D	3550C	Solid	4-Nitrophenol
8270D	3550C	Solid	Acenaphthene
8270D	3550C	Solid	Acenaphthylene
8270D	3550C	Solid	Anthracene
8270D	3550C	Solid	Benzidine
8270D	3550C	Solid	Benzo[a]anthracene
8270D	3550C	Solid	Benzo[a]pyrene
8270D	3550C	Solid	Benzo[b]fluoranthene
8270D	3550C	Solid	Benzo[g,h,i]perylene
8270D	3550C	Solid	Benzo[k]fluoranthene
8270D	3550C	Solid	Benzoic acid
8270D	3550C	Solid	Benzyl alcohol
8270D	3550C	Solid	Bis(2-chloroethoxy)methane
8270D	3550C	Solid	Bis(2-chloroethyl)ether
8270D	3550C	Solid	Bis(2-ethylhexyl) phthalate
8270D	3550C	Solid	Butyl benzyl phthalate
8270D	3550C	Solid	Carbazole

Laboratory: TestAmerica Denver (Continued)

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

Authority	Program	EPA Region	Certification ID	Expiration Date
Connecticut	State Program	1	PH-0686	09-30-16

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

Analysis Method	Prep Method	Matrix	Analyte
8270D	3550C	Solid	Chrysene
8270D	3550C	Solid	Dibenz(a,h)anthracene
8270D	3550C	Solid	Dibenzofuran
8270D	3550C	Solid	Diethyl phthalate
8270D	3550C	Solid	Dimethyl phthalate
8270D	3550C	Solid	Di-n-butyl phthalate
8270D	3550C	Solid	Di-n-octyl phthalate
8270D	3550C	Solid	Fluoranthene
8270D	3550C	Solid	Fluorene
8270D	3550C	Solid	Hexachlorobenzene
8270D	3550C	Solid	Hexachlorobutadiene
8270D	3550C	Solid	Hexachlorocyclopentadiene
8270D	3550C	Solid	Hexachloroethane
8270D	3550C	Solid	Indeno[1,2,3-cd]pyrene
8270D	3550C	Solid	Isophorone
8270D	3550C	Solid	Naphthalene
8270D	3550C	Solid	Nitrobenzene
8270D	3550C	Solid	N-Nitrosodimethylamine
8270D	3550C	Solid	N-Nitrosodi-n-propylamine
8270D	3550C	Solid	N-Nitrosodiphenylamine
8270D	3550C	Solid	N-Nitrosopyrrolidine
8270D	3550C	Solid	Pentachlorophenol
8270D	3550C	Solid	Phenanthrene
8270D	3550C	Solid	Phenol
8270D	3550C	Solid	Pyrene
Moisture		Solid	Percent Moisture

Maine	State Program	1	CO0002	03-03-17

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

Analysis Method	Prep Method	Matrix	Analyte
6010C	3005A	Water	Aluminum
6010C	3005A	Water	Antimony
6010C	3005A	Water	Arsenic
6010C	3005A	Water	Barium
6010C	3005A	Water	Beryllium
6010C	3005A	Water	Cadmium
6010C	3005A	Water	Calcium
6010C	3005A	Water	Chromium
6010C	3005A	Water	Cobalt
6010C	3005A	Water	Copper
6010C	3005A	Water	Iron
6010C	3005A	Water	Lead
6010C	3005A	Water	Magnesium
6010C	3005A	Water	Manganese
6010C	3005A	Water	Nickel
6010C	3005A	Water	Potassium
6010C	3005A	Water	Selenium

Laboratory: TestAmerica Denver (Continued)

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

Authority	Program	EPA Region	Certification ID	Expiration Date
Maine	State Program	1	CO0002	03-03-17

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

Analysis Method	Prep Method	Matrix	Analyte
6010C	3005A	Water	Silver
6010C	3005A	Water	Sodium
6010C	3005A	Water	Thallium
6010C	3005A	Water	Vanadium
6010C	3005A	Water	Zinc
6010C	3010A	Water	Aluminum
6010C	3010A	Water	Antimony
6010C	3010A	Water	Arsenic
6010C	3010A	Water	Barium
6010C	3010A	Water	Beryllium
6010C	3010A	Water	Cadmium
6010C	3010A	Water	Calcium
6010C	3010A	Water	Chromium
6010C	3010A	Water	Cobalt
6010C	3010A	Water	Copper
6010C	3010A	Water	Iron
6010C	3010A	Water	Lead
6010C	3010A	Water	Magnesium
6010C	3010A	Water	Manganese
6010C	3010A	Water	Nickel
6010C	3010A	Water	Potassium
6010C	3010A	Water	Selenium
6010C	3010A	Water	Silver
6010C	3010A	Water	Sodium
6010C	3010A	Water	Thallium
6010C	3010A	Water	Vanadium
6010C	3010A	Water	Zinc
6010C	3050B	Solid	Aluminum
6010C	3050B	Solid	Antimony
6010C	3050B	Solid	Arsenic
6010C	3050B	Solid	Barium
6010C	3050B	Solid	Beryllium
6010C	3050B	Solid	Cadmium
6010C	3050B	Solid	Calcium
6010C	3050B	Solid	Chromium
6010C	3050B	Solid	Cobalt
6010C	3050B	Solid	Copper
6010C	3050B	Solid	Iron
6010C	3050B	Solid	Lead
6010C	3050B	Solid	Magnesium
6010C	3050B	Solid	Manganese
6010C	3050B	Solid	Nickel
6010C	3050B	Solid	Potassium
6010C	3050B	Solid	Selenium
6010C	3050B	Solid	Silver
6010C	3050B	Solid	Sodium

Laboratory: TestAmerica Denver (Continued)

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

Authority	Program	EPA Region	Certification ID	Expiration Date
Maine	State Program	1	CO0002	03-03-17

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

Analysis Method	Prep Method	Matrix	Analyte
6010C	3050B	Solid	Thallium
6010C	3050B	Solid	Vanadium
6010C	3050B	Solid	Zinc
7470A	7470A	Water	Hg
7470A	7470A	Water	Mercury
7471A	7471A	Solid	Mercury
8270D	3520C	Water	1,2,4,5-Tetrachlorobenzene
8270D	3520C	Water	1,2,4-Trichlorobenzene
8270D	3520C	Water	1,2-Dichlorobenzene
8270D	3520C	Water	1,2-Diphenylhydrazine
8270D	3520C	Water	1,3-Dichlorobenzene
8270D	3520C	Water	1,4-Dichlorobenzene
8270D	3520C	Water	2,2'-oxybis[1-chloropropane]
8270D	3520C	Water	2,4,5-Trichlorophenol
8270D	3520C	Water	2,4,6-Trichlorophenol
8270D	3520C	Water	2,4-Dichlorophenol
8270D	3520C	Water	2,4-Dimethylphenol
8270D	3520C	Water	2,4-Dinitrophenol
8270D	3520C	Water	2,4-Dinitrotoluene
8270D	3520C	Water	2,6-Dichlorophenol
8270D	3520C	Water	2,6-Dinitrotoluene
8270D	3520C	Water	2-Chloronaphthalene
8270D	3520C	Water	2-Chlorophenol
8270D	3520C	Water	2-Methylnaphthalene
8270D	3520C	Water	2-Methylphenol
8270D	3520C	Water	3 & 4 Methylphenol
8270D	3520C	Water	3,3'-Dichlorobenzidine
8270D	3520C	Water	3-Nitroaniline
8270D	3520C	Water	4,6-Dinitro-2-methylphenol
8270D	3520C	Water	4-Chloroaniline
8270D	3520C	Water	4-Chlorophenyl phenyl ether
8270D	3520C	Water	4-Nitroaniline
8270D	3520C	Water	4-Nitrophenol
8270D	3520C	Water	Acenaphthene
8270D	3520C	Water	Acenaphthylene
8270D	3520C	Water	Anthracene
8270D	3520C	Water	Benzidine
8270D	3520C	Water	Benzo[a]anthracene
8270D	3520C	Water	Benzo[a]pyrene
8270D	3520C	Water	Benzo[b]fluoranthene
8270D	3520C	Water	Benzo[g,h,i]perylene
8270D	3520C	Water	Benzo[k]fluoranthene
8270D	3520C	Water	Benzoic acid
8270D	3520C	Water	Benzyl alcohol
8270D	3520C	Water	Bis(2-chloroethoxy)methane
8270D	3520C	Water	Bis(2-chloroethyl)ether

Laboratory: TestAmerica Denver (Continued)

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

Authority	Program	EPA Region	Certification ID	Expiration Date
Maine	State Program	1	CO0002	03-03-17

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

Analysis Method	Prep Method	Matrix	Analyte
8270D	3520C	Water	Bis(2-ethylhexyl) phthalate
8270D	3520C	Water	Butyl benzyl phthalate
8270D	3520C	Water	Carbazole
8270D	3520C	Water	Chrysene
8270D	3520C	Water	Dibenz(a,h)anthracene
8270D	3520C	Water	Dibenzofuran
8270D	3520C	Water	Diethyl phthalate
8270D	3520C	Water	Dimethyl phthalate
8270D	3520C	Water	Di-n-butyl phthalate
8270D	3520C	Water	Di-n-octyl phthalate
8270D	3520C	Water	Fluoranthene
8270D	3520C	Water	Fluorene
8270D	3520C	Water	Hexachlorobenzene
8270D	3520C	Water	Hexachlorobutadiene
8270D	3520C	Water	Hexachlorocyclopentadiene
8270D	3520C	Water	Hexachloroethane
8270D	3520C	Water	Indeno[1,2,3-cd]pyrene
8270D	3520C	Water	Isophorone
8270D	3520C	Water	Naphthalene
8270D	3520C	Water	Nitrobenzene
8270D	3520C	Water	N-Nitrosodimethylamine
8270D	3520C	Water	N-Nitrosodi-n-propylamine
8270D	3520C	Water	N-Nitrosodiphenylamine
8270D	3520C	Water	N-Nitrosopyrrolidine
8270D	3520C	Water	Pentachlorophenol
8270D	3520C	Water	Phenanthrene
8270D	3520C	Water	Phenol
8270D	3520C	Water	Pyrene
8270D	3550C	Solid	1,2,4,5-Tetrachlorobenzene
8270D	3550C	Solid	1,2,4-Trichlorobenzene
8270D	3550C	Solid	1,2-Dichlorobenzene
8270D	3550C	Solid	1,2-Diphenylhydrazine
8270D	3550C	Solid	1,3-Dichlorobenzene
8270D	3550C	Solid	1,4-Dichlorobenzene
8270D	3550C	Solid	2,2'-oxybis[1-chloropropane]
8270D	3550C	Solid	2,4,5-Trichlorophenol
8270D	3550C	Solid	2,4,6-Trichlorophenol
8270D	3550C	Solid	2,4-Dichlorophenol
8270D	3550C	Solid	2,4-Dimethylphenol
8270D	3550C	Solid	2,4-Dinitrophenol
8270D	3550C	Solid	2,4-Dinitrotoluene
8270D	3550C	Solid	2,6-Dichlorophenol
8270D	3550C	Solid	2,6-Dinitrotoluene
8270D	3550C	Solid	2-Chloronaphthalene
8270D	3550C	Solid	2-Chlorophenol
8270D	3550C	Solid	2-Methylnaphthalene

Laboratory: TestAmerica Denver (Continued)

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

Authority	Program	EPA Region	Certification ID	Expiration Date
Maine	State Program	1	CO0002	03-03-17

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

Analysis Method	Prep Method	Matrix	Analyte
8270D	3550C	Solid	2-Methylphenol
8270D	3550C	Solid	3 & 4 Methylphenol
8270D	3550C	Solid	3,3'-Dichlorobenzidine
8270D	3550C	Solid	3-Nitroaniline
8270D	3550C	Solid	4,6-Dinitro-2-methylphenol
8270D	3550C	Solid	4-Chloroaniline
8270D	3550C	Solid	4-Chlorophenyl phenyl ether
8270D	3550C	Solid	4-Nitroaniline
8270D	3550C	Solid	4-Nitrophenol
8270D	3550C	Solid	Acenaphthene
8270D	3550C	Solid	Acenaphthylene
8270D	3550C	Solid	Anthracene
8270D	3550C	Solid	Benzidine
8270D	3550C	Solid	Benzo[a]anthracene
8270D	3550C	Solid	Benzo[a]pyrene
8270D	3550C	Solid	Benzo[b]fluoranthene
8270D	3550C	Solid	Benzo[g,h,i]perylene
8270D	3550C	Solid	Benzo[k]fluoranthene
8270D	3550C	Solid	Benzoic acid
8270D	3550C	Solid	Benzyl alcohol
8270D	3550C	Solid	Bis(2-chloroethoxy)methane
8270D	3550C	Solid	Bis(2-chloroethyl)ether
8270D	3550C	Solid	Bis(2-ethylhexyl) phthalate
8270D	3550C	Solid	Butyl benzyl phthalate
8270D	3550C	Solid	Carbazole
8270D	3550C	Solid	Chrysene
8270D	3550C	Solid	Dibenz(a,h)anthracene
8270D	3550C	Solid	Dibenzofuran
8270D	3550C	Solid	Diethyl phthalate
8270D	3550C	Solid	Dimethyl phthalate
8270D	3550C	Solid	Di-n-butyl phthalate
8270D	3550C	Solid	Di-n-octyl phthalate
8270D	3550C	Solid	Fluoranthene
8270D	3550C	Solid	Fluorene
8270D	3550C	Solid	Hexachlorobenzene
8270D	3550C	Solid	Hexachlorobutadiene
8270D	3550C	Solid	Hexachlorocyclopentadiene
8270D	3550C	Solid	Hexachloroethane
8270D	3550C	Solid	Indeno[1,2,3-cd]pyrene
8270D	3550C	Solid	Isophorone
8270D	3550C	Solid	Naphthalene
8270D	3550C	Solid	Nitrobenzene
8270D	3550C	Solid	N-Nitrosodimethylamine
8270D	3550C	Solid	N-Nitrosodi-n-propylamine
8270D	3550C	Solid	N-Nitrosodiphenylamine
8270D	3550C	Solid	N-Nitrosopyrrolidine

Laboratory: TestAmerica Denver (Continued)

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

Authority	Program	EPA Region	Certification ID	Expiration Date
Maine	State Program	1	CO0002	03-03-17

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

Analysis Method	Prep Method	Matrix	Analyte
8270D	3550C	Solid	Pentachlorophenol
8270D	3550C	Solid	Phenanthrene
8270D	3550C	Solid	Phenol
8270D	3550C	Solid	Pyrene
Moisture		Solid	Percent Moisture

New Hampshire	NELAP	1	205310	04-28-17

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

Analysis Method	Prep Method	Matrix	Analyte
6010C	3005A	Water	Aluminum
6010C	3005A	Water	Antimony
6010C	3005A	Water	Arsenic
6010C	3005A	Water	Barium
6010C	3005A	Water	Beryllium
6010C	3005A	Water	Cadmium
6010C	3005A	Water	Calcium
6010C	3005A	Water	Chromium
6010C	3005A	Water	Cobalt
6010C	3005A	Water	Copper
6010C	3005A	Water	Iron
6010C	3005A	Water	Lead
6010C	3005A	Water	Magnesium
6010C	3005A	Water	Manganese
6010C	3005A	Water	Nickel
6010C	3005A	Water	Potassium
6010C	3005A	Water	Selenium
6010C	3005A	Water	Silver
6010C	3005A	Water	Sodium
6010C	3005A	Water	Thallium
6010C	3005A	Water	Vanadium
6010C	3005A	Water	Zinc
6010C	3010A	Water	Aluminum
6010C	3010A	Water	Antimony
6010C	3010A	Water	Arsenic
6010C	3010A	Water	Barium
6010C	3010A	Water	Beryllium
6010C	3010A	Water	Cadmium
6010C	3010A	Water	Calcium
6010C	3010A	Water	Chromium
6010C	3010A	Water	Cobalt
6010C	3010A	Water	Copper
6010C	3010A	Water	Iron
6010C	3010A	Water	Lead
6010C	3010A	Water	Magnesium
6010C	3010A	Water	Manganese
6010C	3010A	Water	Nickel
6010C	3010A	Water	Potassium

Laboratory: TestAmerica Denver (Continued)

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

Authority	Program	EPA Region	Certification ID	Expiration Date
New Hampshire	NELAP	1	205310	04-28-17

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

Analysis Method	Prep Method	Matrix	Analyte
6010C	3010A	Water	Selenium
6010C	3010A	Water	Silver
6010C	3010A	Water	Sodium
6010C	3010A	Water	Thallium
6010C	3010A	Water	Vanadium
6010C	3010A	Water	Zinc
6010C	3050B	Solid	Aluminum
6010C	3050B	Solid	Antimony
6010C	3050B	Solid	Arsenic
6010C	3050B	Solid	Barium
6010C	3050B	Solid	Beryllium
6010C	3050B	Solid	Cadmium
6010C	3050B	Solid	Calcium
6010C	3050B	Solid	Chromium
6010C	3050B	Solid	Cobalt
6010C	3050B	Solid	Copper
6010C	3050B	Solid	Iron
6010C	3050B	Solid	Lead
6010C	3050B	Solid	Magnesium
6010C	3050B	Solid	Manganese
6010C	3050B	Solid	Nickel
6010C	3050B	Solid	Potassium
6010C	3050B	Solid	Selenium
6010C	3050B	Solid	Silver
6010C	3050B	Solid	Sodium
6010C	3050B	Solid	Thallium
6010C	3050B	Solid	Vanadium
6010C	3050B	Solid	Zinc
7470A	7470A	Water	Hg
7470A	7470A	Water	Mercury
7471A	7471A	Solid	Mercury
8270D	3520C	Water	1,2,4,5-Tetrachlorobenzene
8270D	3520C	Water	1,2,4-Trichlorobenzene
8270D	3520C	Water	1,2-Dichlorobenzene
8270D	3520C	Water	1,2-Diphenylhydrazine
8270D	3520C	Water	1,3-Dichlorobenzene
8270D	3520C	Water	1,4-Dichlorobenzene
8270D	3520C	Water	2,2'-oxybis[1-chloropropane]
8270D	3520C	Water	2,4,5-Trichlorophenol
8270D	3520C	Water	2,4,6-Trichlorophenol
8270D	3520C	Water	2,4-Dichlorophenol
8270D	3520C	Water	2,4-Dimethylphenol
8270D	3520C	Water	2,4-Dinitrophenol
8270D	3520C	Water	2,4-Dinitrotoluene
8270D	3520C	Water	2,6-Dichlorophenol
8270D	3520C	Water	2,6-Dinitrotoluene

Laboratory: TestAmerica Denver (Continued)

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

Authority	Program	EPA Region	Certification ID	Expiration Date
New Hampshire	NELAP	1	205310	04-28-17

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

Analysis Method	Prep Method	Matrix	Analyte
8270D	3520C	Water	2-Chloronaphthalene
8270D	3520C	Water	2-Chlorophenol
8270D	3520C	Water	2-Methylnaphthalene
8270D	3520C	Water	2-Methylphenol
8270D	3520C	Water	3 & 4 Methylphenol
8270D	3520C	Water	3,3'-Dichlorobenzidine
8270D	3520C	Water	3-Nitroaniline
8270D	3520C	Water	4,6-Dinitro-2-methylphenol
8270D	3520C	Water	4-Chloroaniline
8270D	3520C	Water	4-Chlorophenyl phenyl ether
8270D	3520C	Water	4-Nitroaniline
8270D	3520C	Water	4-Nitrophenol
8270D	3520C	Water	Acenaphthene
8270D	3520C	Water	Acenaphthylene
8270D	3520C	Water	Anthracene
8270D	3520C	Water	Benzidine
8270D	3520C	Water	Benzo[a]anthracene
8270D	3520C	Water	Benzo[a]pyrene
8270D	3520C	Water	Benzo[b]fluoranthene
8270D	3520C	Water	Benzo[g,h,i]perylene
8270D	3520C	Water	Benzo[k]fluoranthene
8270D	3520C	Water	Benzoic acid
8270D	3520C	Water	Benzyl alcohol
8270D	3520C	Water	Bis(2-chloroethoxy)methane
8270D	3520C	Water	Bis(2-chloroethyl)ether
8270D	3520C	Water	Bis(2-ethylhexyl) phthalate
8270D	3520C	Water	Butyl benzyl phthalate
8270D	3520C	Water	Carbazole
8270D	3520C	Water	Chrysene
8270D	3520C	Water	Dibenz(a,h)anthracene
8270D	3520C	Water	Dibenzofuran
8270D	3520C	Water	Diethyl phthalate
8270D	3520C	Water	Dimethyl phthalate
8270D	3520C	Water	Di-n-butyl phthalate
8270D	3520C	Water	Di-n-octyl phthalate
8270D	3520C	Water	Fluoranthene
8270D	3520C	Water	Fluorene
8270D	3520C	Water	Hexachlorobenzene
8270D	3520C	Water	Hexachlorobutadiene
8270D	3520C	Water	Hexachlorocyclopentadiene
8270D	3520C	Water	Hexachloroethane
8270D	3520C	Water	Indeno[1,2,3-cd]pyrene
8270D	3520C	Water	Isophorone
8270D	3520C	Water	Naphthalene
8270D	3520C	Water	Nitrobenzene
8270D	3520C	Water	N-Nitrosodimethylamine

Laboratory: TestAmerica Denver (Continued)

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

Authority	Program	EPA Region	Certification ID	Expiration Date
New Hampshire	NELAP	1	205310	04-28-17

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

Analysis Method	Prep Method	Matrix	Analyte
8270D	3520C	Water	N-Nitrosodi-n-propylamine
8270D	3520C	Water	N-Nitrosodiphenylamine
8270D	3520C	Water	N-Nitrosopyrrolidine
8270D	3520C	Water	Pentachlorophenol
8270D	3520C	Water	Phenanthrene
8270D	3520C	Water	Phenol
8270D	3520C	Water	Pyrene
8270D	3550C	Solid	1,2,4,5-Tetrachlorobenzene
8270D	3550C	Solid	1,2,4-Trichlorobenzene
8270D	3550C	Solid	1,2-Dichlorobenzene
8270D	3550C	Solid	1,2-Diphenylhydrazine
8270D	3550C	Solid	1,3-Dichlorobenzene
8270D	3550C	Solid	1,4-Dichlorobenzene
8270D	3550C	Solid	2,2'-oxybis[1-chloropropane]
8270D	3550C	Solid	2,4,5-Trichlorophenol
8270D	3550C	Solid	2,4,6-Trichlorophenol
8270D	3550C	Solid	2,4-Dichlorophenol
8270D	3550C	Solid	2,4-Dimethylphenol
8270D	3550C	Solid	2,4-Dinitrophenol
8270D	3550C	Solid	2,4-Dinitrotoluene
8270D	3550C	Solid	2,6-Dichlorophenol
8270D	3550C	Solid	2,6-Dinitrotoluene
8270D	3550C	Solid	2-Chloronaphthalene
8270D	3550C	Solid	2-Chlorophenol
8270D	3550C	Solid	2-Methylnaphthalene
8270D	3550C	Solid	2-Methylphenol
8270D	3550C	Solid	3 & 4 Methylphenol
8270D	3550C	Solid	3,3'-Dichlorobenzidine
8270D	3550C	Solid	3-Nitroaniline
8270D	3550C	Solid	4,6-Dinitro-2-methylphenol
8270D	3550C	Solid	4-Chloroaniline
8270D	3550C	Solid	4-Chlorophenyl phenyl ether
8270D	3550C	Solid	4-Nitroaniline
8270D	3550C	Solid	4-Nitrophenol
8270D	3550C	Solid	Acenaphthene
8270D	3550C	Solid	Acenaphthylene
8270D	3550C	Solid	Anthracene
8270D	3550C	Solid	Benzidine
8270D	3550C	Solid	Benzo[a]anthracene
8270D	3550C	Solid	Benzo[a]pyrene
8270D	3550C	Solid	Benzo[b]fluoranthene
8270D	3550C	Solid	Benzo[g,h,i]perylene
8270D	3550C	Solid	Benzo[k]fluoranthene
8270D	3550C	Solid	Benzoic acid
8270D	3550C	Solid	Benzyl alcohol
8270D	3550C	Solid	Bis(2-chloroethoxy)methane

Laboratory: TestAmerica Denver (Continued)

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

Authority	Program	EPA Region	Certification ID	Expiration Date
New Hampshire	NELAP	1	205310	04-28-17

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

Analysis Method	Prep Method	Matrix	Analyte
8270D	3550C	Solid	Bis(2-chloroethyl)ether
8270D	3550C	Solid	Bis(2-ethylhexyl) phthalate
8270D	3550C	Solid	Butyl benzyl phthalate
8270D	3550C	Solid	Carbazole
8270D	3550C	Solid	Chrysene
8270D	3550C	Solid	Dibenz(a,h)anthracene
8270D	3550C	Solid	Dibenzofuran
8270D	3550C	Solid	Diethyl phthalate
8270D	3550C	Solid	Dimethyl phthalate
8270D	3550C	Solid	Di-n-butyl phthalate
8270D	3550C	Solid	Di-n-octyl phthalate
8270D	3550C	Solid	Fluoranthene
8270D	3550C	Solid	Fluorene
8270D	3550C	Solid	Hexachlorobenzene
8270D	3550C	Solid	Hexachlorobutadiene
8270D	3550C	Solid	Hexachlorocyclopentadiene
8270D	3550C	Solid	Hexachloroethane
8270D	3550C	Solid	Indeno[1,2,3-cd]pyrene
8270D	3550C	Solid	Isophorone
8270D	3550C	Solid	Naphthalene
8270D	3550C	Solid	Nitrobenzene
8270D	3550C	Solid	N-Nitrosodimethylamine
8270D	3550C	Solid	N-Nitrosodi-n-propylamine
8270D	3550C	Solid	N-Nitrosodiphenylamine
8270D	3550C	Solid	N-Nitrosopyrrolidine
8270D	3550C	Solid	Pentachlorophenol
8270D	3550C	Solid	Phenanthrene
8270D	3550C	Solid	Phenol
8270D	3550C	Solid	Pyrene
Moisture		Solid	Percent Moisture

New York	NELAP	2	11964	04-01-17

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

Analysis Method	Prep Method	Matrix	Analyte
6010C	3005A	Water	Aluminum
6010C	3005A	Water	Antimony
6010C	3005A	Water	Arsenic
6010C	3005A	Water	Barium
6010C	3005A	Water	Beryllium
6010C	3005A	Water	Cadmium
6010C	3005A	Water	Calcium
6010C	3005A	Water	Chromium
6010C	3005A	Water	Cobalt
6010C	3005A	Water	Copper
6010C	3005A	Water	Iron
6010C	3005A	Water	Lead
6010C	3005A	Water	Magnesium

Laboratory: TestAmerica Denver (Continued)

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

Authority	Program	EPA Region	Certification ID	Expiration Date
New York	NELAP	2	11964	04-01-17

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

Analysis Method	Prep Method	Matrix	Analyte
6010C	3005A	Water	Manganese
6010C	3005A	Water	Nickel
6010C	3005A	Water	Potassium
6010C	3005A	Water	Selenium
6010C	3005A	Water	Silver
6010C	3005A	Water	Sodium
6010C	3005A	Water	Thallium
6010C	3005A	Water	Vanadium
6010C	3005A	Water	Zinc
6010C	3010A	Water	Aluminum
6010C	3010A	Water	Antimony
6010C	3010A	Water	Arsenic
6010C	3010A	Water	Barium
6010C	3010A	Water	Beryllium
6010C	3010A	Water	Cadmium
6010C	3010A	Water	Calcium
6010C	3010A	Water	Chromium
6010C	3010A	Water	Cobalt
6010C	3010A	Water	Copper
6010C	3010A	Water	Iron
6010C	3010A	Water	Lead
6010C	3010A	Water	Magnesium
6010C	3010A	Water	Manganese
6010C	3010A	Water	Nickel
6010C	3010A	Water	Potassium
6010C	3010A	Water	Selenium
6010C	3010A	Water	Silver
6010C	3010A	Water	Sodium
6010C	3010A	Water	Thallium
6010C	3010A	Water	Vanadium
6010C	3010A	Water	Zinc
6010C	3050B	Solid	Aluminum
6010C	3050B	Solid	Antimony
6010C	3050B	Solid	Arsenic
6010C	3050B	Solid	Barium
6010C	3050B	Solid	Beryllium
6010C	3050B	Solid	Cadmium
6010C	3050B	Solid	Calcium
6010C	3050B	Solid	Chromium
6010C	3050B	Solid	Cobalt
6010C	3050B	Solid	Copper
6010C	3050B	Solid	Iron
6010C	3050B	Solid	Lead
6010C	3050B	Solid	Magnesium
6010C	3050B	Solid	Manganese
6010C	3050B	Solid	Nickel

Laboratory: TestAmerica Denver (Continued)

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

Authority	Program	EPA Region	Certification ID	Expiration Date
New York	NELAP	2	11964	04-01-17

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

Analysis Method	Prep Method	Matrix	Analyte
6010C	3050B	Solid	Potassium
6010C	3050B	Solid	Selenium
6010C	3050B	Solid	Silver
6010C	3050B	Solid	Sodium
6010C	3050B	Solid	Thallium
6010C	3050B	Solid	Vanadium
6010C	3050B	Solid	Zinc
7470A	7470A	Water	Hg
7470A	7470A	Water	Mercury
7471A	7471A	Solid	Mercury
8270D	3520C	Water	1,2,4,5-Tetrachlorobenzene
8270D	3520C	Water	1,2,4-Trichlorobenzene
8270D	3520C	Water	1,2-Dichlorobenzene
8270D	3520C	Water	1,2-Diphenylhydrazine
8270D	3520C	Water	1,3-Dichlorobenzene
8270D	3520C	Water	1,4-Dichlorobenzene
8270D	3520C	Water	2,2'-oxybis[1-chloropropane]
8270D	3520C	Water	2,4,5-Trichlorophenol
8270D	3520C	Water	2,4,6-Trichlorophenol
8270D	3520C	Water	2,4-Dichlorophenol
8270D	3520C	Water	2,4-Dimethylphenol
8270D	3520C	Water	2,4-Dinitrophenol
8270D	3520C	Water	2,4-Dinitrotoluene
8270D	3520C	Water	2,6-Dichlorophenol
8270D	3520C	Water	2,6-Dinitrotoluene
8270D	3520C	Water	2-Chloronaphthalene
8270D	3520C	Water	2-Chlorophenol
8270D	3520C	Water	2-Methylnaphthalene
8270D	3520C	Water	2-Methylphenol
8270D	3520C	Water	3 & 4 Methylphenol
8270D	3520C	Water	3,3'-Dichlorobenzidine
8270D	3520C	Water	3-Nitroaniline
8270D	3520C	Water	4,6-Dinitro-2-methylphenol
8270D	3520C	Water	4-Chloroaniline
8270D	3520C	Water	4-Chlorophenyl phenyl ether
8270D	3520C	Water	4-Nitroaniline
8270D	3520C	Water	4-Nitrophenol
8270D	3520C	Water	Acenaphthene
8270D	3520C	Water	Acenaphthylene
8270D	3520C	Water	Anthracene
8270D	3520C	Water	Benzidine
8270D	3520C	Water	Benzo[a]anthracene
8270D	3520C	Water	Benzo[a]pyrene
8270D	3520C	Water	Benzo[b]fluoranthene
8270D	3520C	Water	Benzo[g,h,i]perylene
8270D	3520C	Water	Benzo[k]fluoranthene

Laboratory: TestAmerica Denver (Continued)

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

Authority	Program	EPA Region	Certification ID	Expiration Date
New York	NELAP	2	11964	04-01-17

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

Analysis Method	Prep Method	Matrix	Analyte
8270D	3520C	Water	Benzoic acid
8270D	3520C	Water	Benzyl alcohol
8270D	3520C	Water	Bis(2-chloroethoxy)methane
8270D	3520C	Water	Bis(2-chloroethyl)ether
8270D	3520C	Water	Bis(2-ethylhexyl) phthalate
8270D	3520C	Water	Butyl benzyl phthalate
8270D	3520C	Water	Carbazole
8270D	3520C	Water	Chrysene
8270D	3520C	Water	Dibenz(a,h)anthracene
8270D	3520C	Water	Dibenzofuran
8270D	3520C	Water	Diethyl phthalate
8270D	3520C	Water	Dimethyl phthalate
8270D	3520C	Water	Di-n-butyl phthalate
8270D	3520C	Water	Di-n-octyl phthalate
8270D	3520C	Water	Fluoranthene
8270D	3520C	Water	Fluorene
8270D	3520C	Water	Hexachlorobenzene
8270D	3520C	Water	Hexachlorobutadiene
8270D	3520C	Water	Hexachlorocyclopentadiene
8270D	3520C	Water	Hexachloroethane
8270D	3520C	Water	Indeno[1,2,3-cd]pyrene
8270D	3520C	Water	Isophorone
8270D	3520C	Water	Naphthalene
8270D	3520C	Water	Nitrobenzene
8270D	3520C	Water	N-Nitrosodimethylamine
8270D	3520C	Water	N-Nitrosodi-n-propylamine
8270D	3520C	Water	N-Nitrosodiphenylamine
8270D	3520C	Water	N-Nitrosopyrrolidine
8270D	3520C	Water	Pentachlorophenol
8270D	3520C	Water	Phenanthrene
8270D	3520C	Water	Phenol
8270D	3520C	Water	Pyrene
8270D	3550C	Solid	1,2,4,5-Tetrachlorobenzene
8270D	3550C	Solid	1,2,4-Trichlorobenzene
8270D	3550C	Solid	1,2-Dichlorobenzene
8270D	3550C	Solid	1,2-Diphenylhydrazine
8270D	3550C	Solid	1,3-Dichlorobenzene
8270D	3550C	Solid	1,4-Dichlorobenzene
8270D	3550C	Solid	2,2'-oxybis[1-chloropropane]
8270D	3550C	Solid	2,4,5-Trichlorophenol
8270D	3550C	Solid	2,4,6-Trichlorophenol
8270D	3550C	Solid	2,4-Dichlorophenol
8270D	3550C	Solid	2,4-Dimethylphenol
8270D	3550C	Solid	2,4-Dinitrophenol
8270D	3550C	Solid	2,4-Dinitrotoluene
8270D	3550C	Solid	2,6-Dichlorophenol

Laboratory: TestAmerica Denver (Continued)

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

Authority	Program	EPA Region	Certification ID	Expiration Date
New York	NELAP	2	11964	04-01-17

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

Analysis Method	Prep Method	Matrix	Analyte
8270D	3550C	Solid	2,6-Dinitrotoluene
8270D	3550C	Solid	2-Chloronaphthalene
8270D	3550C	Solid	2-Chlorophenol
8270D	3550C	Solid	2-Methylnaphthalene
8270D	3550C	Solid	2-Methylphenol
8270D	3550C	Solid	3 & 4 Methylphenol
8270D	3550C	Solid	3,3'-Dichlorobenzidine
8270D	3550C	Solid	3-Nitroaniline
8270D	3550C	Solid	4,6-Dinitro-2-methylphenol
8270D	3550C	Solid	4-Chloroaniline
8270D	3550C	Solid	4-Chlorophenyl phenyl ether
8270D	3550C	Solid	4-Nitroaniline
8270D	3550C	Solid	4-Nitrophenol
8270D	3550C	Solid	Acenaphthene
8270D	3550C	Solid	Acenaphthylene
8270D	3550C	Solid	Anthracene
8270D	3550C	Solid	Benzidine
8270D	3550C	Solid	Benzo[a]anthracene
8270D	3550C	Solid	Benzo[a]pyrene
8270D	3550C	Solid	Benzo[b]fluoranthene
8270D	3550C	Solid	Benzo[g,h,i]perylene
8270D	3550C	Solid	Benzo[k]fluoranthene
8270D	3550C	Solid	Benzoic acid
8270D	3550C	Solid	Benzyl alcohol
8270D	3550C	Solid	Bis(2-chloroethoxy)methane
8270D	3550C	Solid	Bis(2-chloroethyl)ether
8270D	3550C	Solid	Bis(2-ethylhexyl) phthalate
8270D	3550C	Solid	Butyl benzyl phthalate
8270D	3550C	Solid	Carbazole
8270D	3550C	Solid	Chrysene
8270D	3550C	Solid	Dibenz(a,h)anthracene
8270D	3550C	Solid	Dibenzofuran
8270D	3550C	Solid	Diethyl phthalate
8270D	3550C	Solid	Dimethyl phthalate
8270D	3550C	Solid	Di-n-butyl phthalate
8270D	3550C	Solid	Di-n-octyl phthalate
8270D	3550C	Solid	Fluoranthene
8270D	3550C	Solid	Fluorene
8270D	3550C	Solid	Hexachlorobenzene
8270D	3550C	Solid	Hexachlorobutadiene
8270D	3550C	Solid	Hexachlorocyclopentadiene
8270D	3550C	Solid	Hexachloroethane
8270D	3550C	Solid	Indeno[1,2,3-cd]pyrene
8270D	3550C	Solid	Isophorone
8270D	3550C	Solid	Naphthalene
8270D	3550C	Solid	Nitrobenzene

Laboratory: TestAmerica Denver (Continued)

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

Authority	Program	EPA Region	Certification ID	Expiration Date
New York	NELAP	2	11964	04-01-17

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

Analysis Method	Prep Method	Matrix	Analyte
8270D	3550C	Solid	N-Nitrosodimethylamine
8270D	3550C	Solid	N-Nitrosodi-n-propylamine
8270D	3550C	Solid	N-Nitrosodiphenylamine
8270D	3550C	Solid	N-Nitrosopyrrolidine
8270D	3550C	Solid	Pentachlorophenol
8270D	3550C	Solid	Phenanthrene
8270D	3550C	Solid	Phenol
8270D	3550C	Solid	Pyrene
Moisture		Solid	Percent Moisture

Pennsylvania	NELAP	3	68-00664	07-31-17

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

Analysis Method	Prep Method	Matrix	Analyte
6010C	3005A	Water	Aluminum
6010C	3005A	Water	Antimony
6010C	3005A	Water	Arsenic
6010C	3005A	Water	Barium
6010C	3005A	Water	Beryllium
6010C	3005A	Water	Cadmium
6010C	3005A	Water	Calcium
6010C	3005A	Water	Chromium
6010C	3005A	Water	Cobalt
6010C	3005A	Water	Copper
6010C	3005A	Water	Iron
6010C	3005A	Water	Lead
6010C	3005A	Water	Magnesium
6010C	3005A	Water	Manganese
6010C	3005A	Water	Nickel
6010C	3005A	Water	Potassium
6010C	3005A	Water	Selenium
6010C	3005A	Water	Silver
6010C	3005A	Water	Sodium
6010C	3005A	Water	Thallium
6010C	3005A	Water	Vanadium
6010C	3005A	Water	Zinc
6010C	3010A	Water	Aluminum
6010C	3010A	Water	Antimony
6010C	3010A	Water	Arsenic
6010C	3010A	Water	Barium
6010C	3010A	Water	Beryllium
6010C	3010A	Water	Cadmium
6010C	3010A	Water	Calcium
6010C	3010A	Water	Chromium
6010C	3010A	Water	Cobalt
6010C	3010A	Water	Copper
6010C	3010A	Water	Iron
6010C	3010A	Water	Lead

Laboratory: TestAmerica Denver (Continued)

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

Authority	Program	EPA Region	Certification ID	Expiration Date
Pennsylvania	NELAP	3	68-00664	07-31-17

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

Analysis Method	Prep Method	Matrix	Analyte
6010C	3010A	Water	Magnesium
6010C	3010A	Water	Manganese
6010C	3010A	Water	Nickel
6010C	3010A	Water	Potassium
6010C	3010A	Water	Selenium
6010C	3010A	Water	Silver
6010C	3010A	Water	Sodium
6010C	3010A	Water	Thallium
6010C	3010A	Water	Vanadium
6010C	3010A	Water	Zinc
6010C	3050B	Solid	Aluminum
6010C	3050B	Solid	Antimony
6010C	3050B	Solid	Arsenic
6010C	3050B	Solid	Barium
6010C	3050B	Solid	Beryllium
6010C	3050B	Solid	Cadmium
6010C	3050B	Solid	Calcium
6010C	3050B	Solid	Chromium
6010C	3050B	Solid	Cobalt
6010C	3050B	Solid	Copper
6010C	3050B	Solid	Iron
6010C	3050B	Solid	Lead
6010C	3050B	Solid	Magnesium
6010C	3050B	Solid	Manganese
6010C	3050B	Solid	Nickel
6010C	3050B	Solid	Potassium
6010C	3050B	Solid	Selenium
6010C	3050B	Solid	Silver
6010C	3050B	Solid	Sodium
6010C	3050B	Solid	Thallium
6010C	3050B	Solid	Vanadium
6010C	3050B	Solid	Zinc
7470A	7470A	Water	Hg
7470A	7470A	Water	Mercury
7471A	7471A	Solid	Mercury
8270D	3520C	Water	1,2,4,5-Tetrachlorobenzene
8270D	3520C	Water	1,2,4-Trichlorobenzene
8270D	3520C	Water	1,2-Dichlorobenzene
8270D	3520C	Water	1,2-Diphenylhydrazine
8270D	3520C	Water	1,3-Dichlorobenzene
8270D	3520C	Water	1,4-Dichlorobenzene
8270D	3520C	Water	2,2'-oxybis[1-chloropropane]
8270D	3520C	Water	2,4,5-Trichlorophenol
8270D	3520C	Water	2,4,6-Trichlorophenol
8270D	3520C	Water	2,4-Dichlorophenol
8270D	3520C	Water	2,4-Dimethylphenol

Laboratory: TestAmerica Denver (Continued)

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

Authority	Program	EPA Region	Certification ID	Expiration Date
Pennsylvania	NELAP	3	68-00664	07-31-17

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

Analysis Method	Prep Method	Matrix	Analyte
8270D	3520C	Water	2,4-Dinitrophenol
8270D	3520C	Water	2,4-Dinitrotoluene
8270D	3520C	Water	2,6-Dichlorophenol
8270D	3520C	Water	2,6-Dinitrotoluene
8270D	3520C	Water	2-Chloronaphthalene
8270D	3520C	Water	2-Chlorophenol
8270D	3520C	Water	2-Methylnaphthalene
8270D	3520C	Water	2-Methylphenol
8270D	3520C	Water	3 & 4 Methylphenol
8270D	3520C	Water	3,3'-Dichlorobenzidine
8270D	3520C	Water	3-Nitroaniline
8270D	3520C	Water	4,6-Dinitro-2-methylphenol
8270D	3520C	Water	4-Chloroaniline
8270D	3520C	Water	4-Chlorophenyl phenyl ether
8270D	3520C	Water	4-Nitroaniline
8270D	3520C	Water	4-Nitrophenol
8270D	3520C	Water	Acenaphthene
8270D	3520C	Water	Acenaphthylene
8270D	3520C	Water	Anthracene
8270D	3520C	Water	Benzidine
8270D	3520C	Water	Benzo[a]anthracene
8270D	3520C	Water	Benzo[a]pyrene
8270D	3520C	Water	Benzo[b]fluoranthene
8270D	3520C	Water	Benzo[g,h,i]perylene
8270D	3520C	Water	Benzo[k]fluoranthene
8270D	3520C	Water	Benzoic acid
8270D	3520C	Water	Benzyl alcohol
8270D	3520C	Water	Bis(2-chloroethoxy)methane
8270D	3520C	Water	Bis(2-chloroethyl)ether
8270D	3520C	Water	Bis(2-ethylhexyl) phthalate
8270D	3520C	Water	Butyl benzyl phthalate
8270D	3520C	Water	Carbazole
8270D	3520C	Water	Chrysene
8270D	3520C	Water	Dibenz(a,h)anthracene
8270D	3520C	Water	Dibenzofuran
8270D	3520C	Water	Diethyl phthalate
8270D	3520C	Water	Dimethyl phthalate
8270D	3520C	Water	Di-n-butyl phthalate
8270D	3520C	Water	Di-n-octyl phthalate
8270D	3520C	Water	Fluoranthene
8270D	3520C	Water	Fluorene
8270D	3520C	Water	Hexachlorobenzene
8270D	3520C	Water	Hexachlorobutadiene
8270D	3520C	Water	Hexachlorocyclopentadiene
8270D	3520C	Water	Hexachloroethane
8270D	3520C	Water	Indeno[1,2,3-cd]pyrene

Laboratory: TestAmerica Denver (Continued)

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

Authority	Program	EPA Region	Certification ID	Expiration Date
Pennsylvania	NELAP	3	68-00664	07-31-17

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

Analysis Method	Prep Method	Matrix	Analyte
8270D	3520C	Water	Isophorone
8270D	3520C	Water	Naphthalene
8270D	3520C	Water	Nitrobenzene
8270D	3520C	Water	N-Nitrosodimethylamine
8270D	3520C	Water	N-Nitrosodi-n-propylamine
8270D	3520C	Water	N-Nitrosodiphenylamine
8270D	3520C	Water	N-Nitrosopyrrolidine
8270D	3520C	Water	Pentachlorophenol
8270D	3520C	Water	Phenanthrene
8270D	3520C	Water	Phenol
8270D	3520C	Water	Pyrene
8270D	3550C	Solid	1,2,4,5-Tetrachlorobenzene
8270D	3550C	Solid	1,2,4-Trichlorobenzene
8270D	3550C	Solid	1,2-Dichlorobenzene
8270D	3550C	Solid	1,2-Diphenylhydrazine
8270D	3550C	Solid	1,3-Dichlorobenzene
8270D	3550C	Solid	1,4-Dichlorobenzene
8270D	3550C	Solid	2,2'-oxybis[1-chloropropane]
8270D	3550C	Solid	2,4,5-Trichlorophenol
8270D	3550C	Solid	2,4,6-Trichlorophenol
8270D	3550C	Solid	2,4-Dichlorophenol
8270D	3550C	Solid	2,4-Dimethylphenol
8270D	3550C	Solid	2,4-Dinitrophenol
8270D	3550C	Solid	2,4-Dinitrotoluene
8270D	3550C	Solid	2,6-Dichlorophenol
8270D	3550C	Solid	2,6-Dinitrotoluene
8270D	3550C	Solid	2-Chloronaphthalene
8270D	3550C	Solid	2-Chlorophenol
8270D	3550C	Solid	2-Methylnaphthalene
8270D	3550C	Solid	2-Methylphenol
8270D	3550C	Solid	3 & 4 Methylphenol
8270D	3550C	Solid	3,3'-Dichlorobenzidine
8270D	3550C	Solid	3-Nitroaniline
8270D	3550C	Solid	4,6-Dinitro-2-methylphenol
8270D	3550C	Solid	4-Chloroaniline
8270D	3550C	Solid	4-Chlorophenyl phenyl ether
8270D	3550C	Solid	4-Nitroaniline
8270D	3550C	Solid	4-Nitrophenol
8270D	3550C	Solid	Acenaphthene
8270D	3550C	Solid	Acenaphthylene
8270D	3550C	Solid	Anthracene
8270D	3550C	Solid	Benzidine
8270D	3550C	Solid	Benzo[a]anthracene
8270D	3550C	Solid	Benzo[a]pyrene
8270D	3550C	Solid	Benzo[b]fluoranthene
8270D	3550C	Solid	Benzo[g,h,i]perylene

Laboratory: TestAmerica Denver (Continued)

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

Authority	Program	EPA Region	Certification ID	Expiration Date
Pennsylvania	NELAP	3	68-00664	07-31-17

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

Analysis Method	Prep Method	Matrix	Analyte
8270D	3550C	Solid	Benzo[k]fluoranthene
8270D	3550C	Solid	Benzoic acid
8270D	3550C	Solid	Benzyl alcohol
8270D	3550C	Solid	Bis(2-chloroethoxy)methane
8270D	3550C	Solid	Bis(2-chloroethyl)ether
8270D	3550C	Solid	Bis(2-ethylhexyl) phthalate
8270D	3550C	Solid	Butyl benzyl phthalate
8270D	3550C	Solid	Carbazole
8270D	3550C	Solid	Chrysene
8270D	3550C	Solid	Dibenz(a,h)anthracene
8270D	3550C	Solid	Dibenzofuran
8270D	3550C	Solid	Diethyl phthalate
8270D	3550C	Solid	Dimethyl phthalate
8270D	3550C	Solid	Di-n-butyl phthalate
8270D	3550C	Solid	Di-n-octyl phthalate
8270D	3550C	Solid	Fluoranthene
8270D	3550C	Solid	Fluorene
8270D	3550C	Solid	Hexachlorobenzene
8270D	3550C	Solid	Hexachlorobutadiene
8270D	3550C	Solid	Hexachlorocyclopentadiene
8270D	3550C	Solid	Hexachloroethane
8270D	3550C	Solid	Indeno[1,2,3-cd]pyrene
8270D	3550C	Solid	Isophorone
8270D	3550C	Solid	Naphthalene
8270D	3550C	Solid	Nitrobenzene
8270D	3550C	Solid	N-Nitrosodimethylamine
8270D	3550C	Solid	N-Nitrosodi-n-propylamine
8270D	3550C	Solid	N-Nitrosodiphenylamine
8270D	3550C	Solid	N-Nitrosopyrrolidine
8270D	3550C	Solid	Pentachlorophenol
8270D	3550C	Solid	Phenanthrene
8270D	3550C	Solid	Phenol
8270D	3550C	Solid	Pyrene

West Virginia DEP	State Program	3	354	11-30-16

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

Analysis Method	Prep Method	Matrix	Analyte
6010C	3005A	Water	Aluminum
6010C	3005A	Water	Antimony
6010C	3005A	Water	Arsenic
6010C	3005A	Water	Barium
6010C	3005A	Water	Beryllium
6010C	3005A	Water	Cadmium
6010C	3005A	Water	Calcium
6010C	3005A	Water	Chromium
6010C	3005A	Water	Cobalt
6010C	3005A	Water	Copper

Laboratory: TestAmerica Denver (Continued)

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

Authority	Program	EPA Region	Certification ID	Expiration Date
West Virginia DEP	State Program	3	354	11-30-16

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

Analysis Method	Prep Method	Matrix	Analyte
6010C	3005A	Water	Iron
6010C	3005A	Water	Lead
6010C	3005A	Water	Magnesium
6010C	3005A	Water	Manganese
6010C	3005A	Water	Nickel
6010C	3005A	Water	Potassium
6010C	3005A	Water	Selenium
6010C	3005A	Water	Silver
6010C	3005A	Water	Sodium
6010C	3005A	Water	Thallium
6010C	3005A	Water	Vanadium
6010C	3005A	Water	Zinc
6010C	3010A	Water	Aluminum
6010C	3010A	Water	Antimony
6010C	3010A	Water	Arsenic
6010C	3010A	Water	Barium
6010C	3010A	Water	Beryllium
6010C	3010A	Water	Cadmium
6010C	3010A	Water	Calcium
6010C	3010A	Water	Chromium
6010C	3010A	Water	Cobalt
6010C	3010A	Water	Copper
6010C	3010A	Water	Iron
6010C	3010A	Water	Lead
6010C	3010A	Water	Magnesium
6010C	3010A	Water	Manganese
6010C	3010A	Water	Nickel
6010C	3010A	Water	Potassium
6010C	3010A	Water	Selenium
6010C	3010A	Water	Silver
6010C	3010A	Water	Sodium
6010C	3010A	Water	Thallium
6010C	3010A	Water	Vanadium
6010C	3010A	Water	Zinc
6010C	3050B	Solid	Aluminum
6010C	3050B	Solid	Antimony
6010C	3050B	Solid	Arsenic
6010C	3050B	Solid	Barium
6010C	3050B	Solid	Beryllium
6010C	3050B	Solid	Cadmium
6010C	3050B	Solid	Calcium
6010C	3050B	Solid	Chromium
6010C	3050B	Solid	Cobalt
6010C	3050B	Solid	Copper
6010C	3050B	Solid	Iron
6010C	3050B	Solid	Lead

Laboratory: TestAmerica Denver (Continued)

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

Authority	Program	EPA Region	Certification ID	Expiration Date
West Virginia DEP	State Program	3	354	11-30-16

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

Analysis Method	Prep Method	Matrix	Analyte
6010C	3050B	Solid	Magnesium
6010C	3050B	Solid	Manganese
6010C	3050B	Solid	Nickel
6010C	3050B	Solid	Potassium
6010C	3050B	Solid	Selenium
6010C	3050B	Solid	Silver
6010C	3050B	Solid	Sodium
6010C	3050B	Solid	Thallium
6010C	3050B	Solid	Vanadium
6010C	3050B	Solid	Zinc
7470A	7470A	Water	Hg
7470A	7470A	Water	Mercury
7471A	7471A	Solid	Mercury
8270D	3520C	Water	1,2,4,5-Tetrachlorobenzene
8270D	3520C	Water	1,2,4-Trichlorobenzene
8270D	3520C	Water	1,2-Dichlorobenzene
8270D	3520C	Water	1,2-Diphenylhydrazine
8270D	3520C	Water	1,3-Dichlorobenzene
8270D	3520C	Water	1,4-Dichlorobenzene
8270D	3520C	Water	2,2'-oxybis[1-chloropropane]
8270D	3520C	Water	2,4,5-Trichlorophenol
8270D	3520C	Water	2,4,6-Trichlorophenol
8270D	3520C	Water	2,4-Dichlorophenol
8270D	3520C	Water	2,4-Dimethylphenol
8270D	3520C	Water	2,4-Dinitrophenol
8270D	3520C	Water	2,4-Dinitrotoluene
8270D	3520C	Water	2,6-Dichlorophenol
8270D	3520C	Water	2,6-Dinitrotoluene
8270D	3520C	Water	2-Chloronaphthalene
8270D	3520C	Water	2-Chlorophenol
8270D	3520C	Water	2-Methylnaphthalene
8270D	3520C	Water	2-Methylphenol
8270D	3520C	Water	3 & 4 Methylphenol
8270D	3520C	Water	3,3'-Dichlorobenzidine
8270D	3520C	Water	3-Nitroaniline
8270D	3520C	Water	4,6-Dinitro-2-methylphenol
8270D	3520C	Water	4-Chloroaniline
8270D	3520C	Water	4-Chlorophenyl phenyl ether
8270D	3520C	Water	4-Nitroaniline
8270D	3520C	Water	4-Nitrophenol
8270D	3520C	Water	Acenaphthene
8270D	3520C	Water	Acenaphthylene
8270D	3520C	Water	Anthracene
8270D	3520C	Water	Benzidine
8270D	3520C	Water	Benzo[a]anthracene
8270D	3520C	Water	Benzo[a]pyrene

Laboratory: TestAmerica Denver (Continued)

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

Authority	Program	EPA Region	Certification ID	Expiration Date
West Virginia DEP	State Program	3	354	11-30-16

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

Analysis Method	Prep Method	Matrix	Analyte
8270D	3520C	Water	Benzo[b]fluoranthene
8270D	3520C	Water	Benzo[g,h,i]perylene
8270D	3520C	Water	Benzo[k]fluoranthene
8270D	3520C	Water	Benzoic acid
8270D	3520C	Water	Benzyl alcohol
8270D	3520C	Water	Bis(2-chloroethoxy)methane
8270D	3520C	Water	Bis(2-chloroethyl)ether
8270D	3520C	Water	Bis(2-ethylhexyl) phthalate
8270D	3520C	Water	Butyl benzyl phthalate
8270D	3520C	Water	Carbazole
8270D	3520C	Water	Chrysene
8270D	3520C	Water	Dibenz(a,h)anthracene
8270D	3520C	Water	Dibenzofuran
8270D	3520C	Water	Diethyl phthalate
8270D	3520C	Water	Dimethyl phthalate
8270D	3520C	Water	Di-n-butyl phthalate
8270D	3520C	Water	Di-n-octyl phthalate
8270D	3520C	Water	Fluoranthene
8270D	3520C	Water	Fluorene
8270D	3520C	Water	Hexachlorobenzene
8270D	3520C	Water	Hexachlorobutadiene
8270D	3520C	Water	Hexachlorocyclopentadiene
8270D	3520C	Water	Hexachloroethane
8270D	3520C	Water	Indeno[1,2,3-cd]pyrene
8270D	3520C	Water	Isophorone
8270D	3520C	Water	Naphthalene
8270D	3520C	Water	Nitrobenzene
8270D	3520C	Water	N-Nitrosodimethylamine
8270D	3520C	Water	N-Nitrosodi-n-propylamine
8270D	3520C	Water	N-Nitrosodiphenylamine
8270D	3520C	Water	N-Nitrosopyrrolidine
8270D	3520C	Water	Pentachlorophenol
8270D	3520C	Water	Phenanthrene
8270D	3520C	Water	Phenol
8270D	3520C	Water	Pyrene
8270D	3550C	Solid	1,2,4,5-Tetrachlorobenzene
8270D	3550C	Solid	1,2,4-Trichlorobenzene
8270D	3550C	Solid	1,2-Dichlorobenzene
8270D	3550C	Solid	1,2-Diphenylhydrazine
8270D	3550C	Solid	1,3-Dichlorobenzene
8270D	3550C	Solid	1,4-Dichlorobenzene
8270D	3550C	Solid	2,2'-oxybis[1-chloropropane]
8270D	3550C	Solid	2,4,5-Trichlorophenol
8270D	3550C	Solid	2,4,6-Trichlorophenol
8270D	3550C	Solid	2,4-Dichlorophenol
8270D	3550C	Solid	2,4-Dimethylphenol

Laboratory: TestAmerica Denver (Continued)

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

Authority	Program	EPA Region	Certification ID	Expiration Date
West Virginia DEP	State Program	3	354	11-30-16

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

Analysis Method	Prep Method	Matrix	Analyte
8270D	3550C	Solid	2,4-Dinitrophenol
8270D	3550C	Solid	2,4-Dinitrotoluene
8270D	3550C	Solid	2,6-Dichlorophenol
8270D	3550C	Solid	2,6-Dinitrotoluene
8270D	3550C	Solid	2-Chloronaphthalene
8270D	3550C	Solid	2-Chlorophenol
8270D	3550C	Solid	2-Methylnaphthalene
8270D	3550C	Solid	2-Methylphenol
8270D	3550C	Solid	3 & 4 Methylphenol
8270D	3550C	Solid	3,3'-Dichlorobenzidine
8270D	3550C	Solid	3-Nitroaniline
8270D	3550C	Solid	4,6-Dinitro-2-methylphenol
8270D	3550C	Solid	4-Chloroaniline
8270D	3550C	Solid	4-Chlorophenyl phenyl ether
8270D	3550C	Solid	4-Nitroaniline
8270D	3550C	Solid	4-Nitrophenol
8270D	3550C	Solid	Acenaphthene
8270D	3550C	Solid	Acenaphthylene
8270D	3550C	Solid	Anthracene
8270D	3550C	Solid	Benzidine
8270D	3550C	Solid	Benzo[a]anthracene
8270D	3550C	Solid	Benzo[a]pyrene
8270D	3550C	Solid	Benzo[b]fluoranthene
8270D	3550C	Solid	Benzo[g,h,i]perylene
8270D	3550C	Solid	Benzo[k]fluoranthene
8270D	3550C	Solid	Benzoic acid
8270D	3550C	Solid	Benzyl alcohol
8270D	3550C	Solid	Bis(2-chloroethoxy)methane
8270D	3550C	Solid	Bis(2-chloroethyl)ether
8270D	3550C	Solid	Bis(2-ethylhexyl) phthalate
8270D	3550C	Solid	Butyl benzyl phthalate
8270D	3550C	Solid	Carbazole
8270D	3550C	Solid	Chrysene
8270D	3550C	Solid	Dibenz(a,h)anthracene
8270D	3550C	Solid	Dibenzofuran
8270D	3550C	Solid	Diethyl phthalate
8270D	3550C	Solid	Dimethyl phthalate
8270D	3550C	Solid	Di-n-butyl phthalate
8270D	3550C	Solid	Di-n-octyl phthalate
8270D	3550C	Solid	Fluoranthene
8270D	3550C	Solid	Fluorene
8270D	3550C	Solid	Hexachlorobenzene
8270D	3550C	Solid	Hexachlorobutadiene
8270D	3550C	Solid	Hexachlorocyclopentadiene
8270D	3550C	Solid	Hexachloroethane
8270D	3550C	Solid	Indeno[1,2,3-cd]pyrene

Laboratory: TestAmerica Denver (Continued)

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

Authority	Program	EPA Region	Certification ID	Expiration Date
West Virginia DEP	State Program	3	354	11-30-16

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

Analysis Method	Prep Method	Matrix	Analyte
8270D	3550C	Solid	Isophorone
8270D	3550C	Solid	Naphthalene
8270D	3550C	Solid	Nitrobenzene
8270D	3550C	Solid	N-Nitrosodimethylamine
8270D	3550C	Solid	N-Nitrosodi-n-propylamine
8270D	3550C	Solid	N-Nitrosodiphenylamine
8270D	3550C	Solid	N-Nitrosopyrrolidine
8270D	3550C	Solid	Pentachlorophenol
8270D	3550C	Solid	Phenanthrene
8270D	3550C	Solid	Phenol
8270D	3550C	Solid	Pyrene
Moisture		Solid	Percent Moisture

GENERAL CHEMISTRY

COVER PAGE
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job Number: 280-84353-1

SDG No.:

Project: Schenectady ANGB, TU009

Client Sample ID	Lab Sample ID
SC-TU009-MW001-S0305	280-84353-1
SC-TU009-MW001-S0608	280-84353-2
SC-TU009-MW002-S0507	280-84353-3
SC-TU009-MW002-S0305	280-84353-4
SC-TU009-MW002-S0507-D	280-84353-5
SC-TU009-MW003-S0507	280-84353-6
SC-TU009-MW003-S0305	280-84353-7

Comments:

9-IN
DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job Number: 280-84353-1

SDG Number:

Matrix: Solid Instrument ID: NOEQUIP

Method: Moisture LOQ Date: 11/01/2009 00:00

Analyte	Wavelength/ Mass	LOQ (%)	
Percent Moisture		0.1	

FORM IX - IN

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job No.: 280-84353-1

SDG No.:

Instrument ID: NOEQUIP Analysis Method: Moisture

Start Date: 06/14/2016 10:59 End Date: 06/14/2016 15:54

Lab Sample Id	D/F	Type	Time	Analytes																							
				Moist																							
280-84353-1	1	T	10:59	X																							
280-84353-1 DU	1	T	10:59	X																							
280-84353-2	1	T	10:59	X																							
280-84353-3	1	T	10:59	X																							
280-84353-4	1	T	10:59	X																							
280-84353-5	1	T	10:59	X																							
280-84353-6	1	T	10:59	X																							
280-84353-7	1	T	10:59	X																							
ZZZZZZ			10:59																								
ZZZZZZ			10:59																								
ZZZZZZ			10:59																								
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FORM XIII-IN

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: TestAmerica Denver Job No.: 280-84353-1

SDG No.:

Instrument ID: NOEQUIP Analysis Method: Moisture

Start Date: 06/14/2016 10:59 End Date: 06/14/2016 15:54

Lab Sample Id	D/F	Type	Time	Analytes																								
				Moist																								
ZZZZZZ			11:46																									
ZZZZZZ			11:46																									
ZZZZZZ			11:46																									
ZZZZZZ			11:46																									
ZZZZZZ			11:48																									
ZZZZZZ			15:54																									
ZZZZZZ			15:54																									
ZZZZZZ			15:54																									
ZZZZZZ			15:54																									
ZZZZZZ			15:54																									
ZZZZZZ			15:54																									
ZZZZZZ			15:54																									

Prep Types:
T = Total/NA

FORM XIII-IN

TestAmerica Denver

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Top-Loading Balance Calibration Verification Log

DV-QA-0014

ACCEPTANCE CRITERIA: **0.01 READABILITY:** For <20 g, true mass ± 0.02 g: for ≥ 20 g, true mass ± 0.1%
0.1 READABILITY: For <200 g, true mass ± 0.2 g: for ≥ 200 g, true mass ± 0.1%

Date	Weight Serial Number	Weight Used	Balance Reading (g)	Initials	Acceptable? (Y/N)/Comments
6/05/16	66040	1g	0.99g	IM	Y
	66040	10g	9.98g		Y
	66040	100g	100.00g		Y
6/7/16	66040	1g	1.00 g	MRD	Y
	66040	10g	9.99 g		Y
	66040	100g	99.98 g		Y
6/8/16	66040	1g	0.99 g	MRD	Y
	66040	10g	10.00		Y
	66040	100g	99.98g		Y
6/9/16 MRD 6/9/16	66040	1 g	1.01 g	MRD	Y
	66040	10 g	10.01		Y
	66040	100 g	99.99		Y
6/9/16	0705	2000g	1999.6	AS	Y
		AS	6/9/16		AS 6/9/16
6/10/16	66040	1 g	1.00 g	MRD	Y
	66040	10 g	10.01 g		Y
	66040	100 g	MRD 6/10/16 ~~10~~ 99.99 g		Y
6/10/16	0705	2000g	1999.6	AS	Y
		AS	6/10/16		AS 6/10/16
6/13/16	66040	1 g	1.01 g	MRD	Y
	66040	10 g	10.01 g		Y
	66040	100 g	99.99 g		Y
6/14/16	66040	1 g	1.00 g	MRD	Y
	66040	10 g	10.00 g		Y
	66040	100 g	99.99 g		Y
6/14/16	0705	2000g	1999.6	AS	Y
		AS	6/14/16		AS 6/14/16
6/15/16	66040	1 g	1.00g	MRD	Y
	66040	10 g	10.01 g		Y
	66040	100 g	99.98 g		Y

TestAmerica Denver

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Gravimetric-Solids Data Review Checklist

LIMS Batch Number: 329700		Instrument ID:
Analyst/1st Reviewer/Date: MARCIA 6/15/16	Method: MOISTURE	QC Type (circle): Standard LCSD DOD Q4 DoD Q5 QAPP_____ Other_____
Method (circle): 2540B 2540C 2540D 160.4 1664A 1664B 9071		D5057 D1429 D2216
Matrix (circle): Water Solid Waste		

Review Items	Yes	No	NA	2nd rev	If No, why is data reportable?
A. Balance, Oven and DI water Checks					
Was the balance calibration verified before and after processing samples and noted in the "Balance Calibration Log" for the date(s) the samples were processed?	✓			✓	
Was the daily conductivity check of the deionized water recorded in the "Conductivity Logbook"?			✓	✓	
Temps. within the required temperature of the method: % Moisture: 100°C ± 5°C % Vol. 103°C - 105°C % Solids, TS, TSS, TVSS, VSS 103°C - 105°C TDS 180°C ± 2°C %Vol, TVSS, VSS 550°C ± 50°C Other:	✓			✓	
B. Method Requirements					
QC Batch contains no greater than 20 samples?	✓			✓	
If sample is visibly oily, was this noted on the benchsheet?	✓			✓	
Was final residue weight within minimum/maximum requirements?	✓			✓	
Were the initial and final drying dates and times recorded on the benchsheet/TALS and were all samples dried for at least one hour?	✓			✓	
C. Preparation/ Matrix QC					
Matrix Duplicate (RPD ± 5 %) (If > 5 %, determine corrective per SOP.) The RPD limit of 5% applies to TSS, TDS and TS, 20% RPD for all others	✓			✓	
Method blank < ½ RL or all reported samples > 10 X RL? - **(HEM, SGT HEM, and TDS the MB <RL)**			✓	✓	
LCS/LCSD run for batch and within QC limits?			✓	✓	
D. Preparation/ Matrix QC					
TDS/Conductivity ratio or historical data checked?			✓	✓	
For % Moisture, was the Final Dried Weight < the Initial Pan Weight or is the result greater than 100%?	✓			✓	
Were sample analyses done within holding time? **If no, create HTV NCM. NCM#**	✓			✓	
Were special client requirements met?	✓			✓	
Were data that were manually transcribed from instrument printouts into TALS verified 100% including dilution factors, significant figures and units?	✓			✓	
Do the prep and analysis dates in TALS reflect the actual dates?	✓			✓	
STD/True Value information is updated and included?	✓			✓	

Review Items	NA	Yes	No	2nd rev	If No, why is data reportable?
F. Data and TALS review					
1. Raw Data					
a. Unused data is clearly identified with reason not used	✓			✓	
b. All cross outs are initialed and dated		✓		✓	
c. Raw data includes the method, date, and analyst initials/signature		✓		✓	
2. TALS Samples Tab					
a. LIMS Sample IDs / Containers are correct		✓		✓	
b. Method and matrix are correct		✓		✓	
c. Date and time match raw data		✓		✓	
d. Dilutions are correct		✓		✓	
e. Correct suffix (DU, MS, MSD) designated (where applicable)		✓		✓	
3. TALS Worksheet Tab is complete and correct (Initial Amount, Final Amount, pH, etc.)		✓		✓	
4. TALS Reagent Tab is complete and correct and properly associated with QC samples. Confirm that reagent amounts are correct. If reagents are new verify that the correct COA has been attached to the source standard	✓	✓		✓	
5. TALS QC Links Tab is correct		✓		✓	
6. TALS Sample Results Tab		✓		✓	
a. All unused data are marked Rejected or Accepted		✓		✓	
b. Set status for samples based on QC and sample results info (i.e., set to primary analysis with passing QC or reject samples without passing QC or samples that are over-range.)		✓		✓	
c. Any data that has a qualifier is commented on with appropriate action taken		✓		✓	
7. TALS Batch Information Screen documentation is complete		✓		✓	
8. Historical Data Checker: Check historical data. Print charts for outliers. Take corrective action as is appropriate		✓		✓	
9. TALS Status set to appropriate review level		✓		✓	
E. Final Report and NCMs (2nd level review only)					
1. Were all job/project requirements met?				✓	
2. Results for samples and QC correct on final report?				✓	
3. Are all necessary scanned documents in TALS?				✓	
4. NCMs reviewed for applicability, correct references to batches, grammar/typographical errors?				✓	

Comments: CMB 6/15/15

2nd Reviewer: Caitlyn M. Bullell **Review Date:** 6/15/15

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-84353-1

SDG No.:

Batch Number: 329700 Batch Start Date: 06/14/16 10:59 Batch Analyst: Derosia, Marcia R

Batch Method: Moisture Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	DISH#	DishWeight	SampleMassWet	SampleMassDry	AnalysisComment	
280-84353-E-1	SC-TU009-MW001-S 0305	Moisture	T	1	1.27 g	15.76 g	12.33 g		
280-84353-E-1 DU	SC-TU009-MW001-S 0305	Moisture	T	2	1.29 g	16.31 g	12.97 g		
280-84353-A-2	SC-TU009-MW001-S 0608	Moisture	T	3	1.29 g	15.47 g	14.32 g	Rocky	
280-84353-B-3	SC-TU009-MW002-S 0507	Moisture	T	4	1.29 g	15.84 g	13.81 g		
280-84353-A-4	SC-TU009-MW002-S 0305	Moisture	T	5	1.28 g	15.97 g	13.70 g		
280-84353-A-5	SC-TU009-MW002-S 0507-D	Moisture	T	6	1.28 g	16.00 g	14.13 g		
280-84353-B-6	SC-TU009-MW003-S 0507	Moisture	T	7	1.29 g	15.57 g	13.72 g		
280-84353-A-7	SC-TU009-MW003-S 0305	Moisture	T	8	1.31 g	15.74 g	14.55 g	Rocky	

Batch Notes	
Balance ID	H31422
Batch Comment	Dishes 45 to 51 were added to tray 2 at 16:14 mrd.
Date and Time Samples in Desiccator	6/15/16 1012 mrd
Date and Time Samples out of Desiccator	6/15/16 Tray1, 1115 mrd. Tray 2, 1129 mrd
Date samples were placed in the oven	06/14/16
Oven Temp In	103 Degrees C
Time samples were place in the oven	1534 mrd
Date samples were removed from oven	06/15/16
Oven Temp Out	105 Degrees C
Time Samples were removed from oven	1012 mrd
Oven ID	F
Thermometer ID	227-694
Uncorrected In Temperature	103 Celsius
Uncorrected Out Temperature	105 Celsius

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Denver Job No.: 280-84353-1

SDG No.:

Batch Number: 329700 Batch Start Date: 06/14/16 10:59 Batch Analyst: Derosia, Marcia R

Batch Method: Moisture Batch End Date:

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

Shipping and Receiving Documents

180325

TestAmerica Denver
4955 Yarrow Street
Arvada, CO 80002
Phone (303) 736-0100 Fax (303) 431-7171

Chain of Custody Record

BALTIMORE

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information	Sampler: Dane Kormos	Lab PM: Rydberg, Donna R	Carrier Tracking No(s):	COC No: 280-53289-19163.2
Client Contact: Ms. Gretchen Fodor	Phone: 860-912-9892	E-Mail: donna.rydberg@testamericainc.com		Page: Page ~~2 of 2~~ 10f1 (53)
Company: Weston Solutions, Inc.				Job #:
Address: 1400 Weston Way PO BOX 2653	Due Date Requested:			
City: West Chester	TAT Requested (days): 15 Day			
State, Zip: PA, 19380				
Phone: 703-724-0544(Tel)	PO #: 0090139			
Email: gretchen.fodor@westonsolutions.com	WO #: 15363.100.001.1103			
Project Name: Schenectady ANGB, ~~TU008~~ (80)	Project #: 28015256			
Site: TU009	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)	8270D	Metals COC/17471A	Dissolved Metals COC 17470A	Total Metals	Total Number of containers	Special Instructions/Note:
Preservation Code:												
SC-TU009-MW001-50305	6-6-16	1600	G	S		X	X	X			2	236
SC-TU009-MW001-50608		1610					X	X			2	
SC-TU009-MW002-50507		1640					X	X			2	
SC-TU009-MW002-50305		1635					X	X			2	
SC-TU009-MW002-50507-D		1640					X	X			2	
SC-TU009-MW003-50507		1710					X	X			2	
SC-TU009-MW003-50305		1700					X	X			2	
SC-TU009-EB060616	6-6-16	1500	G	W			X		X	X	3	

280-84353 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]	6/9/16 1441		[signature]	6/9/16 1441	TT
[signature]	6/9/16 1715	TT	[signature]	6/10/16 0925	TAD
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: 0.2, 4.0, 2.4, 2.3, 2.0, 2.4 +0.0 IR#5 Transfered by DW 6/10/16

TestAmerica Denver
4955 Yarrow Street
Arvada, CO 80002
Phone (303) 736-0100 Fax (303) 431-7171

Chain of Custody Record

180325

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information	Sampler: D. Kormos	Lab PM: Rydberg, Donna R	Carrier Tracking No(s): BALTIMORE	COC No: 280-53289-19163.2
Client Contact: Ms. Gretchen Fodor	Phone: 860 912 9892	E-Mail: donna.rydberg@testamericainc.com		Page: ~~Page 2 of 2~~
Company: Weston Solutions, Inc.				Job #:
Address: 1400 Weston Way PO BOX 2653	Due Date Requested:			
City: West Chester	TAT Requested (days): 15 Days			
State, Zip: PA, 19380				
Phone: 703-724-0544(Tel)	PO #: 0090139			
Email: gretchen.fodor@westonsolutions.com	WO #: 15363.100.001.1103			
Project Name: Schenectady ANGB, TU009	Project #: 28015256			
Site: TU009	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)	Metals (total) - 6010C	Metals (dissolved) - 6010C	SVOCs - 8270D									Total Number of containers	Special Instructions/Note:
			Preservation Code:				D	D	N										
SC-TU009-MW003-G-1	06-08-16	1245	G	W	Y	N		X										~~2~~ 1	(Limited Volume)
SC-TU009-MW003-G-1	06-08-16	1245	G	W	N	N	X		X									~~2~~ 2	Poor well recovery.
SC-TU009-6MW24-G-1	06-08-16	1300	G	W	Y	N		X										~~2~~ 1	
SC-TU009-6MW24-G-1	06-08-16	1300	G	W	N	N	X		X									~~2~~ 2	
SC-TU009-6MW22-G-1	06-08-16	1230	G	W	Y	Y		X										3	
SC-TU009-6MW22-G-1	06-08-16	1230	G	W	N	Y	X											3	
SC-TU009-6MW22-G-1-D	06-08-16	1235	G	W	Y	N		X										1	
SC-TU009-6MW22-G-1-D	06-08-16	1235	G	W	N	N	X											1	

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) IV

Special Instructions/QC Requirements:

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

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
[signature]	6/9/16 1441		[signature]	6/9/16 1441	TA
[signature]	6/9/16 1715	TA	[signature]	6/10/16 0925	TAD

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

TestAmerica Denver
4955 Yarrow Street
Arvada, CO 80002
Phone (303) 736-0100 Fax (303) 431-7171

Chain of Custody Record

180325

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information	Sampler: DAVE KORMOS	Lab PM: Rydberg, Donna R BALTI	Carrier Tracking No(s):	COC No: 280-53289-19163.2
Client Contact: Ms. Gretchen Fodor	Phone: 860-912-9892	E-Mail: donna.rydberg@testamericainc.com		Page: ~~Page 2 of 2~~
Company: Weston Solutions, Inc.				Job #:
Address: 1400 Weston Way PO BOX 2653	Due Date Requested:			
City: West Chester	TAT Requested (days): 15 DAYS			
State, Zip: PA, 19380				
Phone: 703-724-0544(Tel)	PO #: 0090139			
Email: gretchen.fodor@westonsolutions.com	WO #: 15363.100.001.1103			
Project Name: Schenectady ANGB, TU009	Project #: 28015256			
Site: TU009	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)	SVOCs - 8270D	Total Number of containers	Special Instructions/Note:
			Preservation Code:				N		
SC-TU009-GMW22-G-1	06-08-16	1230	G	W	N	Y	X	6	
SC-TU009-GMW22-G-1-D	06-08-16	1235	G	W	N	N	X	2	

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) IV

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:		
Relinquished by:	Date/Time: 6/9/16 1441	Company	Received by:	Date/Time: 6/9/16 1441	Company TT
Relinquished by:	Date/Time: 6/9/16 1715	Company TT	Received by:	Date/Time: 6/10/16 0925	Company TD
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: Weston Solutions, Inc.

Job Number: 280-84353-1

Login Number: 84353
List Number: 1
Creator: White, Denise E

List Source: TestAmerica Denver

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
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.	False	Limited volume received.
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	

ANALYTICAL REPORT

Job Number: 280-84354-1

Job Description: Schenectady ANGB, TU008

For:
Weston Solutions, Inc.
1400 Weston Way
PO BOX 2653
West Chester, PA 19380

Attention: Ms. Gretchen Fodor

Approved for release.
Donna R Rydberg
Senior Project Manager
7/29/2016 8:11 PM

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07/29/2016
Revision: 1

The test results in this report relate only to the samples in this report and meet all requirements of NELAC, with any exceptions noted. Pursuant to NELAP, this report shall not be reproduced except in full, without the written approval of the laboratory. All questions regarding this report should be directed to the TestAmerica Denver Project Manager.

The Lab Certification ID# is 4025.

Reporting limits are adjusted for sample size used, dilutions and moisture content if applicable.

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Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
U	Undetected at the Limit of Detection.
Q	One or more quality control criteria failed.
J	Estimated: The analyte was positively identified; the quantitation is an estimation
J	Estimated: The quantitation is an estimation due to discrepancies in meeting certain analyte-specific quality control criteria.

GC/MS Semi VOA

Qualifier	Qualifier Description
U	Undetected at the Limit of Detection.
D	The reported value is from a dilution.
J	Estimated: The analyte was positively identified; the quantitation is an estimation
J	Estimated: The quantitation is an estimation due to discrepancies in meeting certain analyte-specific quality control criteria.
D	Sample results are obtained from a dilution; the surrogate or matrix spike recoveries reported are calculated from diluted samples.
Q	One or more quality control criteria failed.

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)

CASE NARRATIVE
Client: Weston Solutions, Inc.
Project: Schenectady ANGB, TU008

Report Number: 280-84354-1

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 the event of interference or analytes present at high concentrations, samples may be diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

REVISED REPORT 7/27/16
The client asked that we look into the Benzidine %R in the LCS as it is calculated and reported based on a result less than MDL. The QA Manager looked at the data and agrees with the clients assessment. Since the analyte is effectively reported as ND, the LCS should not be calculating a percent recovery. The recovery for Benzidine in the LCS should be "0". It appears that our QC report did not take this into account. It was also noted that the root cause of the issue is that the lab is spiking this known poor performer too low. The lab will be directed to start spiking Benzidine at a much higher concentration.

RECEIPT
The samples were received on 06/10/2016; the samples arrived in good condition, properly preserved and on ice. The temperatures of the 6 coolers at receipt time were 0.2º C, 2.0º C, 2.3º C, 2.4º C, 2.4º C and 4.0º C.

EPA SW-846 METHOD 8260C
Samples SC-TU008-MW001-G-1 (280-84354-1), SC-TU008-MW002-G-1 (280-84354-2), SC-TU008-MW002-G-1-D (280-84354-3), SC-TU008-MW004-G-1 (280-84354-4), SC-TU008-EB060816 (280-84354-5), SC-TU008-MW003-G-1 (280-84354-6) and SC-TU008-TB060816 (280-84354-7) were analyzed for EPA SW-846 Method 8260C in accordance with 8260C. The samples were analyzed on 06/15/2016 and 06/16/2016.

o-Xylene was detected in method blank MB 160-256397/9 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.

Chloroethane exceeded the RPD limit for LCSD 160-256641/7.

2-Butanone (MEK) exceeded the RPD limit for the MSD of sample SC-TU008-MW001-G-1MSD (280-84354-1) in batch 160-256397.

The following compounds did not meet the minimum relative response factor limits in the continuing calibration verification (CCV) associated with batch 160-256397: 2-Butanone, Methyl acetate, 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. (CCV 160-256397/5) and (CCVC 160-256397/30)

The following compounds did not meet the minimum relative response factor limits in the continuing calibration verification (CCV) and closing continuing calibration verification (CCVC) associated with batch 160-256641: 2-Butanone, Methyl acetate, 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. (CCV 160-256641/5) and (CCVC 160-256641/16)

Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate/sample duplicate (MS/MSD/DUP) associated with analytical batch 160-256641. Laboratory control sample (LCS) and duplicate (LCSD) were analyzed in order to demonstrate accuracy and replicate-precision. (LCS 160-256641/6) and (LCSD 160-256641/7)

Surrogate recovery for the following samples was outside the upper control limit: SC-TU008-MW001-G-1 (280-84354-1), SC-TU008-MW002-G-1 (280-84354-2), SC-TU008-MW002-G-1-D (280-84354-3), SC-TU008-MW004-G-1 (280-84354-4), SC-TU008-EB060816 (280-84354-5), SC-TU008-MW003-G-1 (280-84354-6) and SC-TU008-TB060816 (280-84354-7), (MB 160-256641/9) and (MB 160-256773/1-A). This sample did not contain any target analytes associated with the surrogates that recovered above control limits; therefore, re-extraction and/or re-analysis was not performed.

The following sample was received outside of hold according to the client-documented date of sampling on the CoC: SC-TU008-TB060816 (280-84354-7). However, the affected sample is a trip blank; convention is to assign the trip blank a collection time similar to those of the samples it is accompanying. The trip blank was analyzed within 14 days of the earliest sampling date listed on the CoC. As such, the hold time qualifiers have been removed from the reported data.

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

SEMIVOLATILE ORGANIC COMPOUNDS (GC-MS)
Samples SC-TU008-MW001-G-1 (280-84354-1), SC-TU008-MW002-G-1 (280-84354-2), SC-TU008-MW002-G-1-D (280-84354-3),

SC-TU008-MW004-G-1 (280-84354-4) and SC-TU008-EB060816 (280-84354-5) were analyzed for semivolatile organic compounds (GC-MS) in accordance with 8270D. The samples were prepared on 06/11/2016 and analyzed on 06/27/2016 and 06/28/2016.

Benzyl alcohol and Bis(2-ethylhexyl) phthalate were detected in method blank MB 280-329438/1-A at levels that were above the method detection limit but below the reporting limit. The values should be considered estimates, and have 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.

Several analytes recovered low for the MS/MSD of sample SC-TU008-MW001-G-1 (280-84354-1) in batch 280-331506. 2,4,5-Trichlorophenol and Benzo[a]pyrene exceeded the RPD limit.

Sample SC-TU008-MW001-G-1 (280-84354-1)[10X] required dilution prior to analysis. The reporting limits have been adjusted accordingly and

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

GC/MS SEMI VOA MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-84354-1

SDG No.:

Instrument ID: SMS_K Analysis Batch Number: 328920

Lab Sample ID: STD080 280-328920/14 IC Client Sample ID:

Date Analyzed: 06/08/16 17:32 Lab File ID: K16236.D GC Column: Rxi-5Sil MS ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
alpha,alpha-Dimethyl phenethylamine	5.70	Split Peak	hoeflera	06/09/16 11:10

Lab Sample ID: STD120 280-328920/18 IC Client Sample ID:

Date Analyzed: 06/08/16 19:19 Lab File ID: K16240.D GC Column: Rxi-5Sil MS ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
alpha,alpha-Dimethyl phenethylamine	5.70	Split Peak	hoeflera	06/09/16 11:26

Lab Sample ID: STD160 280-328920/19 IC Client Sample ID:

Date Analyzed: 06/08/16 19:46 Lab File ID: K16241.D GC Column: Rxi-5Sil MS ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
alpha,alpha-Dimethyl phenethylamine	5.70	Split Peak	hoeflera	06/09/16 11:47

Lab Sample ID: STD200 280-328920/20 IC Client Sample ID:

Date Analyzed: 06/08/16 20:12 Lab File ID: K16242.D GC Column: Rxi-5Sil MS ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
alpha,alpha-Dimethyl phenethylamine	5.70	Split Peak	hoeflera	06/09/16 11:53

GC/MS SEMI VOA MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-84354-1

SDG No.:

Instrument ID: SMS_K Analysis Batch Number: 328920

Lab Sample ID: ICV 280-328920/22 Client Sample ID:

Date Analyzed: 06/08/16 21:06 Lab File ID: K16244.D GC Column: Rxi-5Sil MS ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
alpha,alpha-Dimethyl phenethylamine	5.73	Split Peak	hoeflera	06/09/16 11:58

8270D

GC/MS SEMI VOA MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Denver Job No.: 280-84354-1

SDG No.:

Instrument ID: SMS_K Analysis Batch Number: 331506

Lab Sample ID: CCV 280-331506/5 Client Sample ID:

Date Analyzed: 06/27/16 15:20 Lab File ID: K16534.D GC Column: Rxi-5Sil MS ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
alpha,alpha-Dimethyl phenethylamine	5.70	Split Peak	kiekeld	06/27/16 17:21

Lab Sample ID: CCVC 280-331506/45 Client Sample ID:

Date Analyzed: 06/28/16 00:57 Lab File ID: K16555.D GC Column: Rxi-5Sil MS ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
alpha,alpha-Dimethyl phenethylamine	5.79	Split Peak	kiekeld	06/28/16 08:20

GC/MS VOA MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica St. Louis Job No.: 280-84354-1

SDG No.:

Instrument ID: VMSL Analysis Batch Number: 256296

Lab Sample ID: IC 160-256296/3 Client Sample ID:

Date Analyzed: 06/14/16 10:05 Lab File ID: LICL3214.D GC Column: RTXVMS30 ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Iodomethane	5.76	Missed Peak	rhoadess	06/14/16 14:33
Dibromofluoromethane (Surr)	8.31	Missed Peak	rhoadess	06/14/16 14:33
Tetrahydrofuran	8.31	Missed Peak	rhoadess	06/14/16 14:33
2-Butanone (MEK)	8.42	Missed Peak	rhoadess	06/14/16 14:33
4-Methyl-2-pentanone (MIBK)	10.86	Missed Peak	rhoadess	06/14/16 14:33
Ethyl methacrylate	10.99	Missed Peak	rhoadess	06/14/16 14:33
1,1,2,2-Tetrachloroethane	13.18	Missed Peak	rhoadess	06/14/16 14:33
trans-1,4-Dichloro-2-butene	13.35	Missed Peak	rhoadess	06/14/16 14:33
Benzyl chloride	14.34	Missed Peak	rhoadess	06/14/16 14:33
n-Nonyl Aldehyde	15.26	Missed Peak	rhoadess	06/14/16 14:33
1,2-Dibromo-3-Chloropropane	15.33	Missed Peak	rhoadess	06/14/16 14:33

Lab Sample ID: IC 160-256296/4 Client Sample ID:

Date Analyzed: 06/14/16 10:30 Lab File ID: LICL3215.D GC Column: RTXVMS30 ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
1,2-Dichloro-1,1,2,2-tetrafluoroethane	3.38	Peak Tail	rhoadess	06/16/16 14:13
Iodomethane	5.78	Missed Peak	rhoadess	06/14/16 14:38
Ethyl acrylate	9.86	Missed Peak	rhoadess	06/14/16 14:38
2-Chloroethyl vinyl ether	10.25	Missed Peak	rhoadess	06/14/16 14:38
n-Nonyl Aldehyde	15.26	Missed Peak	rhoadess	06/14/16 14:38

GC/MS VOA MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica St. Louis Job No.: 280-84354-1

SDG No.:

Instrument ID: VMSL Analysis Batch Number: 256296

Lab Sample ID: IC 160-256296/5 Client Sample ID:

Date Analyzed: 06/14/16 10:55 Lab File ID: LICL3216.D GC Column: RTXVMS30 ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
1,2-Dichloro-1,1,2,2-tetrafluoroethane	3.38	Peak Tail	rhoadess	06/16/16 14:13
Ethanol	5.60	Missed Peak	rhoadess	06/14/16 14:41
Iodomethane	5.78	Missed Peak	rhoadess	06/14/16 14:41
2-Chloroethyl vinyl ether	10.25	Missed Peak	rhoadess	06/14/16 14:41

Lab Sample ID: IC 160-256296/6 Client Sample ID:

Date Analyzed: 06/14/16 11:20 Lab File ID: LICL3217.D GC Column: RTXVMS30 ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
1,2-Dichloro-1,1,2,2-tetrafluoroethane	3.38	Peak Tail	rhoadess	06/16/16 14:13

Lab Sample ID: IC 160-256296/7 Client Sample ID:

Date Analyzed: 06/14/16 11:45 Lab File ID: LICL3218.D GC Column: RTXVMS30 ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
1,2-Dichloro-1,1,2,2-tetrafluoroethane	3.38	Peak Tail	rhoadess	06/16/16 14:14
Ethanol	5.60	Peak Tail	rhoadess	06/14/16 14:52

Lab Sample ID: ICIS 160-256296/8 Client Sample ID:

Date Analyzed: 06/14/16 12:10 Lab File ID: LICL3219.D GC Column: RTXVMS30 ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
1,2-Dichloro-1,1,2,2-tetrafluoroethane	3.38	Peak Tail	rhoadess	06/16/16 14:14

GC/MS VOA MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica St. Louis Job No.: 280-84354-1

SDG No.:

Instrument ID: VMSL Analysis Batch Number: 256296

Lab Sample ID: IC 160-256296/9 Client Sample ID:

Date Analyzed: 06/14/16 12:35 Lab File ID: LICL3220.D GC Column: RTXVMS30 ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
1,2-Dichloro-1,1,2,2-tetrafluoroethane	3.38	Peak Tail	rhoadess	06/16/16 14:14
Ethanol	5.60	Peak Tail	rhoadess	06/15/16 06:06

Lab Sample ID: IC 160-256296/10 Client Sample ID:

Date Analyzed: 06/14/16 13:01 Lab File ID: LICL3221.D GC Column: RTXVMS30 ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
1,2-Dichloro-1,1,2,2-tetrafluoroethane	3.39	Peak Tail	rhoadess	06/16/16 14:15
Ethanol	5.54	Peak Tail	rhoadess	06/14/16 14:54

Lab Sample ID: ICV 160-256296/12 Client Sample ID:

Date Analyzed: 06/14/16 13:51 Lab File ID: LICV3223.D GC Column: RTXVMS30 ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
1,2-Dichloro-1,1,2,2-tetrafluoroethane	3.38	Peak Tail	rhoadess	06/16/16 14:17

GC/MS VOA MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica St. Louis Job No.: 280-84354-1

SDG No.:

Instrument ID: VMSL Analysis Batch Number: 256641

Lab Sample ID: CCV 160-256641/5 Client Sample ID:

Date Analyzed: 06/16/16 09:59 Lab File ID: LCCV3255.D GC Column: RTXVMS30 ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
1,2-Dichloro-1,1,2,2-tetrafluoroethane	3.38	Peak Tail	rhoadess	06/17/16 05:44
Ethanol	5.58	Peak Tail	rhoadess	06/16/16 11:02

Lab Sample ID: CCVC 160-256641/16 Client Sample ID:

Date Analyzed: 06/16/16 12:54 Lab File ID: LSMP3262.D GC Column: RTXVMS30 ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
1,2-Dichloro-1,1,2,2-tetrafluoroethane	3.38	Peak Tail	rhoadess	06/17/16 06:02

Detection Summary

Client: Weston Solutions, Inc.
Project/Site: Schenectady ANGB, TU008

TestAmerica Job ID: 280-84354-1

Client Sample ID: SC-TU008-MW001-G-1 — Lab Sample ID: 280-84354-1

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
2-Butanone (MEK)	12	J	20	0.39	ug/L	1		8260C DOD	Total/NA
Acetone	10	J	20	6.7	ug/L	1		8260C DOD	Total/NA
Bromomethane	0.47	J	10	0.40	ug/L	1		8260C DOD	Total/NA
Chloroethane	1.1	J	10	0.38	ug/L	1		8260C DOD	Total/NA
Chloroform	1.4	J	5.0	0.15	ug/L	1		8260C DOD	Total/NA
1,2,4-Trichlorobenzene	130	D J	960	27	ug/L	10		8270D	Total/NA
1,2-Dichlorobenzene	25	D J	960	22	ug/L	10		8270D	Total/NA

Client Sample ID: SC-TU008-MW002-G-1 — Lab Sample ID: 280-84354-2

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
2-Butanone (MEK)	8.5	J	20	0.39	ug/L	1		8260C DOD	Total/NA
Acetone	14	J	20	6.7	ug/L	1		8260C DOD	Total/NA
Bromodichloromethane	0.36	J	5.0	0.25	ug/L	1		8260C DOD	Total/NA
Chloroethane	1.3	J	10	0.38	ug/L	1		8260C DOD	Total/NA
Chloroform	1.7	J	5.0	0.15	ug/L	1		8260C DOD	Total/NA
2,4,6-Trichlorophenol	14	J	20	0.29	ug/L	1		8270D	Total/NA
2,6-Dichlorophenol	1.6	J	10	1.3	ug/L	1		8270D	Total/NA
Benzyl alcohol	0.34	J	25	0.23	ug/L	1		8270D	Total/NA

Client Sample ID: SC-TU008-MW002-G-1-D — Lab Sample ID: 280-84354-3

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
2-Butanone (MEK)	14	J	20	0.39	ug/L	1		8260C DOD	Total/NA
Acetone	13	J	20	6.7	ug/L	1		8260C DOD	Total/NA
Bromodichloromethane	0.41	J	5.0	0.25	ug/L	1		8260C DOD	Total/NA
Bromomethane	0.42	J	10	0.40	ug/L	1		8260C DOD	Total/NA
Chloroethane	1.1	J	10	0.38	ug/L	1		8260C DOD	Total/NA
Chloroform	1.9	J	5.0	0.15	ug/L	1		8260C DOD	Total/NA
2,4,6-Trichlorophenol	11	J	20	0.29	ug/L	1		8270D	Total/NA
Benzyl alcohol	0.86	J	25	0.23	ug/L	1		8270D	Total/NA

Client Sample ID: SC-TU008-MW004-G-1 — Lab Sample ID: 280-84354-4

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
2-Butanone (MEK)	11	J	20	0.39	ug/L	1		8260C DOD	Total/NA
Acetone	9.5	J	20	6.7	ug/L	1		8260C DOD	Total/NA
Bromodichloromethane	0.34	J	5.0	0.25	ug/L	1		8260C DOD	Total/NA
Chloroethane	1.2	J	10	0.38	ug/L	1		8260C DOD	Total/NA
Chloroform	1.4	J	5.0	0.15	ug/L	1		8260C DOD	Total/NA
2,4,6-Trichlorophenol	23		20	0.30	ug/L	1		8270D	Total/NA
2,6-Dichlorophenol	2.3	J	10	1.4	ug/L	1		8270D	Total/NA
Benzyl alcohol	0.44	J	25	0.23	ug/L	1		8270D	Total/NA
Bis(2-ethylhexyl) phthalate	2.8	J	10	0.57	ug/L	1		8270D	Total/NA

Client Sample ID: SC-TU008-EB060816 — Lab Sample ID: 280-84354-5

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
2-Butanone (MEK)	11	J	20	0.39	ug/L	1		8260C DOD	Total/NA
Chloroethane	1.3	J	10	0.38	ug/L	1		8260C DOD	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: SC-TU008-EB060816 (Continued) — Lab Sample ID: 280-84354-5

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Benzyl alcohol	1.7	J	24	0.22	ug/L	1		8270D	Total/NA

Client Sample ID: SC-TU008-MW003-G-1 — Lab Sample ID: 280-84354-6

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
2-Butanone (MEK)	130		20	0.39	ug/L	1		8260C DOD	Total/NA
Acetone	110		20	6.7	ug/L	1		8260C DOD	Total/NA

Client Sample ID: SC-TU008-TB060816 — Lab Sample ID: 280-84354-7

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Bromomethane	0.40	J	10	0.40	ug/L	1		8260C DOD	Total/NA
Chloroethane	1.4	J Q	10	0.38	ug/L	1		8260C DOD	Total/NA

This Detection Summary does not include radiochemical test results.

Sample Summary

Client: Weston Solutions, Inc.
Project/Site: Schenectady ANGB, TU008

TestAmerica Job ID: 280-84354-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
280-84354-1	SC-TU008-MW001-G-1	Water	06/08/16 16:25	06/10/16 09:25
280-84354-2	SC-TU008-MW002-G-1	Water	06/08/16 15:26	06/10/16 09:25
280-84354-3	SC-TU008-MW002-G-1-D	Water	06/08/16 15:30	06/10/16 09:25
280-84354-4	SC-TU008-MW004-G-1	Water	06/08/16 14:32	06/10/16 09:25
280-84354-5	SC-TU008-EB060816	Water	06/08/16 14:00	06/10/16 09:25
280-84354-6	SC-TU008-MW003-G-1	Water	06/08/16 14:07	06/10/16 09:25
280-84354-7	SC-TU008-TB060816	Water	05/21/16 00:00	06/10/16 09:25

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

Client Sample ID: SC-TU008-MW001-G-1
Date Collected: 06/08/16 16:25
Date Received: 06/10/16 09:25

Lab Sample ID: 280-84354-1
Matrix: Water

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	1.0	U	5.0	0.29	ug/L			06/15/16 16:40	1
1,1,2,2-Tetrachloroethane	2.0	U Q	5.0	0.43	ug/L			06/15/16 16:40	1
1,1,2-Trichloro-1,2,2-trifluoroethane	2.0	U	5.0	0.25	ug/L			06/15/16 16:40	1
1,1,2-Trichloroethane	1.0	U Q	5.0	0.57	ug/L			06/15/16 16:40	1
1,1-Dichloroethane	1.0	U	5.0	0.39	ug/L			06/15/16 16:40	1
1,1-Dichloroethene	1.0	U	5.0	0.37	ug/L			06/15/16 16:40	1
1,2,3-Trichlorobenzene	2.0	U Q	5.0	0.65	ug/L			06/15/16 16:40	1
1,2,4-Trichlorobenzene	2.0	U Q	5.0	0.55	ug/L			06/15/16 16:40	1
1,2,4-Trimethylbenzene	2.0	U Q	5.0	0.40	ug/L			06/15/16 16:40	1
1,2-Dibromo-3-Chloropropane	2.0	U Q	10	1.2	ug/L			06/15/16 16:40	1
1,2-Dibromoethane	2.0	U	5.0	0.44	ug/L			06/15/16 16:40	1
1,2-Dichlorobenzene	2.0	U Q	5.0	0.28	ug/L			06/15/16 16:40	1
1,2-Dichloroethane	1.0	U	5.0	0.37	ug/L			06/15/16 16:40	1
1,2-Dichloroethene, Total	2.0	U	10	0.24	ug/L			06/15/16 16:40	1
1,2-Dichloropropane	1.0	U	5.0	0.32	ug/L			06/15/16 16:40	1
1,3,5-Trimethylbenzene	2.0	U Q	5.0	0.28	ug/L			06/15/16 16:40	1
1,3-Dichlorobenzene	2.0	U Q	5.0	0.23	ug/L			06/15/16 16:40	1
1,4-Dichlorobenzene	2.0	U Q	5.0	0.35	ug/L			06/15/16 16:40	1
2-Butanone (MEK)	**12**	**J**	20	0.39	ug/L			06/15/16 16:40	1
2-Hexanone	2.0	U Q	20	0.59	ug/L			06/15/16 16:40	1
4-Methyl-2-pentanone (MIBK)	2.0	U Q	20	0.33	ug/L			06/15/16 16:40	1
Acetone	**10**	**J**	20	6.7	ug/L			06/15/16 16:40	1
Benzene	1.0	U	5.0	0.25	ug/L			06/15/16 16:40	1
Bromobenzene	2.0	U Q	5.0	0.33	ug/L			06/15/16 16:40	1
Bromodichloromethane	2.0	U	5.0	0.25	ug/L			06/15/16 16:40	1
Bromoform	1.0	U Q	5.0	0.37	ug/L			06/15/16 16:40	1
Bromomethane	**0.47**	**J**	10	0.40	ug/L			06/15/16 16:40	1
Carbon disulfide	1.0	U	5.0	0.37	ug/L			06/15/16 16:40	1
Carbon tetrachloride	1.0	U	5.0	0.36	ug/L			06/15/16 16:40	1
Chlorobenzene	1.0	U Q	5.0	0.38	ug/L			06/15/16 16:40	1
Chloroethane	**1.1**	**J**	10	0.38	ug/L			06/15/16 16:40	1
Chloroform	**1.4**	**J**	5.0	0.15	ug/L			06/15/16 16:40	1
Chloromethane	2.0	U	10	0.55	ug/L			06/15/16 16:40	1
cis-1,2-Dichloroethene	1.0	U	5.0	0.16	ug/L			06/15/16 16:40	1
cis-1,3-Dichloropropene	1.0	U	5.0	0.34	ug/L			06/15/16 16:40	1
Cyclohexane	2.0	U	10	0.36	ug/L			06/15/16 16:40	1
Dibromochloromethane	1.0	U Q	5.0	0.33	ug/L			06/15/16 16:40	1
Dichlorodifluoromethane	2.0	U	10	0.45	ug/L			06/15/16 16:40	1
Ethylbenzene	1.0	U Q	5.0	0.30	ug/L			06/15/16 16:40	1
Isopropylbenzene	2.0	U	5.0	0.26	ug/L			06/15/16 16:40	1
Methyl acetate	5.0	U	25	2.3	ug/L			06/15/16 16:40	1
Methyl tert-butyl ether	2.0	U	5.0	0.40	ug/L			06/15/16 16:40	1
Methylcyclohexane	2.0	U	10	0.26	ug/L			06/15/16 16:40	1
Methylene Chloride	5.0	U	7.5	1.7	ug/L			06/15/16 16:40	1
m-Xylene & p-Xylene	1.0	U Q	5.0	0.57	ug/L			06/15/16 16:40	1
Naphthalene	2.0	U Q	5.0	0.85	ug/L			06/15/16 16:40	1
n-Butylbenzene	2.0	U Q	5.0	0.23	ug/L			06/15/16 16:40	1
N-Propylbenzene	2.0	U Q	5.0	0.30	ug/L			06/15/16 16:40	1
o-Xylene	1.0	U Q	5.0	0.32	ug/L			06/15/16 16:40	1

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

Client Sample ID: SC-TU008-MW001-G-1 **Lab Sample ID: 280-84354-1**
Date Collected: 06/08/16 16:25 **Matrix: Water**
Date Received: 06/10/16 09:25

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	2.0	U Q	5.0	0.31	ug/L			06/15/16 16:40	1
Styrene	1.0	U Q	5.0	0.35	ug/L			06/15/16 16:40	1
tert-Butylbenzene	2.0	U Q	5.0	0.31	ug/L			06/15/16 16:40	1
Tetrachloroethene	1.0	U Q	5.0	0.28	ug/L			06/15/16 16:40	1
Toluene	1.0	U Q	5.0	1.0	ug/L			06/15/16 16:40	1
trans-1,2-Dichloroethene	1.0	U	5.0	0.18	ug/L			06/15/16 16:40	1
trans-1,3-Dichloropropene	1.0	U Q	5.0	0.35	ug/L			06/15/16 16:40	1
Trichloroethene	1.0	U	5.0	0.29	ug/L			06/15/16 16:40	1
Trichlorofluoromethane	2.0	U	5.0	0.22	ug/L			06/15/16 16:40	1
Vinyl chloride	1.0	U	5.0	0.43	ug/L			06/15/16 16:40	1
Xylenes, Total	5.0	U Q	10	0.85	ug/L			06/15/16 16:40	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*99*		*81 - 118*		*06/15/16 16:40*	*1*
4-Bromofluorobenzene (Surr)	*125*	*Q*	*85 - 114*		*06/15/16 16:40*	*1*
Dibromofluoromethane (Surr)	*100*		*80 - 119*		*06/15/16 16:40*	*1*
Toluene-d8 (Surr)	*116*	*Q*	*89 - 112*		*06/15/16 16:40*	*1*

Client Sample ID: SC-TU008-MW002-G-1 **Lab Sample ID: 280-84354-2**
Date Collected: 06/08/16 15:26 **Matrix: Water**
Date Received: 06/10/16 09:25

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	1.0	U	5.0	0.29	ug/L			06/15/16 14:06	1
1,1,2,2-Tetrachloroethane	2.0	U Q	5.0	0.43	ug/L			06/15/16 14:06	1
1,1,2-Trichloro-1,2,2-trifluoroethane	2.0	U	5.0	0.25	ug/L			06/15/16 14:06	1
1,1,2-Trichloroethane	1.0	U	5.0	0.57	ug/L			06/15/16 14:06	1
1,1-Dichloroethane	1.0	U	5.0	0.39	ug/L			06/15/16 14:06	1
1,1-Dichloroethene	1.0	U	5.0	0.37	ug/L			06/15/16 14:06	1
1,2,3-Trichlorobenzene	2.0	U Q	5.0	0.65	ug/L			06/15/16 14:06	1
1,2,4-Trichlorobenzene	2.0	U Q	5.0	0.55	ug/L			06/15/16 14:06	1
1,2,4-Trimethylbenzene	2.0	U Q	5.0	0.40	ug/L			06/15/16 14:06	1
1,2-Dibromo-3-Chloropropane	2.0	U Q	10	1.2	ug/L			06/15/16 14:06	1
1,2-Dibromoethane	2.0	U	5.0	0.44	ug/L			06/15/16 14:06	1
1,2-Dichlorobenzene	2.0	U Q	5.0	0.28	ug/L			06/15/16 14:06	1
1,2-Dichloroethane	1.0	U	5.0	0.37	ug/L			06/15/16 14:06	1
1,2-Dichloroethene, Total	2.0	U	10	0.24	ug/L			06/15/16 14:06	1
1,2-Dichloropropane	1.0	U	5.0	0.32	ug/L			06/15/16 14:06	1
1,3,5-Trimethylbenzene	2.0	U Q	5.0	0.28	ug/L			06/15/16 14:06	1
1,3-Dichlorobenzene	2.0	U Q	5.0	0.23	ug/L			06/15/16 14:06	1
1,4-Dichlorobenzene	2.0	U Q	5.0	0.35	ug/L			06/15/16 14:06	1
2-Butanone (MEK)	**8.5**	**J**	20	0.39	ug/L			06/15/16 14:06	1
2-Hexanone	2.0	U	20	0.59	ug/L			06/15/16 14:06	1
4-Methyl-2-pentanone (MIBK)	2.0	U	20	0.33	ug/L			06/15/16 14:06	1
Acetone	**14**	**J**	20	6.7	ug/L			06/15/16 14:06	1
Benzene	1.0	U	5.0	0.25	ug/L			06/15/16 14:06	1
Bromobenzene	2.0	U Q	5.0	0.33	ug/L			06/15/16 14:06	1
Bromodichloromethane	**0.36**	**J**	5.0	0.25	ug/L			06/15/16 14:06	1
Bromoform	1.0	U	5.0	0.37	ug/L			06/15/16 14:06	1
Bromomethane	2.0	U	10	0.40	ug/L			06/15/16 14:06	1
Carbon disulfide	1.0	U	5.0	0.37	ug/L			06/15/16 14:06	1

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

Client Sample ID: SC-TU008-MW002-G-1 **Lab Sample ID: 280-84354-2**
Date Collected: 06/08/16 15:26 **Matrix: Water**
Date Received: 06/10/16 09:25

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon tetrachloride	1.0	U	5.0	0.36	ug/L			06/15/16 14:06	1
Chlorobenzene	1.0	U	5.0	0.38	ug/L			06/15/16 14:06	1
Chloroethane	**1.3**	**J**	10	0.38	ug/L			06/15/16 14:06	1
Chloroform	**1.7**	**J**	5.0	0.15	ug/L			06/15/16 14:06	1
Chloromethane	2.0	U	10	0.55	ug/L			06/15/16 14:06	1
cis-1,2-Dichloroethene	1.0	U	5.0	0.16	ug/L			06/15/16 14:06	1
cis-1,3-Dichloropropene	1.0	U	5.0	0.34	ug/L			06/15/16 14:06	1
Cyclohexane	2.0	U	10	0.36	ug/L			06/15/16 14:06	1
Dibromochloromethane	1.0	U	5.0	0.33	ug/L			06/15/16 14:06	1
Dichlorodifluoromethane	2.0	U	10	0.45	ug/L			06/15/16 14:06	1
Ethylbenzene	1.0	U	5.0	0.30	ug/L			06/15/16 14:06	1
Isopropylbenzene	2.0	U	5.0	0.26	ug/L			06/15/16 14:06	1
Methyl acetate	5.0	U	25	2.3	ug/L			06/15/16 14:06	1
Methyl tert-butyl ether	2.0	U	5.0	0.40	ug/L			06/15/16 14:06	1
Methylcyclohexane	2.0	U	10	0.26	ug/L			06/15/16 14:06	1
Methylene Chloride	5.0	U	7.5	1.7	ug/L			06/15/16 14:06	1
m-Xylene & p-Xylene	1.0	U	5.0	0.57	ug/L			06/15/16 14:06	1
Naphthalene	2.0	U Q	5.0	0.85	ug/L			06/15/16 14:06	1
n-Butylbenzene	2.0	U Q	5.0	0.23	ug/L			06/15/16 14:06	1
N-Propylbenzene	2.0	U Q	5.0	0.30	ug/L			06/15/16 14:06	1
o-Xylene	1.0	U	5.0	0.32	ug/L			06/15/16 14:06	1
sec-Butylbenzene	2.0	U Q	5.0	0.31	ug/L			06/15/16 14:06	1
Styrene	1.0	U	5.0	0.35	ug/L			06/15/16 14:06	1
tert-Butylbenzene	2.0	U Q	5.0	0.31	ug/L			06/15/16 14:06	1
Tetrachloroethene	1.0	U	5.0	0.28	ug/L			06/15/16 14:06	1
Toluene	1.0	U	5.0	1.0	ug/L			06/15/16 14:06	1
trans-1,2-Dichloroethene	1.0	U	5.0	0.18	ug/L			06/15/16 14:06	1
trans-1,3-Dichloropropene	1.0	U	5.0	0.35	ug/L			06/15/16 14:06	1
Trichloroethene	1.0	U	5.0	0.29	ug/L			06/15/16 14:06	1
Trichlorofluoromethane	2.0	U	5.0	0.22	ug/L			06/15/16 14:06	1
Vinyl chloride	1.0	U	5.0	0.43	ug/L			06/15/16 14:06	1
Xylenes, Total	5.0	U	10	0.85	ug/L			06/15/16 14:06	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*96*		*81 - 118*		*06/15/16 14:06*	*1*
4-Bromofluorobenzene (Surr)	*116*	*Q*	*85 - 114*		*06/15/16 14:06*	*1*
Dibromofluoromethane (Surr)	*99*		*80 - 119*		*06/15/16 14:06*	*1*
Toluene-d8 (Surr)	*110*		*89 - 112*		*06/15/16 14:06*	*1*

Client Sample ID: SC-TU008-MW002-G-1-D **Lab Sample ID: 280-84354-3**
Date Collected: 06/08/16 15:30 **Matrix: Water**
Date Received: 06/10/16 09:25

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	1.0	U	5.0	0.29	ug/L			06/15/16 14:31	1
1,1,2,2-Tetrachloroethane	2.0	U Q	5.0	0.43	ug/L			06/15/16 14:31	1
1,1,2-Trichloro-1,2,2-trifluoroethane	2.0	U	5.0	0.25	ug/L			06/15/16 14:31	1
1,1,2-Trichloroethane	1.0	U	5.0	0.57	ug/L			06/15/16 14:31	1
1,1-Dichloroethane	1.0	U	5.0	0.39	ug/L			06/15/16 14:31	1
1,1-Dichloroethene	1.0	U	5.0	0.37	ug/L			06/15/16 14:31	1
1,2,3-Trichlorobenzene	2.0	U Q	5.0	0.65	ug/L			06/15/16 14:31	1

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

Client Sample ID: SC-TU008-MW002-G-1-D
Date Collected: 06/08/16 15:30
Date Received: 06/10/16 09:25

Lab Sample ID: 280-84354-3
Matrix: Water

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	2.0	U Q	5.0	0.55	ug/L			06/15/16 14:31	1
1,2,4-Trimethylbenzene	2.0	U Q	5.0	0.40	ug/L			06/15/16 14:31	1
1,2-Dibromo-3-Chloropropane	2.0	U Q	10	1.2	ug/L			06/15/16 14:31	1
1,2-Dibromoethane	2.0	U	5.0	0.44	ug/L			06/15/16 14:31	1
1,2-Dichlorobenzene	2.0	U Q	5.0	0.28	ug/L			06/15/16 14:31	1
1,2-Dichloroethane	1.0	U	5.0	0.37	ug/L			06/15/16 14:31	1
1,2-Dichloroethene, Total	2.0	U	10	0.24	ug/L			06/15/16 14:31	1
1,2-Dichloropropane	1.0	U	5.0	0.32	ug/L			06/15/16 14:31	1
1,3,5-Trimethylbenzene	2.0	U Q	5.0	0.28	ug/L			06/15/16 14:31	1
1,3-Dichlorobenzene	2.0	U Q	5.0	0.23	ug/L			06/15/16 14:31	1
1,4-Dichlorobenzene	2.0	U Q	5.0	0.35	ug/L			06/15/16 14:31	1
2-Butanone (MEK)	**14**	**J**	20	0.39	ug/L			06/15/16 14:31	1
2-Hexanone	2.0	U	20	0.59	ug/L			06/15/16 14:31	1
4-Methyl-2-pentanone (MIBK)	2.0	U	20	0.33	ug/L			06/15/16 14:31	1
Acetone	**13**	**J**	20	6.7	ug/L			06/15/16 14:31	1
Benzene	1.0	U	5.0	0.25	ug/L			06/15/16 14:31	1
Bromobenzene	2.0	U Q	5.0	0.33	ug/L			06/15/16 14:31	1
Bromodichloromethane	**0.41**	**J**	5.0	0.25	ug/L			06/15/16 14:31	1
Bromoform	1.0	U	5.0	0.37	ug/L			06/15/16 14:31	1
Bromomethane	**0.42**	**J**	10	0.40	ug/L			06/15/16 14:31	1
Carbon disulfide	1.0	U	5.0	0.37	ug/L			06/15/16 14:31	1
Carbon tetrachloride	1.0	U	5.0	0.36	ug/L			06/15/16 14:31	1
Chlorobenzene	1.0	U	5.0	0.38	ug/L			06/15/16 14:31	1
Chloroethane	**1.1**	**J**	10	0.38	ug/L			06/15/16 14:31	1
Chloroform	**1.9**	**J**	5.0	0.15	ug/L			06/15/16 14:31	1
Chloromethane	2.0	U	10	0.55	ug/L			06/15/16 14:31	1
cis-1,2-Dichloroethene	1.0	U	5.0	0.16	ug/L			06/15/16 14:31	1
cis-1,3-Dichloropropene	1.0	U	5.0	0.34	ug/L			06/15/16 14:31	1
Cyclohexane	2.0	U	10	0.36	ug/L			06/15/16 14:31	1
Dibromochloromethane	1.0	U	5.0	0.33	ug/L			06/15/16 14:31	1
Dichlorodifluoromethane	2.0	U	10	0.45	ug/L			06/15/16 14:31	1
Ethylbenzene	1.0	U	5.0	0.30	ug/L			06/15/16 14:31	1
Isopropylbenzene	2.0	U	5.0	0.26	ug/L			06/15/16 14:31	1
Methyl acetate	5.0	U	25	2.3	ug/L			06/15/16 14:31	1
Methyl tert-butyl ether	2.0	U	5.0	0.40	ug/L			06/15/16 14:31	1
Methylcyclohexane	2.0	U	10	0.26	ug/L			06/15/16 14:31	1
Methylene Chloride	5.0	U	7.5	1.7	ug/L			06/15/16 14:31	1
m-Xylene & p-Xylene	1.0	U	5.0	0.57	ug/L			06/15/16 14:31	1
Naphthalene	2.0	U Q	5.0	0.85	ug/L			06/15/16 14:31	1
n-Butylbenzene	2.0	U Q	5.0	0.23	ug/L			06/15/16 14:31	1
N-Propylbenzene	2.0	U Q	5.0	0.30	ug/L			06/15/16 14:31	1
o-Xylene	1.0	U	5.0	0.32	ug/L			06/15/16 14:31	1
sec-Butylbenzene	2.0	U Q	5.0	0.31	ug/L			06/15/16 14:31	1
Styrene	1.0	U	5.0	0.35	ug/L			06/15/16 14:31	1
tert-Butylbenzene	2.0	U Q	5.0	0.31	ug/L			06/15/16 14:31	1
Tetrachloroethene	1.0	U	5.0	0.28	ug/L			06/15/16 14:31	1
Toluene	1.0	U	5.0	1.0	ug/L			06/15/16 14:31	1
trans-1,2-Dichloroethene	1.0	U	5.0	0.18	ug/L			06/15/16 14:31	1
trans-1,3-Dichloropropene	1.0	U	5.0	0.35	ug/L			06/15/16 14:31	1

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

Client Sample ID: SC-TU008-MW002-G-1-D — **Lab Sample ID: 280-84354-3**
Date Collected: 06/08/16 15:30 — **Matrix: Water**
Date Received: 06/10/16 09:25

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Trichloroethene	1.0	U	5.0	0.29	ug/L			06/15/16 14:31	1
Trichlorofluoromethane	2.0	U	5.0	0.22	ug/L			06/15/16 14:31	1
Vinyl chloride	1.0	U	5.0	0.43	ug/L			06/15/16 14:31	1
Xylenes, Total	5.0	U	10	0.85	ug/L			06/15/16 14:31	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*97*		*81 - 118*		*06/15/16 14:31*	*1*
4-Bromofluorobenzene (Surr)	*123*	*Q*	*85 - 114*		*06/15/16 14:31*	*1*
Dibromofluoromethane (Surr)	*101*		*80 - 119*		*06/15/16 14:31*	*1*
Toluene-d8 (Surr)	*112*		*89 - 112*		*06/15/16 14:31*	*1*

Client Sample ID: SC-TU008-MW004-G-1 — **Lab Sample ID: 280-84354-4**
Date Collected: 06/08/16 14:32 — **Matrix: Water**
Date Received: 06/10/16 09:25

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	1.0	U	5.0	0.29	ug/L			06/15/16 14:56	1
1,1,2,2-Tetrachloroethane	2.0	U Q	5.0	0.43	ug/L			06/15/16 14:56	1
1,1,2-Trichloro-1,2,2-trifluoroethane	2.0	U	5.0	0.25	ug/L			06/15/16 14:56	1
1,1,2-Trichloroethane	1.0	U	5.0	0.57	ug/L			06/15/16 14:56	1
1,1-Dichloroethane	1.0	U	5.0	0.39	ug/L			06/15/16 14:56	1
1,1-Dichloroethene	1.0	U	5.0	0.37	ug/L			06/15/16 14:56	1
1,2,3-Trichlorobenzene	2.0	U Q	5.0	0.65	ug/L			06/15/16 14:56	1
1,2,4-Trichlorobenzene	2.0	U Q	5.0	0.55	ug/L			06/15/16 14:56	1
1,2,4-Trimethylbenzene	2.0	U Q	5.0	0.40	ug/L			06/15/16 14:56	1
1,2-Dibromo-3-Chloropropane	2.0	U Q	10	1.2	ug/L			06/15/16 14:56	1
1,2-Dibromoethane	2.0	U	5.0	0.44	ug/L			06/15/16 14:56	1
1,2-Dichlorobenzene	2.0	U Q	5.0	0.28	ug/L			06/15/16 14:56	1
1,2-Dichloroethane	1.0	U	5.0	0.37	ug/L			06/15/16 14:56	1
1,2-Dichloroethene, Total	2.0	U	10	0.24	ug/L			06/15/16 14:56	1
1,2-Dichloropropane	1.0	U	5.0	0.32	ug/L			06/15/16 14:56	1
1,3,5-Trimethylbenzene	2.0	U Q	5.0	0.28	ug/L			06/15/16 14:56	1
1,3-Dichlorobenzene	2.0	U Q	5.0	0.23	ug/L			06/15/16 14:56	1
1,4-Dichlorobenzene	2.0	U Q	5.0	0.35	ug/L			06/15/16 14:56	1
2-Butanone (MEK)	**11**	**J**	20	0.39	ug/L			06/15/16 14:56	1
2-Hexanone	2.0	U	20	0.59	ug/L			06/15/16 14:56	1
4-Methyl-2-pentanone (MIBK)	2.0	U	20	0.33	ug/L			06/15/16 14:56	1
Acetone	**9.5**	**J**	20	6.7	ug/L			06/15/16 14:56	1
Benzene	1.0	U	5.0	0.25	ug/L			06/15/16 14:56	1
Bromobenzene	2.0	U Q	5.0	0.33	ug/L			06/15/16 14:56	1
Bromodichloromethane	**0.34**	**J**	5.0	0.25	ug/L			06/15/16 14:56	1
Bromoform	1.0	U	5.0	0.37	ug/L			06/15/16 14:56	1
Bromomethane	2.0	U	10	0.40	ug/L			06/15/16 14:56	1
Carbon disulfide	1.0	U	5.0	0.37	ug/L			06/15/16 14:56	1
Carbon tetrachloride	1.0	U	5.0	0.36	ug/L			06/15/16 14:56	1
Chlorobenzene	1.0	U	5.0	0.38	ug/L			06/15/16 14:56	1
Chloroethane	**1.2**	**J**	10	0.38	ug/L			06/15/16 14:56	1
Chloroform	**1.4**	**J**	5.0	0.15	ug/L			06/15/16 14:56	1
Chloromethane	2.0	U	10	0.55	ug/L			06/15/16 14:56	1
cis-1,2-Dichloroethene	1.0	U	5.0	0.16	ug/L			06/15/16 14:56	1
cis-1,3-Dichloropropene	1.0	U	5.0	0.34	ug/L			06/15/16 14:56	1

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

Client Sample ID: SC-TU008-MW004-G-1 **Lab Sample ID: 280-84354-4**
Date Collected: 06/08/16 14:32 **Matrix: Water**
Date Received: 06/10/16 09:25

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Cyclohexane	2.0	U	10	0.36	ug/L			06/15/16 14:56	1
Dibromochloromethane	1.0	U	5.0	0.33	ug/L			06/15/16 14:56	1
Dichlorodifluoromethane	2.0	U	10	0.45	ug/L			06/15/16 14:56	1
Ethylbenzene	1.0	U	5.0	0.30	ug/L			06/15/16 14:56	1
Isopropylbenzene	2.0	U	5.0	0.26	ug/L			06/15/16 14:56	1
Methyl acetate	5.0	U	25	2.3	ug/L			06/15/16 14:56	1
Methyl tert-butyl ether	2.0	U	5.0	0.40	ug/L			06/15/16 14:56	1
Methylcyclohexane	2.0	U	10	0.26	ug/L			06/15/16 14:56	1
Methylene Chloride	5.0	U	7.5	1.7	ug/L			06/15/16 14:56	1
m-Xylene & p-Xylene	1.0	U	5.0	0.57	ug/L			06/15/16 14:56	1
Naphthalene	2.0	U Q	5.0	0.85	ug/L			06/15/16 14:56	1
n-Butylbenzene	2.0	U Q	5.0	0.23	ug/L			06/15/16 14:56	1
N-Propylbenzene	2.0	U Q	5.0	0.30	ug/L			06/15/16 14:56	1
o-Xylene	1.0	U	5.0	0.32	ug/L			06/15/16 14:56	1
sec-Butylbenzene	2.0	U Q	5.0	0.31	ug/L			06/15/16 14:56	1
Styrene	1.0	U	5.0	0.35	ug/L			06/15/16 14:56	1
tert-Butylbenzene	2.0	U Q	5.0	0.31	ug/L			06/15/16 14:56	1
Tetrachloroethene	1.0	U	5.0	0.28	ug/L			06/15/16 14:56	1
Toluene	1.0	U	5.0	1.0	ug/L			06/15/16 14:56	1
trans-1,2-Dichloroethene	1.0	U	5.0	0.18	ug/L			06/15/16 14:56	1
trans-1,3-Dichloropropene	1.0	U	5.0	0.35	ug/L			06/15/16 14:56	1
Trichloroethene	1.0	U	5.0	0.29	ug/L			06/15/16 14:56	1
Trichlorofluoromethane	2.0	U	5.0	0.22	ug/L			06/15/16 14:56	1
Vinyl chloride	1.0	U	5.0	0.43	ug/L			06/15/16 14:56	1
Xylenes, Total	5.0	U	10	0.85	ug/L			06/15/16 14:56	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*95*		*81 - 118*		*06/15/16 14:56*	*1*
4-Bromofluorobenzene (Surr)	*121*	*Q*	*85 - 114*		*06/15/16 14:56*	*1*
Dibromofluoromethane (Surr)	*98*		*80 - 119*		*06/15/16 14:56*	*1*
Toluene-d8 (Surr)	*112*		*89 - 112*		*06/15/16 14:56*	*1*

Client Sample ID: SC-TU008-EB060816 **Lab Sample ID: 280-84354-5**
Date Collected: 06/08/16 14:00 **Matrix: Water**
Date Received: 06/10/16 09:25

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	1.0	U	5.0	0.29	ug/L			06/15/16 15:21	1
1,1,2,2-Tetrachloroethane	2.0	U Q	5.0	0.43	ug/L			06/15/16 15:21	1
1,1,2-Trichloro-1,2,2-trifluoroethane	2.0	U	5.0	0.25	ug/L			06/15/16 15:21	1
1,1,2-Trichloroethane	1.0	U	5.0	0.57	ug/L			06/15/16 15:21	1
1,1-Dichloroethane	1.0	U	5.0	0.39	ug/L			06/15/16 15:21	1
1,1-Dichloroethene	1.0	U	5.0	0.37	ug/L			06/15/16 15:21	1
1,2,3-Trichlorobenzene	2.0	U Q	5.0	0.65	ug/L			06/15/16 15:21	1
1,2,4-Trichlorobenzene	2.0	U Q	5.0	0.55	ug/L			06/15/16 15:21	1
1,2,4-Trimethylbenzene	2.0	U Q	5.0	0.40	ug/L			06/15/16 15:21	1
1,2-Dibromo-3-Chloropropane	2.0	U Q	10	1.2	ug/L			06/15/16 15:21	1
1,2-Dibromoethane	2.0	U	5.0	0.44	ug/L			06/15/16 15:21	1
1,2-Dichlorobenzene	2.0	U Q	5.0	0.28	ug/L			06/15/16 15:21	1
1,2-Dichloroethane	1.0	U	5.0	0.37	ug/L			06/15/16 15:21	1
1,2-Dichloroethene, Total	2.0	U	10	0.24	ug/L			06/15/16 15:21	1

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

Client Sample ID: SC-TU008-EB060816
Date Collected: 06/08/16 14:00
Date Received: 06/10/16 09:25

Lab Sample ID: 280-84354-5
Matrix: Water

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichloropropane	1.0	U	5.0	0.32	ug/L			06/15/16 15:21	1
1,3,5-Trimethylbenzene	2.0	U Q	5.0	0.28	ug/L			06/15/16 15:21	1
1,3-Dichlorobenzene	2.0	U Q	5.0	0.23	ug/L			06/15/16 15:21	1
1,4-Dichlorobenzene	2.0	U Q	5.0	0.35	ug/L			06/15/16 15:21	1
2-Butanone (MEK)	**11**	**J**	20	0.39	ug/L			06/15/16 15:21	1
2-Hexanone	2.0	U	20	0.59	ug/L			06/15/16 15:21	1
4-Methyl-2-pentanone (MIBK)	2.0	U	20	0.33	ug/L			06/15/16 15:21	1
Acetone	10	U	20	6.7	ug/L			06/15/16 15:21	1
Benzene	1.0	U	5.0	0.25	ug/L			06/15/16 15:21	1
Bromobenzene	2.0	U Q	5.0	0.33	ug/L			06/15/16 15:21	1
Bromodichloromethane	2.0	U	5.0	0.25	ug/L			06/15/16 15:21	1
Bromoform	1.0	U	5.0	0.37	ug/L			06/15/16 15:21	1
Bromomethane	2.0	U	10	0.40	ug/L			06/15/16 15:21	1
Carbon disulfide	1.0	U	5.0	0.37	ug/L			06/15/16 15:21	1
Carbon tetrachloride	1.0	U	5.0	0.36	ug/L			06/15/16 15:21	1
Chlorobenzene	1.0	U	5.0	0.38	ug/L			06/15/16 15:21	1
Chloroethane	**1.3**	**J**	10	0.38	ug/L			06/15/16 15:21	1
Chloroform	1.0	U	5.0	0.15	ug/L			06/15/16 15:21	1
Chloromethane	2.0	U	10	0.55	ug/L			06/15/16 15:21	1
cis-1,2-Dichloroethene	1.0	U	5.0	0.16	ug/L			06/15/16 15:21	1
cis-1,3-Dichloropropene	1.0	U	5.0	0.34	ug/L			06/15/16 15:21	1
Cyclohexane	2.0	U	10	0.36	ug/L			06/15/16 15:21	1
Dibromochloromethane	1.0	U	5.0	0.33	ug/L			06/15/16 15:21	1
Dichlorodifluoromethane	2.0	U	10	0.45	ug/L			06/15/16 15:21	1
Ethylbenzene	1.0	U	5.0	0.30	ug/L			06/15/16 15:21	1
Isopropylbenzene	2.0	U	5.0	0.26	ug/L			06/15/16 15:21	1
Methyl acetate	5.0	U	25	2.3	ug/L			06/15/16 15:21	1
Methyl tert-butyl ether	2.0	U	5.0	0.40	ug/L			06/15/16 15:21	1
Methylcyclohexane	2.0	U	10	0.26	ug/L			06/15/16 15:21	1
Methylene Chloride	5.0	U	7.5	1.7	ug/L			06/15/16 15:21	1
m-Xylene & p-Xylene	1.0	U	5.0	0.57	ug/L			06/15/16 15:21	1
Naphthalene	2.0	U Q	5.0	0.85	ug/L			06/15/16 15:21	1
n-Butylbenzene	2.0	U Q	5.0	0.23	ug/L			06/15/16 15:21	1
N-Propylbenzene	2.0	U Q	5.0	0.30	ug/L			06/15/16 15:21	1
o-Xylene	1.0	U	5.0	0.32	ug/L			06/15/16 15:21	1
sec-Butylbenzene	2.0	U Q	5.0	0.31	ug/L			06/15/16 15:21	1
Styrene	1.0	U	5.0	0.35	ug/L			06/15/16 15:21	1
tert-Butylbenzene	2.0	U Q	5.0	0.31	ug/L			06/15/16 15:21	1
Tetrachloroethene	1.0	U	5.0	0.28	ug/L			06/15/16 15:21	1
Toluene	1.0	U	5.0	1.0	ug/L			06/15/16 15:21	1
trans-1,2-Dichloroethene	1.0	U	5.0	0.18	ug/L			06/15/16 15:21	1
trans-1,3-Dichloropropene	1.0	U	5.0	0.35	ug/L			06/15/16 15:21	1
Trichloroethene	1.0	U	5.0	0.29	ug/L			06/15/16 15:21	1
Trichlorofluoromethane	2.0	U	5.0	0.22	ug/L			06/15/16 15:21	1
Vinyl chloride	1.0	U	5.0	0.43	ug/L			06/15/16 15:21	1
Xylenes, Total	5.0	U	10	0.85	ug/L			06/15/16 15:21	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*96*		*81 - 118*		*06/15/16 15:21*	*1*
4-Bromofluorobenzene (Surr)	*119*	*Q*	*85 - 114*		*06/15/16 15:21*	*1*

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

Client Sample ID: SC-TU008-EB060816 — **Lab Sample ID: 280-84354-5**
Date Collected: 06/08/16 14:00 — **Matrix: Water**
Date Received: 06/10/16 09:25

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane (Surr)	*101*		*80 - 119*		*06/15/16 15:21*	*1*
Toluene-d8 (Surr)	*111*		*89 - 112*		*06/15/16 15:21*	*1*

Client Sample ID: SC-TU008-MW003-G-1 — **Lab Sample ID: 280-84354-6**
Date Collected: 06/08/16 14:07 — **Matrix: Water**
Date Received: 06/10/16 09:25

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	1.0	U	5.0	0.29	ug/L			06/15/16 15:46	1
1,1,2,2-Tetrachloroethane	2.0	U Q	5.0	0.43	ug/L			06/15/16 15:46	1
1,1,2-Trichloro-1,2,2-trifluoroethane	2.0	U	5.0	0.25	ug/L			06/15/16 15:46	1
1,1,2-Trichloroethane	1.0	U	5.0	0.57	ug/L			06/15/16 15:46	1
1,1-Dichloroethane	1.0	U	5.0	0.39	ug/L			06/15/16 15:46	1
1,1-Dichloroethene	1.0	U	5.0	0.37	ug/L			06/15/16 15:46	1
1,2,3-Trichlorobenzene	2.0	U Q	5.0	0.65	ug/L			06/15/16 15:46	1
1,2,4-Trichlorobenzene	2.0	U Q	5.0	0.55	ug/L			06/15/16 15:46	1
1,2,4-Trimethylbenzene	2.0	U Q	5.0	0.40	ug/L			06/15/16 15:46	1
1,2-Dibromo-3-Chloropropane	2.0	U Q	10	1.2	ug/L			06/15/16 15:46	1
1,2-Dibromoethane	2.0	U	5.0	0.44	ug/L			06/15/16 15:46	1
1,2-Dichlorobenzene	2.0	U Q	5.0	0.28	ug/L			06/15/16 15:46	1
1,2-Dichloroethane	1.0	U	5.0	0.37	ug/L			06/15/16 15:46	1
1,2-Dichloroethene, Total	2.0	U	10	0.24	ug/L			06/15/16 15:46	1
1,2-Dichloropropane	1.0	U	5.0	0.32	ug/L			06/15/16 15:46	1
1,3,5-Trimethylbenzene	2.0	U Q	5.0	0.28	ug/L			06/15/16 15:46	1
1,3-Dichlorobenzene	2.0	U Q	5.0	0.23	ug/L			06/15/16 15:46	1
1,4-Dichlorobenzene	2.0	U Q	5.0	0.35	ug/L			06/15/16 15:46	1
2-Butanone (MEK)	**130**		20	0.39	ug/L			06/15/16 15:46	1
2-Hexanone	2.0	U	20	0.59	ug/L			06/15/16 15:46	1
4-Methyl-2-pentanone (MIBK)	2.0	U	20	0.33	ug/L			06/15/16 15:46	1
Acetone	**110**		20	6.7	ug/L			06/15/16 15:46	1
Benzene	1.0	U	5.0	0.25	ug/L			06/15/16 15:46	1
Bromobenzene	2.0	U Q	5.0	0.33	ug/L			06/15/16 15:46	1
Bromodichloromethane	2.0	U	5.0	0.25	ug/L			06/15/16 15:46	1
Bromoform	1.0	U	5.0	0.37	ug/L			06/15/16 15:46	1
Bromomethane	2.0	U	10	0.40	ug/L			06/15/16 15:46	1
Carbon disulfide	1.0	U	5.0	0.37	ug/L			06/15/16 15:46	1
Carbon tetrachloride	1.0	U	5.0	0.36	ug/L			06/15/16 15:46	1
Chlorobenzene	1.0	U	5.0	0.38	ug/L			06/15/16 15:46	1
Chloroethane	1.0	U	10	0.38	ug/L			06/15/16 15:46	1
Chloroform	1.0	U	5.0	0.15	ug/L			06/15/16 15:46	1
Chloromethane	2.0	U	10	0.55	ug/L			06/15/16 15:46	1
cis-1,2-Dichloroethene	1.0	U	5.0	0.16	ug/L			06/15/16 15:46	1
cis-1,3-Dichloropropene	1.0	U	5.0	0.34	ug/L			06/15/16 15:46	1
Cyclohexane	2.0	U	10	0.36	ug/L			06/15/16 15:46	1
Dibromochloromethane	1.0	U	5.0	0.33	ug/L			06/15/16 15:46	1
Dichlorodifluoromethane	2.0	U	10	0.45	ug/L			06/15/16 15:46	1
Ethylbenzene	1.0	U	5.0	0.30	ug/L			06/15/16 15:46	1
Isopropylbenzene	2.0	U	5.0	0.26	ug/L			06/15/16 15:46	1
Methyl acetate	5.0	U	25	2.3	ug/L			06/15/16 15:46	1
Methyl tert-butyl ether	2.0	U	5.0	0.40	ug/L			06/15/16 15:46	1

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

Client Sample ID: SC-TU008-MW003-G-1 **Lab Sample ID: 280-84354-6**
Date Collected: 06/08/16 14:07 **Matrix: Water**
Date Received: 06/10/16 09:25

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Methylcyclohexane	2.0	U	10	0.26	ug/L			06/15/16 15:46	1
Methylene Chloride	5.0	U	7.5	1.7	ug/L			06/15/16 15:46	1
m-Xylene & p-Xylene	1.0	U	5.0	0.57	ug/L			06/15/16 15:46	1
Naphthalene	2.0	U Q	5.0	0.85	ug/L			06/15/16 15:46	1
n-Butylbenzene	2.0	U Q	5.0	0.23	ug/L			06/15/16 15:46	1
N-Propylbenzene	2.0	U Q	5.0	0.30	ug/L			06/15/16 15:46	1
o-Xylene	1.0	U	5.0	0.32	ug/L			06/15/16 15:46	1
sec-Butylbenzene	2.0	U Q	5.0	0.31	ug/L			06/15/16 15:46	1
Styrene	1.0	U	5.0	0.35	ug/L			06/15/16 15:46	1
tert-Butylbenzene	2.0	U Q	5.0	0.31	ug/L			06/15/16 15:46	1
Tetrachloroethene	1.0	U	5.0	0.28	ug/L			06/15/16 15:46	1
Toluene	1.0	U	5.0	1.0	ug/L			06/15/16 15:46	1
trans-1,2-Dichloroethene	1.0	U	5.0	0.18	ug/L			06/15/16 15:46	1
trans-1,3-Dichloropropene	1.0	U	5.0	0.35	ug/L			06/15/16 15:46	1
Trichloroethene	1.0	U	5.0	0.29	ug/L			06/15/16 15:46	1
Trichlorofluoromethane	2.0	U	5.0	0.22	ug/L			06/15/16 15:46	1
Vinyl chloride	1.0	U	5.0	0.43	ug/L			06/15/16 15:46	1
Xylenes, Total	5.0	U	10	0.85	ug/L			06/15/16 15:46	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*99*		*81 - 118*		*06/15/16 15:46*	*1*
4-Bromofluorobenzene (Surr)	*118*	*Q*	*85 - 114*		*06/15/16 15:46*	*1*
Dibromofluoromethane (Surr)	*101*		*80 - 119*		*06/15/16 15:46*	*1*
Toluene-d8 (Surr)	*112*		*89 - 112*		*06/15/16 15:46*	*1*

Client Sample ID: SC-TU008-TB060816 **Lab Sample ID: 280-84354-7**
Date Collected: 05/21/16 00:00 **Matrix: Water**
Date Received: 06/10/16 09:25

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	1.0	U	5.0	0.29	ug/L			06/16/16 12:04	1
1,1,2,2-Tetrachloroethane	2.0	U Q	5.0	0.43	ug/L			06/16/16 12:04	1
1,1,2-Trichloro-1,2,2-trifluoroethane	2.0	U	5.0	0.25	ug/L			06/16/16 12:04	1
1,1,2-Trichloroethane	1.0	U	5.0	0.57	ug/L			06/16/16 12:04	1
1,1-Dichloroethane	1.0	U	5.0	0.39	ug/L			06/16/16 12:04	1
1,1-Dichloroethene	1.0	U	5.0	0.37	ug/L			06/16/16 12:04	1
1,2,3-Trichlorobenzene	2.0	U Q	5.0	0.65	ug/L			06/16/16 12:04	1
1,2,4-Trichlorobenzene	2.0	U Q	5.0	0.55	ug/L			06/16/16 12:04	1
1,2,4-Trimethylbenzene	2.0	U Q	5.0	0.40	ug/L			06/16/16 12:04	1
1,2-Dibromo-3-Chloropropane	2.0	U Q	10	1.2	ug/L			06/16/16 12:04	1
1,2-Dibromoethane	2.0	U	5.0	0.44	ug/L			06/16/16 12:04	1
1,2-Dichlorobenzene	2.0	U Q	5.0	0.28	ug/L			06/16/16 12:04	1
1,2-Dichloroethane	1.0	U	5.0	0.37	ug/L			06/16/16 12:04	1
1,2-Dichloroethene, Total	2.0	U	10	0.24	ug/L			06/16/16 12:04	1
1,2-Dichloropropane	1.0	U	5.0	0.32	ug/L			06/16/16 12:04	1
1,3,5-Trimethylbenzene	2.0	U Q	5.0	0.28	ug/L			06/16/16 12:04	1
1,3-Dichlorobenzene	2.0	U Q	5.0	0.23	ug/L			06/16/16 12:04	1
1,4-Dichlorobenzene	2.0	U Q	5.0	0.35	ug/L			06/16/16 12:04	1
2-Butanone (MEK)	5.0	U	20	0.39	ug/L			06/16/16 12:04	1
2-Hexanone	2.0	U	20	0.59	ug/L			06/16/16 12:04	1
4-Methyl-2-pentanone (MIBK)	2.0	U	20	0.33	ug/L			06/16/16 12:04	1

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

Client Sample ID: SC-TU008-TB060816
Date Collected: 05/21/16 00:00
Date Received: 06/10/16 09:25

Lab Sample ID: 280-84354-7
Matrix: Water

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	10	U	20	6.7	ug/L			06/16/16 12:04	1
Benzene	1.0	U	5.0	0.25	ug/L			06/16/16 12:04	1
Bromobenzene	2.0	U Q	5.0	0.33	ug/L			06/16/16 12:04	1
Bromodichloromethane	2.0	U	5.0	0.25	ug/L			06/16/16 12:04	1
Bromoform	1.0	U	5.0	0.37	ug/L			06/16/16 12:04	1
Bromomethane	**0.40**	**J**	10	0.40	ug/L			06/16/16 12:04	1
Carbon disulfide	1.0	U	5.0	0.37	ug/L			06/16/16 12:04	1
Carbon tetrachloride	1.0	U	5.0	0.36	ug/L			06/16/16 12:04	1
Chlorobenzene	1.0	U	5.0	0.38	ug/L			06/16/16 12:04	1
Chloroethane	**1.4**	**J Q**	10	0.38	ug/L			06/16/16 12:04	1
Chloroform	1.0	U	5.0	0.15	ug/L			06/16/16 12:04	1
Chloromethane	2.0	U	10	0.55	ug/L			06/16/16 12:04	1
cis-1,2-Dichloroethene	1.0	U	5.0	0.16	ug/L			06/16/16 12:04	1
cis-1,3-Dichloropropene	1.0	U	5.0	0.34	ug/L			06/16/16 12:04	1
Cyclohexane	2.0	U	10	0.36	ug/L			06/16/16 12:04	1
Dibromochloromethane	1.0	U	5.0	0.33	ug/L			06/16/16 12:04	1
Dichlorodifluoromethane	2.0	U	10	0.45	ug/L			06/16/16 12:04	1
Ethylbenzene	1.0	U	5.0	0.30	ug/L			06/16/16 12:04	1
Isopropylbenzene	2.0	U	5.0	0.26	ug/L			06/16/16 12:04	1
Methyl acetate	5.0	U	25	2.3	ug/L			06/16/16 12:04	1
Methyl tert-butyl ether	2.0	U	5.0	0.40	ug/L			06/16/16 12:04	1
Methylcyclohexane	2.0	U	10	0.26	ug/L			06/16/16 12:04	1
Methylene Chloride	5.0	U	7.5	1.7	ug/L			06/16/16 12:04	1
m-Xylene & p-Xylene	1.0	U	5.0	0.57	ug/L			06/16/16 12:04	1
Naphthalene	2.0	U Q	5.0	0.85	ug/L			06/16/16 12:04	1
n-Butylbenzene	2.0	U Q	5.0	0.23	ug/L			06/16/16 12:04	1
N-Propylbenzene	2.0	U Q	5.0	0.30	ug/L			06/16/16 12:04	1
o-Xylene	1.0	U	5.0	0.32	ug/L			06/16/16 12:04	1
sec-Butylbenzene	2.0	U Q	5.0	0.31	ug/L			06/16/16 12:04	1
Styrene	1.0	U	5.0	0.35	ug/L			06/16/16 12:04	1
tert-Butylbenzene	2.0	U Q	5.0	0.31	ug/L			06/16/16 12:04	1
Tetrachloroethene	1.0	U	5.0	0.28	ug/L			06/16/16 12:04	1
Toluene	1.0	U	5.0	1.0	ug/L			06/16/16 12:04	1
trans-1,2-Dichloroethene	1.0	U	5.0	0.18	ug/L			06/16/16 12:04	1
trans-1,3-Dichloropropene	1.0	U	5.0	0.35	ug/L			06/16/16 12:04	1
Trichloroethene	1.0	U	5.0	0.29	ug/L			06/16/16 12:04	1
Trichlorofluoromethane	2.0	U	5.0	0.22	ug/L			06/16/16 12:04	1
Vinyl chloride	1.0	U	5.0	0.43	ug/L			06/16/16 12:04	1
Xylenes, Total	5.0	U	10	0.85	ug/L			06/16/16 12:04	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*90*		*81 - 118*		*06/16/16 12:04*	*1*
4-Bromofluorobenzene (Surr)	*117*	*Q*	*85 - 114*		*06/16/16 12:04*	*1*
Dibromofluoromethane (Surr)	*98*		*80 - 119*		*06/16/16 12:04*	*1*
Toluene-d8 (Surr)	*107*		*89 - 112*		*06/16/16 12:04*	*1*

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

Client Sample ID: SC-TU008-MW001-G-1
Date Collected: 06/08/16 16:25
Date Received: 06/10/16 09:25

Lab Sample ID: 280-84354-1
Matrix: Water

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4,5-Tetrachlorobenzene	420	U	960	170	ug/L		06/11/16 15:20	06/27/16 21:20	10
1,2,4-Trichlorobenzene	**130**	**D J**	960	27	ug/L		06/11/16 15:20	06/27/16 21:20	10
1,2-Dichlorobenzene	**25**	**D J**	960	22	ug/L		06/11/16 15:20	06/27/16 21:20	10
1,2-Diphenylhydrazine	49	U	960	22	ug/L		06/11/16 15:20	06/27/16 21:20	10
1,3-Dichlorobenzene	96	U	960	29	ug/L		06/11/16 15:20	06/27/16 21:20	10
1,4-Dichlorobenzene	96	U	960	31	ug/L		06/11/16 15:20	06/27/16 21:20	10
2,2'-oxybis[1-chloropropane]	96	U	960	27	ug/L		06/11/16 15:20	06/27/16 21:20	10
2,4,5-Trichlorophenol	96	U J	1900	43	ug/L		06/11/16 15:20	06/27/16 21:20	10
2,4,6-Trichlorophenol	96	U	1900	28	ug/L		06/11/16 15:20	06/27/16 21:20	10
2,4-Dichlorophenol	190	U J	960	62	ug/L		06/11/16 15:20	06/27/16 21:20	10
2,4-Dimethylphenol	190	U J	960	56	ug/L		06/11/16 15:20	06/27/16 21:20	10
2,4-Dinitrophenol	2900	U	7700	960	ug/L		06/11/16 15:20	06/27/16 21:20	10
2,4-Dinitrotoluene	420	U	1900	160	ug/L		06/11/16 15:20	06/27/16 21:20	10
2,6-Dichlorophenol	380	U	960	130	ug/L		06/11/16 15:20	06/27/16 21:20	10
2,6-Dinitrotoluene	420	U	1900	180	ug/L		06/11/16 15:20	06/27/16 21:20	10
2-Chloronaphthalene	96	U	960	25	ug/L		06/11/16 15:20	06/27/16 21:20	10
2-Chlorophenol	420	U	960	190	ug/L		06/11/16 15:20	06/27/16 21:20	10
2-Methylnaphthalene	96	U	960	28	ug/L		06/11/16 15:20	06/27/16 21:20	10
2-Methylphenol	190	U	960	94	ug/L		06/11/16 15:20	06/27/16 21:20	10
3 & 4 Methylphenol	48	U	1900	24	ug/L		06/11/16 15:20	06/27/16 21:20	10
3,3'-Dichlorobenzidine	420	U	4800	190	ug/L		06/11/16 15:20	06/27/16 21:20	10
3-Nitroaniline	420	U	4800	190	ug/L		06/11/16 15:20	06/27/16 21:20	10
4,6-Dinitro-2-methylphenol	850	U	7700	380	ug/L		06/11/16 15:20	06/27/16 21:20	10
4-Chloroaniline	420	U	2400	210	ug/L		06/11/16 15:20	06/27/16 21:20	10
4-Chlorophenyl phenyl ether	420	U	960	160	ug/L		06/11/16 15:20	06/27/16 21:20	10
4-Nitroaniline	420	U	4800	190	ug/L		06/11/16 15:20	06/27/16 21:20	10
4-Nitrophenol	380	U J	4800	120	ug/L		06/11/16 15:20	06/27/16 21:20	10
Acenaphthene	96	U	960	27	ug/L		06/11/16 15:20	06/27/16 21:20	10
Acenaphthylene	96	U	960	47	ug/L		06/11/16 15:20	06/27/16 21:20	10
Anthracene	96	U	960	40	ug/L		06/11/16 15:20	06/27/16 21:20	10
Benzidine	9600	U Q	19000	4800	ug/L		06/11/16 15:20	06/27/16 21:20	10
Benzo[a]anthracene	96	U	960	34	ug/L		06/11/16 15:20	06/27/16 21:20	10
Benzo[a]pyrene	96	U J	960	30	ug/L		06/11/16 15:20	06/27/16 21:20	10
Benzo[b]fluoranthene	190	U J	960	51	ug/L		06/11/16 15:20	06/27/16 21:20	10
Benzo[g,h,i]perylene	96	U J	960	48	ug/L		06/11/16 15:20	06/27/16 21:20	10
Benzo[k]fluoranthene	96	U J	960	44	ug/L		06/11/16 15:20	06/27/16 21:20	10
Benzoic acid	2900	U	7700	960	ug/L		06/11/16 15:20	06/27/16 21:20	10
Benzyl alcohol	48	U	2400	22	ug/L		06/11/16 15:20	06/27/16 21:20	10
Bis(2-chloroethoxy)methane	190	U	960	93	ug/L		06/11/16 15:20	06/27/16 21:20	10
Bis(2-chloroethyl)ether	96	U	1900	39	ug/L		06/11/16 15:20	06/27/16 21:20	10
Bis(2-ethylhexyl) phthalate	190	U J	960	54	ug/L		06/11/16 15:20	06/27/16 21:20	10
Butyl benzyl phthalate	190	U	1900	96	ug/L		06/11/16 15:20	06/27/16 21:20	10
Carbazole	96	U	960	41	ug/L		06/11/16 15:20	06/27/16 21:20	10
Chrysene	190	U	960	52	ug/L		06/11/16 15:20	06/27/16 21:20	10
Dibenz(a,h)anthracene	190	U J	960	49	ug/L		06/11/16 15:20	06/27/16 21:20	10
Dibenzofuran	96	U	960	28	ug/L		06/11/16 15:20	06/27/16 21:20	10
Diethyl phthalate	96	U	1900	37	ug/L		06/11/16 15:20	06/27/16 21:20	10
Dimethyl phthalate	48	U	1900	20	ug/L		06/11/16 15:20	06/27/16 21:20	10
Di-n-butyl phthalate	420	U	1900	110	ug/L		06/11/16 15:20	06/27/16 21:20	10

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

Client Sample ID: SC-TU008-MW001-G-1 **Lab Sample ID: 280-84354-1**
Date Collected: 06/08/16 16:25 **Matrix: Water**
Date Received: 06/10/16 09:25

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Di-n-octyl phthalate	96	U J	1900	34	ug/L		06/11/16 15:20	06/27/16 21:20	10
Fluoranthene	48	U	1900	19	ug/L		06/11/16 15:20	06/27/16 21:20	10
Fluorene	96	U	960	30	ug/L		06/11/16 15:20	06/27/16 21:20	10
Hexachlorobenzene	190	U J	960	63	ug/L		06/11/16 15:20	06/27/16 21:20	10
Hexachlorobutadiene	960	U	2900	320	ug/L		06/11/16 15:20	06/27/16 21:20	10
Hexachlorocyclopentadiene	2900	U	4800	960	ug/L		06/11/16 15:20	06/27/16 21:20	10
Hexachloroethane	420	U	960	200	ug/L		06/11/16 15:20	06/27/16 21:20	10
Indeno[1,2,3-cd]pyrene	190	U J	960	62	ug/L		06/11/16 15:20	06/27/16 21:20	10
Isophorone	48	U	960	20	ug/L		06/11/16 15:20	06/27/16 21:20	10
Naphthalene	96	U	960	28	ug/L		06/11/16 15:20	06/27/16 21:20	10
Nitrobenzene	190	U	1900	78	ug/L		06/11/16 15:20	06/27/16 21:20	10
N-Nitrosodimethylamine	96	U J	960	28	ug/L		06/11/16 15:20	06/27/16 21:20	10
N-Nitrosodi-n-propylamine	96	U	1900	34	ug/L		06/11/16 15:20	06/27/16 21:20	10
N-Nitrosodiphenylamine	96	U	960	42	ug/L		06/11/16 15:20	06/27/16 21:20	10
N-Nitrosopyrrolidine	190	U	960	77	ug/L		06/11/16 15:20	06/27/16 21:20	10
Pentachlorophenol	5800	U	7700	1900	ug/L		06/11/16 15:20	06/27/16 21:20	10
Phenanthrene	96	U	960	25	ug/L		06/11/16 15:20	06/27/16 21:20	10
Phenol	420	U	960	190	ug/L		06/11/16 15:20	06/27/16 21:20	10
Pyrene	96	U	960	36	ug/L		06/11/16 15:20	06/27/16 21:20	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*62*	*D*	*43 - 140*	*06/11/16 15:20*	*06/27/16 21:20*	*10*
2-Fluorobiphenyl	*82*	*D*	*44 - 119*	*06/11/16 15:20*	*06/27/16 21:20*	*10*
2-Fluorophenol (Surr)	*69*	*D*	*19 - 119*	*06/11/16 15:20*	*06/27/16 21:20*	*10*
Nitrobenzene-d5 (Surr)	*66*	*D*	*44 - 120*	*06/11/16 15:20*	*06/27/16 21:20*	*10*
Phenol-d5 (Surr)	*75*	*D*	*10 - 115*	*06/11/16 15:20*	*06/27/16 21:20*	*10*
Terphenyl-d14 (Surr)	*70*	*D*	*50 - 134*	*06/11/16 15:20*	*06/27/16 21:20*	*10*

Client Sample ID: SC-TU008-MW002-G-1 **Lab Sample ID: 280-84354-2**
Date Collected: 06/08/16 15:26 **Matrix: Water**
Date Received: 06/10/16 09:25

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4,5-Tetrachlorobenzene	4.4	U	10	1.7	ug/L		06/11/16 15:20	06/27/16 22:43	1
1,2,4-Trichlorobenzene	1.0	U	10	0.28	ug/L		06/11/16 15:20	06/27/16 22:43	1
1,2-Dichlorobenzene	0.50	U	10	0.23	ug/L		06/11/16 15:20	06/27/16 22:43	1
1,2-Diphenylhydrazine	0.50	U	10	0.23	ug/L		06/11/16 15:20	06/27/16 22:43	1
1,3-Dichlorobenzene	1.0	U	10	0.30	ug/L		06/11/16 15:20	06/27/16 22:43	1
1,4-Dichlorobenzene	1.0	U	10	0.32	ug/L		06/11/16 15:20	06/27/16 22:43	1
2,2'-oxybis[1-chloropropane]	1.0	U	10	0.28	ug/L		06/11/16 15:20	06/27/16 22:43	1
2,4,5-Trichlorophenol	1.0	U	20	0.45	ug/L		06/11/16 15:20	06/27/16 22:43	1
2,4,6-Trichlorophenol	**14**	**J**	20	0.29	ug/L		06/11/16 15:20	06/27/16 22:43	1
2,4-Dichlorophenol	2.0	U	10	0.64	ug/L		06/11/16 15:20	06/27/16 22:43	1
2,4-Dimethylphenol	2.0	U	10	0.58	ug/L		06/11/16 15:20	06/27/16 22:43	1
2,4-Dinitrophenol	30	U	80	10	ug/L		06/11/16 15:20	06/27/16 22:43	1
2,4-Dinitrotoluene	4.4	U	20	1.7	ug/L		06/11/16 15:20	06/27/16 22:43	1
2,6-Dichlorophenol	**1.6**	**J**	10	1.3	ug/L		06/11/16 15:20	06/27/16 22:43	1
2,6-Dinitrotoluene	4.4	U	20	1.9	ug/L		06/11/16 15:20	06/27/16 22:43	1
2-Chloronaphthalene	1.0	U	10	0.26	ug/L		06/11/16 15:20	06/27/16 22:43	1
2-Chlorophenol	4.4	U	10	2.0	ug/L		06/11/16 15:20	06/27/16 22:43	1
2-Methylnaphthalene	1.0	U	10	0.29	ug/L		06/11/16 15:20	06/27/16 22:43	1

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

Client Sample ID: SC-TU008-MW002-G-1
Date Collected: 06/08/16 15:26
Date Received: 06/10/16 09:25

Lab Sample ID: 280-84354-2
Matrix: Water

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
2-Methylphenol	2.0	U	10	0.98	ug/L		06/11/16 15:20	06/27/16 22:43	1
3 & 4 Methylphenol	0.50	U	20	0.25	ug/L		06/11/16 15:20	06/27/16 22:43	1
3,3'-Dichlorobenzidine	4.4	U	50	2.0	ug/L		06/11/16 15:20	06/27/16 22:43	1
3-Nitroaniline	4.4	U	50	2.0	ug/L		06/11/16 15:20	06/27/16 22:43	1
4,6-Dinitro-2-methylphenol	8.8	U	80	4.0	ug/L		06/11/16 15:20	06/27/16 22:43	1
4-Chloroaniline	4.4	U	25	2.1	ug/L		06/11/16 15:20	06/27/16 22:43	1
4-Chlorophenyl phenyl ether	4.4	U	10	1.7	ug/L		06/11/16 15:20	06/27/16 22:43	1
4-Nitroaniline	4.4	U	50	2.0	ug/L		06/11/16 15:20	06/27/16 22:43	1
4-Nitrophenol	4.0	U	50	1.2	ug/L		06/11/16 15:20	06/27/16 22:43	1
Acenaphthene	1.0	U	10	0.28	ug/L		06/11/16 15:20	06/27/16 22:43	1
Acenaphthylene	1.0	U	10	0.49	ug/L		06/11/16 15:20	06/27/16 22:43	1
Anthracene	1.0	U	10	0.42	ug/L		06/11/16 15:20	06/27/16 22:43	1
Benzidine	100	U Q	200	50	ug/L		06/11/16 15:20	06/27/16 22:43	1
Benzo[a]anthracene	1.0	U	10	0.35	ug/L		06/11/16 15:20	06/27/16 22:43	1
Benzo[a]pyrene	1.0	U	10	0.31	ug/L		06/11/16 15:20	06/27/16 22:43	1
Benzo[b]fluoranthene	2.0	U	10	0.53	ug/L		06/11/16 15:20	06/27/16 22:43	1
Benzo[g,h,i]perylene	1.0	U	10	0.50	ug/L		06/11/16 15:20	06/27/16 22:43	1
Benzo[k]fluoranthene	1.0	U	10	0.46	ug/L		06/11/16 15:20	06/27/16 22:43	1
Benzoic acid	30	U	80	10	ug/L		06/11/16 15:20	06/27/16 22:43	1
Benzyl alcohol	**0.34**	**J**	25	0.23	ug/L		06/11/16 15:20	06/27/16 22:43	1
Bis(2-chloroethoxy)methane	2.0	U	10	0.97	ug/L		06/11/16 15:20	06/27/16 22:43	1
Bis(2-chloroethyl)ether	1.0	U	20	0.41	ug/L		06/11/16 15:20	06/27/16 22:43	1
Bis(2-ethylhexyl) phthalate	2.0	U	10	0.56	ug/L		06/11/16 15:20	06/27/16 22:43	1
Butyl benzyl phthalate	2.0	U	20	1.0	ug/L		06/11/16 15:20	06/27/16 22:43	1
Carbazole	1.0	U	10	0.43	ug/L		06/11/16 15:20	06/27/16 22:43	1
Chrysene	2.0	U	10	0.54	ug/L		06/11/16 15:20	06/27/16 22:43	1
Dibenz(a,h)anthracene	2.0	U	10	0.51	ug/L		06/11/16 15:20	06/27/16 22:43	1
Dibenzofuran	1.0	U	10	0.29	ug/L		06/11/16 15:20	06/27/16 22:43	1
Diethyl phthalate	1.0	U	20	0.38	ug/L		06/11/16 15:20	06/27/16 22:43	1
Dimethyl phthalate	0.50	U	20	0.21	ug/L		06/11/16 15:20	06/27/16 22:43	1
Di-n-butyl phthalate	4.4	U	20	1.2	ug/L		06/11/16 15:20	06/27/16 22:43	1
Di-n-octyl phthalate	1.0	U	20	0.35	ug/L		06/11/16 15:20	06/27/16 22:43	1
Fluoranthene	0.50	U	20	0.20	ug/L		06/11/16 15:20	06/27/16 22:43	1
Fluorene	1.0	U	10	0.31	ug/L		06/11/16 15:20	06/27/16 22:43	1
Hexachlorobenzene	2.0	U	10	0.66	ug/L		06/11/16 15:20	06/27/16 22:43	1
Hexachlorobutadiene	10	U	30	3.3	ug/L		06/11/16 15:20	06/27/16 22:43	1
Hexachlorocyclopentadiene	30	U	50	10	ug/L		06/11/16 15:20	06/27/16 22:43	1
Hexachloroethane	4.4	U	10	2.1	ug/L		06/11/16 15:20	06/27/16 22:43	1
Indeno[1,2,3-cd]pyrene	2.0	U	10	0.65	ug/L		06/11/16 15:20	06/27/16 22:43	1
Isophorone	0.50	U	10	0.21	ug/L		06/11/16 15:20	06/27/16 22:43	1
Naphthalene	1.0	U	10	0.29	ug/L		06/11/16 15:20	06/27/16 22:43	1
Nitrobenzene	2.0	U	20	0.81	ug/L		06/11/16 15:20	06/27/16 22:43	1
N-Nitrosodimethylamine	1.0	U	10	0.29	ug/L		06/11/16 15:20	06/27/16 22:43	1
N-Nitrosodi-n-propylamine	1.0	U	20	0.35	ug/L		06/11/16 15:20	06/27/16 22:43	1
N-Nitrosodiphenylamine	1.0	U	10	0.44	ug/L		06/11/16 15:20	06/27/16 22:43	1
N-Nitrosopyrrolidine	2.0	U	10	0.80	ug/L		06/11/16 15:20	06/27/16 22:43	1
Pentachlorophenol	60	U	80	20	ug/L		06/11/16 15:20	06/27/16 22:43	1
Phenanthrene	1.0	U	10	0.26	ug/L		06/11/16 15:20	06/27/16 22:43	1
Phenol	4.4	U	10	2.0	ug/L		06/11/16 15:20	06/27/16 22:43	1

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

Client Sample ID: SC-TU008-MW002-G-1 — **Lab Sample ID: 280-84354-2**
Date Collected: 06/08/16 15:26 — **Matrix: Water**
Date Received: 06/10/16 09:25

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Pyrene	1.0	U	10	0.37	ug/L		06/11/16 15:20	06/27/16 22:43	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*80*		*43 - 140*	*06/11/16 15:20*	*06/27/16 22:43*	*1*
2-Fluorobiphenyl	*54*		*44 - 119*	*06/11/16 15:20*	*06/27/16 22:43*	*1*
2-Fluorophenol (Surr)	*56*		*19 - 119*	*06/11/16 15:20*	*06/27/16 22:43*	*1*
Nitrobenzene-d5 (Surr)	*52*		*44 - 120*	*06/11/16 15:20*	*06/27/16 22:43*	*1*
Phenol-d5 (Surr)	*59*		*10 - 115*	*06/11/16 15:20*	*06/27/16 22:43*	*1*
Terphenyl-d14 (Surr)	*81*		*50 - 134*	*06/11/16 15:20*	*06/27/16 22:43*	*1*

Client Sample ID: SC-TU008-MW002-G-1-D — **Lab Sample ID: 280-84354-3**
Date Collected: 06/08/16 15:30 — **Matrix: Water**
Date Received: 06/10/16 09:25

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4,5-Tetrachlorobenzene	4.4	U	10	1.7	ug/L		06/11/16 15:20	06/27/16 23:11	1
1,2,4-Trichlorobenzene	1.0	U	10	0.28	ug/L		06/11/16 15:20	06/27/16 23:11	1
1,2-Dichlorobenzene	0.50	U	10	0.23	ug/L		06/11/16 15:20	06/27/16 23:11	1
1,2-Diphenylhydrazine	0.51	U	10	0.23	ug/L		06/11/16 15:20	06/27/16 23:11	1
1,3-Dichlorobenzene	1.0	U	10	0.30	ug/L		06/11/16 15:20	06/27/16 23:11	1
1,4-Dichlorobenzene	1.0	U	10	0.32	ug/L		06/11/16 15:20	06/27/16 23:11	1
2,2'-oxybis[1-chloropropane]	1.0	U	10	0.28	ug/L		06/11/16 15:20	06/27/16 23:11	1
2,4,5-Trichlorophenol	1.0	U	20	0.45	ug/L		06/11/16 15:20	06/27/16 23:11	1
2,4,6-Trichlorophenol	**11**	**J**	20	0.29	ug/L		06/11/16 15:20	06/27/16 23:11	1
2,4-Dichlorophenol	2.0	U	10	0.65	ug/L		06/11/16 15:20	06/27/16 23:11	1
2,4-Dimethylphenol	2.0	U	10	0.58	ug/L		06/11/16 15:20	06/27/16 23:11	1
2,4-Dinitrophenol	30	U	81	10	ug/L		06/11/16 15:20	06/27/16 23:11	1
2,4-Dinitrotoluene	4.4	U	20	1.7	ug/L		06/11/16 15:20	06/27/16 23:11	1
2,6-Dichlorophenol	4.0	U	10	1.4	ug/L		06/11/16 15:20	06/27/16 23:11	1
2,6-Dinitrotoluene	4.4	U	20	1.9	ug/L		06/11/16 15:20	06/27/16 23:11	1
2-Chloronaphthalene	1.0	U	10	0.26	ug/L		06/11/16 15:20	06/27/16 23:11	1
2-Chlorophenol	4.4	U	10	2.0	ug/L		06/11/16 15:20	06/27/16 23:11	1
2-Methylnaphthalene	1.0	U	10	0.29	ug/L		06/11/16 15:20	06/27/16 23:11	1
2-Methylphenol	2.0	U	10	0.99	ug/L		06/11/16 15:20	06/27/16 23:11	1
3 & 4 Methylphenol	0.50	U	20	0.25	ug/L		06/11/16 15:20	06/27/16 23:11	1
3,3'-Dichlorobenzidine	4.4	U	50	2.0	ug/L		06/11/16 15:20	06/27/16 23:11	1
3-Nitroaniline	4.4	U	50	2.0	ug/L		06/11/16 15:20	06/27/16 23:11	1
4,6-Dinitro-2-methylphenol	8.9	U	81	4.0	ug/L		06/11/16 15:20	06/27/16 23:11	1
4-Chloroaniline	4.4	U	25	2.2	ug/L		06/11/16 15:20	06/27/16 23:11	1
4-Chlorophenyl phenyl ether	4.4	U	10	1.7	ug/L		06/11/16 15:20	06/27/16 23:11	1
4-Nitroaniline	4.4	U	50	2.0	ug/L		06/11/16 15:20	06/27/16 23:11	1
4-Nitrophenol	4.0	U	50	1.2	ug/L		06/11/16 15:20	06/27/16 23:11	1
Acenaphthene	1.0	U	10	0.28	ug/L		06/11/16 15:20	06/27/16 23:11	1
Acenaphthylene	1.0	U	10	0.49	ug/L		06/11/16 15:20	06/27/16 23:11	1
Anthracene	1.0	U	10	0.42	ug/L		06/11/16 15:20	06/27/16 23:11	1
Benzidine	100	U Q	200	50	ug/L		06/11/16 15:20	06/27/16 23:11	1
Benzo[a]anthracene	1.0	U	10	0.35	ug/L		06/11/16 15:20	06/27/16 23:11	1
Benzo[a]pyrene	1.0	U	10	0.31	ug/L		06/11/16 15:20	06/27/16 23:11	1
Benzo[b]fluoranthene	2.0	U	10	0.54	ug/L		06/11/16 15:20	06/27/16 23:11	1
Benzo[g,h,i]perylene	1.0	U	10	0.50	ug/L		06/11/16 15:20	06/27/16 23:11	1
Benzo[k]fluoranthene	1.0	U	10	0.46	ug/L		06/11/16 15:20	06/27/16 23:11	1

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

Client Sample ID: SC-TU008-MW002-G-1-D — **Lab Sample ID: 280-84354-3**
Date Collected: 06/08/16 15:30 — **Matrix: Water**
Date Received: 06/10/16 09:25

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Benzoic acid	30	U	81	10	ug/L		06/11/16 15:20	06/27/16 23:11	1
Benzyl alcohol	**0.86**	**J**	25	0.23	ug/L		06/11/16 15:20	06/27/16 23:11	1
Bis(2-chloroethoxy)methane	2.0	U	10	0.98	ug/L		06/11/16 15:20	06/27/16 23:11	1
Bis(2-chloroethyl)ether	1.0	U	20	0.41	ug/L		06/11/16 15:20	06/27/16 23:11	1
Bis(2-ethylhexyl) phthalate	2.0	U	10	0.56	ug/L		06/11/16 15:20	06/27/16 23:11	1
Butyl benzyl phthalate	2.0	U	20	1.0	ug/L		06/11/16 15:20	06/27/16 23:11	1
Carbazole	1.0	U	10	0.43	ug/L		06/11/16 15:20	06/27/16 23:11	1
Chrysene	2.0	U	10	0.54	ug/L		06/11/16 15:20	06/27/16 23:11	1
Dibenz(a,h)anthracene	2.0	U	10	0.51	ug/L		06/11/16 15:20	06/27/16 23:11	1
Dibenzofuran	1.0	U	10	0.29	ug/L		06/11/16 15:20	06/27/16 23:11	1
Diethyl phthalate	1.0	U	20	0.38	ug/L		06/11/16 15:20	06/27/16 23:11	1
Dimethyl phthalate	0.50	U	20	0.21	ug/L		06/11/16 15:20	06/27/16 23:11	1
Di-n-butyl phthalate	4.4	U	20	1.2	ug/L		06/11/16 15:20	06/27/16 23:11	1
Di-n-octyl phthalate	1.0	U	20	0.35	ug/L		06/11/16 15:20	06/27/16 23:11	1
Fluoranthene	0.50	U	20	0.20	ug/L		06/11/16 15:20	06/27/16 23:11	1
Fluorene	1.0	U	10	0.31	ug/L		06/11/16 15:20	06/27/16 23:11	1
Hexachlorobenzene	2.0	U	10	0.67	ug/L		06/11/16 15:20	06/27/16 23:11	1
Hexachlorobutadiene	10	U	30	3.3	ug/L		06/11/16 15:20	06/27/16 23:11	1
Hexachlorocyclopentadiene	30	U	50	10	ug/L		06/11/16 15:20	06/27/16 23:11	1
Hexachloroethane	4.4	U	10	2.1	ug/L		06/11/16 15:20	06/27/16 23:11	1
Indeno[1,2,3-cd]pyrene	2.0	U	10	0.66	ug/L		06/11/16 15:20	06/27/16 23:11	1
Isophorone	0.50	U	10	0.21	ug/L		06/11/16 15:20	06/27/16 23:11	1
Naphthalene	1.0	U	10	0.29	ug/L		06/11/16 15:20	06/27/16 23:11	1
Nitrobenzene	2.0	U	20	0.82	ug/L		06/11/16 15:20	06/27/16 23:11	1
N-Nitrosodimethylamine	1.0	U	10	0.29	ug/L		06/11/16 15:20	06/27/16 23:11	1
N-Nitrosodi-n-propylamine	1.0	U	20	0.35	ug/L		06/11/16 15:20	06/27/16 23:11	1
N-Nitrosodiphenylamine	1.0	U	10	0.44	ug/L		06/11/16 15:20	06/27/16 23:11	1
N-Nitrosopyrrolidine	2.0	U	10	0.81	ug/L		06/11/16 15:20	06/27/16 23:11	1
Pentachlorophenol	60	U	81	20	ug/L		06/11/16 15:20	06/27/16 23:11	1
Phenanthrene	1.0	U	10	0.26	ug/L		06/11/16 15:20	06/27/16 23:11	1
Phenol	4.4	U	10	2.0	ug/L		06/11/16 15:20	06/27/16 23:11	1
Pyrene	1.0	U	10	0.37	ug/L		06/11/16 15:20	06/27/16 23:11	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*68*		*43 - 140*	*06/11/16 15:20*	*06/27/16 23:11*	*1*
2-Fluorobiphenyl	*52*		*44 - 119*	*06/11/16 15:20*	*06/27/16 23:11*	*1*
2-Fluorophenol (Surr)	*50*		*19 - 119*	*06/11/16 15:20*	*06/27/16 23:11*	*1*
Nitrobenzene-d5 (Surr)	*50*		*44 - 120*	*06/11/16 15:20*	*06/27/16 23:11*	*1*
Phenol-d5 (Surr)	*52*		*10 - 115*	*06/11/16 15:20*	*06/27/16 23:11*	*1*
Terphenyl-d14 (Surr)	*71*		*50 - 134*	*06/11/16 15:20*	*06/27/16 23:11*	*1*

Client Sample ID: SC-TU008-MW004-G-1 — **Lab Sample ID: 280-84354-4**
Date Collected: 06/08/16 14:32 — **Matrix: Water**
Date Received: 06/10/16 09:25

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4,5-Tetrachlorobenzene	4.5	U	10	1.8	ug/L		06/11/16 15:20	06/27/16 23:38	1
1,2,4-Trichlorobenzene	1.0	U	10	0.29	ug/L		06/11/16 15:20	06/27/16 23:38	1
1,2-Dichlorobenzene	0.51	U	10	0.23	ug/L		06/11/16 15:20	06/27/16 23:38	1
1,2-Diphenylhydrazine	0.51	U	10	0.23	ug/L		06/11/16 15:20	06/27/16 23:38	1
1,3-Dichlorobenzene	1.0	U	10	0.31	ug/L		06/11/16 15:20	06/27/16 23:38	1

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

Client Sample ID: SC-TU008-MW004-G-1
Date Collected: 06/08/16 14:32
Date Received: 06/10/16 09:25

Lab Sample ID: 280-84354-4
Matrix: Water

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dichlorobenzene	1.0	U	10	0.33	ug/L		06/11/16 15:20	06/27/16 23:38	1
2,2'-oxybis[1-chloropropane]	1.0	U	10	0.29	ug/L		06/11/16 15:20	06/27/16 23:38	1
2,4,5-Trichlorophenol	1.0	U	20	0.46	ug/L		06/11/16 15:20	06/27/16 23:38	1
2,4,6-Trichlorophenol	**23**		20	0.30	ug/L		06/11/16 15:20	06/27/16 23:38	1
2,4-Dichlorophenol	2.0	U	10	0.65	ug/L		06/11/16 15:20	06/27/16 23:38	1
2,4-Dimethylphenol	2.0	U	10	0.59	ug/L		06/11/16 15:20	06/27/16 23:38	1
2,4-Dinitrophenol	31	U	82	10	ug/L		06/11/16 15:20	06/27/16 23:38	1
2,4-Dinitrotoluene	4.5	U	20	1.7	ug/L		06/11/16 15:20	06/27/16 23:38	1
2,6-Dichlorophenol	**2.3**	**J**	10	1.4	ug/L		06/11/16 15:20	06/27/16 23:38	1
2,6-Dinitrotoluene	4.5	U	20	1.9	ug/L		06/11/16 15:20	06/27/16 23:38	1
2-Chloronaphthalene	1.0	U	10	0.27	ug/L		06/11/16 15:20	06/27/16 23:38	1
2-Chlorophenol	4.5	U	10	2.0	ug/L		06/11/16 15:20	06/27/16 23:38	1
2-Methylnaphthalene	1.0	U	10	0.30	ug/L		06/11/16 15:20	06/27/16 23:38	1
2-Methylphenol	2.0	U	10	1.0	ug/L		06/11/16 15:20	06/27/16 23:38	1
3 & 4 Methylphenol	0.51	U	20	0.25	ug/L		06/11/16 15:20	06/27/16 23:38	1
3,3'-Dichlorobenzidine	4.5	U	51	2.0	ug/L		06/11/16 15:20	06/27/16 23:38	1
3-Nitroaniline	4.5	U	51	2.0	ug/L		06/11/16 15:20	06/27/16 23:38	1
4,6-Dinitro-2-methylphenol	9.0	U	82	4.1	ug/L		06/11/16 15:20	06/27/16 23:38	1
4-Chloroaniline	4.5	U	25	2.2	ug/L		06/11/16 15:20	06/27/16 23:38	1
4-Chlorophenyl phenyl ether	4.5	U	10	1.7	ug/L		06/11/16 15:20	06/27/16 23:38	1
4-Nitroaniline	4.5	U	51	2.0	ug/L		06/11/16 15:20	06/27/16 23:38	1
4-Nitrophenol	4.1	U	51	1.3	ug/L		06/11/16 15:20	06/27/16 23:38	1
Acenaphthene	1.0	U	10	0.29	ug/L		06/11/16 15:20	06/27/16 23:38	1
Acenaphthylene	1.0	U	10	0.50	ug/L		06/11/16 15:20	06/27/16 23:38	1
Anthracene	1.0	U	10	0.43	ug/L		06/11/16 15:20	06/27/16 23:38	1
Benzidine	100	U Q	200	51	ug/L		06/11/16 15:20	06/27/16 23:38	1
Benzo[a]anthracene	1.0	U	10	0.36	ug/L		06/11/16 15:20	06/27/16 23:38	1
Benzo[a]pyrene	1.0	U	10	0.32	ug/L		06/11/16 15:20	06/27/16 23:38	1
Benzo[b]fluoranthene	2.0	U	10	0.54	ug/L		06/11/16 15:20	06/27/16 23:38	1
Benzo[g,h,i]perylene	1.0	U	10	0.51	ug/L		06/11/16 15:20	06/27/16 23:38	1
Benzo[k]fluoranthene	1.0	U	10	0.47	ug/L		06/11/16 15:20	06/27/16 23:38	1
Benzoic acid	31	U	82	10	ug/L		06/11/16 15:20	06/27/16 23:38	1
Benzyl alcohol	**0.44**	**J**	25	0.23	ug/L		06/11/16 15:20	06/27/16 23:38	1
Bis(2-chloroethoxy)methane	2.0	U	10	0.99	ug/L		06/11/16 15:20	06/27/16 23:38	1
Bis(2-chloroethyl)ether	1.0	U	20	0.42	ug/L		06/11/16 15:20	06/27/16 23:38	1
Bis(2-ethylhexyl) phthalate	**2.8**	**J**	10	0.57	ug/L		06/11/16 15:20	06/27/16 23:38	1
Butyl benzyl phthalate	2.0	U	20	1.0	ug/L		06/11/16 15:20	06/27/16 23:38	1
Carbazole	1.0	U	10	0.44	ug/L		06/11/16 15:20	06/27/16 23:38	1
Chrysene	2.0	U	10	0.55	ug/L		06/11/16 15:20	06/27/16 23:38	1
Dibenz(a,h)anthracene	2.0	U	10	0.52	ug/L		06/11/16 15:20	06/27/16 23:38	1
Dibenzofuran	1.0	U	10	0.30	ug/L		06/11/16 15:20	06/27/16 23:38	1
Diethyl phthalate	1.0	U	20	0.39	ug/L		06/11/16 15:20	06/27/16 23:38	1
Dimethyl phthalate	0.51	U	20	0.21	ug/L		06/11/16 15:20	06/27/16 23:38	1
Di-n-butyl phthalate	4.5	U	20	1.2	ug/L		06/11/16 15:20	06/27/16 23:38	1
Di-n-octyl phthalate	1.0	U	20	0.36	ug/L		06/11/16 15:20	06/27/16 23:38	1
Fluoranthene	0.51	U	20	0.20	ug/L		06/11/16 15:20	06/27/16 23:38	1
Fluorene	1.0	U	10	0.32	ug/L		06/11/16 15:20	06/27/16 23:38	1
Hexachlorobenzene	2.0	U	10	0.67	ug/L		06/11/16 15:20	06/27/16 23:38	1
Hexachlorobutadiene	10	U	31	3.4	ug/L		06/11/16 15:20	06/27/16 23:38	1

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

Client Sample ID: SC-TU008-MW004-G-1 **Lab Sample ID: 280-84354-4**
Date Collected: 06/08/16 14:32 **Matrix: Water**
Date Received: 06/10/16 09:25

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Hexachlorocyclopentadiene	31	U	51	10	ug/L		06/11/16 15:20	06/27/16 23:38	1
Hexachloroethane	4.5	U	10	2.1	ug/L		06/11/16 15:20	06/27/16 23:38	1
Indeno[1,2,3-cd]pyrene	2.0	U	10	0.66	ug/L		06/11/16 15:20	06/27/16 23:38	1
Isophorone	0.51	U	10	0.21	ug/L		06/11/16 15:20	06/27/16 23:38	1
Naphthalene	1.0	U	10	0.30	ug/L		06/11/16 15:20	06/27/16 23:38	1
Nitrobenzene	2.0	U	20	0.83	ug/L		06/11/16 15:20	06/27/16 23:38	1
N-Nitrosodimethylamine	1.0	U	10	0.30	ug/L		06/11/16 15:20	06/27/16 23:38	1
N-Nitrosodi-n-propylamine	1.0	U	20	0.36	ug/L		06/11/16 15:20	06/27/16 23:38	1
N-Nitrosodiphenylamine	1.0	U	10	0.45	ug/L		06/11/16 15:20	06/27/16 23:38	1
N-Nitrosopyrrolidine	2.0	U	10	0.82	ug/L		06/11/16 15:20	06/27/16 23:38	1
Pentachlorophenol	61	U	82	20	ug/L		06/11/16 15:20	06/27/16 23:38	1
Phenanthrene	1.0	U	10	0.27	ug/L		06/11/16 15:20	06/27/16 23:38	1
Phenol	4.5	U	10	2.0	ug/L		06/11/16 15:20	06/27/16 23:38	1
Pyrene	1.0	U	10	0.38	ug/L		06/11/16 15:20	06/27/16 23:38	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*78*		*43 - 140*	*06/11/16 15:20*	*06/27/16 23:38*	*1*
2-Fluorobiphenyl	*53*		*44 - 119*	*06/11/16 15:20*	*06/27/16 23:38*	*1*
2-Fluorophenol (Surr)	*52*		*19 - 119*	*06/11/16 15:20*	*06/27/16 23:38*	*1*
Nitrobenzene-d5 (Surr)	*51*		*44 - 120*	*06/11/16 15:20*	*06/27/16 23:38*	*1*
Phenol-d5 (Surr)	*55*		*10 - 115*	*06/11/16 15:20*	*06/27/16 23:38*	*1*
Terphenyl-d14 (Surr)	*59*		*50 - 134*	*06/11/16 15:20*	*06/27/16 23:38*	*1*

Client Sample ID: SC-TU008-EB060816 **Lab Sample ID: 280-84354-5**
Date Collected: 06/08/16 14:00 **Matrix: Water**
Date Received: 06/10/16 09:25

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4,5-Tetrachlorobenzene	4.3	U	9.7	1.7	ug/L		06/11/16 15:20	06/28/16 00:06	1
1,2,4-Trichlorobenzene	0.97	U	9.7	0.27	ug/L		06/11/16 15:20	06/28/16 00:06	1
1,2-Dichlorobenzene	0.49	U	9.7	0.22	ug/L		06/11/16 15:20	06/28/16 00:06	1
1,2-Diphenylhydrazine	0.49	U	9.7	0.22	ug/L		06/11/16 15:20	06/28/16 00:06	1
1,3-Dichlorobenzene	0.97	U	9.7	0.29	ug/L		06/11/16 15:20	06/28/16 00:06	1
1,4-Dichlorobenzene	0.97	U	9.7	0.31	ug/L		06/11/16 15:20	06/28/16 00:06	1
2,2'-oxybis[1-chloropropane]	0.97	U	9.7	0.27	ug/L		06/11/16 15:20	06/28/16 00:06	1
2,4,5-Trichlorophenol	0.97	U	19	0.44	ug/L		06/11/16 15:20	06/28/16 00:06	1
2,4,6-Trichlorophenol	0.97	U	19	0.28	ug/L		06/11/16 15:20	06/28/16 00:06	1
2,4-Dichlorophenol	1.9	U	9.7	0.62	ug/L		06/11/16 15:20	06/28/16 00:06	1
2,4-Dimethylphenol	1.9	U	9.7	0.56	ug/L		06/11/16 15:20	06/28/16 00:06	1
2,4-Dinitrophenol	29	U	78	9.7	ug/L		06/11/16 15:20	06/28/16 00:06	1
2,4-Dinitrotoluene	4.3	U	19	1.6	ug/L		06/11/16 15:20	06/28/16 00:06	1
2,6-Dichlorophenol	3.9	U	9.7	1.3	ug/L		06/11/16 15:20	06/28/16 00:06	1
2,6-Dinitrotoluene	4.3	U	19	1.8	ug/L		06/11/16 15:20	06/28/16 00:06	1
2-Chloronaphthalene	0.97	U	9.7	0.25	ug/L		06/11/16 15:20	06/28/16 00:06	1
2-Chlorophenol	4.3	U	9.7	1.9	ug/L		06/11/16 15:20	06/28/16 00:06	1
2-Methylnaphthalene	0.97	U	9.7	0.28	ug/L		06/11/16 15:20	06/28/16 00:06	1
2-Methylphenol	1.9	U	9.7	0.95	ug/L		06/11/16 15:20	06/28/16 00:06	1
3 & 4 Methylphenol	0.49	U	19	0.24	ug/L		06/11/16 15:20	06/28/16 00:06	1
3,3'-Dichlorobenzidine	4.3	U	49	1.9	ug/L		06/11/16 15:20	06/28/16 00:06	1
3-Nitroaniline	4.3	U	49	1.9	ug/L		06/11/16 15:20	06/28/16 00:06	1
4,6-Dinitro-2-methylphenol	8.6	U	78	3.9	ug/L		06/11/16 15:20	06/28/16 00:06	1

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

Client Sample ID: SC-TU008-EB060816
Date Collected: 06/08/16 14:00
Date Received: 06/10/16 09:25

Lab Sample ID: 280-84354-5
Matrix: Water

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chloroaniline	4.3	U	24	2.1	ug/L		06/11/16 15:20	06/28/16 00:06	1
4-Chlorophenyl phenyl ether	4.3	U	9.7	1.6	ug/L		06/11/16 15:20	06/28/16 00:06	1
4-Nitroaniline	4.3	U	49	1.9	ug/L		06/11/16 15:20	06/28/16 00:06	1
4-Nitrophenol	3.9	U	49	1.2	ug/L		06/11/16 15:20	06/28/16 00:06	1
Acenaphthene	0.97	U	9.7	0.27	ug/L		06/11/16 15:20	06/28/16 00:06	1
Acenaphthylene	0.97	U	9.7	0.48	ug/L		06/11/16 15:20	06/28/16 00:06	1
Anthracene	0.97	U	9.7	0.41	ug/L		06/11/16 15:20	06/28/16 00:06	1
Benzidine	97	U Q	190	49	ug/L		06/11/16 15:20	06/28/16 00:06	1
Benzo[a]anthracene	0.97	U	9.7	0.34	ug/L		06/11/16 15:20	06/28/16 00:06	1
Benzo[a]pyrene	0.97	U	9.7	0.30	ug/L		06/11/16 15:20	06/28/16 00:06	1
Benzo[b]fluoranthene	1.9	U	9.7	0.52	ug/L		06/11/16 15:20	06/28/16 00:06	1
Benzo[g,h,i]perylene	0.97	U	9.7	0.49	ug/L		06/11/16 15:20	06/28/16 00:06	1
Benzo[k]fluoranthene	0.97	U	9.7	0.45	ug/L		06/11/16 15:20	06/28/16 00:06	1
Benzoic acid	29	U	78	9.7	ug/L		06/11/16 15:20	06/28/16 00:06	1
Benzyl alcohol	**1.7**	**J**	24	0.22	ug/L		06/11/16 15:20	06/28/16 00:06	1
Bis(2-chloroethoxy)methane	1.9	U	9.7	0.94	ug/L		06/11/16 15:20	06/28/16 00:06	1
Bis(2-chloroethyl)ether	0.97	U	19	0.40	ug/L		06/11/16 15:20	06/28/16 00:06	1
Bis(2-ethylhexyl) phthalate	1.9	U	9.7	0.55	ug/L		06/11/16 15:20	06/28/16 00:06	1
Butyl benzyl phthalate	1.9	U	19	0.97	ug/L		06/11/16 15:20	06/28/16 00:06	1
Carbazole	0.97	U	9.7	0.42	ug/L		06/11/16 15:20	06/28/16 00:06	1
Chrysene	1.9	U	9.7	0.53	ug/L		06/11/16 15:20	06/28/16 00:06	1
Dibenz(a,h)anthracene	1.9	U	9.7	0.50	ug/L		06/11/16 15:20	06/28/16 00:06	1
Dibenzofuran	0.97	U	9.7	0.28	ug/L		06/11/16 15:20	06/28/16 00:06	1
Diethyl phthalate	0.97	U	19	0.37	ug/L		06/11/16 15:20	06/28/16 00:06	1
Dimethyl phthalate	0.49	U	19	0.20	ug/L		06/11/16 15:20	06/28/16 00:06	1
Di-n-butyl phthalate	4.3	U	19	1.1	ug/L		06/11/16 15:20	06/28/16 00:06	1
Di-n-octyl phthalate	0.97	U	19	0.34	ug/L		06/11/16 15:20	06/28/16 00:06	1
Fluoranthene	0.49	U	19	0.19	ug/L		06/11/16 15:20	06/28/16 00:06	1
Fluorene	0.97	U	9.7	0.30	ug/L		06/11/16 15:20	06/28/16 00:06	1
Hexachlorobenzene	1.9	U	9.7	0.64	ug/L		06/11/16 15:20	06/28/16 00:06	1
Hexachlorobutadiene	9.7	U	29	3.2	ug/L		06/11/16 15:20	06/28/16 00:06	1
Hexachlorocyclopentadiene	29	U	49	9.7	ug/L		06/11/16 15:20	06/28/16 00:06	1
Hexachloroethane	4.3	U	9.7	2.0	ug/L		06/11/16 15:20	06/28/16 00:06	1
Indeno[1,2,3-cd]pyrene	1.9	U	9.7	0.63	ug/L		06/11/16 15:20	06/28/16 00:06	1
Isophorone	0.49	U	9.7	0.20	ug/L		06/11/16 15:20	06/28/16 00:06	1
Naphthalene	0.97	U	9.7	0.28	ug/L		06/11/16 15:20	06/28/16 00:06	1
Nitrobenzene	1.9	U	19	0.79	ug/L		06/11/16 15:20	06/28/16 00:06	1
N-Nitrosodimethylamine	0.97	U	9.7	0.28	ug/L		06/11/16 15:20	06/28/16 00:06	1
N-Nitrosodi-n-propylamine	0.97	U	19	0.34	ug/L		06/11/16 15:20	06/28/16 00:06	1
N-Nitrosodiphenylamine	0.97	U	9.7	0.43	ug/L		06/11/16 15:20	06/28/16 00:06	1
N-Nitrosopyrrolidine	1.9	U	9.7	0.78	ug/L		06/11/16 15:20	06/28/16 00:06	1
Pentachlorophenol	58	U	78	19	ug/L		06/11/16 15:20	06/28/16 00:06	1
Phenanthrene	0.97	U	9.7	0.25	ug/L		06/11/16 15:20	06/28/16 00:06	1
Phenol	4.3	U	9.7	1.9	ug/L		06/11/16 15:20	06/28/16 00:06	1
Pyrene	0.97	U	9.7	0.36	ug/L		06/11/16 15:20	06/28/16 00:06	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*79*		*43 - 140*	*06/11/16 15:20*	*06/28/16 00:06*	*1*
2-Fluorobiphenyl	*55*		*44 - 119*	*06/11/16 15:20*	*06/28/16 00:06*	*1*
2-Fluorophenol (Surr)	*55*		*19 - 119*	*06/11/16 15:20*	*06/28/16 00:06*	*1*

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

Client Sample ID: SC-TU008-EB060816
Date Collected: 06/08/16 14:00
Date Received: 06/10/16 09:25

Lab Sample ID: 280-84354-5
Matrix: Water

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Nitrobenzene-d5 (Surr)	53		44 - 120	06/11/16 15:20	06/28/16 00:06	1
Phenol-d5 (Surr)	57		10 - 115	06/11/16 15:20	06/28/16 00:06	1
Terphenyl-d14 (Surr)	85		50 - 134	06/11/16 15:20	06/28/16 00:06	1

Default Detection Limits

Client: Weston Solutions, Inc.
Project/Site: Schenectady ANGB, TU008

TestAmerica Job ID: 280-84354-1

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

Analyte	LOQ	DL	Units	Method
1,1,1-Trichloroethane	5.0	0.29	ug/L	8260C DOD
1,1,2,2-Tetrachloroethane	5.0	0.43	ug/L	8260C DOD
1,1,2-Trichloro-1,2,2-trifluoroethane	5.0	0.25	ug/L	8260C DOD
1,1,2-Trichloroethane	5.0	0.57	ug/L	8260C DOD
1,1-Dichloroethane	5.0	0.39	ug/L	8260C DOD
1,1-Dichloroethene	5.0	0.37	ug/L	8260C DOD
1,2,3-Trichlorobenzene	5.0	0.65	ug/L	8260C DOD
1,2,4-Trichlorobenzene	5.0	0.55	ug/L	8260C DOD
1,2,4-Trimethylbenzene	5.0	0.40	ug/L	8260C DOD
1,2-Dibromo-3-Chloropropane	10	1.2	ug/L	8260C DOD
1,2-Dibromoethane	5.0	0.44	ug/L	8260C DOD
1,2-Dichlorobenzene	5.0	0.28	ug/L	8260C DOD
1,2-Dichloroethane	5.0	0.37	ug/L	8260C DOD
1,2-Dichloroethene, Total	10	0.24	ug/L	8260C DOD
1,2-Dichloropropane	5.0	0.32	ug/L	8260C DOD
1,3,5-Trimethylbenzene	5.0	0.28	ug/L	8260C DOD
1,3-Dichlorobenzene	5.0	0.23	ug/L	8260C DOD
1,4-Dichlorobenzene	5.0	0.35	ug/L	8260C DOD
2-Butanone (MEK)	20	0.39	ug/L	8260C DOD
2-Hexanone	20	0.59	ug/L	8260C DOD
4-Methyl-2-pentanone (MIBK)	20	0.33	ug/L	8260C DOD
Acetone	20	6.7	ug/L	8260C DOD
Benzene	5.0	0.25	ug/L	8260C DOD
Bromobenzene	5.0	0.33	ug/L	8260C DOD
Bromodichloromethane	5.0	0.25	ug/L	8260C DOD
Bromoform	5.0	0.37	ug/L	8260C DOD
Bromomethane	10	0.40	ug/L	8260C DOD
Carbon disulfide	5.0	0.37	ug/L	8260C DOD
Carbon tetrachloride	5.0	0.36	ug/L	8260C DOD
Chlorobenzene	5.0	0.38	ug/L	8260C DOD
Chloroethane	10	0.38	ug/L	8260C DOD
Chloroform	5.0	0.15	ug/L	8260C DOD
Chloromethane	10	0.55	ug/L	8260C DOD
cis-1,2-Dichloroethene	5.0	0.16	ug/L	8260C DOD
cis-1,3-Dichloropropene	5.0	0.34	ug/L	8260C DOD
Cyclohexane	10	0.36	ug/L	8260C DOD
Dibromochloromethane	5.0	0.33	ug/L	8260C DOD
Dichlorodifluoromethane	10	0.45	ug/L	8260C DOD
Ethylbenzene	5.0	0.30	ug/L	8260C DOD
Isopropylbenzene	5.0	0.26	ug/L	8260C DOD
Methyl acetate	25	2.3	ug/L	8260C DOD
Methyl tert-butyl ether	5.0	0.40	ug/L	8260C DOD
Methylcyclohexane	10	0.26	ug/L	8260C DOD
Methylene Chloride	7.5	1.7	ug/L	8260C DOD
m-Xylene & p-Xylene	5.0	0.57	ug/L	8260C DOD
Naphthalene	5.0	0.85	ug/L	8260C DOD
n-Butylbenzene	5.0	0.23	ug/L	8260C DOD
N-Propylbenzene	5.0	0.30	ug/L	8260C DOD
o-Xylene	5.0	0.32	ug/L	8260C DOD
sec-Butylbenzene	5.0	0.31	ug/L	8260C DOD
Styrene	5.0	0.35	ug/L	8260C DOD
tert-Butylbenzene	5.0	0.31	ug/L	8260C DOD

Default Detection Limits

Client: Weston Solutions, Inc.
Project/Site: Schenectady ANGB, TU008

TestAmerica Job ID: 280-84354-1

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

Analyte	LOQ	DL	Units	Method
Tetrachloroethene	5.0	0.28	ug/L	8260C DOD
Toluene	5.0	1.0	ug/L	8260C DOD
trans-1,2-Dichloroethene	5.0	0.18	ug/L	8260C DOD
trans-1,3-Dichloropropene	5.0	0.35	ug/L	8260C DOD
Trichloroethene	5.0	0.29	ug/L	8260C DOD
Trichlorofluoromethane	5.0	0.22	ug/L	8260C DOD
Vinyl chloride	5.0	0.43	ug/L	8260C DOD
Xylenes, Total	10	0.85	ug/L	8260C DOD

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

Prep: 3520C

Analyte	LOQ	DL	Units	Method
1,2,4,5-Tetrachlorobenzene	10	1.7	ug/L	8270D
1,2,4-Trichlorobenzene	10	0.28	ug/L	8270D
1,2-Dichlorobenzene	10	0.23	ug/L	8270D
1,2-Diphenylhydrazine	10	0.23	ug/L	8270D
1,3-Dichlorobenzene	10	0.30	ug/L	8270D
1,4-Dichlorobenzene	10	0.32	ug/L	8270D
2,2'-oxybis[1-chloropropane]	10	0.28	ug/L	8270D
2,4,5-Trichlorophenol	20	0.45	ug/L	8270D
2,4,6-Trichlorophenol	20	0.29	ug/L	8270D
2,4-Dichlorophenol	10	0.64	ug/L	8270D
2,4-Dimethylphenol	10	0.58	ug/L	8270D
2,4-Dinitrophenol	80	10	ug/L	8270D
2,4-Dinitrotoluene	20	1.7	ug/L	8270D
2,6-Dichlorophenol	10	1.4	ug/L	8270D
2,6-Dinitrotoluene	20	1.9	ug/L	8270D
2-Chloronaphthalene	10	0.26	ug/L	8270D
2-Chlorophenol	10	2.0	ug/L	8270D
2-Methylnaphthalene	10	0.29	ug/L	8270D
2-Methylphenol	10	0.98	ug/L	8270D
3 & 4 Methylphenol	20	0.25	ug/L	8270D
3,3'-Dichlorobenzidine	50	2.0	ug/L	8270D
3-Nitroaniline	50	2.0	ug/L	8270D
4,6-Dinitro-2-methylphenol	80	4.0	ug/L	8270D
4-Chloroaniline	25	2.1	ug/L	8270D
4-Chlorophenyl phenyl ether	10	1.7	ug/L	8270D
4-Nitroaniline	50	2.0	ug/L	8270D
4-Nitrophenol	50	1.2	ug/L	8270D
Acenaphthene	10	0.28	ug/L	8270D
Acenaphthylene	10	0.49	ug/L	8270D
Anthracene	10	0.42	ug/L	8270D
Benzidine	200	50	ug/L	8270D
Benzo[a]anthracene	10	0.35	ug/L	8270D
Benzo[a]pyrene	10	0.31	ug/L	8270D
Benzo[b]fluoranthene	10	0.53	ug/L	8270D
Benzo[g,h,i]perylene	10	0.50	ug/L	8270D
Benzo[k]fluoranthene	10	0.46	ug/L	8270D
Benzoic acid	80	10	ug/L	8270D
Benzyl alcohol	25	0.23	ug/L	8270D
Bis(2-chloroethoxy)methane	10	0.97	ug/L	8270D

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

Prep: 3520C

Analyte	LOQ	DL	Units	Method
Bis(2-chloroethyl)ether	20	0.41	ug/L	8270D
Bis(2-ethylhexyl) phthalate	10	0.56	ug/L	8270D
Butyl benzyl phthalate	20	1.0	ug/L	8270D
Carbazole	10	0.43	ug/L	8270D
Chrysene	10	0.54	ug/L	8270D
Dibenz(a,h)anthracene	10	0.51	ug/L	8270D
Dibenzofuran	10	0.29	ug/L	8270D
Diethyl phthalate	20	0.38	ug/L	8270D
Dimethyl phthalate	20	0.21	ug/L	8270D
Di-n-butyl phthalate	20	1.2	ug/L	8270D
Di-n-octyl phthalate	20	0.35	ug/L	8270D
Fluoranthene	20	0.20	ug/L	8270D
Fluorene	10	0.31	ug/L	8270D
Hexachlorobenzene	10	0.66	ug/L	8270D
Hexachlorobutadiene	30	3.3	ug/L	8270D
Hexachlorocyclopentadiene	50	10	ug/L	8270D
Hexachloroethane	10	2.1	ug/L	8270D
Indeno[1,2,3-cd]pyrene	10	0.65	ug/L	8270D
Isophorone	10	0.21	ug/L	8270D
Naphthalene	10	0.29	ug/L	8270D
Nitrobenzene	20	0.81	ug/L	8270D
N-Nitrosodimethylamine	10	0.29	ug/L	8270D
N-Nitrosodi-n-propylamine	20	0.35	ug/L	8270D
N-Nitrosodiphenylamine	10	0.44	ug/L	8270D
N-Nitrosopyrrolidine	10	0.80	ug/L	8270D
Pentachlorophenol	80	20	ug/L	8270D
Phenanthrene	10	0.26	ug/L	8270D
Phenol	10	2.0	ug/L	8270D
Pyrene	10	0.37	ug/L	8270D

Method Summary

Client: Weston Solutions, Inc.
Project/Site: Schenectady ANGB, TU008

TestAmerica Job ID: 280-84354-1

Method	Method Description	Protocol	Laboratory
8260C DOD	Volatile Organic Compounds (GC/MS)	SW846	TAL SL
8270D	Semivolatile Organic Compounds (GC/MS)	SW846	TAL DEN

Protocol References:

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

Laboratory References:

TAL DEN = TestAmerica Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

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

Surrogate Summary

Client: Weston Solutions, Inc.
Project/Site: Schenectady ANGB, TU008

TestAmerica Job ID: 280-84354-1

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

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

		Percent Surrogate Recovery (Acceptance Limits)			
		12DCE	BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(81-118)	(85-114)	(80-119)	(89-112)
280-84354-1	SC-TU008-MW001-G-1	99	125 Q	100	116 Q
280-84354-1 MS	SC-TU008-MW001-G-1	98	110	101	105
280-84354-1 MSD	SC-TU008-MW001-G-1	96	109	101	105
280-84354-2	SC-TU008-MW002-G-1	96	116 Q	99	110
280-84354-3	SC-TU008-MW002-G-1-D	97	123 Q	101	112
280-84354-4	SC-TU008-MW004-G-1	95	121 Q	98	112
280-84354-5	SC-TU008-EB060816	96	119 Q	101	111
280-84354-6	SC-TU008-MW003-G-1	99	118 Q	101	112
280-84354-7	SC-TU008-TB060816	90	117 Q	98	107
LCS 160-256397/6	Lab Control Sample	93	107	103	105
LCS 160-256641/6	Lab Control Sample	94	107	103	100
LCSD 160-256397/7	Lab Control Sample Dup	88	107	100	101
LCSD 160-256641/7	Lab Control Sample Dup	95	108	103	100
MB 160-256397/9	Method Blank	90	115 Q	98	109
MB 160-256641/9	Method Blank	92	121 Q	102	111

Surrogate Legend

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

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

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

		Percent Surrogate Recovery (Acceptance Limits)					
		TBP	FBP	2FP	NBZ	PHL	TPH
Lab Sample ID	Client Sample ID	(43-140)	(44-119)	(19-119)	(44-120)	(10-115)	(50-134)
280-84354-1	SC-TU008-MW001-G-1	62 D	82 D	69 D	66 D	75 D	70 D
280-84354-1 MS	SC-TU008-MW001-G-1	58 D	71 D	66 D	62 D	63 D	43 D Q
280-84354-1 MSD	SC-TU008-MW001-G-1	68 D	74 D	67 D	55 D	67 D	29 D Q
280-84354-2	SC-TU008-MW002-G-1	80	54	56	52	59	81
280-84354-3	SC-TU008-MW002-G-1-D	68	52	50	50	52	71
280-84354-4	SC-TU008-MW004-G-1	78	53	52	51	55	59
280-84354-5	SC-TU008-EB060816	79	55	55	53	57	85
LCS 280-329438/2-A	Lab Control Sample	87	78	72	74	76	84
MB 280-329438/1-A	Method Blank	80	69	74	74	71	89

Surrogate Legend

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

QC Association Summary

Client: Weston Solutions, Inc.
Project/Site: Schenectady ANGB, TU008

TestAmerica Job ID: 280-84354-1

GC/MS VOA

Analysis Batch: 256397

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-84354-1	SC-TU008-MW001-G-1	Total/NA	Water	8260C DOD	
280-84354-2	SC-TU008-MW002-G-1	Total/NA	Water	8260C DOD	
280-84354-3	SC-TU008-MW002-G-1-D	Total/NA	Water	8260C DOD	
280-84354-4	SC-TU008-MW004-G-1	Total/NA	Water	8260C DOD	
280-84354-5	SC-TU008-EB060816	Total/NA	Water	8260C DOD	
280-84354-6	SC-TU008-MW003-G-1	Total/NA	Water	8260C DOD	
MB 160-256397/9	Method Blank	Total/NA	Water	8260C DOD	
LCS 160-256397/6	Lab Control Sample	Total/NA	Water	8260C DOD	
LCSD 160-256397/7	Lab Control Sample Dup	Total/NA	Water	8260C DOD	
280-84354-1 MS	SC-TU008-MW001-G-1	Total/NA	Water	8260C DOD	
280-84354-1 MSD	SC-TU008-MW001-G-1	Total/NA	Water	8260C DOD	

Analysis Batch: 256641

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-84354-7	SC-TU008-TB060816	Total/NA	Water	8260C DOD	
MB 160-256641/9	Method Blank	Total/NA	Water	8260C DOD	
LCS 160-256641/6	Lab Control Sample	Total/NA	Water	8260C DOD	
LCSD 160-256641/7	Lab Control Sample Dup	Total/NA	Water	8260C DOD	

GC/MS Semi VOA

Prep Batch: 329438

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-84354-1	SC-TU008-MW001-G-1	Total/NA	Water	3520C	
280-84354-2	SC-TU008-MW002-G-1	Total/NA	Water	3520C	
280-84354-3	SC-TU008-MW002-G-1-D	Total/NA	Water	3520C	
280-84354-4	SC-TU008-MW004-G-1	Total/NA	Water	3520C	
280-84354-5	SC-TU008-EB060816	Total/NA	Water	3520C	
MB 280-329438/1-A	Method Blank	Total/NA	Water	3520C	
LCS 280-329438/2-A	Lab Control Sample	Total/NA	Water	3520C	
280-84354-1 MS	SC-TU008-MW001-G-1	Total/NA	Water	3520C	
280-84354-1 MSD	SC-TU008-MW001-G-1	Total/NA	Water	3520C	

Analysis Batch: 331506

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-84354-1	SC-TU008-MW001-G-1	Total/NA	Water	8270D	329438
280-84354-2	SC-TU008-MW002-G-1	Total/NA	Water	8270D	329438
280-84354-3	SC-TU008-MW002-G-1-D	Total/NA	Water	8270D	329438
280-84354-4	SC-TU008-MW004-G-1	Total/NA	Water	8270D	329438
280-84354-5	SC-TU008-EB060816	Total/NA	Water	8270D	329438
MB 280-329438/1-A	Method Blank	Total/NA	Water	8270D	329438
LCS 280-329438/2-A	Lab Control Sample	Total/NA	Water	8270D	329438
280-84354-1 MS	SC-TU008-MW001-G-1	Total/NA	Water	8270D	329438
280-84354-1 MSD	SC-TU008-MW001-G-1	Total/NA	Water	8270D	329438

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

Lab Sample ID: MB 160-256397/9
Matrix: Water
Analysis Batch: 256397

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

Analyte	MB Result	MB Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	1.0	U	5.0	0.29	ug/L			06/15/16 09:30	1
1,1,2,2-Tetrachloroethane	2.0	U Q	5.0	0.43	ug/L			06/15/16 09:30	1
1,1,2-Trichloro-1,2,2-trifluoroethane	2.0	U	5.0	0.25	ug/L			06/15/16 09:30	1
1,1,2-Trichloroethane	1.0	U	5.0	0.57	ug/L			06/15/16 09:30	1
1,1-Dichloroethane	1.0	U	5.0	0.39	ug/L			06/15/16 09:30	1
1,1-Dichloroethene	1.0	U	5.0	0.37	ug/L			06/15/16 09:30	1
1,2,3-Trichlorobenzene	2.0	U Q	5.0	0.65	ug/L			06/15/16 09:30	1
1,2,4-Trichlorobenzene	2.0	U Q	5.0	0.55	ug/L			06/15/16 09:30	1
1,2,4-Trimethylbenzene	2.0	U Q	5.0	0.40	ug/L			06/15/16 09:30	1
1,2-Dibromo-3-Chloropropane	2.0	U Q	10	1.2	ug/L			06/15/16 09:30	1
1,2-Dibromoethane	2.0	U	5.0	0.44	ug/L			06/15/16 09:30	1
1,2-Dichlorobenzene	2.0	U Q	5.0	0.28	ug/L			06/15/16 09:30	1
1,2-Dichloroethane	1.0	U	5.0	0.37	ug/L			06/15/16 09:30	1
1,2-Dichloroethene, Total	2.0	U	10	0.24	ug/L			06/15/16 09:30	1
1,2-Dichloropropane	1.0	U	5.0	0.32	ug/L			06/15/16 09:30	1
1,3,5-Trimethylbenzene	2.0	U Q	5.0	0.28	ug/L			06/15/16 09:30	1
1,3-Dichlorobenzene	2.0	U Q	5.0	0.23	ug/L			06/15/16 09:30	1
1,4-Dichlorobenzene	2.0	U Q	5.0	0.35	ug/L			06/15/16 09:30	1
2-Butanone (MEK)	5.0	U	20	0.39	ug/L			06/15/16 09:30	1
2-Hexanone	2.0	U	20	0.59	ug/L			06/15/16 09:30	1
4-Methyl-2-pentanone (MIBK)	2.0	U	20	0.33	ug/L			06/15/16 09:30	1
Acetone	10	U	20	6.7	ug/L			06/15/16 09:30	1
Benzene	1.0	U	5.0	0.25	ug/L			06/15/16 09:30	1
Bromobenzene	2.0	U Q	5.0	0.33	ug/L			06/15/16 09:30	1
Bromodichloromethane	2.0	U	5.0	0.25	ug/L			06/15/16 09:30	1
Bromoform	1.0	U	5.0	0.37	ug/L			06/15/16 09:30	1
Bromomethane	2.0	U	10	0.40	ug/L			06/15/16 09:30	1
Carbon disulfide	1.0	U	5.0	0.37	ug/L			06/15/16 09:30	1
Carbon tetrachloride	1.0	U	5.0	0.36	ug/L			06/15/16 09:30	1
Chlorobenzene	1.0	U	5.0	0.38	ug/L			06/15/16 09:30	1
Chloroethane	1.0	U	10	0.38	ug/L			06/15/16 09:30	1
Chloroform	1.0	U	5.0	0.15	ug/L			06/15/16 09:30	1
Chloromethane	2.0	U	10	0.55	ug/L			06/15/16 09:30	1
cis-1,2-Dichloroethene	1.0	U	5.0	0.16	ug/L			06/15/16 09:30	1
cis-1,3-Dichloropropene	1.0	U	5.0	0.34	ug/L			06/15/16 09:30	1
Cyclohexane	2.0	U	10	0.36	ug/L			06/15/16 09:30	1
Dibromochloromethane	1.0	U	5.0	0.33	ug/L			06/15/16 09:30	1
Dichlorodifluoromethane	2.0	U	10	0.45	ug/L			06/15/16 09:30	1
Ethylbenzene	1.0	U	5.0	0.30	ug/L			06/15/16 09:30	1
Isopropylbenzene	2.0	U	5.0	0.26	ug/L			06/15/16 09:30	1
Methyl acetate	5.0	U	25	2.3	ug/L			06/15/16 09:30	1
Methyl tert-butyl ether	2.0	U	5.0	0.40	ug/L			06/15/16 09:30	1
Methylcyclohexane	2.0	U	10	0.26	ug/L			06/15/16 09:30	1
Methylene Chloride	5.0	U	7.5	1.7	ug/L			06/15/16 09:30	1
m-Xylene & p-Xylene	1.0	U	5.0	0.57	ug/L			06/15/16 09:30	1
Naphthalene	2.0	U Q	5.0	0.85	ug/L			06/15/16 09:30	1
n-Butylbenzene	2.0	U Q	5.0	0.23	ug/L			06/15/16 09:30	1
N-Propylbenzene	2.0	U Q	5.0	0.30	ug/L			06/15/16 09:30	1

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

Lab Sample ID: MB 160-256397/9
Matrix: Water
Analysis Batch: 256397

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

Analyte	MB Result	MB Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	0.653	J	5.0	0.32	ug/L			06/15/16 09:30	1
sec-Butylbenzene	2.0	U Q	5.0	0.31	ug/L			06/15/16 09:30	1
Styrene	1.0	U	5.0	0.35	ug/L			06/15/16 09:30	1
tert-Butylbenzene	2.0	U Q	5.0	0.31	ug/L			06/15/16 09:30	1
Tetrachloroethene	1.0	U	5.0	0.28	ug/L			06/15/16 09:30	1
Toluene	1.0	U	5.0	1.0	ug/L			06/15/16 09:30	1
trans-1,2-Dichloroethene	1.0	U	5.0	0.18	ug/L			06/15/16 09:30	1
trans-1,3-Dichloropropene	1.0	U	5.0	0.35	ug/L			06/15/16 09:30	1
Trichloroethene	1.0	U	5.0	0.29	ug/L			06/15/16 09:30	1
Trichlorofluoromethane	2.0	U	5.0	0.22	ug/L			06/15/16 09:30	1
Vinyl chloride	1.0	U	5.0	0.43	ug/L			06/15/16 09:30	1
Xylenes, Total	5.0	U	10	0.85	ug/L			06/15/16 09:30	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*90*		*81 - 118*		*06/15/16 09:30*	*1*
4-Bromofluorobenzene (Surr)	*115*	*Q*	*85 - 114*		*06/15/16 09:30*	*1*
Dibromofluoromethane (Surr)	*98*		*80 - 119*		*06/15/16 09:30*	*1*
Toluene-d8 (Surr)	*109*		*89 - 112*		*06/15/16 09:30*	*1*

Lab Sample ID: LCS 160-256397/6
Matrix: Water
Analysis Batch: 256397

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1-Trichloroethane	50.0	49.4		ug/L		99	74 - 131
1,1,2,2-Tetrachloroethane	50.0	45.8		ug/L		92	71 - 121
1,1,2-Trichloro-1,2,2-trifluoroethane	50.0	48.1		ug/L		96	70 - 136
1,1,2-Trichloroethane	50.0	49.2		ug/L		98	80 - 119
1,1-Dichloroethane	50.0	47.2		ug/L		94	77 - 125
1,1-Dichloroethene	50.0	49.3		ug/L		99	71 - 131
1,2,3-Trichlorobenzene	50.0	51.7		ug/L		103	69 - 129
1,2,4-Trichlorobenzene	50.0	54.2		ug/L		108	69 - 130
1,2,4-Trimethylbenzene	50.0	55.1		ug/L		110	76 - 124
1,2-Dibromo-3-Chloropropane	50.0	52.6		ug/L		105	62 - 128
1,2-Dibromoethane	50.0	51.1		ug/L		102	80 - 120
1,2-Dichlorobenzene	50.0	50.8		ug/L		102	80 - 119
1,2-Dichloroethane	50.0	47.1		ug/L		94	73 - 128
1,2-Dichloroethene, Total	100	104		ug/L		104	79 - 121
1,2-Dichloropropane	50.0	49.0		ug/L		98	78 - 122
1,3,5-Trimethylbenzene	50.0	52.6		ug/L		105	75 - 124
1,3-Dichlorobenzene	50.0	52.0		ug/L		104	80 - 119
1,4-Dichlorobenzene	50.0	50.9		ug/L		102	79 - 118
2-Butanone (MEK)	50.0	49.5		ug/L		99	56 - 143
2-Hexanone	50.0	54.7		ug/L		109	57 - 139
4-Methyl-2-pentanone (MIBK)	50.0	54.5		ug/L		109	67 - 130
Acetone	50.0	50.7		ug/L		101	39 - 160
Benzene	50.0	49.3		ug/L		99	79 - 120

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

Lab Sample ID: LCS 160-256397/6
Matrix: Water
Analysis Batch: 256397

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Bromobenzene	50.0	49.8		ug/L		100	80 - 120
Bromodichloromethane	50.0	49.8		ug/L		100	79 - 125
Bromoform	50.0	52.4		ug/L		105	66 - 130
Bromomethane	50.0	44.5		ug/L		89	53 - 141
Carbon disulfide	50.0	48.1		ug/L		96	64 - 133
Carbon tetrachloride	50.0	50.6		ug/L		101	72 - 136
Chlorobenzene	50.0	51.0		ug/L		102	82 - 118
Chloroethane	50.0	44.0		ug/L		88	60 - 138
Chloroform	50.0	47.2		ug/L		94	79 - 124
Chloromethane	50.0	45.8		ug/L		92	50 - 139
cis-1,2-Dichloroethene	50.0	52.4		ug/L		105	78 - 123
cis-1,3-Dichloropropene	50.0	54.3		ug/L		109	75 - 124
Cyclohexane	50.0	53.5		ug/L		107	71 - 130
Dibromochloromethane	50.0	52.0		ug/L		104	74 - 126
Dichlorodifluoromethane	50.0	47.8		ug/L		96	32 - 152
Ethylbenzene	50.0	52.0		ug/L		104	79 - 121
Isopropylbenzene	50.0	56.3		ug/L		113	72 - 131
Methyl acetate	250	251		ug/L		100	56 - 136
Methyl tert-butyl ether	50.0	53.2		ug/L		106	71 - 124
Methylcyclohexane	50.0	50.3		ug/L		101	72 - 132
Methylene Chloride	50.0	47.2		ug/L		94	74 - 124
m-Xylene & p-Xylene	50.0	57.3		ug/L		115	80 - 121
Naphthalene	50.0	55.8		ug/L		112	61 - 128
n-Butylbenzene	50.0	48.1		ug/L		96	75 - 128
N-Propylbenzene	50.0	46.4		ug/L		93	76 - 126
o-Xylene	50.0	52.3		ug/L		105	78 - 122
sec-Butylbenzene	50.0	46.6		ug/L		93	77 - 126
Styrene	50.0	56.3		ug/L		113	78 - 123
tert-Butylbenzene	50.0	52.6		ug/L		105	78 - 124
Tetrachloroethene	50.0	51.5		ug/L		103	74 - 129
Toluene	50.0	52.4		ug/L		105	80 - 121
trans-1,2-Dichloroethene	50.0	52.0		ug/L		104	75 - 124
trans-1,3-Dichloropropene	50.0	52.4		ug/L		105	73 - 127
Trichloroethene	50.0	51.1		ug/L		102	79 - 123
Trichlorofluoromethane	50.0	45.8		ug/L		92	65 - 141
Vinyl chloride	50.0	48.2		ug/L		96	58 - 137
Xylenes, Total	100	110		ug/L		110	79 - 121

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*93*		*81 - 118*
4-Bromofluorobenzene (Surr)	*107*		*85 - 114*
Dibromofluoromethane (Surr)	*103*		*80 - 119*
Toluene-d8 (Surr)	*105*		*89 - 112*

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

Lab Sample ID: LCSD 160-256397/7
Matrix: Water
Analysis Batch: 256397

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
1,1,1-Trichloroethane	50.0	49.6		ug/L		99	74 - 131	0	20
1,1,2,2-Tetrachloroethane	50.0	43.6		ug/L		87	71 - 121	5	20
1,1,2-Trichloro-1,2,2-trifluoroethane	50.0	48.8		ug/L		98	70 - 136	1	20
1,1,2-Trichloroethane	50.0	46.0		ug/L		92	80 - 119	7	20
1,1-Dichloroethane	50.0	46.6		ug/L		93	77 - 125	1	20
1,1-Dichloroethene	50.0	49.3		ug/L		99	71 - 131	0	20
1,2,3-Trichlorobenzene	50.0	50.8		ug/L		102	69 - 129	2	20
1,2,4-Trichlorobenzene	50.0	52.9		ug/L		106	69 - 130	2	20
1,2,4-Trimethylbenzene	50.0	55.8		ug/L		112	76 - 124	1	20
1,2-Dibromo-3-Chloropropane	50.0	49.2		ug/L		98	62 - 128	7	20
1,2-Dibromoethane	50.0	48.4		ug/L		97	80 - 120	6	20
1,2-Dichlorobenzene	50.0	50.6		ug/L		101	80 - 119	0	20
1,2-Dichloroethane	50.0	44.7		ug/L		89	73 - 128	5	20
1,2-Dichloroethene, Total	100	102		ug/L		102	79 - 121	2	20
1,2-Dichloropropane	50.0	48.5		ug/L		97	78 - 122	1	20
1,3,5-Trimethylbenzene	50.0	54.3		ug/L		109	75 - 124	3	20
1,3-Dichlorobenzene	50.0	52.5		ug/L		105	80 - 119	1	20
1,4-Dichlorobenzene	50.0	49.9		ug/L		100	79 - 118	2	20
2-Butanone (MEK)	50.0	44.6		ug/L		89	56 - 143	10	20
2-Hexanone	50.0	49.3		ug/L		99	57 - 139	10	20
4-Methyl-2-pentanone (MIBK)	50.0	50.1		ug/L		100	67 - 130	8	20
Acetone	50.0	46.4		ug/L		93	39 - 160	9	20
Benzene	50.0	48.2		ug/L		96	79 - 120	2	20
Bromobenzene	50.0	50.6		ug/L		101	80 - 120	2	20
Bromodichloromethane	50.0	48.0		ug/L		96	79 - 125	4	20
Bromoform	50.0	51.0		ug/L		102	66 - 130	3	20
Bromomethane	50.0	41.3		ug/L		83	53 - 141	7	20
Carbon disulfide	50.0	47.4		ug/L		95	64 - 133	2	20
Carbon tetrachloride	50.0	50.5		ug/L		101	72 - 136	0	20
Chlorobenzene	50.0	49.4		ug/L		99	82 - 118	3	20
Chloroethane	50.0	40.7		ug/L		81	60 - 138	8	20
Chloroform	50.0	46.5		ug/L		93	79 - 124	1	20
Chloromethane	50.0	45.6		ug/L		91	50 - 139	1	20
cis-1,2-Dichloroethene	50.0	51.7		ug/L		103	78 - 123	1	20
cis-1,3-Dichloropropene	50.0	52.5		ug/L		105	75 - 124	3	20
Cyclohexane	50.0	52.5		ug/L		105	71 - 130	2	20
Dibromochloromethane	50.0	49.3		ug/L		99	74 - 126	5	20
Dichlorodifluoromethane	50.0	47.0		ug/L		94	32 - 152	2	20
Ethylbenzene	50.0	51.0		ug/L		102	79 - 121	2	20
Isopropylbenzene	50.0	57.6		ug/L		115	72 - 131	2	20
Methyl acetate	250	236		ug/L		95	56 - 136	6	20
Methyl tert-butyl ether	50.0	50.6		ug/L		101	71 - 124	5	20
Methylcyclohexane	50.0	48.3		ug/L		97	72 - 132	4	20
Methylene Chloride	50.0	46.7		ug/L		93	74 - 124	1	20
m-Xylene & p-Xylene	50.0	54.3		ug/L		109	80 - 121	5	20
Naphthalene	50.0	54.1		ug/L		108	61 - 128	3	20
n-Butylbenzene	50.0	49.4		ug/L		99	75 - 128	3	20

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

Lab Sample ID: LCSD 160-256397/7
Matrix: Water
Analysis Batch: 256397

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
N-Propylbenzene			50.0	47.2		ug/L		94	76 - 126	2	20
o-Xylene			50.0	50.7		ug/L		101	78 - 122	3	20
sec-Butylbenzene			50.0	47.5		ug/L		95	77 - 126	2	20
Styrene			50.0	54.4		ug/L		109	78 - 123	3	20
tert-Butylbenzene			50.0	54.0		ug/L		108	78 - 124	3	20
Tetrachloroethene			50.0	49.0		ug/L		98	74 - 129	5	20
Toluene			50.0	50.3		ug/L		101	80 - 121	4	20
trans-1,2-Dichloroethene			50.0	50.6		ug/L		101	75 - 124	3	20
trans-1,3-Dichloropropene			50.0	48.3		ug/L		97	73 - 127	8	20
Trichloroethene			50.0	49.6		ug/L		99	79 - 123	3	20
Trichlorofluoromethane			50.0	44.4		ug/L		89	65 - 141	3	20
Vinyl chloride			50.0	46.7		ug/L		93	58 - 137	3	20
Xylenes, Total			100	105		ug/L		105	79 - 121	4	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*88*		*81 - 118*
4-Bromofluorobenzene (Surr)	*107*		*85 - 114*
Dibromofluoromethane (Surr)	*100*		*80 - 119*
Toluene-d8 (Surr)	*101*		*89 - 112*

Lab Sample ID: 280-84354-1 MS
Matrix: Water
Analysis Batch: 256397

Client Sample ID: SC-TU008-MW001-G-1
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
1,1,1-Trichloroethane	1.0	U	50.0	50.4		ug/L		101	74 - 131		
1,1,2,2-Tetrachloroethane	2.0	U Q	50.0	52.8		ug/L		106	71 - 121		
1,1,2-Trichloro-1,2,2-trifluoroethane	2.0	U	50.0	44.5		ug/L		89	70 - 136		
1,1,2-Trichloroethane	1.0	U Q	50.0	49.9		ug/L		100	80 - 119		
1,1-Dichloroethane	1.0	U	50.0	50.3		ug/L		101	77 - 125		
1,1-Dichloroethene	1.0	U	50.0	45.1		ug/L		90	71 - 131		
1,2,3-Trichlorobenzene	2.0	U Q	50.0	50.1		ug/L		100	69 - 129		
1,2,4-Trichlorobenzene	2.0	U Q	50.0	52.1		ug/L		104	69 - 130		
1,2,4-Trimethylbenzene	2.0	U Q	50.0	57.1		ug/L		114	76 - 124		
1,2-Dibromo-3-Chloropropane	2.0	U Q	50.0	48.9		ug/L		98	62 - 128		
1,2-Dibromoethane	2.0	U	50.0	50.0		ug/L		100	80 - 120		
1,2-Dichlorobenzene	2.0	U Q	50.0	51.5		ug/L		103	80 - 119		
1,2-Dichloroethane	1.0	U	50.0	50.3		ug/L		101	73 - 128		
1,2-Dichloroethene, Total	2.0	U	100	101		ug/L		101	79 - 121		
1,2-Dichloropropane	1.0	U	50.0	51.5		ug/L		103	78 - 122		
1,3,5-Trimethylbenzene	2.0	U Q	50.0	54.3		ug/L		109	75 - 124		
1,3-Dichlorobenzene	2.0	U Q	50.0	52.7		ug/L		105	80 - 119		
1,4-Dichlorobenzene	2.0	U Q	50.0	50.3		ug/L		101	79 - 118		
2-Butanone (MEK)	12	J J	50.0	68.9		ug/L		114	56 - 143		
2-Hexanone	2.0	U Q	50.0	51.5		ug/L		103	57 - 139		
4-Methyl-2-pentanone (MIBK)	2.0	U Q	50.0	53.4		ug/L		107	67 - 130		
Acetone	10	J	50.0	62.5		ug/L		105	39 - 160		

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

Lab Sample ID: 280-84354-1 MS
Matrix: Water
Analysis Batch: 256397

Client Sample ID: SC-TU008-MW001-G-1
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	1.0	U	50.0	50.2		ug/L		100	79 - 120
Bromobenzene	2.0	U Q	50.0	50.9		ug/L		102	80 - 120
Bromodichloromethane	2.0	U	50.0	50.8		ug/L		102	79 - 125
Bromoform	1.0	U Q	50.0	48.9		ug/L		98	66 - 130
Bromomethane	0.47	J	50.0	54.6		ug/L		108	53 - 141
Carbon disulfide	1.0	U	50.0	46.9		ug/L		94	64 - 133
Carbon tetrachloride	1.0	U	50.0	51.3		ug/L		103	72 - 136
Chlorobenzene	1.0	U Q	50.0	49.4		ug/L		99	82 - 118
Chloroethane	1.1	J	50.0	53.0		ug/L		104	60 - 138
Chloroform	1.4	J	50.0	50.4		ug/L		98	79 - 124
Chloromethane	2.0	U	50.0	44.6		ug/L		89	50 - 139
cis-1,2-Dichloroethene	1.0	U	50.0	51.4		ug/L		103	78 - 123
cis-1,3-Dichloropropene	1.0	U	50.0	52.1		ug/L		104	75 - 124
Cyclohexane	2.0	U	50.0	52.6		ug/L		105	71 - 130
Dibromochloromethane	1.0	U Q	50.0	49.8		ug/L		100	74 - 126
Dichlorodifluoromethane	2.0	U	50.0	43.1		ug/L		86	32 - 152
Ethylbenzene	1.0	U Q	50.0	52.6		ug/L		105	79 - 121
Isopropylbenzene	2.0	U	50.0	58.1		ug/L		116	72 - 131
Methyl acetate	5.0	U	250	243		ug/L		97	56 - 136
Methyl tert-butyl ether	2.0	U	50.0	51.4		ug/L		103	71 - 124
Methylcyclohexane	2.0	U	50.0	52.5		ug/L		105	72 - 132
Methylene Chloride	5.0	U	50.0	48.0		ug/L		96	74 - 124
m-Xylene & p-Xylene	1.0	U Q	50.0	57.6		ug/L		115	80 - 121
Naphthalene	2.0	U Q	50.0	47.3		ug/L		95	61 - 128
n-Butylbenzene	2.0	U Q	50.0	47.5		ug/L		95	75 - 128
N-Propylbenzene	2.0	U Q	50.0	49.2		ug/L		98	76 - 126
o-Xylene	1.0	U Q	50.0	52.4		ug/L		105	78 - 122
sec-Butylbenzene	2.0	U Q	50.0	48.4		ug/L		97	77 - 126
Styrene	1.0	U Q	50.0	56.9		ug/L		114	78 - 123
tert-Butylbenzene	2.0	U Q	50.0	54.0		ug/L		108	78 - 124
Tetrachloroethene	1.0	U Q	50.0	50.4		ug/L		101	74 - 129
Toluene	1.0	U Q	50.0	53.2		ug/L		106	80 - 121
trans-1,2-Dichloroethene	1.0	U	50.0	49.8		ug/L		100	75 - 124
trans-1,3-Dichloropropene	1.0	U Q	50.0	52.6		ug/L		105	73 - 127
Trichloroethene	1.0	U	50.0	47.1		ug/L		94	79 - 123
Trichlorofluoromethane	2.0	U	50.0	49.3		ug/L		99	65 - 141
Vinyl chloride	1.0	U	50.0	43.0		ug/L		86	58 - 137
Xylenes, Total	5.0	U Q	100	110		ug/L		110	79 - 121

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*98*		*81 - 118*
4-Bromofluorobenzene (Surr)	*110*		*85 - 114*
Dibromofluoromethane (Surr)	*101*		*80 - 119*
Toluene-d8 (Surr)	*105*		*89 - 112*

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

Lab Sample ID: 280-84354-1 MSD
Matrix: Water
Analysis Batch: 256397

Client Sample ID: SC-TU008-MW001-G-1
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1,1-Trichloroethane	1.0	U	50.0	50.6		ug/L		101	74 - 131	0	20
1,1,2,2-Tetrachloroethane	2.0	U Q	50.0	50.9		ug/L		102	71 - 121	4	20
1,1,2-Trichloro-1,2,2-trifluoroethane	2.0	U	50.0	49.3		ug/L		99	70 - 136	10	20
1,1,2-Trichloroethane	1.0	U Q	50.0	48.3		ug/L		97	80 - 119	3	20
1,1-Dichloroethane	1.0	U	50.0	49.9		ug/L		100	77 - 125	1	20
1,1-Dichloroethene	1.0	U	50.0	50.7		ug/L		101	71 - 131	12	20
1,2,3-Trichlorobenzene	2.0	U Q	50.0	50.3		ug/L		101	69 - 129	0	20
1,2,4-Trichlorobenzene	2.0	U Q	50.0	52.1		ug/L		104	69 - 130	0	20
1,2,4-Trimethylbenzene	2.0	U Q	50.0	58.0		ug/L		116	76 - 124	2	20
1,2-Dibromo-3-Chloropropane	2.0	U Q	50.0	47.2		ug/L		94	62 - 128	4	20
1,2-Dibromoethane	2.0	U	50.0	48.5		ug/L		97	80 - 120	3	20
1,2-Dichlorobenzene	2.0	U Q	50.0	51.3		ug/L		103	80 - 119	0	20
1,2-Dichloroethane	1.0	U	50.0	48.4		ug/L		97	73 - 128	4	20
1,2-Dichloroethene, Total	2.0	U	100	104		ug/L		104	79 - 121	3	20
1,2-Dichloropropane	1.0	U	50.0	50.8		ug/L		102	78 - 122	1	20
1,3,5-Trimethylbenzene	2.0	U Q	50.0	55.3		ug/L		111	75 - 124	2	20
1,3-Dichlorobenzene	2.0	U Q	50.0	53.8		ug/L		108	80 - 119	2	20
1,4-Dichlorobenzene	2.0	U Q	50.0	50.7		ug/L		101	79 - 118	1	20
2-Butanone (MEK)	12	J J	50.0	45.9	J	ug/L		68	56 - 143	40	20
2-Hexanone	2.0	U Q	50.0	47.4		ug/L		95	57 - 139	8	20
4-Methyl-2-pentanone (MIBK)	2.0	U Q	50.0	48.7		ug/L		97	67 - 130	9	20
Acetone	10	J	50.0	57.6		ug/L		95	39 - 160	8	20
Benzene	1.0	U	50.0	50.7		ug/L		101	79 - 120	1	20
Bromobenzene	2.0	U Q	50.0	51.3		ug/L		103	80 - 120	1	20
Bromodichloromethane	2.0	U	50.0	49.3		ug/L		99	79 - 125	3	20
Bromoform	1.0	U Q	50.0	50.2		ug/L		100	66 - 130	3	20
Bromomethane	0.47	J	50.0	50.6		ug/L		100	53 - 141	8	20
Carbon disulfide	1.0	U	50.0	50.0		ug/L		100	64 - 133	6	20
Carbon tetrachloride	1.0	U	50.0	51.7		ug/L		103	72 - 136	1	20
Chlorobenzene	1.0	U Q	50.0	50.6		ug/L		101	82 - 118	2	20
Chloroethane	1.1	J	50.0	45.4		ug/L		89	60 - 138	15	20
Chloroform	1.4	J	50.0	50.2		ug/L		98	79 - 124	0	20
Chloromethane	2.0	U	50.0	50.0		ug/L		100	50 - 139	11	20
cis-1,2-Dichloroethene	1.0	U	50.0	52.3		ug/L		105	78 - 123	2	20
cis-1,3-Dichloropropene	1.0	U	50.0	50.4		ug/L		101	75 - 124	3	20
Cyclohexane	2.0	U	50.0	53.9		ug/L		108	71 - 130	2	20
Dibromochloromethane	1.0	U Q	50.0	48.5		ug/L		97	74 - 126	3	20
Dichlorodifluoromethane	2.0	U	50.0	50.9		ug/L		102	32 - 152	17	20
Ethylbenzene	1.0	U Q	50.0	53.0		ug/L		106	79 - 121	1	20
Isopropylbenzene	2.0	U	50.0	59.1		ug/L		118	72 - 131	2	20
Methyl acetate	5.0	U	250	242		ug/L		97	56 - 136	0	20
Methyl tert-butyl ether	2.0	U	50.0	51.2		ug/L		102	71 - 124	1	20
Methylcyclohexane	2.0	U	50.0	52.7		ug/L		105	72 - 132	0	20
Methylene Chloride	5.0	U	50.0	47.9		ug/L		96	74 - 124	0	20
m-Xylene & p-Xylene	1.0	U Q	50.0	56.9		ug/L		114	80 - 121	1	20
Naphthalene	2.0	U Q	50.0	50.0		ug/L		100	61 - 128	6	20
n-Butylbenzene	2.0	U Q	50.0	48.3		ug/L		97	75 - 128	2	20

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

Lab Sample ID: 280-84354-1 MSD — **Client Sample ID: SC-TU008-MW001-G-1**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 256397

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
N-Propylbenzene	2.0	U Q	50.0	49.0		ug/L		98	76 - 126	0	20
o-Xylene	1.0	U Q	50.0	52.6		ug/L		105	78 - 122	0	20
sec-Butylbenzene	2.0	U Q	50.0	48.4		ug/L		97	77 - 126	0	20
Styrene	1.0	U Q	50.0	56.2		ug/L		112	78 - 123	1	20
tert-Butylbenzene	2.0	U Q	50.0	54.1		ug/L		108	78 - 124	0	20
Tetrachloroethene	1.0	U Q	50.0	50.7		ug/L		101	74 - 129	1	20
Toluene	1.0	U Q	50.0	53.2		ug/L		106	80 - 121	0	20
trans-1,2-Dichloroethene	1.0	U	50.0	51.8		ug/L		104	75 - 124	4	20
trans-1,3-Dichloropropene	1.0	U Q	50.0	52.3		ug/L		105	73 - 127	0	20
Trichloroethene	1.0	U	50.0	48.0		ug/L		96	79 - 123	2	20
Trichlorofluoromethane	2.0	U	50.0	48.1		ug/L		96	65 - 141	3	20
Vinyl chloride	1.0	U	50.0	50.9		ug/L		102	58 - 137	17	20
Xylenes, Total	5.0	U Q	100	110		ug/L		110	79 - 121	0	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*96*		*81 - 118*
4-Bromofluorobenzene (Surr)	*109*		*85 - 114*
Dibromofluoromethane (Surr)	*101*		*80 - 119*
Toluene-d8 (Surr)	*105*		*89 - 112*

Lab Sample ID: MB 160-256641/9 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 256641

Analyte	MB Result	MB Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	1.0	U	5.0	0.29	ug/L			06/16/16 11:39	1
1,1,2,2-Tetrachloroethane	2.0	U Q	5.0	0.43	ug/L			06/16/16 11:39	1
1,1,2-Trichloro-1,2,2-trifluoroethane	2.0	U	5.0	0.25	ug/L			06/16/16 11:39	1
1,1,2-Trichloroethane	1.0	U	5.0	0.57	ug/L			06/16/16 11:39	1
1,1-Dichloroethane	1.0	U	5.0	0.39	ug/L			06/16/16 11:39	1
1,1-Dichloroethene	1.0	U	5.0	0.37	ug/L			06/16/16 11:39	1
1,2,3-Trichlorobenzene	2.0	U Q	5.0	0.65	ug/L			06/16/16 11:39	1
1,2,4-Trichlorobenzene	2.0	U Q	5.0	0.55	ug/L			06/16/16 11:39	1
1,2,4-Trimethylbenzene	2.0	U Q	5.0	0.40	ug/L			06/16/16 11:39	1
1,2-Dibromo-3-Chloropropane	2.0	U Q	10	1.2	ug/L			06/16/16 11:39	1
1,2-Dibromoethane	2.0	U	5.0	0.44	ug/L			06/16/16 11:39	1
1,2-Dichlorobenzene	2.0	U Q	5.0	0.28	ug/L			06/16/16 11:39	1
1,2-Dichloroethane	1.0	U	5.0	0.37	ug/L			06/16/16 11:39	1
1,2-Dichloroethene, Total	2.0	U	10	0.24	ug/L			06/16/16 11:39	1
1,2-Dichloropropane	1.0	U	5.0	0.32	ug/L			06/16/16 11:39	1
1,3,5-Trimethylbenzene	2.0	U Q	5.0	0.28	ug/L			06/16/16 11:39	1
1,3-Dichlorobenzene	2.0	U Q	5.0	0.23	ug/L			06/16/16 11:39	1
1,4-Dichlorobenzene	2.0	U Q	5.0	0.35	ug/L			06/16/16 11:39	1
2-Butanone (MEK)	5.0	U	20	0.39	ug/L			06/16/16 11:39	1
2-Hexanone	2.0	U	20	0.59	ug/L			06/16/16 11:39	1
4-Methyl-2-pentanone (MIBK)	2.0	U	20	0.33	ug/L			06/16/16 11:39	1
Acetone	10	U	20	6.7	ug/L			06/16/16 11:39	1
Benzene	1.0	U	5.0	0.25	ug/L			06/16/16 11:39	1

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

Lab Sample ID: MB 160-256641/9
Matrix: Water
Analysis Batch: 256641

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

Analyte	MB Result	MB Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Bromobenzene	2.0	U Q	5.0	0.33	ug/L			06/16/16 11:39	1
Bromodichloromethane	2.0	U	5.0	0.25	ug/L			06/16/16 11:39	1
Bromoform	1.0	U	5.0	0.37	ug/L			06/16/16 11:39	1
Bromomethane	2.0	U	10	0.40	ug/L			06/16/16 11:39	1
Carbon disulfide	1.0	U	5.0	0.37	ug/L			06/16/16 11:39	1
Carbon tetrachloride	1.0	U	5.0	0.36	ug/L			06/16/16 11:39	1
Chlorobenzene	1.0	U	5.0	0.38	ug/L			06/16/16 11:39	1
Chloroethane	1.0	U	10	0.38	ug/L			06/16/16 11:39	1
Chloroform	1.0	U	5.0	0.15	ug/L			06/16/16 11:39	1
Chloromethane	2.0	U	10	0.55	ug/L			06/16/16 11:39	1
cis-1,2-Dichloroethene	1.0	U	5.0	0.16	ug/L			06/16/16 11:39	1
cis-1,3-Dichloropropene	1.0	U	5.0	0.34	ug/L			06/16/16 11:39	1
Cyclohexane	2.0	U	10	0.36	ug/L			06/16/16 11:39	1
Dibromochloromethane	1.0	U	5.0	0.33	ug/L			06/16/16 11:39	1
Dichlorodifluoromethane	2.0	U	10	0.45	ug/L			06/16/16 11:39	1
Ethylbenzene	1.0	U	5.0	0.30	ug/L			06/16/16 11:39	1
Isopropylbenzene	2.0	U	5.0	0.26	ug/L			06/16/16 11:39	1
Methyl acetate	5.0	U	25	2.3	ug/L			06/16/16 11:39	1
Methyl tert-butyl ether	2.0	U	5.0	0.40	ug/L			06/16/16 11:39	1
Methylcyclohexane	2.0	U	10	0.26	ug/L			06/16/16 11:39	1
Methylene Chloride	5.0	U	7.5	1.7	ug/L			06/16/16 11:39	1
m-Xylene & p-Xylene	1.0	U	5.0	0.57	ug/L			06/16/16 11:39	1
Naphthalene	2.0	U Q	5.0	0.85	ug/L			06/16/16 11:39	1
n-Butylbenzene	2.0	U Q	5.0	0.23	ug/L			06/16/16 11:39	1
N-Propylbenzene	2.0	U Q	5.0	0.30	ug/L			06/16/16 11:39	1
o-Xylene	1.0	U	5.0	0.32	ug/L			06/16/16 11:39	1
sec-Butylbenzene	2.0	U Q	5.0	0.31	ug/L			06/16/16 11:39	1
Styrene	1.0	U	5.0	0.35	ug/L			06/16/16 11:39	1
tert-Butylbenzene	2.0	U Q	5.0	0.31	ug/L			06/16/16 11:39	1
Tetrachloroethene	1.0	U	5.0	0.28	ug/L			06/16/16 11:39	1
Toluene	1.0	U	5.0	1.0	ug/L			06/16/16 11:39	1
trans-1,2-Dichloroethene	1.0	U	5.0	0.18	ug/L			06/16/16 11:39	1
trans-1,3-Dichloropropene	1.0	U	5.0	0.35	ug/L			06/16/16 11:39	1
Trichloroethene	1.0	U	5.0	0.29	ug/L			06/16/16 11:39	1
Trichlorofluoromethane	2.0	U	5.0	0.22	ug/L			06/16/16 11:39	1
Vinyl chloride	1.0	U	5.0	0.43	ug/L			06/16/16 11:39	1
Xylenes, Total	5.0	U	10	0.85	ug/L			06/16/16 11:39	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*92*		*81 - 118*		*06/16/16 11:39*	*1*
4-Bromofluorobenzene (Surr)	*121*	*Q*	*85 - 114*		*06/16/16 11:39*	*1*
Dibromofluoromethane (Surr)	*102*		*80 - 119*		*06/16/16 11:39*	*1*
Toluene-d8 (Surr)	*111*		*89 - 112*		*06/16/16 11:39*	*1*

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

Lab Sample ID: LCS 160-256641/6
Matrix: Water
Analysis Batch: 256641

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1-Trichloroethane	50.0	51.1		ug/L		102	74 - 131
1,1,2,2-Tetrachloroethane	50.0	50.2		ug/L		100	71 - 121
1,1,2-Trichloro-1,2,2-trifluoroethane	50.0	49.4		ug/L		99	70 - 136
1,1,2-Trichloroethane	50.0	47.5		ug/L		95	80 - 119
1,1-Dichloroethane	50.0	48.3		ug/L		97	77 - 125
1,1-Dichloroethene	50.0	50.7		ug/L		101	71 - 131
1,2,3-Trichlorobenzene	50.0	52.1		ug/L		104	69 - 129
1,2,4-Trichlorobenzene	50.0	54.0		ug/L		108	69 - 130
1,2,4-Trimethylbenzene	50.0	56.4		ug/L		113	76 - 124
1,2-Dibromo-3-Chloropropane	50.0	50.1		ug/L		100	62 - 128
1,2-Dibromoethane	50.0	49.3		ug/L		99	80 - 120
1,2-Dichlorobenzene	50.0	51.2		ug/L		102	80 - 119
1,2-Dichloroethane	50.0	48.0		ug/L		96	73 - 128
1,2-Dichloroethene, Total	100	106		ug/L		106	79 - 121
1,2-Dichloropropane	50.0	50.6		ug/L		101	78 - 122
1,3,5-Trimethylbenzene	50.0	53.5		ug/L		107	75 - 124
1,3-Dichlorobenzene	50.0	53.4		ug/L		107	80 - 119
1,4-Dichlorobenzene	50.0	50.8		ug/L		102	79 - 118
2-Butanone (MEK)	50.0	54.3		ug/L		109	56 - 143
2-Hexanone	50.0	53.4		ug/L		107	57 - 139
4-Methyl-2-pentanone (MIBK)	50.0	52.9		ug/L		106	67 - 130
Acetone	50.0	53.2		ug/L		106	39 - 160
Benzene	50.0	49.9		ug/L		100	79 - 120
Bromobenzene	50.0	50.1		ug/L		100	80 - 120
Bromodichloromethane	50.0	51.1		ug/L		102	79 - 125
Bromoform	50.0	51.4		ug/L		103	66 - 130
Bromomethane	50.0	46.2		ug/L		92	53 - 141
Carbon disulfide	50.0	49.5		ug/L		99	64 - 133
Carbon tetrachloride	50.0	51.0		ug/L		102	72 - 136
Chlorobenzene	50.0	50.1		ug/L		100	82 - 118
Chloroethane	50.0	57.3		ug/L		115	60 - 138
Chloroform	50.0	48.8		ug/L		98	79 - 124
Chloromethane	50.0	48.0		ug/L		96	50 - 139
cis-1,2-Dichloroethene	50.0	53.7		ug/L		107	78 - 123
cis-1,3-Dichloropropene	50.0	55.0		ug/L		110	75 - 124
Cyclohexane	50.0	53.5		ug/L		107	71 - 130
Dibromochloromethane	50.0	50.8		ug/L		102	74 - 126
Dichlorodifluoromethane	50.0	49.7		ug/L		99	32 - 152
Ethylbenzene	50.0	52.4		ug/L		105	79 - 121
Isopropylbenzene	50.0	57.3		ug/L		115	72 - 131
Methyl acetate	250	261		ug/L		104	56 - 136
Methyl tert-butyl ether	50.0	55.8		ug/L		112	71 - 124
Methylcyclohexane	50.0	52.5		ug/L		105	72 - 132
Methylene Chloride	50.0	49.7		ug/L		99	74 - 124
m-Xylene & p-Xylene	50.0	55.4		ug/L		111	80 - 121
Naphthalene	50.0	54.1		ug/L		108	61 - 128
n-Butylbenzene	50.0	48.8		ug/L		98	75 - 128

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

Lab Sample ID: LCS 160-256641/6
Matrix: Water
Analysis Batch: 256641

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
N-Propylbenzene	50.0	47.3		ug/L		95	76 - 126
o-Xylene	50.0	52.0		ug/L		104	78 - 122
sec-Butylbenzene	50.0	46.8		ug/L		94	77 - 126
Styrene	50.0	56.2		ug/L		112	78 - 123
tert-Butylbenzene	50.0	53.1		ug/L		106	78 - 124
Tetrachloroethene	50.0	50.0		ug/L		100	74 - 129
Toluene	50.0	50.5		ug/L		101	80 - 121
trans-1,2-Dichloroethene	50.0	52.0		ug/L		104	75 - 124
trans-1,3-Dichloropropene	50.0	52.8		ug/L		106	73 - 127
Trichloroethene	50.0	48.6		ug/L		97	79 - 123
Trichlorofluoromethane	50.0	47.6		ug/L		95	65 - 141
Vinyl chloride	50.0	50.5		ug/L		101	58 - 137
Xylenes, Total	100	107		ug/L		107	79 - 121

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*94*		*81 - 118*
4-Bromofluorobenzene (Surr)	*107*		*85 - 114*
Dibromofluoromethane (Surr)	*103*		*80 - 119*
Toluene-d8 (Surr)	*100*		*89 - 112*

Lab Sample ID: LCSD 160-256641/7
Matrix: Water
Analysis Batch: 256641

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
1,1,1-Trichloroethane	50.0	50.5		ug/L		101	74 - 131	1	20
1,1,2,2-Tetrachloroethane	50.0	51.6		ug/L		103	71 - 121	3	20
1,1,2-Trichloro-1,2,2-trifluoroethane	50.0	48.8		ug/L		98	70 - 136	1	20
1,1,2-Trichloroethane	50.0	47.7		ug/L		95	80 - 119	1	20
1,1-Dichloroethane	50.0	47.5		ug/L		95	77 - 125	2	20
1,1-Dichloroethene	50.0	49.1		ug/L		98	71 - 131	3	20
1,2,3-Trichlorobenzene	50.0	53.8		ug/L		108	69 - 129	3	20
1,2,4-Trichlorobenzene	50.0	55.0		ug/L		110	69 - 130	2	20
1,2,4-Trimethylbenzene	50.0	55.9		ug/L		112	76 - 124	1	20
1,2-Dibromo-3-Chloropropane	50.0	52.5		ug/L		105	62 - 128	5	20
1,2-Dibromoethane	50.0	50.7		ug/L		101	80 - 120	3	20
1,2-Dichlorobenzene	50.0	51.8		ug/L		104	80 - 119	1	20
1,2-Dichloroethane	50.0	47.8		ug/L		96	73 - 128	0	20
1,2-Dichloroethene, Total	100	104		ug/L		104	79 - 121	1	20
1,2-Dichloropropane	50.0	49.8		ug/L		100	78 - 122	2	20
1,3,5-Trimethylbenzene	50.0	53.4		ug/L		107	75 - 124	0	20
1,3-Dichlorobenzene	50.0	53.4		ug/L		107	80 - 119	0	20
1,4-Dichlorobenzene	50.0	49.8		ug/L		100	79 - 118	2	20
2-Butanone (MEK)	50.0	54.4		ug/L		109	56 - 143	0	20
2-Hexanone	50.0	56.2		ug/L		112	57 - 139	5	20
4-Methyl-2-pentanone (MIBK)	50.0	56.0		ug/L		112	67 - 130	6	20
Acetone	50.0	57.1		ug/L		114	39 - 160	7	20

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

Lab Sample ID: LCSD 160-256641/7
Matrix: Water
Analysis Batch: 256641

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	50.0	49.0		ug/L		98	79 - 120	2	20
Bromobenzene	50.0	50.5		ug/L		101	80 - 120	1	20
Bromodichloromethane	50.0	50.2		ug/L		100	79 - 125	2	20
Bromoform	50.0	52.4		ug/L		105	66 - 130	2	20
Bromomethane	50.0	46.1		ug/L		92	53 - 141	0	20
Carbon disulfide	50.0	48.4		ug/L		97	64 - 133	2	20
Carbon tetrachloride	50.0	50.7		ug/L		101	72 - 136	1	20
Chlorobenzene	50.0	49.9		ug/L		100	82 - 118	0	20
Chloroethane	50.0	45.8	Q	ug/L		92	60 - 138	22	20
Chloroform	50.0	48.5		ug/L		97	79 - 124	1	20
Chloromethane	50.0	47.3		ug/L		95	50 - 139	1	20
cis-1,2-Dichloroethene	50.0	53.1		ug/L		106	78 - 123	1	20
cis-1,3-Dichloropropene	50.0	55.1		ug/L		110	75 - 124	0	20
Cyclohexane	50.0	53.4		ug/L		107	71 - 130	0	20
Dibromochloromethane	50.0	50.6		ug/L		101	74 - 126	0	20
Dichlorodifluoromethane	50.0	48.1		ug/L		96	32 - 152	3	20
Ethylbenzene	50.0	51.6		ug/L		103	79 - 121	2	20
Isopropylbenzene	50.0	56.7		ug/L		113	72 - 131	1	20
Methyl acetate	250	268		ug/L		107	56 - 136	3	20
Methyl tert-butyl ether	50.0	56.3		ug/L		113	71 - 124	1	20
Methylcyclohexane	50.0	51.4		ug/L		103	72 - 132	2	20
Methylene Chloride	50.0	49.4		ug/L		99	74 - 124	1	20
m-Xylene & p-Xylene	50.0	55.7		ug/L		111	80 - 121	1	20
Naphthalene	50.0	58.5		ug/L		117	61 - 128	8	20
n-Butylbenzene	50.0	47.9		ug/L		96	75 - 128	2	20
N-Propylbenzene	50.0	47.3		ug/L		95	76 - 126	0	20
o-Xylene	50.0	52.3		ug/L		105	78 - 122	1	20
sec-Butylbenzene	50.0	46.8		ug/L		94	77 - 126	0	20
Styrene	50.0	56.0		ug/L		112	78 - 123	0	20
tert-Butylbenzene	50.0	53.1		ug/L		106	78 - 124	0	20
Tetrachloroethene	50.0	49.8		ug/L		100	74 - 129	0	20
Toluene	50.0	51.0		ug/L		102	80 - 121	1	20
trans-1,2-Dichloroethene	50.0	51.2		ug/L		102	75 - 124	1	20
trans-1,3-Dichloropropene	50.0	52.5		ug/L		105	73 - 127	0	20
Trichloroethene	50.0	48.8		ug/L		98	79 - 123	0	20
Trichlorofluoromethane	50.0	47.5		ug/L		95	65 - 141	0	20
Vinyl chloride	50.0	49.2		ug/L		98	58 - 137	3	20
Xylenes, Total	100	108		ug/L		108	79 - 121	1	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*95*		*81 - 118*
4-Bromofluorobenzene (Surr)	*108*		*85 - 114*
Dibromofluoromethane (Surr)	*103*		*80 - 119*
Toluene-d8 (Surr)	*100*		*89 - 112*

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

Lab Sample ID: MB 280-329438/1-A
Matrix: Water
Analysis Batch: 331506

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 329438

Analyte	MB Result	MB Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4,5-Tetrachlorobenzene	4.4	U	10	1.7	ug/L		06/11/16 15:20	06/27/16 15:47	1
1,2,4-Trichlorobenzene	1.0	U	10	0.28	ug/L		06/11/16 15:20	06/27/16 15:47	1
1,2-Dichlorobenzene	0.50	U	10	0.23	ug/L		06/11/16 15:20	06/27/16 15:47	1
1,2-Diphenylhydrazine	0.51	U	10	0.23	ug/L		06/11/16 15:20	06/27/16 15:47	1
1,3-Dichlorobenzene	1.0	U	10	0.30	ug/L		06/11/16 15:20	06/27/16 15:47	1
1,4-Dichlorobenzene	1.0	U	10	0.32	ug/L		06/11/16 15:20	06/27/16 15:47	1
2,2'-oxybis[1-chloropropane]	1.0	U	10	0.28	ug/L		06/11/16 15:20	06/27/16 15:47	1
2,4,5-Trichlorophenol	1.0	U	20	0.45	ug/L		06/11/16 15:20	06/27/16 15:47	1
2,4,6-Trichlorophenol	1.0	U	20	0.29	ug/L		06/11/16 15:20	06/27/16 15:47	1
2,4-Dichlorophenol	2.0	U	10	0.64	ug/L		06/11/16 15:20	06/27/16 15:47	1
2,4-Dimethylphenol	2.0	U	10	0.58	ug/L		06/11/16 15:20	06/27/16 15:47	1
2,4-Dinitrophenol	30	U	80	10	ug/L		06/11/16 15:20	06/27/16 15:47	1
2,4-Dinitrotoluene	4.4	U	20	1.7	ug/L		06/11/16 15:20	06/27/16 15:47	1
2,6-Dichlorophenol	4.0	U	10	1.4	ug/L		06/11/16 15:20	06/27/16 15:47	1
2,6-Dinitrotoluene	4.4	U	20	1.9	ug/L		06/11/16 15:20	06/27/16 15:47	1
2-Chloronaphthalene	1.0	U	10	0.26	ug/L		06/11/16 15:20	06/27/16 15:47	1
2-Chlorophenol	4.4	U	10	2.0	ug/L		06/11/16 15:20	06/27/16 15:47	1
2-Methylnaphthalene	1.0	U	10	0.29	ug/L		06/11/16 15:20	06/27/16 15:47	1
2-Methylphenol	2.0	U	10	0.98	ug/L		06/11/16 15:20	06/27/16 15:47	1
3 & 4 Methylphenol	0.50	U	20	0.25	ug/L		06/11/16 15:20	06/27/16 15:47	1
3,3'-Dichlorobenzidine	4.4	U	50	2.0	ug/L		06/11/16 15:20	06/27/16 15:47	1
3-Nitroaniline	4.4	U	50	2.0	ug/L		06/11/16 15:20	06/27/16 15:47	1
4,6-Dinitro-2-methylphenol	8.8	U	80	4.0	ug/L		06/11/16 15:20	06/27/16 15:47	1
4-Chloroaniline	4.4	U	25	2.1	ug/L		06/11/16 15:20	06/27/16 15:47	1
4-Chlorophenyl phenyl ether	4.4	U	10	1.7	ug/L		06/11/16 15:20	06/27/16 15:47	1
4-Nitroaniline	4.4	U	50	2.0	ug/L		06/11/16 15:20	06/27/16 15:47	1
4-Nitrophenol	4.0	U	50	1.2	ug/L		06/11/16 15:20	06/27/16 15:47	1
Acenaphthene	1.0	U	10	0.28	ug/L		06/11/16 15:20	06/27/16 15:47	1
Acenaphthylene	1.0	U	10	0.49	ug/L		06/11/16 15:20	06/27/16 15:47	1
Anthracene	1.0	U	10	0.42	ug/L		06/11/16 15:20	06/27/16 15:47	1
Benzidine	100	U	200	50	ug/L		06/11/16 15:20	06/27/16 15:47	1
Benzo[a]anthracene	1.0	U	10	0.35	ug/L		06/11/16 15:20	06/27/16 15:47	1
Benzo[a]pyrene	1.0	U	10	0.31	ug/L		06/11/16 15:20	06/27/16 15:47	1
Benzo[b]fluoranthene	2.0	U	10	0.53	ug/L		06/11/16 15:20	06/27/16 15:47	1
Benzo[g,h,i]perylene	1.0	U	10	0.50	ug/L		06/11/16 15:20	06/27/16 15:47	1
Benzo[k]fluoranthene	1.0	U	10	0.46	ug/L		06/11/16 15:20	06/27/16 15:47	1
Benzoic acid	30	U	80	10	ug/L		06/11/16 15:20	06/27/16 15:47	1
Benzyl alcohol	0.692	J	25	0.23	ug/L		06/11/16 15:20	06/27/16 15:47	1
Bis(2-chloroethoxy)methane	2.0	U	10	0.97	ug/L		06/11/16 15:20	06/27/16 15:47	1
Bis(2-chloroethyl)ether	1.0	U	20	0.41	ug/L		06/11/16 15:20	06/27/16 15:47	1
Bis(2-ethylhexyl) phthalate	1.57	J	10	0.56	ug/L		06/11/16 15:20	06/27/16 15:47	1
Butyl benzyl phthalate	2.0	U	20	1.0	ug/L		06/11/16 15:20	06/27/16 15:47	1
Carbazole	1.0	U	10	0.43	ug/L		06/11/16 15:20	06/27/16 15:47	1
Chrysene	2.0	U	10	0.54	ug/L		06/11/16 15:20	06/27/16 15:47	1
Dibenz(a,h)anthracene	2.0	U	10	0.51	ug/L		06/11/16 15:20	06/27/16 15:47	1
Dibenzofuran	1.0	U	10	0.29	ug/L		06/11/16 15:20	06/27/16 15:47	1
Diethyl phthalate	1.0	U	20	0.38	ug/L		06/11/16 15:20	06/27/16 15:47	1
Dimethyl phthalate	0.50	U	20	0.21	ug/L		06/11/16 15:20	06/27/16 15:47	1

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

Lab Sample ID: MB 280-329438/1-A
Matrix: Water
Analysis Batch: 331506

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 329438

Analyte	MB Result	MB Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Di-n-butyl phthalate	4.4	U	20	1.2	ug/L		06/11/16 15:20	06/27/16 15:47	1
Di-n-octyl phthalate	1.0	U	20	0.35	ug/L		06/11/16 15:20	06/27/16 15:47	1
Fluoranthene	0.50	U	20	0.20	ug/L		06/11/16 15:20	06/27/16 15:47	1
Fluorene	1.0	U	10	0.31	ug/L		06/11/16 15:20	06/27/16 15:47	1
Hexachlorobenzene	2.0	U	10	0.66	ug/L		06/11/16 15:20	06/27/16 15:47	1
Hexachlorobutadiene	10	U	30	3.3	ug/L		06/11/16 15:20	06/27/16 15:47	1
Hexachlorocyclopentadiene	30	U	50	10	ug/L		06/11/16 15:20	06/27/16 15:47	1
Hexachloroethane	4.4	U	10	2.1	ug/L		06/11/16 15:20	06/27/16 15:47	1
Indeno[1,2,3-cd]pyrene	2.0	U	10	0.65	ug/L		06/11/16 15:20	06/27/16 15:47	1
Isophorone	0.50	U	10	0.21	ug/L		06/11/16 15:20	06/27/16 15:47	1
Naphthalene	1.0	U	10	0.29	ug/L		06/11/16 15:20	06/27/16 15:47	1
Nitrobenzene	2.0	U	20	0.81	ug/L		06/11/16 15:20	06/27/16 15:47	1
N-Nitrosodimethylamine	1.0	U	10	0.29	ug/L		06/11/16 15:20	06/27/16 15:47	1
N-Nitrosodi-n-propylamine	1.0	U	20	0.35	ug/L		06/11/16 15:20	06/27/16 15:47	1
N-Nitrosodiphenylamine	1.0	U	10	0.44	ug/L		06/11/16 15:20	06/27/16 15:47	1
N-Nitrosopyrrolidine	2.0	U	10	0.80	ug/L		06/11/16 15:20	06/27/16 15:47	1
Pentachlorophenol	60	U	80	20	ug/L		06/11/16 15:20	06/27/16 15:47	1
Phenanthrene	1.0	U	10	0.26	ug/L		06/11/16 15:20	06/27/16 15:47	1
Phenol	4.4	U	10	2.0	ug/L		06/11/16 15:20	06/27/16 15:47	1
Pyrene	1.0	U	10	0.37	ug/L		06/11/16 15:20	06/27/16 15:47	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*80*		*43 - 140*	*06/11/16 15:20*	*06/27/16 15:47*	*1*
2-Fluorobiphenyl	*69*		*44 - 119*	*06/11/16 15:20*	*06/27/16 15:47*	*1*
2-Fluorophenol (Surr)	*74*		*19 - 119*	*06/11/16 15:20*	*06/27/16 15:47*	*1*
Nitrobenzene-d5 (Surr)	*74*		*44 - 120*	*06/11/16 15:20*	*06/27/16 15:47*	*1*
Phenol-d5 (Surr)	*71*		*10 - 115*	*06/11/16 15:20*	*06/27/16 15:47*	*1*
Terphenyl-d14 (Surr)	*89*		*50 - 134*	*06/11/16 15:20*	*06/27/16 15:47*	*1*

Lab Sample ID: LCS 280-329438/2-A
Matrix: Water
Analysis Batch: 331506

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 329438

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2,4,5-Tetrachlorobenzene	80.0	50.6		ug/L		63	35 - 121
1,2,4-Trichlorobenzene	80.0	34.1		ug/L		43	29 - 116
1,2-Dichlorobenzene	80.0	31.3		ug/L		39	32 - 111
1,2-Diphenylhydrazine	80.9	61.5		ug/L		76	49 - 122
1,3-Dichlorobenzene	80.0	28.7		ug/L		36	28 - 110
1,4-Dichlorobenzene	80.0	29.5		ug/L		37	29 - 112
2,2'-oxybis[1-chloropropane]	80.0	49.9		ug/L		62	37 - 130
2,4,5-Trichlorophenol	80.0	62.7		ug/L		78	53 - 123
2,4,6-Trichlorophenol	80.0	65.0		ug/L		81	50 - 125
2,4-Dichlorophenol	80.0	62.6		ug/L		78	47 - 121
2,4-Dimethylphenol	80.0	57.3		ug/L		72	31 - 124
2,4-Dinitrophenol	160	115		ug/L		72	23 - 143
2,4-Dinitrotoluene	80.0	68.0		ug/L		85	57 - 128
2,6-Dichlorophenol	80.0	64.1		ug/L		80	50 - 118

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

Lab Sample ID: LCS 280-329438/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 331506 — **Prep Batch: 329438**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
2,6-Dinitrotoluene	80.0	67.8		ug/L		85	57 - 124
2-Chloronaphthalene	80.0	52.2		ug/L		65	40 - 116
2-Chlorophenol	80.0	58.5		ug/L		73	38 - 117
2-Methylnaphthalene	80.0	48.9		ug/L		61	40 - 121
2-Methylphenol	80.0	58.1		ug/L		73	30 - 117
3 & 4 Methylphenol	80.0	58.5		ug/L		73	29 - 110
3,3'-Dichlorobenzidine	80.0	77.4		ug/L		97	27 - 129
3-Nitroaniline	80.0	63.4		ug/L		79	41 - 128
4,6-Dinitro-2-methylphenol	160	120		ug/L		75	44 - 137
4-Chloroaniline	80.0	56.6		ug/L		71	33 - 117
4-Chlorophenyl phenyl ether	80.0	59.5		ug/L		74	53 - 121
4-Nitroaniline	80.0	64.2		ug/L		80	70 - 120
4-Nitrophenol	160	137		ug/L		85	59 - 129
Acenaphthene	80.0	58.2		ug/L		73	47 - 122
Acenaphthylene	80.0	57.5		ug/L		72	41 - 130
Anthracene	80.0	63.7		ug/L		80	57 - 123
Benzidine	80.0	100	U Q	ug/L		0	27 - 150
Benzo[a]anthracene	80.0	64.1		ug/L		80	58 - 125
Benzo[a]pyrene	80.0	62.6		ug/L		78	54 - 128
Benzo[b]fluoranthene	80.0	65.5		ug/L		82	53 - 131
Benzo[g,h,i]perylene	80.0	65.4		ug/L		82	50 - 134
Benzo[k]fluoranthene	80.0	63.9		ug/L		80	57 - 129
Benzoic acid	80.0	56.4	J	ug/L		70	41 - 120
Benzyl alcohol	80.0	61.0		ug/L		76	31 - 112
Bis(2-chloroethoxy)methane	80.0	62.7		ug/L		78	48 - 120
Bis(2-chloroethyl)ether	80.0	58.5		ug/L		73	43 - 118
Bis(2-ethylhexyl) phthalate	80.0	69.9		ug/L		87	55 - 135
Butyl benzyl phthalate	80.0	65.1		ug/L		81	53 - 134
Carbazole	80.0	65.0		ug/L		81	60 - 122
Chrysene	80.0	65.8		ug/L		82	59 - 123
Dibenz(a,h)anthracene	80.0	63.2		ug/L		79	51 - 134
Dibenzofuran	80.0	60.0		ug/L		75	53 - 118
Diethyl phthalate	80.0	67.3		ug/L		84	56 - 125
Dimethyl phthalate	80.0	66.6		ug/L		83	45 - 127
Di-n-butyl phthalate	80.0	65.0		ug/L		81	59 - 127
Di-n-octyl phthalate	80.0	65.9		ug/L		82	51 - 140
Fluoranthene	80.0	64.2		ug/L		80	57 - 128
Fluorene	80.0	60.5		ug/L		76	52 - 124
Hexachlorobenzene	80.0	63.6		ug/L		80	53 - 125
Hexachlorobutadiene	80.0	28.1	J	ug/L		35	22 - 124
Hexachlorocyclopentadiene	80.0	18.8	J	ug/L		24	10 - 120
Hexachloroethane	80.0	25.0		ug/L		31	21 - 115
Indeno[1,2,3-cd]pyrene	80.0	61.8		ug/L		77	52 - 134
Isophorone	80.0	60.9		ug/L		76	42 - 124
Naphthalene	80.0	43.8		ug/L		55	40 - 121
Nitrobenzene	80.0	58.9		ug/L		74	45 - 121
N-Nitrosodimethylamine	80.0	57.1		ug/L		71	56 - 120
N-Nitrosodi-n-propylamine	80.0	58.5		ug/L		73	49 - 119

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

Lab Sample ID: LCS 280-329438/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 331506 — **Prep Batch: 329438**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
N-Nitrosodiphenylamine	80.0	63.8		ug/L		80	51 - 123
Pentachlorophenol	160	119		ug/L		74	35 - 138
Phenanthrene	80.0	64.2		ug/L		80	59 - 120
Phenol	80.0	57.0		ug/L		71	61 - 120
Pyrene	80.0	64.4		ug/L		80	57 - 126

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2,4,6-Tribromophenol (Surr)	*87*		*43 - 140*
2-Fluorobiphenyl	*78*		*44 - 119*
2-Fluorophenol (Surr)	*72*		*19 - 119*
Nitrobenzene-d5 (Surr)	*74*		*44 - 120*
Phenol-d5 (Surr)	*76*		*10 - 115*
Terphenyl-d14 (Surr)	*84*		*50 - 134*

Lab Sample ID: 280-84354-1 MS — **Client Sample ID: SC-TU008-MW001-G-1**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 331506 — **Prep Batch: 329438**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2,4,5-Tetrachlorobenzene	420	U	75.7	420	U D	ug/L		NC	35 - 121
1,2,4-Trichlorobenzene	130	J D J	75.7	46.2	D J	ug/L		-106	29 - 116
1,2-Dichlorobenzene	25	J D J	75.7	46.1	D J	ug/L		27	32 - 111
1,2-Diphenylhydrazine	49	U	76.5	47.4	J D	ug/L		62	49 - 122
1,3-Dichlorobenzene	96	U	75.7	41.1	J D	ug/L		54	28 - 110
1,4-Dichlorobenzene	96	U	75.7	46.7	J D	ug/L		62	29 - 112
2,2'-oxybis[1-chloropropane]	96	U	75.7	48.8	J D	ug/L		64	37 - 130
2,4,5-Trichlorophenol	96	U J	75.7	48.4	J D	ug/L		64	53 - 123
2,4,6-Trichlorophenol	96	U	75.7	68.4	J D	ug/L		90	50 - 125
2,4-Dichlorophenol	190	U J	75.7	190	U D J	ug/L		0	47 - 121
2,4-Dimethylphenol	190	U J	75.7	190	U D J	ug/L		0	31 - 124
2,4-Dinitrophenol	2900	U	151	2800	U D	ug/L		NC	23 - 143
2,4-Dinitrotoluene	420	U	75.7	420	U D	ug/L		NC	57 - 128
2,6-Dichlorophenol	380	U	75.7	380	U D	ug/L		NC	50 - 118
2,6-Dinitrotoluene	420	U	75.7	420	U D	ug/L		NC	57 - 124
2-Chloronaphthalene	96	U	75.7	51.6	J D	ug/L		68	40 - 116
2-Chlorophenol	420	U	75.7	420	U D	ug/L		NC	38 - 117
2-Methylnaphthalene	96	U	75.7	52.7	J D	ug/L		70	40 - 121
2-Methylphenol	190	U	75.7	190	U D	ug/L		NC	30 - 117
3 & 4 Methylphenol	48	U	75.7	46.7	J D	ug/L		62	29 - 110
3,3'-Dichlorobenzidine	420	U	75.7	420	U D	ug/L		NC	27 - 129
3-Nitroaniline	420	U	75.7	420	U D	ug/L		NC	41 - 128
4,6-Dinitro-2-methylphenol	850	U	151	830	U D	ug/L		NC	44 - 137
4-Chloroaniline	420	U	75.7	420	U D	ug/L		NC	33 - 117
4-Chlorophenyl phenyl ether	420	U	75.7	420	U D	ug/L		NC	53 - 121
4-Nitroaniline	420	U	75.7	420	U D	ug/L		NC	70 - 120
4-Nitrophenol	380	U J	151	380	U D J	ug/L		0	59 - 129
Acenaphthene	96	U	75.7	59.0	J D Q	ug/L		78	47 - 122
Acenaphthylene	96	U	75.7	51.2	J D Q	ug/L		68	41 - 130

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

Lab Sample ID: 280-84354-1 MS | **Client Sample ID: SC-TU008-MW001-G-1**
Matrix: Water | **Prep Type: Total/NA**
Analysis Batch: 331506 | **Prep Batch: 329438**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Anthracene	96	U	75.7	54.5	J D Q	ug/L		72	57 - 123
Benzidine	9600	U Q	75.7	9500	U D Q	ug/L		NC	27 - 150
Benzo[a]anthracene	96	U	75.7	54.4	J D Q	ug/L		72	58 - 125
Benzo[a]pyrene	96	U J	75.7	95	U D Q J	ug/L		0	54 - 128
Benzo[b]fluoranthene	190	U J	75.7	190	U D Q J	ug/L		0	53 - 131
Benzo[g,h,i]perylene	96	U J	75.7	95	U D Q J	ug/L		0	50 - 134
Benzo[k]fluoranthene	96	U J	75.7	95	U D Q J	ug/L		0	57 - 129
Benzoic acid	2900	U	75.7	2800	U D	ug/L		NC	41 - 120
Benzyl alcohol	48	U	75.7	45.0	J D	ug/L		59	31 - 112
Bis(2-chloroethoxy)methane	190	U	75.7	190	U D	ug/L		NC	48 - 120
Bis(2-chloroethyl)ether	96	U	75.7	53.8	J D	ug/L		71	43 - 118
Bis(2-ethylhexyl) phthalate	190	U J	75.7	190	U D J	ug/L		0	55 - 135
Butyl benzyl phthalate	190	U	75.7	190	U D	ug/L		NC	53 - 134
Carbazole	96	U	75.7	50.1	J D	ug/L		66	60 - 122
Chrysene	190	U	75.7	51.7	J D Q	ug/L		68	59 - 123
Dibenz(a,h)anthracene	190	U J	75.7	190	U D J	ug/L		0	51 - 134
Dibenzofuran	96	U	75.7	58.8	J D	ug/L		78	53 - 118
Diethyl phthalate	96	U	75.7	57.9	J D	ug/L		76	56 - 125
Dimethyl phthalate	48	U	75.7	59.8	J D	ug/L		79	45 - 127
Di-n-butyl phthalate	420	U	75.7	420	U D	ug/L		NC	59 - 127
Di-n-octyl phthalate	96	U J	75.7	95	U D J	ug/L		0	51 - 140
Fluoranthene	48	U	75.7	47.4	J D Q	ug/L		63	57 - 128
Fluorene	96	U	75.7	59.7	J D Q	ug/L		79	52 - 124
Hexachlorobenzene	190	U J	75.7	190	U D J	ug/L		0	53 - 125
Hexachlorobutadiene	960	U	75.7	950	U D	ug/L		NC	22 - 124
Hexachlorocyclopentadiene	2900	U	75.7	2800	U D	ug/L		NC	10 - 120
Hexachloroethane	420	U	75.7	420	U D	ug/L		NC	21 - 115
Indeno[1,2,3-cd]pyrene	190	U J	75.7	190	U D Q J	ug/L		0	52 - 134
Isophorone	48	U	75.7	51.1	J D	ug/L		67	42 - 124
Naphthalene	96	U	75.7	55.0	J D Q	ug/L		73	40 - 121
Nitrobenzene	190	U	75.7	190	U D	ug/L		NC	45 - 121
N-Nitrosodimethylamine	96	U J	75.7	48.6	J D	ug/L		64	56 - 120
N-Nitrosodi-n-propylamine	96	U	75.7	56.2	J D	ug/L		74	49 - 119
N-Nitrosodiphenylamine	96	U	75.7	51.9	J D	ug/L		69	51 - 123
Pentachlorophenol	5800	U	151	5700	U D	ug/L		NC	35 - 138
Phenanthrene	96	U	75.7	61.8	J D Q	ug/L		82	59 - 120
Phenol	420	U	75.7	420	U D	ug/L		NC	61 - 120
Pyrene	96	U	75.7	50.1	J D Q	ug/L		66	57 - 126

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
2,4,6-Tribromophenol (Surr)	*58*	*D*	*43 - 140*
2-Fluorobiphenyl	*71*	*D*	*44 - 119*
2-Fluorophenol (Surr)	*66*	*D*	*19 - 119*
Nitrobenzene-d5 (Surr)	*62*	*D*	*44 - 120*
Phenol-d5 (Surr)	*63*	*D*	*10 - 115*
Terphenyl-d14 (Surr)	*43*	*D Q*	*50 - 134*

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

Lab Sample ID: 280-84354-1 MSD | **Client Sample ID: SC-TU008-MW001-G-1**
Matrix: Water | **Prep Type: Total/NA**
Analysis Batch: 331506 | **Prep Batch: 329438**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,2,4,5-Tetrachlorobenzene	420	U	76.9	420	U D	ug/L		NC	35 - 121	NC	20
1,2,4-Trichlorobenzene	130	J D J	76.9	55.6	D J	ug/L		-92	29 - 116	18	20
1,2-Dichlorobenzene	25	J D J	76.9	44.4	D J	ug/L		25	32 - 111	4	20
1,2-Diphenylhydrazine	49	U	77.8	53.0	J D	ug/L		68	49 - 122	11	20
1,3-Dichlorobenzene	96	U	76.9	46.0	J D	ug/L		60	28 - 110	11	20
1,4-Dichlorobenzene	96	U	76.9	50.5	J D	ug/L		66	29 - 112	8	20
2,2'-oxybis[1-chloropropane]	96	U	76.9	51.2	J D	ug/L		67	37 - 130	5	20
2,4,5-Trichlorophenol	96	U J	76.9	59.9	D J	ug/L		78	53 - 123	21	20
2,4,6-Trichlorophenol	96	U	76.9	62.9	J D	ug/L		82	50 - 125	8	20
2,4-Dichlorophenol	190	U J	76.9	190	U D J	ug/L		0	47 - 121	NC	20
2,4-Dimethylphenol	190	U J	76.9	190	U D J	ug/L		0	31 - 124	NC	20
2,4-Dinitrophenol	2900	U	154	2900	U D	ug/L		NC	23 - 143	NC	20
2,4-Dinitrotoluene	420	U	76.9	420	U D	ug/L		NC	57 - 128	NC	20
2,6-Dichlorophenol	380	U	76.9	380	U D	ug/L		NC	50 - 118	NC	20
2,6-Dinitrotoluene	420	U	76.9	420	U D	ug/L		NC	57 - 124	NC	20
2-Chloronaphthalene	96	U	76.9	58.1	J D	ug/L		76	40 - 116	12	20
2-Chlorophenol	420	U	76.9	420	U D	ug/L		NC	38 - 117	NC	20
2-Methylnaphthalene	96	U	76.9	53.7	J D	ug/L		70	40 - 121	2	20
2-Methylphenol	190	U	76.9	190	U D	ug/L		NC	30 - 117	NC	20
3 & 4 Methylphenol	48	U	76.9	44.2	J D	ug/L		57	29 - 110	5	20
3,3'-Dichlorobenzidine	420	U	76.9	420	U D	ug/L		NC	27 - 129	NC	20
3-Nitroaniline	420	U	76.9	420	U D	ug/L		NC	41 - 128	NC	20
4,6-Dinitro-2-methylphenol	850	U	154	850	U D	ug/L		NC	44 - 137	NC	20
4-Chloroaniline	420	U	76.9	420	U D	ug/L		NC	33 - 117	NC	20
4-Chlorophenyl phenyl ether	420	U	76.9	420	U D	ug/L		NC	53 - 121	NC	20
4-Nitroaniline	420	U	76.9	420	U D	ug/L		NC	70 - 120	NC	20
4-Nitrophenol	380	U J	154	380	U D J	ug/L		0	59 - 129	NC	20
Acenaphthene	96	U	76.9	64.0	J D Q	ug/L		83	47 - 122	8	20
Acenaphthylene	96	U	76.9	47.5	J D Q	ug/L		62	41 - 130	7	20
Anthracene	96	U	76.9	53.0	J D Q	ug/L		69	57 - 123	3	20
Benzidine	9600	U Q	76.9	9600	U D Q	ug/L		NC	27 - 150	NC	20
Benzo[a]anthracene	96	U	76.9	53.3	J D Q	ug/L		69	58 - 125	2	20
Benzo[a]pyrene	96	U J	76.9	34.6	D Q J	ug/L		45	54 - 128	200	20
Benzo[b]fluoranthene	190	U J	76.9	190	U D Q J	ug/L		0	53 - 131	NC	20
Benzo[g,h,i]perylene	96	U J	76.9	96	U D Q J	ug/L		0	50 - 134	NC	20
Benzo[k]fluoranthene	96	U J	76.9	96	U D Q J	ug/L		0	57 - 129	NC	20
Benzoic acid	2900	U	76.9	2900	U D	ug/L		NC	41 - 120	NC	20
Benzyl alcohol	48	U	76.9	43.8	J D	ug/L		57	31 - 112	3	20
Bis(2-chloroethoxy)methane	190	U	76.9	190	U D	ug/L		NC	48 - 120	NC	20
Bis(2-chloroethyl)ether	96	U	76.9	59.1	J D	ug/L		77	43 - 118	9	20
Bis(2-ethylhexyl) phthalate	190	U J	76.9	190	U D J	ug/L		0	55 - 135	NC	20
Butyl benzyl phthalate	190	U	76.9	190	U D	ug/L		NC	53 - 134	NC	20
Carbazole	96	U	76.9	51.2	J D	ug/L		67	60 - 122	2	20
Chrysene	190	U	76.9	54.7	J D Q	ug/L		71	59 - 123	6	20
Dibenz(a,h)anthracene	190	U J	76.9	190	U D J	ug/L		0	51 - 134	NC	20
Dibenzofuran	96	U	76.9	60.6	J D	ug/L		79	53 - 118	3	20
Diethyl phthalate	96	U	76.9	60.2	J D	ug/L		78	56 - 125	4	20
Dimethyl phthalate	48	U	76.9	58.9	J D	ug/L		77	45 - 127	1	20

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

Lab Sample ID: 280-84354-1 MSD | **Client Sample ID: SC-TU008-MW001-G-1**
Matrix: Water | **Prep Type: Total/NA**
Analysis Batch: 331506 | **Prep Batch: 329438**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Di-n-butyl phthalate	420	U	76.9	420	U D	ug/L		NC	59 - 127	NC	20
Di-n-octyl phthalate	96	U J	76.9	96	U D J	ug/L		0	51 - 140	NC	20
Fluoranthene	48	U	76.9	48.4	J D Q	ug/L		63	57 - 128	2	20
Fluorene	96	U	76.9	61.6	J D Q	ug/L		80	52 - 124	3	20
Hexachlorobenzene	190	U J	76.9	190	U D J	ug/L		0	53 - 125	NC	20
Hexachlorobutadiene	960	U	76.9	960	U D	ug/L		NC	22 - 124	NC	20
Hexachlorocyclopentadiene	2900	U	76.9	2900	U D	ug/L		NC	10 - 120	NC	20
Hexachloroethane	420	U	76.9	420	U D	ug/L		NC	21 - 115	NC	20
Indeno[1,2,3-cd]pyrene	190	U J	76.9	190	U D Q J	ug/L		0	52 - 134	NC	20
Isophorone	48	U	76.9	49.7	J D	ug/L		65	42 - 124	3	20
Naphthalene	96	U	76.9	57.8	J D Q	ug/L		75	40 - 121	5	20
Nitrobenzene	190	U	76.9	190	U D	ug/L		NC	45 - 121	NC	20
N-Nitrosodimethylamine	96	U J	76.9	42.6	D J	ug/L		55	56 - 120	13	20
N-Nitrosodi-n-propylamine	96	U	76.9	55.7	J D	ug/L		72	49 - 119	1	20
N-Nitrosodiphenylamine	96	U	76.9	56.1	J D	ug/L		73	51 - 123	8	20
Pentachlorophenol	5800	U	154	5800	U D	ug/L		NC	35 - 138	NC	20
Phenanthrene	96	U	76.9	63.8	J D Q	ug/L		83	59 - 120	3	20
Phenol	420	U	76.9	420	U D	ug/L		NC	61 - 120	NC	20
Pyrene	96	U	76.9	52.9	J D Q	ug/L		69	57 - 126	5	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
2,4,6-Tribromophenol (Surr)	*68*	*D*	*43 - 140*
2-Fluorobiphenyl	*74*	*D*	*44 - 119*
2-Fluorophenol (Surr)	*67*	*D*	*19 - 119*
Nitrobenzene-d5 (Surr)	*55*	*D*	*44 - 120*
Phenol-d5 (Surr)	*67*	*D*	*10 - 115*
Terphenyl-d14 (Surr)	*29*	*D Q*	*50 - 134*

Lab Chronicle

Client: Weston Solutions, Inc.
Project/Site: Schenectady ANGB, TU008

TestAmerica Job ID: 280-84354-1

Client Sample ID: SC-TU008-MW001-G-1 — Lab Sample ID: 280-84354-1

Date Collected: 06/08/16 16:25
Date Received: 06/10/16 09:25
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C DOD		1	5 mL	5 mL	256397	06/15/16 16:40	SMR	TAL SL
Total/NA	Prep	3520C			1040.2 mL	10 mL	329438	06/11/16 15:20	JRA	TAL DEN
Total/NA	Analysis	8270D		10			331506	06/27/16 21:20	DCK	TAL DEN

Client Sample ID: SC-TU008-MW002-G-1 — Lab Sample ID: 280-84354-2

Date Collected: 06/08/16 15:26
Date Received: 06/10/16 09:25
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C DOD		1	5 mL	5 mL	256397	06/15/16 14:06	SMR	TAL SL
Total/NA	Prep	3520C			1004.1 mL	1 mL	329438	06/11/16 15:20	JRA	TAL DEN
Total/NA	Analysis	8270D		1			331506	06/27/16 22:43	DCK	TAL DEN

Client Sample ID: SC-TU008-MW002-G-1-D — Lab Sample ID: 280-84354-3

Date Collected: 06/08/16 15:30
Date Received: 06/10/16 09:25
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C DOD		1	5 mL	5 mL	256397	06/15/16 14:31	SMR	TAL SL
Total/NA	Prep	3520C			991.9 mL	1 mL	329438	06/11/16 15:20	JRA	TAL DEN
Total/NA	Analysis	8270D		1			331506	06/27/16 23:11	DCK	TAL DEN

Client Sample ID: SC-TU008-MW004-G-1 — Lab Sample ID: 280-84354-4

Date Collected: 06/08/16 14:32
Date Received: 06/10/16 09:25
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C DOD		1	5 mL	5 mL	256397	06/15/16 14:56	SMR	TAL SL
Total/NA	Prep	3520C			981.1 mL	1 mL	329438	06/11/16 15:20	JRA	TAL DEN
Total/NA	Analysis	8270D		1			331506	06/27/16 23:38	DCK	TAL DEN

Client Sample ID: SC-TU008-EB060816 — Lab Sample ID: 280-84354-5

Date Collected: 06/08/16 14:00
Date Received: 06/10/16 09:25
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C DOD		1	5 mL	5 mL	256397	06/15/16 15:21	SMR	TAL SL
Total/NA	Prep	3520C			1026.9 mL	1 mL	329438	06/11/16 15:20	JRA	TAL DEN
Total/NA	Analysis	8270D		1			331506	06/28/16 00:06	DCK	TAL DEN

Lab Chronicle

Client: Weston Solutions, Inc.
Project/Site: Schenectady ANGB, TU008

TestAmerica Job ID: 280-84354-1

Client Sample ID: SC-TU008-MW003-G-1

Lab Sample ID: 280-84354-6

Date Collected: 06/08/16 14:07

Matrix: Water

Date Received: 06/10/16 09:25

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C DOD		1	5 mL	5 mL	256397	06/15/16 15:46	SMR	TAL SL

Client Sample ID: SC-TU008-TB060816

Lab Sample ID: 280-84354-7

Date Collected: 05/21/16 00:00

Matrix: Water

Date Received: 06/10/16 09:25

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C DOD		1	5 mL	5 mL	256641	06/16/16 12:04	ADB	TAL SL

Laboratory References:

TAL DEN = TestAmerica Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

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

Certification Summary

Client: Weston Solutions, Inc.
Project/Site: Schenectady ANGB, TU008

TestAmerica Job ID: 280-84354-1

Laboratory: TestAmerica Denver

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

Authority	Program	EPA Region	Certification ID	Expiration Date
A2LA	DoD ELAP		2907.01	10-31-17
Connecticut	State Program	1	PH-0686	09-30-16

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

Analysis Method	Prep Method	Matrix	Analyte
8270D	3520C	Water	1,2,4,5-Tetrachlorobenzene
8270D	3520C	Water	1,2,4-Trichlorobenzene
8270D	3520C	Water	1,2-Dichlorobenzene
8270D	3520C	Water	1,2-Diphenylhydrazine
8270D	3520C	Water	1,3-Dichlorobenzene
8270D	3520C	Water	1,4-Dichlorobenzene
8270D	3520C	Water	2,2'-oxybis[1-chloropropane]
8270D	3520C	Water	2,4,5-Trichlorophenol
8270D	3520C	Water	2,4,6-Trichlorophenol
8270D	3520C	Water	2,4-Dichlorophenol
8270D	3520C	Water	2,4-Dimethylphenol
8270D	3520C	Water	2,4-Dinitrophenol
8270D	3520C	Water	2,4-Dinitrotoluene
8270D	3520C	Water	2,6-Dichlorophenol
8270D	3520C	Water	2,6-Dinitrotoluene
8270D	3520C	Water	2-Chloronaphthalene
8270D	3520C	Water	2-Chlorophenol
8270D	3520C	Water	2-Methylnaphthalene
8270D	3520C	Water	2-Methylphenol
8270D	3520C	Water	3 & 4 Methylphenol
8270D	3520C	Water	3,3'-Dichlorobenzidine
8270D	3520C	Water	3-Nitroaniline
8270D	3520C	Water	4,6-Dinitro-2-methylphenol
8270D	3520C	Water	4-Chloroaniline
8270D	3520C	Water	4-Chlorophenyl phenyl ether
8270D	3520C	Water	4-Nitroaniline
8270D	3520C	Water	4-Nitrophenol
8270D	3520C	Water	Acenaphthene
8270D	3520C	Water	Acenaphthylene
8270D	3520C	Water	Anthracene
8270D	3520C	Water	Benzidine
8270D	3520C	Water	Benzo[a]anthracene
8270D	3520C	Water	Benzo[a]pyrene
8270D	3520C	Water	Benzo[b]fluoranthene
8270D	3520C	Water	Benzo[g,h,i]perylene
8270D	3520C	Water	Benzo[k]fluoranthene
8270D	3520C	Water	Benzoic acid
8270D	3520C	Water	Benzyl alcohol
8270D	3520C	Water	Bis(2-chloroethoxy)methane
8270D	3520C	Water	Bis(2-chloroethyl)ether
8270D	3520C	Water	Bis(2-ethylhexyl) phthalate
8270D	3520C	Water	Butyl benzyl phthalate

Laboratory: TestAmerica Denver (Continued)

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

Authority	Program	EPA Region	Certification ID	Expiration Date
Connecticut	State Program	1	PH-0686	09-30-16

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

Analysis Method	Prep Method	Matrix	Analyte
8270D	3520C	Water	Carbazole
8270D	3520C	Water	Chrysene
8270D	3520C	Water	Dibenz(a,h)anthracene
8270D	3520C	Water	Dibenzofuran
8270D	3520C	Water	Diethyl phthalate
8270D	3520C	Water	Dimethyl phthalate
8270D	3520C	Water	Di-n-butyl phthalate
8270D	3520C	Water	Di-n-octyl phthalate
8270D	3520C	Water	Fluoranthene
8270D	3520C	Water	Fluorene
8270D	3520C	Water	Hexachlorobenzene
8270D	3520C	Water	Hexachlorobutadiene
8270D	3520C	Water	Hexachlorocyclopentadiene
8270D	3520C	Water	Hexachloroethane
8270D	3520C	Water	Indeno[1,2,3-cd]pyrene
8270D	3520C	Water	Isophorone
8270D	3520C	Water	Naphthalene
8270D	3520C	Water	Nitrobenzene
8270D	3520C	Water	N-Nitrosodimethylamine
8270D	3520C	Water	N-Nitrosodi-n-propylamine
8270D	3520C	Water	N-Nitrosodiphenylamine
8270D	3520C	Water	N-Nitrosopyrrolidine
8270D	3520C	Water	Pentachlorophenol
8270D	3520C	Water	Phenanthrene
8270D	3520C	Water	Phenol
8270D	3520C	Water	Pyrene

Maine	State Program	1	CO0002	03-03-17

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

Analysis Method	Prep Method	Matrix	Analyte
8270D	3520C	Water	1,2,4,5-Tetrachlorobenzene
8270D	3520C	Water	1,2,4-Trichlorobenzene
8270D	3520C	Water	1,2-Dichlorobenzene
8270D	3520C	Water	1,2-Diphenylhydrazine
8270D	3520C	Water	1,3-Dichlorobenzene
8270D	3520C	Water	1,4-Dichlorobenzene
8270D	3520C	Water	2,2'-oxybis[1-chloropropane]
8270D	3520C	Water	2,4,5-Trichlorophenol
8270D	3520C	Water	2,4,6-Trichlorophenol
8270D	3520C	Water	2,4-Dichlorophenol
8270D	3520C	Water	2,4-Dimethylphenol
8270D	3520C	Water	2,4-Dinitrophenol
8270D	3520C	Water	2,4-Dinitrotoluene
8270D	3520C	Water	2,6-Dichlorophenol
8270D	3520C	Water	2,6-Dinitrotoluene
8270D	3520C	Water	2-Chloronaphthalene
8270D	3520C	Water	2-Chlorophenol

Laboratory: TestAmerica Denver (Continued)

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

Authority	Program	EPA Region	Certification ID	Expiration Date
Maine	State Program	1	CO0002	03-03-17

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

Analysis Method	Prep Method	Matrix	Analyte
8270D	3520C	Water	2-Methylnaphthalene
8270D	3520C	Water	2-Methylphenol
8270D	3520C	Water	3 & 4 Methylphenol
8270D	3520C	Water	3,3'-Dichlorobenzidine
8270D	3520C	Water	3-Nitroaniline
8270D	3520C	Water	4,6-Dinitro-2-methylphenol
8270D	3520C	Water	4-Chloroaniline
8270D	3520C	Water	4-Chlorophenyl phenyl ether
8270D	3520C	Water	4-Nitroaniline
8270D	3520C	Water	4-Nitrophenol
8270D	3520C	Water	Acenaphthene
8270D	3520C	Water	Acenaphthylene
8270D	3520C	Water	Anthracene
8270D	3520C	Water	Benzidine
8270D	3520C	Water	Benzo[a]anthracene
8270D	3520C	Water	Benzo[a]pyrene
8270D	3520C	Water	Benzo[b]fluoranthene
8270D	3520C	Water	Benzo[g,h,i]perylene
8270D	3520C	Water	Benzo[k]fluoranthene
8270D	3520C	Water	Benzoic acid
8270D	3520C	Water	Benzyl alcohol
8270D	3520C	Water	Bis(2-chloroethoxy)methane
8270D	3520C	Water	Bis(2-chloroethyl)ether
8270D	3520C	Water	Bis(2-ethylhexyl) phthalate
8270D	3520C	Water	Butyl benzyl phthalate
8270D	3520C	Water	Carbazole
8270D	3520C	Water	Chrysene
8270D	3520C	Water	Dibenz(a,h)anthracene
8270D	3520C	Water	Dibenzofuran
8270D	3520C	Water	Diethyl phthalate
8270D	3520C	Water	Dimethyl phthalate
8270D	3520C	Water	Di-n-butyl phthalate
8270D	3520C	Water	Di-n-octyl phthalate
8270D	3520C	Water	Fluoranthene
8270D	3520C	Water	Fluorene
8270D	3520C	Water	Hexachlorobenzene
8270D	3520C	Water	Hexachlorobutadiene
8270D	3520C	Water	Hexachlorocyclopentadiene
8270D	3520C	Water	Hexachloroethane
8270D	3520C	Water	Indeno[1,2,3-cd]pyrene
8270D	3520C	Water	Isophorone
8270D	3520C	Water	Naphthalene
8270D	3520C	Water	Nitrobenzene
8270D	3520C	Water	N-Nitrosodimethylamine
8270D	3520C	Water	N-Nitrosodi-n-propylamine
8270D	3520C	Water	N-Nitrosodiphenylamine

Laboratory: TestAmerica Denver (Continued)

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

Authority	Program	EPA Region	Certification ID	Expiration Date
Maine	State Program	1	CO0002	03-03-17

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

Analysis Method	Prep Method	Matrix	Analyte
8270D	3520C	Water	N-Nitrosopyrrolidine
8270D	3520C	Water	Pentachlorophenol
8270D	3520C	Water	Phenanthrene
8270D	3520C	Water	Phenol
8270D	3520C	Water	Pyrene

New Hampshire	NELAP	1	205310	04-28-17

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

Analysis Method	Prep Method	Matrix	Analyte
8270D	3520C	Water	1,2,4,5-Tetrachlorobenzene
8270D	3520C	Water	1,2,4-Trichlorobenzene
8270D	3520C	Water	1,2-Dichlorobenzene
8270D	3520C	Water	1,2-Diphenylhydrazine
8270D	3520C	Water	1,3-Dichlorobenzene
8270D	3520C	Water	1,4-Dichlorobenzene
8270D	3520C	Water	2,2'-oxybis[1-chloropropane]
8270D	3520C	Water	2,4,5-Trichlorophenol
8270D	3520C	Water	2,4,6-Trichlorophenol
8270D	3520C	Water	2,4-Dichlorophenol
8270D	3520C	Water	2,4-Dimethylphenol
8270D	3520C	Water	2,4-Dinitrophenol
8270D	3520C	Water	2,4-Dinitrotoluene
8270D	3520C	Water	2,6-Dichlorophenol
8270D	3520C	Water	2,6-Dinitrotoluene
8270D	3520C	Water	2-Chloronaphthalene
8270D	3520C	Water	2-Chlorophenol
8270D	3520C	Water	2-Methylnaphthalene
8270D	3520C	Water	2-Methylphenol
8270D	3520C	Water	3 & 4 Methylphenol
8270D	3520C	Water	3,3'-Dichlorobenzidine
8270D	3520C	Water	3-Nitroaniline
8270D	3520C	Water	4,6-Dinitro-2-methylphenol
8270D	3520C	Water	4-Chloroaniline
8270D	3520C	Water	4-Chlorophenyl phenyl ether
8270D	3520C	Water	4-Nitroaniline
8270D	3520C	Water	4-Nitrophenol
8270D	3520C	Water	Acenaphthene
8270D	3520C	Water	Acenaphthylene
8270D	3520C	Water	Anthracene
8270D	3520C	Water	Benzidine
8270D	3520C	Water	Benzo[a]anthracene
8270D	3520C	Water	Benzo[a]pyrene
8270D	3520C	Water	Benzo[b]fluoranthene
8270D	3520C	Water	Benzo[g,h,i]perylene
8270D	3520C	Water	Benzo[k]fluoranthene
8270D	3520C	Water	Benzoic acid
8270D	3520C	Water	Benzyl alcohol

Laboratory: TestAmerica Denver (Continued)

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

Authority	Program	EPA Region	Certification ID	Expiration Date
New Hampshire	NELAP	1	205310	04-28-17

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

Analysis Method	Prep Method	Matrix	Analyte
8270D	3520C	Water	Bis(2-chloroethoxy)methane
8270D	3520C	Water	Bis(2-chloroethyl)ether
8270D	3520C	Water	Bis(2-ethylhexyl) phthalate
8270D	3520C	Water	Butyl benzyl phthalate
8270D	3520C	Water	Carbazole
8270D	3520C	Water	Chrysene
8270D	3520C	Water	Dibenz(a,h)anthracene
8270D	3520C	Water	Dibenzofuran
8270D	3520C	Water	Diethyl phthalate
8270D	3520C	Water	Dimethyl phthalate
8270D	3520C	Water	Di-n-butyl phthalate
8270D	3520C	Water	Di-n-octyl phthalate
8270D	3520C	Water	Fluoranthene
8270D	3520C	Water	Fluorene
8270D	3520C	Water	Hexachlorobenzene
8270D	3520C	Water	Hexachlorobutadiene
8270D	3520C	Water	Hexachlorocyclopentadiene
8270D	3520C	Water	Hexachloroethane
8270D	3520C	Water	Indeno[1,2,3-cd]pyrene
8270D	3520C	Water	Isophorone
8270D	3520C	Water	Naphthalene
8270D	3520C	Water	Nitrobenzene
8270D	3520C	Water	N-Nitrosodimethylamine
8270D	3520C	Water	N-Nitrosodi-n-propylamine
8270D	3520C	Water	N-Nitrosodiphenylamine
8270D	3520C	Water	N-Nitrosopyrrolidine
8270D	3520C	Water	Pentachlorophenol
8270D	3520C	Water	Phenanthrene
8270D	3520C	Water	Phenol
8270D	3520C	Water	Pyrene

New York	NELAP	2	11964	04-01-17

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

Analysis Method	Prep Method	Matrix	Analyte
8270D	3520C	Water	1,2,4,5-Tetrachlorobenzene
8270D	3520C	Water	1,2,4-Trichlorobenzene
8270D	3520C	Water	1,2-Dichlorobenzene
8270D	3520C	Water	1,2-Diphenylhydrazine
8270D	3520C	Water	1,3-Dichlorobenzene
8270D	3520C	Water	1,4-Dichlorobenzene
8270D	3520C	Water	2,2'-oxybis[1-chloropropane]
8270D	3520C	Water	2,4,5-Trichlorophenol
8270D	3520C	Water	2,4,6-Trichlorophenol
8270D	3520C	Water	2,4-Dichlorophenol
8270D	3520C	Water	2,4-Dimethylphenol
8270D	3520C	Water	2,4-Dinitrophenol
8270D	3520C	Water	2,4-Dinitrotoluene

Laboratory: TestAmerica Denver (Continued)

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

Authority	Program	EPA Region	Certification ID	Expiration Date
New York	NELAP	2	11964	04-01-17

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

Analysis Method	Prep Method	Matrix	Analyte
8270D	3520C	Water	2,6-Dichlorophenol
8270D	3520C	Water	2,6-Dinitrotoluene
8270D	3520C	Water	2-Chloronaphthalene
8270D	3520C	Water	2-Chlorophenol
8270D	3520C	Water	2-Methylnaphthalene
8270D	3520C	Water	2-Methylphenol
8270D	3520C	Water	3 & 4 Methylphenol
8270D	3520C	Water	3,3'-Dichlorobenzidine
8270D	3520C	Water	3-Nitroaniline
8270D	3520C	Water	4,6-Dinitro-2-methylphenol
8270D	3520C	Water	4-Chloroaniline
8270D	3520C	Water	4-Chlorophenyl phenyl ether
8270D	3520C	Water	4-Nitroaniline
8270D	3520C	Water	4-Nitrophenol
8270D	3520C	Water	Acenaphthene
8270D	3520C	Water	Acenaphthylene
8270D	3520C	Water	Anthracene
8270D	3520C	Water	Benzidine
8270D	3520C	Water	Benzo[a]anthracene
8270D	3520C	Water	Benzo[a]pyrene
8270D	3520C	Water	Benzo[b]fluoranthene
8270D	3520C	Water	Benzo[g,h,i]perylene
8270D	3520C	Water	Benzo[k]fluoranthene
8270D	3520C	Water	Benzoic acid
8270D	3520C	Water	Benzyl alcohol
8270D	3520C	Water	Bis(2-chloroethoxy)methane
8270D	3520C	Water	Bis(2-chloroethyl)ether
8270D	3520C	Water	Bis(2-ethylhexyl) phthalate
8270D	3520C	Water	Butyl benzyl phthalate
8270D	3520C	Water	Carbazole
8270D	3520C	Water	Chrysene
8270D	3520C	Water	Dibenz(a,h)anthracene
8270D	3520C	Water	Dibenzofuran
8270D	3520C	Water	Diethyl phthalate
8270D	3520C	Water	Dimethyl phthalate
8270D	3520C	Water	Di-n-butyl phthalate
8270D	3520C	Water	Di-n-octyl phthalate
8270D	3520C	Water	Fluoranthene
8270D	3520C	Water	Fluorene
8270D	3520C	Water	Hexachlorobenzene
8270D	3520C	Water	Hexachlorobutadiene
8270D	3520C	Water	Hexachlorocyclopentadiene
8270D	3520C	Water	Hexachloroethane
8270D	3520C	Water	Indeno[1,2,3-cd]pyrene
8270D	3520C	Water	Isophorone
8270D	3520C	Water	Naphthalene

Laboratory: TestAmerica Denver (Continued)

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

Authority	Program	EPA Region	Certification ID	Expiration Date
New York	NELAP	2	11964	04-01-17

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

Analysis Method	Prep Method	Matrix	Analyte
8270D	3520C	Water	Nitrobenzene
8270D	3520C	Water	N-Nitrosodimethylamine
8270D	3520C	Water	N-Nitrosodi-n-propylamine
8270D	3520C	Water	N-Nitrosodiphenylamine
8270D	3520C	Water	N-Nitrosopyrrolidine
8270D	3520C	Water	Pentachlorophenol
8270D	3520C	Water	Phenanthrene
8270D	3520C	Water	Phenol
8270D	3520C	Water	Pyrene

Pennsylvania	NELAP	3	68-00664	07-31-16 *

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

Analysis Method	Prep Method	Matrix	Analyte
8270D	3520C	Water	1,2,4,5-Tetrachlorobenzene
8270D	3520C	Water	1,2,4-Trichlorobenzene
8270D	3520C	Water	1,2-Dichlorobenzene
8270D	3520C	Water	1,2-Diphenylhydrazine
8270D	3520C	Water	1,3-Dichlorobenzene
8270D	3520C	Water	1,4-Dichlorobenzene
8270D	3520C	Water	2,2'-oxybis[1-chloropropane]
8270D	3520C	Water	2,4,5-Trichlorophenol
8270D	3520C	Water	2,4,6-Trichlorophenol
8270D	3520C	Water	2,4-Dichlorophenol
8270D	3520C	Water	2,4-Dimethylphenol
8270D	3520C	Water	2,4-Dinitrophenol
8270D	3520C	Water	2,4-Dinitrotoluene
8270D	3520C	Water	2,6-Dichlorophenol
8270D	3520C	Water	2,6-Dinitrotoluene
8270D	3520C	Water	2-Chloronaphthalene
8270D	3520C	Water	2-Chlorophenol
8270D	3520C	Water	2-Methylnaphthalene
8270D	3520C	Water	2-Methylphenol
8270D	3520C	Water	3 & 4 Methylphenol
8270D	3520C	Water	3,3'-Dichlorobenzidine
8270D	3520C	Water	3-Nitroaniline
8270D	3520C	Water	4,6-Dinitro-2-methylphenol
8270D	3520C	Water	4-Chloroaniline
8270D	3520C	Water	4-Chlorophenyl phenyl ether
8270D	3520C	Water	4-Nitroaniline
8270D	3520C	Water	4-Nitrophenol
8270D	3520C	Water	Acenaphthene
8270D	3520C	Water	Acenaphthylene
8270D	3520C	Water	Anthracene
8270D	3520C	Water	Benzidine
8270D	3520C	Water	Benzo[a]anthracene
8270D	3520C	Water	Benzo[a]pyrene
8270D	3520C	Water	Benzo[b]fluoranthene

* Certification renewal pending - certification considered valid.

Laboratory: TestAmerica Denver (Continued)

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

Authority	Program	EPA Region	Certification ID	Expiration Date
Pennsylvania	NELAP	3	68-00664	07-31-16 *

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

Analysis Method	Prep Method	Matrix	Analyte
8270D	3520C	Water	Benzo[g,h,i]perylene
8270D	3520C	Water	Benzo[k]fluoranthene
8270D	3520C	Water	Benzoic acid
8270D	3520C	Water	Benzyl alcohol
8270D	3520C	Water	Bis(2-chloroethoxy)methane
8270D	3520C	Water	Bis(2-chloroethyl)ether
8270D	3520C	Water	Bis(2-ethylhexyl) phthalate
8270D	3520C	Water	Butyl benzyl phthalate
8270D	3520C	Water	Carbazole
8270D	3520C	Water	Chrysene
8270D	3520C	Water	Dibenz(a,h)anthracene
8270D	3520C	Water	Dibenzofuran
8270D	3520C	Water	Diethyl phthalate
8270D	3520C	Water	Dimethyl phthalate
8270D	3520C	Water	Di-n-butyl phthalate
8270D	3520C	Water	Di-n-octyl phthalate
8270D	3520C	Water	Fluoranthene
8270D	3520C	Water	Fluorene
8270D	3520C	Water	Hexachlorobenzene
8270D	3520C	Water	Hexachlorobutadiene
8270D	3520C	Water	Hexachlorocyclopentadiene
8270D	3520C	Water	Hexachloroethane
8270D	3520C	Water	Indeno[1,2,3-cd]pyrene
8270D	3520C	Water	Isophorone
8270D	3520C	Water	Naphthalene
8270D	3520C	Water	Nitrobenzene
8270D	3520C	Water	N-Nitrosodimethylamine
8270D	3520C	Water	N-Nitrosodi-n-propylamine
8270D	3520C	Water	N-Nitrosodiphenylamine
8270D	3520C	Water	N-Nitrosopyrrolidine
8270D	3520C	Water	Pentachlorophenol
8270D	3520C	Water	Phenanthrene
8270D	3520C	Water	Phenol
8270D	3520C	Water	Pyrene

West Virginia DEP	State Program	3	354	11-30-16

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

Analysis Method	Prep Method	Matrix	Analyte
8270D	3520C	Water	1,2,4,5-Tetrachlorobenzene
8270D	3520C	Water	1,2,4-Trichlorobenzene
8270D	3520C	Water	1,2-Dichlorobenzene
8270D	3520C	Water	1,2-Diphenylhydrazine
8270D	3520C	Water	1,3-Dichlorobenzene
8270D	3520C	Water	1,4-Dichlorobenzene
8270D	3520C	Water	2,2'-oxybis[1-chloropropane]
8270D	3520C	Water	2,4,5-Trichlorophenol
8270D	3520C	Water	2,4,6-Trichlorophenol

* Certification renewal pending - certification considered valid.

Laboratory: TestAmerica Denver (Continued)

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

Authority	Program	EPA Region	Certification ID	Expiration Date
West Virginia DEP	State Program	3	354	11-30-16

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

Analysis Method	Prep Method	Matrix	Analyte
8270D	3520C	Water	2,4-Dichlorophenol
8270D	3520C	Water	2,4-Dimethylphenol
8270D	3520C	Water	2,4-Dinitrophenol
8270D	3520C	Water	2,4-Dinitrotoluene
8270D	3520C	Water	2,6-Dichlorophenol
8270D	3520C	Water	2,6-Dinitrotoluene
8270D	3520C	Water	2-Chloronaphthalene
8270D	3520C	Water	2-Chlorophenol
8270D	3520C	Water	2-Methylnaphthalene
8270D	3520C	Water	2-Methylphenol
8270D	3520C	Water	3 & 4 Methylphenol
8270D	3520C	Water	3,3'-Dichlorobenzidine
8270D	3520C	Water	3-Nitroaniline
8270D	3520C	Water	4,6-Dinitro-2-methylphenol
8270D	3520C	Water	4-Chloroaniline
8270D	3520C	Water	4-Chlorophenyl phenyl ether
8270D	3520C	Water	4-Nitroaniline
8270D	3520C	Water	4-Nitrophenol
8270D	3520C	Water	Acenaphthene
8270D	3520C	Water	Acenaphthylene
8270D	3520C	Water	Anthracene
8270D	3520C	Water	Benzidine
8270D	3520C	Water	Benzo[a]anthracene
8270D	3520C	Water	Benzo[a]pyrene
8270D	3520C	Water	Benzo[b]fluoranthene
8270D	3520C	Water	Benzo[g,h,i]perylene
8270D	3520C	Water	Benzo[k]fluoranthene
8270D	3520C	Water	Benzoic acid
8270D	3520C	Water	Benzyl alcohol
8270D	3520C	Water	Bis(2-chloroethoxy)methane
8270D	3520C	Water	Bis(2-chloroethyl)ether
8270D	3520C	Water	Bis(2-ethylhexyl) phthalate
8270D	3520C	Water	Butyl benzyl phthalate
8270D	3520C	Water	Carbazole
8270D	3520C	Water	Chrysene
8270D	3520C	Water	Dibenz(a,h)anthracene
8270D	3520C	Water	Dibenzofuran
8270D	3520C	Water	Diethyl phthalate
8270D	3520C	Water	Dimethyl phthalate
8270D	3520C	Water	Di-n-butyl phthalate
8270D	3520C	Water	Di-n-octyl phthalate
8270D	3520C	Water	Fluoranthene
8270D	3520C	Water	Fluorene
8270D	3520C	Water	Hexachlorobenzene
8270D	3520C	Water	Hexachlorobutadiene
8270D	3520C	Water	Hexachlorocyclopentadiene

Laboratory: TestAmerica Denver (Continued)

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

Authority	Program	EPA Region	Certification ID	Expiration Date
West Virginia DEP	State Program	3	354	11-30-16

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

Analysis Method	Prep Method	Matrix	Analyte
8270D	3520C	Water	Hexachloroethane
8270D	3520C	Water	Indeno[1,2,3-cd]pyrene
8270D	3520C	Water	Isophorone
8270D	3520C	Water	Naphthalene
8270D	3520C	Water	Nitrobenzene
8270D	3520C	Water	N-Nitrosodimethylamine
8270D	3520C	Water	N-Nitrosodi-n-propylamine
8270D	3520C	Water	N-Nitrosodiphenylamine
8270D	3520C	Water	N-Nitrosopyrrolidine
8270D	3520C	Water	Pentachlorophenol
8270D	3520C	Water	Phenanthrene
8270D	3520C	Water	Phenol
8270D	3520C	Water	Pyrene

Laboratory: TestAmerica St. Louis

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

Authority	Program	EPA Region	Certification ID	Expiration Date
L-A-B	DoD ELAP		L2305	04-06-19

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

Analysis Method	Prep Method	Matrix	Analyte
8260C DOD		Water	1,1,1-Trichloroethane
8260C DOD		Water	1,1,2,2-Tetrachloroethane
8260C DOD		Water	1,1,2-Trichloro-1,2,2-trifluoroethane
8260C DOD		Water	1,1,2-Trichloroethane
8260C DOD		Water	1,1-Dichloroethane
8260C DOD		Water	1,1-Dichloroethene
8260C DOD		Water	1,2,3-Trichlorobenzene
8260C DOD		Water	1,2,4-Trichlorobenzene
8260C DOD		Water	1,2,4-Trimethylbenzene
8260C DOD		Water	1,2-Dibromo-3-Chloropropane
8260C DOD		Water	1,2-Dibromoethane
8260C DOD		Water	1,2-Dichlorobenzene
8260C DOD		Water	1,2-Dichloroethane
8260C DOD		Water	1,2-Dichloroethene, Total
8260C DOD		Water	1,2-Dichloropropane
8260C DOD		Water	1,3,5-Trimethylbenzene
8260C DOD		Water	1,3-Dichlorobenzene
8260C DOD		Water	1,4-Dichlorobenzene
8260C DOD		Water	2-Butanone (MEK)
8260C DOD		Water	2-Hexanone
8260C DOD		Water	4-Methyl-2-pentanone (MIBK)
8260C DOD		Water	Acetone
8260C DOD		Water	Benzene
8260C DOD		Water	Bromobenzene
8260C DOD		Water	Bromodichloromethane

Laboratory: TestAmerica St. Louis (Continued)

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

Authority	Program	EPA Region	Certification ID	Expiration Date
L-A-B	DoD ELAP		L2305	04-06-19

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

Analysis Method	Prep Method	Matrix	Analyte
8260C DOD		Water	Bromoform
8260C DOD		Water	Bromomethane
8260C DOD		Water	Carbon disulfide
8260C DOD		Water	Carbon tetrachloride
8260C DOD		Water	Chlorobenzene
8260C DOD		Water	Chloroethane
8260C DOD		Water	Chloroform
8260C DOD		Water	Chloromethane
8260C DOD		Water	cis-1,2-Dichloroethene
8260C DOD		Water	cis-1,3-Dichloropropene
8260C DOD		Water	Cyclohexane
8260C DOD		Water	Dibromochloromethane
8260C DOD		Water	Dichlorodifluoromethane
8260C DOD		Water	Ethylbenzene
8260C DOD		Water	Isopropylbenzene
8260C DOD		Water	Methyl acetate
8260C DOD		Water	Methyl tert-butyl ether
8260C DOD		Water	Methylcyclohexane
8260C DOD		Water	Methylene Chloride
8260C DOD		Water	m-Xylene & p-Xylene
8260C DOD		Water	Naphthalene
8260C DOD		Water	n-Butylbenzene
8260C DOD		Water	N-Propylbenzene
8260C DOD		Water	o-Xylene
8260C DOD		Water	sec-Butylbenzene
8260C DOD		Water	Styrene
8260C DOD		Water	tert-Butylbenzene
8260C DOD		Water	Tetrachloroethene
8260C DOD		Water	Toluene
8260C DOD		Water	trans-1,2-Dichloroethene
8260C DOD		Water	trans-1,3-Dichloropropene
8260C DOD		Water	Trichloroethene
8260C DOD		Water	Trichlorofluoromethane
8260C DOD		Water	Vinyl chloride
8260C DOD		Water	Xylenes, Total

New York	NELAP	2	11616	03-31-17

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

Analysis Method	Prep Method	Matrix	Analyte
8260C DOD		Water	1,1,1-Trichloroethane
8260C DOD		Water	1,1,2,2-Tetrachloroethane
8260C DOD		Water	1,1,2-Trichloro-1,2,2-trifluoroethane
8260C DOD		Water	1,1,2-Trichloroethane
8260C DOD		Water	1,1-Dichloroethane
8260C DOD		Water	1,1-Dichloroethene
8260C DOD		Water	1,2,3-Trichlorobenzene
8260C DOD		Water	1,2,4-Trichlorobenzene

Laboratory: TestAmerica St. Louis (Continued)

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

Authority	Program	EPA Region	Certification ID	Expiration Date
New York	NELAP	2	11616	03-31-17

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

Analysis Method	Prep Method	Matrix	Analyte
8260C DOD		Water	1,2,4-Trimethylbenzene
8260C DOD		Water	1,2-Dibromo-3-Chloropropane
8260C DOD		Water	1,2-Dibromoethane
8260C DOD		Water	1,2-Dichlorobenzene
8260C DOD		Water	1,2-Dichloroethane
8260C DOD		Water	1,2-Dichloroethene, Total
8260C DOD		Water	1,2-Dichloropropane
8260C DOD		Water	1,3,5-Trimethylbenzene
8260C DOD		Water	1,3-Dichlorobenzene
8260C DOD		Water	1,4-Dichlorobenzene
8260C DOD		Water	2-Butanone (MEK)
8260C DOD		Water	2-Hexanone
8260C DOD		Water	4-Methyl-2-pentanone (MIBK)
8260C DOD		Water	Acetone
8260C DOD		Water	Benzene
8260C DOD		Water	Bromobenzene
8260C DOD		Water	Bromodichloromethane
8260C DOD		Water	Bromoform
8260C DOD		Water	Bromomethane
8260C DOD		Water	Carbon disulfide
8260C DOD		Water	Carbon tetrachloride
8260C DOD		Water	Chlorobenzene
8260C DOD		Water	Chloroethane
8260C DOD		Water	Chloroform
8260C DOD		Water	Chloromethane
8260C DOD		Water	cis-1,2-Dichloroethene
8260C DOD		Water	cis-1,3-Dichloropropene
8260C DOD		Water	Cyclohexane
8260C DOD		Water	Dibromochloromethane
8260C DOD		Water	Dichlorodifluoromethane
8260C DOD		Water	Ethylbenzene
8260C DOD		Water	Isopropylbenzene
8260C DOD		Water	Methyl acetate
8260C DOD		Water	Methyl tert-butyl ether
8260C DOD		Water	Methylcyclohexane
8260C DOD		Water	Methylene Chloride
8260C DOD		Water	m-Xylene & p-Xylene
8260C DOD		Water	Naphthalene
8260C DOD		Water	n-Butylbenzene
8260C DOD		Water	N-Propylbenzene
8260C DOD		Water	o-Xylene
8260C DOD		Water	sec-Butylbenzene
8260C DOD		Water	Styrene
8260C DOD		Water	tert-Butylbenzene
8260C DOD		Water	Tetrachloroethene
8260C DOD		Water	Toluene

Laboratory: TestAmerica St. Louis (Continued)

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

Authority	Program	EPA Region	Certification ID	Expiration Date
New York	NELAP	2	11616	03-31-17

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

Analysis Method	Prep Method	Matrix	Analyte
8260C DOD		Water	trans-1,2-Dichloroethene
8260C DOD		Water	trans-1,3-Dichloropropene
8260C DOD		Water	Trichloroethene
8260C DOD		Water	Trichlorofluoromethane
8260C DOD		Water	Vinyl chloride
8260C DOD		Water	Xylenes, Total

Shipping and Receiving Documents

180325

BALTIMORE

TestAmerica Denver
4955 Yarrow Street
Arvada, CO 80002
Phone (303) 736-0100 Fax (303) 431-7171

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information	Sampler: D. Kolmos	Lab PM: Rydberg, Donna R	Carrier Tracking No(s):	COC No: 280-53289-19163.2
Client Contact: Ms. Gretchen Fodor	Phone: 860.912.9892	E-Mail: donna.rydberg@testamericainc.com		Page: ~~Page 2 of 2~~
Company: Weston Solutions, Inc.				Job #:
Address: 1400 Weston Way PO BOX 2653	Due Date Requested:			
City: West Chester	TAT Requested (days): 15 Days			
State, Zip: PA, 19380				
Phone: 703-724-0544(Tel)	PO #: 0090139			
Email: gretchen.fodor@westonsolutions.com	WO #: 15363.100.001.1103			
Project Name: Schenectady ANGB, TU008	Project #: 28015256			
Site: TU-008	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)	SVOCs - 8270D	Total Number of containers	Special Instructions/Note:
			Preservation Code:				N		
SC-TU008-MW001-G-1	06-08-16	1625	G	W	N	Y	X	6	
SC-TU008-MW002-G-1	↓	1526	↓	↓	N	N	X	2	
SC-TU008-MW002-G-1-D	↓	1530	↓	↓	N	N	X	2	
~~SC-TU008-MW003-G-1~~	↓	~~1407~~	↓	↓	N	N	X	~~2~~	NOT Included/sampled.
SC-TU008-MW004-G-1	↓	1432	↓	↓	N	N	X	2	
SC-TU008-EB060816	06-08-16	1400	G	W	N	N	X	2	

280-84354 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) IV

Special Instructions/QC Requirements:

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

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
[signature]	6/9/16 1441		[signature]	6/9/16 1441	TA
[signature]	6/9/16 1715	TA	[signature]	6-10-16 0925	TAD

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 0.2, 4.0, 2.4, 2.3, 2.0, 2.4 IR#5 +0.0 Transferred by RP 6-10-16

180325

TestAmerica Denver
4955 Yarrow Street
Arvada, CO 80002
Phone (303) 736-0100 Fax (303) 431-7171

Chain of Custody Record

BALTIMORE

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information	Sampler: D. Kolmos	Lab PM: Rydberg, Donna R	Carrier Tracking No(s):	COC No: 280-53289-19163.2
Client Contact: Ms. Gretchen Fodor	Phone: 860.912.9892	E-Mail: donna.rydberg@testamericainc.com		Page: ~~Page 2 of 2~~
Company: Weston Solutions, Inc.				Job #:
Address: 1400 Weston Way PO BOX 2653	Due Date Requested:			
City: West Chester	TAT Requested (days): 15 Days			
State, Zip: PA. 19380				
Phone: 703-724-0544(Tel)	PO #: 0090139			
Email: gretchen.fodor@westonsolutions.com	WO #: 15363.100.001.1103			
Project Name: Schenectady ANGB, TU008	Project #: 28015256			
Site: TU-008	SSOW#:			

Analysis Requested

SVOCs - 8270D

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)	SVOCs - 8270D	Total Number of containers	Special Instructions/Note:
Preservation Code:									
SC-TU008-MW001-G-1	06-08-16	1625	G	W	N	Y	X	6	
SC-TU008-MW002-G-1	↓	1526	↓	↓	N	N	X	2	
SC-TU008-MW002-G-1-D	↓	1530	↓	↓	N	N	X	2	
~~SC-TU008-MW003-G-1~~	↓	~~1407~~	↓	↓	N	N	X	~~2~~	NOT Included/sampled.
SC-TU008-MW004-G-1	↓	1432	↓	↓	N	N	X	2	
SC-TU008-EB060816	06-08-16	1400	G	W	N	N	X	2	

280-84354 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) IV

Special Instructions/QC Requirements:

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

Relinquished by:	Date/Time: 6/9/16 1441	Company	Received by:	Date/Time: 6/9/16 1441	Company TA
Relinquished by:	Date/Time: 6/9/16 1715	Company TA	Received by:	Date/Time: 6-10-16 0925	Company TAD
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: 0.2, 4.0, 2.4, 2.3, 2.0, 2.4 IR#5 +0.0 Transferred by RP 6-10-16

TestAmerica Denver
4955 Yarrow Street
Arvada, CO 80002
Phone (303) 736-0100 Fax (303) 431-7171

Chain of Custody Record

BALTIMORE

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information	Sampler: D. Koenig	Lab PM: Rydberg, Donna R	Carrier Tracking No(s):	COC No: 280-53289-19163.2
Client Contact: Ms. Gretchen Fodor	Phone: 860 912 9892	E-Mail: donna.rydberg@testamericainc.com		Page: Page 2 of 2
Company: Weston Solutions, Inc.				Job #:
Address: 1400 Weston Way PO BOX 2653	Due Date Requested:			
City: West Chester	TAT Requested (days): 15 Days			
State, Zip: PA, 19380				
Phone: 703-724-0544(Tel)	PO #: 0090139			
Email: gretchen.fodor@westonsolutions.com	WO #: 15363.100.001.1103			
Project Name: Schenectady ANGB, TU008	Project #: 28015256			
Site: TU 008	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)	VOCs - 8260C	moisture	Special Instructions/Note:
			Preservation Code:				A		
SC-TU008-MW001-G-1	06-08-16	1625	G	W	N	Y	X		
SC-TU008-MW002-G-1	↓	1526	↓	↓	N	N	X		
SC-TU008-MW003-G-1	↓	1407	↓	↓	N	N	X		
SC-TU008-MW004-G-1	↓	1482	↓	↓	N	N	X		
SC-TU008-MW002-G-1-D	↓	1530	↓	↓	N	N	X		
SC-TU008-TB060816 05-21-16 ~~06-08-16~~		~~1930~~	G	W	N	N	X		Test America Prepared
SC-TU008-EB060816	06-08-16	~~1700~~	G	W	N	N	X		
~~SC-TU008-IDW-SOIL~~	~~6-8-16~~	~~1250~~	~~G~~	~~S~~	~~N~~	~~N~~	~~X~~		
~~SC-TU008-MW001-S1012~~	~~6-8-16~~	~~1120~~	~~G~~	~~S~~				~~X~~	

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) IV

Special Instructions/QC Requirements:

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

Relinquished by:	Date/Time: 6/9/16 1441	Company	Received by:	Date/Time: 6/9/16 1441	Company TAT
Relinquished by:	Date/Time: 6/9/16 1740	Company TA	Received by:	Date/Time: 6/10/16 0910	Company TA
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 Denver
4955 Yarrow Street
Arvada, CO 80002
Phone (303) 736-0100 Fax (303) 431-7171

Chain of Custody Record

BALTIMORE

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information	Sampler: D. Kolmos	Lab PM: Rydberg, Donna R	Carrier Tracking No(s):	COC No: 280-53289-19163.2
Client Contact: Ms. Gretchen Fodor	Phone: 860 912 9892	E-Mail: donna.rydberg@testamericainc.com		Page: Page 2 of 2
Company: Weston Solutions, Inc.				Job #:
Address: 1400 Weston Way PO BOX 2653	Due Date Requested:			
City: West Chester	TAT Requested (days): 15 Days			
State, Zip: PA, 19380				
Phone: 703-724-0544(Tel)	PO #: 0090139			
Email: gretchen.fodor@westonsolutions.com	WO #: 15363.100.001.1103			
Project Name: Schenectady ANGB, TU008	Project #: 28015256			
Site: TU 008	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)	VOCs - 8260C	moisture	Total Number of containers	Special Instructions/Note:
			Preservation Code:				A			
SC-TU008-MW001-G-1	06-08-16	1625	G	W	N	Y	X		9	
SC-TU008-MW002-G-1	↓	1526	↓	↓	N	N	X		3	
SC-TU008-MW003-G-1		1407			N	N	X		3	
SC-TU008-MW004-G-1		1432			N	N	X		3	
SC-TU008-MW002-G-1-D		1530			N	N	X		3	
SC-TU008-TB060816	05-21-16 ~~06-08-16~~	~~1430~~	G	W	N	N	X		3	Test America Prepared
SC-TU008-EB060816	06-08-16	~~1400~~	G	W	N	N	X		3	
~~SC-TU008-IDW-SOIL~~	~~6-8-16~~	~~1250~~	~~G~~	~~S~~	~~N~~	~~N~~	~~X~~		1	
SC-TU008-MW001-S1012	6-3-16	1120	G	S				X		

280-84354 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) IV

Special Instructions/QC Requirements:

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

	Date/Time	Company		Date/Time	Company
Relinquished by:	6/9/16 1441		Received by:	6/9/16 1441	TA
Relinquished by:	6/9/16 1740	TA	Received by:	6/10/16 0910	TA
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: Weston Solutions, Inc.

Job Number: 280-84354-1

Login Number: 84354
List Number: 1
Creator: Pottruff, Reed W

List Source: TestAmerica Denver

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
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	

Login Sample Receipt Checklist

Client: Weston Solutions, Inc.

Job Number: 280-84354-1

Login Number: 84354
List Number: 2
Creator: Daniels, Brian J

List Source: TestAmerica St. Louis
List Creation: 06/15/16 09:56 AM

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.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	1.1
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	

ANALYTICAL REPORT

Job Number: 280-90936-1

Job Description: Schenectady ANGB

For:
Weston Solutions, Inc.
1371 Brass Mill Road
Suite N
Belcamp, MD 21017

Attention: Mr. Joseph Gross

Approved for release.
Donna R Rydberg
Senior Project Manager
12/9/2016 3:41 PM

Donna R Rydberg, Senior Project Manager
4955 Yarrow Street, Arvada, CO, 80002
(303)736-0192
donna.rydberg@testamericainc.com
12/09/2016

The test results in this report relate only to the samples in this report and meet all requirements of NELAC, with any exceptions noted. Pursuant to NELAP, this report shall not be reproduced except in full, without the written approval of the laboratory. All questions regarding this report should be directed to the TestAmerica Denver Project Manager.

The Lab Certification ID# is 4025.

Reporting limits are adjusted for sample size used, dilutions and moisture content if applicable.

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8270D_DOD5 CCAL Data 688

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Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
U	Undetected at the Limit of Detection.

GC/MS Semi VOA

Qualifier	Qualifier Description
H	Sample was prepped or analyzed beyond the specified holding time
U	Undetected at the Limit of Detection.
Q	One or more quality control criteria failed.
J	Estimated: The analyte was positively identified; the quantitation is an estimation

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)

CASE NARRATIVE

Client: Weston Solutions, Inc.

Project: Schenectady ANGB

Report Number: 280-90936-1

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

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

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

RECEIPT
The samples were received on 11/12/2016 at 8:40 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 1.4º C.

VOLATILE ORGANIC COMPOUNDS (GC/MS)
Samples SC-TU008-MW006-G-1 (280-90936-1) and SC-TU008-TB111016 (280-90936-2) were analyzed for Volatile Organic Compounds (GC/MS) in accordance with 8260C_DOD5. The samples were analyzed on 11/21/2016.

The following compounds did not meet the minimum relative response factor limits in the continuing calibration verification (CCV) associated with batch 160-280373: Acetone, Methyl acetate and 2-Butanone (MEK). A low-level LOQV was analyzed at the reporting limit (5ug/L) and the affected analytes were detected. Target analytes recovering above the reporting limit will be qualified and reported.

(CCV 160-280373/3) and (CCVC 160-280373/13)

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

SEMIVOLATILE ORGANIC COMPOUNDS
Sample SC-TU008-MW006-G-1 (280-90936-1) was analyzed for Semivolatile organic compounds in accordance with SW-846 8270D. The samples were prepared on 11/20/2016 and analyzed on 12/06/2016.

The sample was originally analyzed within the extraction hold time. However, the acid fraction of the extraction burned up, for an unknown reason. There was volume to re-extract and the sample was re-extracted outside of holding time. Data was flagged and reported.

The laboratory control sample and/or the laboratory control sample duplicate (LCS/LCSD) for preparation batch 280-352340 and analytical batch 280-354337 recovered outside control limits for Benzidine. The RPD value was also outside control limits. Benzidine has been identified as a poor performing analyte when analyzed using this method; therefore, re-extraction/re-analysis was not performed. These results have been reported and qualified.

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

Detection Summary

Client: Weston Solutions, Inc.
Project/Site: Schenectady ANGB

TestAmerica Job ID: 280-90936-1

Client Sample ID: SC-TU008-MW006-G-1 — Lab Sample ID: 280-90936-1

No Detections.

Client Sample ID: SC-TU008-TB111016 — Lab Sample ID: 280-90936-2

No Detections.

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: Weston Solutions, Inc.
Project/Site: Schenectady ANGB

TestAmerica Job ID: 280-90936-1

Client Sample ID: SC-TU008-MW006-G-1

Lab Sample ID: 280-90936-1

Date Collected: 11/10/16 14:00

Matrix: Water

Date Received: 11/12/16 08:40

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

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	1.0	U	5.0	0.29	ug/L			11/21/16 19:36	1
1,1,2,2-Tetrachloroethane	2.0	U	5.0	0.43	ug/L			11/21/16 19:36	1
1,1,2-Trichloro-1,2,2-trifluoroethane	2.0	U	5.0	0.25	ug/L			11/21/16 19:36	1
1,1,2-Trichloroethane	1.0	U	5.0	0.57	ug/L			11/21/16 19:36	1
1,1-Dichloroethane	1.0	U	5.0	0.39	ug/L			11/21/16 19:36	1
1,1-Dichloroethene	1.0	U	5.0	0.37	ug/L			11/21/16 19:36	1
1,2,3-Trichlorobenzene	2.0	U	5.0	0.65	ug/L			11/21/16 19:36	1
1,2,4-Trichlorobenzene	2.0	U	5.0	0.55	ug/L			11/21/16 19:36	1
1,2,4-Trimethylbenzene	2.0	U	5.0	0.40	ug/L			11/21/16 19:36	1
1,2-Dibromo-3-Chloropropane	2.0	U	10	1.2	ug/L			11/21/16 19:36	1
1,2-Dibromoethane	2.0	U	5.0	0.44	ug/L			11/21/16 19:36	1
1,2-Dichlorobenzene	2.0	U	5.0	0.28	ug/L			11/21/16 19:36	1
1,2-Dichloroethane	1.0	U	5.0	0.37	ug/L			11/21/16 19:36	1
1,2-Dichloroethene, Total	2.0	U	10	0.24	ug/L			11/21/16 19:36	1
1,2-Dichloropropane	1.0	U	5.0	0.32	ug/L			11/21/16 19:36	1
1,3,5-Trimethylbenzene	2.0	U	5.0	0.28	ug/L			11/21/16 19:36	1
1,3-Dichlorobenzene	2.0	U	5.0	0.23	ug/L			11/21/16 19:36	1
1,4-Dichlorobenzene	2.0	U	5.0	0.35	ug/L			11/21/16 19:36	1
2-Butanone (MEK)	5.0	U	20	0.39	ug/L			11/21/16 19:36	1
2-Hexanone	2.0	U	20	0.59	ug/L			11/21/16 19:36	1
4-Methyl-2-pentanone (MIBK)	2.0	U	20	0.33	ug/L			11/21/16 19:36	1
Acetone	10	U	20	6.7	ug/L			11/21/16 19:36	1
Benzene	1.0	U	5.0	0.25	ug/L			11/21/16 19:36	1
Bromobenzene	2.0	U	5.0	0.33	ug/L			11/21/16 19:36	1
Bromodichloromethane	2.0	U	5.0	0.25	ug/L			11/21/16 19:36	1
Bromoform	1.0	U	5.0	0.37	ug/L			11/21/16 19:36	1
Bromomethane	2.0	U	10	0.40	ug/L			11/21/16 19:36	1
Carbon disulfide	1.0	U	5.0	0.37	ug/L			11/21/16 19:36	1
Carbon tetrachloride	1.0	U	5.0	0.36	ug/L			11/21/16 19:36	1
Chlorobenzene	1.0	U	5.0	0.38	ug/L			11/21/16 19:36	1
Chloroethane	1.0	U	10	0.38	ug/L			11/21/16 19:36	1
Chloroform	1.0	U	5.0	0.15	ug/L			11/21/16 19:36	1
Chloromethane	2.0	U	10	0.55	ug/L			11/21/16 19:36	1
cis-1,2-Dichloroethene	1.0	U	5.0	0.16	ug/L			11/21/16 19:36	1
cis-1,3-Dichloropropene	1.0	U	5.0	0.34	ug/L			11/21/16 19:36	1
Cyclohexane	2.0	U	10	0.36	ug/L			11/21/16 19:36	1
Dibromochloromethane	1.0	U	5.0	0.33	ug/L			11/21/16 19:36	1
Dichlorodifluoromethane	2.0	U	10	0.45	ug/L			11/21/16 19:36	1
Ethylbenzene	1.0	U	5.0	0.30	ug/L			11/21/16 19:36	1
Isopropylbenzene	2.0	U	5.0	0.26	ug/L			11/21/16 19:36	1
Methyl acetate	5.0	U	25	2.3	ug/L			11/21/16 19:36	1
Methyl tert-butyl ether	2.0	U	5.0	0.40	ug/L			11/21/16 19:36	1
Methylcyclohexane	2.0	U	10	0.26	ug/L			11/21/16 19:36	1
Methylene Chloride	5.0	U	7.5	1.7	ug/L			11/21/16 19:36	1
m-Xylene & p-Xylene	1.0	U	5.0	0.57	ug/L			11/21/16 19:36	1
Naphthalene	2.0	U	5.0	0.85	ug/L			11/21/16 19:36	1
n-Butylbenzene	2.0	U	5.0	0.23	ug/L			11/21/16 19:36	1
N-Propylbenzene	2.0	U	5.0	0.30	ug/L			11/21/16 19:36	1
o-Xylene	1.0	U	5.0	0.32	ug/L			11/21/16 19:36	1

Client Sample ID: SC-TU008-MW006-G-1

Lab Sample ID: 280-90936-1

Date Collected: 11/10/16 14:00
Date Received: 11/12/16 08:40

Matrix: Water

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

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	2.0	U	5.0	0.31	ug/L			11/21/16 19:36	1
Styrene	1.0	U	5.0	0.35	ug/L			11/21/16 19:36	1
tert-Butylbenzene	2.0	U	5.0	0.31	ug/L			11/21/16 19:36	1
Tetrachloroethene	1.0	U	5.0	0.28	ug/L			11/21/16 19:36	1
Toluene	1.0	U	5.0	1.0	ug/L			11/21/16 19:36	1
trans-1,2-Dichloroethene	1.0	U	5.0	0.18	ug/L			11/21/16 19:36	1
trans-1,3-Dichloropropene	1.0	U	5.0	0.35	ug/L			11/21/16 19:36	1
Trichloroethene	1.0	U	5.0	0.29	ug/L			11/21/16 19:36	1
Trichlorofluoromethane	2.0	U	5.0	0.22	ug/L			11/21/16 19:36	1
Vinyl chloride	1.0	U	5.0	0.43	ug/L			11/21/16 19:36	1
Xylenes, Total	5.0	U	10	0.85	ug/L			11/21/16 19:36	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*102*		*81 - 118*		*11/21/16 19:36*	*1*
4-Bromofluorobenzene (Surr)	*90*		*85 - 114*		*11/21/16 19:36*	*1*
Dibromofluoromethane (Surr)	*101*		*80 - 119*		*11/21/16 19:36*	*1*
Toluene-d8 (Surr)	*93*		*89 - 112*		*11/21/16 19:36*	*1*

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

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4,5-Tetrachlorobenzene	4.4	U H	10	1.7	ug/L		11/20/16 10:47	12/06/16 01:51	1
1,2,4-Trichlorobenzene	1.0	U H	10	0.28	ug/L		11/20/16 10:47	12/06/16 01:51	1
1,2-Dichlorobenzene	0.50	U H	10	0.23	ug/L		11/20/16 10:47	12/06/16 01:51	1
1,2-Diphenylhydrazine	0.51	U H	10	0.23	ug/L		11/20/16 10:47	12/06/16 01:51	1
1,3-Dichlorobenzene	1.0	U H	10	0.30	ug/L		11/20/16 10:47	12/06/16 01:51	1
1,4-Dichlorobenzene	1.0	U H	10	0.32	ug/L		11/20/16 10:47	12/06/16 01:51	1
2,2'-oxybis[1-chloropropane]	1.0	U H	10	0.28	ug/L		11/20/16 10:47	12/06/16 01:51	1
2,4,5-Trichlorophenol	1.0	U H	20	0.45	ug/L		11/20/16 10:47	12/06/16 01:51	1
2,4,6-Trichlorophenol	1.0	U H	20	0.29	ug/L		11/20/16 10:47	12/06/16 01:51	1
2,4-Dichlorophenol	2.0	U H	10	0.64	ug/L		11/20/16 10:47	12/06/16 01:51	1
2,4-Dimethylphenol	2.0	U H	10	0.58	ug/L		11/20/16 10:47	12/06/16 01:51	1
2,4-Dinitrophenol	30	U H	80	10	ug/L		11/20/16 10:47	12/06/16 01:51	1
2,4-Dinitrotoluene	4.4	U H	20	1.7	ug/L		11/20/16 10:47	12/06/16 01:51	1
2,6-Dichlorophenol	4.0	U H	10	1.4	ug/L		11/20/16 10:47	12/06/16 01:51	1
2,6-Dinitrotoluene	4.4	U H	20	1.9	ug/L		11/20/16 10:47	12/06/16 01:51	1
2-Chloronaphthalene	1.0	U H	10	0.26	ug/L		11/20/16 10:47	12/06/16 01:51	1
2-Chlorophenol	4.4	U H	10	2.0	ug/L		11/20/16 10:47	12/06/16 01:51	1
2-Methylnaphthalene	1.0	U H	10	0.29	ug/L		11/20/16 10:47	12/06/16 01:51	1
2-Methylphenol	2.0	U H	10	0.98	ug/L		11/20/16 10:47	12/06/16 01:51	1
3 & 4 Methylphenol	0.50	U H	20	0.25	ug/L		11/20/16 10:47	12/06/16 01:51	1
3,3'-Dichlorobenzidine	4.4	U H	50	2.0	ug/L		11/20/16 10:47	12/06/16 01:51	1
3-Nitroaniline	4.4	U H	50	2.0	ug/L		11/20/16 10:47	12/06/16 01:51	1
4,6-Dinitro-2-methylphenol	8.8	U H	80	4.0	ug/L		11/20/16 10:47	12/06/16 01:51	1
4-Chloroaniline	4.4	U H	25	2.1	ug/L		11/20/16 10:47	12/06/16 01:51	1
4-Chlorophenyl phenyl ether	4.4	U H	10	1.7	ug/L		11/20/16 10:47	12/06/16 01:51	1
4-Nitroaniline	4.4	U H	50	2.0	ug/L		11/20/16 10:47	12/06/16 01:51	1
4-Nitrophenol	4.0	U H	50	1.2	ug/L		11/20/16 10:47	12/06/16 01:51	1
Acenaphthene	1.0	U H	10	0.28	ug/L		11/20/16 10:47	12/06/16 01:51	1
Acenaphthylene	1.0	U H	10	0.49	ug/L		11/20/16 10:47	12/06/16 01:51	1
Anthracene	1.0	U H	10	0.42	ug/L		11/20/16 10:47	12/06/16 01:51	1

Client Sample ID: SC-TU008-MW006-G-1

Lab Sample ID: 280-90936-1

Date Collected: 11/10/16 14:00
Date Received: 11/12/16 08:40

Matrix: Water

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

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Benzidine	100	U H Q	200	50	ug/L		11/20/16 10:47	12/06/16 01:51	1
Benzo[a]anthracene	1.0	U H	10	0.35	ug/L		11/20/16 10:47	12/06/16 01:51	1
Benzo[a]pyrene	1.0	U H	10	0.31	ug/L		11/20/16 10:47	12/06/16 01:51	1
Benzo[b]fluoranthene	2.0	U H	10	0.53	ug/L		11/20/16 10:47	12/06/16 01:51	1
Benzo[g,h,i]perylene	1.0	U H	10	0.50	ug/L		11/20/16 10:47	12/06/16 01:51	1
Benzo[k]fluoranthene	1.0	U H	10	0.46	ug/L		11/20/16 10:47	12/06/16 01:51	1
Benzoic acid	30	U H	80	10	ug/L		11/20/16 10:47	12/06/16 01:51	1
Benzyl alcohol	0.50	U H	25	0.23	ug/L		11/20/16 10:47	12/06/16 01:51	1
Bis(2-chloroethoxy)methane	2.0	U H	10	0.97	ug/L		11/20/16 10:47	12/06/16 01:51	1
Bis(2-chloroethyl)ether	1.0	U H	20	0.41	ug/L		11/20/16 10:47	12/06/16 01:51	1
Bis(2-ethylhexyl) phthalate	2.0	U H	10	0.56	ug/L		11/20/16 10:47	12/06/16 01:51	1
Butyl benzyl phthalate	2.0	U H	20	1.0	ug/L		11/20/16 10:47	12/06/16 01:51	1
Carbazole	1.0	U H	10	0.43	ug/L		11/20/16 10:47	12/06/16 01:51	1
Chrysene	2.0	U H	10	0.54	ug/L		11/20/16 10:47	12/06/16 01:51	1
Dibenz(a,h)anthracene	2.0	U H	10	0.51	ug/L		11/20/16 10:47	12/06/16 01:51	1
Dibenzofuran	1.0	U H	10	0.29	ug/L		11/20/16 10:47	12/06/16 01:51	1
Diethyl phthalate	1.0	U H	20	0.38	ug/L		11/20/16 10:47	12/06/16 01:51	1
Dimethyl phthalate	0.50	U H	20	0.21	ug/L		11/20/16 10:47	12/06/16 01:51	1
Di-n-butyl phthalate	4.4	U H	20	1.2	ug/L		11/20/16 10:47	12/06/16 01:51	1
Di-n-octyl phthalate	1.0	U H	20	0.35	ug/L		11/20/16 10:47	12/06/16 01:51	1
Fluoranthene	0.50	U H	20	0.20	ug/L		11/20/16 10:47	12/06/16 01:51	1
Fluorene	1.0	U H	10	0.31	ug/L		11/20/16 10:47	12/06/16 01:51	1
Hexachlorobenzene	2.0	U H	10	0.66	ug/L		11/20/16 10:47	12/06/16 01:51	1
Hexachlorobutadiene	10	U H	30	3.3	ug/L		11/20/16 10:47	12/06/16 01:51	1
Hexachlorocyclopentadiene	30	U H	50	10	ug/L		11/20/16 10:47	12/06/16 01:51	1
Hexachloroethane	4.4	U H	10	2.1	ug/L		11/20/16 10:47	12/06/16 01:51	1
Indeno[1,2,3-cd]pyrene	2.0	U H	10	0.65	ug/L		11/20/16 10:47	12/06/16 01:51	1
Isophorone	0.50	U H	10	0.21	ug/L		11/20/16 10:47	12/06/16 01:51	1
Naphthalene	1.0	U H	10	0.29	ug/L		11/20/16 10:47	12/06/16 01:51	1
Nitrobenzene	2.0	U H	20	0.81	ug/L		11/20/16 10:47	12/06/16 01:51	1
N-Nitrosodimethylamine	1.0	U H	10	0.29	ug/L		11/20/16 10:47	12/06/16 01:51	1
N-Nitrosodi-n-propylamine	1.0	U H	20	0.35	ug/L		11/20/16 10:47	12/06/16 01:51	1
N-Nitrosodiphenylamine	1.0	U H	10	0.44	ug/L		11/20/16 10:47	12/06/16 01:51	1
N-Nitrosopyrrolidine	2.0	U H	10	0.80	ug/L		11/20/16 10:47	12/06/16 01:51	1
Pentachlorophenol	60	U H	80	20	ug/L		11/20/16 10:47	12/06/16 01:51	1
Phenanthrene	1.0	U H	10	0.26	ug/L		11/20/16 10:47	12/06/16 01:51	1
Phenol	4.4	U H	10	2.0	ug/L		11/20/16 10:47	12/06/16 01:51	1
Pyrene	1.0	U H	10	0.37	ug/L		11/20/16 10:47	12/06/16 01:51	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*113*		*43 - 140*	*11/20/16 10:47*	*12/06/16 01:51*	*1*
2-Fluorobiphenyl	*90*		*44 - 119*	*11/20/16 10:47*	*12/06/16 01:51*	*1*
2-Fluorophenol (Surr)	*86*		*19 - 119*	*11/20/16 10:47*	*12/06/16 01:51*	*1*
Nitrobenzene-d5 (Surr)	*88*		*44 - 120*	*11/20/16 10:47*	*12/06/16 01:51*	*1*
Phenol-d5 (Surr)	*91*		*10 - 115*	*11/20/16 10:47*	*12/06/16 01:51*	*1*
Terphenyl-d14 (Surr)	*90*		*50 - 134*	*11/20/16 10:47*	*12/06/16 01:51*	*1*

Client Sample Results

Client: Weston Solutions, Inc.
Project/Site: Schenectady ANGB

TestAmerica Job ID: 280-90936-1

Client Sample ID: SC-TU008-TB111016

Lab Sample ID: 280-90936-2

Date Collected: 11/10/16 14:05

Matrix: Water

Date Received: 11/12/16 08:40

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

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	1.0	U	5.0	0.29	ug/L			11/21/16 19:11	1
1,1,2,2-Tetrachloroethane	2.0	U	5.0	0.43	ug/L			11/21/16 19:11	1
1,1,2-Trichloro-1,2,2-trifluoroethane	2.0	U	5.0	0.25	ug/L			11/21/16 19:11	1
1,1,2-Trichloroethane	1.0	U	5.0	0.57	ug/L			11/21/16 19:11	1
1,1-Dichloroethane	1.0	U	5.0	0.39	ug/L			11/21/16 19:11	1
1,1-Dichloroethene	1.0	U	5.0	0.37	ug/L			11/21/16 19:11	1
1,2,3-Trichlorobenzene	2.0	U	5.0	0.65	ug/L			11/21/16 19:11	1
1,2,4-Trichlorobenzene	2.0	U	5.0	0.55	ug/L			11/21/16 19:11	1
1,2,4-Trimethylbenzene	2.0	U	5.0	0.40	ug/L			11/21/16 19:11	1
1,2-Dibromo-3-Chloropropane	2.0	U	10	1.2	ug/L			11/21/16 19:11	1
1,2-Dibromoethane	2.0	U	5.0	0.44	ug/L			11/21/16 19:11	1
1,2-Dichlorobenzene	2.0	U	5.0	0.28	ug/L			11/21/16 19:11	1
1,2-Dichloroethane	1.0	U	5.0	0.37	ug/L			11/21/16 19:11	1
1,2-Dichloroethene, Total	2.0	U	10	0.24	ug/L			11/21/16 19:11	1
1,2-Dichloropropane	1.0	U	5.0	0.32	ug/L			11/21/16 19:11	1
1,3,5-Trimethylbenzene	2.0	U	5.0	0.28	ug/L			11/21/16 19:11	1
1,3-Dichlorobenzene	2.0	U	5.0	0.23	ug/L			11/21/16 19:11	1
1,4-Dichlorobenzene	2.0	U	5.0	0.35	ug/L			11/21/16 19:11	1
2-Butanone (MEK)	5.0	U	20	0.39	ug/L			11/21/16 19:11	1
2-Hexanone	2.0	U	20	0.59	ug/L			11/21/16 19:11	1
4-Methyl-2-pentanone (MIBK)	2.0	U	20	0.33	ug/L			11/21/16 19:11	1
Acetone	10	U	20	6.7	ug/L			11/21/16 19:11	1
Benzene	1.0	U	5.0	0.25	ug/L			11/21/16 19:11	1
Bromobenzene	2.0	U	5.0	0.33	ug/L			11/21/16 19:11	1
Bromodichloromethane	2.0	U	5.0	0.25	ug/L			11/21/16 19:11	1
Bromoform	1.0	U	5.0	0.37	ug/L			11/21/16 19:11	1
Bromomethane	2.0	U	10	0.40	ug/L			11/21/16 19:11	1
Carbon disulfide	1.0	U	5.0	0.37	ug/L			11/21/16 19:11	1
Carbon tetrachloride	1.0	U	5.0	0.36	ug/L			11/21/16 19:11	1
Chlorobenzene	1.0	U	5.0	0.38	ug/L			11/21/16 19:11	1
Chloroethane	1.0	U	10	0.38	ug/L			11/21/16 19:11	1
Chloroform	1.0	U	5.0	0.15	ug/L			11/21/16 19:11	1
Chloromethane	2.0	U	10	0.55	ug/L			11/21/16 19:11	1
cis-1,2-Dichloroethene	1.0	U	5.0	0.16	ug/L			11/21/16 19:11	1
cis-1,3-Dichloropropene	1.0	U	5.0	0.34	ug/L			11/21/16 19:11	1
Cyclohexane	2.0	U	10	0.36	ug/L			11/21/16 19:11	1
Dibromochloromethane	1.0	U	5.0	0.33	ug/L			11/21/16 19:11	1
Dichlorodifluoromethane	2.0	U	10	0.45	ug/L			11/21/16 19:11	1
Ethylbenzene	1.0	U	5.0	0.30	ug/L			11/21/16 19:11	1
Isopropylbenzene	2.0	U	5.0	0.26	ug/L			11/21/16 19:11	1
Methyl acetate	5.0	U	25	2.3	ug/L			11/21/16 19:11	1
Methyl tert-butyl ether	2.0	U	5.0	0.40	ug/L			11/21/16 19:11	1
Methylcyclohexane	2.0	U	10	0.26	ug/L			11/21/16 19:11	1
Methylene Chloride	5.0	U	7.5	1.7	ug/L			11/21/16 19:11	1
m-Xylene & p-Xylene	1.0	U	5.0	0.57	ug/L			11/21/16 19:11	1
Naphthalene	2.0	U	5.0	0.85	ug/L			11/21/16 19:11	1
n-Butylbenzene	2.0	U	5.0	0.23	ug/L			11/21/16 19:11	1
N-Propylbenzene	2.0	U	5.0	0.30	ug/L			11/21/16 19:11	1
o-Xylene	1.0	U	5.0	0.32	ug/L			11/21/16 19:11	1

Client Sample ID: SC-TU008-TB111016

Lab Sample ID: 280-90936-2

Date Collected: 11/10/16 14:05
Date Received: 11/12/16 08:40

Matrix: Water

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

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	2.0	U	5.0	0.31	ug/L			11/21/16 19:11	1
Styrene	1.0	U	5.0	0.35	ug/L			11/21/16 19:11	1
tert-Butylbenzene	2.0	U	5.0	0.31	ug/L			11/21/16 19:11	1
Tetrachloroethene	1.0	U	5.0	0.28	ug/L			11/21/16 19:11	1
Toluene	1.0	U	5.0	1.0	ug/L			11/21/16 19:11	1
trans-1,2-Dichloroethene	1.0	U	5.0	0.18	ug/L			11/21/16 19:11	1
trans-1,3-Dichloropropene	1.0	U	5.0	0.35	ug/L			11/21/16 19:11	1
Trichloroethene	1.0	U	5.0	0.29	ug/L			11/21/16 19:11	1
Trichlorofluoromethane	2.0	U	5.0	0.22	ug/L			11/21/16 19:11	1
Vinyl chloride	1.0	U	5.0	0.43	ug/L			11/21/16 19:11	1
Xylenes, Total	5.0	U	10	0.85	ug/L			11/21/16 19:11	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*102*		*81 - 118*		*11/21/16 19:11*	*1*
4-Bromofluorobenzene (Surr)	*93*		*85 - 114*		*11/21/16 19:11*	*1*
Dibromofluoromethane (Surr)	*100*		*80 - 119*		*11/21/16 19:11*	*1*
Toluene-d8 (Surr)	*94*		*89 - 112*		*11/21/16 19:11*	*1*

Default Detection Limits

Client: Weston Solutions, Inc.
Project/Site: Schenectady ANGB

TestAmerica Job ID: 280-90936-1

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

Analyte	LOQ	DL	Units	Method
1,1,1-Trichloroethane	5.0	0.29	ug/L	8260C DOD
1,1,2,2-Tetrachloroethane	5.0	0.43	ug/L	8260C DOD
1,1,2-Trichloro-1,2,2-trifluoroethane	5.0	0.25	ug/L	8260C DOD
1,1,2-Trichloroethane	5.0	0.57	ug/L	8260C DOD
1,1-Dichloroethane	5.0	0.39	ug/L	8260C DOD
1,1-Dichloroethene	5.0	0.37	ug/L	8260C DOD
1,2,3-Trichlorobenzene	5.0	0.65	ug/L	8260C DOD
1,2,4-Trichlorobenzene	5.0	0.55	ug/L	8260C DOD
1,2,4-Trimethylbenzene	5.0	0.40	ug/L	8260C DOD
1,2-Dibromo-3-Chloropropane	10	1.2	ug/L	8260C DOD
1,2-Dibromoethane	5.0	0.44	ug/L	8260C DOD
1,2-Dichlorobenzene	5.0	0.28	ug/L	8260C DOD
1,2-Dichloroethane	5.0	0.37	ug/L	8260C DOD
1,2-Dichloroethene, Total	10	0.24	ug/L	8260C DOD
1,2-Dichloropropane	5.0	0.32	ug/L	8260C DOD
1,3,5-Trimethylbenzene	5.0	0.28	ug/L	8260C DOD
1,3-Dichlorobenzene	5.0	0.23	ug/L	8260C DOD
1,4-Dichlorobenzene	5.0	0.35	ug/L	8260C DOD
2-Butanone (MEK)	20	0.39	ug/L	8260C DOD
2-Hexanone	20	0.59	ug/L	8260C DOD
4-Methyl-2-pentanone (MIBK)	20	0.33	ug/L	8260C DOD
Acetone	20	6.7	ug/L	8260C DOD
Benzene	5.0	0.25	ug/L	8260C DOD
Bromobenzene	5.0	0.33	ug/L	8260C DOD
Bromodichloromethane	5.0	0.25	ug/L	8260C DOD
Bromoform	5.0	0.37	ug/L	8260C DOD
Bromomethane	10	0.40	ug/L	8260C DOD
Carbon disulfide	5.0	0.37	ug/L	8260C DOD
Carbon tetrachloride	5.0	0.36	ug/L	8260C DOD
Chlorobenzene	5.0	0.38	ug/L	8260C DOD
Chloroethane	10	0.38	ug/L	8260C DOD
Chloroform	5.0	0.15	ug/L	8260C DOD
Chloromethane	10	0.55	ug/L	8260C DOD
cis-1,2-Dichloroethene	5.0	0.16	ug/L	8260C DOD
cis-1,3-Dichloropropene	5.0	0.34	ug/L	8260C DOD
Cyclohexane	10	0.36	ug/L	8260C DOD
Dibromochloromethane	5.0	0.33	ug/L	8260C DOD
Dichlorodifluoromethane	10	0.45	ug/L	8260C DOD
Ethylbenzene	5.0	0.30	ug/L	8260C DOD
Isopropylbenzene	5.0	0.26	ug/L	8260C DOD
Methyl acetate	25	2.3	ug/L	8260C DOD
Methyl tert-butyl ether	5.0	0.40	ug/L	8260C DOD
Methylcyclohexane	10	0.26	ug/L	8260C DOD
Methylene Chloride	7.5	1.7	ug/L	8260C DOD
m-Xylene & p-Xylene	5.0	0.57	ug/L	8260C DOD
Naphthalene	5.0	0.85	ug/L	8260C DOD
n-Butylbenzene	5.0	0.23	ug/L	8260C DOD
N-Propylbenzene	5.0	0.30	ug/L	8260C DOD
o-Xylene	5.0	0.32	ug/L	8260C DOD
sec-Butylbenzene	5.0	0.31	ug/L	8260C DOD
Styrene	5.0	0.35	ug/L	8260C DOD
tert-Butylbenzene	5.0	0.31	ug/L	8260C DOD

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

Analyte	LOQ	DL	Units	Method
Tetrachloroethene	5.0	0.28	ug/L	8260C DOD
Toluene	5.0	1.0	ug/L	8260C DOD
trans-1,2-Dichloroethene	5.0	0.18	ug/L	8260C DOD
trans-1,3-Dichloropropene	5.0	0.35	ug/L	8260C DOD
Trichloroethene	5.0	0.29	ug/L	8260C DOD
Trichlorofluoromethane	5.0	0.22	ug/L	8260C DOD
Vinyl chloride	5.0	0.43	ug/L	8260C DOD
Xylenes, Total	10	0.85	ug/L	8260C DOD

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

Prep: 3520C

Analyte	LOQ	DL	Units	Method
1,2,4,5-Tetrachlorobenzene	10	1.7	ug/L	8270D
1,2,4-Trichlorobenzene	10	0.28	ug/L	8270D
1,2-Dichlorobenzene	10	0.23	ug/L	8270D
1,2-Diphenylhydrazine	10	0.23	ug/L	8270D
1,3-Dichlorobenzene	10	0.30	ug/L	8270D
1,4-Dichlorobenzene	10	0.32	ug/L	8270D
2,2'-oxybis[1-chloropropane]	10	0.28	ug/L	8270D
2,4,5-Trichlorophenol	20	0.45	ug/L	8270D
2,4,6-Trichlorophenol	20	0.29	ug/L	8270D
2,4-Dichlorophenol	10	0.64	ug/L	8270D
2,4-Dimethylphenol	10	0.58	ug/L	8270D
2,4-Dinitrophenol	80	10	ug/L	8270D
2,4-Dinitrotoluene	20	1.7	ug/L	8270D
2,6-Dichlorophenol	10	1.4	ug/L	8270D
2,6-Dinitrotoluene	20	1.9	ug/L	8270D
2-Chloronaphthalene	10	0.26	ug/L	8270D
2-Chlorophenol	10	2.0	ug/L	8270D
2-Methylnaphthalene	10	0.29	ug/L	8270D
2-Methylphenol	10	0.98	ug/L	8270D
3 & 4 Methylphenol	20	0.25	ug/L	8270D
3,3'-Dichlorobenzidine	50	2.0	ug/L	8270D
3-Nitroaniline	50	2.0	ug/L	8270D
4,6-Dinitro-2-methylphenol	80	4.0	ug/L	8270D
4-Chloroaniline	25	2.1	ug/L	8270D
4-Chlorophenyl phenyl ether	10	1.7	ug/L	8270D
4-Nitroaniline	50	2.0	ug/L	8270D
4-Nitrophenol	50	1.2	ug/L	8270D
Acenaphthene	10	0.28	ug/L	8270D
Acenaphthylene	10	0.49	ug/L	8270D
Anthracene	10	0.42	ug/L	8270D
Benzidine	200	50	ug/L	8270D
Benzo[a]anthracene	10	0.35	ug/L	8270D
Benzo[a]pyrene	10	0.31	ug/L	8270D
Benzo[b]fluoranthene	10	0.53	ug/L	8270D
Benzo[g,h,i]perylene	10	0.50	ug/L	8270D
Benzo[k]fluoranthene	10	0.46	ug/L	8270D
Benzoic acid	80	10	ug/L	8270D
Benzyl alcohol	25	0.23	ug/L	8270D
Bis(2-chloroethoxy)methane	10	0.97	ug/L	8270D

Default Detection Limits

Client: Weston Solutions, Inc.
Project/Site: Schenectady ANGB

TestAmerica Job ID: 280-90936-1

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

Prep: 3520C

Analyte	LOQ	DL	Units	Method
Bis(2-chloroethyl)ether	20	0.41	ug/L	8270D
Bis(2-ethylhexyl) phthalate	10	0.56	ug/L	8270D
Butyl benzyl phthalate	20	1.0	ug/L	8270D
Carbazole	10	0.43	ug/L	8270D
Chrysene	10	0.54	ug/L	8270D
Dibenz(a,h)anthracene	10	0.51	ug/L	8270D
Dibenzofuran	10	0.29	ug/L	8270D
Diethyl phthalate	20	0.38	ug/L	8270D
Dimethyl phthalate	20	0.21	ug/L	8270D
Di-n-butyl phthalate	20	1.2	ug/L	8270D
Di-n-octyl phthalate	20	0.35	ug/L	8270D
Fluoranthene	20	0.20	ug/L	8270D
Fluorene	10	0.31	ug/L	8270D
Hexachlorobenzene	10	0.66	ug/L	8270D
Hexachlorobutadiene	30	3.3	ug/L	8270D
Hexachlorocyclopentadiene	50	10	ug/L	8270D
Hexachloroethane	10	2.1	ug/L	8270D
Indeno[1,2,3-cd]pyrene	10	0.65	ug/L	8270D
Isophorone	10	0.21	ug/L	8270D
Naphthalene	10	0.29	ug/L	8270D
Nitrobenzene	20	0.81	ug/L	8270D
N-Nitrosodimethylamine	10	0.29	ug/L	8270D
N-Nitrosodi-n-propylamine	20	0.35	ug/L	8270D
N-Nitrosodiphenylamine	10	0.44	ug/L	8270D
N-Nitrosopyrrolidine	10	0.80	ug/L	8270D
Pentachlorophenol	80	20	ug/L	8270D
Phenanthrene	10	0.26	ug/L	8270D
Phenol	10	2.0	ug/L	8270D
Pyrene	10	0.37	ug/L	8270D

Surrogate Summary

Client: Weston Solutions, Inc.
Project/Site: Schenectady ANGB

TestAmerica Job ID: 280-90936-1

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

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

		Percent Surrogate Recovery (Acceptance Limits)			
		12DCE	BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(81-118)	(85-114)	(80-119)	(89-112)
280-90936-1	SC-TU008-MW006-G-1	102	90	101	93
280-90936-1 MS	SC-TU008-MW006-G-1	100	97	99	97
280-90936-1 MSD	SC-TU008-MW006-G-1	98	97	97	96
280-90936-2	SC-TU008-TB111016	102	93	100	94
LCS 160-280373/4	Lab Control Sample	100	99	97	98
LCSD 160-280373/5	Lab Control Sample Dup	98	99	96	99
MB 160-280373/7	Method Blank	99	92	97	95

Surrogate Legend

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

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

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

		Percent Surrogate Recovery (Acceptance Limits)					
		TBP	FBP	2FP	NBZ	PHL	TPH
Lab Sample ID	Client Sample ID	(43-140)	(44-119)	(19-119)	(44-120)	(10-115)	(50-134)
280-90936-1	SC-TU008-MW006-G-1	113	90	86	88	91	90
LCS 280-352340/2-A	Lab Control Sample	97	87	93	90	90	92
LCS 280-352340/4-A	Lab Control Sample	97	85	93	91	93	90
LCSD 280-352340/3-A	Lab Control Sample Dup	98	85	91	88	90	92
LCSD 280-352340/5-A	Lab Control Sample Dup	94	84	85	86	81	88
MB 280-352340/1-A	Method Blank	94	87	94	91	93	93

Surrogate Legend

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

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

Lab Sample ID: MB 160-280373/7
Matrix: Water
Analysis Batch: 280373

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

Analyte	MB Result	MB Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	1.0	U	5.0	0.29	ug/L			11/21/16 18:21	1
1,1,2,2-Tetrachloroethane	2.0	U	5.0	0.43	ug/L			11/21/16 18:21	1
1,1,2-Trichloro-1,2,2-trifluoroethane	2.0	U	5.0	0.25	ug/L			11/21/16 18:21	1
1,1,2-Trichloroethane	1.0	U	5.0	0.57	ug/L			11/21/16 18:21	1
1,1-Dichloroethane	1.0	U	5.0	0.39	ug/L			11/21/16 18:21	1
1,1-Dichloroethene	1.0	U	5.0	0.37	ug/L			11/21/16 18:21	1
1,2,3-Trichlorobenzene	2.0	U	5.0	0.65	ug/L			11/21/16 18:21	1
1,2,4-Trichlorobenzene	2.0	U	5.0	0.55	ug/L			11/21/16 18:21	1
1,2,4-Trimethylbenzene	2.0	U	5.0	0.40	ug/L			11/21/16 18:21	1
1,2-Dibromo-3-Chloropropane	2.0	U	10	1.2	ug/L			11/21/16 18:21	1
1,2-Dibromoethane	2.0	U	5.0	0.44	ug/L			11/21/16 18:21	1
1,2-Dichlorobenzene	2.0	U	5.0	0.28	ug/L			11/21/16 18:21	1
1,2-Dichloroethane	1.0	U	5.0	0.37	ug/L			11/21/16 18:21	1
1,2-Dichloroethene, Total	2.0	U	10	0.24	ug/L			11/21/16 18:21	1
1,2-Dichloropropane	1.0	U	5.0	0.32	ug/L			11/21/16 18:21	1
1,3,5-Trimethylbenzene	2.0	U	5.0	0.28	ug/L			11/21/16 18:21	1
1,3-Dichlorobenzene	2.0	U	5.0	0.23	ug/L			11/21/16 18:21	1
1,4-Dichlorobenzene	2.0	U	5.0	0.35	ug/L			11/21/16 18:21	1
2-Butanone (MEK)	5.0	U	20	0.39	ug/L			11/21/16 18:21	1
2-Hexanone	2.0	U	20	0.59	ug/L			11/21/16 18:21	1
4-Methyl-2-pentanone (MIBK)	2.0	U	20	0.33	ug/L			11/21/16 18:21	1
Acetone	10	U	20	6.7	ug/L			11/21/16 18:21	1
Benzene	1.0	U	5.0	0.25	ug/L			11/21/16 18:21	1
Bromobenzene	2.0	U	5.0	0.33	ug/L			11/21/16 18:21	1
Bromodichloromethane	2.0	U	5.0	0.25	ug/L			11/21/16 18:21	1
Bromoform	1.0	U	5.0	0.37	ug/L			11/21/16 18:21	1
Bromomethane	2.0	U	10	0.40	ug/L			11/21/16 18:21	1
Carbon disulfide	1.0	U	5.0	0.37	ug/L			11/21/16 18:21	1
Carbon tetrachloride	1.0	U	5.0	0.36	ug/L			11/21/16 18:21	1
Chlorobenzene	1.0	U	5.0	0.38	ug/L			11/21/16 18:21	1
Chloroethane	1.0	U	10	0.38	ug/L			11/21/16 18:21	1
Chloroform	1.0	U	5.0	0.15	ug/L			11/21/16 18:21	1
Chloromethane	2.0	U	10	0.55	ug/L			11/21/16 18:21	1
cis-1,2-Dichloroethene	1.0	U	5.0	0.16	ug/L			11/21/16 18:21	1
cis-1,3-Dichloropropene	1.0	U	5.0	0.34	ug/L			11/21/16 18:21	1
Cyclohexane	2.0	U	10	0.36	ug/L			11/21/16 18:21	1
Dibromochloromethane	1.0	U	5.0	0.33	ug/L			11/21/16 18:21	1
Dichlorodifluoromethane	2.0	U	10	0.45	ug/L			11/21/16 18:21	1
Ethylbenzene	1.0	U	5.0	0.30	ug/L			11/21/16 18:21	1
Isopropylbenzene	2.0	U	5.0	0.26	ug/L			11/21/16 18:21	1
Methyl acetate	5.0	U	25	2.3	ug/L			11/21/16 18:21	1
Methyl tert-butyl ether	2.0	U	5.0	0.40	ug/L			11/21/16 18:21	1
Methylcyclohexane	2.0	U	10	0.26	ug/L			11/21/16 18:21	1
Methylene Chloride	5.0	U	7.5	1.7	ug/L			11/21/16 18:21	1
m-Xylene & p-Xylene	1.0	U	5.0	0.57	ug/L			11/21/16 18:21	1
Naphthalene	2.0	U	5.0	0.85	ug/L			11/21/16 18:21	1
n-Butylbenzene	2.0	U	5.0	0.23	ug/L			11/21/16 18:21	1
N-Propylbenzene	2.0	U	5.0	0.30	ug/L			11/21/16 18:21	1

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

Lab Sample ID: MB 160-280373/7
Matrix: Water
Analysis Batch: 280373

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

Analyte	MB Result	MB Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	1.0	U	5.0	0.32	ug/L			11/21/16 18:21	1
sec-Butylbenzene	2.0	U	5.0	0.31	ug/L			11/21/16 18:21	1
Styrene	1.0	U	5.0	0.35	ug/L			11/21/16 18:21	1
tert-Butylbenzene	2.0	U	5.0	0.31	ug/L			11/21/16 18:21	1
Tetrachloroethene	1.0	U	5.0	0.28	ug/L			11/21/16 18:21	1
Toluene	1.0	U	5.0	1.0	ug/L			11/21/16 18:21	1
trans-1,2-Dichloroethene	1.0	U	5.0	0.18	ug/L			11/21/16 18:21	1
trans-1,3-Dichloropropene	1.0	U	5.0	0.35	ug/L			11/21/16 18:21	1
Trichloroethene	1.0	U	5.0	0.29	ug/L			11/21/16 18:21	1
Trichlorofluoromethane	2.0	U	5.0	0.22	ug/L			11/21/16 18:21	1
Vinyl chloride	1.0	U	5.0	0.43	ug/L			11/21/16 18:21	1
Xylenes, Total	5.0	U	10	0.85	ug/L			11/21/16 18:21	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*99*		*81 - 118*		*11/21/16 18:21*	*1*
4-Bromofluorobenzene (Surr)	*92*		*85 - 114*		*11/21/16 18:21*	*1*
Dibromofluoromethane (Surr)	*97*		*80 - 119*		*11/21/16 18:21*	*1*
Toluene-d8 (Surr)	*95*		*89 - 112*		*11/21/16 18:21*	*1*

Lab Sample ID: LCS 160-280373/4
Matrix: Water
Analysis Batch: 280373

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1-Trichloroethane	50.0	47.9		ug/L		96	74 - 131
1,1,2,2-Tetrachloroethane	50.0	50.4		ug/L		101	71 - 121
1,1,2-Trichloro-1,2,2-trifluoroethane	50.0	47.4		ug/L		95	70 - 136
1,1,2-Trichloroethane	50.0	48.2		ug/L		96	80 - 119
1,1-Dichloroethane	50.0	47.6		ug/L		95	77 - 125
1,1-Dichloroethene	50.0	48.0		ug/L		96	71 - 131
1,2,3-Trichlorobenzene	50.0	51.0		ug/L		102	69 - 129
1,2,4-Trichlorobenzene	50.0	50.6		ug/L		101	69 - 130
1,2,4-Trimethylbenzene	50.0	50.2		ug/L		100	76 - 124
1,2-Dibromo-3-Chloropropane	50.0	54.1		ug/L		108	62 - 128
1,2-Dibromoethane	50.0	49.8		ug/L		100	80 - 120
1,2-Dichlorobenzene	50.0	49.2		ug/L		98	80 - 119
1,2-Dichloroethane	50.0	48.1		ug/L		96	73 - 128
1,2-Dichloroethene, Total	100	95.1		ug/L		95	79 - 121
1,2-Dichloropropane	50.0	49.6		ug/L		99	78 - 122
1,3,5-Trimethylbenzene	50.0	50.1		ug/L		100	75 - 124
1,3-Dichlorobenzene	50.0	49.1		ug/L		98	80 - 119
1,4-Dichlorobenzene	50.0	49.4		ug/L		99	79 - 118
2-Butanone (MEK)	50.0	52.9		ug/L		106	56 - 143
2-Hexanone	50.0	52.7		ug/L		105	57 - 139
4-Methyl-2-pentanone (MIBK)	50.0	51.6		ug/L		103	67 - 130
Acetone	50.0	54.3		ug/L		109	39 - 160
Benzene	50.0	46.4		ug/L		93	79 - 120

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

Lab Sample ID: LCS 160-280373/4
Matrix: Water
Analysis Batch: 280373

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Bromobenzene	50.0	48.9		ug/L		98	80 - 120
Bromodichloromethane	50.0	50.1		ug/L		100	79 - 125
Bromoform	50.0	55.8		ug/L		112	66 - 130
Bromomethane	50.0	52.5		ug/L		105	53 - 141
Carbon disulfide	50.0	48.9		ug/L		98	64 - 133
Carbon tetrachloride	50.0	49.1		ug/L		98	72 - 136
Chlorobenzene	50.0	48.5		ug/L		97	82 - 118
Chloroethane	50.0	47.9		ug/L		96	60 - 138
Chloroform	50.0	47.5		ug/L		95	79 - 124
Chloromethane	50.0	49.1		ug/L		98	50 - 139
cis-1,2-Dichloroethene	50.0	47.7		ug/L		95	78 - 123
cis-1,3-Dichloropropene	50.0	51.3		ug/L		103	75 - 124
Cyclohexane	50.0	48.1		ug/L		96	71 - 130
Dibromochloromethane	50.0	50.6		ug/L		101	74 - 126
Dichlorodifluoromethane	50.0	50.0		ug/L		100	32 - 152
Ethylbenzene	50.0	47.6		ug/L		95	79 - 121
Isopropylbenzene	50.0	49.7		ug/L		99	72 - 131
Methyl acetate	250	257		ug/L		103	56 - 136
Methyl tert-butyl ether	50.0	47.9		ug/L		96	71 - 124
Methylcyclohexane	50.0	49.0		ug/L		98	72 - 132
Methylene Chloride	50.0	47.9		ug/L		96	74 - 124
m-Xylene & p-Xylene	50.0	48.9		ug/L		98	80 - 121
Naphthalene	50.0	51.9		ug/L		104	61 - 128
n-Butylbenzene	50.0	52.1		ug/L		104	75 - 128
N-Propylbenzene	50.0	50.2		ug/L		100	76 - 126
o-Xylene	50.0	49.7		ug/L		99	78 - 122
sec-Butylbenzene	50.0	51.2		ug/L		102	77 - 126
Styrene	50.0	49.8		ug/L		100	78 - 123
tert-Butylbenzene	50.0	50.1		ug/L		100	78 - 124
Tetrachloroethene	50.0	48.0		ug/L		96	74 - 129
Toluene	50.0	47.0		ug/L		94	80 - 121
trans-1,2-Dichloroethene	50.0	47.4		ug/L		95	75 - 124
trans-1,3-Dichloropropene	50.0	49.8		ug/L		100	73 - 127
Trichloroethene	50.0	49.1		ug/L		98	79 - 123
Trichlorofluoromethane	50.0	50.8		ug/L		102	65 - 141
Vinyl chloride	50.0	50.4		ug/L		101	58 - 137
Xylenes, Total	100	98.6		ug/L		99	79 - 121

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*100*		*81 - 118*
4-Bromofluorobenzene (Surr)	*99*		*85 - 114*
Dibromofluoromethane (Surr)	*97*		*80 - 119*
Toluene-d8 (Surr)	*98*		*89 - 112*

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

Lab Sample ID: LCSD 160-280373/5
Matrix: Water
Analysis Batch: 280373

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
1,1,1-Trichloroethane	50.0	47.6		ug/L		95	74 - 131	1	20
1,1,2,2-Tetrachloroethane	50.0	48.7		ug/L		97	71 - 121	3	20
1,1,2-Trichloro-1,2,2-trifluoroethane	50.0	45.5		ug/L		91	70 - 136	4	20
1,1,2-Trichloroethane	50.0	48.5		ug/L		97	80 - 119	0	20
1,1-Dichloroethane	50.0	46.8		ug/L		94	77 - 125	2	20
1,1-Dichloroethene	50.0	47.1		ug/L		94	71 - 131	2	20
1,2,3-Trichlorobenzene	50.0	49.2		ug/L		98	69 - 129	4	20
1,2,4-Trichlorobenzene	50.0	48.7		ug/L		97	69 - 130	4	20
1,2,4-Trimethylbenzene	50.0	50.2		ug/L		100	76 - 124	0	20
1,2-Dibromo-3-Chloropropane	50.0	52.0		ug/L		104	62 - 128	4	20
1,2-Dibromoethane	50.0	48.9		ug/L		98	80 - 120	2	20
1,2-Dichlorobenzene	50.0	48.2		ug/L		96	80 - 119	2	20
1,2-Dichloroethane	50.0	46.8		ug/L		94	73 - 128	3	20
1,2-Dichloroethene, Total	100	94.5		ug/L		95	79 - 121	1	20
1,2-Dichloropropane	50.0	48.0		ug/L		96	78 - 122	3	20
1,3,5-Trimethylbenzene	50.0	49.9		ug/L		100	75 - 124	0	20
1,3-Dichlorobenzene	50.0	48.3		ug/L		97	80 - 119	2	20
1,4-Dichlorobenzene	50.0	49.1		ug/L		98	79 - 118	1	20
2-Butanone (MEK)	50.0	48.1		ug/L		96	56 - 143	10	20
2-Hexanone	50.0	49.3		ug/L		99	57 - 139	7	20
4-Methyl-2-pentanone (MIBK)	50.0	49.0		ug/L		98	67 - 130	5	20
Acetone	50.0	49.2		ug/L		98	39 - 160	10	20
Benzene	50.0	45.5		ug/L		91	79 - 120	2	20
Bromobenzene	50.0	48.3		ug/L		97	80 - 120	1	20
Bromodichloromethane	50.0	49.2		ug/L		98	79 - 125	2	20
Bromoform	50.0	53.6		ug/L		107	66 - 130	4	20
Bromomethane	50.0	50.7		ug/L		101	53 - 141	3	20
Carbon disulfide	50.0	48.2		ug/L		96	64 - 133	1	20
Carbon tetrachloride	50.0	48.2		ug/L		96	72 - 136	2	20
Chlorobenzene	50.0	47.9		ug/L		96	82 - 118	1	20
Chloroethane	50.0	46.8		ug/L		94	60 - 138	2	20
Chloroform	50.0	47.0		ug/L		94	79 - 124	1	20
Chloromethane	50.0	47.1		ug/L		94	50 - 139	4	20
cis-1,2-Dichloroethene	50.0	47.4		ug/L		95	78 - 123	0	20
cis-1,3-Dichloropropene	50.0	50.0		ug/L		100	75 - 124	3	20
Cyclohexane	50.0	47.6		ug/L		95	71 - 130	1	20
Dibromochloromethane	50.0	50.0		ug/L		100	74 - 126	1	20
Dichlorodifluoromethane	50.0	47.7		ug/L		95	32 - 152	5	20
Ethylbenzene	50.0	47.4		ug/L		95	79 - 121	0	20
Isopropylbenzene	50.0	49.9		ug/L		100	72 - 131	0	20
Methyl acetate	250	243		ug/L		97	56 - 136	6	20
Methyl tert-butyl ether	50.0	46.2		ug/L		92	71 - 124	4	20
Methylcyclohexane	50.0	48.9		ug/L		98	72 - 132	0	20
Methylene Chloride	50.0	47.1		ug/L		94	74 - 124	2	20
m-Xylene & p-Xylene	50.0	48.8		ug/L		98	80 - 121	0	20
Naphthalene	50.0	49.0		ug/L		98	61 - 128	6	20
n-Butylbenzene	50.0	50.3		ug/L		101	75 - 128	3	20

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

Lab Sample ID: LCSD 160-280373/5
Matrix: Water
Analysis Batch: 280373

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
N-Propylbenzene	50.0	50.1		ug/L		100	76 - 126	0	20
o-Xylene	50.0	49.1		ug/L		98	78 - 122	1	20
sec-Butylbenzene	50.0	50.9		ug/L		102	77 - 126	1	20
Styrene	50.0	49.6		ug/L		99	78 - 123	0	20
tert-Butylbenzene	50.0	49.7		ug/L		99	78 - 124	1	20
Tetrachloroethene	50.0	48.1		ug/L		96	74 - 129	0	20
Toluene	50.0	46.8		ug/L		94	80 - 121	0	20
trans-1,2-Dichloroethene	50.0	47.1		ug/L		94	75 - 124	1	20
trans-1,3-Dichloropropene	50.0	49.0		ug/L		98	73 - 127	2	20
Trichloroethene	50.0	48.2		ug/L		96	79 - 123	2	20
Trichlorofluoromethane	50.0	50.4		ug/L		101	65 - 141	1	20
Vinyl chloride	50.0	47.4		ug/L		95	58 - 137	6	20
Xylenes, Total	100	97.9		ug/L		98	79 - 121	1	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*98*		*81 - 118*
4-Bromofluorobenzene (Surr)	*99*		*85 - 114*
Dibromofluoromethane (Surr)	*96*		*80 - 119*
Toluene-d8 (Surr)	*99*		*89 - 112*

Lab Sample ID: 280-90936-1 MS
Matrix: Water
Analysis Batch: 280373

Client Sample ID: SC-TU008-MW006-G-1
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1-Trichloroethane	1.0	U	50.0	48.5		ug/L		97	74 - 131
1,1,2,2-Tetrachloroethane	2.0	U	50.0	49.8		ug/L		100	71 - 121
1,1,2-Trichloro-1,2,2-trifluoroethane	2.0	U	50.0	47.7		ug/L		95	70 - 136
1,1,2-Trichloroethane	1.0	U	50.0	49.7		ug/L		99	80 - 119
1,1-Dichloroethane	1.0	U	50.0	48.6		ug/L		97	77 - 125
1,1-Dichloroethene	1.0	U	50.0	48.5		ug/L		97	71 - 131
1,2,3-Trichlorobenzene	2.0	U	50.0	49.4		ug/L		99	69 - 129
1,2,4-Trichlorobenzene	2.0	U	50.0	50.0		ug/L		100	69 - 130
1,2,4-Trimethylbenzene	2.0	U	50.0	50.6		ug/L		101	76 - 124
1,2-Dibromo-3-Chloropropane	2.0	U	50.0	51.7		ug/L		103	62 - 128
1,2-Dibromoethane	2.0	U	50.0	50.7		ug/L		101	80 - 120
1,2-Dichlorobenzene	2.0	U	50.0	49.4		ug/L		99	80 - 119
1,2-Dichloroethane	1.0	U	50.0	49.0		ug/L		98	73 - 128
1,2-Dichloroethene, Total	2.0	U	100	97.8		ug/L		98	79 - 121
1,2-Dichloropropane	1.0	U	50.0	50.0		ug/L		100	78 - 122
1,3,5-Trimethylbenzene	2.0	U	50.0	49.8		ug/L		100	75 - 124
1,3-Dichlorobenzene	2.0	U	50.0	49.8		ug/L		100	80 - 119
1,4-Dichlorobenzene	2.0	U	50.0	50.1		ug/L		100	79 - 118
2-Butanone (MEK)	5.0	U	50.0	53.2		ug/L		106	56 - 143
2-Hexanone	2.0	U	50.0	50.3		ug/L		101	57 - 139
4-Methyl-2-pentanone (MIBK)	2.0	U	50.0	50.3		ug/L		101	67 - 130
Acetone	10	U	50.0	55.3		ug/L		111	39 - 160

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

Lab Sample ID: 280-90936-1 MS
Matrix: Water
Analysis Batch: 280373

Client Sample ID: SC-TU008-MW006-G-1
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	1.0	U	50.0	46.9		ug/L		94	79 - 120
Bromobenzene	2.0	U	50.0	49.6		ug/L		99	80 - 120
Bromodichloromethane	2.0	U	50.0	51.1		ug/L		102	79 - 125
Bromoform	1.0	U	50.0	53.1		ug/L		106	66 - 130
Bromomethane	2.0	U	50.0	50.2		ug/L		100	53 - 141
Carbon disulfide	1.0	U	50.0	48.7		ug/L		97	64 - 133
Carbon tetrachloride	1.0	U	50.0	49.0		ug/L		98	72 - 136
Chlorobenzene	1.0	U	50.0	49.6		ug/L		99	82 - 118
Chloroethane	1.0	U	50.0	45.9		ug/L		92	60 - 138
Chloroform	1.0	U	50.0	48.5		ug/L		97	79 - 124
Chloromethane	2.0	U	50.0	45.2		ug/L		90	50 - 139
cis-1,2-Dichloroethene	1.0	U	50.0	49.3		ug/L		99	78 - 123
cis-1,3-Dichloropropene	1.0	U	50.0	51.4		ug/L		103	75 - 124
Cyclohexane	2.0	U	50.0	48.2		ug/L		96	71 - 130
Dibromochloromethane	1.0	U	50.0	51.3		ug/L		103	74 - 126
Dichlorodifluoromethane	2.0	U	50.0	47.7		ug/L		95	32 - 152
Ethylbenzene	1.0	U	50.0	48.4		ug/L		97	79 - 121
Isopropylbenzene	2.0	U	50.0	49.3		ug/L		99	72 - 131
Methyl acetate	5.0	U	250	259		ug/L		104	56 - 136
Methyl tert-butyl ether	2.0	U	50.0	49.6		ug/L		99	71 - 124
Methylcyclohexane	2.0	U	50.0	48.7		ug/L		97	72 - 132
Methylene Chloride	5.0	U	50.0	49.8		ug/L		100	74 - 124
m-Xylene & p-Xylene	1.0	U	50.0	48.8		ug/L		98	80 - 121
Naphthalene	2.0	U	50.0	49.6		ug/L		99	61 - 128
n-Butylbenzene	2.0	U	50.0	51.5		ug/L		103	75 - 128
N-Propylbenzene	2.0	U	50.0	49.9		ug/L		100	76 - 126
o-Xylene	1.0	U	50.0	49.7		ug/L		99	78 - 122
sec-Butylbenzene	2.0	U	50.0	50.5		ug/L		101	77 - 126
Styrene	1.0	U	50.0	50.7		ug/L		101	78 - 123
tert-Butylbenzene	2.0	U	50.0	49.4		ug/L		99	78 - 124
Tetrachloroethene	1.0	U	50.0	48.5		ug/L		97	74 - 129
Toluene	1.0	U	50.0	47.6		ug/L		95	80 - 121
trans-1,2-Dichloroethene	1.0	U	50.0	48.5		ug/L		97	75 - 124
trans-1,3-Dichloropropene	1.0	U	50.0	50.2		ug/L		100	73 - 127
Trichloroethene	1.0	U	50.0	49.4		ug/L		99	79 - 123
Trichlorofluoromethane	2.0	U	50.0	47.6		ug/L		95	65 - 141
Vinyl chloride	1.0	U	50.0	46.3		ug/L		93	58 - 137
Xylenes, Total	5.0	U	100	98.5		ug/L		99	79 - 121

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*100*		*81 - 118*
4-Bromofluorobenzene (Surr)	*97*		*85 - 114*
Dibromofluoromethane (Surr)	*99*		*80 - 119*
Toluene-d8 (Surr)	*97*		*89 - 112*

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

Lab Sample ID: 280-90936-1 MSD **Client Sample ID: SC-TU008-MW006-G-1**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 280373

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1,1-Trichloroethane	1.0	U	50.0	47.2		ug/L		94	74 - 131	3	20
1,1,2,2-Tetrachloroethane	2.0	U	50.0	47.5		ug/L		95	71 - 121	5	20
1,1,2-Trichloro-1,2,2-trifluoroethane	2.0	U	50.0	45.7		ug/L		91	70 - 136	4	20
1,1,2-Trichloroethane	1.0	U	50.0	48.3		ug/L		97	80 - 119	3	20
1,1-Dichloroethane	1.0	U	50.0	46.9		ug/L		94	77 - 125	4	20
1,1-Dichloroethene	1.0	U	50.0	46.4		ug/L		93	71 - 131	4	20
1,2,3-Trichlorobenzene	2.0	U	50.0	50.4		ug/L		101	69 - 129	2	20
1,2,4-Trichlorobenzene	2.0	U	50.0	49.8		ug/L		100	69 - 130	0	20
1,2,4-Trimethylbenzene	2.0	U	50.0	49.0		ug/L		98	76 - 124	3	20
1,2-Dibromo-3-Chloropropane	2.0	U	50.0	51.5		ug/L		103	62 - 128	0	20
1,2-Dibromoethane	2.0	U	50.0	48.8		ug/L		98	80 - 120	4	20
1,2-Dichlorobenzene	2.0	U	50.0	48.9		ug/L		98	80 - 119	1	20
1,2-Dichloroethane	1.0	U	50.0	47.6		ug/L		95	73 - 128	3	20
1,2-Dichloroethene, Total	2.0	U	100	94.3		ug/L		94	79 - 121	4	20
1,2-Dichloropropane	1.0	U	50.0	49.0		ug/L		98	78 - 122	2	20
1,3,5-Trimethylbenzene	2.0	U	50.0	48.4		ug/L		97	75 - 124	3	20
1,3-Dichlorobenzene	2.0	U	50.0	48.0		ug/L		96	80 - 119	4	20
1,4-Dichlorobenzene	2.0	U	50.0	48.5		ug/L		97	79 - 118	3	20
2-Butanone (MEK)	5.0	U	50.0	49.2		ug/L		98	56 - 143	8	20
2-Hexanone	2.0	U	50.0	48.3		ug/L		97	57 - 139	4	20
4-Methyl-2-pentanone (MIBK)	2.0	U	50.0	48.3		ug/L		97	67 - 130	4	20
Acetone	10	U	50.0	52.0		ug/L		104	39 - 160	6	20
Benzene	1.0	U	50.0	45.5		ug/L		91	79 - 120	3	20
Bromobenzene	2.0	U	50.0	47.8		ug/L		96	80 - 120	4	20
Bromodichloromethane	2.0	U	50.0	49.7		ug/L		99	79 - 125	3	20
Bromoform	1.0	U	50.0	51.1		ug/L		102	66 - 130	4	20
Bromomethane	2.0	U	50.0	48.6		ug/L		97	53 - 141	3	20
Carbon disulfide	1.0	U	50.0	46.9		ug/L		94	64 - 133	4	20
Carbon tetrachloride	1.0	U	50.0	47.8		ug/L		96	72 - 136	3	20
Chlorobenzene	1.0	U	50.0	48.8		ug/L		98	82 - 118	2	20
Chloroethane	1.0	U	50.0	42.3		ug/L		85	60 - 138	8	20
Chloroform	1.0	U	50.0	47.5		ug/L		95	79 - 124	2	20
Chloromethane	2.0	U	50.0	44.4		ug/L		89	50 - 139	2	20
cis-1,2-Dichloroethene	1.0	U	50.0	47.5		ug/L		95	78 - 123	4	20
cis-1,3-Dichloropropene	1.0	U	50.0	50.3		ug/L		101	75 - 124	2	20
Cyclohexane	2.0	U	50.0	46.9		ug/L		94	71 - 130	3	20
Dibromochloromethane	1.0	U	50.0	49.2		ug/L		98	74 - 126	4	20
Dichlorodifluoromethane	2.0	U	50.0	45.4		ug/L		91	32 - 152	5	20
Ethylbenzene	1.0	U	50.0	47.4		ug/L		95	79 - 121	2	20
Isopropylbenzene	2.0	U	50.0	48.3		ug/L		97	72 - 131	2	20
Methyl acetate	5.0	U	250	249		ug/L		99	56 - 136	4	20
Methyl tert-butyl ether	2.0	U	50.0	47.1		ug/L		94	71 - 124	5	20
Methylcyclohexane	2.0	U	50.0	47.2		ug/L		94	72 - 132	3	20
Methylene Chloride	5.0	U	50.0	47.3		ug/L		95	74 - 124	5	20
m-Xylene & p-Xylene	1.0	U	50.0	47.8		ug/L		96	80 - 121	2	20
Naphthalene	2.0	U	50.0	51.5		ug/L		103	61 - 128	4	20
n-Butylbenzene	2.0	U	50.0	50.5		ug/L		101	75 - 128	2	20

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

Lab Sample ID: 280-90936-1 MSD — **Client Sample ID: SC-TU008-MW006-G-1**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 280373

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
N-Propylbenzene	2.0	U	50.0	48.8		ug/L		98	76 - 126	2	20
o-Xylene	1.0	U	50.0	49.1		ug/L		98	78 - 122	1	20
sec-Butylbenzene	2.0	U	50.0	49.3		ug/L		99	77 - 126	2	20
Styrene	1.0	U	50.0	49.2		ug/L		98	78 - 123	3	20
tert-Butylbenzene	2.0	U	50.0	48.9		ug/L		98	78 - 124	1	20
Tetrachloroethene	1.0	U	50.0	46.9		ug/L		94	74 - 129	3	20
Toluene	1.0	U	50.0	46.2		ug/L		92	80 - 121	3	20
trans-1,2-Dichloroethene	1.0	U	50.0	46.8		ug/L		94	75 - 124	3	20
trans-1,3-Dichloropropene	1.0	U	50.0	48.3		ug/L		97	73 - 127	4	20
Trichloroethene	1.0	U	50.0	47.9		ug/L		96	79 - 123	3	20
Trichlorofluoromethane	2.0	U	50.0	46.5		ug/L		93	65 - 141	2	20
Vinyl chloride	1.0	U	50.0	45.1		ug/L		90	58 - 137	3	20
Xylenes, Total	5.0	U	100	96.9		ug/L		97	79 - 121	2	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*98*		*81 - 118*
4-Bromofluorobenzene (Surr)	*97*		*85 - 114*
Dibromofluoromethane (Surr)	*97*		*80 - 119*
Toluene-d8 (Surr)	*96*		*89 - 112*

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

Lab Sample ID: MB 280-352340/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 354337 — **Prep Batch: 352340**

Analyte	MB Result	MB Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4,5-Tetrachlorobenzene	4.4	U	10	1.7	ug/L		11/20/16 10:47	12/05/16 23:29	1
1,2,4-Trichlorobenzene	1.0	U	10	0.28	ug/L		11/20/16 10:47	12/05/16 23:29	1
1,2-Dichlorobenzene	0.50	U	10	0.23	ug/L		11/20/16 10:47	12/05/16 23:29	1
1,2-Diphenylhydrazine	0.51	U	10	0.23	ug/L		11/20/16 10:47	12/05/16 23:29	1
1,3-Dichlorobenzene	1.0	U	10	0.30	ug/L		11/20/16 10:47	12/05/16 23:29	1
1,4-Dichlorobenzene	1.0	U	10	0.32	ug/L		11/20/16 10:47	12/05/16 23:29	1
2,2'-oxybis[1-chloropropane]	1.0	U	10	0.28	ug/L		11/20/16 10:47	12/05/16 23:29	1
2,4,5-Trichlorophenol	1.0	U	20	0.45	ug/L		11/20/16 10:47	12/05/16 23:29	1
2,4,6-Trichlorophenol	1.0	U	20	0.29	ug/L		11/20/16 10:47	12/05/16 23:29	1
2,4-Dichlorophenol	2.0	U	10	0.64	ug/L		11/20/16 10:47	12/05/16 23:29	1
2,4-Dimethylphenol	2.0	U	10	0.58	ug/L		11/20/16 10:47	12/05/16 23:29	1
2,4-Dinitrophenol	30	U	80	10	ug/L		11/20/16 10:47	12/05/16 23:29	1
2,4-Dinitrotoluene	4.4	U	20	1.7	ug/L		11/20/16 10:47	12/05/16 23:29	1
2,6-Dichlorophenol	4.0	U	10	1.4	ug/L		11/20/16 10:47	12/05/16 23:29	1
2,6-Dinitrotoluene	4.4	U	20	1.9	ug/L		11/20/16 10:47	12/05/16 23:29	1
2-Chloronaphthalene	1.0	U	10	0.26	ug/L		11/20/16 10:47	12/05/16 23:29	1
2-Chlorophenol	4.4	U	10	2.0	ug/L		11/20/16 10:47	12/05/16 23:29	1
2-Methylnaphthalene	1.0	U	10	0.29	ug/L		11/20/16 10:47	12/05/16 23:29	1
2-Methylphenol	2.0	U	10	0.98	ug/L		11/20/16 10:47	12/05/16 23:29	1
3 & 4 Methylphenol	0.50	U	20	0.25	ug/L		11/20/16 10:47	12/05/16 23:29	1
3,3'-Dichlorobenzidine	4.4	U	50	2.0	ug/L		11/20/16 10:47	12/05/16 23:29	1

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

Lab Sample ID: MB 280-352340/1-A
Matrix: Water
Analysis Batch: 354337

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 352340

Analyte	MB Result	MB Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
3-Nitroaniline	4.4	U	50	2.0	ug/L		11/20/16 10:47	12/05/16 23:29	1
4,6-Dinitro-2-methylphenol	8.8	U	80	4.0	ug/L		11/20/16 10:47	12/05/16 23:29	1
4-Chloroaniline	4.4	U	25	2.1	ug/L		11/20/16 10:47	12/05/16 23:29	1
4-Chlorophenyl phenyl ether	4.4	U	10	1.7	ug/L		11/20/16 10:47	12/05/16 23:29	1
4-Nitroaniline	4.4	U	50	2.0	ug/L		11/20/16 10:47	12/05/16 23:29	1
4-Nitrophenol	4.0	U	50	1.2	ug/L		11/20/16 10:47	12/05/16 23:29	1
Acenaphthene	1.0	U	10	0.28	ug/L		11/20/16 10:47	12/05/16 23:29	1
Acenaphthylene	1.0	U	10	0.49	ug/L		11/20/16 10:47	12/05/16 23:29	1
Anthracene	1.0	U	10	0.42	ug/L		11/20/16 10:47	12/05/16 23:29	1
Benzidine	100	U	200	50	ug/L		11/20/16 10:47	12/05/16 23:29	1
Benzo[a]anthracene	1.0	U	10	0.35	ug/L		11/20/16 10:47	12/05/16 23:29	1
Benzo[a]pyrene	1.0	U	10	0.31	ug/L		11/20/16 10:47	12/05/16 23:29	1
Benzo[b]fluoranthene	2.0	U	10	0.53	ug/L		11/20/16 10:47	12/05/16 23:29	1
Benzo[g,h,i]perylene	1.0	U	10	0.50	ug/L		11/20/16 10:47	12/05/16 23:29	1
Benzo[k]fluoranthene	1.0	U	10	0.46	ug/L		11/20/16 10:47	12/05/16 23:29	1
Benzoic acid	30	U	80	10	ug/L		11/20/16 10:47	12/05/16 23:29	1
Benzyl alcohol	0.50	U	25	0.23	ug/L		11/20/16 10:47	12/05/16 23:29	1
Bis(2-chloroethoxy)methane	2.0	U	10	0.97	ug/L		11/20/16 10:47	12/05/16 23:29	1
Bis(2-chloroethyl)ether	1.0	U	20	0.41	ug/L		11/20/16 10:47	12/05/16 23:29	1
Bis(2-ethylhexyl) phthalate	2.0	U	10	0.56	ug/L		11/20/16 10:47	12/05/16 23:29	1
Butyl benzyl phthalate	2.0	U	20	1.0	ug/L		11/20/16 10:47	12/05/16 23:29	1
Carbazole	1.0	U	10	0.43	ug/L		11/20/16 10:47	12/05/16 23:29	1
Chrysene	2.0	U	10	0.54	ug/L		11/20/16 10:47	12/05/16 23:29	1
Dibenz(a,h)anthracene	2.0	U	10	0.51	ug/L		11/20/16 10:47	12/05/16 23:29	1
Dibenzofuran	1.0	U	10	0.29	ug/L		11/20/16 10:47	12/05/16 23:29	1
Diethyl phthalate	1.0	U	20	0.38	ug/L		11/20/16 10:47	12/05/16 23:29	1
Dimethyl phthalate	0.50	U	20	0.21	ug/L		11/20/16 10:47	12/05/16 23:29	1
Di-n-butyl phthalate	4.4	U	20	1.2	ug/L		11/20/16 10:47	12/05/16 23:29	1
Di-n-octyl phthalate	1.0	U	20	0.35	ug/L		11/20/16 10:47	12/05/16 23:29	1
Fluoranthene	0.50	U	20	0.20	ug/L		11/20/16 10:47	12/05/16 23:29	1
Fluorene	1.0	U	10	0.31	ug/L		11/20/16 10:47	12/05/16 23:29	1
Hexachlorobenzene	2.0	U	10	0.66	ug/L		11/20/16 10:47	12/05/16 23:29	1
Hexachlorobutadiene	10	U	30	3.3	ug/L		11/20/16 10:47	12/05/16 23:29	1
Hexachlorocyclopentadiene	30	U	50	10	ug/L		11/20/16 10:47	12/05/16 23:29	1
Hexachloroethane	4.4	U	10	2.1	ug/L		11/20/16 10:47	12/05/16 23:29	1
Indeno[1,2,3-cd]pyrene	2.0	U	10	0.65	ug/L		11/20/16 10:47	12/05/16 23:29	1
Isophorone	0.50	U	10	0.21	ug/L		11/20/16 10:47	12/05/16 23:29	1
Naphthalene	1.0	U	10	0.29	ug/L		11/20/16 10:47	12/05/16 23:29	1
Nitrobenzene	2.0	U	20	0.81	ug/L		11/20/16 10:47	12/05/16 23:29	1
N-Nitrosodimethylamine	1.0	U	10	0.29	ug/L		11/20/16 10:47	12/05/16 23:29	1
N-Nitrosodi-n-propylamine	1.0	U	20	0.35	ug/L		11/20/16 10:47	12/05/16 23:29	1
N-Nitrosodiphenylamine	1.0	U	10	0.44	ug/L		11/20/16 10:47	12/05/16 23:29	1
N-Nitrosopyrrolidine	2.0	U	10	0.80	ug/L		11/20/16 10:47	12/05/16 23:29	1
Pentachlorophenol	60	U	80	20	ug/L		11/20/16 10:47	12/05/16 23:29	1
Phenanthrene	1.0	U	10	0.26	ug/L		11/20/16 10:47	12/05/16 23:29	1
Phenol	4.4	U	10	2.0	ug/L		11/20/16 10:47	12/05/16 23:29	1
Pyrene	1.0	U	10	0.37	ug/L		11/20/16 10:47	12/05/16 23:29	1

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

Lab Sample ID: MB 280-352340/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 354337 — **Prep Batch: 352340**

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol (Surr)	94		43 - 140	11/20/16 10:47	12/05/16 23:29	1
2-Fluorobiphenyl	87		44 - 119	11/20/16 10:47	12/05/16 23:29	1
2-Fluorophenol (Surr)	94		19 - 119	11/20/16 10:47	12/05/16 23:29	1
Nitrobenzene-d5 (Surr)	91		44 - 120	11/20/16 10:47	12/05/16 23:29	1
Phenol-d5 (Surr)	93		10 - 115	11/20/16 10:47	12/05/16 23:29	1
Terphenyl-d14 (Surr)	93		50 - 134	11/20/16 10:47	12/05/16 23:29	1

Lab Sample ID: LCS 280-352340/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 354337 — **Prep Batch: 352340**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2,4,5-Tetrachlorobenzene	80.0	67.5		ug/L		84	35 - 121
1,2,4-Trichlorobenzene	80.0	59.5		ug/L		74	29 - 116
1,2-Dichlorobenzene	80.0	60.9		ug/L		76	32 - 111
1,2-Diphenylhydrazine	80.9	74.2		ug/L		92	49 - 122
1,3-Dichlorobenzene	80.0	60.4		ug/L		75	28 - 110
1,4-Dichlorobenzene	80.0	60.4		ug/L		76	29 - 112
2,2'-oxybis[1-chloropropane]	80.0	72.2		ug/L		90	37 - 130
2,4,5-Trichlorophenol	80.0	79.0		ug/L		99	53 - 123
2,4,6-Trichlorophenol	80.0	81.9		ug/L		102	50 - 125
2,4-Dichlorophenol	80.0	76.6		ug/L		96	47 - 121
2,4-Dimethylphenol	80.0	71.3		ug/L		89	31 - 124
2,4-Dinitrophenol	160	160		ug/L		100	23 - 143
2,4-Dinitrotoluene	80.0	82.7		ug/L		103	57 - 128
2,6-Dichlorophenol	80.0	79.2		ug/L		99	50 - 118
2,6-Dinitrotoluene	80.0	83.0		ug/L		104	57 - 124
2-Chloronaphthalene	80.0	67.6		ug/L		84	40 - 116
2-Chlorophenol	80.0	79.5		ug/L		99	38 - 117
2-Methylnaphthalene	80.0	67.5		ug/L		84	40 - 121
2-Methylphenol	80.0	81.3		ug/L		102	30 - 117
3 & 4 Methylphenol	80.0	83.3		ug/L		104	29 - 110
3,3'-Dichlorobenzidine	80.0	58.7		ug/L		73	27 - 129
3-Nitroaniline	80.0	56.8		ug/L		71	41 - 128
4,6-Dinitro-2-methylphenol	160	177		ug/L		111	44 - 137
4-Chloroaniline	80.0	53.6		ug/L		67	33 - 117
4-Chlorophenyl phenyl ether	80.0	75.3		ug/L		94	53 - 121
4-Nitroaniline	80.0	71.4		ug/L		89	70 - 120
4-Nitrophenol	160	140		ug/L		87	59 - 129
Acenaphthene	80.0	71.7		ug/L		90	47 - 122
Acenaphthylene	80.0	70.8		ug/L		88	41 - 130
Anthracene	80.0	76.3		ug/L		95	57 - 123
Benzidine	80.0	100	U Q	ug/L		0	27 - 150
Benzo[a]anthracene	80.0	75.6		ug/L		94	58 - 125
Benzo[a]pyrene	80.0	75.3		ug/L		94	54 - 128
Benzo[b]fluoranthene	80.0	76.6		ug/L		96	53 - 131
Benzo[g,h,i]perylene	80.0	77.0		ug/L		96	50 - 134
Benzo[k]fluoranthene	80.0	78.0		ug/L		98	57 - 129

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

Lab Sample ID: LCS 280-352340/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 354337 — **Prep Batch: 352340**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzoic acid	80.0	65.8	J	ug/L		82	41 - 120
Benzyl alcohol	80.0	81.7		ug/L		102	31 - 112
Bis(2-chloroethoxy)methane	80.0	75.0		ug/L		94	48 - 120
Bis(2-chloroethyl)ether	80.0	81.8		ug/L		102	43 - 118
Bis(2-ethylhexyl) phthalate	80.0	77.4		ug/L		97	55 - 135
Butyl benzyl phthalate	80.0	76.4		ug/L		96	53 - 134
Carbazole	80.0	77.6		ug/L		97	60 - 122
Chrysene	80.0	74.5		ug/L		93	59 - 123
Dibenz(a,h)anthracene	80.0	77.2		ug/L		96	51 - 134
Dibenzofuran	80.0	73.5		ug/L		92	53 - 118
Diethyl phthalate	80.0	78.4		ug/L		98	56 - 125
Dimethyl phthalate	80.0	77.7		ug/L		97	45 - 127
Di-n-butyl phthalate	80.0	81.3		ug/L		102	59 - 127
Di-n-octyl phthalate	80.0	78.3		ug/L		98	51 - 140
Fluoranthene	80.0	78.0		ug/L		98	57 - 128
Fluorene	80.0	72.9		ug/L		91	52 - 124
Hexachlorobenzene	80.0	75.3		ug/L		94	53 - 125
Hexachlorobutadiene	80.0	58.2		ug/L		73	22 - 124
Hexachlorocyclopentadiene	80.0	32.7	J	ug/L		41	10 - 120
Hexachloroethane	80.0	63.8		ug/L		80	21 - 115
Indeno[1,2,3-cd]pyrene	80.0	76.8		ug/L		96	52 - 134
Isophorone	80.0	73.1		ug/L		91	42 - 124
Naphthalene	80.0	63.4		ug/L		79	40 - 121
Nitrobenzene	80.0	71.7		ug/L		90	45 - 121
N-Nitrosodimethylamine	80.0	75.1		ug/L		94	56 - 120
N-Nitrosodi-n-propylamine	80.0	80.8		ug/L		101	49 - 119
N-Nitrosodiphenylamine	80.0	75.7		ug/L		95	51 - 123
Pentachlorophenol	160	157		ug/L		98	35 - 138
Phenanthrene	80.0	76.3		ug/L		95	59 - 120
Phenol	80.0	74.7		ug/L		93	61 - 120
Pyrene	80.0	76.4		ug/L		96	57 - 126

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2,4,6-Tribromophenol (Surr)	*97*		*43 - 140*
2-Fluorobiphenyl	*87*		*44 - 119*
2-Fluorophenol (Surr)	*93*		*19 - 119*
Nitrobenzene-d5 (Surr)	*90*		*44 - 120*
Phenol-d5 (Surr)	*90*		*10 - 115*
Terphenyl-d14 (Surr)	*92*		*50 - 134*

Lab Sample ID: LCS 280-352340/4-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 354337 — **Prep Batch: 352340**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
N-Nitrosopyrrolidine	80.0	83.5		ug/L		104	48 - 113

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

Lab Sample ID: LCS 280-352340/4-A
Matrix: Water
Analysis Batch: 354337

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 352340

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2,4,6-Tribromophenol (Surr)	*97*		*43 - 140*
2-Fluorobiphenyl	*85*		*44 - 119*
2-Fluorophenol (Surr)	*93*		*19 - 119*
Nitrobenzene-d5 (Surr)	*91*		*44 - 120*
Phenol-d5 (Surr)	*93*		*10 - 115*
Terphenyl-d14 (Surr)	*90*		*50 - 134*

Lab Sample ID: LCSD 280-352340/3-A
Matrix: Water
Analysis Batch: 354337

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 352340

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,2,4,5-Tetrachlorobenzene	80.0	64.5		ug/L		81	35 - 121	5	20
1,2,4-Trichlorobenzene	80.0	56.3		ug/L		70	29 - 116	5	20
1,2-Dichlorobenzene	80.0	56.9		ug/L		71	32 - 111	7	20
1,2-Diphenylhydrazine	80.9	74.1		ug/L		92	49 - 122	0	20
1,3-Dichlorobenzene	80.0	56.4		ug/L		71	28 - 110	7	20
1,4-Dichlorobenzene	80.0	57.1		ug/L		71	29 - 112	6	20
2,2'-oxybis[1-chloropropane]	80.0	71.7		ug/L		90	37 - 130	1	20
2,4,5-Trichlorophenol	80.0	79.2		ug/L		99	53 - 123	0	20
2,4,6-Trichlorophenol	80.0	82.3		ug/L		103	50 - 125	0	20
2,4-Dichlorophenol	80.0	74.7		ug/L		93	47 - 121	2	20
2,4-Dimethylphenol	80.0	70.5		ug/L		88	31 - 124	1	20
2,4-Dinitrophenol	160	166		ug/L		104	23 - 143	4	20
2,4-Dinitrotoluene	80.0	80.8		ug/L		101	57 - 128	2	20
2,6-Dichlorophenol	80.0	75.6		ug/L		94	50 - 118	5	20
2,6-Dinitrotoluene	80.0	82.4		ug/L		103	57 - 124	1	20
2-Chloronaphthalene	80.0	66.4		ug/L		83	40 - 116	2	20
2-Chlorophenol	80.0	76.1		ug/L		95	38 - 117	4	20
2-Methylnaphthalene	80.0	65.1		ug/L		81	40 - 121	4	20
2-Methylphenol	80.0	78.4		ug/L		98	30 - 117	4	20
3 & 4 Methylphenol	80.0	80.7		ug/L		101	29 - 110	3	20
3,3'-Dichlorobenzidine	80.0	56.8		ug/L		71	27 - 129	3	20
3-Nitroaniline	80.0	56.1		ug/L		70	41 - 128	1	20
4,6-Dinitro-2-methylphenol	160	172		ug/L		108	44 - 137	3	20
4-Chloroaniline	80.0	51.8		ug/L		65	33 - 117	4	20
4-Chlorophenyl phenyl ether	80.0	74.1		ug/L		93	53 - 121	2	20
4-Nitroaniline	80.0	72.0		ug/L		90	70 - 120	1	20
4-Nitrophenol	160	143		ug/L		89	59 - 129	2	20
Acenaphthene	80.0	70.7		ug/L		88	47 - 122	1	20
Acenaphthylene	80.0	71.2		ug/L		89	41 - 130	1	20
Anthracene	80.0	75.1		ug/L		94	57 - 123	1	20
Benzidine	80.0	100	U Q	ug/L		0	27 - 150	200	20
Benzo[a]anthracene	80.0	76.2		ug/L		95	58 - 125	1	20
Benzo[a]pyrene	80.0	75.6		ug/L		95	54 - 128	0	20
Benzo[b]fluoranthene	80.0	77.4		ug/L		97	53 - 131	1	20
Benzo[g,h,i]perylene	80.0	77.4		ug/L		97	50 - 134	1	20
Benzo[k]fluoranthene	80.0	77.3		ug/L		97	57 - 129	1	20

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

Lab Sample ID: LCSD 280-352340/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 354337 — **Prep Batch: 352340**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzoic acid	80.0	69.2	J	ug/L		87	41 - 120	5	20
Benzyl alcohol	80.0	79.9		ug/L		100	31 - 112	2	20
Bis(2-chloroethoxy)methane	80.0	72.0		ug/L		90	48 - 120	4	20
Bis(2-chloroethyl)ether	80.0	78.7		ug/L		98	43 - 118	4	20
Bis(2-ethylhexyl) phthalate	80.0	77.0		ug/L		96	55 - 135	1	20
Butyl benzyl phthalate	80.0	76.8		ug/L		96	53 - 134	1	20
Carbazole	80.0	77.2		ug/L		96	60 - 122	1	20
Chrysene	80.0	74.5		ug/L		93	59 - 123	0	20
Dibenz(a,h)anthracene	80.0	78.1		ug/L		98	51 - 134	1	20
Dibenzofuran	80.0	72.5		ug/L		91	53 - 118	1	20
Diethyl phthalate	80.0	77.5		ug/L		97	56 - 125	1	20
Dimethyl phthalate	80.0	77.3		ug/L		97	45 - 127	1	20
Di-n-butyl phthalate	80.0	80.1		ug/L		100	59 - 127	1	20
Di-n-octyl phthalate	80.0	77.9		ug/L		97	51 - 140	1	20
Fluoranthene	80.0	76.7		ug/L		96	57 - 128	2	20
Fluorene	80.0	73.1		ug/L		91	52 - 124	0	20
Hexachlorobenzene	80.0	77.0		ug/L		96	53 - 125	2	20
Hexachlorobutadiene	80.0	54.9		ug/L		69	22 - 124	6	20
Hexachlorocyclopentadiene	80.0	35.3	J	ug/L		44	10 - 120	8	20
Hexachloroethane	80.0	58.2		ug/L		73	21 - 115	9	20
Indeno[1,2,3-cd]pyrene	80.0	77.3		ug/L		97	52 - 134	1	20
Isophorone	80.0	71.2		ug/L		89	42 - 124	3	20
Naphthalene	80.0	62.1		ug/L		78	40 - 121	2	20
Nitrobenzene	80.0	68.9		ug/L		86	45 - 121	4	20
N-Nitrosodimethylamine	80.0	72.0		ug/L		90	56 - 120	4	20
N-Nitrosodi-n-propylamine	80.0	79.4		ug/L		99	49 - 119	2	20
N-Nitrosodiphenylamine	80.0	76.8		ug/L		96	51 - 123	1	20
Pentachlorophenol	160	156		ug/L		98	35 - 138	1	20
Phenanthrene	80.0	75.5		ug/L		94	59 - 120	1	20
Phenol	80.0	75.1		ug/L		94	61 - 120	1	20
Pyrene	80.0	77.1		ug/L		96	57 - 126	1	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2,4,6-Tribromophenol (Surr)	*98*		*43 - 140*
2-Fluorobiphenyl	*85*		*44 - 119*
2-Fluorophenol (Surr)	*91*		*19 - 119*
Nitrobenzene-d5 (Surr)	*88*		*44 - 120*
Phenol-d5 (Surr)	*90*		*10 - 115*
Terphenyl-d14 (Surr)	*92*		*50 - 134*

Lab Sample ID: LCSD 280-352340/5-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 354337 — **Prep Batch: 352340**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
N-Nitrosopyrrolidine	80.0	77.2		ug/L		96	48 - 113	8	20

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

Lab Sample ID: LCSD 280-352340/5-A
Matrix: Water
Analysis Batch: 354337

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 352340

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
2,4,6-Tribromophenol (Surr)	94		43 - 140
2-Fluorobiphenyl	84		44 - 119
2-Fluorophenol (Surr)	85		19 - 119
Nitrobenzene-d5 (Surr)	86		44 - 120
Phenol-d5 (Surr)	81		10 - 115
Terphenyl-d14 (Surr)	88		50 - 134

QC Association Summary

Client: Weston Solutions, Inc.
Project/Site: Schenectady ANGB

TestAmerica Job ID: 280-90936-1

GC/MS VOA

Analysis Batch: 280373

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-90936-1	SC-TU008-MW006-G-1	Total/NA	Water	8260C DOD	
280-90936-2	SC-TU008-TB111016	Total/NA	Water	8260C DOD	
MB 160-280373/7	Method Blank	Total/NA	Water	8260C DOD	
LCS 160-280373/4	Lab Control Sample	Total/NA	Water	8260C DOD	
LCSD 160-280373/5	Lab Control Sample Dup	Total/NA	Water	8260C DOD	
280-90936-1 MS	SC-TU008-MW006-G-1	Total/NA	Water	8260C DOD	
280-90936-1 MSD	SC-TU008-MW006-G-1	Total/NA	Water	8260C DOD	

GC/MS Semi VOA

Prep Batch: 352340

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-90936-1	SC-TU008-MW006-G-1	Total/NA	Water	3520C	
MB 280-352340/1-A	Method Blank	Total/NA	Water	3520C	
LCS 280-352340/2-A	Lab Control Sample	Total/NA	Water	3520C	
LCS 280-352340/4-A	Lab Control Sample	Total/NA	Water	3520C	
LCSD 280-352340/3-A	Lab Control Sample Dup	Total/NA	Water	3520C	
LCSD 280-352340/5-A	Lab Control Sample Dup	Total/NA	Water	3520C	

Analysis Batch: 354337

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-90936-1	SC-TU008-MW006-G-1	Total/NA	Water	8270D	352340
MB 280-352340/1-A	Method Blank	Total/NA	Water	8270D	352340
LCS 280-352340/2-A	Lab Control Sample	Total/NA	Water	8270D	352340
LCS 280-352340/4-A	Lab Control Sample	Total/NA	Water	8270D	352340
LCSD 280-352340/3-A	Lab Control Sample Dup	Total/NA	Water	8270D	352340
LCSD 280-352340/5-A	Lab Control Sample Dup	Total/NA	Water	8270D	352340

Lab Chronicle

Client: Weston Solutions, Inc.
Project/Site: Schenectady ANGB

TestAmerica Job ID: 280-90936-1

Client Sample ID: SC-TU008-MW006-G-1

Lab Sample ID: 280-90936-1

Date Collected: 11/10/16 14:00
Matrix: Water
Date Received: 11/12/16 08:40

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C DOD		1	5 mL	5 mL	280373	11/21/16 19:36	JDH	TAL SL
Total/NA	Prep	3520C			999.9 mL	1 mL	352340	11/20/16 10:47	JDW	TAL DEN
Total/NA	Analysis	8270D		1			354337	12/06/16 01:51	DCK	TAL DEN

Client Sample ID: SC-TU008-TB111016

Lab Sample ID: 280-90936-2

Date Collected: 11/10/16 14:05
Matrix: Water
Date Received: 11/12/16 08:40

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C DOD		1	5 mL	5 mL	280373	11/21/16 19:11	JDH	TAL SL

Laboratory References:

TAL DEN = TestAmerica Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

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

Certification Summary

Client: Weston Solutions, Inc.
Project/Site: Schenectady ANGB

TestAmerica Job ID: 280-90936-1

Laboratory: TestAmerica Denver

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

Authority	Program	EPA Region	Certification ID	Expiration Date
A2LA	DoD ELAP		2907.01	10-31-17

Analysis Method	Prep Method	Matrix	Analyte	
Connecticut	State Program	1	PH-0686	09-30-18

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

Analysis Method	Prep Method	Matrix	Analyte
8270D	3520C	Water	1,2,4,5-Tetrachlorobenzene
8270D	3520C	Water	1,2,4-Trichlorobenzene
8270D	3520C	Water	1,2-Dichlorobenzene
8270D	3520C	Water	1,2-Diphenylhydrazine
8270D	3520C	Water	1,3-Dichlorobenzene
8270D	3520C	Water	1,4-Dichlorobenzene
8270D	3520C	Water	2,2'-oxybis[1-chloropropane]
8270D	3520C	Water	2,4,5-Trichlorophenol
8270D	3520C	Water	2,4,6-Trichlorophenol
8270D	3520C	Water	2,4-Dichlorophenol
8270D	3520C	Water	2,4-Dimethylphenol
8270D	3520C	Water	2,4-Dinitrophenol
8270D	3520C	Water	2,4-Dinitrotoluene
8270D	3520C	Water	2,6-Dichlorophenol
8270D	3520C	Water	2,6-Dinitrotoluene
8270D	3520C	Water	2-Chloronaphthalene
8270D	3520C	Water	2-Chlorophenol
8270D	3520C	Water	2-Methylnaphthalene
8270D	3520C	Water	2-Methylphenol
8270D	3520C	Water	3 & 4 Methylphenol
8270D	3520C	Water	3,3'-Dichlorobenzidine
8270D	3520C	Water	3-Nitroaniline
8270D	3520C	Water	4,6-Dinitro-2-methylphenol
8270D	3520C	Water	4-Chloroaniline
8270D	3520C	Water	4-Chlorophenyl phenyl ether
8270D	3520C	Water	4-Nitroaniline
8270D	3520C	Water	4-Nitrophenol
8270D	3520C	Water	Acenaphthene
8270D	3520C	Water	Acenaphthylene
8270D	3520C	Water	Anthracene
8270D	3520C	Water	Benzidine
8270D	3520C	Water	Benzo[a]anthracene
8270D	3520C	Water	Benzo[a]pyrene
8270D	3520C	Water	Benzo[b]fluoranthene
8270D	3520C	Water	Benzo[g,h,i]perylene
8270D	3520C	Water	Benzo[k]fluoranthene
8270D	3520C	Water	Benzoic acid
8270D	3520C	Water	Benzyl alcohol
8270D	3520C	Water	Bis(2-chloroethoxy)methane
8270D	3520C	Water	Bis(2-chloroethyl)ether
8270D	3520C	Water	Bis(2-ethylhexyl) phthalate
8270D	3520C	Water	Butyl benzyl phthalate

Laboratory: TestAmerica Denver (Continued)

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

Authority	Program	EPA Region	Certification ID	Expiration Date
Connecticut	State Program	1	PH-0686	09-30-18

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

Analysis Method	Prep Method	Matrix	Analyte
8270D	3520C	Water	Carbazole
8270D	3520C	Water	Chrysene
8270D	3520C	Water	Dibenz(a,h)anthracene
8270D	3520C	Water	Dibenzofuran
8270D	3520C	Water	Diethyl phthalate
8270D	3520C	Water	Dimethyl phthalate
8270D	3520C	Water	Di-n-butyl phthalate
8270D	3520C	Water	Di-n-octyl phthalate
8270D	3520C	Water	Fluoranthene
8270D	3520C	Water	Fluorene
8270D	3520C	Water	Hexachlorobenzene
8270D	3520C	Water	Hexachlorobutadiene
8270D	3520C	Water	Hexachlorocyclopentadiene
8270D	3520C	Water	Hexachloroethane
8270D	3520C	Water	Indeno[1,2,3-cd]pyrene
8270D	3520C	Water	Isophorone
8270D	3520C	Water	Naphthalene
8270D	3520C	Water	Nitrobenzene
8270D	3520C	Water	N-Nitrosodimethylamine
8270D	3520C	Water	N-Nitrosodi-n-propylamine
8270D	3520C	Water	N-Nitrosodiphenylamine
8270D	3520C	Water	N-Nitrosopyrrolidine
8270D	3520C	Water	Pentachlorophenol
8270D	3520C	Water	Phenanthrene
8270D	3520C	Water	Phenol
8270D	3520C	Water	Pyrene

Maine	State Program	1	CO0002	03-03-17

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

Analysis Method	Prep Method	Matrix	Analyte
8270D	3520C	Water	1,2,4,5-Tetrachlorobenzene
8270D	3520C	Water	1,2,4-Trichlorobenzene
8270D	3520C	Water	1,2-Dichlorobenzene
8270D	3520C	Water	1,2-Diphenylhydrazine
8270D	3520C	Water	1,3-Dichlorobenzene
8270D	3520C	Water	1,4-Dichlorobenzene
8270D	3520C	Water	2,2'-oxybis[1-chloropropane]
8270D	3520C	Water	2,4,5-Trichlorophenol
8270D	3520C	Water	2,4,6-Trichlorophenol
8270D	3520C	Water	2,4-Dichlorophenol
8270D	3520C	Water	2,4-Dimethylphenol
8270D	3520C	Water	2,4-Dinitrophenol
8270D	3520C	Water	2,4-Dinitrotoluene
8270D	3520C	Water	2,6-Dichlorophenol
8270D	3520C	Water	2,6-Dinitrotoluene
8270D	3520C	Water	2-Chloronaphthalene
8270D	3520C	Water	2-Chlorophenol

Laboratory: TestAmerica Denver (Continued)

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

Authority	Program	EPA Region	Certification ID	Expiration Date
Maine	State Program	1	CO0002	03-03-17

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

Analysis Method	Prep Method	Matrix	Analyte
8270D	3520C	Water	2-Methylnaphthalene
8270D	3520C	Water	2-Methylphenol
8270D	3520C	Water	3 & 4 Methylphenol
8270D	3520C	Water	3,3'-Dichlorobenzidine
8270D	3520C	Water	3-Nitroaniline
8270D	3520C	Water	4,6-Dinitro-2-methylphenol
8270D	3520C	Water	4-Chloroaniline
8270D	3520C	Water	4-Chlorophenyl phenyl ether
8270D	3520C	Water	4-Nitroaniline
8270D	3520C	Water	4-Nitrophenol
8270D	3520C	Water	Acenaphthene
8270D	3520C	Water	Acenaphthylene
8270D	3520C	Water	Anthracene
8270D	3520C	Water	Benzidine
8270D	3520C	Water	Benzo[a]anthracene
8270D	3520C	Water	Benzo[a]pyrene
8270D	3520C	Water	Benzo[b]fluoranthene
8270D	3520C	Water	Benzo[g,h,i]perylene
8270D	3520C	Water	Benzo[k]fluoranthene
8270D	3520C	Water	Benzoic acid
8270D	3520C	Water	Benzyl alcohol
8270D	3520C	Water	Bis(2-chloroethoxy)methane
8270D	3520C	Water	Bis(2-chloroethyl)ether
8270D	3520C	Water	Bis(2-ethylhexyl) phthalate
8270D	3520C	Water	Butyl benzyl phthalate
8270D	3520C	Water	Carbazole
8270D	3520C	Water	Chrysene
8270D	3520C	Water	Dibenz(a,h)anthracene
8270D	3520C	Water	Dibenzofuran
8270D	3520C	Water	Diethyl phthalate
8270D	3520C	Water	Dimethyl phthalate
8270D	3520C	Water	Di-n-butyl phthalate
8270D	3520C	Water	Di-n-octyl phthalate
8270D	3520C	Water	Fluoranthene
8270D	3520C	Water	Fluorene
8270D	3520C	Water	Hexachlorobenzene
8270D	3520C	Water	Hexachlorobutadiene
8270D	3520C	Water	Hexachlorocyclopentadiene
8270D	3520C	Water	Hexachloroethane
8270D	3520C	Water	Indeno[1,2,3-cd]pyrene
8270D	3520C	Water	Isophorone
8270D	3520C	Water	Naphthalene
8270D	3520C	Water	Nitrobenzene
8270D	3520C	Water	N-Nitrosodimethylamine
8270D	3520C	Water	N-Nitrosodi-n-propylamine
8270D	3520C	Water	N-Nitrosodiphenylamine

Laboratory: TestAmerica Denver (Continued)

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

Authority	Program	EPA Region	Certification ID	Expiration Date
Maine	State Program	1	CO0002	03-03-17

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

Analysis Method	Prep Method	Matrix	Analyte
8270D	3520C	Water	N-Nitrosopyrrolidine
8270D	3520C	Water	Pentachlorophenol
8270D	3520C	Water	Phenanthrene
8270D	3520C	Water	Phenol
8270D	3520C	Water	Pyrene

New Hampshire	NELAP	1	205310	04-28-17

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

Analysis Method	Prep Method	Matrix	Analyte
8270D	3520C	Water	1,2,4,5-Tetrachlorobenzene
8270D	3520C	Water	1,2,4-Trichlorobenzene
8270D	3520C	Water	1,2-Dichlorobenzene
8270D	3520C	Water	1,2-Diphenylhydrazine
8270D	3520C	Water	1,3-Dichlorobenzene
8270D	3520C	Water	1,4-Dichlorobenzene
8270D	3520C	Water	2,2'-oxybis[1-chloropropane]
8270D	3520C	Water	2,4,5-Trichlorophenol
8270D	3520C	Water	2,4,6-Trichlorophenol
8270D	3520C	Water	2,4-Dichlorophenol
8270D	3520C	Water	2,4-Dimethylphenol
8270D	3520C	Water	2,4-Dinitrophenol
8270D	3520C	Water	2,4-Dinitrotoluene
8270D	3520C	Water	2,6-Dichlorophenol
8270D	3520C	Water	2,6-Dinitrotoluene
8270D	3520C	Water	2-Chloronaphthalene
8270D	3520C	Water	2-Chlorophenol
8270D	3520C	Water	2-Methylnaphthalene
8270D	3520C	Water	2-Methylphenol
8270D	3520C	Water	3 & 4 Methylphenol
8270D	3520C	Water	3,3'-Dichlorobenzidine
8270D	3520C	Water	3-Nitroaniline
8270D	3520C	Water	4,6-Dinitro-2-methylphenol
8270D	3520C	Water	4-Chloroaniline
8270D	3520C	Water	4-Chlorophenyl phenyl ether
8270D	3520C	Water	4-Nitroaniline
8270D	3520C	Water	4-Nitrophenol
8270D	3520C	Water	Acenaphthene
8270D	3520C	Water	Acenaphthylene
8270D	3520C	Water	Anthracene
8270D	3520C	Water	Benzidine
8270D	3520C	Water	Benzo[a]anthracene
8270D	3520C	Water	Benzo[a]pyrene
8270D	3520C	Water	Benzo[b]fluoranthene
8270D	3520C	Water	Benzo[g,h,i]perylene
8270D	3520C	Water	Benzo[k]fluoranthene
8270D	3520C	Water	Benzoic acid
8270D	3520C	Water	Benzyl alcohol

Laboratory: TestAmerica Denver (Continued)

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

Authority	Program	EPA Region	Certification ID	Expiration Date
New Hampshire	NELAP	1	205310	04-28-17

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

Analysis Method	Prep Method	Matrix	Analyte
8270D	3520C	Water	Bis(2-chloroethoxy)methane
8270D	3520C	Water	Bis(2-chloroethyl)ether
8270D	3520C	Water	Bis(2-ethylhexyl) phthalate
8270D	3520C	Water	Butyl benzyl phthalate
8270D	3520C	Water	Carbazole
8270D	3520C	Water	Chrysene
8270D	3520C	Water	Dibenz(a,h)anthracene
8270D	3520C	Water	Dibenzofuran
8270D	3520C	Water	Diethyl phthalate
8270D	3520C	Water	Dimethyl phthalate
8270D	3520C	Water	Di-n-butyl phthalate
8270D	3520C	Water	Di-n-octyl phthalate
8270D	3520C	Water	Fluoranthene
8270D	3520C	Water	Fluorene
8270D	3520C	Water	Hexachlorobenzene
8270D	3520C	Water	Hexachlorobutadiene
8270D	3520C	Water	Hexachlorocyclopentadiene
8270D	3520C	Water	Hexachloroethane
8270D	3520C	Water	Indeno[1,2,3-cd]pyrene
8270D	3520C	Water	Isophorone
8270D	3520C	Water	Naphthalene
8270D	3520C	Water	Nitrobenzene
8270D	3520C	Water	N-Nitrosodimethylamine
8270D	3520C	Water	N-Nitrosodi-n-propylamine
8270D	3520C	Water	N-Nitrosodiphenylamine
8270D	3520C	Water	N-Nitrosopyrrolidine
8270D	3520C	Water	Pentachlorophenol
8270D	3520C	Water	Phenanthrene
8270D	3520C	Water	Phenol
8270D	3520C	Water	Pyrene

New York	NELAP	2	11964	04-01-17

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

Analysis Method	Prep Method	Matrix	Analyte
8270D	3520C	Water	1,2,4,5-Tetrachlorobenzene
8270D	3520C	Water	1,2,4-Trichlorobenzene
8270D	3520C	Water	1,2-Dichlorobenzene
8270D	3520C	Water	1,2-Diphenylhydrazine
8270D	3520C	Water	1,3-Dichlorobenzene
8270D	3520C	Water	1,4-Dichlorobenzene
8270D	3520C	Water	2,2'-oxybis[1-chloropropane]
8270D	3520C	Water	2,4,5-Trichlorophenol
8270D	3520C	Water	2,4,6-Trichlorophenol
8270D	3520C	Water	2,4-Dichlorophenol
8270D	3520C	Water	2,4-Dimethylphenol
8270D	3520C	Water	2,4-Dinitrophenol
8270D	3520C	Water	2,4-Dinitrotoluene

Laboratory: TestAmerica Denver (Continued)

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

Authority	Program	EPA Region	Certification ID	Expiration Date
New York	NELAP	2	11964	04-01-17

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

Analysis Method	Prep Method	Matrix	Analyte
8270D	3520C	Water	2,6-Dichlorophenol
8270D	3520C	Water	2,6-Dinitrotoluene
8270D	3520C	Water	2-Chloronaphthalene
8270D	3520C	Water	2-Chlorophenol
8270D	3520C	Water	2-Methylnaphthalene
8270D	3520C	Water	2-Methylphenol
8270D	3520C	Water	3 & 4 Methylphenol
8270D	3520C	Water	3,3'-Dichlorobenzidine
8270D	3520C	Water	3-Nitroaniline
8270D	3520C	Water	4,6-Dinitro-2-methylphenol
8270D	3520C	Water	4-Chloroaniline
8270D	3520C	Water	4-Chlorophenyl phenyl ether
8270D	3520C	Water	4-Nitroaniline
8270D	3520C	Water	4-Nitrophenol
8270D	3520C	Water	Acenaphthene
8270D	3520C	Water	Acenaphthylene
8270D	3520C	Water	Anthracene
8270D	3520C	Water	Benzidine
8270D	3520C	Water	Benzo[a]anthracene
8270D	3520C	Water	Benzo[a]pyrene
8270D	3520C	Water	Benzo[b]fluoranthene
8270D	3520C	Water	Benzo[g,h,i]perylene
8270D	3520C	Water	Benzo[k]fluoranthene
8270D	3520C	Water	Benzoic acid
8270D	3520C	Water	Benzyl alcohol
8270D	3520C	Water	Bis(2-chloroethoxy)methane
8270D	3520C	Water	Bis(2-chloroethyl)ether
8270D	3520C	Water	Bis(2-ethylhexyl) phthalate
8270D	3520C	Water	Butyl benzyl phthalate
8270D	3520C	Water	Carbazole
8270D	3520C	Water	Chrysene
8270D	3520C	Water	Dibenz(a,h)anthracene
8270D	3520C	Water	Dibenzofuran
8270D	3520C	Water	Diethyl phthalate
8270D	3520C	Water	Dimethyl phthalate
8270D	3520C	Water	Di-n-butyl phthalate
8270D	3520C	Water	Di-n-octyl phthalate
8270D	3520C	Water	Fluoranthene
8270D	3520C	Water	Fluorene
8270D	3520C	Water	Hexachlorobenzene
8270D	3520C	Water	Hexachlorobutadiene
8270D	3520C	Water	Hexachlorocyclopentadiene
8270D	3520C	Water	Hexachloroethane
8270D	3520C	Water	Indeno[1,2,3-cd]pyrene
8270D	3520C	Water	Isophorone
8270D	3520C	Water	Naphthalene

Laboratory: TestAmerica Denver (Continued)

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

Authority	Program	EPA Region	Certification ID	Expiration Date
New York	NELAP	2	11964	04-01-17

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

Analysis Method	Prep Method	Matrix	Analyte
8270D	3520C	Water	Nitrobenzene
8270D	3520C	Water	N-Nitrosodimethylamine
8270D	3520C	Water	N-Nitrosodi-n-propylamine
8270D	3520C	Water	N-Nitrosodiphenylamine
8270D	3520C	Water	N-Nitrosopyrrolidine
8270D	3520C	Water	Pentachlorophenol
8270D	3520C	Water	Phenanthrene
8270D	3520C	Water	Phenol
8270D	3520C	Water	Pyrene

Pennsylvania	NELAP	3	68-00664	07-31-17

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

Analysis Method	Prep Method	Matrix	Analyte
8270D	3520C	Water	1,2,4,5-Tetrachlorobenzene
8270D	3520C	Water	1,2,4-Trichlorobenzene
8270D	3520C	Water	1,2-Dichlorobenzene
8270D	3520C	Water	1,2-Diphenylhydrazine
8270D	3520C	Water	1,3-Dichlorobenzene
8270D	3520C	Water	1,4-Dichlorobenzene
8270D	3520C	Water	2,2'-oxybis[1-chloropropane]
8270D	3520C	Water	2,4,5-Trichlorophenol
8270D	3520C	Water	2,4,6-Trichlorophenol
8270D	3520C	Water	2,4-Dichlorophenol
8270D	3520C	Water	2,4-Dimethylphenol
8270D	3520C	Water	2,4-Dinitrophenol
8270D	3520C	Water	2,4-Dinitrotoluene
8270D	3520C	Water	2,6-Dichlorophenol
8270D	3520C	Water	2,6-Dinitrotoluene
8270D	3520C	Water	2-Chloronaphthalene
8270D	3520C	Water	2-Chlorophenol
8270D	3520C	Water	2-Methylnaphthalene
8270D	3520C	Water	2-Methylphenol
8270D	3520C	Water	3 & 4 Methylphenol
8270D	3520C	Water	3,3'-Dichlorobenzidine
8270D	3520C	Water	3-Nitroaniline
8270D	3520C	Water	4,6-Dinitro-2-methylphenol
8270D	3520C	Water	4-Chloroaniline
8270D	3520C	Water	4-Chlorophenyl phenyl ether
8270D	3520C	Water	4-Nitroaniline
8270D	3520C	Water	4-Nitrophenol
8270D	3520C	Water	Acenaphthene
8270D	3520C	Water	Acenaphthylene
8270D	3520C	Water	Anthracene
8270D	3520C	Water	Benzidine
8270D	3520C	Water	Benzo[a]anthracene
8270D	3520C	Water	Benzo[a]pyrene
8270D	3520C	Water	Benzo[b]fluoranthene

Laboratory: TestAmerica Denver (Continued)

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

Authority	Program	EPA Region	Certification ID	Expiration Date
Pennsylvania	NELAP	3	68-00664	07-31-17

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

Analysis Method	Prep Method	Matrix	Analyte
8270D	3520C	Water	Benzo[g,h,i]perylene
8270D	3520C	Water	Benzo[k]fluoranthene
8270D	3520C	Water	Benzoic acid
8270D	3520C	Water	Benzyl alcohol
8270D	3520C	Water	Bis(2-chloroethoxy)methane
8270D	3520C	Water	Bis(2-chloroethyl)ether
8270D	3520C	Water	Bis(2-ethylhexyl) phthalate
8270D	3520C	Water	Butyl benzyl phthalate
8270D	3520C	Water	Carbazole
8270D	3520C	Water	Chrysene
8270D	3520C	Water	Dibenz(a,h)anthracene
8270D	3520C	Water	Dibenzofuran
8270D	3520C	Water	Diethyl phthalate
8270D	3520C	Water	Dimethyl phthalate
8270D	3520C	Water	Di-n-butyl phthalate
8270D	3520C	Water	Di-n-octyl phthalate
8270D	3520C	Water	Fluoranthene
8270D	3520C	Water	Fluorene
8270D	3520C	Water	Hexachlorobenzene
8270D	3520C	Water	Hexachlorobutadiene
8270D	3520C	Water	Hexachlorocyclopentadiene
8270D	3520C	Water	Hexachloroethane
8270D	3520C	Water	Indeno[1,2,3-cd]pyrene
8270D	3520C	Water	Isophorone
8270D	3520C	Water	Naphthalene
8270D	3520C	Water	Nitrobenzene
8270D	3520C	Water	N-Nitrosodimethylamine
8270D	3520C	Water	N-Nitrosodi-n-propylamine
8270D	3520C	Water	N-Nitrosodiphenylamine
8270D	3520C	Water	N-Nitrosopyrrolidine
8270D	3520C	Water	Pentachlorophenol
8270D	3520C	Water	Phenanthrene
8270D	3520C	Water	Phenol
8270D	3520C	Water	Pyrene

West Virginia DEP	State Program	3	354	11-30-17

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

Analysis Method	Prep Method	Matrix	Analyte
8270D	3520C	Water	1,2,4,5-Tetrachlorobenzene
8270D	3520C	Water	1,2,4-Trichlorobenzene
8270D	3520C	Water	1,2-Dichlorobenzene
8270D	3520C	Water	1,2-Diphenylhydrazine
8270D	3520C	Water	1,3-Dichlorobenzene
8270D	3520C	Water	1,4-Dichlorobenzene
8270D	3520C	Water	2,2'-oxybis[1-chloropropane]
8270D	3520C	Water	2,4,5-Trichlorophenol
8270D	3520C	Water	2,4,6-Trichlorophenol

Laboratory: TestAmerica Denver (Continued)

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

Authority	Program	EPA Region	Certification ID	Expiration Date
West Virginia DEP	State Program	3	354	11-30-17

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

Analysis Method	Prep Method	Matrix	Analyte
8270D	3520C	Water	2,4-Dichlorophenol
8270D	3520C	Water	2,4-Dimethylphenol
8270D	3520C	Water	2,4-Dinitrophenol
8270D	3520C	Water	2,4-Dinitrotoluene
8270D	3520C	Water	2,6-Dichlorophenol
8270D	3520C	Water	2,6-Dinitrotoluene
8270D	3520C	Water	2-Chloronaphthalene
8270D	3520C	Water	2-Chlorophenol
8270D	3520C	Water	2-Methylnaphthalene
8270D	3520C	Water	2-Methylphenol
8270D	3520C	Water	3 & 4 Methylphenol
8270D	3520C	Water	3,3'-Dichlorobenzidine
8270D	3520C	Water	3-Nitroaniline
8270D	3520C	Water	4,6-Dinitro-2-methylphenol
8270D	3520C	Water	4-Chloroaniline
8270D	3520C	Water	4-Chlorophenyl phenyl ether
8270D	3520C	Water	4-Nitroaniline
8270D	3520C	Water	4-Nitrophenol
8270D	3520C	Water	Acenaphthene
8270D	3520C	Water	Acenaphthylene
8270D	3520C	Water	Anthracene
8270D	3520C	Water	Benzidine
8270D	3520C	Water	Benzo[a]anthracene
8270D	3520C	Water	Benzo[a]pyrene
8270D	3520C	Water	Benzo[b]fluoranthene
8270D	3520C	Water	Benzo[g,h,i]perylene
8270D	3520C	Water	Benzo[k]fluoranthene
8270D	3520C	Water	Benzoic acid
8270D	3520C	Water	Benzyl alcohol
8270D	3520C	Water	Bis(2-chloroethoxy)methane
8270D	3520C	Water	Bis(2-chloroethyl)ether
8270D	3520C	Water	Bis(2-ethylhexyl) phthalate
8270D	3520C	Water	Butyl benzyl phthalate
8270D	3520C	Water	Carbazole
8270D	3520C	Water	Chrysene
8270D	3520C	Water	Dibenz(a,h)anthracene
8270D	3520C	Water	Dibenzofuran
8270D	3520C	Water	Diethyl phthalate
8270D	3520C	Water	Dimethyl phthalate
8270D	3520C	Water	Di-n-butyl phthalate
8270D	3520C	Water	Di-n-octyl phthalate
8270D	3520C	Water	Fluoranthene
8270D	3520C	Water	Fluorene
8270D	3520C	Water	Hexachlorobenzene
8270D	3520C	Water	Hexachlorobutadiene
8270D	3520C	Water	Hexachlorocyclopentadiene

Laboratory: TestAmerica Denver (Continued)

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

Authority	Program	EPA Region	Certification ID	Expiration Date
West Virginia DEP	State Program	3	354	11-30-17

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

Analysis Method	Prep Method	Matrix	Analyte
8270D	3520C	Water	Hexachloroethane
8270D	3520C	Water	Indeno[1,2,3-cd]pyrene
8270D	3520C	Water	Isophorone
8270D	3520C	Water	Naphthalene
8270D	3520C	Water	Nitrobenzene
8270D	3520C	Water	N-Nitrosodimethylamine
8270D	3520C	Water	N-Nitrosodi-n-propylamine
8270D	3520C	Water	N-Nitrosodiphenylamine
8270D	3520C	Water	N-Nitrosopyrrolidine
8270D	3520C	Water	Pentachlorophenol
8270D	3520C	Water	Phenanthrene
8270D	3520C	Water	Phenol
8270D	3520C	Water	Pyrene

Laboratory: TestAmerica St. Louis

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

Authority	Program	EPA Region	Certification ID	Expiration Date
L-A-B	DoD ELAP		L2305	04-06-19

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

Analysis Method	Prep Method	Matrix	Analyte
8260C DOD		Water	1,1,1-Trichloroethane
8260C DOD		Water	1,1,2,2-Tetrachloroethane
8260C DOD		Water	1,1,2-Trichloro-1,2,2-trifluoroethane
8260C DOD		Water	1,1,2-Trichloroethane
8260C DOD		Water	1,1-Dichloroethane
8260C DOD		Water	1,1-Dichloroethene
8260C DOD		Water	1,2,3-Trichlorobenzene
8260C DOD		Water	1,2,4-Trichlorobenzene
8260C DOD		Water	1,2,4-Trimethylbenzene
8260C DOD		Water	1,2-Dibromo-3-Chloropropane
8260C DOD		Water	1,2-Dibromoethane
8260C DOD		Water	1,2-Dichlorobenzene
8260C DOD		Water	1,2-Dichloroethane
8260C DOD		Water	1,2-Dichloroethene, Total
8260C DOD		Water	1,2-Dichloropropane
8260C DOD		Water	1,3,5-Trimethylbenzene
8260C DOD		Water	1,3-Dichlorobenzene
8260C DOD		Water	1,4-Dichlorobenzene
8260C DOD		Water	2-Butanone (MEK)
8260C DOD		Water	2-Hexanone
8260C DOD		Water	4-Methyl-2-pentanone (MIBK)
8260C DOD		Water	Acetone
8260C DOD		Water	Benzene
8260C DOD		Water	Bromobenzene
8260C DOD		Water	Bromodichloromethane

Laboratory: TestAmerica St. Louis (Continued)

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

Authority	Program	EPA Region	Certification ID	Expiration Date
L-A-B	DoD ELAP		L2305	04-06-19

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

Analysis Method	Prep Method	Matrix	Analyte
8260C DOD		Water	Bromoform
8260C DOD		Water	Bromomethane
8260C DOD		Water	Carbon disulfide
8260C DOD		Water	Carbon tetrachloride
8260C DOD		Water	Chlorobenzene
8260C DOD		Water	Chloroethane
8260C DOD		Water	Chloroform
8260C DOD		Water	Chloromethane
8260C DOD		Water	cis-1,2-Dichloroethene
8260C DOD		Water	cis-1,3-Dichloropropene
8260C DOD		Water	Cyclohexane
8260C DOD		Water	Dibromochloromethane
8260C DOD		Water	Dichlorodifluoromethane
8260C DOD		Water	Ethylbenzene
8260C DOD		Water	Isopropylbenzene
8260C DOD		Water	Methyl acetate
8260C DOD		Water	Methyl tert-butyl ether
8260C DOD		Water	Methylcyclohexane
8260C DOD		Water	Methylene Chloride
8260C DOD		Water	m-Xylene & p-Xylene
8260C DOD		Water	Naphthalene
8260C DOD		Water	n-Butylbenzene
8260C DOD		Water	N-Propylbenzene
8260C DOD		Water	o-Xylene
8260C DOD		Water	sec-Butylbenzene
8260C DOD		Water	Styrene
8260C DOD		Water	tert-Butylbenzene
8260C DOD		Water	Tetrachloroethene
8260C DOD		Water	Toluene
8260C DOD		Water	trans-1,2-Dichloroethene
8260C DOD		Water	trans-1,3-Dichloropropene
8260C DOD		Water	Trichloroethene
8260C DOD		Water	Trichlorofluoromethane
8260C DOD		Water	Vinyl chloride
8260C DOD		Water	Xylenes, Total

New York	NELAP	2	11616	03-31-17

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

Analysis Method	Prep Method	Matrix	Analyte
8260C DOD		Water	1,1,1-Trichloroethane
8260C DOD		Water	1,1,2,2-Tetrachloroethane
8260C DOD		Water	1,1,2-Trichloro-1,2,2-trifluoroethane
8260C DOD		Water	1,1,2-Trichloroethane
8260C DOD		Water	1,1-Dichloroethane
8260C DOD		Water	1,1-Dichloroethene
8260C DOD		Water	1,2,3-Trichlorobenzene
8260C DOD		Water	1,2,4-Trichlorobenzene

Laboratory: TestAmerica St. Louis (Continued)

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

Authority	Program	EPA Region	Certification ID	Expiration Date
New York	NELAP	2	11616	03-31-17

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

Analysis Method	Prep Method	Matrix	Analyte
8260C DOD		Water	1,2,4-Trimethylbenzene
8260C DOD		Water	1,2-Dibromo-3-Chloropropane
8260C DOD		Water	1,2-Dibromoethane
8260C DOD		Water	1,2-Dichlorobenzene
8260C DOD		Water	1,2-Dichloroethane
8260C DOD		Water	1,2-Dichloroethene, Total
8260C DOD		Water	1,2-Dichloropropane
8260C DOD		Water	1,3,5-Trimethylbenzene
8260C DOD		Water	1,3-Dichlorobenzene
8260C DOD		Water	1,4-Dichlorobenzene
8260C DOD		Water	2-Butanone (MEK)
8260C DOD		Water	2-Hexanone
8260C DOD		Water	4-Methyl-2-pentanone (MIBK)
8260C DOD		Water	Acetone
8260C DOD		Water	Benzene
8260C DOD		Water	Bromobenzene
8260C DOD		Water	Bromodichloromethane
8260C DOD		Water	Bromoform
8260C DOD		Water	Bromomethane
8260C DOD		Water	Carbon disulfide
8260C DOD		Water	Carbon tetrachloride
8260C DOD		Water	Chlorobenzene
8260C DOD		Water	Chloroethane
8260C DOD		Water	Chloroform
8260C DOD		Water	Chloromethane
8260C DOD		Water	cis-1,2-Dichloroethene
8260C DOD		Water	cis-1,3-Dichloropropene
8260C DOD		Water	Cyclohexane
8260C DOD		Water	Dibromochloromethane
8260C DOD		Water	Dichlorodifluoromethane
8260C DOD		Water	Ethylbenzene
8260C DOD		Water	Isopropylbenzene
8260C DOD		Water	Methyl acetate
8260C DOD		Water	Methyl tert-butyl ether
8260C DOD		Water	Methylcyclohexane
8260C DOD		Water	Methylene Chloride
8260C DOD		Water	m-Xylene & p-Xylene
8260C DOD		Water	Naphthalene
8260C DOD		Water	n-Butylbenzene
8260C DOD		Water	N-Propylbenzene
8260C DOD		Water	o-Xylene
8260C DOD		Water	sec-Butylbenzene
8260C DOD		Water	Styrene
8260C DOD		Water	tert-Butylbenzene
8260C DOD		Water	Tetrachloroethene
8260C DOD		Water	Toluene

Laboratory: TestAmerica St. Louis (Continued)

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

Authority	Program	EPA Region	Certification ID	Expiration Date
New York	NELAP	2	11616	03-31-17

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

Analysis Method	Prep Method	Matrix	Analyte
8260C DOD		Water	trans-1,2-Dichloroethene
8260C DOD		Water	trans-1,3-Dichloropropene
8260C DOD		Water	Trichloroethene
8260C DOD		Water	Trichlorofluoromethane
8260C DOD		Water	Vinyl chloride
8260C DOD		Water	Xylenes, Total

Method Summary

Client: Weston Solutions, Inc.
Project/Site: Schenectady ANGB

TestAmerica Job ID: 280-90936-1

Method	Method Description	Protocol	Laboratory
8260C DOD	Volatile Organic Compounds (GC/MS)	SW846	TAL SL
8270D	Semivolatile Organic Compounds (GC/MS)	SW846	TAL DEN

Protocol References:

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

Laboratory References:

TAL DEN = TestAmerica Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

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

Sample Summary

Client: Weston Solutions, Inc.
Project/Site: Schenectady ANGB

TestAmerica Job ID: 280-90936-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
280-90936-1	SC-TU008-MW006-G-1	Water	11/10/16 14:00	11/12/16 08:40
280-90936-2	SC-TU008-TB111016	Water	11/10/16 14:05	11/12/16 08:40

Shipping and Receiving Documents

TestAmerica Denver
4955 Yarrow Street
Arvada, CO 80002
Phone (303) 736-0100 Fax (303) 431-7171

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information	Sampler: Tom Darin	Lab PM: Rydberg, Donna R	Carrier Tracking No(s): drop off at TA Edison	COC No: 280-58421-20497.2
Client Contact: Mr. Joseph Gross	Phone: 302-415-1496	E-Mail: donna.rydberg@testamericainc.com		Page: Page ~~2 of 2~~ 1 of 1
Company: Weston Solutions, Inc.				Job #:
Address: 1400 Weston Way PO BOX 2653	Due Date Requested:			
City: West Chester	TAT Requested (days): 15			
State, Zip: PA, 19380				
Phone: 410-612-5910(Tel)	PO #: 0090139			
Email: joseph.gross@westonsolutions.com	WO #: 15363.100.001.1103			
Project Name: Schenectady ANGB, TU008	Project #: 28015256			
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)	8260C	8270D										Total Number of containers	Special Instructions/Note:
			Preservation Code:				A	1											
SC-TU008-MW006-G-1	11/10/16	1400	G	W			3	2										5	
SC-TU008-TB111016	11/10/16	1405	G	W			2											2	

280-90936 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: send to TA Denver for analysis

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

Relinquished by	Date/Time	Company	Received by	Date/Time	Company
Amanda Laskoskie	11/10/16 1850	Weston	[illegible]	11/10/16 1850	TAED
[illegible]	11/11/16 1800	SDEA	[illegible]	11-12-16 0880	TAD

Custody Seals Intact: Δ Yes Δ No
Custody Seal No.: 689787 689788
Cooler Temperature(s) °C and Other Remarks: 1.9 IRS 1.60.0 transferred SP 11-12-16 1.7 1.2°C

TestAmerica Denver
4955 Yarrow Street
Arvada, CO 80002
Phone (303) 736-0100 Fax (303) 431-7171

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Rydberg, Donna R	Carrier Tracking No(s):	COC No: 280-377754.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: donna.rydberg@testamericainc.com	State of Origin: New York	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): DoD ELAP - A2LA; DoD ELAP - L-A-B; NELAP - New Hampshir ...		Job #: 280-90936-1
Address: 13715 Rider Trail North, ,	Due Date Requested: 12/1/2016			
City: Earth City	TAT Requested (days):			
State, Zip: MO, 63045				
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	PO #:			
Email:	WO #:			
Project Name: Schenectady ANGB	Project #: 28015256			
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 - Client ID (Lab ID)	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)	8260C_DOD5/5030C (MOD) OLM 4.2 Target List	Total Number of containers	Special Instructions/Note:
				Preservation Code:					
SC-TU008-MW006-G-1 (280-90936-1)	11/10/16	14:00 Eastern		Water			X	3	DOD5_Weston QAS_DIL1_full spike list
SC-TU008-TB111016 (280-90936-2)	11/10/16	14:05 Eastern		Water			X	2	DOD5_Weston QAS_DIL1_full spike list

280-90936 Chain of Custody

Note: Since laboratory accreditations are subject to change, TestAmerica Laboratories, Inc. places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to TestAmerica Laboratories, Inc. attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to TestAmerica Laboratories, Inc.

Possible Hazard Identification *Unconfirmed*	***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) Primary Deliverable Rank: 1	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:		
Relinquished by:	Date/Time: 11-15-16 1556	Company: TAD	Received by:	Date/Time: 11/17/16 0900	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: Weston Solutions, Inc.

Job Number: 280-90936-1

Login Number: 90936
List Number: 1
Creator: Woodworth, Sean P

List Source: TestAmerica Denver

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
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.	N/A	
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	

Login Sample Receipt Checklist

Client: Weston Solutions, Inc.

Job Number: 280-90936-1

Login Number: 90936
List Number: 2
Creator: Daniels, Brian J

List Source: TestAmerica St. Louis
List Creation: 11/17/16 04:27 PM

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.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	False	
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	

ANALYTICAL REPORT

Job Number: 280-90734-1

Job Description: Schenectady ANGB TU008

For:
Weston Solutions, Inc.
1371 Brass Mill Road
Suite N
Belcamp, MD 21017

Attention: Mr. Joseph Gross

Approved for release.
Donna R Rydberg
Senior Project Manager
12/30/2016 7:56 PM

Donna R Rydberg, Senior Project Manager
4955 Yarrow Street, Arvada, CO, 80002
(303)736-0192
donna.rydberg@testamericainc.com
12/30/2016
Revision: 2

The test results in this report relate only to the samples in this report and meet all requirements of NELAC, with any exceptions noted. Pursuant to NELAP, this report shall not be reproduced except in full, without the written approval of the laboratory. All questions regarding this report should be directed to the TestAmerica Denver Project Manager.

The Lab Certification ID# is 4025.

Reporting limits are adjusted for sample size used, dilutions and moisture content if applicable.

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Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
U	Undetected at the Limit of Detection.
Q	One or more quality control criteria failed.
J	Estimated: The quantitation is an estimation due to discrepancies in meeting certain analyte-specific quality control criteria.
M	Manual integrated compound.
J	Estimated: The analyte was positively identified; the quantitation is an estimation

GC/MS Semi VOA

Qualifier	Qualifier Description
U	Undetected at the Limit of Detection.
Q	One or more quality control criteria failed.
J	Estimated: The analyte was positively identified; the quantitation is an estimation
J	Estimated: The quantitation is an estimation due to discrepancies in meeting certain analyte-specific quality control criteria.

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)

CASE NARRATIVE
Client: Weston Solutions, Inc.
Project: Schenectady ANGB TU008
Report Number: 280-90734-1

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

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

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

REVISION 2 12/30/16
The report was revised to fix the issue with the MS/MSD RPD values in batch 280-354097. All RPD values between the MS and MSD were reported at 200%. The MSD was linked to the wrong MS sample. This data has been fixed.

REVISION 1 12/14/16
The attached report was revised for method 8270D. The percent recovery for Benzedrine in the LCS was reporting a result less than the MDL instead of reporting zero. This has been fixed. No other changes were made.

RECEIPT
The samples were received on 11/9/2016 9:50 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 0.9º C and 1.1º C.

VOLATILE ORGANIC COMPOUNDS (GC/MS)
Samples SC-TU008-MW002-G-2 (280-90734-1), SC-TU008-MW002-G-2-D (280-90734-2), SC-TU008-TB110716 (280-90734-3), SC-TU008-MW004-G-2 (280-90734-4) and SC-TU008-MW001-G-2 (280-90734-5) were analyzed for Volatile Organic Compounds (GC/MS) in accordance with 8260C_DOD5. The samples were analyzed on 11/16/2016.

Method(s) 8260C DOD: The continuing calibration verification (CCV) associated with batch 160-279462 recovered outside acceptance criteria, low biased, for Chloroethane, Bromomethane, Trichlorofluromethane, and Vinyl Chloride. 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. (CCV 160-279462/2).

Method(s) 8260C DOD: The following compounds did not meet the minimum relative response factor limits in the continuing calibration verification (CCV) and closing continuing calibration verification (CCVC) associated with batch 160-279462: 2-Butanone, Methyl acetate, Bromomethane, 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. (CCV 160-279462/2) and (CCVC 160-279462/25).

Method(s) 8260C DOD: The method blank associated with analytical batch 160-279462 contained 1,2,3-Trichlorobenzene greater than one-half the reporting limit (RL) but still under the RL. No samples contained hits for this analyte over the RL. The data is being reported along with this narrative. (MB 160-279462/6).

Method(s) 8260C DOD: The following analyte recovered outside control limits for the LCSD associated with 160-279462: Chloroethane. Qualified results have been reported. Additionally, the LCS had acceptable recoveries for these analytes, thus fulfilling method QC requirements. All sample was non-detect for this analyte. (LCSD 160-279462/4).

Method(s) 8260C DOD: For 160-279462, the matrix spike and matrix spike duplicate (MS/MSD) were outside of limits for Chloroethane. No samples were recovering over the reporting limit for this sample and a low level check was able to detect this analyte. The data is being reported along with this narrative. SC-TU008-MW001-G-2 (280-90734-5[MS]) and SC-TU008-MW001-G-2 (280-90734-5[MSD]).

Method(s) 8260C DOD: The matrix spike / matrix spike duplicate / sample duplicate (MS/MSD/DUP) precision for analytical batch 160-279462 was outside control limits for one or more compounds. 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. SC-TU008-MW001-G-2 (280-90734-5[MS]) and SC-TU008-MW001-G-2 (280-90734-5[MSD]).

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.

SEMIVOLATILE ORGANIC COMPOUNDS

Samples SC-TU008-MW002-G-2 (280-90734-1), SC-TU008-MW002-G-2-D (280-90734-2), SC-TU008-MW004-G-2 (280-90734-4) and SC-TU008-MW001-G-2 (280-90734-5) were analyzed for Semivolatile organic compounds in accordance with SW-846 8270D. The samples were prepared on 11/14/2016 and analyzed on 12/03/2016.

Method(s) 3520C: The 8270_AP9_LCS_00018 was unverified at the time of spiking but was verified as a passing standard and was renamed to 8270_AP9_LCS_0019.

Method(s) 8270D: The laboratory control sample (LCS) for preparation batch 280-351287 and analytical batch 280-354097 recovered outside control limits for Benzidine at 17% limits 27-150. Benzidine has been identified as a poor performing analyte when analyzed using this method; therefore, re-extraction/re-analysis was not performed.

Please note that Benzidine is not a controlled spike analyte for the client; however, since the compound is on the client's target analyte list, the data has been flagged and NCM'd for disclosure purposes only.

Method(s) 8270D: The sample surrogate recoveries for Terphenyl-d14 in batch 354097 are below the DOD limits of 50-134% and above the lab historical lower limit of 20% for sample 90734-5 at 35%. The samples have exceeded holding time and will be reported.

Benzidine and Phenol failed the recovery criteria low for the MS of sample SC-TU008-MW001-G-2MS (280-90734-5) in batch 280-354097.

Benzidine failed the recovery criteria low for the MSD of sample SC-TU008-MW001-G-2MSD (280-90734-5) in batch 280-354097. Several analytes exceeded the RPD limit.

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

Detection Summary

Client: Weston Solutions, Inc.
Project/Site: Schenectady ANGB TU008

TestAmerica Job ID: 280-90734-1

Client Sample ID: SC-TU008-MW002-G-2 — Lab Sample ID: 280-90734-1

No Detections.

Client Sample ID: SC-TU008-MW002-G-2-D — Lab Sample ID: 280-90734-2

No Detections.

Client Sample ID: SC-TU008-TB110716 — Lab Sample ID: 280-90734-3

No Detections.

Client Sample ID: SC-TU008-MW004-G-2 — Lab Sample ID: 280-90734-4

No Detections.

Client Sample ID: SC-TU008-MW001-G-2 — Lab Sample ID: 280-90734-5

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
3 & 4 Methylphenol	2.7	J	20	0.25	ug/L	1		8270D	Total/NA
Benzoic acid	19	J	80	10	ug/L	1		8270D	Total/NA
Phenol	24	J	10	2.0	ug/L	1		8270D	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: SC-TU008-MW002-G-2

Lab Sample ID: 280-90734-1

Date Collected: 11/07/16 11:05

Matrix: Water

Date Received: 11/09/16 09:50

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

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	1.0	U	5.0	0.29	ug/L			11/16/16 14:26	1
1,1,2,2-Tetrachloroethane	2.0	U	5.0	0.43	ug/L			11/16/16 14:26	1
1,1,2-Trichloro-1,2,2-trifluoroethane	2.0	U	5.0	0.25	ug/L			11/16/16 14:26	1
1,1,2-Trichloroethane	1.0	U	5.0	0.57	ug/L			11/16/16 14:26	1
1,1-Dichloroethane	1.0	U	5.0	0.39	ug/L			11/16/16 14:26	1
1,1-Dichloroethene	1.0	U	5.0	0.37	ug/L			11/16/16 14:26	1
1,2,3-Trichlorobenzene	2.0	U	5.0	0.65	ug/L			11/16/16 14:26	1
1,2,4-Trichlorobenzene	2.0	U	5.0	0.55	ug/L			11/16/16 14:26	1
1,2,4-Trimethylbenzene	2.0	U	5.0	0.40	ug/L			11/16/16 14:26	1
1,2-Dibromo-3-Chloropropane	2.0	U	10	1.2	ug/L			11/16/16 14:26	1
1,2-Dibromoethane	2.0	U	5.0	0.44	ug/L			11/16/16 14:26	1
1,2-Dichlorobenzene	2.0	U	5.0	0.28	ug/L			11/16/16 14:26	1
1,2-Dichloroethane	1.0	U	5.0	0.37	ug/L			11/16/16 14:26	1
1,2-Dichloroethene, Total	2.0	U	10	0.24	ug/L			11/16/16 14:26	1
1,2-Dichloropropane	1.0	U	5.0	0.32	ug/L			11/16/16 14:26	1
1,3,5-Trimethylbenzene	2.0	U	5.0	0.28	ug/L			11/16/16 14:26	1
1,3-Dichlorobenzene	2.0	U	5.0	0.23	ug/L			11/16/16 14:26	1
1,4-Dichlorobenzene	2.0	U	5.0	0.35	ug/L			11/16/16 14:26	1
2-Butanone (MEK)	5.0	U	20	0.39	ug/L			11/16/16 14:26	1
2-Hexanone	2.0	U	20	0.59	ug/L			11/16/16 14:26	1
4-Methyl-2-pentanone (MIBK)	2.0	U	20	0.33	ug/L			11/16/16 14:26	1
Acetone	10	U	20	6.7	ug/L			11/16/16 14:26	1
Benzene	1.0	U	5.0	0.25	ug/L			11/16/16 14:26	1
Bromobenzene	2.0	U	5.0	0.33	ug/L			11/16/16 14:26	1
Bromodichloromethane	2.0	U	5.0	0.25	ug/L			11/16/16 14:26	1
Bromoform	1.0	U	5.0	0.37	ug/L			11/16/16 14:26	1
Bromomethane	2.0	U Q	10	0.40	ug/L			11/16/16 14:26	1
Carbon disulfide	1.0	U	5.0	0.37	ug/L			11/16/16 14:26	1
Carbon tetrachloride	1.0	U	5.0	0.36	ug/L			11/16/16 14:26	1
Chlorobenzene	1.0	U	5.0	0.38	ug/L			11/16/16 14:26	1
Chloroethane	1.0	U Q	10	0.38	ug/L			11/16/16 14:26	1
Chloroform	1.0	U	5.0	0.15	ug/L			11/16/16 14:26	1
Chloromethane	2.0	U	10	0.55	ug/L			11/16/16 14:26	1
cis-1,2-Dichloroethene	1.0	U	5.0	0.16	ug/L			11/16/16 14:26	1
cis-1,3-Dichloropropene	1.0	U	5.0	0.34	ug/L			11/16/16 14:26	1
Cyclohexane	2.0	U	10	0.36	ug/L			11/16/16 14:26	1
Dibromochloromethane	1.0	U	5.0	0.33	ug/L			11/16/16 14:26	1
Dichlorodifluoromethane	2.0	U	10	0.45	ug/L			11/16/16 14:26	1
Ethylbenzene	1.0	U	5.0	0.30	ug/L			11/16/16 14:26	1
Isopropylbenzene	2.0	U	5.0	0.26	ug/L			11/16/16 14:26	1
Methyl acetate	5.0	U	25	2.3	ug/L			11/16/16 14:26	1
Methyl tert-butyl ether	2.0	U	5.0	0.40	ug/L			11/16/16 14:26	1
Methylcyclohexane	2.0	U	10	0.26	ug/L			11/16/16 14:26	1
Methylene Chloride	5.0	U	7.5	1.7	ug/L			11/16/16 14:26	1
m-Xylene & p-Xylene	1.0	U	5.0	0.57	ug/L			11/16/16 14:26	1
Naphthalene	2.0	U	5.0	0.85	ug/L			11/16/16 14:26	1
n-Butylbenzene	2.0	U	5.0	0.23	ug/L			11/16/16 14:26	1
N-Propylbenzene	2.0	U	5.0	0.30	ug/L			11/16/16 14:26	1
o-Xylene	1.0	U	5.0	0.32	ug/L			11/16/16 14:26	1

Client Sample ID: SC-TU008-MW002-G-2

Lab Sample ID: 280-90734-1

Date Collected: 11/07/16 11:05
Date Received: 11/09/16 09:50

Matrix: Water

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

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	2.0	U	5.0	0.31	ug/L			11/16/16 14:26	1
Styrene	1.0	U	5.0	0.35	ug/L			11/16/16 14:26	1
tert-Butylbenzene	2.0	U	5.0	0.31	ug/L			11/16/16 14:26	1
Tetrachloroethene	1.0	U	5.0	0.28	ug/L			11/16/16 14:26	1
Toluene	1.0	U	5.0	1.0	ug/L			11/16/16 14:26	1
trans-1,2-Dichloroethene	1.0	U	5.0	0.18	ug/L			11/16/16 14:26	1
trans-1,3-Dichloropropene	1.0	U	5.0	0.35	ug/L			11/16/16 14:26	1
Trichloroethene	1.0	U	5.0	0.29	ug/L			11/16/16 14:26	1
Trichlorofluoromethane	2.0	U Q	5.0	0.22	ug/L			11/16/16 14:26	1
Vinyl chloride	1.0	U Q	5.0	0.43	ug/L			11/16/16 14:26	1
Xylenes, Total	5.0	U	10	0.85	ug/L			11/16/16 14:26	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*92*		*81 - 118*		*11/16/16 14:26*	*1*
4-Bromofluorobenzene (Surr)	*107*		*85 - 114*		*11/16/16 14:26*	*1*
Dibromofluoromethane (Surr)	*103*		*80 - 119*		*11/16/16 14:26*	*1*
Toluene-d8 (Surr)	*107*		*89 - 112*		*11/16/16 14:26*	*1*

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

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4,5-Tetrachlorobenzene	4.5	U	10	1.8	ug/L		11/14/16 11:40	12/03/16 00:19	1
1,2,4-Trichlorobenzene	1.0	U	10	0.28	ug/L		11/14/16 11:40	12/03/16 00:19	1
1,2-Dichlorobenzene	0.51	U	10	0.23	ug/L		11/14/16 11:40	12/03/16 00:19	1
1,2-Diphenylhydrazine	0.51	U	10	0.23	ug/L		11/14/16 11:40	12/03/16 00:19	1
1,3-Dichlorobenzene	1.0	U	10	0.31	ug/L		11/14/16 11:40	12/03/16 00:19	1
1,4-Dichlorobenzene	1.0	U	10	0.33	ug/L		11/14/16 11:40	12/03/16 00:19	1
2,2'-oxybis[1-chloropropane]	1.0	U	10	0.28	ug/L		11/14/16 11:40	12/03/16 00:19	1
2,4,5-Trichlorophenol	1.0	U	20	0.46	ug/L		11/14/16 11:40	12/03/16 00:19	1
2,4,6-Trichlorophenol	1.0	U	20	0.29	ug/L		11/14/16 11:40	12/03/16 00:19	1
2,4-Dichlorophenol	2.0	U	10	0.65	ug/L		11/14/16 11:40	12/03/16 00:19	1
2,4-Dimethylphenol	2.0	U	10	0.59	ug/L		11/14/16 11:40	12/03/16 00:19	1
2,4-Dinitrophenol	31	U	81	10	ug/L		11/14/16 11:40	12/03/16 00:19	1
2,4-Dinitrotoluene	4.5	U	20	1.7	ug/L		11/14/16 11:40	12/03/16 00:19	1
2,6-Dichlorophenol	4.1	U	10	1.4	ug/L		11/14/16 11:40	12/03/16 00:19	1
2,6-Dinitrotoluene	4.5	U	20	1.9	ug/L		11/14/16 11:40	12/03/16 00:19	1
2-Chloronaphthalene	1.0	U	10	0.26	ug/L		11/14/16 11:40	12/03/16 00:19	1
2-Chlorophenol	4.5	U	10	2.0	ug/L		11/14/16 11:40	12/03/16 00:19	1
2-Methylnaphthalene	1.0	U	10	0.29	ug/L		11/14/16 11:40	12/03/16 00:19	1
2-Methylphenol	2.0	U	10	1.0	ug/L		11/14/16 11:40	12/03/16 00:19	1
3 & 4 Methylphenol	0.51	U	20	0.25	ug/L		11/14/16 11:40	12/03/16 00:19	1
3,3'-Dichlorobenzidine	4.5	U	51	2.0	ug/L		11/14/16 11:40	12/03/16 00:19	1
3-Nitroaniline	4.5	U	51	2.0	ug/L		11/14/16 11:40	12/03/16 00:19	1
4,6-Dinitro-2-methylphenol	8.9	U	81	4.1	ug/L		11/14/16 11:40	12/03/16 00:19	1
4-Chloroaniline	4.5	U	25	2.2	ug/L		11/14/16 11:40	12/03/16 00:19	1
4-Chlorophenyl phenyl ether	4.5	U	10	1.7	ug/L		11/14/16 11:40	12/03/16 00:19	1
4-Nitroaniline	4.5	U	51	2.0	ug/L		11/14/16 11:40	12/03/16 00:19	1
4-Nitrophenol	4.1	U	51	1.3	ug/L		11/14/16 11:40	12/03/16 00:19	1
Acenaphthene	1.0	U	10	0.28	ug/L		11/14/16 11:40	12/03/16 00:19	1
Acenaphthylene	1.0	U	10	0.50	ug/L		11/14/16 11:40	12/03/16 00:19	1
Anthracene	1.0	U	10	0.43	ug/L		11/14/16 11:40	12/03/16 00:19	1

Client Sample ID: SC-TU008-MW002-G-2

Lab Sample ID: 280-90734-1

Date Collected: 11/07/16 11:05
Date Received: 11/09/16 09:50

Matrix: Water

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

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Benzidine	100	U Q	200	51	ug/L		11/14/16 11:40	12/03/16 00:19	1
Benzo[a]anthracene	1.0	U	10	0.36	ug/L		11/14/16 11:40	12/03/16 00:19	1
Benzo[a]pyrene	1.0	U	10	0.32	ug/L		11/14/16 11:40	12/03/16 00:19	1
Benzo[b]fluoranthene	2.0	U	10	0.54	ug/L		11/14/16 11:40	12/03/16 00:19	1
Benzo[g,h,i]perylene	1.0	U	10	0.51	ug/L		11/14/16 11:40	12/03/16 00:19	1
Benzo[k]fluoranthene	1.0	U	10	0.47	ug/L		11/14/16 11:40	12/03/16 00:19	1
Benzoic acid	31	U	81	10	ug/L		11/14/16 11:40	12/03/16 00:19	1
Benzyl alcohol	0.51	U	25	0.23	ug/L		11/14/16 11:40	12/03/16 00:19	1
Bis(2-chloroethoxy)methane	2.0	U	10	0.99	ug/L		11/14/16 11:40	12/03/16 00:19	1
Bis(2-chloroethyl)ether	1.0	U	20	0.42	ug/L		11/14/16 11:40	12/03/16 00:19	1
Bis(2-ethylhexyl) phthalate	2.0	U	10	0.57	ug/L		11/14/16 11:40	12/03/16 00:19	1
Butyl benzyl phthalate	2.0	U	20	1.0	ug/L		11/14/16 11:40	12/03/16 00:19	1
Carbazole	1.0	U	10	0.44	ug/L		11/14/16 11:40	12/03/16 00:19	1
Chrysene	2.0	U	10	0.55	ug/L		11/14/16 11:40	12/03/16 00:19	1
Dibenz(a,h)anthracene	2.0	U	10	0.52	ug/L		11/14/16 11:40	12/03/16 00:19	1
Dibenzofuran	1.0	U	10	0.29	ug/L		11/14/16 11:40	12/03/16 00:19	1
Diethyl phthalate	1.0	U	20	0.39	ug/L		11/14/16 11:40	12/03/16 00:19	1
Dimethyl phthalate	0.51	U	20	0.21	ug/L		11/14/16 11:40	12/03/16 00:19	1
Di-n-butyl phthalate	4.5	U	20	1.2	ug/L		11/14/16 11:40	12/03/16 00:19	1
Di-n-octyl phthalate	1.0	U	20	0.36	ug/L		11/14/16 11:40	12/03/16 00:19	1
Fluoranthene	0.51	U	20	0.20	ug/L		11/14/16 11:40	12/03/16 00:19	1
Fluorene	1.0	U	10	0.32	ug/L		11/14/16 11:40	12/03/16 00:19	1
Hexachlorobenzene	2.0	U	10	0.67	ug/L		11/14/16 11:40	12/03/16 00:19	1
Hexachlorobutadiene	10	U	31	3.4	ug/L		11/14/16 11:40	12/03/16 00:19	1
Hexachlorocyclopentadiene	31	U	51	10	ug/L		11/14/16 11:40	12/03/16 00:19	1
Hexachloroethane	4.5	U	10	2.1	ug/L		11/14/16 11:40	12/03/16 00:19	1
Indeno[1,2,3-cd]pyrene	2.0	U	10	0.66	ug/L		11/14/16 11:40	12/03/16 00:19	1
Isophorone	0.51	U	10	0.21	ug/L		11/14/16 11:40	12/03/16 00:19	1
Naphthalene	1.0	U	10	0.29	ug/L		11/14/16 11:40	12/03/16 00:19	1
Nitrobenzene	2.0	U	20	0.82	ug/L		11/14/16 11:40	12/03/16 00:19	1
N-Nitrosodimethylamine	1.0	U	10	0.29	ug/L		11/14/16 11:40	12/03/16 00:19	1
N-Nitrosodi-n-propylamine	1.0	U	20	0.36	ug/L		11/14/16 11:40	12/03/16 00:19	1
N-Nitrosodiphenylamine	1.0	U	10	0.45	ug/L		11/14/16 11:40	12/03/16 00:19	1
N-Nitrosopyrrolidine	2.0	U	10	0.82	ug/L		11/14/16 11:40	12/03/16 00:19	1
Pentachlorophenol	61	U	81	20	ug/L		11/14/16 11:40	12/03/16 00:19	1
Phenanthrene	1.0	U	10	0.26	ug/L		11/14/16 11:40	12/03/16 00:19	1
Phenol	4.5	U	10	2.0	ug/L		11/14/16 11:40	12/03/16 00:19	1
Pyrene	1.0	U	10	0.38	ug/L		11/14/16 11:40	12/03/16 00:19	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*101*		*43 - 140*	*11/14/16 11:40*	*12/03/16 00:19*	*1*
2-Fluorobiphenyl	*81*		*44 - 119*	*11/14/16 11:40*	*12/03/16 00:19*	*1*
2-Fluorophenol (Surr)	*79*		*19 - 119*	*11/14/16 11:40*	*12/03/16 00:19*	*1*
Nitrobenzene-d5 (Surr)	*78*		*44 - 120*	*11/14/16 11:40*	*12/03/16 00:19*	*1*
Phenol-d5 (Surr)	*81*		*10 - 115*	*11/14/16 11:40*	*12/03/16 00:19*	*1*
Terphenyl-d14 (Surr)	*77*		*50 - 134*	*11/14/16 11:40*	*12/03/16 00:19*	*1*

Client Sample Results

Client: Weston Solutions, Inc.
Project/Site: Schenectady ANGB TU008

TestAmerica Job ID: 280-90734-1

Client Sample ID: SC-TU008-MW002-G-2-D

Lab Sample ID: 280-90734-2

Date Collected: 11/07/16 11:07

Matrix: Water

Date Received: 11/09/16 09:50

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

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	1.0	U	5.0	0.29	ug/L			11/16/16 14:51	1
1,1,2,2-Tetrachloroethane	2.0	U	5.0	0.43	ug/L			11/16/16 14:51	1
1,1,2-Trichloro-1,2,2-trifluoroethane	2.0	U	5.0	0.25	ug/L			11/16/16 14:51	1
1,1,2-Trichloroethane	1.0	U	5.0	0.57	ug/L			11/16/16 14:51	1
1,1-Dichloroethane	1.0	U	5.0	0.39	ug/L			11/16/16 14:51	1
1,1-Dichloroethene	1.0	U	5.0	0.37	ug/L			11/16/16 14:51	1
1,2,3-Trichlorobenzene	2.0	U	5.0	0.65	ug/L			11/16/16 14:51	1
1,2,4-Trichlorobenzene	2.0	U	5.0	0.55	ug/L			11/16/16 14:51	1
1,2,4-Trimethylbenzene	2.0	U	5.0	0.40	ug/L			11/16/16 14:51	1
1,2-Dibromo-3-Chloropropane	2.0	U	10	1.2	ug/L			11/16/16 14:51	1
1,2-Dibromoethane	2.0	U	5.0	0.44	ug/L			11/16/16 14:51	1
1,2-Dichlorobenzene	2.0	U	5.0	0.28	ug/L			11/16/16 14:51	1
1,2-Dichloroethane	1.0	U	5.0	0.37	ug/L			11/16/16 14:51	1
1,2-Dichloroethene, Total	2.0	U	10	0.24	ug/L			11/16/16 14:51	1
1,2-Dichloropropane	1.0	U	5.0	0.32	ug/L			11/16/16 14:51	1
1,3,5-Trimethylbenzene	2.0	U	5.0	0.28	ug/L			11/16/16 14:51	1
1,3-Dichlorobenzene	2.0	U	5.0	0.23	ug/L			11/16/16 14:51	1
1,4-Dichlorobenzene	2.0	U	5.0	0.35	ug/L			11/16/16 14:51	1
2-Butanone (MEK)	5.0	U	20	0.39	ug/L			11/16/16 14:51	1
2-Hexanone	2.0	U	20	0.59	ug/L			11/16/16 14:51	1
4-Methyl-2-pentanone (MIBK)	2.0	U	20	0.33	ug/L			11/16/16 14:51	1
Acetone	10	U	20	6.7	ug/L			11/16/16 14:51	1
Benzene	1.0	U	5.0	0.25	ug/L			11/16/16 14:51	1
Bromobenzene	2.0	U	5.0	0.33	ug/L			11/16/16 14:51	1
Bromodichloromethane	2.0	U	5.0	0.25	ug/L			11/16/16 14:51	1
Bromoform	1.0	U	5.0	0.37	ug/L			11/16/16 14:51	1
Bromomethane	2.0	U Q	10	0.40	ug/L			11/16/16 14:51	1
Carbon disulfide	1.0	U	5.0	0.37	ug/L			11/16/16 14:51	1
Carbon tetrachloride	1.0	U	5.0	0.36	ug/L			11/16/16 14:51	1
Chlorobenzene	1.0	U	5.0	0.38	ug/L			11/16/16 14:51	1
Chloroethane	1.0	U Q	10	0.38	ug/L			11/16/16 14:51	1
Chloroform	1.0	U	5.0	0.15	ug/L			11/16/16 14:51	1
Chloromethane	2.0	U	10	0.55	ug/L			11/16/16 14:51	1
cis-1,2-Dichloroethene	1.0	U	5.0	0.16	ug/L			11/16/16 14:51	1
cis-1,3-Dichloropropene	1.0	U	5.0	0.34	ug/L			11/16/16 14:51	1
Cyclohexane	2.0	U	10	0.36	ug/L			11/16/16 14:51	1
Dibromochloromethane	1.0	U	5.0	0.33	ug/L			11/16/16 14:51	1
Dichlorodifluoromethane	2.0	U	10	0.45	ug/L			11/16/16 14:51	1
Ethylbenzene	1.0	U	5.0	0.30	ug/L			11/16/16 14:51	1
Isopropylbenzene	2.0	U	5.0	0.26	ug/L			11/16/16 14:51	1
Methyl acetate	5.0	U	25	2.3	ug/L			11/16/16 14:51	1
Methyl tert-butyl ether	2.0	U	5.0	0.40	ug/L			11/16/16 14:51	1
Methylcyclohexane	2.0	U	10	0.26	ug/L			11/16/16 14:51	1
Methylene Chloride	5.0	U	7.5	1.7	ug/L			11/16/16 14:51	1
m-Xylene & p-Xylene	1.0	U	5.0	0.57	ug/L			11/16/16 14:51	1
Naphthalene	2.0	U	5.0	0.85	ug/L			11/16/16 14:51	1
n-Butylbenzene	2.0	U	5.0	0.23	ug/L			11/16/16 14:51	1
N-Propylbenzene	2.0	U	5.0	0.30	ug/L			11/16/16 14:51	1
o-Xylene	1.0	U	5.0	0.32	ug/L			11/16/16 14:51	1

Client Sample ID: SC-TU008-MW002-G-2-D

Lab Sample ID: 280-90734-2

Date Collected: 11/07/16 11:07
Date Received: 11/09/16 09:50

Matrix: Water

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

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	2.0	U	5.0	0.31	ug/L			11/16/16 14:51	1
Styrene	1.0	U	5.0	0.35	ug/L			11/16/16 14:51	1
tert-Butylbenzene	2.0	U	5.0	0.31	ug/L			11/16/16 14:51	1
Tetrachloroethene	1.0	U	5.0	0.28	ug/L			11/16/16 14:51	1
Toluene	1.0	U	5.0	1.0	ug/L			11/16/16 14:51	1
trans-1,2-Dichloroethene	1.0	U	5.0	0.18	ug/L			11/16/16 14:51	1
trans-1,3-Dichloropropene	1.0	U	5.0	0.35	ug/L			11/16/16 14:51	1
Trichloroethene	1.0	U	5.0	0.29	ug/L			11/16/16 14:51	1
Trichlorofluoromethane	2.0	U Q	5.0	0.22	ug/L			11/16/16 14:51	1
Vinyl chloride	1.0	U Q	5.0	0.43	ug/L			11/16/16 14:51	1
Xylenes, Total	5.0	U	10	0.85	ug/L			11/16/16 14:51	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*90*		*81 - 118*		*11/16/16 14:51*	*1*
4-Bromofluorobenzene (Surr)	*102*		*85 - 114*		*11/16/16 14:51*	*1*
Dibromofluoromethane (Surr)	*99*		*80 - 119*		*11/16/16 14:51*	*1*
Toluene-d8 (Surr)	*105*		*89 - 112*		*11/16/16 14:51*	*1*

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

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4,5-Tetrachlorobenzene	4.4	U	9.9	1.7	ug/L		11/14/16 11:40	12/03/16 00:47	1
1,2,4-Trichlorobenzene	0.99	U	9.9	0.28	ug/L		11/14/16 11:40	12/03/16 00:47	1
1,2-Dichlorobenzene	0.50	U	9.9	0.23	ug/L		11/14/16 11:40	12/03/16 00:47	1
1,2-Diphenylhydrazine	0.50	U	9.9	0.23	ug/L		11/14/16 11:40	12/03/16 00:47	1
1,3-Dichlorobenzene	0.99	U	9.9	0.30	ug/L		11/14/16 11:40	12/03/16 00:47	1
1,4-Dichlorobenzene	0.99	U	9.9	0.32	ug/L		11/14/16 11:40	12/03/16 00:47	1
2,2'-oxybis[1-chloropropane]	0.99	U	9.9	0.28	ug/L		11/14/16 11:40	12/03/16 00:47	1
2,4,5-Trichlorophenol	0.99	U	20	0.45	ug/L		11/14/16 11:40	12/03/16 00:47	1
2,4,6-Trichlorophenol	0.99	U	20	0.29	ug/L		11/14/16 11:40	12/03/16 00:47	1
2,4-Dichlorophenol	2.0	U	9.9	0.64	ug/L		11/14/16 11:40	12/03/16 00:47	1
2,4-Dimethylphenol	2.0	U	9.9	0.58	ug/L		11/14/16 11:40	12/03/16 00:47	1
2,4-Dinitrophenol	30	U	80	9.9	ug/L		11/14/16 11:40	12/03/16 00:47	1
2,4-Dinitrotoluene	4.4	U	20	1.7	ug/L		11/14/16 11:40	12/03/16 00:47	1
2,6-Dichlorophenol	4.0	U	9.9	1.3	ug/L		11/14/16 11:40	12/03/16 00:47	1
2,6-Dinitrotoluene	4.4	U	20	1.9	ug/L		11/14/16 11:40	12/03/16 00:47	1
2-Chloronaphthalene	0.99	U	9.9	0.26	ug/L		11/14/16 11:40	12/03/16 00:47	1
2-Chlorophenol	4.4	U	9.9	2.0	ug/L		11/14/16 11:40	12/03/16 00:47	1
2-Methylnaphthalene	0.99	U	9.9	0.29	ug/L		11/14/16 11:40	12/03/16 00:47	1
2-Methylphenol	2.0	U	9.9	0.97	ug/L		11/14/16 11:40	12/03/16 00:47	1
3 & 4 Methylphenol	0.50	U	20	0.25	ug/L		11/14/16 11:40	12/03/16 00:47	1
3,3'-Dichlorobenzidine	4.4	U	50	2.0	ug/L		11/14/16 11:40	12/03/16 00:47	1
3-Nitroaniline	4.4	U	50	2.0	ug/L		11/14/16 11:40	12/03/16 00:47	1
4,6-Dinitro-2-methylphenol	8.7	U	80	4.0	ug/L		11/14/16 11:40	12/03/16 00:47	1
4-Chloroaniline	4.4	U	25	2.1	ug/L		11/14/16 11:40	12/03/16 00:47	1
4-Chlorophenyl phenyl ether	4.4	U	9.9	1.7	ug/L		11/14/16 11:40	12/03/16 00:47	1
4-Nitroaniline	4.4	U	50	2.0	ug/L		11/14/16 11:40	12/03/16 00:47	1
4-Nitrophenol	4.0	U	50	1.2	ug/L		11/14/16 11:40	12/03/16 00:47	1
Acenaphthene	0.99	U	9.9	0.28	ug/L		11/14/16 11:40	12/03/16 00:47	1
Acenaphthylene	0.99	U	9.9	0.49	ug/L		11/14/16 11:40	12/03/16 00:47	1
Anthracene	0.99	U	9.9	0.42	ug/L		11/14/16 11:40	12/03/16 00:47	1

Client Sample ID: SC-TU008-MW002-G-2-D

Lab Sample ID: 280-90734-2

Date Collected: 11/07/16 11:07
Date Received: 11/09/16 09:50

Matrix: Water

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

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Benzidine	99	U Q	200	50	ug/L		11/14/16 11:40	12/03/16 00:47	1
Benzo[a]anthracene	0.99	U	9.9	0.35	ug/L		11/14/16 11:40	12/03/16 00:47	1
Benzo[a]pyrene	0.99	U	9.9	0.31	ug/L		11/14/16 11:40	12/03/16 00:47	1
Benzo[b]fluoranthene	2.0	U	9.9	0.53	ug/L		11/14/16 11:40	12/03/16 00:47	1
Benzo[g,h,i]perylene	0.99	U	9.9	0.50	ug/L		11/14/16 11:40	12/03/16 00:47	1
Benzo[k]fluoranthene	0.99	U	9.9	0.46	ug/L		11/14/16 11:40	12/03/16 00:47	1
Benzoic acid	30	U	80	9.9	ug/L		11/14/16 11:40	12/03/16 00:47	1
Benzyl alcohol	0.50	U	25	0.23	ug/L		11/14/16 11:40	12/03/16 00:47	1
Bis(2-chloroethoxy)methane	2.0	U	9.9	0.96	ug/L		11/14/16 11:40	12/03/16 00:47	1
Bis(2-chloroethyl)ether	0.99	U	20	0.41	ug/L		11/14/16 11:40	12/03/16 00:47	1
Bis(2-ethylhexyl) phthalate	2.0	U	9.9	0.56	ug/L		11/14/16 11:40	12/03/16 00:47	1
Butyl benzyl phthalate	2.0	U	20	0.99	ug/L		11/14/16 11:40	12/03/16 00:47	1
Carbazole	0.99	U	9.9	0.43	ug/L		11/14/16 11:40	12/03/16 00:47	1
Chrysene	2.0	U	9.9	0.54	ug/L		11/14/16 11:40	12/03/16 00:47	1
Dibenz(a,h)anthracene	2.0	U	9.9	0.51	ug/L		11/14/16 11:40	12/03/16 00:47	1
Dibenzofuran	0.99	U	9.9	0.29	ug/L		11/14/16 11:40	12/03/16 00:47	1
Diethyl phthalate	0.99	U	20	0.38	ug/L		11/14/16 11:40	12/03/16 00:47	1
Dimethyl phthalate	0.50	U	20	0.21	ug/L		11/14/16 11:40	12/03/16 00:47	1
Di-n-butyl phthalate	4.4	U	20	1.2	ug/L		11/14/16 11:40	12/03/16 00:47	1
Di-n-octyl phthalate	0.99	U	20	0.35	ug/L		11/14/16 11:40	12/03/16 00:47	1
Fluoranthene	0.50	U	20	0.20	ug/L		11/14/16 11:40	12/03/16 00:47	1
Fluorene	0.99	U	9.9	0.31	ug/L		11/14/16 11:40	12/03/16 00:47	1
Hexachlorobenzene	2.0	U	9.9	0.66	ug/L		11/14/16 11:40	12/03/16 00:47	1
Hexachlorobutadiene	9.9	U	30	3.3	ug/L		11/14/16 11:40	12/03/16 00:47	1
Hexachlorocyclopentadiene	30	U	50	9.9	ug/L		11/14/16 11:40	12/03/16 00:47	1
Hexachloroethane	4.4	U	9.9	2.1	ug/L		11/14/16 11:40	12/03/16 00:47	1
Indeno[1,2,3-cd]pyrene	2.0	U	9.9	0.65	ug/L		11/14/16 11:40	12/03/16 00:47	1
Isophorone	0.50	U	9.9	0.21	ug/L		11/14/16 11:40	12/03/16 00:47	1
Naphthalene	0.99	U	9.9	0.29	ug/L		11/14/16 11:40	12/03/16 00:47	1
Nitrobenzene	2.0	U	20	0.81	ug/L		11/14/16 11:40	12/03/16 00:47	1
N-Nitrosodimethylamine	0.99	U	9.9	0.29	ug/L		11/14/16 11:40	12/03/16 00:47	1
N-Nitrosodi-n-propylamine	0.99	U	20	0.35	ug/L		11/14/16 11:40	12/03/16 00:47	1
N-Nitrosodiphenylamine	0.99	U	9.9	0.44	ug/L		11/14/16 11:40	12/03/16 00:47	1
N-Nitrosopyrrolidine	2.0	U	9.9	0.80	ug/L		11/14/16 11:40	12/03/16 00:47	1
Pentachlorophenol	60	U	80	20	ug/L		11/14/16 11:40	12/03/16 00:47	1
Phenanthrene	0.99	U	9.9	0.26	ug/L		11/14/16 11:40	12/03/16 00:47	1
Phenol	4.4	U	9.9	2.0	ug/L		11/14/16 11:40	12/03/16 00:47	1
Pyrene	0.99	U	9.9	0.37	ug/L		11/14/16 11:40	12/03/16 00:47	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*104*		*43 - 140*	*11/14/16 11:40*	*12/03/16 00:47*	*1*
2-Fluorobiphenyl	*75*		*44 - 119*	*11/14/16 11:40*	*12/03/16 00:47*	*1*
2-Fluorophenol (Surr)	*72*		*19 - 119*	*11/14/16 11:40*	*12/03/16 00:47*	*1*
Nitrobenzene-d5 (Surr)	*71*		*44 - 120*	*11/14/16 11:40*	*12/03/16 00:47*	*1*
Phenol-d5 (Surr)	*74*		*10 - 115*	*11/14/16 11:40*	*12/03/16 00:47*	*1*
Terphenyl-d14 (Surr)	*88*		*50 - 134*	*11/14/16 11:40*	*12/03/16 00:47*	*1*

Client Sample ID: SC-TU008-TB110716

Lab Sample ID: 280-90734-3

Date Collected: 11/07/16 11:10

Matrix: Water

Date Received: 11/09/16 09:50

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

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	1.0	U	5.0	0.29	ug/L			11/16/16 15:16	1
1,1,2,2-Tetrachloroethane	2.0	U	5.0	0.43	ug/L			11/16/16 15:16	1
1,1,2-Trichloro-1,2,2-trifluoroethane	2.0	U	5.0	0.25	ug/L			11/16/16 15:16	1
1,1,2-Trichloroethane	1.0	U	5.0	0.57	ug/L			11/16/16 15:16	1
1,1-Dichloroethane	1.0	U	5.0	0.39	ug/L			11/16/16 15:16	1
1,1-Dichloroethene	1.0	U	5.0	0.37	ug/L			11/16/16 15:16	1
1,2,3-Trichlorobenzene	2.0	U	5.0	0.65	ug/L			11/16/16 15:16	1
1,2,4-Trichlorobenzene	2.0	U	5.0	0.55	ug/L			11/16/16 15:16	1
1,2,4-Trimethylbenzene	2.0	U	5.0	0.40	ug/L			11/16/16 15:16	1
1,2-Dibromo-3-Chloropropane	2.0	U	10	1.2	ug/L			11/16/16 15:16	1
1,2-Dibromoethane	2.0	U	5.0	0.44	ug/L			11/16/16 15:16	1
1,2-Dichlorobenzene	2.0	U	5.0	0.28	ug/L			11/16/16 15:16	1
1,2-Dichloroethane	1.0	U	5.0	0.37	ug/L			11/16/16 15:16	1
1,2-Dichloroethene, Total	2.0	U	10	0.24	ug/L			11/16/16 15:16	1
1,2-Dichloropropane	1.0	U	5.0	0.32	ug/L			11/16/16 15:16	1
1,3,5-Trimethylbenzene	2.0	U	5.0	0.28	ug/L			11/16/16 15:16	1
1,3-Dichlorobenzene	2.0	U	5.0	0.23	ug/L			11/16/16 15:16	1
1,4-Dichlorobenzene	2.0	U	5.0	0.35	ug/L			11/16/16 15:16	1
2-Butanone (MEK)	5.0	U	20	0.39	ug/L			11/16/16 15:16	1
2-Hexanone	2.0	U	20	0.59	ug/L			11/16/16 15:16	1
4-Methyl-2-pentanone (MIBK)	2.0	U	20	0.33	ug/L			11/16/16 15:16	1
Acetone	10	U	20	6.7	ug/L			11/16/16 15:16	1
Benzene	1.0	U	5.0	0.25	ug/L			11/16/16 15:16	1
Bromobenzene	2.0	U	5.0	0.33	ug/L			11/16/16 15:16	1
Bromodichloromethane	2.0	U	5.0	0.25	ug/L			11/16/16 15:16	1
Bromoform	1.0	U	5.0	0.37	ug/L			11/16/16 15:16	1
Bromomethane	2.0	U Q	10	0.40	ug/L			11/16/16 15:16	1
Carbon disulfide	1.0	U	5.0	0.37	ug/L			11/16/16 15:16	1
Carbon tetrachloride	1.0	U	5.0	0.36	ug/L			11/16/16 15:16	1
Chlorobenzene	1.0	U	5.0	0.38	ug/L			11/16/16 15:16	1
Chloroethane	1.0	U Q	10	0.38	ug/L			11/16/16 15:16	1
Chloroform	1.0	U	5.0	0.15	ug/L			11/16/16 15:16	1
Chloromethane	2.0	U	10	0.55	ug/L			11/16/16 15:16	1
cis-1,2-Dichloroethene	1.0	U	5.0	0.16	ug/L			11/16/16 15:16	1
cis-1,3-Dichloropropene	1.0	U	5.0	0.34	ug/L			11/16/16 15:16	1
Cyclohexane	2.0	U	10	0.36	ug/L			11/16/16 15:16	1
Dibromochloromethane	1.0	U	5.0	0.33	ug/L			11/16/16 15:16	1
Dichlorodifluoromethane	2.0	U	10	0.45	ug/L			11/16/16 15:16	1
Ethylbenzene	1.0	U	5.0	0.30	ug/L			11/16/16 15:16	1
Isopropylbenzene	2.0	U	5.0	0.26	ug/L			11/16/16 15:16	1
Methyl acetate	5.0	U	25	2.3	ug/L			11/16/16 15:16	1
Methyl tert-butyl ether	2.0	U	5.0	0.40	ug/L			11/16/16 15:16	1
Methylcyclohexane	2.0	U	10	0.26	ug/L			11/16/16 15:16	1
Methylene Chloride	5.0	U	7.5	1.7	ug/L			11/16/16 15:16	1
m-Xylene & p-Xylene	1.0	U	5.0	0.57	ug/L			11/16/16 15:16	1
Naphthalene	2.0	U	5.0	0.85	ug/L			11/16/16 15:16	1
n-Butylbenzene	2.0	U	5.0	0.23	ug/L			11/16/16 15:16	1
N-Propylbenzene	2.0	U	5.0	0.30	ug/L			11/16/16 15:16	1
o-Xylene	1.0	U	5.0	0.32	ug/L			11/16/16 15:16	1

Client Sample ID: SC-TU008-TB110716

Lab Sample ID: 280-90734-3

Date Collected: 11/07/16 11:10

Matrix: Water

Date Received: 11/09/16 09:50

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

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	2.0	U	5.0	0.31	ug/L			11/16/16 15:16	1
Styrene	1.0	U	5.0	0.35	ug/L			11/16/16 15:16	1
tert-Butylbenzene	2.0	U	5.0	0.31	ug/L			11/16/16 15:16	1
Tetrachloroethene	1.0	U	5.0	0.28	ug/L			11/16/16 15:16	1
Toluene	1.0	U	5.0	1.0	ug/L			11/16/16 15:16	1
trans-1,2-Dichloroethene	1.0	U	5.0	0.18	ug/L			11/16/16 15:16	1
trans-1,3-Dichloropropene	1.0	U	5.0	0.35	ug/L			11/16/16 15:16	1
Trichloroethene	1.0	U	5.0	0.29	ug/L			11/16/16 15:16	1
Trichlorofluoromethane	2.0	U Q	5.0	0.22	ug/L			11/16/16 15:16	1
Vinyl chloride	1.0	U Q	5.0	0.43	ug/L			11/16/16 15:16	1
Xylenes, Total	5.0	U	10	0.85	ug/L			11/16/16 15:16	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*94*		*81 - 118*		*11/16/16 15:16*	*1*
4-Bromofluorobenzene (Surr)	*107*		*85 - 114*		*11/16/16 15:16*	*1*
Dibromofluoromethane (Surr)	*103*		*80 - 119*		*11/16/16 15:16*	*1*
Toluene-d8 (Surr)	*107*		*89 - 112*		*11/16/16 15:16*	*1*

Client Sample ID: SC-TU008-MW004-G-2

Lab Sample ID: 280-90734-4

Date Collected: 11/07/16 13:10

Matrix: Water

Date Received: 11/09/16 09:50

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

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	1.0	U	5.0	0.29	ug/L			11/16/16 15:41	1
1,1,2,2-Tetrachloroethane	2.0	U	5.0	0.43	ug/L			11/16/16 15:41	1
1,1,2-Trichloro-1,2,2-trifluoroethane	2.0	U	5.0	0.25	ug/L			11/16/16 15:41	1
1,1,2-Trichloroethane	1.0	U	5.0	0.57	ug/L			11/16/16 15:41	1
1,1-Dichloroethane	1.0	U	5.0	0.39	ug/L			11/16/16 15:41	1
1,1-Dichloroethene	1.0	U	5.0	0.37	ug/L			11/16/16 15:41	1
1,2,3-Trichlorobenzene	2.0	U	5.0	0.65	ug/L			11/16/16 15:41	1
1,2,4-Trichlorobenzene	2.0	U	5.0	0.55	ug/L			11/16/16 15:41	1
1,2,4-Trimethylbenzene	2.0	U	5.0	0.40	ug/L			11/16/16 15:41	1
1,2-Dibromo-3-Chloropropane	2.0	U	10	1.2	ug/L			11/16/16 15:41	1
1,2-Dibromoethane	2.0	U	5.0	0.44	ug/L			11/16/16 15:41	1
1,2-Dichlorobenzene	2.0	U	5.0	0.28	ug/L			11/16/16 15:41	1
1,2-Dichloroethane	1.0	U	5.0	0.37	ug/L			11/16/16 15:41	1
1,2-Dichloroethene, Total	2.0	U	10	0.24	ug/L			11/16/16 15:41	1
1,2-Dichloropropane	1.0	U	5.0	0.32	ug/L			11/16/16 15:41	1
1,3,5-Trimethylbenzene	2.0	U	5.0	0.28	ug/L			11/16/16 15:41	1
1,3-Dichlorobenzene	2.0	U	5.0	0.23	ug/L			11/16/16 15:41	1
1,4-Dichlorobenzene	2.0	U	5.0	0.35	ug/L			11/16/16 15:41	1
2-Butanone (MEK)	5.0	U	20	0.39	ug/L			11/16/16 15:41	1
2-Hexanone	2.0	U	20	0.59	ug/L			11/16/16 15:41	1
4-Methyl-2-pentanone (MIBK)	2.0	U	20	0.33	ug/L			11/16/16 15:41	1
Acetone	10	U	20	6.7	ug/L			11/16/16 15:41	1
Benzene	1.0	U	5.0	0.25	ug/L			11/16/16 15:41	1
Bromobenzene	2.0	U	5.0	0.33	ug/L			11/16/16 15:41	1
Bromodichloromethane	2.0	U	5.0	0.25	ug/L			11/16/16 15:41	1
Bromoform	1.0	U	5.0	0.37	ug/L			11/16/16 15:41	1

Client Sample ID: SC-TU008-MW004-G-2

Lab Sample ID: 280-90734-4

Date Collected: 11/07/16 13:10

Matrix: Water

Date Received: 11/09/16 09:50

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

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Bromomethane	2.0	U Q	10	0.40	ug/L			11/16/16 15:41	1
Carbon disulfide	1.0	U	5.0	0.37	ug/L			11/16/16 15:41	1
Carbon tetrachloride	1.0	U	5.0	0.36	ug/L			11/16/16 15:41	1
Chlorobenzene	1.0	U	5.0	0.38	ug/L			11/16/16 15:41	1
Chloroethane	1.0	U Q	10	0.38	ug/L			11/16/16 15:41	1
Chloroform	1.0	U	5.0	0.15	ug/L			11/16/16 15:41	1
Chloromethane	2.0	U	10	0.55	ug/L			11/16/16 15:41	1
cis-1,2-Dichloroethene	1.0	U	5.0	0.16	ug/L			11/16/16 15:41	1
cis-1,3-Dichloropropene	1.0	U	5.0	0.34	ug/L			11/16/16 15:41	1
Cyclohexane	2.0	U	10	0.36	ug/L			11/16/16 15:41	1
Dibromochloromethane	1.0	U	5.0	0.33	ug/L			11/16/16 15:41	1
Dichlorodifluoromethane	2.0	U	10	0.45	ug/L			11/16/16 15:41	1
Ethylbenzene	1.0	U	5.0	0.30	ug/L			11/16/16 15:41	1
Isopropylbenzene	2.0	U	5.0	0.26	ug/L			11/16/16 15:41	1
Methyl acetate	5.0	U	25	2.3	ug/L			11/16/16 15:41	1
Methyl tert-butyl ether	2.0	U	5.0	0.40	ug/L			11/16/16 15:41	1
Methylcyclohexane	2.0	U	10	0.26	ug/L			11/16/16 15:41	1
Methylene Chloride	5.0	U	7.5	1.7	ug/L			11/16/16 15:41	1
m-Xylene & p-Xylene	1.0	U	5.0	0.57	ug/L			11/16/16 15:41	1
Naphthalene	2.0	U	5.0	0.85	ug/L			11/16/16 15:41	1
n-Butylbenzene	2.0	U	5.0	0.23	ug/L			11/16/16 15:41	1
N-Propylbenzene	2.0	U	5.0	0.30	ug/L			11/16/16 15:41	1
o-Xylene	1.0	U	5.0	0.32	ug/L			11/16/16 15:41	1
sec-Butylbenzene	2.0	U	5.0	0.31	ug/L			11/16/16 15:41	1
Styrene	1.0	U	5.0	0.35	ug/L			11/16/16 15:41	1
tert-Butylbenzene	2.0	U	5.0	0.31	ug/L			11/16/16 15:41	1
Tetrachloroethene	1.0	U	5.0	0.28	ug/L			11/16/16 15:41	1
Toluene	1.0	U	5.0	1.0	ug/L			11/16/16 15:41	1
trans-1,2-Dichloroethene	1.0	U	5.0	0.18	ug/L			11/16/16 15:41	1
trans-1,3-Dichloropropene	1.0	U	5.0	0.35	ug/L			11/16/16 15:41	1
Trichloroethene	1.0	U	5.0	0.29	ug/L			11/16/16 15:41	1
Trichlorofluoromethane	2.0	U Q	5.0	0.22	ug/L			11/16/16 15:41	1
Vinyl chloride	1.0	U Q	5.0	0.43	ug/L			11/16/16 15:41	1
Xylenes, Total	5.0	U	10	0.85	ug/L			11/16/16 15:41	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*94*		*81 - 118*		*11/16/16 15:41*	*1*
4-Bromofluorobenzene (Surr)	*107*		*85 - 114*		*11/16/16 15:41*	*1*
Dibromofluoromethane (Surr)	*102*		*80 - 119*		*11/16/16 15:41*	*1*
Toluene-d8 (Surr)	*106*		*89 - 112*		*11/16/16 15:41*	*1*

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

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4,5-Tetrachlorobenzene	4.4	U	9.9	1.7	ug/L		11/14/16 11:40	12/03/16 01:16	1
1,2,4-Trichlorobenzene	0.99	U	9.9	0.28	ug/L		11/14/16 11:40	12/03/16 01:16	1
1,2-Dichlorobenzene	0.50	U	9.9	0.23	ug/L		11/14/16 11:40	12/03/16 01:16	1
1,2-Diphenylhydrazine	0.50	U	9.9	0.23	ug/L		11/14/16 11:40	12/03/16 01:16	1
1,3-Dichlorobenzene	0.99	U	9.9	0.30	ug/L		11/14/16 11:40	12/03/16 01:16	1
1,4-Dichlorobenzene	0.99	U	9.9	0.32	ug/L		11/14/16 11:40	12/03/16 01:16	1
2,2'-oxybis[1-chloropropane]	0.99	U	9.9	0.28	ug/L		11/14/16 11:40	12/03/16 01:16	1

Client Sample ID: SC-TU008-MW004-G-2

Lab Sample ID: 280-90734-4

Date Collected: 11/07/16 13:10
Date Received: 11/09/16 09:50

Matrix: Water

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

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,5-Trichlorophenol	0.99	U	20	0.45	ug/L		11/14/16 11:40	12/03/16 01:16	1
2,4,6-Trichlorophenol	0.99	U	20	0.29	ug/L		11/14/16 11:40	12/03/16 01:16	1
2,4-Dichlorophenol	2.0	U	9.9	0.63	ug/L		11/14/16 11:40	12/03/16 01:16	1
2,4-Dimethylphenol	2.0	U	9.9	0.57	ug/L		11/14/16 11:40	12/03/16 01:16	1
2,4-Dinitrophenol	30	U	79	9.9	ug/L		11/14/16 11:40	12/03/16 01:16	1
2,4-Dinitrotoluene	4.4	U	20	1.6	ug/L		11/14/16 11:40	12/03/16 01:16	1
2,6-Dichlorophenol	4.0	U	9.9	1.3	ug/L		11/14/16 11:40	12/03/16 01:16	1
2,6-Dinitrotoluene	4.4	U	20	1.9	ug/L		11/14/16 11:40	12/03/16 01:16	1
2-Chloronaphthalene	0.99	U	9.9	0.26	ug/L		11/14/16 11:40	12/03/16 01:16	1
2-Chlorophenol	4.4	U	9.9	2.0	ug/L		11/14/16 11:40	12/03/16 01:16	1
2-Methylnaphthalene	0.99	U	9.9	0.29	ug/L		11/14/16 11:40	12/03/16 01:16	1
2-Methylphenol	2.0	U	9.9	0.97	ug/L		11/14/16 11:40	12/03/16 01:16	1
3 & 4 Methylphenol	0.50	U	20	0.25	ug/L		11/14/16 11:40	12/03/16 01:16	1
3,3'-Dichlorobenzidine	4.4	U	50	2.0	ug/L		11/14/16 11:40	12/03/16 01:16	1
3-Nitroaniline	4.4	U	50	2.0	ug/L		11/14/16 11:40	12/03/16 01:16	1
4,6-Dinitro-2-methylphenol	8.7	U	79	4.0	ug/L		11/14/16 11:40	12/03/16 01:16	1
4-Chloroaniline	4.4	U	25	2.1	ug/L		11/14/16 11:40	12/03/16 01:16	1
4-Chlorophenyl phenyl ether	4.4	U	9.9	1.6	ug/L		11/14/16 11:40	12/03/16 01:16	1
4-Nitroaniline	4.4	U	50	2.0	ug/L		11/14/16 11:40	12/03/16 01:16	1
4-Nitrophenol	4.0	U	50	1.2	ug/L		11/14/16 11:40	12/03/16 01:16	1
Acenaphthene	0.99	U	9.9	0.28	ug/L		11/14/16 11:40	12/03/16 01:16	1
Acenaphthylene	0.99	U	9.9	0.49	ug/L		11/14/16 11:40	12/03/16 01:16	1
Anthracene	0.99	U	9.9	0.42	ug/L		11/14/16 11:40	12/03/16 01:16	1
Benzidine	99	U Q	200	50	ug/L		11/14/16 11:40	12/03/16 01:16	1
Benzo[a]anthracene	0.99	U	9.9	0.35	ug/L		11/14/16 11:40	12/03/16 01:16	1
Benzo[a]pyrene	0.99	U	9.9	0.31	ug/L		11/14/16 11:40	12/03/16 01:16	1
Benzo[b]fluoranthene	2.0	U	9.9	0.53	ug/L		11/14/16 11:40	12/03/16 01:16	1
Benzo[g,h,i]perylene	0.99	U	9.9	0.50	ug/L		11/14/16 11:40	12/03/16 01:16	1
Benzo[k]fluoranthene	0.99	U	9.9	0.46	ug/L		11/14/16 11:40	12/03/16 01:16	1
Benzoic acid	30	U	79	9.9	ug/L		11/14/16 11:40	12/03/16 01:16	1
Benzyl alcohol	0.50	U	25	0.23	ug/L		11/14/16 11:40	12/03/16 01:16	1
Bis(2-chloroethoxy)methane	2.0	U	9.9	0.96	ug/L		11/14/16 11:40	12/03/16 01:16	1
Bis(2-chloroethyl)ether	0.99	U	20	0.41	ug/L		11/14/16 11:40	12/03/16 01:16	1
Bis(2-ethylhexyl) phthalate	2.0	U	9.9	0.56	ug/L		11/14/16 11:40	12/03/16 01:16	1
Butyl benzyl phthalate	2.0	U	20	0.99	ug/L		11/14/16 11:40	12/03/16 01:16	1
Carbazole	0.99	U	9.9	0.43	ug/L		11/14/16 11:40	12/03/16 01:16	1
Chrysene	2.0	U	9.9	0.54	ug/L		11/14/16 11:40	12/03/16 01:16	1
Dibenz(a,h)anthracene	2.0	U	9.9	0.51	ug/L		11/14/16 11:40	12/03/16 01:16	1
Dibenzofuran	0.99	U	9.9	0.29	ug/L		11/14/16 11:40	12/03/16 01:16	1
Diethyl phthalate	0.99	U	20	0.38	ug/L		11/14/16 11:40	12/03/16 01:16	1
Dimethyl phthalate	0.50	U	20	0.21	ug/L		11/14/16 11:40	12/03/16 01:16	1
Di-n-butyl phthalate	4.4	U	20	1.1	ug/L		11/14/16 11:40	12/03/16 01:16	1
Di-n-octyl phthalate	0.99	U	20	0.35	ug/L		11/14/16 11:40	12/03/16 01:16	1
Fluoranthene	0.50	U	20	0.20	ug/L		11/14/16 11:40	12/03/16 01:16	1
Fluorene	0.99	U	9.9	0.31	ug/L		11/14/16 11:40	12/03/16 01:16	1
Hexachlorobenzene	2.0	U	9.9	0.65	ug/L		11/14/16 11:40	12/03/16 01:16	1
Hexachlorobutadiene	9.9	U	30	3.3	ug/L		11/14/16 11:40	12/03/16 01:16	1
Hexachlorocyclopentadiene	30	U	50	9.9	ug/L		11/14/16 11:40	12/03/16 01:16	1
Hexachloroethane	4.4	U	9.9	2.1	ug/L		11/14/16 11:40	12/03/16 01:16	1

Client Sample ID: SC-TU008-MW004-G-2

Lab Sample ID: 280-90734-4

Date Collected: 11/07/16 13:10

Matrix: Water

Date Received: 11/09/16 09:50

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

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Indeno[1,2,3-cd]pyrene	2.0	U	9.9	0.64	ug/L		11/14/16 11:40	12/03/16 01:16	1
Isophorone	0.50	U	9.9	0.21	ug/L		11/14/16 11:40	12/03/16 01:16	1
Naphthalene	0.99	U	9.9	0.29	ug/L		11/14/16 11:40	12/03/16 01:16	1
Nitrobenzene	2.0	U	20	0.80	ug/L		11/14/16 11:40	12/03/16 01:16	1
N-Nitrosodimethylamine	0.99	U	9.9	0.29	ug/L		11/14/16 11:40	12/03/16 01:16	1
N-Nitrosodi-n-propylamine	0.99	U	20	0.35	ug/L		11/14/16 11:40	12/03/16 01:16	1
N-Nitrosodiphenylamine	0.99	U	9.9	0.44	ug/L		11/14/16 11:40	12/03/16 01:16	1
N-Nitrosopyrrolidine	2.0	U	9.9	0.80	ug/L		11/14/16 11:40	12/03/16 01:16	1
Pentachlorophenol	59	U	79	20	ug/L		11/14/16 11:40	12/03/16 01:16	1
Phenanthrene	0.99	U	9.9	0.26	ug/L		11/14/16 11:40	12/03/16 01:16	1
Phenol	4.4	U	9.9	2.0	ug/L		11/14/16 11:40	12/03/16 01:16	1
Pyrene	0.99	U	9.9	0.37	ug/L		11/14/16 11:40	12/03/16 01:16	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*92*		*43 - 140*	*11/14/16 11:40*	*12/03/16 01:16*	*1*
2-Fluorobiphenyl	*73*		*44 - 119*	*11/14/16 11:40*	*12/03/16 01:16*	*1*
2-Fluorophenol (Surr)	*75*		*19 - 119*	*11/14/16 11:40*	*12/03/16 01:16*	*1*
Nitrobenzene-d5 (Surr)	*72*		*44 - 120*	*11/14/16 11:40*	*12/03/16 01:16*	*1*
Phenol-d5 (Surr)	*73*		*10 - 115*	*11/14/16 11:40*	*12/03/16 01:16*	*1*
Terphenyl-d14 (Surr)	*90*		*50 - 134*	*11/14/16 11:40*	*12/03/16 01:16*	*1*

Client Sample ID: SC-TU008-MW001-G-2

Lab Sample ID: 280-90734-5

Date Collected: 11/07/16 14:10

Matrix: Water

Date Received: 11/09/16 09:50

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

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	1.0	U	5.0	0.29	ug/L			11/16/16 12:20	1
1,1,2,2-Tetrachloroethane	2.0	U	5.0	0.43	ug/L			11/16/16 12:20	1
1,1,2-Trichloro-1,2,2-trifluoroethane	2.0	U	5.0	0.25	ug/L			11/16/16 12:20	1
1,1,2-Trichloroethane	1.0	U	5.0	0.57	ug/L			11/16/16 12:20	1
1,1-Dichloroethane	1.0	U	5.0	0.39	ug/L			11/16/16 12:20	1
1,1-Dichloroethene	1.0	U	5.0	0.37	ug/L			11/16/16 12:20	1
1,2,3-Trichlorobenzene	2.0	U J	5.0	0.65	ug/L			11/16/16 12:20	1
1,2,4-Trichlorobenzene	2.0	U	5.0	0.55	ug/L			11/16/16 12:20	1
1,2,4-Trimethylbenzene	2.0	U	5.0	0.40	ug/L			11/16/16 12:20	1
1,2-Dibromo-3-Chloropropane	2.0	U	10	1.2	ug/L			11/16/16 12:20	1
1,2-Dibromoethane	2.0	U	5.0	0.44	ug/L			11/16/16 12:20	1
1,2-Dichlorobenzene	2.0	U	5.0	0.28	ug/L			11/16/16 12:20	1
1,2-Dichloroethane	1.0	U	5.0	0.37	ug/L			11/16/16 12:20	1
1,2-Dichloroethene, Total	2.0	U	10	0.24	ug/L			11/16/16 12:20	1
1,2-Dichloropropane	1.0	U	5.0	0.32	ug/L			11/16/16 12:20	1
1,3,5-Trimethylbenzene	2.0	U	5.0	0.28	ug/L			11/16/16 12:20	1
1,3-Dichlorobenzene	2.0	U	5.0	0.23	ug/L			11/16/16 12:20	1
1,4-Dichlorobenzene	2.0	U	5.0	0.35	ug/L			11/16/16 12:20	1
2-Butanone (MEK)	5.0	U	20	0.39	ug/L			11/16/16 12:20	1
2-Hexanone	2.0	U	20	0.59	ug/L			11/16/16 12:20	1
4-Methyl-2-pentanone (MIBK)	2.0	U	20	0.33	ug/L			11/16/16 12:20	1
Acetone	10	U	20	6.7	ug/L			11/16/16 12:20	1
Benzene	1.0	U	5.0	0.25	ug/L			11/16/16 12:20	1

Client Sample ID: SC-TU008-MW001-G-2

Lab Sample ID: 280-90734-5

Date Collected: 11/07/16 14:10

Matrix: Water

Date Received: 11/09/16 09:50

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

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Bromobenzene	2.0	U	5.0	0.33	ug/L			11/16/16 12:20	1
Bromodichloromethane	2.0	U	5.0	0.25	ug/L			11/16/16 12:20	1
Bromoform	1.0	U	5.0	0.37	ug/L			11/16/16 12:20	1
Bromomethane	2.0	U Q	10	0.40	ug/L			11/16/16 12:20	1
Carbon disulfide	1.0	U	5.0	0.37	ug/L			11/16/16 12:20	1
Carbon tetrachloride	1.0	U	5.0	0.36	ug/L			11/16/16 12:20	1
Chlorobenzene	1.0	U	5.0	0.38	ug/L			11/16/16 12:20	1
Chloroethane	1.0	U Q J	10	0.38	ug/L			11/16/16 12:20	1
Chloroform	1.0	U	5.0	0.15	ug/L			11/16/16 12:20	1
Chloromethane	2.0	U	10	0.55	ug/L			11/16/16 12:20	1
cis-1,2-Dichloroethene	1.0	U	5.0	0.16	ug/L			11/16/16 12:20	1
cis-1,3-Dichloropropene	1.0	U	5.0	0.34	ug/L			11/16/16 12:20	1
Cyclohexane	2.0	U	10	0.36	ug/L			11/16/16 12:20	1
Dibromochloromethane	1.0	U	5.0	0.33	ug/L			11/16/16 12:20	1
Dichlorodifluoromethane	2.0	U	10	0.45	ug/L			11/16/16 12:20	1
Ethylbenzene	1.0	U	5.0	0.30	ug/L			11/16/16 12:20	1
Isopropylbenzene	2.0	U	5.0	0.26	ug/L			11/16/16 12:20	1
Methyl acetate	5.0	U	25	2.3	ug/L			11/16/16 12:20	1
Methyl tert-butyl ether	2.0	U	5.0	0.40	ug/L			11/16/16 12:20	1
Methylcyclohexane	2.0	U	10	0.26	ug/L			11/16/16 12:20	1
Methylene Chloride	5.0	U	7.5	1.7	ug/L			11/16/16 12:20	1
m-Xylene & p-Xylene	1.0	U	5.0	0.57	ug/L			11/16/16 12:20	1
Naphthalene	2.0	U	5.0	0.85	ug/L			11/16/16 12:20	1
n-Butylbenzene	2.0	U	5.0	0.23	ug/L			11/16/16 12:20	1
N-Propylbenzene	2.0	U	5.0	0.30	ug/L			11/16/16 12:20	1
o-Xylene	1.0	U	5.0	0.32	ug/L			11/16/16 12:20	1
sec-Butylbenzene	2.0	U	5.0	0.31	ug/L			11/16/16 12:20	1
Styrene	1.0	U	5.0	0.35	ug/L			11/16/16 12:20	1
tert-Butylbenzene	2.0	U	5.0	0.31	ug/L			11/16/16 12:20	1
Tetrachloroethene	1.0	U	5.0	0.28	ug/L			11/16/16 12:20	1
Toluene	1.0	U	5.0	1.0	ug/L			11/16/16 12:20	1
trans-1,2-Dichloroethene	1.0	U	5.0	0.18	ug/L			11/16/16 12:20	1
trans-1,3-Dichloropropene	1.0	U	5.0	0.35	ug/L			11/16/16 12:20	1
Trichloroethene	1.0	U	5.0	0.29	ug/L			11/16/16 12:20	1
Trichlorofluoromethane	2.0	U Q	5.0	0.22	ug/L			11/16/16 12:20	1
Vinyl chloride	1.0	U Q	5.0	0.43	ug/L			11/16/16 12:20	1
Xylenes, Total	5.0	U	10	0.85	ug/L			11/16/16 12:20	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*88*		*81 - 118*		*11/16/16 12:20*	*1*
4-Bromofluorobenzene (Surr)	*108*		*85 - 114*		*11/16/16 12:20*	*1*
Dibromofluoromethane (Surr)	*98*		*80 - 119*		*11/16/16 12:20*	*1*
Toluene-d8 (Surr)	*108*		*89 - 112*		*11/16/16 12:20*	*1*

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

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4,5-Tetrachlorobenzene	4.4	U	10	1.7	ug/L		11/14/16 11:40	12/03/16 01:44	1
1,2,4-Trichlorobenzene	1.0	U	10	0.28	ug/L		11/14/16 11:40	12/03/16 01:44	1
1,2-Dichlorobenzene	0.50	U	10	0.23	ug/L		11/14/16 11:40	12/03/16 01:44	1
1,2-Diphenylhydrazine	0.51	U	10	0.23	ug/L		11/14/16 11:40	12/03/16 01:44	1

Client Sample ID: SC-TU008-MW001-G-2

Lab Sample ID: 280-90734-5

Date Collected: 11/07/16 14:10

Matrix: Water

Date Received: 11/09/16 09:50

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

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1,3-Dichlorobenzene	1.0	U	10	0.30	ug/L		11/14/16 11:40	12/03/16 01:44	1
1,4-Dichlorobenzene	1.0	U	10	0.32	ug/L		11/14/16 11:40	12/03/16 01:44	1
2,2'-oxybis[1-chloropropane]	1.0	U	10	0.28	ug/L		11/14/16 11:40	12/03/16 01:44	1
2,4,5-Trichlorophenol	1.0	U	20	0.45	ug/L		11/14/16 11:40	12/03/16 01:44	1
2,4,6-Trichlorophenol	1.0	U	20	0.29	ug/L		11/14/16 11:40	12/03/16 01:44	1
2,4-Dichlorophenol	2.0	U	10	0.64	ug/L		11/14/16 11:40	12/03/16 01:44	1
2,4-Dimethylphenol	2.0	U	10	0.58	ug/L		11/14/16 11:40	12/03/16 01:44	1
2,4-Dinitrophenol	30	U	80	10	ug/L		11/14/16 11:40	12/03/16 01:44	1
2,4-Dinitrotoluene	4.4	U	20	1.7	ug/L		11/14/16 11:40	12/03/16 01:44	1
2,6-Dichlorophenol	4.0	U	10	1.4	ug/L		11/14/16 11:40	12/03/16 01:44	1
2,6-Dinitrotoluene	4.4	U	20	1.9	ug/L		11/14/16 11:40	12/03/16 01:44	1
2-Chloronaphthalene	1.0	U	10	0.26	ug/L		11/14/16 11:40	12/03/16 01:44	1
2-Chlorophenol	4.4	U	10	2.0	ug/L		11/14/16 11:40	12/03/16 01:44	1
2-Methylnaphthalene	1.0	U	10	0.29	ug/L		11/14/16 11:40	12/03/16 01:44	1
2-Methylphenol	2.0	U	10	0.98	ug/L		11/14/16 11:40	12/03/16 01:44	1
3 & 4 Methylphenol	**2.7**	**J**	20	0.25	ug/L		11/14/16 11:40	12/03/16 01:44	1
3,3'-Dichlorobenzidine	4.4	U J	50	2.0	ug/L		11/14/16 11:40	12/03/16 01:44	1
3-Nitroaniline	4.4	U	50	2.0	ug/L		11/14/16 11:40	12/03/16 01:44	1
4,6-Dinitro-2-methylphenol	8.8	U	80	4.0	ug/L		11/14/16 11:40	12/03/16 01:44	1
4-Chloroaniline	4.4	U J	25	2.1	ug/L		11/14/16 11:40	12/03/16 01:44	1
4-Chlorophenyl phenyl ether	4.4	U	10	1.7	ug/L		11/14/16 11:40	12/03/16 01:44	1
4-Nitroaniline	4.4	U	50	2.0	ug/L		11/14/16 11:40	12/03/16 01:44	1
4-Nitrophenol	4.0	U	50	1.2	ug/L		11/14/16 11:40	12/03/16 01:44	1
Acenaphthene	1.0	U Q	10	0.28	ug/L		11/14/16 11:40	12/03/16 01:44	1
Acenaphthylene	1.0	U Q	10	0.49	ug/L		11/14/16 11:40	12/03/16 01:44	1
Anthracene	1.0	U Q	10	0.42	ug/L		11/14/16 11:40	12/03/16 01:44	1
Benzidine	100	U Q J	200	50	ug/L		11/14/16 11:40	12/03/16 01:44	1
Benzo[a]anthracene	1.0	U Q	10	0.35	ug/L		11/14/16 11:40	12/03/16 01:44	1
Benzo[a]pyrene	1.0	U Q	10	0.31	ug/L		11/14/16 11:40	12/03/16 01:44	1
Benzo[b]fluoranthene	2.0	U Q	10	0.53	ug/L		11/14/16 11:40	12/03/16 01:44	1
Benzo[g,h,i]perylene	1.0	U Q	10	0.50	ug/L		11/14/16 11:40	12/03/16 01:44	1
Benzo[k]fluoranthene	1.0	U Q	10	0.46	ug/L		11/14/16 11:40	12/03/16 01:44	1
Benzoic acid	**19**	**J**	80	10	ug/L		11/14/16 11:40	12/03/16 01:44	1
Benzyl alcohol	0.50	U	25	0.23	ug/L		11/14/16 11:40	12/03/16 01:44	1
Bis(2-chloroethoxy)methane	2.0	U	10	0.97	ug/L		11/14/16 11:40	12/03/16 01:44	1
Bis(2-chloroethyl)ether	1.0	U	20	0.41	ug/L		11/14/16 11:40	12/03/16 01:44	1
Bis(2-ethylhexyl) phthalate	2.0	U	10	0.56	ug/L		11/14/16 11:40	12/03/16 01:44	1
Butyl benzyl phthalate	2.0	U	20	1.0	ug/L		11/14/16 11:40	12/03/16 01:44	1
Carbazole	1.0	U	10	0.43	ug/L		11/14/16 11:40	12/03/16 01:44	1
Chrysene	2.0	U Q	10	0.54	ug/L		11/14/16 11:40	12/03/16 01:44	1
Dibenz(a,h)anthracene	2.0	U	10	0.51	ug/L		11/14/16 11:40	12/03/16 01:44	1
Dibenzofuran	1.0	U	10	0.29	ug/L		11/14/16 11:40	12/03/16 01:44	1
Diethyl phthalate	1.0	U	20	0.38	ug/L		11/14/16 11:40	12/03/16 01:44	1
Dimethyl phthalate	0.50	U	20	0.21	ug/L		11/14/16 11:40	12/03/16 01:44	1
Di-n-butyl phthalate	4.4	U	20	1.2	ug/L		11/14/16 11:40	12/03/16 01:44	1
Di-n-octyl phthalate	1.0	U	20	0.35	ug/L		11/14/16 11:40	12/03/16 01:44	1
Fluoranthene	0.50	U Q	20	0.20	ug/L		11/14/16 11:40	12/03/16 01:44	1
Fluorene	1.0	U Q	10	0.31	ug/L		11/14/16 11:40	12/03/16 01:44	1
Hexachlorobenzene	2.0	U	10	0.66	ug/L		11/14/16 11:40	12/03/16 01:44	1

Client Sample ID: SC-TU008-MW001-G-2

Lab Sample ID: 280-90734-5

Date Collected: 11/07/16 14:10
Date Received: 11/09/16 09:50

Matrix: Water

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

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Hexachlorobutadiene	10	U	30	3.3	ug/L		11/14/16 11:40	12/03/16 01:44	1
Hexachlorocyclopentadiene	30	U	50	10	ug/L		11/14/16 11:40	12/03/16 01:44	1
Hexachloroethane	4.4	U	10	2.1	ug/L		11/14/16 11:40	12/03/16 01:44	1
Indeno[1,2,3-cd]pyrene	2.0	U Q	10	0.65	ug/L		11/14/16 11:40	12/03/16 01:44	1
Isophorone	0.50	U	10	0.21	ug/L		11/14/16 11:40	12/03/16 01:44	1
Naphthalene	1.0	U Q	10	0.29	ug/L		11/14/16 11:40	12/03/16 01:44	1
Nitrobenzene	2.0	U	20	0.81	ug/L		11/14/16 11:40	12/03/16 01:44	1
N-Nitrosodimethylamine	1.0	U	10	0.29	ug/L		11/14/16 11:40	12/03/16 01:44	1
N-Nitrosodi-n-propylamine	1.0	U	20	0.35	ug/L		11/14/16 11:40	12/03/16 01:44	1
N-Nitrosodiphenylamine	1.0	U	10	0.44	ug/L		11/14/16 11:40	12/03/16 01:44	1
N-Nitrosopyrrolidine	2.0	U	10	0.81	ug/L		11/14/16 11:40	12/03/16 01:44	1
Pentachlorophenol	60	U	80	20	ug/L		11/14/16 11:40	12/03/16 01:44	1
Phenanthrene	1.0	U Q	10	0.26	ug/L		11/14/16 11:40	12/03/16 01:44	1
Phenol	**24**	**J**	10	2.0	ug/L		11/14/16 11:40	12/03/16 01:44	1
Pyrene	1.0	U Q	10	0.37	ug/L		11/14/16 11:40	12/03/16 01:44	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*96*		*43 - 140*	*11/14/16 11:40*	*12/03/16 01:44*	*1*
2-Fluorobiphenyl	*82*		*44 - 119*	*11/14/16 11:40*	*12/03/16 01:44*	*1*
2-Fluorophenol (Surr)	*71*		*19 - 119*	*11/14/16 11:40*	*12/03/16 01:44*	*1*
Nitrobenzene-d5 (Surr)	*72*		*44 - 120*	*11/14/16 11:40*	*12/03/16 01:44*	*1*
Phenol-d5 (Surr)	*75*		*10 - 115*	*11/14/16 11:40*	*12/03/16 01:44*	*1*
Terphenyl-d14 (Surr)	*35*	*Q*	*50 - 134*	*11/14/16 11:40*	*12/03/16 01:44*	*1*

Default Detection Limits

Client: Weston Solutions, Inc.
Project/Site: Schenectady ANGB TU008

TestAmerica Job ID: 280-90734-1

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

Analyte	LOQ	DL	Units	Method
1,1,1-Trichloroethane	5.0	0.29	ug/L	8260C DOD
1,1,2,2-Tetrachloroethane	5.0	0.43	ug/L	8260C DOD
1,1,2-Trichloro-1,2,2-trifluoroethane	5.0	0.25	ug/L	8260C DOD
1,1,2-Trichloroethane	5.0	0.57	ug/L	8260C DOD
1,1-Dichloroethane	5.0	0.39	ug/L	8260C DOD
1,1-Dichloroethene	5.0	0.37	ug/L	8260C DOD
1,2,3-Trichlorobenzene	5.0	0.65	ug/L	8260C DOD
1,2,4-Trichlorobenzene	5.0	0.55	ug/L	8260C DOD
1,2,4-Trimethylbenzene	5.0	0.40	ug/L	8260C DOD
1,2-Dibromo-3-Chloropropane	10	1.2	ug/L	8260C DOD
1,2-Dibromoethane	5.0	0.44	ug/L	8260C DOD
1,2-Dichlorobenzene	5.0	0.28	ug/L	8260C DOD
1,2-Dichloroethane	5.0	0.37	ug/L	8260C DOD
1,2-Dichloroethene, Total	10	0.24	ug/L	8260C DOD
1,2-Dichloropropane	5.0	0.32	ug/L	8260C DOD
1,3,5-Trimethylbenzene	5.0	0.28	ug/L	8260C DOD
1,3-Dichlorobenzene	5.0	0.23	ug/L	8260C DOD
1,4-Dichlorobenzene	5.0	0.35	ug/L	8260C DOD
2-Butanone (MEK)	20	0.39	ug/L	8260C DOD
2-Hexanone	20	0.59	ug/L	8260C DOD
4-Methyl-2-pentanone (MIBK)	20	0.33	ug/L	8260C DOD
Acetone	20	6.7	ug/L	8260C DOD
Benzene	5.0	0.25	ug/L	8260C DOD
Bromobenzene	5.0	0.33	ug/L	8260C DOD
Bromodichloromethane	5.0	0.25	ug/L	8260C DOD
Bromoform	5.0	0.37	ug/L	8260C DOD
Bromomethane	10	0.40	ug/L	8260C DOD
Carbon disulfide	5.0	0.37	ug/L	8260C DOD
Carbon tetrachloride	5.0	0.36	ug/L	8260C DOD
Chlorobenzene	5.0	0.38	ug/L	8260C DOD
Chloroethane	10	0.38	ug/L	8260C DOD
Chloroform	5.0	0.15	ug/L	8260C DOD
Chloromethane	10	0.55	ug/L	8260C DOD
cis-1,2-Dichloroethene	5.0	0.16	ug/L	8260C DOD
cis-1,3-Dichloropropene	5.0	0.34	ug/L	8260C DOD
Cyclohexane	10	0.36	ug/L	8260C DOD
Dibromochloromethane	5.0	0.33	ug/L	8260C DOD
Dichlorodifluoromethane	10	0.45	ug/L	8260C DOD
Ethylbenzene	5.0	0.30	ug/L	8260C DOD
Isopropylbenzene	5.0	0.26	ug/L	8260C DOD
Methyl acetate	25	2.3	ug/L	8260C DOD
Methyl tert-butyl ether	5.0	0.40	ug/L	8260C DOD
Methylcyclohexane	10	0.26	ug/L	8260C DOD
Methylene Chloride	7.5	1.7	ug/L	8260C DOD
m-Xylene & p-Xylene	5.0	0.57	ug/L	8260C DOD
Naphthalene	5.0	0.85	ug/L	8260C DOD
n-Butylbenzene	5.0	0.23	ug/L	8260C DOD
N-Propylbenzene	5.0	0.30	ug/L	8260C DOD
o-Xylene	5.0	0.32	ug/L	8260C DOD
sec-Butylbenzene	5.0	0.31	ug/L	8260C DOD
Styrene	5.0	0.35	ug/L	8260C DOD
tert-Butylbenzene	5.0	0.31	ug/L	8260C DOD

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

Analyte	LOQ	DL	Units	Method
Tetrachloroethene	5.0	0.28	ug/L	8260C DOD
Toluene	5.0	1.0	ug/L	8260C DOD
trans-1,2-Dichloroethene	5.0	0.18	ug/L	8260C DOD
trans-1,3-Dichloropropene	5.0	0.35	ug/L	8260C DOD
Trichloroethene	5.0	0.29	ug/L	8260C DOD
Trichlorofluoromethane	5.0	0.22	ug/L	8260C DOD
Vinyl chloride	5.0	0.43	ug/L	8260C DOD
Xylenes, Total	10	0.85	ug/L	8260C DOD

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

Prep: 3520C

Analyte	LOQ	DL	Units	Method
1,2,4,5-Tetrachlorobenzene	10	1.7	ug/L	8270D
1,2,4-Trichlorobenzene	10	0.28	ug/L	8270D
1,2-Dichlorobenzene	10	0.23	ug/L	8270D
1,2-Diphenylhydrazine	10	0.23	ug/L	8270D
1,3-Dichlorobenzene	10	0.30	ug/L	8270D
1,4-Dichlorobenzene	10	0.32	ug/L	8270D
2,2'-oxybis[1-chloropropane]	10	0.28	ug/L	8270D
2,4,5-Trichlorophenol	20	0.45	ug/L	8270D
2,4,6-Trichlorophenol	20	0.29	ug/L	8270D
2,4-Dichlorophenol	10	0.64	ug/L	8270D
2,4-Dimethylphenol	10	0.58	ug/L	8270D
2,4-Dinitrophenol	80	10	ug/L	8270D
2,4-Dinitrotoluene	20	1.7	ug/L	8270D
2,6-Dichlorophenol	10	1.4	ug/L	8270D
2,6-Dinitrotoluene	20	1.9	ug/L	8270D
2-Chloronaphthalene	10	0.26	ug/L	8270D
2-Chlorophenol	10	2.0	ug/L	8270D
2-Methylnaphthalene	10	0.29	ug/L	8270D
2-Methylphenol	10	0.98	ug/L	8270D
3 & 4 Methylphenol	20	0.25	ug/L	8270D
3,3'-Dichlorobenzidine	50	2.0	ug/L	8270D
3-Nitroaniline	50	2.0	ug/L	8270D
4,6-Dinitro-2-methylphenol	80	4.0	ug/L	8270D
4-Chloroaniline	25	2.1	ug/L	8270D
4-Chlorophenyl phenyl ether	10	1.7	ug/L	8270D
4-Nitroaniline	50	2.0	ug/L	8270D
4-Nitrophenol	50	1.2	ug/L	8270D
Acenaphthene	10	0.28	ug/L	8270D
Acenaphthylene	10	0.49	ug/L	8270D
Anthracene	10	0.42	ug/L	8270D
Benzidine	200	50	ug/L	8270D
Benzo[a]anthracene	10	0.35	ug/L	8270D
Benzo[a]pyrene	10	0.31	ug/L	8270D
Benzo[b]fluoranthene	10	0.53	ug/L	8270D
Benzo[g,h,i]perylene	10	0.50	ug/L	8270D
Benzo[k]fluoranthene	10	0.46	ug/L	8270D
Benzoic acid	80	10	ug/L	8270D
Benzyl alcohol	25	0.23	ug/L	8270D
Bis(2-chloroethoxy)methane	10	0.97	ug/L	8270D

Default Detection Limits

Client: Weston Solutions, Inc.
Project/Site: Schenectady ANGB TU008

TestAmerica Job ID: 280-90734-1

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

Prep: 3520C

Analyte	LOQ	DL	Units	Method
Bis(2-chloroethyl)ether	20	0.41	ug/L	8270D
Bis(2-ethylhexyl) phthalate	10	0.56	ug/L	8270D
Butyl benzyl phthalate	20	1.0	ug/L	8270D
Carbazole	10	0.43	ug/L	8270D
Chrysene	10	0.54	ug/L	8270D
Dibenz(a,h)anthracene	10	0.51	ug/L	8270D
Dibenzofuran	10	0.29	ug/L	8270D
Diethyl phthalate	20	0.38	ug/L	8270D
Dimethyl phthalate	20	0.21	ug/L	8270D
Di-n-butyl phthalate	20	1.2	ug/L	8270D
Di-n-octyl phthalate	20	0.35	ug/L	8270D
Fluoranthene	20	0.20	ug/L	8270D
Fluorene	10	0.31	ug/L	8270D
Hexachlorobenzene	10	0.66	ug/L	8270D
Hexachlorobutadiene	30	3.3	ug/L	8270D
Hexachlorocyclopentadiene	50	10	ug/L	8270D
Hexachloroethane	10	2.1	ug/L	8270D
Indeno[1,2,3-cd]pyrene	10	0.65	ug/L	8270D
Isophorone	10	0.21	ug/L	8270D
Naphthalene	10	0.29	ug/L	8270D
Nitrobenzene	20	0.81	ug/L	8270D
N-Nitrosodimethylamine	10	0.29	ug/L	8270D
N-Nitrosodi-n-propylamine	20	0.35	ug/L	8270D
N-Nitrosodiphenylamine	10	0.44	ug/L	8270D
N-Nitrosopyrrolidine	10	0.80	ug/L	8270D
Pentachlorophenol	80	20	ug/L	8270D
Phenanthrene	10	0.26	ug/L	8270D
Phenol	10	2.0	ug/L	8270D
Pyrene	10	0.37	ug/L	8270D

Surrogate Summary

Client: Weston Solutions, Inc.
Project/Site: Schenectady ANGB TU008

TestAmerica Job ID: 280-90734-1

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

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

		Percent Surrogate Recovery (Acceptance Limits)			
		12DCE	BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(81-118)	(85-114)	(80-119)	(89-112)
280-90734-1	SC-TU008-MW002-G-2	92	107	103	107
280-90734-2	SC-TU008-MW002-G-2-D	90	102	99	105
280-90734-3	SC-TU008-TB110716	94	107	103	107
280-90734-4	SC-TU008-MW004-G-2	94	107	102	106
280-90734-5	SC-TU008-MW001-G-2	88	108	98	108
280-90734-5 MS	SC-TU008-MW001-G-2	93	97	105	104
280-90734-5 MSD	SC-TU008-MW001-G-2	92	98	106	104
LCS 160-279462/3	Lab Control Sample	90	102	100	105
LCSD 160-279462/4	Lab Control Sample Dup	89	103	102	106
MB 160-279462/6	Method Blank	91	109	99	109

Surrogate Legend

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

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

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

		Percent Surrogate Recovery (Acceptance Limits)					
		TBP	FBP	2FP	NBZ	PHL	TPH
Lab Sample ID	Client Sample ID	(43-140)	(44-119)	(19-119)	(44-120)	(10-115)	(50-134)
280-90734-1	SC-TU008-MW002-G-2	101	81	79	78	81	77
280-90734-2	SC-TU008-MW002-G-2-D	104	75	72	71	74	88
280-90734-4	SC-TU008-MW004-G-2	92	73	75	72	73	90
280-90734-5	SC-TU008-MW001-G-2	96	82	71	72	75	35 Q
280-90734-5 MS	SC-TU008-MW001-G-2	97	83	79	79	82	71
280-90734-5 MS	SC-TU008-MW001-G-2	97	84	73	77	80	82
280-90734-5 MSD	SC-TU008-MW001-G-2	101	89	85	84	87	83
280-90734-5 MSD	SC-TU008-MW001-G-2	106	91	88	86	92	76
LCS 280-351287/2-A	Lab Control Sample	104	92	97	95	97	103
LCS 280-351287/3-A	Lab Control Sample	103	94	96	94	99	98
MB 280-351287/1-A	Method Blank	105	99	101	100	99	107

Surrogate Legend

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

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

Lab Sample ID: MB 160-279462/6
Matrix: Water
Analysis Batch: 279462

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

Analyte	MB Result	MB Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	1.0	U	5.0	0.29	ug/L			11/16/16 11:55	1
1,1,2,2-Tetrachloroethane	2.0	U	5.0	0.43	ug/L			11/16/16 11:55	1
1,1,2-Trichloro-1,2,2-trifluoroethane	2.0	U	5.0	0.25	ug/L			11/16/16 11:55	1
1,1,2-Trichloroethane	1.0	U	5.0	0.57	ug/L			11/16/16 11:55	1
1,1-Dichloroethane	1.0	U	5.0	0.39	ug/L			11/16/16 11:55	1
1,1-Dichloroethene	1.0	U	5.0	0.37	ug/L			11/16/16 11:55	1
1,2,3-Trichlorobenzene	3.07	J	5.0	0.65	ug/L			11/16/16 11:55	1
1,2,4-Trichlorobenzene	2.0	U	5.0	0.55	ug/L			11/16/16 11:55	1
1,2,4-Trimethylbenzene	2.0	U	5.0	0.40	ug/L			11/16/16 11:55	1
1,2-Dibromo-3-Chloropropane	2.0	U	10	1.2	ug/L			11/16/16 11:55	1
1,2-Dibromoethane	2.0	U	5.0	0.44	ug/L			11/16/16 11:55	1
1,2-Dichlorobenzene	2.0	U	5.0	0.28	ug/L			11/16/16 11:55	1
1,2-Dichloroethane	1.0	U	5.0	0.37	ug/L			11/16/16 11:55	1
1,2-Dichloroethene, Total	2.0	U	10	0.24	ug/L			11/16/16 11:55	1
1,2-Dichloropropane	1.0	U	5.0	0.32	ug/L			11/16/16 11:55	1
1,3,5-Trimethylbenzene	2.0	U	5.0	0.28	ug/L			11/16/16 11:55	1
1,3-Dichlorobenzene	2.0	U	5.0	0.23	ug/L			11/16/16 11:55	1
1,4-Dichlorobenzene	2.0	U	5.0	0.35	ug/L			11/16/16 11:55	1
2-Butanone (MEK)	5.0	U	20	0.39	ug/L			11/16/16 11:55	1
2-Hexanone	2.0	U	20	0.59	ug/L			11/16/16 11:55	1
4-Methyl-2-pentanone (MIBK)	2.0	U	20	0.33	ug/L			11/16/16 11:55	1
Acetone	10	U	20	6.7	ug/L			11/16/16 11:55	1
Benzene	1.0	U	5.0	0.25	ug/L			11/16/16 11:55	1
Bromobenzene	2.0	U	5.0	0.33	ug/L			11/16/16 11:55	1
Bromodichloromethane	2.0	U	5.0	0.25	ug/L			11/16/16 11:55	1
Bromoform	1.0	U	5.0	0.37	ug/L			11/16/16 11:55	1
Bromomethane	2.0	U	10	0.40	ug/L			11/16/16 11:55	1
Carbon disulfide	1.0	U	5.0	0.37	ug/L			11/16/16 11:55	1
Carbon tetrachloride	1.0	U	5.0	0.36	ug/L			11/16/16 11:55	1
Chlorobenzene	1.0	U	5.0	0.38	ug/L			11/16/16 11:55	1
Chloroethane	1.0	U	10	0.38	ug/L			11/16/16 11:55	1
Chloroform	1.0	U	5.0	0.15	ug/L			11/16/16 11:55	1
Chloromethane	2.0	U	10	0.55	ug/L			11/16/16 11:55	1
cis-1,2-Dichloroethene	1.0	U	5.0	0.16	ug/L			11/16/16 11:55	1
cis-1,3-Dichloropropene	1.0	U	5.0	0.34	ug/L			11/16/16 11:55	1
Cyclohexane	2.0	U	10	0.36	ug/L			11/16/16 11:55	1
Dibromochloromethane	1.0	U	5.0	0.33	ug/L			11/16/16 11:55	1
Dichlorodifluoromethane	2.0	U	10	0.45	ug/L			11/16/16 11:55	1
Ethylbenzene	1.0	U	5.0	0.30	ug/L			11/16/16 11:55	1
Isopropylbenzene	2.0	U	5.0	0.26	ug/L			11/16/16 11:55	1
Methyl acetate	5.0	U	25	2.3	ug/L			11/16/16 11:55	1
Methyl tert-butyl ether	2.0	U	5.0	0.40	ug/L			11/16/16 11:55	1
Methylcyclohexane	2.0	U	10	0.26	ug/L			11/16/16 11:55	1
Methylene Chloride	5.0	U	7.5	1.7	ug/L			11/16/16 11:55	1
m-Xylene & p-Xylene	1.0	U	5.0	0.57	ug/L			11/16/16 11:55	1
Naphthalene	2.0	U	5.0	0.85	ug/L			11/16/16 11:55	1
n-Butylbenzene	2.0	U	5.0	0.23	ug/L			11/16/16 11:55	1
N-Propylbenzene	2.0	U	5.0	0.30	ug/L			11/16/16 11:55	1

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

Lab Sample ID: MB 160-279462/6
Matrix: Water
Analysis Batch: 279462

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

Analyte	MB Result	MB Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	1.0	U	5.0	0.32	ug/L			11/16/16 11:55	1
sec-Butylbenzene	2.0	U	5.0	0.31	ug/L			11/16/16 11:55	1
Styrene	1.0	U	5.0	0.35	ug/L			11/16/16 11:55	1
tert-Butylbenzene	2.0	U	5.0	0.31	ug/L			11/16/16 11:55	1
Tetrachloroethene	1.0	U	5.0	0.28	ug/L			11/16/16 11:55	1
Toluene	1.0	U	5.0	1.0	ug/L			11/16/16 11:55	1
trans-1,2-Dichloroethene	1.0	U	5.0	0.18	ug/L			11/16/16 11:55	1
trans-1,3-Dichloropropene	1.0	U	5.0	0.35	ug/L			11/16/16 11:55	1
Trichloroethene	1.0	U	5.0	0.29	ug/L			11/16/16 11:55	1
Trichlorofluoromethane	2.0	U	5.0	0.22	ug/L			11/16/16 11:55	1
Vinyl chloride	1.0	U	5.0	0.43	ug/L			11/16/16 11:55	1
Xylenes, Total	5.0	U	10	0.85	ug/L			11/16/16 11:55	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*91*		*81 - 118*		*11/16/16 11:55*	*1*
4-Bromofluorobenzene (Surr)	*109*		*85 - 114*		*11/16/16 11:55*	*1*
Dibromofluoromethane (Surr)	*99*		*80 - 119*		*11/16/16 11:55*	*1*
Toluene-d8 (Surr)	*109*		*89 - 112*		*11/16/16 11:55*	*1*

Lab Sample ID: LCS 160-279462/3
Matrix: Water
Analysis Batch: 279462

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1-Trichloroethane	500	491		ug/L		98	74 - 131
1,1,2,2-Tetrachloroethane	500	493		ug/L		99	71 - 121
1,1,2-Trichloro-1,2,2-trifluoroethane	500	534		ug/L		107	70 - 136
1,1,2-Trichloroethane	500	490		ug/L		98	80 - 119
1,1-Dichloroethane	500	472		ug/L		94	77 - 125
1,1-Dichloroethene	500	507		ug/L		101	71 - 131
1,2,3-Trichlorobenzene	500	506		ug/L		101	69 - 129
1,2,4-Trichlorobenzene	500	516		ug/L		103	69 - 130
1,2,4-Trimethylbenzene	500	546		ug/L		109	76 - 124
1,2-Dibromo-3-Chloropropane	500	509		ug/L		102	62 - 128
1,2-Dibromoethane	500	510		ug/L		102	80 - 120
1,2-Dichlorobenzene	500	514		ug/L		103	80 - 119
1,2-Dichloroethane	500	438		ug/L		88	73 - 128
1,2-Dichloroethene, Total	1000	1000		ug/L		100	79 - 121
1,2-Dichloropropane	500	484		ug/L		97	78 - 122
1,3,5-Trimethylbenzene	500	539		ug/L		108	75 - 124
1,3-Dichlorobenzene	500	529		ug/L		106	80 - 119
1,4-Dichlorobenzene	500	531		ug/L		106	79 - 118
2-Butanone (MEK)	500	460		ug/L		92	56 - 143
2-Hexanone	500	459		ug/L		92	57 - 139
4-Methyl-2-pentanone (MIBK)	500	465		ug/L		93	67 - 130
Acetone	500	431		ug/L		86	39 - 160
Benzene	500	496		ug/L		99	79 - 120

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

Lab Sample ID: LCS 160-279462/3
Matrix: Water
Analysis Batch: 279462

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Bromobenzene	500	530		ug/L		106	80 - 120
Bromodichloromethane	500	484		ug/L		97	79 - 125
Bromoform	500	554		ug/L		111	66 - 130
Bromomethane	500	298		ug/L		60	53 - 141
Carbon disulfide	500	518		ug/L		104	64 - 133
Carbon tetrachloride	500	494		ug/L		99	72 - 136
Chlorobenzene	500	515		ug/L		103	82 - 118
Chloroethane	500	298		ug/L		60	60 - 138
Chloroform	500	472		ug/L		94	79 - 124
Chloromethane	500	444		ug/L		89	50 - 139
cis-1,2-Dichloroethene	500	493		ug/L		99	78 - 123
cis-1,3-Dichloropropene	500	501		ug/L		100	75 - 124
Cyclohexane	500	505		ug/L		101	71 - 130
Dibromochloromethane	500	514		ug/L		103	74 - 126
Dichlorodifluoromethane	500	539		ug/L		108	32 - 152
Ethylbenzene	500	464		ug/L		93	79 - 121
Isopropylbenzene	500	566		ug/L		113	72 - 131
Methyl acetate	2500	2620		ug/L		105	56 - 136
Methyl tert-butyl ether	500	470		ug/L		94	71 - 124
Methylcyclohexane	500	491		ug/L		98	72 - 132
Methylene Chloride	500	471		ug/L		94	74 - 124
m-Xylene & p-Xylene	500	517		ug/L		103	80 - 121
Naphthalene	500	511		ug/L		102	61 - 128
n-Butylbenzene	500	540		ug/L		108	75 - 128
N-Propylbenzene	500	486		ug/L		97	76 - 126
o-Xylene	500	505		ug/L		101	78 - 122
sec-Butylbenzene	500	515		ug/L		103	77 - 126
Styrene	500	533		ug/L		107	78 - 123
tert-Butylbenzene	500	556		ug/L		111	78 - 124
Tetrachloroethene	500	558		ug/L		112	74 - 129
Toluene	500	500		ug/L		100	80 - 121
trans-1,2-Dichloroethene	500	510		ug/L		102	75 - 124
trans-1,3-Dichloropropene	500	484		ug/L		97	73 - 127
Trichloroethene	500	500		ug/L		100	79 - 123
Trichlorofluoromethane	500	378		ug/L		76	65 - 141
Vinyl chloride	500	374		ug/L		75	58 - 137
Xylenes, Total	1000	1020		ug/L		102	79 - 121

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*90*		*81 - 118*
4-Bromofluorobenzene (Surr)	*102*		*85 - 114*
Dibromofluoromethane (Surr)	*100*		*80 - 119*
Toluene-d8 (Surr)	*105*		*89 - 112*

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

Lab Sample ID: LCSD 160-279462/4
Matrix: Water
Analysis Batch: 279462

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
1,1,1-Trichloroethane	500	486		ug/L		97	74 - 131	1	20
1,1,2,2-Tetrachloroethane	500	518		ug/L		104	71 - 121	5	20
1,1,2-Trichloro-1,2,2-trifluoroethane	500	549		ug/L		110	70 - 136	3	20
1,1,2-Trichloroethane	500	509		ug/L		102	80 - 119	4	20
1,1-Dichloroethane	500	478		ug/L		96	77 - 125	1	20
1,1-Dichloroethene	500	526		ug/L		105	71 - 131	4	20
1,2,3-Trichlorobenzene	500	592		ug/L		118	69 - 129	16	20
1,2,4-Trichlorobenzene	500	576		ug/L		115	69 - 130	11	20
1,2,4-Trimethylbenzene	500	544		ug/L		109	76 - 124	0	20
1,2-Dibromo-3-Chloropropane	500	594		ug/L		119	62 - 128	15	20
1,2-Dibromoethane	500	534		ug/L		107	80 - 120	5	20
1,2-Dichlorobenzene	500	526		ug/L		105	80 - 119	2	20
1,2-Dichloroethane	500	447		ug/L		89	73 - 128	2	20
1,2-Dichloroethene, Total	1000	1040		ug/L		104	79 - 121	4	20
1,2-Dichloropropane	500	504		ug/L		101	78 - 122	4	20
1,3,5-Trimethylbenzene	500	524		ug/L		105	75 - 124	3	20
1,3-Dichlorobenzene	500	539		ug/L		108	80 - 119	2	20
1,4-Dichlorobenzene	500	536		ug/L		107	79 - 118	1	20
2-Butanone (MEK)	500	488		ug/L		98	56 - 143	6	20
2-Hexanone	500	466		ug/L		93	57 - 139	2	20
4-Methyl-2-pentanone (MIBK)	500	484		ug/L		97	67 - 130	4	20
Acetone	500	447		ug/L		89	39 - 160	4	20
Benzene	500	506		ug/L		101	79 - 120	2	20
Bromobenzene	500	551		ug/L		110	80 - 120	4	20
Bromodichloromethane	500	501		ug/L		100	79 - 125	3	20
Bromoform	500	609		ug/L		122	66 - 130	9	20
Bromomethane	500	273		ug/L		55	53 - 141	9	20
Carbon disulfide	500	517		ug/L		103	64 - 133	0	20
Carbon tetrachloride	500	508		ug/L		102	72 - 136	3	20
Chlorobenzene	500	519		ug/L		104	82 - 118	1	20
Chloroethane	500	267	Q	ug/L		53	60 - 138	11	20
Chloroform	500	484		ug/L		97	79 - 124	3	20
Chloromethane	500	452		ug/L		90	50 - 139	2	20
cis-1,2-Dichloroethene	500	518		ug/L		104	78 - 123	5	20
cis-1,3-Dichloropropene	500	522		ug/L		104	75 - 124	4	20
Cyclohexane	500	524		ug/L		105	71 - 130	4	20
Dibromochloromethane	500	551		ug/L		110	74 - 126	7	20
Dichlorodifluoromethane	500	527		ug/L		105	32 - 152	2	20
Ethylbenzene	500	455		ug/L		91	79 - 121	2	20
Isopropylbenzene	500	550		ug/L		110	72 - 131	3	20
Methyl acetate	2500	2750		ug/L		110	56 - 136	5	20
Methyl tert-butyl ether	500	477		ug/L		95	71 - 124	2	20
Methylcyclohexane	500	483		ug/L		97	72 - 132	2	20
Methylene Chloride	500	487		ug/L		97	74 - 124	3	20
m-Xylene & p-Xylene	500	522		ug/L		104	80 - 121	1	20
Naphthalene	500	590		ug/L		118	61 - 128	14	20
n-Butylbenzene	500	539		ug/L		108	75 - 128	0	20

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

Lab Sample ID: LCSD 160-279462/4
Matrix: Water
Analysis Batch: 279462

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
N-Propylbenzene	500	462		ug/L		92	76 - 126	5	20
o-Xylene	500	511		ug/L		102	78 - 122	1	20
sec-Butylbenzene	500	495		ug/L		99	77 - 126	4	20
Styrene	500	542		ug/L		108	78 - 123	2	20
tert-Butylbenzene	500	546		ug/L		109	78 - 124	2	20
Tetrachloroethene	500	584		ug/L		117	74 - 129	5	20
Toluene	500	513		ug/L		103	80 - 121	2	20
trans-1,2-Dichloroethene	500	526		ug/L		105	75 - 124	3	20
trans-1,3-Dichloropropene	500	502		ug/L		100	73 - 127	4	20
Trichloroethene	500	506		ug/L		101	79 - 123	1	20
Trichlorofluoromethane	500	361	M	ug/L		72	65 - 141	5	20
Vinyl chloride	500	360		ug/L		72	58 - 137	4	20
Xylenes, Total	1000	1030		ug/L		103	79 - 121	1	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*89*		*81 - 118*
4-Bromofluorobenzene (Surr)	*103*		*85 - 114*
Dibromofluoromethane (Surr)	*102*		*80 - 119*
Toluene-d8 (Surr)	*106*		*89 - 112*

Lab Sample ID: 280-90734-5 MS
Matrix: Water
Analysis Batch: 279462

Client Sample ID: SC-TU008-MW001-G-2
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1-Trichloroethane	1.0	U	50.0	52.3		ug/L		105	74 - 131
1,1,2,2-Tetrachloroethane	2.0	U	50.0	47.9		ug/L		96	71 - 121
1,1,2-Trichloro-1,2,2-trifluoroethane	2.0	U	50.0	57.1		ug/L		114	70 - 136
1,1,2-Trichloroethane	1.0	U	50.0	48.7		ug/L		97	80 - 119
1,1-Dichloroethane	1.0	U	50.0	51.3		ug/L		103	77 - 125
1,1-Dichloroethene	1.0	U	50.0	54.0		ug/L		108	71 - 131
1,2,3-Trichlorobenzene	2.0	U J	50.0	48.5		ug/L		97	69 - 129
1,2,4-Trichlorobenzene	2.0	U	50.0	53.2		ug/L		106	69 - 130
1,2,4-Trimethylbenzene	2.0	U	50.0	55.7		ug/L		111	76 - 124
1,2-Dibromo-3-Chloropropane	2.0	U	50.0	51.9		ug/L		104	62 - 128
1,2-Dibromoethane	2.0	U	50.0	50.5		ug/L		101	80 - 120
1,2-Dichlorobenzene	2.0	U	50.0	52.8		ug/L		106	80 - 119
1,2-Dichloroethane	1.0	U	50.0	46.9		ug/L		94	73 - 128
1,2-Dichloroethene, Total	2.0	U	100	109		ug/L		109	79 - 121
1,2-Dichloropropane	1.0	U	50.0	50.6		ug/L		101	78 - 122
1,3,5-Trimethylbenzene	2.0	U	50.0	53.5		ug/L		107	75 - 124
1,3-Dichlorobenzene	2.0	U	50.0	52.9		ug/L		106	80 - 119
1,4-Dichlorobenzene	2.0	U	50.0	53.4		ug/L		107	79 - 118
2-Butanone (MEK)	5.0	U	50.0	49.3		ug/L		99	56 - 143
2-Hexanone	2.0	U	50.0	43.2		ug/L		86	57 - 139
4-Methyl-2-pentanone (MIBK)	2.0	U	50.0	48.3		ug/L		97	67 - 130
Acetone	10	U	50.0	55.1		ug/L		110	39 - 160

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

Lab Sample ID: 280-90734-5 MS
Matrix: Water
Analysis Batch: 279462

Client Sample ID: SC-TU008-MW001-G-2
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	1.0	U	50.0	52.0		ug/L		104	79 - 120
Bromobenzene	2.0	U	50.0	50.7		ug/L		101	80 - 120
Bromodichloromethane	2.0	U	50.0	50.3		ug/L		101	79 - 125
Bromoform	1.0	U	50.0	52.2		ug/L		104	66 - 130
Bromomethane	2.0	U Q	50.0	33.2		ug/L		66	53 - 141
Carbon disulfide	1.0	U	50.0	55.0		ug/L		110	64 - 133
Carbon tetrachloride	1.0	U	50.0	53.9		ug/L		108	72 - 136
Chlorobenzene	1.0	U	50.0	53.0		ug/L		106	82 - 118
Chloroethane	1.0	U Q J	50.0	29.3	J	ug/L		59	60 - 138
Chloroform	1.0	U	50.0	51.9		ug/L		104	79 - 124
Chloromethane	2.0	U	50.0	50.1		ug/L		100	50 - 139
cis-1,2-Dichloroethene	1.0	U	50.0	53.8		ug/L		108	78 - 123
cis-1,3-Dichloropropene	1.0	U	50.0	49.8		ug/L		100	75 - 124
Cyclohexane	2.0	U	50.0	55.4		ug/L		111	71 - 130
Dibromochloromethane	1.0	U	50.0	52.6		ug/L		105	74 - 126
Dichlorodifluoromethane	2.0	U	50.0	57.6		ug/L		115	32 - 152
Ethylbenzene	1.0	U	50.0	47.7		ug/L		95	79 - 121
Isopropylbenzene	2.0	U	50.0	54.2		ug/L		108	72 - 131
Methyl acetate	5.0	U	250	273		ug/L		109	56 - 136
Methyl tert-butyl ether	2.0	U	50.0	51.8		ug/L		104	71 - 124
Methylcyclohexane	2.0	U	50.0	54.1		ug/L		108	72 - 132
Methylene Chloride	5.0	U	50.0	51.5		ug/L		103	74 - 124
m-Xylene & p-Xylene	1.0	U	50.0	53.6		ug/L		107	80 - 121
Naphthalene	2.0	U	50.0	47.8		ug/L		96	61 - 128
n-Butylbenzene	2.0	U	50.0	55.1		ug/L		110	75 - 128
N-Propylbenzene	2.0	U	50.0	46.1		ug/L		92	76 - 126
o-Xylene	1.0	U	50.0	54.2		ug/L		108	78 - 122
sec-Butylbenzene	2.0	U	50.0	50.2		ug/L		100	77 - 126
Styrene	1.0	U	50.0	55.8		ug/L		112	78 - 123
tert-Butylbenzene	2.0	U	50.0	54.1		ug/L		108	78 - 124
Tetrachloroethene	1.0	U	50.0	57.2		ug/L		114	74 - 129
Toluene	1.0	U	50.0	50.8		ug/L		102	80 - 121
trans-1,2-Dichloroethene	1.0	U	50.0	54.7		ug/L		109	75 - 124
trans-1,3-Dichloropropene	1.0	U	50.0	47.1		ug/L		94	73 - 127
Trichloroethene	1.0	U	50.0	51.7		ug/L		103	79 - 123
Trichlorofluoromethane	2.0	U Q	50.0	41.2		ug/L		82	65 - 141
Vinyl chloride	1.0	U Q	50.0	42.4		ug/L		85	58 - 137
Xylenes, Total	5.0	U	100	108		ug/L		108	79 - 121

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*93*		*81 - 118*
4-Bromofluorobenzene (Surr)	*97*		*85 - 114*
Dibromofluoromethane (Surr)	*105*		*80 - 119*
Toluene-d8 (Surr)	*104*		*89 - 112*

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

Lab Sample ID: 280-90734-5 MSD | **Client Sample ID: SC-TU008-MW001-G-2**
Matrix: Water | **Prep Type: Total/NA**
Analysis Batch: 279462

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1,1-Trichloroethane	1.0	U	50.0	51.4		ug/L		103	74 - 131	2	20
1,1,2,2-Tetrachloroethane	2.0	U	50.0	50.0		ug/L		100	71 - 121	4	20
1,1,2-Trichloro-1,2,2-trifluoroethane	2.0	U	50.0	55.5		ug/L		111	70 - 136	3	20
1,1,2-Trichloroethane	1.0	U	50.0	50.7		ug/L		101	80 - 119	4	20
1,1-Dichloroethane	1.0	U	50.0	50.4		ug/L		101	77 - 125	2	20
1,1-Dichloroethene	1.0	U	50.0	54.1		ug/L		108	71 - 131	0	20
1,2,3-Trichlorobenzene	2.0	U J	50.0	60.1	J	ug/L		120	69 - 129	21	20
1,2,4-Trichlorobenzene	2.0	U	50.0	58.8		ug/L		118	69 - 130	10	20
1,2,4-Trimethylbenzene	2.0	U	50.0	55.4		ug/L		111	76 - 124	0	20
1,2-Dibromo-3-Chloropropane	2.0	U	50.0	57.2		ug/L		114	62 - 128	10	20
1,2-Dibromoethane	2.0	U	50.0	52.3		ug/L		105	80 - 120	3	20
1,2-Dichlorobenzene	2.0	U	50.0	53.5		ug/L		107	80 - 119	1	20
1,2-Dichloroethane	1.0	U	50.0	46.0		ug/L		92	73 - 128	2	20
1,2-Dichloroethene, Total	2.0	U	100	107		ug/L		107	79 - 121	2	20
1,2-Dichloropropane	1.0	U	50.0	50.2		ug/L		100	78 - 122	1	20
1,3,5-Trimethylbenzene	2.0	U	50.0	53.1		ug/L		106	75 - 124	1	20
1,3-Dichlorobenzene	2.0	U	50.0	53.4		ug/L		107	80 - 119	1	20
1,4-Dichlorobenzene	2.0	U	50.0	53.9		ug/L		108	79 - 118	1	20
2-Butanone (MEK)	5.0	U	50.0	48.6		ug/L		97	56 - 143	1	20
2-Hexanone	2.0	U	50.0	46.0		ug/L		92	57 - 139	6	20
4-Methyl-2-pentanone (MIBK)	2.0	U	50.0	50.3		ug/L		101	67 - 130	4	20
Acetone	10	U	50.0	55.2		ug/L		110	39 - 160	0	20
Benzene	1.0	U	50.0	52.0		ug/L		104	79 - 120	0	20
Bromobenzene	2.0	U	50.0	51.9		ug/L		104	80 - 120	2	20
Bromodichloromethane	2.0	U	50.0	51.2		ug/L		102	79 - 125	2	20
Bromoform	1.0	U	50.0	55.1		ug/L		110	66 - 130	5	20
Bromomethane	2.0	U Q	50.0	32.3		ug/L		65	53 - 141	3	20
Carbon disulfide	1.0	U	50.0	54.2		ug/L		108	64 - 133	1	20
Carbon tetrachloride	1.0	U	50.0	53.3		ug/L		107	72 - 136	1	20
Chlorobenzene	1.0	U	50.0	53.2		ug/L		106	82 - 118	0	20
Chloroethane	1.0	U Q J	50.0	27.4	J	ug/L		55	60 - 138	7	20
Chloroform	1.0	U	50.0	51.0		ug/L		102	79 - 124	2	20
Chloromethane	2.0	U	50.0	48.6		ug/L		97	50 - 139	3	20
cis-1,2-Dichloroethene	1.0	U	50.0	52.9		ug/L		106	78 - 123	2	20
cis-1,3-Dichloropropene	1.0	U	50.0	51.7		ug/L		103	75 - 124	4	20
Cyclohexane	2.0	U	50.0	54.9		ug/L		110	71 - 130	1	20
Dibromochloromethane	1.0	U	50.0	54.8		ug/L		110	74 - 126	4	20
Dichlorodifluoromethane	2.0	U	50.0	55.8		ug/L		112	32 - 152	3	20
Ethylbenzene	1.0	U	50.0	47.1		ug/L		94	79 - 121	1	20
Isopropylbenzene	2.0	U	50.0	54.1		ug/L		108	72 - 131	0	20
Methyl acetate	5.0	U	250	279		ug/L		112	56 - 136	2	20
Methyl tert-butyl ether	2.0	U	50.0	51.4		ug/L		103	71 - 124	1	20
Methylcyclohexane	2.0	U	50.0	52.7		ug/L		105	72 - 132	3	20
Methylene Chloride	5.0	U	50.0	50.9		ug/L		102	74 - 124	1	20
m-Xylene & p-Xylene	1.0	U	50.0	53.7		ug/L		107	80 - 121	0	20
Naphthalene	2.0	U	50.0	58.1		ug/L		116	61 - 128	19	20
n-Butylbenzene	2.0	U	50.0	55.3		ug/L		111	75 - 128	0	20

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

Lab Sample ID: 280-90734-5 MSD — **Client Sample ID: SC-TU008-MW001-G-2**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 279462

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
N-Propylbenzene	2.0	U	50.0	45.9		ug/L		92	76 - 126	0	20
o-Xylene	1.0	U	50.0	53.9		ug/L		108	78 - 122	1	20
sec-Butylbenzene	2.0	U	50.0	49.7		ug/L		99	77 - 126	1	20
Styrene	1.0	U	50.0	55.5		ug/L		111	78 - 123	0	20
tert-Butylbenzene	2.0	U	50.0	54.3		ug/L		109	78 - 124	0	20
Tetrachloroethene	1.0	U	50.0	57.7		ug/L		115	74 - 129	1	20
Toluene	1.0	U	50.0	51.4		ug/L		103	80 - 121	1	20
trans-1,2-Dichloroethene	1.0	U	50.0	53.7		ug/L		107	75 - 124	2	20
trans-1,3-Dichloropropene	1.0	U	50.0	49.4		ug/L		99	73 - 127	5	20
Trichloroethene	1.0	U	50.0	51.8		ug/L		104	79 - 123	0	20
Trichlorofluoromethane	2.0	U Q	50.0	38.3		ug/L		77	65 - 141	7	20
Vinyl chloride	1.0	U Q	50.0	39.5		ug/L		79	58 - 137	7	20
Xylenes, Total	5.0	U	100	108		ug/L		108	79 - 121	0	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*92*		*81 - 118*
4-Bromofluorobenzene (Surr)	*98*		*85 - 114*
Dibromofluoromethane (Surr)	*106*		*80 - 119*
Toluene-d8 (Surr)	*104*		*89 - 112*

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

Lab Sample ID: MB 280-351287/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 354097 — **Prep Batch: 351287**

Analyte	MB Result	MB Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4,5-Tetrachlorobenzene	4.4	U	10	1.7	ug/L		11/14/16 11:40	12/02/16 21:29	1
1,2,4-Trichlorobenzene	1.0	U	10	0.28	ug/L		11/14/16 11:40	12/02/16 21:29	1
1,2-Dichlorobenzene	0.50	U	10	0.23	ug/L		11/14/16 11:40	12/02/16 21:29	1
1,2-Diphenylhydrazine	0.51	U	10	0.23	ug/L		11/14/16 11:40	12/02/16 21:29	1
1,3-Dichlorobenzene	1.0	U	10	0.30	ug/L		11/14/16 11:40	12/02/16 21:29	1
1,4-Dichlorobenzene	1.0	U	10	0.32	ug/L		11/14/16 11:40	12/02/16 21:29	1
2,2'-oxybis[1-chloropropane]	1.0	U	10	0.28	ug/L		11/14/16 11:40	12/02/16 21:29	1
2,4,5-Trichlorophenol	1.0	U	20	0.45	ug/L		11/14/16 11:40	12/02/16 21:29	1
2,4,6-Trichlorophenol	1.0	U	20	0.29	ug/L		11/14/16 11:40	12/02/16 21:29	1
2,4-Dichlorophenol	2.0	U	10	0.64	ug/L		11/14/16 11:40	12/02/16 21:29	1
2,4-Dimethylphenol	2.0	U	10	0.58	ug/L		11/14/16 11:40	12/02/16 21:29	1
2,4-Dinitrophenol	30	U	80	10	ug/L		11/14/16 11:40	12/02/16 21:29	1
2,4-Dinitrotoluene	4.4	U	20	1.7	ug/L		11/14/16 11:40	12/02/16 21:29	1
2,6-Dichlorophenol	4.0	U	10	1.4	ug/L		11/14/16 11:40	12/02/16 21:29	1
2,6-Dinitrotoluene	4.4	U	20	1.9	ug/L		11/14/16 11:40	12/02/16 21:29	1
2-Chloronaphthalene	1.0	U	10	0.26	ug/L		11/14/16 11:40	12/02/16 21:29	1
2-Chlorophenol	4.4	U	10	2.0	ug/L		11/14/16 11:40	12/02/16 21:29	1
2-Methylnaphthalene	1.0	U	10	0.29	ug/L		11/14/16 11:40	12/02/16 21:29	1
2-Methylphenol	2.0	U	10	0.98	ug/L		11/14/16 11:40	12/02/16 21:29	1
3 & 4 Methylphenol	0.50	U	20	0.25	ug/L		11/14/16 11:40	12/02/16 21:29	1
3,3'-Dichlorobenzidine	4.4	U	50	2.0	ug/L		11/14/16 11:40	12/02/16 21:29	1

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

Lab Sample ID: MB 280-351287/1-A
Matrix: Water
Analysis Batch: 354097

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 351287

Analyte	MB Result	MB Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
3-Nitroaniline	4.4	U	50	2.0	ug/L		11/14/16 11:40	12/02/16 21:29	1
4,6-Dinitro-2-methylphenol	8.8	U	80	4.0	ug/L		11/14/16 11:40	12/02/16 21:29	1
4-Chloroaniline	4.4	U	25	2.1	ug/L		11/14/16 11:40	12/02/16 21:29	1
4-Chlorophenyl phenyl ether	4.4	U	10	1.7	ug/L		11/14/16 11:40	12/02/16 21:29	1
4-Nitroaniline	4.4	U	50	2.0	ug/L		11/14/16 11:40	12/02/16 21:29	1
4-Nitrophenol	4.0	U	50	1.2	ug/L		11/14/16 11:40	12/02/16 21:29	1
Acenaphthene	1.0	U	10	0.28	ug/L		11/14/16 11:40	12/02/16 21:29	1
Acenaphthylene	1.0	U	10	0.49	ug/L		11/14/16 11:40	12/02/16 21:29	1
Anthracene	1.0	U	10	0.42	ug/L		11/14/16 11:40	12/02/16 21:29	1
Benzidine	100	U	200	50	ug/L		11/14/16 11:40	12/02/16 21:29	1
Benzo[a]anthracene	1.0	U	10	0.35	ug/L		11/14/16 11:40	12/02/16 21:29	1
Benzo[a]pyrene	1.0	U	10	0.31	ug/L		11/14/16 11:40	12/02/16 21:29	1
Benzo[b]fluoranthene	2.0	U	10	0.53	ug/L		11/14/16 11:40	12/02/16 21:29	1
Benzo[g,h,i]perylene	1.0	U	10	0.50	ug/L		11/14/16 11:40	12/02/16 21:29	1
Benzo[k]fluoranthene	1.0	U	10	0.46	ug/L		11/14/16 11:40	12/02/16 21:29	1
Benzoic acid	30	U	80	10	ug/L		11/14/16 11:40	12/02/16 21:29	1
Benzyl alcohol	0.50	U	25	0.23	ug/L		11/14/16 11:40	12/02/16 21:29	1
Bis(2-chloroethoxy)methane	2.0	U	10	0.97	ug/L		11/14/16 11:40	12/02/16 21:29	1
Bis(2-chloroethyl)ether	1.0	U	20	0.41	ug/L		11/14/16 11:40	12/02/16 21:29	1
Bis(2-ethylhexyl) phthalate	2.0	U	10	0.56	ug/L		11/14/16 11:40	12/02/16 21:29	1
Butyl benzyl phthalate	2.0	U	20	1.0	ug/L		11/14/16 11:40	12/02/16 21:29	1
Carbazole	1.0	U	10	0.43	ug/L		11/14/16 11:40	12/02/16 21:29	1
Chrysene	2.0	U	10	0.54	ug/L		11/14/16 11:40	12/02/16 21:29	1
Dibenz(a,h)anthracene	2.0	U	10	0.51	ug/L		11/14/16 11:40	12/02/16 21:29	1
Dibenzofuran	1.0	U	10	0.29	ug/L		11/14/16 11:40	12/02/16 21:29	1
Diethyl phthalate	1.0	U	20	0.38	ug/L		11/14/16 11:40	12/02/16 21:29	1
Dimethyl phthalate	0.50	U	20	0.21	ug/L		11/14/16 11:40	12/02/16 21:29	1
Di-n-butyl phthalate	4.4	U	20	1.2	ug/L		11/14/16 11:40	12/02/16 21:29	1
Di-n-octyl phthalate	1.0	U	20	0.35	ug/L		11/14/16 11:40	12/02/16 21:29	1
Fluoranthene	0.50	U	20	0.20	ug/L		11/14/16 11:40	12/02/16 21:29	1
Fluorene	1.0	U	10	0.31	ug/L		11/14/16 11:40	12/02/16 21:29	1
Hexachlorobenzene	2.0	U	10	0.66	ug/L		11/14/16 11:40	12/02/16 21:29	1
Hexachlorobutadiene	10	U	30	3.3	ug/L		11/14/16 11:40	12/02/16 21:29	1
Hexachlorocyclopentadiene	30	U	50	10	ug/L		11/14/16 11:40	12/02/16 21:29	1
Hexachloroethane	4.4	U	10	2.1	ug/L		11/14/16 11:40	12/02/16 21:29	1
Indeno[1,2,3-cd]pyrene	2.0	U	10	0.65	ug/L		11/14/16 11:40	12/02/16 21:29	1
Isophorone	0.50	U	10	0.21	ug/L		11/14/16 11:40	12/02/16 21:29	1
Naphthalene	1.0	U	10	0.29	ug/L		11/14/16 11:40	12/02/16 21:29	1
Nitrobenzene	2.0	U	20	0.81	ug/L		11/14/16 11:40	12/02/16 21:29	1
N-Nitrosodimethylamine	1.0	U	10	0.29	ug/L		11/14/16 11:40	12/02/16 21:29	1
N-Nitrosodi-n-propylamine	1.0	U	20	0.35	ug/L		11/14/16 11:40	12/02/16 21:29	1
N-Nitrosodiphenylamine	1.0	U	10	0.44	ug/L		11/14/16 11:40	12/02/16 21:29	1
N-Nitrosopyrrolidine	2.0	U	10	0.80	ug/L		11/14/16 11:40	12/02/16 21:29	1
Pentachlorophenol	60	U	80	20	ug/L		11/14/16 11:40	12/02/16 21:29	1
Phenanthrene	1.0	U	10	0.26	ug/L		11/14/16 11:40	12/02/16 21:29	1
Phenol	4.4	U	10	2.0	ug/L		11/14/16 11:40	12/02/16 21:29	1
Pyrene	1.0	U	10	0.37	ug/L		11/14/16 11:40	12/02/16 21:29	1

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

Lab Sample ID: MB 280-351287/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 354097 — **Prep Batch: 351287**

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol (Surr)	105		43 - 140	11/14/16 11:40	12/02/16 21:29	1
2-Fluorobiphenyl	99		44 - 119	11/14/16 11:40	12/02/16 21:29	1
2-Fluorophenol (Surr)	101		19 - 119	11/14/16 11:40	12/02/16 21:29	1
Nitrobenzene-d5 (Surr)	100		44 - 120	11/14/16 11:40	12/02/16 21:29	1
Phenol-d5 (Surr)	99		10 - 115	11/14/16 11:40	12/02/16 21:29	1
Terphenyl-d14 (Surr)	107		50 - 134	11/14/16 11:40	12/02/16 21:29	1

Lab Sample ID: LCS 280-351287/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 354097 — **Prep Batch: 351287**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2,4,5-Tetrachlorobenzene	80.0	74.5		ug/L		93	35 - 121
1,2,4-Trichlorobenzene	80.0	70.4		ug/L		88	29 - 116
1,2-Dichlorobenzene	80.0	70.7		ug/L		88	32 - 111
1,2-Diphenylhydrazine	80.9	79.4		ug/L		98	49 - 122
1,3-Dichlorobenzene	80.0	71.0		ug/L		89	28 - 110
1,4-Dichlorobenzene	80.0	69.9		ug/L		87	29 - 112
2,2'-oxybis[1-chloropropane]	80.0	76.3		ug/L		95	37 - 130
2,4,5-Trichlorophenol	80.0	82.2		ug/L		103	53 - 123
2,4,6-Trichlorophenol	80.0	85.1		ug/L		106	50 - 125
2,4-Dichlorophenol	80.0	78.6		ug/L		98	47 - 121
2,4-Dimethylphenol	80.0	70.7		ug/L		88	31 - 124
2,4-Dinitrophenol	160	166		ug/L		104	23 - 143
2,4-Dinitrotoluene	80.0	85.1		ug/L		106	57 - 128
2,6-Dichlorophenol	80.0	80.2		ug/L		100	50 - 118
2,6-Dinitrotoluene	80.0	84.9		ug/L		106	57 - 124
2-Chloronaphthalene	80.0	73.9		ug/L		92	40 - 116
2-Chlorophenol	80.0	77.5		ug/L		97	38 - 117
2-Methylnaphthalene	80.0	75.2		ug/L		94	40 - 121
2-Methylphenol	80.0	80.4		ug/L		101	30 - 117
3 & 4 Methylphenol	80.0	81.6		ug/L		102	29 - 110
3,3'-Dichlorobenzidine	80.0	58.0		ug/L		73	27 - 129
3-Nitroaniline	80.0	57.7		ug/L		72	41 - 128
4,6-Dinitro-2-methylphenol	160	182		ug/L		114	44 - 137
4-Chloroaniline	80.0	55.6		ug/L		69	33 - 117
4-Chlorophenyl phenyl ether	80.0	78.3		ug/L		98	53 - 121
4-Nitroaniline	80.0	76.1		ug/L		95	70 - 120
4-Nitrophenol	160	154		ug/L		96	59 - 129
Acenaphthene	80.0	75.5		ug/L		94	47 - 122
Acenaphthylene	80.0	76.0		ug/L		95	41 - 130
Anthracene	80.0	80.7		ug/L		101	57 - 123
Benzidine	80.0	100	U Q	ug/L		0	27 - 150
Benzo[a]anthracene	80.0	81.6		ug/L		102	58 - 125
Benzo[a]pyrene	80.0	80.9		ug/L		101	54 - 128
Benzo[b]fluoranthene	80.0	81.9		ug/L		102	53 - 131
Benzo[g,h,i]perylene	80.0	82.7		ug/L		103	50 - 134
Benzo[k]fluoranthene	80.0	84.2		ug/L		105	57 - 129

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

Lab Sample ID: LCS 280-351287/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 354097 — **Prep Batch: 351287**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzoic acid	80.0	75.2	J	ug/L		94	41 - 120
Benzyl alcohol	80.0	82.4		ug/L		103	31 - 112
Bis(2-chloroethoxy)methane	80.0	76.6		ug/L		96	48 - 120
Bis(2-chloroethyl)ether	80.0	81.2		ug/L		102	43 - 118
Bis(2-ethylhexyl) phthalate	80.0	81.8		ug/L		102	55 - 135
Butyl benzyl phthalate	80.0	81.0		ug/L		101	53 - 134
Carbazole	80.0	81.3		ug/L		102	60 - 122
Chrysene	80.0	81.4		ug/L		102	59 - 123
Dibenz(a,h)anthracene	80.0	83.2		ug/L		104	51 - 134
Dibenzofuran	80.0	77.2		ug/L		96	53 - 118
Diethyl phthalate	80.0	81.1		ug/L		101	56 - 125
Dimethyl phthalate	80.0	81.2		ug/L		101	45 - 127
Di-n-butyl phthalate	80.0	83.9		ug/L		105	59 - 127
Di-n-octyl phthalate	80.0	82.7		ug/L		103	51 - 140
Fluoranthene	80.0	82.2		ug/L		103	57 - 128
Fluorene	80.0	76.9		ug/L		96	52 - 124
Hexachlorobenzene	80.0	80.3		ug/L		100	53 - 125
Hexachlorobutadiene	80.0	70.0		ug/L		88	22 - 124
Hexachlorocyclopentadiene	80.0	34.4	J	ug/L		43	10 - 120
Hexachloroethane	80.0	71.4		ug/L		89	21 - 115
Indeno[1,2,3-cd]pyrene	80.0	82.1		ug/L		103	52 - 134
Isophorone	80.0	76.5		ug/L		96	42 - 124
Naphthalene	80.0	72.1		ug/L		90	40 - 121
Nitrobenzene	80.0	75.4		ug/L		94	45 - 121
N-Nitrosodimethylamine	80.0	77.9		ug/L		97	56 - 120
N-Nitrosodi-n-propylamine	80.0	79.4		ug/L		99	49 - 119
N-Nitrosodiphenylamine	80.0	80.2		ug/L		100	51 - 123
Pentachlorophenol	160	164		ug/L		102	35 - 138
Phenanthrene	80.0	80.6		ug/L		101	59 - 120
Phenol	80.0	77.4		ug/L		97	61 - 120
Pyrene	80.0	82.2		ug/L		103	57 - 126

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2,4,6-Tribromophenol (Surr)	*104*		*43 - 140*
2-Fluorobiphenyl	*92*		*44 - 119*
2-Fluorophenol (Surr)	*97*		*19 - 119*
Nitrobenzene-d5 (Surr)	*95*		*44 - 120*
Phenol-d5 (Surr)	*97*		*10 - 115*
Terphenyl-d14 (Surr)	*103*		*50 - 134*

Lab Sample ID: LCS 280-351287/3-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 354097 — **Prep Batch: 351287**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
N-Nitrosopyrrolidine	80.0	83.9		ug/L		105	48 - 113

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

Lab Sample ID: LCS 280-351287/3-A
Matrix: Water
Analysis Batch: 354097

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 351287

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2,4,6-Tribromophenol (Surr)	*103*		*43 - 140*
2-Fluorobiphenyl	*94*		*44 - 119*
2-Fluorophenol (Surr)	*96*		*19 - 119*
Nitrobenzene-d5 (Surr)	*94*		*44 - 120*
Phenol-d5 (Surr)	*99*		*10 - 115*
Terphenyl-d14 (Surr)	*98*		*50 - 134*

Lab Sample ID: 280-90734-5 MS
Matrix: Water
Analysis Batch: 354097

Client Sample ID: SC-TU008-MW001-G-2
Prep Type: Total/NA
Prep Batch: 351287

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2,4,5-Tetrachlorobenzene	4.4	U	89.1	71.2		ug/L		80	35 - 121
1,2,4-Trichlorobenzene	1.0	U	89.1	64.6		ug/L		73	29 - 116
1,2-Dichlorobenzene	0.50	U	89.1	65.0		ug/L		73	32 - 111
1,2-Diphenylhydrazine	0.51	U	90.1	83.1		ug/L		92	49 - 122
1,3-Dichlorobenzene	1.0	U	89.1	63.2		ug/L		71	28 - 110
1,4-Dichlorobenzene	1.0	U	89.1	63.5		ug/L		71	29 - 112
2,2'-oxybis[1-chloropropane]	1.0	U	89.1	70.4		ug/L		79	37 - 130
2,4,5-Trichlorophenol	1.0	U	89.1	88.7		ug/L		99	53 - 123
2,4,6-Trichlorophenol	1.0	U	89.1	91.1		ug/L		102	50 - 125
2,4-Dichlorophenol	2.0	U	89.1	76.9		ug/L		86	47 - 121
2,4-Dimethylphenol	2.0	U	89.1	73.5		ug/L		82	31 - 124
2,4-Dinitrophenol	30	U	178	194		ug/L		109	23 - 143
2,4-Dinitrotoluene	4.4	U	89.1	88.8		ug/L		100	57 - 128
2,6-Dichlorophenol	4.0	U	89.1	78.5		ug/L		88	50 - 118
2,6-Dinitrotoluene	4.4	U	89.1	90.1		ug/L		101	57 - 124
2-Chloronaphthalene	1.0	U	89.1	76.5		ug/L		86	40 - 116
2-Chlorophenol	4.4	U	89.1	73.1		ug/L		82	38 - 117
2-Methylnaphthalene	1.0	U	89.1	73.0		ug/L		82	40 - 121
2-Methylphenol	2.0	U	89.1	76.8		ug/L		86	30 - 117
3 & 4 Methylphenol	2.7	J	89.1	81.4		ug/L		88	29 - 110
3,3'-Dichlorobenzidine	4.4	U J	89.1	26.3	J	ug/L		29	27 - 129
3-Nitroaniline	4.4	U	89.1	62.1		ug/L		70	41 - 128
4,6-Dinitro-2-methylphenol	8.8	U	178	200		ug/L		112	44 - 137
4-Chloroaniline	4.4	U J	89.1	52.0		ug/L		58	33 - 117
4-Chlorophenyl phenyl ether	4.4	U	89.1	79.5		ug/L		89	53 - 121
4-Nitroaniline	4.4	U	89.1	72.6		ug/L		81	70 - 120
4-Nitrophenol	4.0	U	178	163		ug/L		91	59 - 129
Acenaphthene	1.0	U Q	89.1	79.6		ug/L		89	47 - 122
Acenaphthylene	1.0	U Q	89.1	79.8		ug/L		90	41 - 130
Anthracene	1.0	U Q	89.1	82.2		ug/L		92	57 - 123
Benzidine	100	U Q J	89.1	110	U J	ug/L		0	27 - 150
Benzo[a]anthracene	1.0	U Q	89.1	77.5		ug/L		87	58 - 125
Benzo[a]pyrene	1.0	U Q	89.1	74.2		ug/L		83	54 - 128
Benzo[b]fluoranthene	2.0	U Q	89.1	76.5		ug/L		86	53 - 131
Benzo[g,h,i]perylene	1.0	U Q	89.1	78.3		ug/L		88	50 - 134
Benzo[k]fluoranthene	1.0	U Q	89.1	76.5		ug/L		86	57 - 129

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

Lab Sample ID: 280-90734-5 MS — **Client Sample ID: SC-TU008-MW001-G-2**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 354097 — **Prep Batch: 351287**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzoic acid	19	J	89.1	93.4		ug/L		84	41 - 120
Benzyl alcohol	0.50	U	89.1	80.9		ug/L		91	31 - 112
Bis(2-chloroethoxy)methane	2.0	U	89.1	72.3		ug/L		81	48 - 120
Bis(2-chloroethyl)ether	1.0	U	89.1	77.4		ug/L		87	43 - 118
Bis(2-ethylhexyl) phthalate	2.0	U	89.1	81.3		ug/L		91	55 - 135
Butyl benzyl phthalate	2.0	U	89.1	82.3		ug/L		92	53 - 134
Carbazole	1.0	U	89.1	85.7		ug/L		96	60 - 122
Chrysene	2.0	U Q	89.1	76.8		ug/L		86	59 - 123
Dibenz(a,h)anthracene	2.0	U	89.1	79.9		ug/L		90	51 - 134
Dibenzofuran	1.0	U	89.1	80.4		ug/L		90	53 - 118
Diethyl phthalate	1.0	U	89.1	84.6		ug/L		95	56 - 125
Dimethyl phthalate	0.50	U	89.1	84.5		ug/L		95	45 - 127
Di-n-butyl phthalate	4.4	U	89.1	84.3		ug/L		95	59 - 127
Di-n-octyl phthalate	1.0	U	89.1	81.8		ug/L		92	51 - 140
Fluoranthene	0.50	U Q	89.1	80.6		ug/L		90	57 - 128
Fluorene	1.0	U Q	89.1	80.6		ug/L		90	52 - 124
Hexachlorobenzene	2.0	U	89.1	79.2		ug/L		89	53 - 125
Hexachlorobutadiene	10	U	89.1	59.8		ug/L		67	22 - 124
Hexachlorocyclopentadiene	30	U	89.1	25.6	J	ug/L		29	10 - 120
Hexachloroethane	4.4	U	89.1	64.5		ug/L		72	21 - 115
Indeno[1,2,3-cd]pyrene	2.0	U Q	89.1	78.9		ug/L		88	52 - 134
Isophorone	0.50	U	89.1	73.7		ug/L		83	42 - 124
Naphthalene	1.0	U Q	89.1	68.7		ug/L		77	40 - 121
Nitrobenzene	2.0	U	89.1	70.8		ug/L		79	45 - 121
N-Nitrosodimethylamine	1.0	U	89.1	69.6		ug/L		78	56 - 120
N-Nitrosodi-n-propylamine	1.0	U	89.1	77.1		ug/L		87	49 - 119
N-Nitrosodiphenylamine	1.0	U	89.1	70.6		ug/L		79	51 - 123
Pentachlorophenol	60	U	178	193		ug/L		108	35 - 138
Phenanthrene	1.0	U Q	89.1	83.7		ug/L		94	59 - 120
Phenol	24	J	89.1	76.1	J	ug/L		58	61 - 120
Pyrene	1.0	U Q	89.1	86.0		ug/L		96	57 - 126

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
2,4,6-Tribromophenol (Surr)	*97*		*43 - 140*
2-Fluorobiphenyl	*83*		*44 - 119*
2-Fluorophenol (Surr)	*79*		*19 - 119*
Nitrobenzene-d5 (Surr)	*79*		*44 - 120*
Phenol-d5 (Surr)	*82*		*10 - 115*
Terphenyl-d14 (Surr)	*71*		*50 - 134*

Lab Sample ID: 280-90734-5 MS — **Client Sample ID: SC-TU008-MW001-G-2**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 354097 — **Prep Batch: 351287**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
N-Nitrosopyrrolidine	2.0	U	86.8	80.9		ug/L		93	48 - 113

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

Lab Sample ID: 280-90734-5 MS — **Client Sample ID: SC-TU008-MW001-G-2**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 354097 — **Prep Batch: 351287**

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
2,4,6-Tribromophenol (Surr)	*97*		*43 - 140*
2-Fluorobiphenyl	*84*		*44 - 119*
2-Fluorophenol (Surr)	*73*		*19 - 119*
Nitrobenzene-d5 (Surr)	*77*		*44 - 120*
Phenol-d5 (Surr)	*80*		*10 - 115*
Terphenyl-d14 (Surr)	*82*		*50 - 134*

Lab Sample ID: 280-90734-5 MSD — **Client Sample ID: SC-TU008-MW001-G-2**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 354097 — **Prep Batch: 351287**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,2,4,5-Tetrachlorobenzene	4.4	U	84.0	72.8		ug/L		87	35 - 121	2	20
1,2,4-Trichlorobenzene	1.0	U	84.0	66.3		ug/L		79	29 - 116	3	20
1,2-Dichlorobenzene	0.50	U	84.0	65.7		ug/L		78	32 - 111	1	20
1,2-Diphenylhydrazine	0.51	U	84.9	80.7		ug/L		95	49 - 122	3	20
1,3-Dichlorobenzene	1.0	U	84.0	64.2		ug/L		76	28 - 110	2	20
1,4-Dichlorobenzene	1.0	U	84.0	65.7		ug/L		78	29 - 112	3	20
2,2'-oxybis[1-chloropropane]	1.0	U	84.0	73.2		ug/L		87	37 - 130	4	20
2,4,5-Trichlorophenol	1.0	U	84.0	84.3		ug/L		100	53 - 123	5	20
2,4,6-Trichlorophenol	1.0	U	84.0	90.9		ug/L		108	50 - 125	0	20
2,4-Dichlorophenol	2.0	U	84.0	76.4		ug/L		91	47 - 121	1	20
2,4-Dimethylphenol	2.0	U	84.0	69.8		ug/L		83	31 - 124	5	20
2,4-Dinitrophenol	30	U	168	187		ug/L		111	23 - 143	4	20
2,4-Dinitrotoluene	4.4	U	84.0	88.9		ug/L		106	57 - 128	0	20
2,6-Dichlorophenol	4.0	U	84.0	76.9		ug/L		92	50 - 118	2	20
2,6-Dinitrotoluene	4.4	U	84.0	88.4		ug/L		105	57 - 124	2	20
2-Chloronaphthalene	1.0	U	84.0	77.3		ug/L		92	40 - 116	1	20
2-Chlorophenol	4.4	U	84.0	74.1		ug/L		88	38 - 117	1	20
2-Methylnaphthalene	1.0	U	84.0	72.3		ug/L		86	40 - 121	1	20
2-Methylphenol	2.0	U	84.0	77.4		ug/L		92	30 - 117	1	20
3 & 4 Methylphenol	2.7	J	84.0	79.9		ug/L		92	29 - 110	2	20
3,3'-Dichlorobenzidine	4.4	U J	84.0	32.5	J	ug/L		39	27 - 129	21	20
3-Nitroaniline	4.4	U	84.0	70.8		ug/L		84	41 - 128	13	20
4,6-Dinitro-2-methylphenol	8.8	U	168	195		ug/L		116	44 - 137	3	20
4-Chloroaniline	4.4	U J	84.0	67.9	J	ug/L		81	33 - 117	27	20
4-Chlorophenyl phenyl ether	4.4	U	84.0	81.5		ug/L		97	53 - 121	3	20
4-Nitroaniline	4.4	U	84.0	71.8		ug/L		85	70 - 120	1	20
4-Nitrophenol	4.0	U	168	160		ug/L		95	59 - 129	2	20
Acenaphthene	1.0	U Q	84.0	77.8		ug/L		93	47 - 122	2	20
Acenaphthylene	1.0	U Q	84.0	78.7		ug/L		94	41 - 130	1	20
Anthracene	1.0	U Q	84.0	81.7		ug/L		97	57 - 123	1	20
Benzidine	100	U Q J	84.0	100	U J	ug/L		0	27 - 150	NC	20
Benzo[a]anthracene	1.0	U Q	84.0	82.9		ug/L		99	58 - 125	7	20
Benzo[a]pyrene	1.0	U Q	84.0	78.6		ug/L		94	54 - 128	6	20
Benzo[b]fluoranthene	2.0	U Q	84.0	81.2		ug/L		97	53 - 131	6	20
Benzo[g,h,i]perylene	1.0	U Q	84.0	84.1		ug/L		100	50 - 134	7	20
Benzo[k]fluoranthene	1.0	U Q	84.0	82.1		ug/L		98	57 - 129	7	20

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

Lab Sample ID: 280-90734-5 MSD — **Client Sample ID: SC-TU008-MW001-G-2**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 354097 — **Prep Batch: 351287**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzoic acid	19	J	84.0	90.3		ug/L		85	41 - 120	3	20
Benzyl alcohol	0.50	U	84.0	79.4		ug/L		95	31 - 112	2	20
Bis(2-chloroethoxy)methane	2.0	U	84.0	73.2		ug/L		87	48 - 120	1	20
Bis(2-chloroethyl)ether	1.0	U	84.0	76.1		ug/L		91	43 - 118	2	20
Bis(2-ethylhexyl) phthalate	2.0	U	84.0	86.9		ug/L		104	55 - 135	7	20
Butyl benzyl phthalate	2.0	U	84.0	86.2		ug/L		103	53 - 134	5	20
Carbazole	1.0	U	84.0	83.8		ug/L		100	60 - 122	2	20
Chrysene	2.0	U Q	84.0	82.4		ug/L		98	59 - 123	7	20
Dibenz(a,h)anthracene	2.0	U	84.0	85.3		ug/L		102	51 - 134	6	20
Dibenzofuran	1.0	U	84.0	80.7		ug/L		96	53 - 118	0	20
Diethyl phthalate	1.0	U	84.0	82.8		ug/L		99	56 - 125	2	20
Dimethyl phthalate	0.50	U	84.0	82.2		ug/L		98	45 - 127	3	20
Di-n-butyl phthalate	4.4	U	84.0	85.6		ug/L		102	59 - 127	1	20
Di-n-octyl phthalate	1.0	U	84.0	88.5		ug/L		105	51 - 140	8	20
Fluoranthene	0.50	U Q	84.0	80.8		ug/L		96	57 - 128	0	20
Fluorene	1.0	U Q	84.0	79.8		ug/L		95	52 - 124	1	20
Hexachlorobenzene	2.0	U	84.0	82.6		ug/L		98	53 - 125	4	20
Hexachlorobutadiene	10	U	84.0	64.9		ug/L		77	22 - 124	8	20
Hexachlorocyclopentadiene	30	U	84.0	26.5	J	ug/L		32	10 - 120	4	20
Hexachloroethane	4.4	U	84.0	65.6		ug/L		78	21 - 115	2	20
Indeno[1,2,3-cd]pyrene	2.0	U Q	84.0	84.9		ug/L		101	52 - 134	7	20
Isophorone	0.50	U	84.0	73.6		ug/L		88	42 - 124	0	20
Naphthalene	1.0	U Q	84.0	69.5		ug/L		83	40 - 121	1	20
Nitrobenzene	2.0	U	84.0	72.8		ug/L		87	45 - 121	3	20
N-Nitrosodimethylamine	1.0	U	84.0	69.7		ug/L		83	56 - 120	0	20
N-Nitrosodi-n-propylamine	1.0	U	84.0	76.4		ug/L		91	49 - 119	1	20
N-Nitrosodiphenylamine	1.0	U	84.0	67.0		ug/L		80	51 - 123	5	20
Pentachlorophenol	60	U	168	182		ug/L		108	35 - 138	6	20
Phenanthrene	1.0	U Q	84.0	81.7		ug/L		97	59 - 120	2	20
Phenol	24	J	84.0	78.9		ug/L		65	61 - 120	3	20
Pyrene	1.0	U Q	84.0	86.2		ug/L		103	57 - 126	0	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
2,4,6-Tribromophenol (Surr)	*101*		*43 - 140*
2-Fluorobiphenyl	*89*		*44 - 119*
2-Fluorophenol (Surr)	*85*		*19 - 119*
Nitrobenzene-d5 (Surr)	*84*		*44 - 120*
Phenol-d5 (Surr)	*87*		*10 - 115*
Terphenyl-d14 (Surr)	*83*		*50 - 134*

Lab Sample ID: 280-90734-5 MSD — **Client Sample ID: SC-TU008-MW001-G-2**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 354097 — **Prep Batch: 351287**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
N-Nitrosopyrrolidine	2.0	U	91.9	92.2		ug/L		100	48 - 113	13	20

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

Lab Sample ID: 280-90734-5 MSD
Matrix: Water
Analysis Batch: 354097

Client Sample ID: SC-TU008-MW001-G-2
Prep Type: Total/NA
Prep Batch: 351287

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
2,4,6-Tribromophenol (Surr)	*106*		*43 - 140*
2-Fluorobiphenyl	*91*		*44 - 119*
2-Fluorophenol (Surr)	*88*		*19 - 119*
Nitrobenzene-d5 (Surr)	*86*		*44 - 120*
Phenol-d5 (Surr)	*92*		*10 - 115*
Terphenyl-d14 (Surr)	*76*		*50 - 134*

QC Association Summary

Client: Weston Solutions, Inc.
Project/Site: Schenectady ANGB TU008

TestAmerica Job ID: 280-90734-1

GC/MS VOA

Analysis Batch: 279462

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-90734-1	SC-TU008-MW002-G-2	Total/NA	Water	8260C DOD	
280-90734-2	SC-TU008-MW002-G-2-D	Total/NA	Water	8260C DOD	
280-90734-3	SC-TU008-TB110716	Total/NA	Water	8260C DOD	
280-90734-4	SC-TU008-MW004-G-2	Total/NA	Water	8260C DOD	
280-90734-5	SC-TU008-MW001-G-2	Total/NA	Water	8260C DOD	
MB 160-279462/6	Method Blank	Total/NA	Water	8260C DOD	
LCS 160-279462/3	Lab Control Sample	Total/NA	Water	8260C DOD	
LCSD 160-279462/4	Lab Control Sample Dup	Total/NA	Water	8260C DOD	
280-90734-5 MS	SC-TU008-MW001-G-2	Total/NA	Water	8260C DOD	
280-90734-5 MSD	SC-TU008-MW001-G-2	Total/NA	Water	8260C DOD	

GC/MS Semi VOA

Prep Batch: 351287

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-90734-1	SC-TU008-MW002-G-2	Total/NA	Water	3520C	
280-90734-2	SC-TU008-MW002-G-2-D	Total/NA	Water	3520C	
280-90734-4	SC-TU008-MW004-G-2	Total/NA	Water	3520C	
280-90734-5	SC-TU008-MW001-G-2	Total/NA	Water	3520C	
MB 280-351287/1-A	Method Blank	Total/NA	Water	3520C	
LCS 280-351287/2-A	Lab Control Sample	Total/NA	Water	3520C	
LCS 280-351287/3-A	Lab Control Sample	Total/NA	Water	3520C	
280-90734-5 MS	SC-TU008-MW001-G-2	Total/NA	Water	3520C	
280-90734-5 MS	SC-TU008-MW001-G-2	Total/NA	Water	3520C	
280-90734-5 MSD	SC-TU008-MW001-G-2	Total/NA	Water	3520C	
280-90734-5 MSD	SC-TU008-MW001-G-2	Total/NA	Water	3520C	

Analysis Batch: 354097

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-90734-1	SC-TU008-MW002-G-2	Total/NA	Water	8270D	351287
280-90734-2	SC-TU008-MW002-G-2-D	Total/NA	Water	8270D	351287
280-90734-4	SC-TU008-MW004-G-2	Total/NA	Water	8270D	351287
280-90734-5	SC-TU008-MW001-G-2	Total/NA	Water	8270D	351287
MB 280-351287/1-A	Method Blank	Total/NA	Water	8270D	351287
LCS 280-351287/2-A	Lab Control Sample	Total/NA	Water	8270D	351287
LCS 280-351287/3-A	Lab Control Sample	Total/NA	Water	8270D	351287
280-90734-5 MS	SC-TU008-MW001-G-2	Total/NA	Water	8270D	351287
280-90734-5 MS	SC-TU008-MW001-G-2	Total/NA	Water	8270D	351287
280-90734-5 MSD	SC-TU008-MW001-G-2	Total/NA	Water	8270D	351287
280-90734-5 MSD	SC-TU008-MW001-G-2	Total/NA	Water	8270D	351287

Lab Chronicle

Client: Weston Solutions, Inc.
Project/Site: Schenectady ANGB TU008

TestAmerica Job ID: 280-90734-1

Client Sample ID: SC-TU008-MW002-G-2 — Lab Sample ID: 280-90734-1

Date Collected: 11/07/16 11:05 — **Matrix: Water**
Date Received: 11/09/16 09:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C DOD		1	5 mL	5 mL	279462	11/16/16 14:26	SMR	TAL SL
Total/NA	Prep	3520C			983.6 mL	1 mL	351287	11/14/16 11:40	JRA	TAL DEN
Total/NA	Analysis	8270D		1			354097	12/03/16 00:19	AFH	TAL DEN

Client Sample ID: SC-TU008-MW002-G-2-D — Lab Sample ID: 280-90734-2

Date Collected: 11/07/16 11:07 — **Matrix: Water**
Date Received: 11/09/16 09:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C DOD		1	5 mL	5 mL	279462	11/16/16 14:51	SMR	TAL SL
Total/NA	Prep	3520C			1005.8 mL	1 mL	351287	11/14/16 11:40	JRA	TAL DEN
Total/NA	Analysis	8270D		1			354097	12/03/16 00:47	AFH	TAL DEN

Client Sample ID: SC-TU008-TB110716 — Lab Sample ID: 280-90734-3

Date Collected: 11/07/16 11:10 — **Matrix: Water**
Date Received: 11/09/16 09:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C DOD		1	5 mL	5 mL	279462	11/16/16 15:16	SMR	TAL SL

Client Sample ID: SC-TU008-MW004-G-2 — Lab Sample ID: 280-90734-4

Date Collected: 11/07/16 13:10 — **Matrix: Water**
Date Received: 11/09/16 09:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C DOD		1	5 mL	5 mL	279462	11/16/16 15:41	SMR	TAL SL
Total/NA	Prep	3520C			1008.7 mL	1 mL	351287	11/14/16 11:40	JRA	TAL DEN
Total/NA	Analysis	8270D		1			354097	12/03/16 01:16	AFH	TAL DEN

Client Sample ID: SC-TU008-MW001-G-2 — Lab Sample ID: 280-90734-5

Date Collected: 11/07/16 14:10 — **Matrix: Water**
Date Received: 11/09/16 09:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C DOD		1	5 mL	5 mL	279462	11/16/16 12:20	SMR	TAL SL
Total/NA	Prep	3520C			995.5 mL	1 mL	351287	11/14/16 11:40	JRA	TAL DEN
Total/NA	Analysis	8270D		1			354097	12/03/16 01:44	AFH	TAL DEN

Laboratory References:

TAL DEN = TestAmerica Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

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

Laboratory: TestAmerica Denver

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

Authority	Program	EPA Region	Certification ID	Expiration Date
A2LA	DoD ELAP		2907.01	10-31-17
Connecticut	State Program	1	PH-0686	09-30-18

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

Analysis Method	Prep Method	Matrix	Analyte
8270D	3520C	Water	1,2,4,5-Tetrachlorobenzene
8270D	3520C	Water	1,2,4-Trichlorobenzene
8270D	3520C	Water	1,2-Dichlorobenzene
8270D	3520C	Water	1,2-Diphenylhydrazine
8270D	3520C	Water	1,3-Dichlorobenzene
8270D	3520C	Water	1,4-Dichlorobenzene
8270D	3520C	Water	2,2'-oxybis[1-chloropropane]
8270D	3520C	Water	2,4,5-Trichlorophenol
8270D	3520C	Water	2,4,6-Trichlorophenol
8270D	3520C	Water	2,4-Dichlorophenol
8270D	3520C	Water	2,4-Dimethylphenol
8270D	3520C	Water	2,4-Dinitrophenol
8270D	3520C	Water	2,4-Dinitrotoluene
8270D	3520C	Water	2,6-Dichlorophenol
8270D	3520C	Water	2,6-Dinitrotoluene
8270D	3520C	Water	2-Chloronaphthalene
8270D	3520C	Water	2-Chlorophenol
8270D	3520C	Water	2-Methylnaphthalene
8270D	3520C	Water	2-Methylphenol
8270D	3520C	Water	3 & 4 Methylphenol
8270D	3520C	Water	3,3'-Dichlorobenzidine
8270D	3520C	Water	3-Nitroaniline
8270D	3520C	Water	4,6-Dinitro-2-methylphenol
8270D	3520C	Water	4-Chloroaniline
8270D	3520C	Water	4-Chlorophenyl phenyl ether
8270D	3520C	Water	4-Nitroaniline
8270D	3520C	Water	4-Nitrophenol
8270D	3520C	Water	Acenaphthene
8270D	3520C	Water	Acenaphthylene
8270D	3520C	Water	Anthracene
8270D	3520C	Water	Benzidine
8270D	3520C	Water	Benzo[a]anthracene
8270D	3520C	Water	Benzo[a]pyrene
8270D	3520C	Water	Benzo[b]fluoranthene
8270D	3520C	Water	Benzo[g,h,i]perylene
8270D	3520C	Water	Benzo[k]fluoranthene
8270D	3520C	Water	Benzoic acid
8270D	3520C	Water	Benzyl alcohol
8270D	3520C	Water	Bis(2-chloroethoxy)methane
8270D	3520C	Water	Bis(2-chloroethyl)ether
8270D	3520C	Water	Bis(2-ethylhexyl) phthalate
8270D	3520C	Water	Butyl benzyl phthalate

Laboratory: TestAmerica Denver (Continued)

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

Authority	Program	EPA Region	Certification ID	Expiration Date
Connecticut	State Program	1	PH-0686	09-30-18

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

Analysis Method	Prep Method	Matrix	Analyte
8270D	3520C	Water	Carbazole
8270D	3520C	Water	Chrysene
8270D	3520C	Water	Dibenz(a,h)anthracene
8270D	3520C	Water	Dibenzofuran
8270D	3520C	Water	Diethyl phthalate
8270D	3520C	Water	Dimethyl phthalate
8270D	3520C	Water	Di-n-butyl phthalate
8270D	3520C	Water	Di-n-octyl phthalate
8270D	3520C	Water	Fluoranthene
8270D	3520C	Water	Fluorene
8270D	3520C	Water	Hexachlorobenzene
8270D	3520C	Water	Hexachlorobutadiene
8270D	3520C	Water	Hexachlorocyclopentadiene
8270D	3520C	Water	Hexachloroethane
8270D	3520C	Water	Indeno[1,2,3-cd]pyrene
8270D	3520C	Water	Isophorone
8270D	3520C	Water	Naphthalene
8270D	3520C	Water	Nitrobenzene
8270D	3520C	Water	N-Nitrosodimethylamine
8270D	3520C	Water	N-Nitrosodi-n-propylamine
8270D	3520C	Water	N-Nitrosodiphenylamine
8270D	3520C	Water	N-Nitrosopyrrolidine
8270D	3520C	Water	Pentachlorophenol
8270D	3520C	Water	Phenanthrene
8270D	3520C	Water	Phenol
8270D	3520C	Water	Pyrene

Maine	State Program	1	CO0002	03-03-17

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

Analysis Method	Prep Method	Matrix	Analyte
8270D	3520C	Water	1,2,4,5-Tetrachlorobenzene
8270D	3520C	Water	1,2,4-Trichlorobenzene
8270D	3520C	Water	1,2-Dichlorobenzene
8270D	3520C	Water	1,2-Diphenylhydrazine
8270D	3520C	Water	1,3-Dichlorobenzene
8270D	3520C	Water	1,4-Dichlorobenzene
8270D	3520C	Water	2,2'-oxybis[1-chloropropane]
8270D	3520C	Water	2,4,5-Trichlorophenol
8270D	3520C	Water	2,4,6-Trichlorophenol
8270D	3520C	Water	2,4-Dichlorophenol
8270D	3520C	Water	2,4-Dimethylphenol
8270D	3520C	Water	2,4-Dinitrophenol
8270D	3520C	Water	2,4-Dinitrotoluene
8270D	3520C	Water	2,6-Dichlorophenol
8270D	3520C	Water	2,6-Dinitrotoluene
8270D	3520C	Water	2-Chloronaphthalene
8270D	3520C	Water	2-Chlorophenol

Laboratory: TestAmerica Denver (Continued)

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

Authority	Program	EPA Region	Certification ID	Expiration Date
Maine	State Program	1	CO0002	03-03-17

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

Analysis Method	Prep Method	Matrix	Analyte
8270D	3520C	Water	2-Methylnaphthalene
8270D	3520C	Water	2-Methylphenol
8270D	3520C	Water	3 & 4 Methylphenol
8270D	3520C	Water	3,3'-Dichlorobenzidine
8270D	3520C	Water	3-Nitroaniline
8270D	3520C	Water	4,6-Dinitro-2-methylphenol
8270D	3520C	Water	4-Chloroaniline
8270D	3520C	Water	4-Chlorophenyl phenyl ether
8270D	3520C	Water	4-Nitroaniline
8270D	3520C	Water	4-Nitrophenol
8270D	3520C	Water	Acenaphthene
8270D	3520C	Water	Acenaphthylene
8270D	3520C	Water	Anthracene
8270D	3520C	Water	Benzidine
8270D	3520C	Water	Benzo[a]anthracene
8270D	3520C	Water	Benzo[a]pyrene
8270D	3520C	Water	Benzo[b]fluoranthene
8270D	3520C	Water	Benzo[g,h,i]perylene
8270D	3520C	Water	Benzo[k]fluoranthene
8270D	3520C	Water	Benzoic acid
8270D	3520C	Water	Benzyl alcohol
8270D	3520C	Water	Bis(2-chloroethoxy)methane
8270D	3520C	Water	Bis(2-chloroethyl)ether
8270D	3520C	Water	Bis(2-ethylhexyl) phthalate
8270D	3520C	Water	Butyl benzyl phthalate
8270D	3520C	Water	Carbazole
8270D	3520C	Water	Chrysene
8270D	3520C	Water	Dibenz(a,h)anthracene
8270D	3520C	Water	Dibenzofuran
8270D	3520C	Water	Diethyl phthalate
8270D	3520C	Water	Dimethyl phthalate
8270D	3520C	Water	Di-n-butyl phthalate
8270D	3520C	Water	Di-n-octyl phthalate
8270D	3520C	Water	Fluoranthene
8270D	3520C	Water	Fluorene
8270D	3520C	Water	Hexachlorobenzene
8270D	3520C	Water	Hexachlorobutadiene
8270D	3520C	Water	Hexachlorocyclopentadiene
8270D	3520C	Water	Hexachloroethane
8270D	3520C	Water	Indeno[1,2,3-cd]pyrene
8270D	3520C	Water	Isophorone
8270D	3520C	Water	Naphthalene
8270D	3520C	Water	Nitrobenzene
8270D	3520C	Water	N-Nitrosodimethylamine
8270D	3520C	Water	N-Nitrosodi-n-propylamine
8270D	3520C	Water	N-Nitrosodiphenylamine

Laboratory: TestAmerica Denver (Continued)

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

Authority	Program	EPA Region	Certification ID	Expiration Date
Maine	State Program	1	CO0002	03-03-17

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

Analysis Method	Prep Method	Matrix	Analyte
8270D	3520C	Water	N-Nitrosopyrrolidine
8270D	3520C	Water	Pentachlorophenol
8270D	3520C	Water	Phenanthrene
8270D	3520C	Water	Phenol
8270D	3520C	Water	Pyrene

New Hampshire	NELAP	1	205310	04-28-17

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

Analysis Method	Prep Method	Matrix	Analyte
8270D	3520C	Water	1,2,4,5-Tetrachlorobenzene
8270D	3520C	Water	1,2,4-Trichlorobenzene
8270D	3520C	Water	1,2-Dichlorobenzene
8270D	3520C	Water	1,2-Diphenylhydrazine
8270D	3520C	Water	1,3-Dichlorobenzene
8270D	3520C	Water	1,4-Dichlorobenzene
8270D	3520C	Water	2,2'-oxybis[1-chloropropane]
8270D	3520C	Water	2,4,5-Trichlorophenol
8270D	3520C	Water	2,4,6-Trichlorophenol
8270D	3520C	Water	2,4-Dichlorophenol
8270D	3520C	Water	2,4-Dimethylphenol
8270D	3520C	Water	2,4-Dinitrophenol
8270D	3520C	Water	2,4-Dinitrotoluene
8270D	3520C	Water	2,6-Dichlorophenol
8270D	3520C	Water	2,6-Dinitrotoluene
8270D	3520C	Water	2-Chloronaphthalene
8270D	3520C	Water	2-Chlorophenol
8270D	3520C	Water	2-Methylnaphthalene
8270D	3520C	Water	2-Methylphenol
8270D	3520C	Water	3 & 4 Methylphenol
8270D	3520C	Water	3,3'-Dichlorobenzidine
8270D	3520C	Water	3-Nitroaniline
8270D	3520C	Water	4,6-Dinitro-2-methylphenol
8270D	3520C	Water	4-Chloroaniline
8270D	3520C	Water	4-Chlorophenyl phenyl ether
8270D	3520C	Water	4-Nitroaniline
8270D	3520C	Water	4-Nitrophenol
8270D	3520C	Water	Acenaphthene
8270D	3520C	Water	Acenaphthylene
8270D	3520C	Water	Anthracene
8270D	3520C	Water	Benzidine
8270D	3520C	Water	Benzo[a]anthracene
8270D	3520C	Water	Benzo[a]pyrene
8270D	3520C	Water	Benzo[b]fluoranthene
8270D	3520C	Water	Benzo[g,h,i]perylene
8270D	3520C	Water	Benzo[k]fluoranthene
8270D	3520C	Water	Benzoic acid
8270D	3520C	Water	Benzyl alcohol

Laboratory: TestAmerica Denver (Continued)

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

Authority	Program	EPA Region	Certification ID	Expiration Date
New Hampshire	NELAP	1	205310	04-28-17

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

Analysis Method	Prep Method	Matrix	Analyte
8270D	3520C	Water	Bis(2-chloroethoxy)methane
8270D	3520C	Water	Bis(2-chloroethyl)ether
8270D	3520C	Water	Bis(2-ethylhexyl) phthalate
8270D	3520C	Water	Butyl benzyl phthalate
8270D	3520C	Water	Carbazole
8270D	3520C	Water	Chrysene
8270D	3520C	Water	Dibenz(a,h)anthracene
8270D	3520C	Water	Dibenzofuran
8270D	3520C	Water	Diethyl phthalate
8270D	3520C	Water	Dimethyl phthalate
8270D	3520C	Water	Di-n-butyl phthalate
8270D	3520C	Water	Di-n-octyl phthalate
8270D	3520C	Water	Fluoranthene
8270D	3520C	Water	Fluorene
8270D	3520C	Water	Hexachlorobenzene
8270D	3520C	Water	Hexachlorobutadiene
8270D	3520C	Water	Hexachlorocyclopentadiene
8270D	3520C	Water	Hexachloroethane
8270D	3520C	Water	Indeno[1,2,3-cd]pyrene
8270D	3520C	Water	Isophorone
8270D	3520C	Water	Naphthalene
8270D	3520C	Water	Nitrobenzene
8270D	3520C	Water	N-Nitrosodimethylamine
8270D	3520C	Water	N-Nitrosodi-n-propylamine
8270D	3520C	Water	N-Nitrosodiphenylamine
8270D	3520C	Water	N-Nitrosopyrrolidine
8270D	3520C	Water	Pentachlorophenol
8270D	3520C	Water	Phenanthrene
8270D	3520C	Water	Phenol
8270D	3520C	Water	Pyrene

New York	NELAP	2	11964	04-01-17

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

Analysis Method	Prep Method	Matrix	Analyte
8270D	3520C	Water	1,2,4,5-Tetrachlorobenzene
8270D	3520C	Water	1,2,4-Trichlorobenzene
8270D	3520C	Water	1,2-Dichlorobenzene
8270D	3520C	Water	1,2-Diphenylhydrazine
8270D	3520C	Water	1,3-Dichlorobenzene
8270D	3520C	Water	1,4-Dichlorobenzene
8270D	3520C	Water	2,2'-oxybis[1-chloropropane]
8270D	3520C	Water	2,4,5-Trichlorophenol
8270D	3520C	Water	2,4,6-Trichlorophenol
8270D	3520C	Water	2,4-Dichlorophenol
8270D	3520C	Water	2,4-Dimethylphenol
8270D	3520C	Water	2,4-Dinitrophenol
8270D	3520C	Water	2,4-Dinitrotoluene

Laboratory: TestAmerica Denver (Continued)

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

Authority	Program	EPA Region	Certification ID	Expiration Date
New York	NELAP	2	11964	04-01-17

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

Analysis Method	Prep Method	Matrix	Analyte
8270D	3520C	Water	2,6-Dichlorophenol
8270D	3520C	Water	2,6-Dinitrotoluene
8270D	3520C	Water	2-Chloronaphthalene
8270D	3520C	Water	2-Chlorophenol
8270D	3520C	Water	2-Methylnaphthalene
8270D	3520C	Water	2-Methylphenol
8270D	3520C	Water	3 & 4 Methylphenol
8270D	3520C	Water	3,3'-Dichlorobenzidine
8270D	3520C	Water	3-Nitroaniline
8270D	3520C	Water	4,6-Dinitro-2-methylphenol
8270D	3520C	Water	4-Chloroaniline
8270D	3520C	Water	4-Chlorophenyl phenyl ether
8270D	3520C	Water	4-Nitroaniline
8270D	3520C	Water	4-Nitrophenol
8270D	3520C	Water	Acenaphthene
8270D	3520C	Water	Acenaphthylene
8270D	3520C	Water	Anthracene
8270D	3520C	Water	Benzidine
8270D	3520C	Water	Benzo[a]anthracene
8270D	3520C	Water	Benzo[a]pyrene
8270D	3520C	Water	Benzo[b]fluoranthene
8270D	3520C	Water	Benzo[g,h,i]perylene
8270D	3520C	Water	Benzo[k]fluoranthene
8270D	3520C	Water	Benzoic acid
8270D	3520C	Water	Benzyl alcohol
8270D	3520C	Water	Bis(2-chloroethoxy)methane
8270D	3520C	Water	Bis(2-chloroethyl)ether
8270D	3520C	Water	Bis(2-ethylhexyl) phthalate
8270D	3520C	Water	Butyl benzyl phthalate
8270D	3520C	Water	Carbazole
8270D	3520C	Water	Chrysene
8270D	3520C	Water	Dibenz(a,h)anthracene
8270D	3520C	Water	Dibenzofuran
8270D	3520C	Water	Diethyl phthalate
8270D	3520C	Water	Dimethyl phthalate
8270D	3520C	Water	Di-n-butyl phthalate
8270D	3520C	Water	Di-n-octyl phthalate
8270D	3520C	Water	Fluoranthene
8270D	3520C	Water	Fluorene
8270D	3520C	Water	Hexachlorobenzene
8270D	3520C	Water	Hexachlorobutadiene
8270D	3520C	Water	Hexachlorocyclopentadiene
8270D	3520C	Water	Hexachloroethane
8270D	3520C	Water	Indeno[1,2,3-cd]pyrene
8270D	3520C	Water	Isophorone
8270D	3520C	Water	Naphthalene

Laboratory: TestAmerica Denver (Continued)

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

Authority	Program	EPA Region	Certification ID	Expiration Date
New York	NELAP	2	11964	04-01-17

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

Analysis Method	Prep Method	Matrix	Analyte
8270D	3520C	Water	Nitrobenzene
8270D	3520C	Water	N-Nitrosodimethylamine
8270D	3520C	Water	N-Nitrosodi-n-propylamine
8270D	3520C	Water	N-Nitrosodiphenylamine
8270D	3520C	Water	N-Nitrosopyrrolidine
8270D	3520C	Water	Pentachlorophenol
8270D	3520C	Water	Phenanthrene
8270D	3520C	Water	Phenol
8270D	3520C	Water	Pyrene

Pennsylvania	NELAP	3	68-00664	07-31-17

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

Analysis Method	Prep Method	Matrix	Analyte
8270D	3520C	Water	1,2,4,5-Tetrachlorobenzene
8270D	3520C	Water	1,2,4-Trichlorobenzene
8270D	3520C	Water	1,2-Dichlorobenzene
8270D	3520C	Water	1,2-Diphenylhydrazine
8270D	3520C	Water	1,3-Dichlorobenzene
8270D	3520C	Water	1,4-Dichlorobenzene
8270D	3520C	Water	2,2'-oxybis[1-chloropropane]
8270D	3520C	Water	2,4,5-Trichlorophenol
8270D	3520C	Water	2,4,6-Trichlorophenol
8270D	3520C	Water	2,4-Dichlorophenol
8270D	3520C	Water	2,4-Dimethylphenol
8270D	3520C	Water	2,4-Dinitrophenol
8270D	3520C	Water	2,4-Dinitrotoluene
8270D	3520C	Water	2,6-Dichlorophenol
8270D	3520C	Water	2,6-Dinitrotoluene
8270D	3520C	Water	2-Chloronaphthalene
8270D	3520C	Water	2-Chlorophenol
8270D	3520C	Water	2-Methylnaphthalene
8270D	3520C	Water	2-Methylphenol
8270D	3520C	Water	3 & 4 Methylphenol
8270D	3520C	Water	3,3'-Dichlorobenzidine
8270D	3520C	Water	3-Nitroaniline
8270D	3520C	Water	4,6-Dinitro-2-methylphenol
8270D	3520C	Water	4-Chloroaniline
8270D	3520C	Water	4-Chlorophenyl phenyl ether
8270D	3520C	Water	4-Nitroaniline
8270D	3520C	Water	4-Nitrophenol
8270D	3520C	Water	Acenaphthene
8270D	3520C	Water	Acenaphthylene
8270D	3520C	Water	Anthracene
8270D	3520C	Water	Benzidine
8270D	3520C	Water	Benzo[a]anthracene
8270D	3520C	Water	Benzo[a]pyrene
8270D	3520C	Water	Benzo[b]fluoranthene

Laboratory: TestAmerica Denver (Continued)

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

Authority	Program	EPA Region	Certification ID	Expiration Date
Pennsylvania	NELAP	3	68-00664	07-31-17

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

Analysis Method	Prep Method	Matrix	Analyte
8270D	3520C	Water	Benzo[g,h,i]perylene
8270D	3520C	Water	Benzo[k]fluoranthene
8270D	3520C	Water	Benzoic acid
8270D	3520C	Water	Benzyl alcohol
8270D	3520C	Water	Bis(2-chloroethoxy)methane
8270D	3520C	Water	Bis(2-chloroethyl)ether
8270D	3520C	Water	Bis(2-ethylhexyl) phthalate
8270D	3520C	Water	Butyl benzyl phthalate
8270D	3520C	Water	Carbazole
8270D	3520C	Water	Chrysene
8270D	3520C	Water	Dibenz(a,h)anthracene
8270D	3520C	Water	Dibenzofuran
8270D	3520C	Water	Diethyl phthalate
8270D	3520C	Water	Dimethyl phthalate
8270D	3520C	Water	Di-n-butyl phthalate
8270D	3520C	Water	Di-n-octyl phthalate
8270D	3520C	Water	Fluoranthene
8270D	3520C	Water	Fluorene
8270D	3520C	Water	Hexachlorobenzene
8270D	3520C	Water	Hexachlorobutadiene
8270D	3520C	Water	Hexachlorocyclopentadiene
8270D	3520C	Water	Hexachloroethane
8270D	3520C	Water	Indeno[1,2,3-cd]pyrene
8270D	3520C	Water	Isophorone
8270D	3520C	Water	Naphthalene
8270D	3520C	Water	Nitrobenzene
8270D	3520C	Water	N-Nitrosodimethylamine
8270D	3520C	Water	N-Nitrosodi-n-propylamine
8270D	3520C	Water	N-Nitrosodiphenylamine
8270D	3520C	Water	N-Nitrosopyrrolidine
8270D	3520C	Water	Pentachlorophenol
8270D	3520C	Water	Phenanthrene
8270D	3520C	Water	Phenol
8270D	3520C	Water	Pyrene

West Virginia DEP	State Program	3	354	11-30-17

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

Analysis Method	Prep Method	Matrix	Analyte
8270D	3520C	Water	1,2,4,5-Tetrachlorobenzene
8270D	3520C	Water	1,2,4-Trichlorobenzene
8270D	3520C	Water	1,2-Dichlorobenzene
8270D	3520C	Water	1,2-Diphenylhydrazine
8270D	3520C	Water	1,3-Dichlorobenzene
8270D	3520C	Water	1,4-Dichlorobenzene
8270D	3520C	Water	2,2'-oxybis[1-chloropropane]
8270D	3520C	Water	2,4,5-Trichlorophenol
8270D	3520C	Water	2,4,6-Trichlorophenol

Laboratory: TestAmerica Denver (Continued)

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

Authority	Program	EPA Region	Certification ID	Expiration Date
West Virginia DEP	State Program	3	354	11-30-17

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

Analysis Method	Prep Method	Matrix	Analyte
8270D	3520C	Water	2,4-Dichlorophenol
8270D	3520C	Water	2,4-Dimethylphenol
8270D	3520C	Water	2,4-Dinitrophenol
8270D	3520C	Water	2,4-Dinitrotoluene
8270D	3520C	Water	2,6-Dichlorophenol
8270D	3520C	Water	2,6-Dinitrotoluene
8270D	3520C	Water	2-Chloronaphthalene
8270D	3520C	Water	2-Chlorophenol
8270D	3520C	Water	2-Methylnaphthalene
8270D	3520C	Water	2-Methylphenol
8270D	3520C	Water	3 & 4 Methylphenol
8270D	3520C	Water	3,3'-Dichlorobenzidine
8270D	3520C	Water	3-Nitroaniline
8270D	3520C	Water	4,6-Dinitro-2-methylphenol
8270D	3520C	Water	4-Chloroaniline
8270D	3520C	Water	4-Chlorophenyl phenyl ether
8270D	3520C	Water	4-Nitroaniline
8270D	3520C	Water	4-Nitrophenol
8270D	3520C	Water	Acenaphthene
8270D	3520C	Water	Acenaphthylene
8270D	3520C	Water	Anthracene
8270D	3520C	Water	Benzidine
8270D	3520C	Water	Benzo[a]anthracene
8270D	3520C	Water	Benzo[a]pyrene
8270D	3520C	Water	Benzo[b]fluoranthene
8270D	3520C	Water	Benzo[g,h,i]perylene
8270D	3520C	Water	Benzo[k]fluoranthene
8270D	3520C	Water	Benzoic acid
8270D	3520C	Water	Benzyl alcohol
8270D	3520C	Water	Bis(2-chloroethoxy)methane
8270D	3520C	Water	Bis(2-chloroethyl)ether
8270D	3520C	Water	Bis(2-ethylhexyl) phthalate
8270D	3520C	Water	Butyl benzyl phthalate
8270D	3520C	Water	Carbazole
8270D	3520C	Water	Chrysene
8270D	3520C	Water	Dibenz(a,h)anthracene
8270D	3520C	Water	Dibenzofuran
8270D	3520C	Water	Diethyl phthalate
8270D	3520C	Water	Dimethyl phthalate
8270D	3520C	Water	Di-n-butyl phthalate
8270D	3520C	Water	Di-n-octyl phthalate
8270D	3520C	Water	Fluoranthene
8270D	3520C	Water	Fluorene
8270D	3520C	Water	Hexachlorobenzene
8270D	3520C	Water	Hexachlorobutadiene
8270D	3520C	Water	Hexachlorocyclopentadiene

Laboratory: TestAmerica Denver (Continued)

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

Authority	Program	EPA Region	Certification ID	Expiration Date
West Virginia DEP	State Program	3	354	11-30-17

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

Analysis Method	Prep Method	Matrix	Analyte
8270D	3520C	Water	Hexachloroethane
8270D	3520C	Water	Indeno[1,2,3-cd]pyrene
8270D	3520C	Water	Isophorone
8270D	3520C	Water	Naphthalene
8270D	3520C	Water	Nitrobenzene
8270D	3520C	Water	N-Nitrosodimethylamine
8270D	3520C	Water	N-Nitrosodi-n-propylamine
8270D	3520C	Water	N-Nitrosodiphenylamine
8270D	3520C	Water	N-Nitrosopyrrolidine
8270D	3520C	Water	Pentachlorophenol
8270D	3520C	Water	Phenanthrene
8270D	3520C	Water	Phenol
8270D	3520C	Water	Pyrene

Laboratory: TestAmerica St. Louis

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

Authority	Program	EPA Region	Certification ID	Expiration Date
L-A-B	DoD ELAP		L2305	04-06-19

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

Analysis Method	Prep Method	Matrix	Analyte
8260C DOD		Water	1,1,1-Trichloroethane
8260C DOD		Water	1,1,2,2-Tetrachloroethane
8260C DOD		Water	1,1,2-Trichloro-1,2,2-trifluoroethane
8260C DOD		Water	1,1,2-Trichloroethane
8260C DOD		Water	1,1-Dichloroethane
8260C DOD		Water	1,1-Dichloroethene
8260C DOD		Water	1,2,3-Trichlorobenzene
8260C DOD		Water	1,2,4-Trichlorobenzene
8260C DOD		Water	1,2,4-Trimethylbenzene
8260C DOD		Water	1,2-Dibromo-3-Chloropropane
8260C DOD		Water	1,2-Dibromoethane
8260C DOD		Water	1,2-Dichlorobenzene
8260C DOD		Water	1,2-Dichloroethane
8260C DOD		Water	1,2-Dichloroethene, Total
8260C DOD		Water	1,2-Dichloropropane
8260C DOD		Water	1,3,5-Trimethylbenzene
8260C DOD		Water	1,3-Dichlorobenzene
8260C DOD		Water	1,4-Dichlorobenzene
8260C DOD		Water	2-Butanone (MEK)
8260C DOD		Water	2-Hexanone
8260C DOD		Water	4-Methyl-2-pentanone (MIBK)
8260C DOD		Water	Acetone
8260C DOD		Water	Benzene
8260C DOD		Water	Bromobenzene
8260C DOD		Water	Bromodichloromethane

Laboratory: TestAmerica St. Louis (Continued)

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

Authority	Program	EPA Region	Certification ID	Expiration Date
L-A-B	DoD ELAP		L2305	04-06-19

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

Analysis Method	Prep Method	Matrix	Analyte
8260C DOD		Water	Bromoform
8260C DOD		Water	Bromomethane
8260C DOD		Water	Carbon disulfide
8260C DOD		Water	Carbon tetrachloride
8260C DOD		Water	Chlorobenzene
8260C DOD		Water	Chloroethane
8260C DOD		Water	Chloroform
8260C DOD		Water	Chloromethane
8260C DOD		Water	cis-1,2-Dichloroethene
8260C DOD		Water	cis-1,3-Dichloropropene
8260C DOD		Water	Cyclohexane
8260C DOD		Water	Dibromochloromethane
8260C DOD		Water	Dichlorodifluoromethane
8260C DOD		Water	Ethylbenzene
8260C DOD		Water	Isopropylbenzene
8260C DOD		Water	Methyl acetate
8260C DOD		Water	Methyl tert-butyl ether
8260C DOD		Water	Methylcyclohexane
8260C DOD		Water	Methylene Chloride
8260C DOD		Water	m-Xylene & p-Xylene
8260C DOD		Water	Naphthalene
8260C DOD		Water	n-Butylbenzene
8260C DOD		Water	N-Propylbenzene
8260C DOD		Water	o-Xylene
8260C DOD		Water	sec-Butylbenzene
8260C DOD		Water	Styrene
8260C DOD		Water	tert-Butylbenzene
8260C DOD		Water	Tetrachloroethene
8260C DOD		Water	Toluene
8260C DOD		Water	trans-1,2-Dichloroethene
8260C DOD		Water	trans-1,3-Dichloropropene
8260C DOD		Water	Trichloroethene
8260C DOD		Water	Trichlorofluoromethane
8260C DOD		Water	Vinyl chloride
8260C DOD		Water	Xylenes, Total

New York	NELAP	2	11616	03-31-17

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

Analysis Method	Prep Method	Matrix	Analyte
8260C DOD		Water	1,1,1-Trichloroethane
8260C DOD		Water	1,1,2,2-Tetrachloroethane
8260C DOD		Water	1,1,2-Trichloro-1,2,2-trifluoroethane
8260C DOD		Water	1,1,2-Trichloroethane
8260C DOD		Water	1,1-Dichloroethane
8260C DOD		Water	1,1-Dichloroethene
8260C DOD		Water	1,2,3-Trichlorobenzene
8260C DOD		Water	1,2,4-Trichlorobenzene

Laboratory: TestAmerica St. Louis (Continued)

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

Authority	Program	EPA Region	Certification ID	Expiration Date
New York	NELAP	2	11616	03-31-17

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

Analysis Method	Prep Method	Matrix	Analyte
8260C DOD		Water	1,2,4-Trimethylbenzene
8260C DOD		Water	1,2-Dibromo-3-Chloropropane
8260C DOD		Water	1,2-Dibromoethane
8260C DOD		Water	1,2-Dichlorobenzene
8260C DOD		Water	1,2-Dichloroethane
8260C DOD		Water	1,2-Dichloroethene, Total
8260C DOD		Water	1,2-Dichloropropane
8260C DOD		Water	1,3,5-Trimethylbenzene
8260C DOD		Water	1,3-Dichlorobenzene
8260C DOD		Water	1,4-Dichlorobenzene
8260C DOD		Water	2-Butanone (MEK)
8260C DOD		Water	2-Hexanone
8260C DOD		Water	4-Methyl-2-pentanone (MIBK)
8260C DOD		Water	Acetone
8260C DOD		Water	Benzene
8260C DOD		Water	Bromobenzene
8260C DOD		Water	Bromodichloromethane
8260C DOD		Water	Bromoform
8260C DOD		Water	Bromomethane
8260C DOD		Water	Carbon disulfide
8260C DOD		Water	Carbon tetrachloride
8260C DOD		Water	Chlorobenzene
8260C DOD		Water	Chloroethane
8260C DOD		Water	Chloroform
8260C DOD		Water	Chloromethane
8260C DOD		Water	cis-1,2-Dichloroethene
8260C DOD		Water	cis-1,3-Dichloropropene
8260C DOD		Water	Cyclohexane
8260C DOD		Water	Dibromochloromethane
8260C DOD		Water	Dichlorodifluoromethane
8260C DOD		Water	Ethylbenzene
8260C DOD		Water	Isopropylbenzene
8260C DOD		Water	Methyl acetate
8260C DOD		Water	Methyl tert-butyl ether
8260C DOD		Water	Methylcyclohexane
8260C DOD		Water	Methylene Chloride
8260C DOD		Water	m-Xylene & p-Xylene
8260C DOD		Water	Naphthalene
8260C DOD		Water	n-Butylbenzene
8260C DOD		Water	N-Propylbenzene
8260C DOD		Water	o-Xylene
8260C DOD		Water	sec-Butylbenzene
8260C DOD		Water	Styrene
8260C DOD		Water	tert-Butylbenzene
8260C DOD		Water	Tetrachloroethene
8260C DOD		Water	Toluene

Laboratory: TestAmerica St. Louis (Continued)

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

Authority	Program	EPA Region	Certification ID	Expiration Date
New York	NELAP	2	11616	03-31-17

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

Analysis Method	Prep Method	Matrix	Analyte
8260C DOD		Water	trans-1,2-Dichloroethene
8260C DOD		Water	trans-1,3-Dichloropropene
8260C DOD		Water	Trichloroethene
8260C DOD		Water	Trichlorofluoromethane
8260C DOD		Water	Vinyl chloride
8260C DOD		Water	Xylenes, Total

Method Summary

Client: Weston Solutions, Inc.
Project/Site: Schenectady ANGB TU008

TestAmerica Job ID: 280-90734-1

Method	Method Description	Protocol	Laboratory
8260C DOD	Volatile Organic Compounds (GC/MS)	SW846	TAL SL
8270D	Semivolatile Organic Compounds (GC/MS)	SW846	TAL DEN

Protocol References:

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

Laboratory References:

TAL DEN = TestAmerica Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

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

Sample Summary

Client: Weston Solutions, Inc.
Project/Site: Schenectady ANGB TU008

TestAmerica Job ID: 280-90734-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
280-90734-1	SC-TU008-MW002-G-2	Water	11/07/16 11:05	11/09/16 09:50
280-90734-2	SC-TU008-MW002-G-2-D	Water	11/07/16 11:07	11/09/16 09:50
280-90734-3	SC-TU008-TB110716	Water	11/07/16 11:10	11/09/16 09:50
280-90734-4	SC-TU008-MW004-G-2	Water	11/07/16 13:10	11/09/16 09:50
280-90734-5	SC-TU008-MW001-G-2	Water	11/07/16 14:10	11/09/16 09:50

Shipping and Receiving Documents

TestAmerica Denver
4955 Yarrow Street
Arvada, CO 80002
Phone (303) 736-0100 Fax (303) 431-7171

480501-Albany

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information	Sampler: Dylan / Pinkowska	Lab PM: Rydberg, Donna R	Carrier Tracking No(s): Drop off at TA albany	COC No: 280-58421-20497.2
Client Contact: Mr. Joseph Gross	Phone: 302-415-1496	E-Mail: donna.rydberg@testamericainc.com		Page: Page ~~2 of 2~~ 1 of 1
Company: Weston Solutions, Inc.				Job #:
Address: 1400 Weston Way PO BOX 2653	Due Date Requested:			
City: West Chester	TAT Requested (days): 15 day			
State, Zip: PA, 19380				
Phone: 410-612-5910(Tel)	PO #: 0090139			
Email: joseph.gross@westonsolutions.com	WO #: 15363.100.001.1103			
Project Name: Schenectady ANGB, TU008	Project #: 28015256			
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)	8260C	8270D	Total Number of containers	Special Instructions/Note:
			Preservation Code:				A	N		
SC-TU008-MW002-G-2	110716	1105	G	W			3	2	5	
SC-TU008-MW002-G-2-D	110716	1107		W			3	2	5	
SC-TU008-TB 110716	110716	1110		W			2		2	
SC-TU008-MW004-G-2	110716	1310		W			3	2	5	
SC-TU008-MW001-G-2	110716	1410		W			9	6	15	

11/7/16

280-90734 Chain of Custody

Albany 480501

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: Amanda Lasikoski	Date/Time: 11/7/16 1717	Company: Weston	Received by:	Date/Time: 11/7/16 17:17	Company: TA ALB
Relinquished by:	Date/Time: 11/8/16 1800	Company: TA ALB	Received by:	Date/Time: 11/9/16 0950	Company: TA Den.
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 Denver
4955 Yarrow Street
Arvada, CO 80002
Phone (303) 736-0100 Fax (303) 431-7171

Chain of Custody Record

280-90734 Chain of Custody

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information (Sub Contract Lab)

Sampler:	
Lab PM:	Rydberg, Donna R
Client Contact:	Shipping/Receiving
Phone:	
E-Mail:	donna.rydberg@testamericainc.com
State of Origin:	New York
COC No:	280-377009.1
Page:	Page 1 of 1
Company:	TestAmerica Laboratories, Inc.
Accreditations Required (See note):	DoD ELAP - A2LA; DoD ELAP - L-A-B; NELAP - New Hampshir ...
Job #:	280-90734-1
Address:	13715 Rider Trail North, ,
Due Date Requested:	11/29/2016
City:	Earth City
TAT Requested (days):	
State, Zip:	MO, 63045
Phone:	314-298-8566(Tel) 314-298-8757(Fax)
PO #:	
Email:	
WO #:	
Project Name:	Schenectady ANGB TU008
Project #:	28015256
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 - Client ID (Lab ID)	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)	8260C_DOD5/5030C (MOD) OLM 4.2 Target List	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
SC-TU008-MW002-G-2 (280-90734-1)	11/7/16	11:05 Eastern		Water			X	3	DOD5_Weston QAS_DIL1_full spike list
SC-TU008-MW002-G-2-D (280-90734-2)	11/7/16	11:07 Eastern		Water			X	3	DOD5_Weston QAS_DIL1_full spike list
SC-TU008-TB110716 (280-90734-3)	11/7/16	11:10 Eastern		Water			X	2	DOD5_Weston QAS_DIL1_full spike list
SC-TU008-MW004-G-2 (280-90734-4)	11/7/16	13:10 Eastern		Water			X	3	DOD5_Weston QAS_DIL1_full spike list
SC-TU008-MW001-G-2 (280-90734-5)	11/7/16	14:10 Eastern		Water			X	9	DOD5_Weston QAS_DIL1_full spike list

Note: Since laboratory accreditations are subject to change, TestAmerica Laboratories, Inc. places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to TestAmerica Laboratories, Inc. attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to TestAmerica Laboratories, Inc.

Possible Hazard Identification
Unconfirmed

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) Primary Deliverable Rank: 1

Special Instructions/QC Requirements:

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

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
	11/10/16 15:00			11/11/16 0905	
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

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

Login Sample Receipt Checklist

Client: Weston Solutions, Inc.

Job Number: 280-90734-1

Login Number: 90734
List Number: 1
Creator: Parrott, Gregg S

List Source: TestAmerica Denver

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.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	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	

Login Sample Receipt Checklist

Client: Weston Solutions, Inc.

Job Number: 280-90734-1

Login Number: 90734
List Number: 2
Creator: Daniels, Brian J

List Source: TestAmerica St. Louis
List Creation: 11/11/16 03:51 PM

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.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	4.3
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?	False	
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	

ANALYTICAL REPORT

Job Number: 280-90742-1

Job Description: Schenectady ANGB TU009

For:
Weston Solutions, Inc.
1371 Brass Mill Road
Suite N
Belcamp, MD 21017

Attention: Mr. Joseph Gross

Approved for release.
Michele R Kersey
Project Manager I
11/30/2016 12:47 PM

Designee for
Donna R Rydberg, Senior Project Manager
4955 Yarrow Street, Arvada, CO, 80002
(303)736-0192
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11/30/2016

The test results in this report relate only to the samples in this report and meet all requirements of NELAC, with any exceptions noted. Pursuant to NELAP, this report shall not be reproduced except in full, without the written approval of the laboratory. All questions regarding this report should be directed to the TestAmerica Denver Project Manager.

The Lab Certification ID# is 4025.

Reporting limits are adjusted for sample size used, dilutions and moisture content if applicable.

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Definitions/Glossary

Client: Weston Solutions, Inc.
Project/Site: Schenectady ANGB TU009

TestAmerica Job ID: 280-90742-1

Qualifiers

Metals

Qualifier	Qualifier Description
U	Undetected at the Limit of Detection.
J	Estimated: The analyte was positively identified; the quantitation is an estimation
J	Estimated: The quantitation is an estimation due to discrepancies in meeting certain analyte-specific quality control criteria.
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.
D	The reported value is from a dilution.

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)

CASE NARRATIVE

Client: Weston Solutions, Inc.

Project: Schenectady ANGB TU009

Report Number: 280-90742-1

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

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

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

RECEIPT
The sample was received on 11/9/2016 9:50 AM; the sample arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 1.1º C.

DISSOLVED METALS (ICP)
Sample SC-TU009-MW003-G-2 (280-90742-1) was analyzed for Dissolved Metals (ICP) in accordance with 6010C. The samples were prepared on 11/16/2016 and analyzed on 11/20/2016.

Barium, Silver and Sodium were detected in method blank MB 280-351458/1-A at levels that were above the method detection limit but below the reporting limit. The values should be considered estimates, and have 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.

Manganese exceeded the recovery criteria low for the MS of sample SC-TU009-MW003-G-2MS (280-90742-1) in batch 280-352380.

Iron and Manganese exceeded the recovery criteria low for the MSD of sample SC-TU009-MW003-G-2MSD (280-90742-1) in batch 280-352380.

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

TOTAL METALS (ICP)
Sample SC-TU009-MW003-G-2 (280-90742-1) was analyzed for Total Metals (ICP) in accordance with 6010C. The samples were prepared on 11/21/2016 and analyzed on 11/25/2016, 11/26/2016 and 11/28/2016.

Sodium was detected in method blank MB 280-352305/1-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.

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

MERCURY
Sample SC-TU009-MW003-G-2 (280-90742-1) was analyzed for mercury in accordance with 7470A. The samples were prepared and analyzed on 11/21/2016.

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

MERCURY
Sample SC-TU009-MW003-G-2 (280-90742-1) was analyzed for mercury in accordance with 7470A. The samples were prepared and analyzed on 11/17/2016.

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

Detection Summary

Client: Weston Solutions, Inc.
Project/Site: Schenectady ANGB TU009

TestAmerica Job ID: 280-90742-1

Client Sample ID: SC-TU009-MW003-G-2 — Lab Sample ID: 280-90742-1

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	170	J	300	18	ug/L	1		6010C	Total/NA
Arsenic	16	J	25	4.4	ug/L	1		6010C	Total/NA
Barium	64		10	0.58	ug/L	1		6010C	Total/NA
Cadmium	0.60	J	5.0	0.45	ug/L	1		6010C	Total/NA
Calcium	240000	J	1000	35	ug/L	1		6010C	Total/NA
Chromium	1.1	J	15	0.66	ug/L	1		6010C	Total/NA
Iron	6700		100	22	ug/L	1		6010C	Total/NA
Magnesium	69000		500	11	ug/L	1		6010C	Total/NA
Manganese	14000	J	10	0.25	ug/L	1		6010C	Total/NA
Nickel	4.2	J	40	1.3	ug/L	1		6010C	Total/NA
Potassium	31000		3000	240	ug/L	1		6010C	Total/NA
Sodium	110000		5000	92	ug/L	1		6010C	Total/NA
Thallium	11	J	40	4.9	ug/L	1		6010C	Total/NA
Vanadium	1.1	J	15	1.1	ug/L	1		6010C	Total/NA
Zinc	5.9	J	150	4.5	ug/L	1		6010C	Total/NA
Arsenic	16	J	25	4.4	ug/L	1		6010C	Dissolved
Barium	71		10	0.58	ug/L	1		6010C	Dissolved
Cadmium	0.55	J	5.0	0.45	ug/L	1		6010C	Dissolved
Calcium	220000	J	1000	35	ug/L	1		6010C	Dissolved
Chromium	0.90	J	15	0.66	ug/L	1		6010C	Dissolved
Iron	5800	J	100	22	ug/L	1		6010C	Dissolved
Lead	2.9	J	15	2.6	ug/L	1		6010C	Dissolved
Magnesium	65000		500	11	ug/L	1		6010C	Dissolved
Manganese	12000	J	10	0.25	ug/L	1		6010C	Dissolved
Nickel	2.2	J	40	1.3	ug/L	1		6010C	Dissolved
Potassium	33000		3000	240	ug/L	1		6010C	Dissolved
Silver	1.8	J	15	0.93	ug/L	1		6010C	Dissolved
Sodium	110000		5000	92	ug/L	1		6010C	Dissolved
Vanadium	1.5	J	15	1.1	ug/L	1		6010C	Dissolved

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: Weston Solutions, Inc.
Project/Site: Schenectady ANGB TU009

TestAmerica Job ID: 280-90742-1

Client Sample ID: SC-TU009-MW003-G-2

Lab Sample ID: 280-90742-1

Date Collected: 11/07/16 15:40
Matrix: Water
Date Received: 11/09/16 09:50

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**170**	**J**	300	18	ug/L		11/21/16 14:45	11/25/16 23:37	1
Antimony	12	U	20	3.1	ug/L		11/21/16 14:45	11/25/16 23:37	1
Arsenic	**16**	**J**	25	4.4	ug/L		11/21/16 14:45	11/25/16 23:37	1
Barium	**64**		10	0.58	ug/L		11/21/16 14:45	11/26/16 22:04	1
Beryllium	1.2	U	1.5	0.47	ug/L		11/21/16 14:45	11/25/16 23:37	1
Cadmium	**0.60**	**J**	5.0	0.45	ug/L		11/21/16 14:45	11/25/16 23:37	1
Calcium	**240000**	**J**	1000	35	ug/L		11/21/16 14:45	11/26/16 22:04	1
Chromium	**1.1**	**J**	15	0.66	ug/L		11/21/16 14:45	11/26/16 22:04	1
Cobalt	4.5	U	15	1.2	ug/L		11/21/16 14:45	11/25/16 23:37	1
Copper	10	U	15	4.2	ug/L		11/21/16 14:45	11/25/16 23:37	1
Iron	**6700**		100	22	ug/L		11/21/16 14:45	11/25/16 23:37	1
Lead	10	U	15	2.6	ug/L		11/21/16 14:45	11/26/16 22:04	1
Magnesium	**69000**		500	11	ug/L		11/21/16 14:45	11/28/16 15:28	1
Manganese	**14000**	**J**	10	0.25	ug/L		11/21/16 14:45	11/25/16 23:37	1
Nickel	**4.2**	**J**	40	1.3	ug/L		11/21/16 14:45	11/25/16 23:37	1
Potassium	**31000**		3000	240	ug/L		11/21/16 14:45	11/25/16 23:37	1
Selenium	19	U	22	4.9	ug/L		11/21/16 14:45	11/25/16 23:37	1
Silver	3.5	U	15	0.93	ug/L		11/21/16 14:45	11/28/16 15:28	1
Sodium	**110000**		5000	92	ug/L		11/21/16 14:45	11/25/16 23:37	1
Thallium	**11**	**J**	40	4.9	ug/L		11/21/16 14:45	11/28/16 15:28	1
Vanadium	**1.1**	**J**	15	1.1	ug/L		11/21/16 14:45	11/25/16 23:37	1
Zinc	**5.9**	**J**	150	4.5	ug/L		11/21/16 14:45	11/25/16 23:37	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	70	U	300	18	ug/L		11/16/16 07:00	11/20/16 22:55	1
Antimony	12	U	20	3.1	ug/L		11/16/16 07:00	11/20/16 22:55	1
Arsenic	**16**	**J**	25	4.4	ug/L		11/16/16 07:00	11/20/16 22:55	1
Barium	**71**		10	0.58	ug/L		11/16/16 07:00	11/20/16 22:55	1
Beryllium	1.2	U	1.5	0.47	ug/L		11/16/16 07:00	11/20/16 22:55	1
Cadmium	**0.55**	**J**	5.0	0.45	ug/L		11/16/16 07:00	11/20/16 22:55	1
Calcium	**220000**	**J**	1000	35	ug/L		11/16/16 07:00	11/20/16 22:55	1
Chromium	**0.90**	**J**	15	0.66	ug/L		11/16/16 07:00	11/20/16 22:55	1
Cobalt	4.5	U	15	1.2	ug/L		11/16/16 07:00	11/20/16 22:55	1
Copper	10	U	15	4.2	ug/L		11/16/16 07:00	11/20/16 22:55	1
Iron	**5800**	**J**	100	22	ug/L		11/16/16 07:00	11/20/16 22:55	1
Lead	**2.9**	**J**	15	2.6	ug/L		11/16/16 07:00	11/20/16 22:55	1
Magnesium	**65000**		500	11	ug/L		11/16/16 07:00	11/20/16 22:55	1
Manganese	**12000**	**J**	10	0.25	ug/L		11/16/16 07:00	11/20/16 22:55	1
Nickel	**2.2**	**J**	40	1.3	ug/L		11/16/16 07:00	11/20/16 22:55	1
Potassium	**33000**		3000	240	ug/L		11/16/16 07:00	11/20/16 22:55	1
Selenium	19	U	22	4.9	ug/L		11/16/16 07:00	11/20/16 22:55	1
Silver	**1.8**	**J**	15	0.93	ug/L		11/16/16 07:00	11/20/16 22:55	1
Sodium	**110000**		5000	92	ug/L		11/16/16 07:00	11/20/16 22:55	1
Thallium	19	U	40	4.9	ug/L		11/16/16 07:00	11/20/16 22:55	1
Vanadium	**1.5**	**J**	15	1.1	ug/L		11/16/16 07:00	11/20/16 22:55	1
Zinc	15	U	150	4.5	ug/L		11/16/16 07:00	11/20/16 22:55	1

Client Sample Results

Client: Weston Solutions, Inc.
Project/Site: Schenectady ANGB TU009

TestAmerica Job ID: 280-90742-1

Client Sample ID: SC-TU009-MW003-G-2

Lab Sample ID: 280-90742-1

Date Collected: 11/07/16 15:40

Matrix: Water

Date Received: 11/09/16 09:50

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.080	U	0.20	0.027	ug/L		11/17/16 11:00	11/17/16 18:17	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	0.080	U	0.20	0.027	ug/L		11/21/16 11:45	11/21/16 15:50	1

Default Detection Limits

Client: Weston Solutions, Inc.
Project/Site: Schenectady ANGB TU009

TestAmerica Job ID: 280-90742-1

Method: 6010C - Metals (ICP)

Prep: 3010A

Analyte	LOQ	DL	Units	Method
Aluminum	300	18	ug/L	6010C
Antimony	20	3.1	ug/L	6010C
Arsenic	25	4.4	ug/L	6010C
Barium	10	0.58	ug/L	6010C
Beryllium	1.5	0.47	ug/L	6010C
Cadmium	5.0	0.45	ug/L	6010C
Calcium	1000	35	ug/L	6010C
Chromium	15	0.66	ug/L	6010C
Cobalt	15	1.2	ug/L	6010C
Copper	15	4.2	ug/L	6010C
Iron	100	22	ug/L	6010C
Lead	15	2.6	ug/L	6010C
Magnesium	500	11	ug/L	6010C
Manganese	10	0.25	ug/L	6010C
Nickel	40	1.3	ug/L	6010C
Potassium	3000	240	ug/L	6010C
Selenium	22	4.9	ug/L	6010C
Silver	15	0.93	ug/L	6010C
Sodium	5000	92	ug/L	6010C
Thallium	40	4.9	ug/L	6010C
Vanadium	15	1.1	ug/L	6010C
Zinc	150	4.5	ug/L	6010C

Method: 6010C - Metals (ICP) - Dissolved

Prep: 3005A

Analyte	LOQ	DL	Units	Method
Aluminum	300	18	ug/L	6010C
Antimony	20	3.1	ug/L	6010C
Arsenic	25	4.4	ug/L	6010C
Barium	10	0.58	ug/L	6010C
Beryllium	1.5	0.47	ug/L	6010C
Cadmium	5.0	0.45	ug/L	6010C
Calcium	1000	35	ug/L	6010C
Chromium	15	0.66	ug/L	6010C
Cobalt	15	1.2	ug/L	6010C
Copper	15	4.2	ug/L	6010C
Iron	100	22	ug/L	6010C
Lead	15	2.6	ug/L	6010C
Magnesium	500	11	ug/L	6010C
Manganese	10	0.25	ug/L	6010C
Nickel	40	1.3	ug/L	6010C
Potassium	3000	240	ug/L	6010C
Selenium	22	4.9	ug/L	6010C
Silver	15	0.93	ug/L	6010C
Sodium	5000	92	ug/L	6010C
Thallium	40	4.9	ug/L	6010C
Vanadium	15	1.1	ug/L	6010C
Zinc	150	4.5	ug/L	6010C

Method: 7470A - Mercury (CVAA)

Default Detection Limits

Client: Weston Solutions, Inc.
Project/Site: Schenectady ANGB TU009

TestAmerica Job ID: 280-90742-1

Method: 7470A - Mercury (CVAA)

Prep: 7470A

Analyte	LOQ	DL	Units	Method
Mercury	0.20	0.027	ug/L	7470A

Method: 7470A - Mercury (CVAA) - Dissolved

Prep: 7470A

Analyte	LOQ	DL	Units	Method
Hg	0.20	0.027	ug/L	7470A

QC Sample Results

Client: Weston Solutions, Inc.
Project/Site: Schenectady ANGB TU009

TestAmerica Job ID: 280-90742-1

Method: 6010C - Metals (ICP)

Lab Sample ID: MB 280-352305/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 353166 — **Prep Batch: 352305**

Analyte	MB Result	MB Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	70	U	300	18	ug/L		11/21/16 14:45	11/25/16 23:30	1
Antimony	12	U	20	3.1	ug/L		11/21/16 14:45	11/25/16 23:30	1
Arsenic	15	U	25	4.4	ug/L		11/21/16 14:45	11/25/16 23:30	1
Beryllium	1.2	U	1.5	0.47	ug/L		11/21/16 14:45	11/25/16 23:30	1
Cadmium	1.8	U	5.0	0.45	ug/L		11/21/16 14:45	11/25/16 23:30	1
Cobalt	4.5	U	15	1.2	ug/L		11/21/16 14:45	11/25/16 23:30	1
Copper	10	U	15	4.2	ug/L		11/21/16 14:45	11/25/16 23:30	1
Iron	85	U	100	22	ug/L		11/21/16 14:45	11/25/16 23:30	1
Manganese	1.0	U	10	0.25	ug/L		11/21/16 14:45	11/25/16 23:30	1
Nickel	5.0	U	40	1.3	ug/L		11/21/16 14:45	11/25/16 23:30	1
Potassium	940	U	3000	240	ug/L		11/21/16 14:45	11/25/16 23:30	1
Selenium	19	U	22	4.9	ug/L		11/21/16 14:45	11/25/16 23:30	1
Sodium	158	J	5000	92	ug/L		11/21/16 14:45	11/25/16 23:30	1
Vanadium	4.0	U	15	1.1	ug/L		11/21/16 14:45	11/25/16 23:30	1
Zinc	15	U	150	4.5	ug/L		11/21/16 14:45	11/25/16 23:30	1

Lab Sample ID: MB 280-352305/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 353202 — **Prep Batch: 352305**

Analyte	MB Result	MB Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Barium	2.0	U	10	0.58	ug/L		11/21/16 14:45	11/26/16 21:57	1
Calcium	140	U	1000	35	ug/L		11/21/16 14:45	11/26/16 21:57	1
Chromium	2.6	U	15	0.66	ug/L		11/21/16 14:45	11/26/16 21:57	1
Lead	10	U	15	2.6	ug/L		11/21/16 14:45	11/26/16 21:57	1

Lab Sample ID: MB 280-352305/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 353460 — **Prep Batch: 352305**

Analyte	MB Result	MB Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Magnesium	40	U	500	11	ug/L		11/21/16 14:45	11/28/16 15:20	1
Silver	3.5	U	15	0.93	ug/L		11/21/16 14:45	11/28/16 15:20	1
Thallium	19	U	40	4.9	ug/L		11/21/16 14:45	11/28/16 15:20	1

Lab Sample ID: LCS 280-352305/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 353166 — **Prep Batch: 352305**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aluminum	2000	1800		ug/L		90	86 - 115
Antimony	500	500		ug/L		100	88 - 113
Arsenic	1000	957		ug/L		96	87 - 113
Beryllium	50.0	48.0		ug/L		96	89 - 112
Cadmium	100	102		ug/L		102	88 - 113
Cobalt	500	501		ug/L		100	89 - 114
Copper	250	261		ug/L		105	86 - 114
Iron	1000	990		ug/L		99	87 - 115
Manganese	500	543		ug/L		109	90 - 114

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

Lab Sample ID: LCS 280-352305/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 353166 — **Prep Batch: 352305**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nickel	500	500		ug/L		100	88 - 113
Potassium	50000	49500		ug/L		99	86 - 114
Selenium	2000	1860		ug/L		93	83 - 114
Sodium	50000	51200		ug/L		102	87 - 115
Vanadium	500	556		ug/L		111	90 - 111
Zinc	500	544		ug/L		109	87 - 115

Lab Sample ID: LCS 280-352305/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 353202 — **Prep Batch: 352305**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Barium	2000	1910		ug/L		95	88 - 113
Calcium	50000	53300		ug/L		107	87 - 113
Chromium	200	215		ug/L		107	90 - 113
Lead	500	517		ug/L		103	86 - 113

Lab Sample ID: LCS 280-352305/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 353460 — **Prep Batch: 352305**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Magnesium	50000	50300		ug/L		101	85 - 113
Silver	50.0	49.2		ug/L		98	84 - 115
Thallium	2000	1980		ug/L		99	85 - 114

Lab Sample ID: LCSD 280-352305/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 353166 — **Prep Batch: 352305**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Aluminum	2000	1760		ug/L		88	86 - 115	2	20
Antimony	500	489		ug/L		98	88 - 113	2	20
Arsenic	1000	944		ug/L		94	87 - 113	1	20
Beryllium	50.0	47.0		ug/L		94	89 - 112	2	20
Cadmium	100	99.9		ug/L		100	88 - 113	2	20
Cobalt	500	492		ug/L		98	89 - 114	2	20
Copper	250	256		ug/L		102	86 - 114	2	20
Iron	1000	978		ug/L		98	87 - 115	1	20
Manganese	500	533		ug/L		107	90 - 114	2	20
Nickel	500	489		ug/L		98	88 - 113	2	20
Potassium	50000	48600		ug/L		97	86 - 114	2	20
Selenium	2000	1830		ug/L		91	83 - 114	2	20
Sodium	50000	49900		ug/L		100	87 - 115	2	20
Vanadium	500	546		ug/L		109	90 - 111	2	20
Zinc	500	528		ug/L		106	87 - 115	3	20

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

Lab Sample ID: LCSD 280-352305/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 353202 — **Prep Batch: 352305**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Barium	2000	1850		ug/L		93	88 - 113	3	20
Calcium	50000	52200		ug/L		104	87 - 113	2	20
Chromium	200	212		ug/L		106	90 - 113	1	20
Lead	500	510		ug/L		102	86 - 113	1	20

Lab Sample ID: LCSD 280-352305/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 353460 — **Prep Batch: 352305**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Magnesium	50000	49600		ug/L		99	85 - 113	1	20
Silver	50.0	48.3		ug/L		97	84 - 115	2	20
Thallium	2000	1950		ug/L		98	85 - 114	1	20

Lab Sample ID: MB 280-351458/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total Recoverable**
Analysis Batch: 352380 — **Prep Batch: 351458**

Analyte	MB Result	MB Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	70	U	300	18	ug/L		11/16/16 07:00	11/20/16 22:45	1
Antimony	12	U	20	3.1	ug/L		11/16/16 07:00	11/20/16 22:45	1
Arsenic	15	U	25	4.4	ug/L		11/16/16 07:00	11/20/16 22:45	1
Barium	1.30	J	10	0.58	ug/L		11/16/16 07:00	11/20/16 22:45	1
Beryllium	1.2	U	1.5	0.47	ug/L		11/16/16 07:00	11/20/16 22:45	1
Cadmium	1.8	U	5.0	0.45	ug/L		11/16/16 07:00	11/20/16 22:45	1
Calcium	140	U	1000	35	ug/L		11/16/16 07:00	11/20/16 22:45	1
Chromium	2.6	U	15	0.66	ug/L		11/16/16 07:00	11/20/16 22:45	1
Cobalt	4.5	U	15	1.2	ug/L		11/16/16 07:00	11/20/16 22:45	1
Copper	10	U	15	4.2	ug/L		11/16/16 07:00	11/20/16 22:45	1
Iron	85	U	100	22	ug/L		11/16/16 07:00	11/20/16 22:45	1
Lead	10	U	15	2.6	ug/L		11/16/16 07:00	11/20/16 22:45	1
Magnesium	40	U	500	11	ug/L		11/16/16 07:00	11/20/16 22:45	1
Manganese	1.0	U	10	0.25	ug/L		11/16/16 07:00	11/20/16 22:45	1
Nickel	5.0	U	40	1.3	ug/L		11/16/16 07:00	11/20/16 22:45	1
Potassium	940	U	3000	240	ug/L		11/16/16 07:00	11/20/16 22:45	1
Selenium	19	U	22	4.9	ug/L		11/16/16 07:00	11/20/16 22:45	1
Silver	1.23	J	15	0.93	ug/L		11/16/16 07:00	11/20/16 22:45	1
Sodium	225	J	5000	92	ug/L		11/16/16 07:00	11/20/16 22:45	1
Thallium	19	U	40	4.9	ug/L		11/16/16 07:00	11/20/16 22:45	1
Vanadium	4.0	U	15	1.1	ug/L		11/16/16 07:00	11/20/16 22:45	1
Zinc	15	U	150	4.5	ug/L		11/16/16 07:00	11/20/16 22:45	1

Lab Sample ID: LCS 280-351458/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total Recoverable**
Analysis Batch: 352380 — **Prep Batch: 351458**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aluminum	2000	1830		ug/L		91	86 - 115
Antimony	500	490		ug/L		98	88 - 113

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

Lab Sample ID: LCS 280-351458/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total Recoverable**
Analysis Batch: 352380 — **Prep Batch: 351458**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	1000	968		ug/L		97	87 - 113
Barium	2000	2100		ug/L		105	88 - 113
Beryllium	50.0	48.1		ug/L		96	89 - 112
Cadmium	100	101		ug/L		101	88 - 113
Calcium	50000	50900		ug/L		102	87 - 113
Chromium	200	208		ug/L		104	90 - 113
Cobalt	500	498		ug/L		100	89 - 114
Copper	250	253		ug/L		101	86 - 114
Iron	1000	978		ug/L		98	87 - 115
Lead	500	502		ug/L		100	86 - 113
Magnesium	50000	47800		ug/L		96	85 - 113
Manganese	500	469		ug/L		94	90 - 114
Nickel	500	499		ug/L		100	88 - 113
Potassium	50000	52300		ug/L		105	86 - 114
Selenium	2000	1860		ug/L		93	83 - 114
Silver	50.0	50.5		ug/L		101	84 - 115
Sodium	50000	51700		ug/L		103	87 - 115
Thallium	2000	2010		ug/L		101	85 - 114
Vanadium	500	490		ug/L		98	90 - 111
Zinc	500	456		ug/L		91	87 - 115

Lab Sample ID: 280-90742-1 MS — **Client Sample ID: SC-TU009-MW003-G-2**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 352380 — **Prep Batch: 351458**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Aluminum	70	U	2000	1750		ug/L		88	86 - 115
Antimony	12	U	500	493		ug/L		99	88 - 113
Arsenic	16	J	1000	1010		ug/L		99	87 - 113
Barium	71		2000	2150		ug/L		104	88 - 113
Beryllium	1.2	U	50.0	46.7		ug/L		93	89 - 112
Cadmium	0.55	J	100	102		ug/L		102	88 - 113
Calcium	220000	J	50000	269000	4	ug/L		95	87 - 113
Chromium	0.90	J	200	208		ug/L		104	90 - 113
Cobalt	4.5	U	500	487		ug/L		97	89 - 114
Copper	10	U	250	252		ug/L		101	86 - 114
Iron	5800	J	1000	6740	4	ug/L		93	87 - 115
Lead	2.9	J	500	482		ug/L		96	86 - 113
Magnesium	65000		50000	112000		ug/L		94	85 - 113
Manganese	12000	J	500	12100	4	ug/L		74	90 - 114
Nickel	2.2	J	500	489		ug/L		97	88 - 113
Potassium	33000		50000	85400		ug/L		106	86 - 114
Selenium	19	U	2000	1900		ug/L		95	83 - 114
Silver	1.8	J	50.0	51.2		ug/L		99	84 - 115
Sodium	110000		50000	156000		ug/L		99	87 - 115
Thallium	19	U	2000	1850		ug/L		92	85 - 114
Vanadium	1.5	J	500	493		ug/L		98	90 - 111
Zinc	15	U	500	450		ug/L		90	87 - 115

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

Lab Sample ID: 280-90742-1 MSD — **Client Sample ID: SC-TU009-MW003-G-2**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 352380 — **Prep Batch: 351458**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Aluminum	70	U	2000	1730		ug/L		87	86 - 115	1	20
Antimony	12	U	500	495		ug/L		99	88 - 113	0	20
Arsenic	16	J	1000	1010		ug/L		99	87 - 113	0	20
Barium	71		2000	2170		ug/L		105	88 - 113	1	20
Beryllium	1.2	U	50.0	47.0		ug/L		94	89 - 112	0	20
Cadmium	0.55	J	100	102		ug/L		101	88 - 113	1	20
Calcium	220000	J	50000	268000	4	ug/L		93	87 - 113	0	20
Chromium	0.90	J	200	207		ug/L		103	90 - 113	1	20
Cobalt	4.5	U	500	485		ug/L		97	89 - 114	0	20
Copper	10	U	250	252		ug/L		101	86 - 114	0	20
Iron	5800	J	1000	6670	4	ug/L		86	87 - 115	1	20
Lead	2.9	J	500	482		ug/L		96	86 - 113	0	20
Magnesium	65000		50000	110000		ug/L		90	85 - 113	2	20
Manganese	12000	J	500	11800	4	ug/L		23	90 - 114	2	20
Nickel	2.2	J	500	486		ug/L		97	88 - 113	1	20
Potassium	33000		50000	85200		ug/L		105	86 - 114	0	20
Selenium	19	U	2000	1880		ug/L		94	83 - 114	1	20
Silver	1.8	J	50.0	51.2		ug/L		99	84 - 115	0	20
Sodium	110000		50000	155000		ug/L		96	87 - 115	1	20
Thallium	19	U	2000	1840		ug/L		92	85 - 114	0	20
Vanadium	1.5	J	500	491		ug/L		98	90 - 111	0	20
Zinc	15	U	500	443		ug/L		89	87 - 115	2	20

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 280-351834/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 352110 — **Prep Batch: 351834**

Analyte	MB Result	MB Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.080	U	0.20	0.027	ug/L		11/17/16 11:00	11/17/16 17:57	1

Lab Sample ID: LCS 280-351834/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 352110 — **Prep Batch: 351834**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	5.00	5.20		ug/L		104	82 - 119

Lab Sample ID: MB 280-352401/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 352577 — **Prep Batch: 352401**

Analyte	MB Result	MB Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	0.080	U	0.20	0.027	ug/L		11/21/16 11:45	11/21/16 15:45	1

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

Lab Sample ID: LCS 280-352401/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 352577 — **Prep Batch: 352401**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Hg			5.00	5.03		ug/L		101	82 - 119		

Lab Sample ID: 280-90742-1 MS — **Client Sample ID: SC-TU009-MW003-G-2**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 352577 — **Prep Batch: 352401**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Hg	0.080	U	5.00	5.06		ug/L		101	82 - 119		

Lab Sample ID: 280-90742-1 MSD — **Client Sample ID: SC-TU009-MW003-G-2**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 352577 — **Prep Batch: 352401**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Hg	0.080	U	5.00	4.99		ug/L		100	82 - 119	1	20

QC Association Summary

Client: Weston Solutions, Inc.
Project/Site: Schenectady ANGB TU009

TestAmerica Job ID: 280-90742-1

Metals

Prep Batch: 351458

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-90742-1	SC-TU009-MW003-G-2	Dissolved	Water	3005A	
MB 280-351458/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 280-351458/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
280-90742-1 MS	SC-TU009-MW003-G-2	Dissolved	Water	3005A	
280-90742-1 MSD	SC-TU009-MW003-G-2	Dissolved	Water	3005A	

Prep Batch: 351834

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-90742-1	SC-TU009-MW003-G-2	Total/NA	Water	7470A	
MB 280-351834/1-A	Method Blank	Total/NA	Water	7470A	
LCS 280-351834/2-A	Lab Control Sample	Total/NA	Water	7470A	

Analysis Batch: 352110

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-90742-1	SC-TU009-MW003-G-2	Total/NA	Water	7470A	351834
MB 280-351834/1-A	Method Blank	Total/NA	Water	7470A	351834
LCS 280-351834/2-A	Lab Control Sample	Total/NA	Water	7470A	351834

Prep Batch: 352305

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-90742-1	SC-TU009-MW003-G-2	Total/NA	Water	3010A	
MB 280-352305/1-A	Method Blank	Total/NA	Water	3010A	
LCS 280-352305/2-A	Lab Control Sample	Total/NA	Water	3010A	
LCSD 280-352305/3-A	Lab Control Sample Dup	Total/NA	Water	3010A	

Analysis Batch: 352380

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-90742-1	SC-TU009-MW003-G-2	Dissolved	Water	6010C	351458
MB 280-351458/1-A	Method Blank	Total Recoverable	Water	6010C	351458
LCS 280-351458/2-A	Lab Control Sample	Total Recoverable	Water	6010C	351458
280-90742-1 MS	SC-TU009-MW003-G-2	Dissolved	Water	6010C	351458
280-90742-1 MSD	SC-TU009-MW003-G-2	Dissolved	Water	6010C	351458

Prep Batch: 352401

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-90742-1	SC-TU009-MW003-G-2	Dissolved	Water	7470A	
MB 280-352401/1-A	Method Blank	Total/NA	Water	7470A	
LCS 280-352401/2-A	Lab Control Sample	Total/NA	Water	7470A	
280-90742-1 MS	SC-TU009-MW003-G-2	Dissolved	Water	7470A	
280-90742-1 MSD	SC-TU009-MW003-G-2	Dissolved	Water	7470A	

Analysis Batch: 352577

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-90742-1	SC-TU009-MW003-G-2	Dissolved	Water	7470A	352401
MB 280-352401/1-A	Method Blank	Total/NA	Water	7470A	352401
LCS 280-352401/2-A	Lab Control Sample	Total/NA	Water	7470A	352401
280-90742-1 MS	SC-TU009-MW003-G-2	Dissolved	Water	7470A	352401
280-90742-1 MSD	SC-TU009-MW003-G-2	Dissolved	Water	7470A	352401

Metals (Continued)

Analysis Batch: 353166

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-90742-1	SC-TU009-MW003-G-2	Total/NA	Water	6010C	352305
MB 280-352305/1-A	Method Blank	Total/NA	Water	6010C	352305
LCS 280-352305/2-A	Lab Control Sample	Total/NA	Water	6010C	352305
LCSD 280-352305/3-A	Lab Control Sample Dup	Total/NA	Water	6010C	352305

Analysis Batch: 353202

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-90742-1	SC-TU009-MW003-G-2	Total/NA	Water	6010C	352305
MB 280-352305/1-A	Method Blank	Total/NA	Water	6010C	352305
LCS 280-352305/2-A	Lab Control Sample	Total/NA	Water	6010C	352305
LCSD 280-352305/3-A	Lab Control Sample Dup	Total/NA	Water	6010C	352305

Analysis Batch: 353460

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-90742-1	SC-TU009-MW003-G-2	Total/NA	Water	6010C	352305
MB 280-352305/1-A	Method Blank	Total/NA	Water	6010C	352305
LCS 280-352305/2-A	Lab Control Sample	Total/NA	Water	6010C	352305
LCSD 280-352305/3-A	Lab Control Sample Dup	Total/NA	Water	6010C	352305

Lab Chronicle

Client: Weston Solutions, Inc.
Project/Site: Schenectady ANGB TU009

TestAmerica Job ID: 280-90742-1

Client Sample ID: SC-TU009-MW003-G-2

Lab Sample ID: 280-90742-1

Date Collected: 11/07/16 15:40
Date Received: 11/09/16 09:50

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			50 mL	50 mL	351458	11/16/16 07:00	SUR	TAL DEN
Dissolved	Analysis	6010C		1			352380	11/20/16 22:55	SJS	TAL DEN
Total/NA	Prep	3010A			50 mL	50 mL	352305	11/21/16 14:45	SEJ	TAL DEN
Total/NA	Analysis	6010C		1			353166	11/25/16 23:37	CML	TAL DEN
Total/NA	Prep	3010A			50 mL	50 mL	352305	11/21/16 14:45	SEJ	TAL DEN
Total/NA	Analysis	6010C		1			353202	11/26/16 22:04	LLB	TAL DEN
Total/NA	Prep	3010A			50 mL	50 mL	352305	11/21/16 14:45	SEJ	TAL DEN
Total/NA	Analysis	6010C		1			353460	11/28/16 15:28	CML	TAL DEN
Dissolved	Prep	7470A			30 mL	50 mL	352401	11/21/16 11:45	CDH	TAL DEN
Dissolved	Analysis	7470A		1			352577	11/21/16 15:50	CDH	TAL DEN
Total/NA	Prep	7470A			30 mL	50 mL	351834	11/17/16 11:00	CDH	TAL DEN
Total/NA	Analysis	7470A		1			352110	11/17/16 18:17	CDH	TAL DEN

Laboratory References:

TAL DEN = TestAmerica Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

Certification Summary

Client: Weston Solutions, Inc.
Project/Site: Schenectady ANGB TU009

TestAmerica Job ID: 280-90742-1

Laboratory: TestAmerica Denver

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

Authority	Program	EPA Region	Certification ID	Expiration Date
A2LA	DoD ELAP		2907.01	10-31-17
Connecticut	State Program	1	PH-0686	09-30-18

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

Analysis Method	Prep Method	Matrix	Analyte
6010C	3005A	Water	Aluminum
6010C	3005A	Water	Antimony
6010C	3005A	Water	Arsenic
6010C	3005A	Water	Barium
6010C	3005A	Water	Beryllium
6010C	3005A	Water	Cadmium
6010C	3005A	Water	Calcium
6010C	3005A	Water	Chromium
6010C	3005A	Water	Cobalt
6010C	3005A	Water	Copper
6010C	3005A	Water	Iron
6010C	3005A	Water	Lead
6010C	3005A	Water	Magnesium
6010C	3005A	Water	Manganese
6010C	3005A	Water	Nickel
6010C	3005A	Water	Potassium
6010C	3005A	Water	Selenium
6010C	3005A	Water	Silver
6010C	3005A	Water	Sodium
6010C	3005A	Water	Thallium
6010C	3005A	Water	Vanadium
6010C	3005A	Water	Zinc
6010C	3010A	Water	Aluminum
6010C	3010A	Water	Antimony
6010C	3010A	Water	Arsenic
6010C	3010A	Water	Barium
6010C	3010A	Water	Beryllium
6010C	3010A	Water	Cadmium
6010C	3010A	Water	Calcium
6010C	3010A	Water	Chromium
6010C	3010A	Water	Cobalt
6010C	3010A	Water	Copper
6010C	3010A	Water	Iron
6010C	3010A	Water	Lead
6010C	3010A	Water	Magnesium
6010C	3010A	Water	Manganese
6010C	3010A	Water	Nickel
6010C	3010A	Water	Potassium
6010C	3010A	Water	Selenium
6010C	3010A	Water	Silver
6010C	3010A	Water	Sodium
6010C	3010A	Water	Thallium

Laboratory: TestAmerica Denver (Continued)

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

Authority	Program	EPA Region	Certification ID	Expiration Date
Connecticut	State Program	1	PH-0686	09-30-18

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

Analysis Method	Prep Method	Matrix	Analyte
6010C	3010A	Water	Vanadium
6010C	3010A	Water	Zinc
7470A	7470A	Water	Hg
7470A	7470A	Water	Mercury

Maine	State Program	1	CO0002	03-03-17

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

Analysis Method	Prep Method	Matrix	Analyte
6010C	3005A	Water	Aluminum
6010C	3005A	Water	Antimony
6010C	3005A	Water	Arsenic
6010C	3005A	Water	Barium
6010C	3005A	Water	Beryllium
6010C	3005A	Water	Cadmium
6010C	3005A	Water	Calcium
6010C	3005A	Water	Chromium
6010C	3005A	Water	Cobalt
6010C	3005A	Water	Copper
6010C	3005A	Water	Iron
6010C	3005A	Water	Lead
6010C	3005A	Water	Magnesium
6010C	3005A	Water	Manganese
6010C	3005A	Water	Nickel
6010C	3005A	Water	Potassium
6010C	3005A	Water	Selenium
6010C	3005A	Water	Silver
6010C	3005A	Water	Sodium
6010C	3005A	Water	Thallium
6010C	3005A	Water	Vanadium
6010C	3005A	Water	Zinc
6010C	3010A	Water	Aluminum
6010C	3010A	Water	Antimony
6010C	3010A	Water	Arsenic
6010C	3010A	Water	Barium
6010C	3010A	Water	Beryllium
6010C	3010A	Water	Cadmium
6010C	3010A	Water	Calcium
6010C	3010A	Water	Chromium
6010C	3010A	Water	Cobalt
6010C	3010A	Water	Copper
6010C	3010A	Water	Iron
6010C	3010A	Water	Lead
6010C	3010A	Water	Magnesium
6010C	3010A	Water	Manganese
6010C	3010A	Water	Nickel
6010C	3010A	Water	Potassium
6010C	3010A	Water	Selenium

Laboratory: TestAmerica Denver (Continued)

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

Authority	Program	EPA Region	Certification ID	Expiration Date
Maine	State Program	1	CO0002	03-03-17

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

Analysis Method	Prep Method	Matrix	Analyte
6010C	3010A	Water	Silver
6010C	3010A	Water	Sodium
6010C	3010A	Water	Thallium
6010C	3010A	Water	Vanadium
6010C	3010A	Water	Zinc
7470A	7470A	Water	Hg
7470A	7470A	Water	Mercury

New Hampshire	NELAP	1	205310	04-28-17

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

Analysis Method	Prep Method	Matrix	Analyte
6010C	3005A	Water	Aluminum
6010C	3005A	Water	Antimony
6010C	3005A	Water	Arsenic
6010C	3005A	Water	Barium
6010C	3005A	Water	Beryllium
6010C	3005A	Water	Cadmium
6010C	3005A	Water	Calcium
6010C	3005A	Water	Chromium
6010C	3005A	Water	Cobalt
6010C	3005A	Water	Copper
6010C	3005A	Water	Iron
6010C	3005A	Water	Lead
6010C	3005A	Water	Magnesium
6010C	3005A	Water	Manganese
6010C	3005A	Water	Nickel
6010C	3005A	Water	Potassium
6010C	3005A	Water	Selenium
6010C	3005A	Water	Silver
6010C	3005A	Water	Sodium
6010C	3005A	Water	Thallium
6010C	3005A	Water	Vanadium
6010C	3005A	Water	Zinc
6010C	3010A	Water	Aluminum
6010C	3010A	Water	Antimony
6010C	3010A	Water	Arsenic
6010C	3010A	Water	Barium
6010C	3010A	Water	Beryllium
6010C	3010A	Water	Cadmium
6010C	3010A	Water	Calcium
6010C	3010A	Water	Chromium
6010C	3010A	Water	Cobalt
6010C	3010A	Water	Copper
6010C	3010A	Water	Iron
6010C	3010A	Water	Lead
6010C	3010A	Water	Magnesium
6010C	3010A	Water	Manganese

Laboratory: TestAmerica Denver (Continued)

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

Authority	Program	EPA Region	Certification ID	Expiration Date
New Hampshire	NELAP	1	205310	04-28-17

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

Analysis Method	Prep Method	Matrix	Analyte
6010C	3010A	Water	Nickel
6010C	3010A	Water	Potassium
6010C	3010A	Water	Selenium
6010C	3010A	Water	Silver
6010C	3010A	Water	Sodium
6010C	3010A	Water	Thallium
6010C	3010A	Water	Vanadium
6010C	3010A	Water	Zinc
7470A	7470A	Water	Hg
7470A	7470A	Water	Mercury

New York	NELAP	2	11964	04-01-17

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

Analysis Method	Prep Method	Matrix	Analyte
6010C	3005A	Water	Aluminum
6010C	3005A	Water	Antimony
6010C	3005A	Water	Arsenic
6010C	3005A	Water	Barium
6010C	3005A	Water	Beryllium
6010C	3005A	Water	Cadmium
6010C	3005A	Water	Calcium
6010C	3005A	Water	Chromium
6010C	3005A	Water	Cobalt
6010C	3005A	Water	Copper
6010C	3005A	Water	Iron
6010C	3005A	Water	Lead
6010C	3005A	Water	Magnesium
6010C	3005A	Water	Manganese
6010C	3005A	Water	Nickel
6010C	3005A	Water	Potassium
6010C	3005A	Water	Selenium
6010C	3005A	Water	Silver
6010C	3005A	Water	Sodium
6010C	3005A	Water	Thallium
6010C	3005A	Water	Vanadium
6010C	3005A	Water	Zinc
6010C	3010A	Water	Aluminum
6010C	3010A	Water	Antimony
6010C	3010A	Water	Arsenic
6010C	3010A	Water	Barium
6010C	3010A	Water	Beryllium
6010C	3010A	Water	Cadmium
6010C	3010A	Water	Calcium
6010C	3010A	Water	Chromium
6010C	3010A	Water	Cobalt
6010C	3010A	Water	Copper
6010C	3010A	Water	Iron

Laboratory: TestAmerica Denver (Continued)

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

Authority	Program	EPA Region	Certification ID	Expiration Date
New York	NELAP	2	11964	04-01-17

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

Analysis Method	Prep Method	Matrix	Analyte
6010C	3010A	Water	Lead
6010C	3010A	Water	Magnesium
6010C	3010A	Water	Manganese
6010C	3010A	Water	Nickel
6010C	3010A	Water	Potassium
6010C	3010A	Water	Selenium
6010C	3010A	Water	Silver
6010C	3010A	Water	Sodium
6010C	3010A	Water	Thallium
6010C	3010A	Water	Vanadium
6010C	3010A	Water	Zinc
7470A	7470A	Water	Hg
7470A	7470A	Water	Mercury

Pennsylvania	NELAP	3	68-00664	07-31-17

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

Analysis Method	Prep Method	Matrix	Analyte
6010C	3005A	Water	Aluminum
6010C	3005A	Water	Antimony
6010C	3005A	Water	Arsenic
6010C	3005A	Water	Barium
6010C	3005A	Water	Beryllium
6010C	3005A	Water	Cadmium
6010C	3005A	Water	Calcium
6010C	3005A	Water	Chromium
6010C	3005A	Water	Cobalt
6010C	3005A	Water	Copper
6010C	3005A	Water	Iron
6010C	3005A	Water	Lead
6010C	3005A	Water	Magnesium
6010C	3005A	Water	Manganese
6010C	3005A	Water	Nickel
6010C	3005A	Water	Potassium
6010C	3005A	Water	Selenium
6010C	3005A	Water	Silver
6010C	3005A	Water	Sodium
6010C	3005A	Water	Thallium
6010C	3005A	Water	Vanadium
6010C	3005A	Water	Zinc
6010C	3010A	Water	Aluminum
6010C	3010A	Water	Antimony
6010C	3010A	Water	Arsenic
6010C	3010A	Water	Barium
6010C	3010A	Water	Beryllium
6010C	3010A	Water	Cadmium
6010C	3010A	Water	Calcium
6010C	3010A	Water	Chromium

Laboratory: TestAmerica Denver (Continued)

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

Authority	Program	EPA Region	Certification ID	Expiration Date
Pennsylvania	NELAP	3	68-00664	07-31-17

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

Analysis Method	Prep Method	Matrix	Analyte
6010C	3010A	Water	Cobalt
6010C	3010A	Water	Copper
6010C	3010A	Water	Iron
6010C	3010A	Water	Lead
6010C	3010A	Water	Magnesium
6010C	3010A	Water	Manganese
6010C	3010A	Water	Nickel
6010C	3010A	Water	Potassium
6010C	3010A	Water	Selenium
6010C	3010A	Water	Silver
6010C	3010A	Water	Sodium
6010C	3010A	Water	Thallium
6010C	3010A	Water	Vanadium
6010C	3010A	Water	Zinc
7470A	7470A	Water	Hg
7470A	7470A	Water	Mercury

West Virginia DEP	State Program	3	354	11-30-17

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

Analysis Method	Prep Method	Matrix	Analyte
6010C	3005A	Water	Aluminum
6010C	3005A	Water	Antimony
6010C	3005A	Water	Arsenic
6010C	3005A	Water	Barium
6010C	3005A	Water	Beryllium
6010C	3005A	Water	Cadmium
6010C	3005A	Water	Calcium
6010C	3005A	Water	Chromium
6010C	3005A	Water	Cobalt
6010C	3005A	Water	Copper
6010C	3005A	Water	Iron
6010C	3005A	Water	Lead
6010C	3005A	Water	Magnesium
6010C	3005A	Water	Manganese
6010C	3005A	Water	Nickel
6010C	3005A	Water	Potassium
6010C	3005A	Water	Selenium
6010C	3005A	Water	Silver
6010C	3005A	Water	Sodium
6010C	3005A	Water	Thallium
6010C	3005A	Water	Vanadium
6010C	3005A	Water	Zinc
6010C	3010A	Water	Aluminum
6010C	3010A	Water	Antimony
6010C	3010A	Water	Arsenic
6010C	3010A	Water	Barium
6010C	3010A	Water	Beryllium

Laboratory: TestAmerica Denver (Continued)

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

Authority	Program	EPA Region	Certification ID	Expiration Date
West Virginia DEP	State Program	3	354	11-30-17

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

Analysis Method	Prep Method	Matrix	Analyte
6010C	3010A	Water	Cadmium
6010C	3010A	Water	Calcium
6010C	3010A	Water	Chromium
6010C	3010A	Water	Cobalt
6010C	3010A	Water	Copper
6010C	3010A	Water	Iron
6010C	3010A	Water	Lead
6010C	3010A	Water	Magnesium
6010C	3010A	Water	Manganese
6010C	3010A	Water	Nickel
6010C	3010A	Water	Potassium
6010C	3010A	Water	Selenium
6010C	3010A	Water	Silver
6010C	3010A	Water	Sodium
6010C	3010A	Water	Thallium
6010C	3010A	Water	Vanadium
6010C	3010A	Water	Zinc
7470A	7470A	Water	Hg
7470A	7470A	Water	Mercury

Method Summary

Client: Weston Solutions, Inc.
Project/Site: Schenectady ANGB TU009

TestAmerica Job ID: 280-90742-1

Method	Method Description	Protocol	Laboratory
6010C	Metals (ICP)	SW846	TAL DEN
7470A	Mercury (CVAA)	SW846	TAL DEN

Protocol References:

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

Laboratory References:

TAL DEN = TestAmerica Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

Sample Summary

Client: Weston Solutions, Inc.
Project/Site: Schenectady ANGB TU009

TestAmerica Job ID: 280-90742-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
280-90742-1	SC-TU009-MW003-G-2	Water	11/07/16 15:40	11/09/16 09:50

Shipping and Receiving Documents

TestAmerica Denver
4955 Yarrow Street
Arvada, CO 80002
Phone (303) 736-0100 Fax (303) 431-7171

480501-Albany

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information	Sampler: Dakin	Lab PM: Rydberg, Donna R	Carrier Tracking No(s): Drop off at TA Albany	COC No: 280-58421-20497.2
Client Contact: Mr. Joseph Gross	Phone: 302-415-1496	E-Mail: donna.rydberg@testamericainc.com		Page: Page ~~2 of 2~~ 1 of 1
Company: Weston Solutions, Inc.				Job #:
Address: 1400 Weston Way PO BOX 2653	Due Date Requested:			
City: West Chester	TAT Requested (days): 15 days			
State, Zip: PA, 19380				
Phone: 410-612-5910(Tel)	PO #: 0090139			
Email: joseph.gross@westonsolutions.com	WO #: 15363.100.001.1103			
Project Name: Schenectady ANGB, ~~TU008~~ TU009	Project #: 28015256			
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)	Total metals + Hg	Filtered metals + Hg (Field filtered)	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
SC-TU009-MW003-G-2	11/7/16	1540	G	W			N	N	2	

11/7/16

Albany

280-90742 Chain of Custody

480501

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: Ship to TA Denver for Analysis

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

Relinquished by	Date/Time	Company	Received by	Date/Time	Company
Alexander Laskoske	11/7/16 1717	Weston	[signature]	11/7/16 1717	TA-ALB
[signature]	11/8/16 1800	TA-ALB	[signature]	11/9/16 0950	TAD
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: 1.1+0.0 IR#5 transferred by DW 11/9/16

Login Sample Receipt Checklist

Client: Weston Solutions, Inc.

Job Number: 280-90742-1

Login Number: 90742
List Number: 1
Creator: White, Denise E

List Source: TestAmerica Denver

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
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.	N/A	
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	

APPENDIX F

DATA VALIDATION REPORTS

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LABORATORY DATA CONSULTANTS, INC.
2701 Loker Ave. West, Suite 220, Carlsbad, CA 92010 Bus: 760-827-1100 Fax: 760-827-1099

Weston Solutions, Inc.
1371 Brass Mill Rd., Suite N
Belcamp, MD 21017
ATTN: Mr. Joseph Gross

August 12, 2016

SUBJECT: Revised Schenectady ANGB, Data Validation

Dear Mr. Gross,

Enclosed are the revised validation reports for the fractions listed below. Please replace the previously submitted reports with the enclosed revised reports.

LDC Project #36638:

SDG #	Fraction
280-84062-1 & 280-84354-1	Volatiles, Semivolatiles, Metals

Please feel free to contact us if you have any questions.

Sincerely,

Pei Geng
Project Manager/Senior Chemist

LABORATORY DATA CONSULTANTS, INC.
2701 Loker Ave. West, Suite 220, Carlsbad, CA 92010 Bus: 760-827-1100 Fax: 760-827-1099

Weston Solutions, Inc.
1371 Brass Mill Rd., Suite N
Belcamp, MD 21017
ATTN: Mr. Joseph Gross

August 2, 2016

SUBJECT: Schenectady ANGB, Data Validation

Dear Mr. Gross,

Enclosed are the final validation reports for the fractions listed below. These SDGs were received on July 7, 2016. Attachment 1 is a summary of the samples that were reviewed for each analysis.

LDC Project #36638:

SDG #	Fraction
280-84062-1 & 280-84354-1	Volatiles, Semivolatiles, Metals

The data validation was performed under Stage 2B guidelines. The analyses were validated using the following documents, as applicable to each method:

- Final Remedial Investigation Work Plan, Uniform Federal Policy, Quality Assurance Project Plan at Schenectady Air National Guard Base, Scotia, New York, May 2016
- U.S. Department of Defense, Quality Systems Manual for Environmental Laboratories, Version 5.0, July 2013
- USEPA National Functional Guidelines for Superfund Organic Methods Data Review, August 2014
- USEPA National Functional Guidelines for Inorganic Superfund Data Review, August 2014
- EPA SW 846, Third Edition, Test Methods for Evaluating Solid Waste, update 1, July 1992; update IIA, August 1993; update II, September 1994; update IIB, January 1995; update III, December 1996; update IIIA, April 1998; IIIB, November 2004; update IV, February 2007; update V, July 2014

Please feel free to contact us if you have any questions.

Sincerely,

Pei Geng
Project Manager/Senior Chemist

EDD Stage 2B

LDC #36638 (Weston Solutions, Inc.- West Chester, PA / Schenectady ANGB)

LDC	SDG#	DATE REC'D	(2) DATE DUE	VOA (8260C)		SVOA (8270D)		Metals (6010C/ 7471A)																											
Matrix:	Water/Soil			W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S
A	280-84062-1	07/07/16	07/21/16	-	-	-	-	0	7																										
B	280-84354-1	07/07/16	07/21/16	7	0	5	0	-	-																										
Total	A/PG			7	0	5	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	19

Shaded cells indicate Stage 4 validation (all other cells are Stage 2B validation). These sample counts do not include MS/MSD, and DUPs

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Schenectady ANGB

LDC Report Date: August 12, 2016

Parameters: Metals

Validation Level: Stage 2B

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-84062-1

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
SC-ZZ007-MW001-S0103	280-84062-1	Soil	06/01/16
SC-ZZ007-MW001-S0506	280-84062-2	Soil	06/01/16
SC-ZZ007-MW002-S0102	280-84062-3	Soil	06/01/16
SC-ZZ007-MW002-S0607	280-84062-4	Soil	06/01/16
SC-ZZ007-MW003-S0002	280-84062-5	Soil	06/02/16
SC-ZZ007-MW003-S0204	280-84062-6	Soil	06/02/16
SC-ZZ007-MW003-S0204-D	280-84062-7	Soil	06/02/16

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Final Remedial Investigation Work Plan, Uniform Federal Policy, Quality Assurance Project Plan at Schenectady Air National Guard Base, Scotia, New York (May 2016), the U.S. Department of Defense (DoD) Quality Systems Manual (QSM) for Environmental Laboratories, Version 5.0 (July 2013), and a modified outline of the USEPA National Functional Guidelines (NFG) for Inorganic Superfund Data Review (August 2014). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following methods:

Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Vanadium, and Zinc by Environmental Protection Agency (EPA) SW 846 Method 6010C
Mercury by EPA SW 846 Method 7471A

All sample results were subjected to Stage 2B data validation, which comprises an evaluation of quality control (QC) summary results.

The following are definitions of the data qualifiers utilized during data validation:

J+ (Estimated, High Bias): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated, displaying high bias, due to non-conformances discovered during data validation.

J- (Estimated, Low Bias): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated, displaying low bias, due to non-conformances discovered during data validation.

J (Estimated, Bias Indeterminate): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation. Bias is indeterminate.

U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered non-detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).

UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.

N (Presumptive): The analysis indicates the presence of a compound or analyte that has been "tentatively identified."

NJ (Presumptive and estimated): The analysis indicates the presence of a compound or analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.

R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.

NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition.

All technical holding time requirements were met.

II. Instrument Calibration

Initial and continuing calibrations were performed as required by the methods.

The initial calibration verification (ICV) and continuing calibration verification (CCV) standards were within QC limits.

III. ICP Interference Check Sample Analysis

The frequency of analysis was met.

The criteria for analysis were met.

Although Nickel was present in the ICSA solution for all samples, no data was qualified since the Nickel result was greater than 10 times the concentration found in the ICSA solution.

IV. Laboratory Blanks

Laboratory blanks were analyzed as required by the methods. No contaminants were found in the laboratory blanks with the following exceptions:

Blank ID	Analyte	Maximum Concentration	Associated Samples
PB (prep blank)	Aluminum Barium Calcium Chromium Iron Magnesium Manganese	4.44 mg/Kg 0.146 mg/Kg 18.2 mg/Kg 0.0563 mg/Kg 8.47 mg/Kg 6.18 mg/Kg 0.149 mg/Kg	All samples in SDG 280-84062-1
ICB/CCB	Antimony Lead Selenium	6.20 ug/L 3.11 ug/L 6.31 ug/L	All samples in SDG 280-84062-1

Data qualification by the laboratory blanks was based on the maximum contaminant concentration in the laboratory blanks in the analysis of each analyte. The sample concentrations were either not detected or were significantly greater than the concentrations found in the associated laboratory blanks with the following exceptions:

Sample	Analyte	Reported Concentration	Modified Final Concentration
SC-ZZ007-MW001-S0103	Selenium	1.6 mg/Kg	2.8U mg/Kg
SC-ZZ007-MW001-S0506	Selenium	1.6 mg/Kg	2.6U mg/Kg
SC-ZZ007-MW002-S0607	Selenium	1.3 mg/Kg	3.4U mg/Kg
SC-ZZ007-MW003-S0002	Selenium	1.2 mg/Kg	2.9U mg/Kg
SC-ZZ007-MW003-S0204	Antimony Selenium	0.43 mg/Kg 1.1 mg/Kg	1.8U mg/Kg 2.7U mg/Kg
SC-ZZ007-MW003-S0204-D	Selenium	1.4 mg/Kg	2.9U mg/Kg

V. Field Blanks

No field blanks were identified in this SDG.

VI. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VII. Duplicate Sample Analysis

The laboratory has indicated that there were no duplicate (DUP) analyses specified for the samples in this SDG, and therefore duplicate analyses were not performed for this SDG.

VIII. Serial Dilution

Serial dilution was not performed for this SDG.

IX. Laboratory Control Samples

Laboratory control samples (LCS) were analyzed as required by the methods. Percent recoveries (%R) were within QC limits.

X. Field Duplicates

Samples SC-ZZ007-MW003-S0204 and SC-ZZ007-MW003-S0204-D were identified as field duplicates. No results were detected in any of the samples with the following exceptions:

Analyte	Concentration (mg/Kg)		RPD (Limits)	Difference (Limits)	Flag	A or P
	SC-ZZ007-MW003-S0204	SC-ZZ007-MW003-S0204-D				
Aluminum	10000	13000	26 (≤50)	-	-	-
Arsenic	11	8.2	29 (≤50)	-	-	-
Barium	64	70	9 (≤50)	-	-	-
Beryllium	0.67	0.86	25 (≤50)	-	-	-
Cadmium	0.33	0.25	-	0.08 (≤0.98)	-	-
Calcium	36000	8000	127 (≤50)	-	J (all detects)	A
Chromium	17	21	21 (≤50)	-	-	-
Cobalt	14	13	7 (≤50)	-	-	-
Copper	33	40	19 (≤50)	-	-	-
Iron	26000	35000	30 (≤50)	-	-	-
Lead	28	26	7 (≤50)	-	-	-
Magnesium	20000	7300	93 (≤50)	-	J (all detects)	A
Manganese	680	550	21 (≤50)	-	-	-
Mercury	0.14	0.078	57 (≤50)	-	J (all detects)	A
Nickel	33	33	0 (≤50)	-	-	-
Potassium	1800	1900	5 (≤50)	-	-	-
Sodium	140	130	-	10 (≤980)	-	-
Thallium	2.2U	0.87	-	1.33 (≤5.8)	-	-
Vanadium	19	24	23 (≤50)	-	-	-
Zinc	76	90	17 (≤50)	-	-	-

XI. Sample Result Verification

Raw data were not reviewed for Stage 2B validation.

XII. Overall Assessment of Data

The analysis was conducted within all specifications of the methods. No results were rejected in this SDG.

Due to field duplicate RPD, data were qualified as estimated in two samples.

Due to laboratory blank contamination, data were qualified as not detected in six samples.

The quality control criteria reviewed, other than those discussed above, were met and are considered acceptable. Sample results that were found to be estimated (J) are usable for limited purposes only. Based upon the data validation all other results are considered valid and usable for all purposes.

Schenectady ANGB
Metals - Data Qualification Summary - SDG 280-84062-1

Sample	Analyte	Flag	A or P	Reason
SC-ZZ007-MW003-S0204 SC-ZZ007-MW003-S0204-D	Calcium Magnesium Mercury	J (all detects) J (all detects) J (all detects)	A	Field duplicates (RPD)

Schenectady ANGB
Metals - Laboratory Blank Data Qualification Summary - SDG 280-84062-1

Sample	Analyte	Modified Final Concentration	A or P
SC-ZZ007-MW001-S0103	Selenium	2.8U mg/Kg	A
SC-ZZ007-MW001-S0506	Selenium	2.6U mg/Kg	A
SC-ZZ007-MW002-S0607	Selenium	3.4U mg/Kg	A
SC-ZZ007-MW003-S0002	Selenium	2.9U mg/Kg	A
SC-ZZ007-MW003-S0204	Antimony Selenium	1.8U mg/Kg 2.7U mg/Kg	A
SC-ZZ007-MW003-S0204-D	Selenium	2.9U mg/Kg	A

Schenectady ANGB
Metals - Field Blank Data Qualification Summary - SDG 280-84062-1

No Sample Data Qualified in this SDG

LDC #: 36638A4b
SDG #: 280-84062-1
Laboratory: Test America

VALIDATION COMPLETENESS WORKSHEET
Stage 2B/~~A~~

Date: 7-14-16
Page: 1 of 1
Reviewer: MG
2nd Reviewer: M

METHOD: Metals (EPA SW 846 Method 6010~~B~~/7471A) 6010C 7471A

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A	
II.	Instrument Calibration	A	
III.	ICP Interference Check Sample (ICS) Analysis	SW	
IV.	Laboratory Blanks	SW	
V.	Field Blanks	N	
VI.	Matrix Spike/Matrix Spike Duplicates	N	client specified
VII.	Duplicate sample analysis	N	" "
VIII.	ICP Serial Dilution	N	not performed
IX.	Laboratory control samples	A	LCS
X.	Field Duplicates	SW	D = 6+7
XI.	Sample Result Verification	A	Not reviewed for Stage 2B validation.
XII.	Overall Assessment of Data	A	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank; SB=Source blank; OTHER:

** Indicates sample underwent Stage 4 validation

	Client ID	Lab ID	Matrix	Date
1	SC-ZZ007-MW001-S0103	280-84062-1	Soil	06/01/16
2	SC-ZZ007-MW001-S0506	280-84062-2	Soil	06/01/16
3	SC-ZZ007-MW002-S0102**	280-84062-3**	Soil	06/01/16
4	SC-ZZ007-MW002-S0607	280-84062-4	Soil	06/01/16
5	SC-ZZ007-MW003-S0002	280-84062-5	Soil	06/02/16
6	SC-ZZ007-MW003-S0204	280-84062-6	Soil	06/02/16
7	SC-ZZ007-MW003-S0204-D	280-84062-7	Soil	06/02/16
8				
9				
10				
11				
12	PBS			

Notes:

LDC #: 36638A46

VALIDATION FINDINGS WORKSHEET
Sample Specific Element Reference

Reviewer: MG
2nd reviewer: N

All circled elements are applicable to each sample.

Sample ID	Matrix	Target Analyte List (TAL)
1 → 7	S	Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, ____
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, ____
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, ____
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, ____
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, ____
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, ____
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, ____
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, ____
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, ____
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, ____
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, ____
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, ____
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, ____
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, ____
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, ____
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, ____
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, ____
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, ____
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, ____
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, ____
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, ____
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, ____
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, ____
Analysis Method		
ICP	S	Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, ____
ICP-MS		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, ____
GFAA		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, ____

Comments: Mercury by CVAA if performed

LDC #: 36638A4b

VALIDATION FINDINGS WORKSHEET
ICP Interference Check Sample

Reviewer: MG
2nd Reviewer: [illegible]

METHOD: Trace Metals (EPA SW 846 Method 6010/6020/7000)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Were ICP interference check samples performed as required?

Y N N/A Were the AB solution percent recoveries (%R) within the control limits of 80-120% ?

LEVEL IV ONLY:

Y N N/A Were recalculated results acceptable? See Level IV Recalculation Worksheet for recalculations.

#	Date	ICS Identification	Analyte	Concentration (ug/L)	(LOD)	Associated Samples	Qualifications
1	6/17/16	ICSA (14:52)	Ni	-4.72	4.5	~~8~~ all ~~9mtl~~	No Qual. (>10x ICSA)

Comments: Fe > 90% ICSA

LDC #: 36638A4b
SDG #: See Cover
METHOD: Trace metals (EPA SW 864 Method 6010C/7471A)
Sample Concentration units, unless otherwise noted: mg/kg

VALIDATION FINDINGS WORKSHEET
PB/ICB/CCB QUALIFIED SAMPLES
Soil preparation factor applied: 100x
Associated Samples: all

Reviewer: MG
2nd Reviewer: [illegible]

Analyte	Maximum PB[a] (mg/Kg)	Maximum PB[a] (ug/L)	Maximum ICB/CCB[a] (ug/L)	Action Limit	1	2	4	5	6	7				
Al	4.44													
Sb			6.20						0.43/1.8U					
Ba	0.146													
Ca	18.2													
Cr	0.0563													
Fe	8.47													
Pb			3.11											
Mg	6.18													
Mn	0.149													
Se			6.31		1.6/2.8U	1.6/2.6U	1.3/3.4U	1.2/2.9U	1.1/2.7U	1.4/2.9U				

Samples with analyte concentrations within five times the associated ICB, CCB or PB concentration are listed above with the identifications from the Validation Completeness Worksheet. These sample results were qualified as not detected, "U".
Note : a - The listed analyte concentration is the highest ICB, CCB, or PB detected in the analysis of each element.

LDC#: 36638A4b

VALIDATION FINDINGS WORKSHEET
Field Duplicates

Reviewer: MG
2nd Reviewer: A

METHOD: Metals (EPA Method 6010C/7471A)

Analyte	Concentration (mg/kg) 6	Concentration (mg/kg) 7	RPD (≤50)	Difference	Limits	Qualifiers (Parent Only)
Aluminum	10000	13000	26			
Antimony	0.43 U (MB)	1.5U		1.07	(≤3.8)	
Arsenic	11	8.2	29			
Barium	64	70	9			
Beryllium	0.67	0.86	25			
Cadmium	0.33	0.25		0.08	(≤0.98)	
Calcium	36000	8000	127			J/UJ/A (all dets)
Chromium	17	21	21			
Cobalt	14	13	7			
Copper	33	40	19			
Iron	26000	35000	30			
Lead	28	26	7			
Magnesium	20000	7300	93			J/UJ/A (all dets)
Manganese	680	550	21			
Mercury	0.14	0.078	57			J/UJ/A (all dets)
Nickel	33	33	0			
Potassium	1800	1900	5			
Selenium	1.1 U	1.4 U (MB)		0.3	(≤5.8)	
Sodium	140	130		10	(≤980)	
Thalium	2.2U	0.87		1.33	(≤5.8)	
Vanadium	19	24	23			
Zinc	76	90	17			

LDC #: 36638A46

VALIDATION FINDINGS WORKSHEET
Initial and Continuing Calibration Calculation Verification

Reviewer: MG
2nd Reviewer: AC

METHOD: Trace Metals (EPA SW 846 Method 6010/6020/7000)

An initial and continuing calibration verification percent recovery (%R) was recalculated for each type of analysis using the following formula:

%R = Found / True x 100 Where, Found = concentration (in ug/L) of each analyte measured in the analysis of the ICV or CCV solution
True = concentration (in ug/L) of each analyte in the ICV or CCV source

Standard ID	Type of Analysis	Element	Found (ug/L)	True (ug/L)	Recalculated %R	Reported %R	Acceptable (Y/N)
1431 ICV	ICP (Initial calibration)	Se	485.66	500	97	97	Y
	ICP/MS (Initial calibration)						
1446 ICV	CVAA (Initial calibration)	Hg	3.991	4.00	100	100	
0113 CCV	ICP (Continuing calibration)	As	945.19	1000	95	95	
	ICP/MS (Continuing calibration)						
1813 CCV	CVAA (Continuing calibration)	Hg	5.011	5.00	100	100	
	GFAA (Initial calibration)						
	GFAA (Continuing calibation)						

Comments: Refer to Calibration Verification findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 36638A4b

VALIDATION FINDINGS WORKSHEET
Level IV Recalculation Worksheet

Page: 1 of 1
Reviewer: MG
2nd Reviewer: [illegible]

METHOD: Trace Metals (EPA SW 846 Method 6010/6020/7000)

Percent recoveries (%R) for an ICP interference check sample, a laboratory control sample and a matrix spike sample were recalculated using the following formula:

$\%R = \frac{Found}{True} \times 100$

Where, Found = Concentration of each analyte measured in the analysis of the sample. For the matrix spike calculation, Found = SSR (spiked sample result) - SR (sample result).
True = Concentration of each analyte in the source.

A sample and duplicate relative percent difference (RPD) was recalculated using the following formula:

$RPD = \frac{|S-D|}{(S+D)/2} \times 100$

Where, S = Original sample concentration
D = Duplicate sample concentration

An ICP serial dilution percent difference (%D) was recalculated using the following formula:

$\%D = \frac{|I-SDR|}{I} \times 100$

Where, I = Initial Sample Result (mg/L)
SDR = Serial Dilution Result (mg/L) (Instrument Reading x 5)

Sample ID	Type of Analysis	Element	Found / S / I (units)	True / D / SDR (units)	Recalculated %R / RPD / %D	Reported %R / RPD / %D	Acceptable (Y/N)
1456 ICSAB	ICP interference check	Sb	1041.8 (µg/L)	1000 (µg/L)	104	104	Y
0047 LCS	Laboratory control sample	Mn	37.994 (mg/kg)	39.6 (mg/kg)	96	96	↓
–	Matrix spike	–	(SSR-SR) –	–	–	–	–
–	Duplicate	–	–	–	–	–	–
–	ICP serial dilution	–	–	–	–	–	–

Comments: Refer to appropriate worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

TOTCLC.4SW

LDC #: 36638A4b

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Page: 1 of 1
Reviewer: MG
2nd reviewer: A

METHOD: Trace Metals (EPA SW 846 Method 6010/6020/7000)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Have results been reported and calculated correctly?
Y N N/A Are results within the calibrated range of the instruments and within the linear range of the ICP?
Y N N/A Are all detection limits below the CRDL?

Detected analyte results for # 3, Cu were recalculated and verified using the following equation:

Concentration = (RD)(FV)(Dil) / (In. Vol.)

RD = Raw data concentration
FV = Final volume (ml)
In. Vol. = Initial volume (ml) or weight (G)
Dil = Dilution factor

Recalculation:

$$\frac{(0.36996\ mg/L)(0.100\ L)}{(0.001171\ kg)(0.908)} = 34.795\ mg/kg$$

#	Sample ID	Analyte	Reported Concentration (mg/kg)	Calculated Concentration (mg/kg)	Acceptable (Y/N)
1	3	Cu	35	35	Y
		Hg	0.059	0.059	↓

Note:

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Schenectady ANGB

LDC Report Date: August 12, 2016

Parameters: Volatiles

Validation Level: Stage 2B

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-84354-1

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
SC-TU008-MW001-G-1	280-84354-1	Water	06/08/16
SC-TU008-MW002-G-1	280-84354-2	Water	06/08/16
SC-TU008-MW002-G-1-D	280-84354-3	Water	06/08/16
SC-TU008-MW004-G-1	280-84354-4	Water	06/08/16
SC-TU008-EB060816	280-84354-5	Water	06/08/16
SC-TU008-MW003-G-1	280-84354-6	Water	06/08/16
SC-TU008-TB060816	280-84354-7	Water	05/21/16
SC-TU008-MW001-G-1MS	280-84354-1MS	Water	06/08/16
SC-TU008-MW001-G-1MSD	280-84354-1MSD	Water	06/08/16

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Final Remedial Investigation Work Plan, Uniform Federal Policy, Quality Assurance Project Plan at Schenectady Air National Guard Base, Scotia, New York (May 2016), the U.S. Department of Defense (DoD) Quality Systems Manual (QSM) for Environmental Laboratories, Version 5.0 (July 2013), and a modified outline of the USEPA National Functional Guidelines (NFG) for Superfund Organic Methods Data Review (August 2014). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Volatile Organic Compounds (VOCs) by Environmental Protection Agency (EPA) SW 846 Method 8260C

All sample results were subjected to Stage 2B data validation, which comprises an evaluation of quality control (QC) summary results.

The following are definitions of the data qualifiers utilized during data validation:

J+ (Estimated, High Bias): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated, displaying high bias, due to non-conformances discovered during data validation.

J- (Estimated, Low Bias): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated, displaying low bias, due to non-conformances discovered during data validation.

J (Estimated, Bias Indeterminate): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation. Bias is indeterminate.

U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered non-detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).

UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.

N (Presumptive): The analysis indicates the presence of a compound or analyte that has been "tentatively identified."

NJ (Presumptive and estimated): The analysis indicates the presence of a compound or analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.

R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.

NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

Sample SC-TU008-TB060816 was received outside of hold time according to the date of sampling on the CoC. However, lab indicated that the affected sample is a trip blank and convention is to assign the trip blank a collection time similar to those of the samples it is accompanying. This trip blank was analyzed within 14 days of the earliest sampling date listed on the CoC. As such, the data was not qualified.

The technical holding time requirements were met for all other samples.

II. GC/MS Instrument Performance Check

A bromofluorobenzene (BFB) tune was performed at 12 hour intervals.

All ion abundance requirements were met.

III. Initial Calibration and Initial Calibration Verification

An initial calibration was performed as required by the method.

For compounds where average relative response factors (RRFs) were utilized, the percent relative standard deviations (%RSD) were less than or equal to 15.0%.

In the case where the laboratory used a calibration curve to evaluate the compounds, all coefficients of determination (r^2) were greater than or equal to 0.990.

Average relative response factors (RRF) for all compounds were within method criteria with the exception of 2-Butanone and Methyl acetate. Since all compounds were within validation criteria, no data were qualified.

The percent differences (%D) of the initial calibration verification (ICV) standard were less than or equal to 20.0% for all compounds.

IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

The percent differences (%D) were less than or equal to 20.0% for all compounds.

The percent differences (%D) of the ending continuing calibration verifications (CCVs) were less than or equal to 50.0% for all compounds.

All of the continuing calibration relative response factors (RRF) were within method criteria with the exception of 2-Butanone and Methyl acetate. Since all compounds were within validation criteria, no data were qualified.

V. Laboratory Blanks

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks with the following exceptions:

Blank ID	Analysis Date	Compound	Concentration	Associated Samples
MB 160-256397/9	06/15/16	o-Xylene	0.653 ug/L	SC-TU008-MW001-G-1 SC-TU008-MW002-G-1 SC-TU008-MW002-G-1-D SC-TU008-MW004-G-1 SC-TU008-EB060816 SC-TU008-MW003-G-1

Sample concentrations were compared to concentrations detected in the laboratory blanks. The sample concentrations were either not detected or were significantly greater than the concentrations found in the associated laboratory blanks.

VI. Field Blanks

Sample SC-TU008-TB060816 was identified as a trip blank. No contaminants were found with the following exceptions:.

Blank ID	Collection Date	Compound	Concentration	Associated Samples
SC-TU008-TB060816	05/21/16	Bromomethane Chloroethane	0.40 ug/L 1.4 ug/L	SC-TU008-MW001-G-1 SC-TU008-MW002-G-1 SC-TU008-MW002-G-1-D SC-TU008-MW004-G-1 SC-TU008-MW003-G-1

Sample SC-TU008-EB060816 was identified as an equipment blank. No contaminants were found with the following exceptions:

Blank ID	Collection Date	Compound	Concentration	Associated Samples
SC-TU008-EB060816	06/08/16	2-Butanone Chloroethane	11 ug/L 1.3 ug/L	SC-TU008-MW001-G-1 SC-TU008-MW002-G-1 SC-TU008-MW002-G-1-D SC-TU008-MW004-G-1 SC-TU008-MW003-G-1

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater than the concentrations found in the associated field blanks with the following exceptions:

Sample	Compound	Reported Concentration	Modified Final Concentration
SC-TU008-MW001-G-1	Chloroethane 2-Butanone Bromomethane	1.1 ug/L 12 ug/L 0.47 ug/L	10U ug/L 20U ug/L 10U ug/L
SC-TU008-MW002-G-1	Chloroethane 2-Butanone	1.3 ug/L 8.5 ug/L	10U ug/L 20U ug/L
SC-TU008-MW002-G-1-D	Bromomethane Chloroethane 2-Butanone	0.42 ug/L 1.1 ug/L 14 ug/L	10U ug/L 10U ug/L 20U ug/L
SC-TU008-MW004-G-1	Chloroethane 2-Butanone	1.2 ug/L 11 ug/L	10U ug/L 20U ug/L

VII. Surrogates

Surrogates were added to all samples as required by the method. All surrogate recoveries (%R) were within QC limits with the following exceptions:

Sample	Surrogate	%R (Limits)	Affected Compound	Flag	A or P
SC-TU008-MW001-G-1	Bromofluorobenzene Toluene-d8	125 (85-114) 116 (89-112)	All compounds	J+ (all detects)	A
SC-TU008-MW002-G-1	Bromofluorobenzene	116 (85-114)	All compounds	J+ (all detects)	P
SC-TU008-MW002-G-1-D	Bromofluorobenzene	123 (85-114)	All compounds	J+ (all detects)	P
SC-TU008-MW004-G-1	Bromofluorobenzene	121 (85-114)	All compounds	J+ (all detects)	P
SC-TU008-EB060816	Bromofluorobenzene	119 (85-114)	All compounds	J+ (all detects)	P
SC-TU008-MW003-G-1	Bromofluorobenzene	118 (85-114)	All compounds	J+ (all detects)	P
SC-TU008-TB060816	Bromofluorobenzene	117 (85-114)	All compounds	J+ (all detects)	P

VIII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) sample analysis was performed on an associated project sample. Percent recoveries (%R) were within QC limits.

Relative percent differences (RPD) were within QC limits with the following exceptions:

Spike ID (Associated Samples)	Compound	RPD (Limits)	Flag	A or P
SC-TU008-MW001-G-1MS/MSD (SC-TU008-MW001-G-1)	2-Butanone	40 (≤20)	NA	-

IX. Laboratory Control Samples

Laboratory control samples (LCS) and laboratory control samples duplicates (LCSD) were analyzed as required by the method. Percent recoveries (%R) were within QC limits.

Relative percent differences (RPD) were within QC limits with the following exceptions:

LCS ID (Associated Samples)	Compound	RPD (Limits)	Flag	A or P
LCS/D 160-256641/6,7 (SC-TU008-TB060816)	Chloroethane	22 (≤20)	J (all detects)	P

X. Field Duplicates

Samples SC-TU008-MW002-G-1 and SC-TU008-MW002-G-1-D were identified as field duplicates. No results were detected in any of the samples with the following exceptions:

Compound	Concentration (ug/L)		RPD (Limits)	Difference (Limits)	Flag	A or P
	SC-TU008-MW002-G-1	SC-TU008-MW002-G-1-D				
Acetone	14	13	-	1 (≤20)	-	-
Bromodichloromethane	0.36	0.41	-	0.05 (≤5.0)	-	-
Chloroform	1.7	1.9	-	0.2 (≤5.0)	-	-

XI. Internal Standards

All internal standard areas and retention times were within QC limits.

XII. Compound Quantitation

Raw data were not reviewed for Stage 2B validation.

XIII. Target Compound Identifications

Raw data were not reviewed for Stage 2B validation.

XIV. System Performance

Raw data were not reviewed for Stage 2B validation.

XV. Overall Assessment of Data

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

Due to surrogate %R and LCS/LCSD RPD, data were qualified as estimated in seven samples.

Due to trip blank contamination, data were qualified as not detected in four samples.

Due to equipment blank contamination, data were qualified as not detected in four samples.

The quality control criteria reviewed, other than those discussed above, were met and are considered acceptable. Sample results that were found to be estimated (J) are usable for limited purposes only. Based upon the data validation all other results are considered valid and usable for all purposes.

Schenectady ANGB
Volatiles - Data Qualification Summary - SDG 280-84354-1

Sample	Compound	Flag*	A or P	Reason
SC-TU008-MW001-G-1	All compounds	J+ (all detects)	A	Surrogates (%R)
SC-TU008-MW002-G-1 SC-TU008-MW002-G-1-D SC-TU008-MW004-G-1 SC-TU008-EB060816 SC-TU008-MW003-G-1 SC-TU008-TB060816	All compounds	J+ (all detects)	P	Surrogates (%R)
SC-TU008-TB060816	Chloroethane	J (all detects)	P	Laboratory control samples (RPD)

* A non-biased (J) flag will always supersede biased (J+ or J-) flags since it is not possible to assess the direction of the potential bias.

Schenectady ANGB
Volatiles - Laboratory Blank Data Qualification Summary - SDG 280-84354-1

No Sample Data Qualified in this SDG

Schenectady ANGB
Volatiles - Field Blank Data Qualification Summary - SDG 280-84354-1

Sample	Compound	Modified Final Concentration	A or P
SC-TU008-MW001-G-1	Chloroethane 2-Butanone Bromomethane	10U ug/L 20U ug/L 10U ug/L	A
SC-TU008-MW002-G-1	Chloroethane 2-Butanone	10U ug/L 20U ug/L	A
SC-TU008-MW002-G-1-D	Bromomethane Chloroethane 2-Butanone	10U ug/L 10U ug/L 20U ug/L	A
SC-TU008-MW004-G-1	Chloroethane 2-Butanone	10U ug/L 20U ug/L	A

LDC #: 36638B1
SDG #: 280-84354-1
Laboratory: Test America

VALIDATION COMPLETENESS WORKSHEET
Stage 2B~~4~~

Date: 07/10/16
Page: 1 of 1
Reviewer: SW
2nd Reviewer: A

METHOD: GC/MS Volatiles (EPA SW 846 Method 8260C)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A / A	
II.	GC/MS Instrument performance check	A	
III.	Initial calibration/ICV	SW / A	ICAL ≤ 15% r² ICV ≤ 20%
IV.	Continuing calibration/ending	SW	CCV ≤ 20%/50%
V.	Laboratory Blanks	SW	
VI.	Field blanks	SW	EB = 5 TB = 7
VII.	Surrogate spikes	SW	
VIII.	Matrix spike/Matrix spike duplicates	SW	
IX.	Laboratory control samples	SW	LCS/D
X.	Field duplicates	SW	D = 2/3
XI.	Internal standards	A	
XII.	Compound quantitation RL/LOQ/LODs	~~N~~	Not reviewed for Stage 2B validation.
XIII.	Target compound identification	~~N~~	Not reviewed for Stage 2B validation.
XIV.	System performance	~~N~~	Not reviewed for Stage 2B validation.
XV.	Overall assessment of data	A	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank; SB=Source blank; OTHER:

** Indicates sample underwent Stage 4 validation

	Client ID	Lab ID	Matrix	Date
1	SC-TU008-MW001-G-1	280-84354-1	Water	06/08/16
2	SC-TU008-MW002-G-1 D	280-84354-2	Water	06/08/16
3	SC-TU008-MW002-G-1-D D	280-84354-3	Water	06/08/16
4	SC-TU008-MW004-G-1**	280-84354-4**	Water	06/08/16
5	SC-TU008-EB060816	280-84354-5	Water	06/08/16
6	SC-TU008-MW003-G-1	280-84354-6	Water	06/08/16
7	SC-TU008-TB060816	280-84354-7	Water	05/21/16
8	SC-TU008-MW001-G-1MS	280-84354-1MS	Water	06/08/16
9	SC-TU008-MW001-G-1MSD	280-84354-1MSD	Water	06/08/16
10				
11				
12	MB 160-256397/9			
13	↓ 256641/9			

Note: Collection date for TB not used to evaluate HT. Need sample collection dates.

TARGET COMPOUND WORKSHEET

METHOD: VOA

A. Chloromethane	AA. Tetrachloroethene	AAA. 1,3,5-Trimethylbenzene	AAAA. Ethyl tert-butyl ether	A1. 1,3-Butadiene
B. Bromomethane	BB. 1,1,2,2-Tetrachloroethane	BBB. 4-Chlorotoluene	BBBB. tert-Amyl methyl ether	B1. Hexane
C. Vinyl choride	CC. Toluene	CCC. tert-Butylbenzene	CCCC. 1-Chlorohexane	C1. Heptane
D. Chloroethane	DD. Chlorobenzene	DDD. 1,2,4-Trimethylbenzene	DDDD. Isopropyl alcohol	D1. Propylene
E. Methylene chloride	EE. Ethylbenzene	EEE. sec-Butylbenzene	EEEE. Acetonitrile	E1. Freon 11
F. Acetone	FF. Styrene	FFF. 1,3-Dichlorobenzene	FFFF. Acrolein	F1. Freon 12
G. Carbon disulfide	GG. Xylenes, total	GGG. p-Isopropyltoluene	GGGG. Acrylonitrile	G1. Freon 113
H. 1,1-Dichloroethene	HH. Vinyl acetate	HHH. 1,4-Dichlorobenzene	HHHH. 1,4-Dioxane	H1. Freon 114
I. 1,1-Dichloroethane	II. 2-Chloroethylvinyl ether	III. n-Butylbenzene	IIII. Isobutyl alcohol	I1. 2-Nitropropane
J. 1,2-Dichloroethene, total	JJ. Dichlorodifluoromethane	JJJ. 1,2-Dichlorobenzene	JJJJ. Methacrylonitrile	J1. Dimethyl disulfide
K. Chloroform	KK. Trichlorofluoromethane	KKK. 1,2,4-Trichlorobenzene	KKKK. Propionitrile	K1. 2,3-Dimethyl pentane
L. 1,2-Dichloroethane	LL. Methyl-tert-butyl ether	LLL. Hexachlorobutadiene	LLLL. Ethyl ether	L1. 2,4-Dimethyl pentane
M. 2-Butanone	MM. 1,2-Dibromo-3-chloropropane	MMM. Naphthalene	MMMM. Benzyl chloride	M1. 3,3-Dimethyl pentane
N. 1,1,1-Trichloroethane	NN. Methyl ethyl ketone	NNN. 1,2,3-Trichlorobenzene	NNNN. Iodomethane	N1. 2-Methylpentane
O. Carbon tetrachloride	OO. 2,2-Dichloropropane	OOO. 1,3,5-Trichlorobenzene	OOOO.1,1-Difluoroethane	O1. 3-Methylpentane
P. Bromodichloromethane	PP. Bromochloromethane	PPP. trans-1,2-Dichloroethene	PPPP. Tetrahydrofuran	P1. 3-Ethylpentane
Q. 1,2-Dichloropropane	QQ. 1,1-Dichloropropene	QQQ. cis-1,2-Dichloroethene	QQQQ. Methyl acetate	Q1. 2,2-Dimethylpentane
R. cis-1,3-Dichloropropene	RR. Dibromomethane	RRR. m,p-Xylenes	RRRR. Ethyl acetate	R1. 2,2,3- Trimethylbutane
S. Trichloroethene	SS. 1,3-Dichloropropane	SSS. o-Xylene	SSSS. Cyclohexane	S1. 2,2,4-Trimethylpentane
T. Dibromochloromethane	TT. 1,2-Dibromoethane	TTT. 1,1,2-Trichloro-1,2,2-trifluoroethane	TTTT. Methylcyclohexane	T1. 2-Methylhexane
U. 1,1,2-Trichloroethane	UU. 1,1,1,2-Tetrachloroethane	UUU. 1,2-Dichlorotetrafluoroethane	UUUU. Allyl chloride	U1. Nonanal
V. Benzene	VV. Isopropylbenzene	VVV. 4-Ethyltoluene	VVVV. Methyl methacrylate	V1. 2-Methylnaphthalene
W. trans-1,3-Dichloropropene	WW. Bromobenzene	WWW. Ethanol	WWWW. Ethyl methacrylate	W1. Methanol
X. Bromoform	XX. 1,2,3-Trichloropropane	XXX. Di-isopropyl ether	XXXX. cis-1,4-Dichloro-2-butene	X1. 1,2,3-Trimethylbenzene
Y. 4-Methyl-2-pentanone	YY. n-Propylbenzene	YYY. tert-Butanol	YYYY. trans-1,4-Dichloro-2-butene	Y1.
Z. 2-Hexanone	ZZ. 2-Chlorotoluene	ZZZ. tert-Butyl alcohol	ZZZZ. Pentachloroethane	Z1.

LDC #: 36638 b1

VALIDATION FINDINGS WORKSHEET
Initial Calibration

Page: 1 of 1
Reviewer: JVG
2nd Reviewer: [illegible]

METHOD: GC/MS VOA (EPA SW 846 Method 8260C)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Did the laboratory perform a 5 point calibration prior to sample analysis?
Y N N/A Were percent relative standard deviations (%RSD) ≤ 20% and relative response factors (RRF) within the method criteria?
Y N N/A Was a curve fit used for evaluation? If yes, what was the acceptance criteria used for evaluation? r^2 20.99
Y N N/A Did the initial calibration meet the acceptance criteria?

#	Date	Standard ID	Compound	Finding %RSD (Limit: <20.0)	Finding RRF (Limit)	Associated Samples	Qualifications
	06/14/16	ICAL-MS L	QQQQ, M	RRF outside	method criteria		Text
				but within	validation criteria		

INICAL.wpd

LDC #: 36638 B1

VALIDATION FINDINGS WORKSHEET
Continuing Calibration

Page: 1 of 1
Reviewer: JVG
2nd Reviewer: [illegible]

METHOD: GC/MS VOA (EPA SW 846 Method 8260C)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Was a continuing calibration standard analyzed at least once every 12 hours for each instrument?

Y N N/A Were percent differences (%D) ≤20 % and relative response factors (RRF) within the method criteria?

#	Date	Standard ID	Compound	Finding %D (Limit: ≤20.0%)	Finding RRF (Limit)	Associated Samples	Qualifications
	06/15/16	LCCV 3228	QQQQ, N	RRF outside method criteria but within validation criteria			Text
	06/16/16	LCCV 3255					

CONCAL.wpd

LDC #: 36678B1

VALIDATION FINDINGS WORKSHEET
Blanks

Page: 1 of 1
Reviewer: JVG
2nd Reviewer: [illegible]

METHOD: GC/MS VOA (EPA SW 846 Method 8260C)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Was a method blank associated with every sample in this SDG?
Y N N/A Was a method blank analyzed at least once every 12 hours for each matrix and concentration?
Y N N/A Was there contamination in the method blanks? If yes, please see the qualifications below.

Blank analysis date: 06/15/16
Conc. units: ug/L
Associated Samples: 1 - 6 (ND)

Compound	Blank ID	Sample Identification								
MB	160_ 256397/9									
SSS	0.653									

Blank analysis date:
Conc. units:
Associated Samples:

Compound	Blank ID	Sample Identification								

LDC #: 36638B1

VALIDATION FINDINGS WORKSHEET
Field Blanks

Reviewer: JVG
2nd Reviewer: RC

METHOD: GC/MS VOA (EPA SW 846 Method 8260C)
Y N N/A Were field blanks identified in this SDG?
Y N N/A Were target compounds detected in the field blanks?

Blank units: ug/L **Associated sample units:** ug/L
Sampling date: 05/21/16
Field blank type: (circle one) Field Blank / Rinsate / Trip Blank / Other: Associated Samples: All except 7, 5

Compound	Blank ID	Sample Identification								
	7		1	2	3	4	5			
B	0.40		0.47/10U		0.42/10U					
D	1.4		1.1/10U	1.3/10U	1.1/ ↓	1.2/10U	~~1.3/10U~~			

Blank units: ug/L **Associated sample units:** ug/L
Sampling date: 06/08/16
Field blank type: (circle one) Field Blank / Rinsate / Trip Blank / Other: EB Associated Samples: All except 5, 7

Compound	Blank ID	Sample Identification								
	5		1	2	3	4				
M	11		12/20U	8.5/20U	14/20U	11/20U				
D	1.3		~~1.1/10U~~	~~1.3/10U~~	~~1.1/10U~~	~~1.2/10U~~	R			
~~Note: D = ND by TB~~										

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Common contaminants such as Methylene chloride, Acetone, 2-Butanone and Carbon disulfide that were detected in samples within ten times the associated field blank concentration were qualified as not detected, "U". Other contaminants within five times the field blank concentration were also qualified as not detected, "U".

LDC #: 36638 B1

VALIDATION FINDINGS WORKSHEET
Surrogate Spikes

Page: 1 of 1
Reviewer: JVG
2nd Reviewer: [illegible]

METHOD: GC/MS VOA (EPA SW 846 Method 8260C)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y (N) N/A Were all surrogate %R within QC limits?

Y (N) N/A If the percent recovery (%R) for one or more surrogates was out of QC limits, was a reanalysis performed to confirm samples with %R out of outside of criteria?

#	Date	Sample ID	Surrogate	%Recovery (Limits)	Qualifications
		1 (ND + Det)	BFB	125 (85-114)	J+ dets /A
			TOL	116 (88-112)	
				( )	
		2	BFB	116 (85-114)	J+ dets /P
				( )	
		3		123 ( )	
				( )	
		4		121 ( )	
				( )	
		5		119 ( )	
				( )	
		6		118 ( )	
				( )	
		7		117 ( )	
				( )	
		MB 166-256397/9		115 ( )	
				( )	
		-256641/9		121 ( )	
				( )	
				( )	
				( )	
				( )	
				( )	

(TOL) = Toluene-d8
(BFB) = Bromofluorobenzene
(DCE) = 1,2-Dichloroethane-d4
(DFM) = Dibromofluoromethane

SUR.wpd

LDC #: 36638 B1

VALIDATION FINDINGS WORKSHEET
Matrix Spike/Matrix Spike Duplicates

Page: 1 of 1
Reviewer: JVG
2nd Reviewer: A

METHOD : GC/MS VOA (EPA SW 846 Method 8260C)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water.

Y N N/A Was a MS/MSD analyzed every 20 samples of each matrix?

Y N N/A Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?

#	Date	MS/MSD ID	Compound	MS %R (Limits)	MSD %R (Limits)	RPD (Limits)	Associated Samples	Qualifications
		8/9	M	( )	( )	40 (20)	1 (Det)	J dets / A
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
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				( )	( )	( )		
				( )	( )	( )		

LDC #: 36638 B1

VALIDATION FINDINGS WORKSHEET
Laboratory Control Samples (LCS)

Page: 1 of 1
Reviewer: JVG
2nd Reviewer: [illegible]

METHOD: GC/MS VOA (EPA SW 846 Method 8260C)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Was a LCS required?

Y N N/A Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?

#	Date	LCS/LCSD ID	Compound	LCS %R (Limits)	LCSD %R (Limits)	RPD (Limits)	Associated Samples	Qualifications
		LCSD160-256641/6,7	D	( )	( )	22 (20)	7, MB160-256641/9 (duplicates)	J/UJ/P
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
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				( )	( )	( )		

LDC#: 36638B1

VALIDATION FINDINGS WORKSHEET
Field Duplicates

Reviewer: JVG
2nd Reviewer: [illegible]

METHOD: GC MS Volatiles (EPA SW 846 Method 8260C)
Y N NA Were field duplicate pairs identified in this SDG?
Y N NA Were target analytes detected in the field duplicate pairs?

Compound	Concentration (ug/L)		RPD (≤30%)	Difference (ug/L)	Limits (≤LOQ)	Qualifications (Parent Only)
	2	3				
M	8.5 U	14 U	(NB)	5.5	(≤20)	
F	14	13		1	(≤20)	
P	0.36	0.41		0.05	(≤5.0)	
B	2.0U	0.42 U	(NB)	1.58	(≤10)	
D	1.3 U	1.1 U	↓	0.2	(≤10)	
K	1.7	1.9		0.2	(≤5.0)	

(U at LOD)

V:\Josephine\FIELD DUPLICATES\36638B1 weston ang schenectady.wpd

LDC#: 36638B1
Lab: Test America St. Louis

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Reviewer: JVG
2nd Reviewer: [illegible]

METHOD: GC/MS VOA (EPA SW 846 Method 8260C)

The Relative Response Factor (RRF), average RRF, and percent relative standard deviation (%RSD) were recalculated for the compounds identified below using the following calculations:

$RRF = (A_x)(C_{is})/(A_{is})(C_x)$
average RRF = sum of the RRFs/number of standards
%RSD = 100 * (S/X)

A_x = Area of Compound
C_x = Concentration of compound,
S= Standard deviation of the RRFs,

A_{is} = Area of associated internal standard
C_{is} = Concentration of internal standard
X = Mean of the RRFs

#	Standard ID	Calibration Date	Compound (IS)	Reported RRF (50 std)	Recalculated RRF (50 std)	Reported Average RRF (Initial)	Recalculated Average RRF (Initial)	Reported %RSD	Recalculated %RSD
1	ICAL VMSL	6/14/16	Trichloroethene (FB)	0.3250	0.3250	0.3222	0.3222	6.1	6.1
			Ethylbenzene (CBZ)	2.0270	2.0270	1.9073	1.9073	7.6	7.6
			1,2,4-TMB (DCB)	3.1519	3.1519	2.7725	2.7725	11.6	11.6

Trichloroethene @ 50 ug/L

$$RRF = \frac{(\text{Area std})(\text{Conc IS})}{(\text{Area IS})(\text{Conc std})} = \frac{(608295)(50)}{(1871712)(50)} = 0.3250$$

ICAL RRF (IS = 50ug/L)

Conc STD (ug/L)	TCE	Ethylbenzene	1,2,4-TMB
1.0		2.0719	
2.5	0.3298	1.9245	
5.0	0.3043	1.8481	2.3354
10	0.3011	1.9278	2.6524
20	0.3046	1.8833	2.8222
50	0.3250	2.0270	3.1519
100	0.3522	1.9793	3.1137
200	0.3382	1.5962	2.5591
X =	0.3222	1.9073	2.7725
S =	0.01957	0.14550	0.32058

LDC#: 36638B1
Lab: Test America St. Louis

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Calculation Verification

Reviewer: JVG
2nd Reviewer: [illegible]

METHOD: GC/MS VOA (EPA SW 846 Method 8260C)

The percent difference (%D) of the initial calibration average Relative Response Factors (RRFs) and the continuing calibration RRFs were recalculated for the compounds identified below using the following calculation:

% Difference = 100 * (ave. RRF - RRF)/ave. RRF
RRF = (Ax)(Cis)/(Ais)(Cx)

Where:
ave. RRF = initial calibration average RRF
RRF = continuing calibration RRF
Ax = Area of compound
Cx = Concentration of compound
Ais = Area of associated internal standard
Cis = Concentration of internal standard

#	Standard ID	Calibration Date	Compound	Ave RRF	Reported RRF	Recalculated RRF	Reported % D	Recalculated %D
1	LCCV3228 VMS L	6/15/2016	Trichloroethene (FB)	0.3222	0.3195	0.3195	0.8	0.8
			Ethylbenzene (CBZ)	1.9073	1.9206	1.9206	0.7	0.7
			1,2,4-TMB (DCB)	2.7725	3.0813	3.0813	11.1	11.1

CCV1 1,2,4-TMB

$$RRF = \frac{(\text{Area std})(\text{Conc IS})}{(\text{Area IS})(\text{Conc std})} = \frac{(2576219)(50)}{(836074)(50)} = 3.0813$$

LDC#: 36638B1
Lab: Test America St. Louis

VALIDATION FINDINGS WORKSHEET
Surrogate Results Verification

Reviewer: JVG
2nd Reviewer: [illegible]

METHOD: GC/MS VOA (EPA SW 846 Method 8260C)

The percent recoveries (%R) of surrogate compounds were recalculated for the compounds identified below using the following calculation:

Surrogate Found = (Area surr) (Conc IS) / (Area IS) (average RRF surr)
%Recovery: Surrogate Found/Surrogate Spiked * 100

Where: SURRF = Surrogate Found
SURRS = Surrogate Spiked

Sample:
SC-TU008-MW004-G-1

BFB $= \frac{(458249)(50)}{(469418)(0.8045)} = 60.67$

	Surrogate Spiked (ug/L)	Surrogate Found (ug/L)	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Dibromofluoromethane	50.0	48.9	98	98	0
1,2-Dichloroethane-d4	50.0	47.7	95	95	0
Toluene-d8	50.0	56.1	112	112	0
Bromofluorobenzene	50.0	60.7	121	121	0

LDC#: 36638B1
Lab: Test America St. Louis

VALIDATION FINDINGS WORKSHEET
Matrix Spike/Matrix Spike Duplicate Results Verification

Reviewer: JVG
2nd Reviewer: [illegible]

METHOD: GC/MS VOA (EPA SW 846 Method 8260C)

The percent recoveries (%R) and relative percent differences (RPD) of the matrix spike and matrix spike duplicate were recalculated for the compounds identified below using the following calculation:

SSC = (Area spike) (Conc IS) / (Area IS) (average RRF spike)

%Recovery = 100 * (SSC - SC)/SA

Where: SSC = Spiked concentration
SC = Sample concentration
SA = Spike added

RPD = | MS - MSD | * 2/(MS + MSD)

MS = Matrix spike recovery
MSD = Matrix spike duplicate recovery

MS/MSD Sample:
SC-TU008-MW001-G-1

Benzene (MS) Conc = $\frac{(2033960)(50)}{(1729391)(1.1707)}$

SSC = 50.231

Compound	SA (ug/L)		SC (ug/L)	SSC (ug/L)		MS Percent Recovery		MSD Percent Recovery		MS/MSD RPD	
	MS	MSD		MS	MSD	Reported	Recalc.	Reported	Recalc.	Reported	Recalc.
Benzene	50.0	50.0	0.0	50.2	50.7	100	100	101	101	1	1

LDC#: 36638B1
Lab: Test America St. Louis

VALIDATION FINDINGS WORKSHEET
Laboratory Control Sample Results Verification

Reviewer: JVG
2nd Reviewer: [illegible]

METHOD: GC/MS VOA (EPA SW 846 Method 8260C)

The percent recoveries (%R) and relative percent differences (RPD) of the laboratory control sample and laboratory control duplicate (if applicable) were recalculated for the compounds identified below using the following calculation:

SSC = (Area spike) (Conc IS) / (Area IS) (average RRF spike)

%Recovery = 100 * SSC/SA Where: SSC = Spiked concentration
SA = Spike added

RPD = | LCS - LCSD | * 2/(LCS + LCSD) Where: LCS = Laboratory control spike recovery
LCSD = Laboratory control spike duplicate recovery

'LCS ID:
LCS 160-256397/6 TCE on column = (775579)(50) / (2356398)(0.3222)

SSC = 51.077

Compound	SA (ug/L)		SSC (ug/L)		LCS Percent Recovery		LCSD Percent Recovery		LCS/LCSD RPD	
	LCS	LCSD	LCS	LCSD	Reported	Recalc.	Reported	Recalc.	Reported	Recalc.
Trichloroethene	50.0	50.0	51.1	49.6	102	102	99	99	3	3

LDC#: 36638B1
Lab: Test America St. Louis

VALIDATION FINDINGS WORKSHEET
Sample Results Verification

Reviewer: JVG
2nd Reviewer: [illegible]

METHOD: GC/MS VOA (EPA SW 846 Method 8260C)

Compound results for all Level IV samples reported with a positive detect were recalculated and verified using the following equation:

$$\text{Concentration} = \frac{(Ax)(Is)(Vt)(DF)}{(Ais)(RRF)(Vo)(\%S)}$$

Ax =	Area of the characteristic ion (EICP) for the compound to be measured
Ais =	Area of the characteristic ion (EICP) for the specific internal standard
Is =	Amount of internal standard added in nanograms
Vt=	Volume purged (mL)
RRF =	Relative response factor of the calibration standard.
Vo =	Volume or weight of sample purged in milliliters (ml) or grams (g).
Df =	Dilution factor.
%S =	Percent solids, applicable to soils and solid matrices only.

Sample:
SC-TU008-MW004-G-1 Chloroform

$$\text{Conc} = \frac{(22552)(50)(5mL)}{(1617813)(0.4812)(5mL)}$$

$$= 1.448$$

Sample	Compound	Calculated Concentration ug/L	Reported Concentration ug/L	Qualification
SC-TU008-MW004-G-1	Chloroform	1.4	1.4	

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Schenectady ANGB

LDC Report Date: August 12, 2016

Parameters: Semivolatiles

Validation Level: Stage 2B

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-84354-1

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
SC-TU008-MW001-G-1	280-84354-1	Water	06/08/16
SC-TU008-MW002-G-1	280-84354-2	Water	06/08/16
SC-TU008-MW002-G-1-D	280-84354-3	Water	06/08/16
SC-TU008-MW004-G-1	280-84354-4	Water	06/08/16
SC-TU008-EB060816	280-84354-5	Water	06/08/16
SC-TU008-MW001-G-1MS	280-84354-1MS	Water	06/08/16
SC-TU008-MW001-G-1MSD	280-84354-1MSD	Water	06/08/16

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Final Remedial Investigation Work Plan, Uniform Federal Policy, Quality Assurance Project Plan at Schenectady Air National Guard Base, Scotia, New York (May 2016), the U.S. Department of Defense (DoD) Quality Systems Manual (QSM) for Environmental Laboratories, Version 5.0 (July 2013), and a modified outline of the USEPA National Functional Guidelines (NFG) for Superfund Organic Methods Data Review (August 2014). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Semivolatile Organic Compounds (SVOCs) by Environmental Protection Agency (EPA) SW 846 Method 8270D

All sample results were subjected to Stage 2B data validation, which comprises an evaluation of quality control (QC) summary results.

The following are definitions of the data qualifiers utilized during data validation:

J+ (Estimated, High Bias): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated, displaying high bias, due to non-conformances discovered during data validation.

J- (Estimated, Low Bias): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated, displaying low bias, due to non-conformances discovered during data validation.

J (Estimated, Bias Indeterminate): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation. Bias is indeterminate.

U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered non-detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).

UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.

N (Presumptive): The analysis indicates the presence of a compound or analyte that has been "tentatively identified."

NJ (Presumptive and estimated): The analysis indicates the presence of a compound or analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.

R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.

NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

II. GC/MS Instrument Performance Check

A decafluorotriphenylphosphine (DFTPP) tune was performed at 12 hour intervals.

All ion abundance requirements were met.

III. Initial Calibration and Initial Calibration Verification

An initial calibration was performed as required by the method.

For compounds where average relative response factors (RRFs) were utilized, percent relative standard deviations (%RSD) were less than or equal to 15.0%.

In the case where the laboratory used a calibration curve to evaluate the compounds, all coefficients of determination (r^2) were greater than or equal to 0.990.

Average relative response factors (RRF) for all compounds were within validation criteria.

The percent differences (%D) of the initial calibration verification (ICV) standard were less than or equal to 20.0% for all compounds.

IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

The percent differences (%D) were less than or equal to 20.0% for all compounds.

The percent differences (%D) of the ending continuing calibration verifications (CCVs) were less than or equal to 50.0% for all compounds.

All of the continuing calibration relative response factors (RRF) were within validation criteria.

V. Laboratory Blanks

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks with the following exceptions:

Blank ID	Extraction Date	Compound	Concentration	Associated Samples
MB 280-329438/1-A	06/11/16	Benzyl alcohol Bis(2-ethylhexyl)phthalate	0.692 ug/L 1.57 ug/L	All samples in SDG 280-84354-1

Sample concentrations were compared to concentrations detected in the laboratory blanks. The sample concentrations were either not detected or were significantly greater than the concentrations found in the associated laboratory blanks with the following exceptions:

Sample	Compound	Reported Concentration	Modified Final Concentration
SC-TU008-MW002-G-1	Benzyl alcohol	0.34 ug/L	25U ug/L
SC-TU008-MW002-G-1-D	Benzyl alcohol	0.86 ug/L	25U ug/L
SC-TU008-MW004-G-1	Benzyl alcohol Bis(2-ethylhexyl)phthalate	0.44 ug/L 2.8 ug/L	25U ug/L 10U ug/L
SC-TU008-EB060816	Benzyl alcohol	1.7 ug/L	24U ug/L

VI. Field Blanks

Sample SC-TU008-EB060816 was identified as an equipment blank. No contaminants were found.

VII. Surrogates

Surrogates were added to all samples as required by the method. All surrogate recoveries (%R) were within QC limits.

VIII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) sample analysis was performed on an associated project sample. Percent recoveries (%R) and relative percent differences (RPD) were not within the QC limits for SC-TU008-MW001-G-1MS/MSD. No data were qualified for MS/MSD samples analyzed greater than or equal to a 5X dilution.

For SC-TU008-MW001-G-1MS/MSD, N-Nitrosopyrrolidine was not included in the spike, and the associated sample results were qualified as rejected (R).

IX. Laboratory Control Samples

Laboratory control samples (LCS) were analyzed as required by the method. Percent recoveries (%R) were within QC limits with the following exceptions:

LCS ID	Compound	%R (Limits)	Associated Samples	Flag	A or P
LCS 280-329438/2-A	Benzidine	0 (27-150)	All samples in SDG 280-84354-1	R (all non-detects)	P

For LCS 280-329438/2-A, N-Nitrosopyrrolidine was not included in the spike. The associated N-Nitrosopyrrolidine results in samples SC-TU008-MW001-G-1, SC-TU008-MW002-G-1, SC-TU008-MW002-G-1-D, SC-TU008-MW004-G-1 and SC-TU008-EB060816 were qualified as rejected (R).

X. Field Duplicates

Samples SC-TU008-MW002-G-1 and SC-TU008-MW002-G-1-D were identified as field duplicates. No results were detected in any of the samples with the following exceptions:

Compound	Concentration (ug/L)		RPD (Limits)	Difference (Limits)	Flag	A or P
	SC-TU008-MW002-G-1	SC-TU008-MW002-G-1-D				
2,4,6-Trichlorophenol	14	11	-	3 (≤20)	-	-
2,6-Dichlorophenol	1.6	4.0U	-	2.4 (≤10)	-	-

XI. Internal Standards

All internal standard areas and retention times were within QC limits.

XII. Compound Quantitation

Raw data were not reviewed for Stage 2B validation.

XIII. Target Compound Identifications

Raw data were not reviewed for Stage 2B validation.

XIV. System Performance

Raw data were not reviewed for Stage 2B validation.

XV. Overall Assessment of Data

The analysis was conducted within all specifications of the method.

Due to LCS %R, and a compound not spiked in the MS/MSD and LCS, data were rejected in five samples.

Due to laboratory blank contamination, data were qualified as not detected in four samples.

The quality control criteria reviewed, other than those discussed above, were met and are considered acceptable. Sample results that were found to be rejected (R) are unusable for all purposes. Based upon the data validation all other results are considered valid and usable for all purposes.

Schenectady ANGB
Semivolatiles - Data Qualification Summary - SDG 280-84354-1

Sample	Compound	Flag	A or P	Reason
SC-TU008-MW001-G-1 SC-TU008-MW002-G-1 SC-TU008-MW002-G-1-D SC-TU008-MW004-G-1 SC-TU008-EB060816	Benzidine	R (all non-detects)	P	Laboratory control samples (%R)
SC-TU008-MW001-G-1	N-Nitrosopyrrolidine	R (all non-detects)	A	Matrix spike/Matrix spike duplicate (not spiked)
SC-TU008-MW001-G-1 SC-TU008-MW002-G-1 SC-TU008-MW002-G-1-D SC-TU008-MW004-G-1 SC-TU008-EB060816	N-Nitrosopyrrolidine	R (all non-detects)	A	Laboratory control samples (not spiked)

Schenectady ANGB
Semivolatiles - Laboratory Blank Data Qualification Summary - SDG 280-84354-1

Sample	Compound	Modified Final Concentration	A or P
SC-TU008-MW002-G-1	Benzyl alcohol	25U ug/L	A
SC-TU008-MW002-G-1-D	Benzyl alcohol	25U ug/L	A
SC-TU008-MW004-G-1	Benzyl alcohol Bis(2-ethylhexyl)phthalate	25U ug/L 10U ug/L	A
SC-TU008-EB060816	Benzyl alcohol	24U ug/L	A

Schenectady ANGB
Semivolatiles - Field Blank Data Qualification Summary - SDG 280-84354-1

No Sample Data Qualified in this SDG

LDC #: 36638B2a
SDG #: 280-84354-1
Laboratory: Test America

VALIDATION COMPLETENESS WORKSHEET

Stage 2B/4

Date: 07/10/16
Page: 1 of 1
Reviewer: JVG
2nd Reviewer: AC

METHOD: GC/MS Semivolatiles (EPA SW 846 Method 8270D)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A, A	
II.	GC/MS Instrument performance check	A	
III.	Initial calibration/ICV	A, A	ICAL ≤ 15 % rr ICV ≤ 20 %
IV.	Continuing calibration /ending	A	CCV ≤ 20/50 %
V.	Laboratory Blanks	SW	
VI.	Field blanks	SW ND	EB = 5 (aaa - u'd by MB)
VII.	Surrogate spikes	~~SW~~ A	
VIII.	Matrix spike/Matrix spike duplicates	SW	
IX.	Laboratory control samples	SW	LCS
X.	Field duplicates	SW	D = 2/3
XI.	Internal standards	A	
XII.	Compound quantitation RL/LOQ/LODs	N	Not reviewed for Stage 2B validation.
XIII.	Target compound identification	N	Not reviewed for Stage 2B validation.
XIV.	System performance	N	Not reviewed for Stage 2B validation.
XV.	Overall assessment of data	A	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank; SB=Source blank; OTHER:

** Indicates sample underwent Stage 4 validation

	Client ID	Lab ID	Matrix	Date
1	SC-TU008-MW001-G-1	280-84354-1	Water	06/08/16
2	SC-TU008-MW002-G-1 D	280-84354-2	Water	06/08/16
3	SC-TU008-MW002-G-1-D D	280-84354-3	Water	06/08/16
4	SC-TU008-MW004-G-1**	280-84354-4**	Water	06/08/16
5	SC-TU008-EB060816	280-84354-5	Water	06/08/16
6	SC-TU008-MW001-G-1MS	280-84354-1MS	Water	06/08/16
7	SC-TU008-MW001-G-1MSD	280-84354-1MSD	Water	06/08/16
8				
9				
10				
11				
12	MB 280-329438/1-A			
13				

VALIDATION FINDINGS WORKSHEET

METHOD: GC/MS SVOA

A. Phenol	AA. 2-Chloronaphthalene	AAA. Butylbenzylphthalate	AAAA. Dibenzothiophene	A1.
B. Bis (2-chloroethyl) ether	BB. 2-Nitroaniline	BBB. 3,3'-Dichlorobenzidine	BBBB. Benzo(a)fluoranthene	B1.
C. 2-Chlorophenol	CC. Dimethylphthalate	CCC. Benzo(a)anthracene	CCCC. Benzo(b)fluorene	C1.
D. 1,3-Dichlorobenzene	DD. Acenaphthylene	DDD. Chrysene	DDDD. cis/trans-Decalin	D1.
E. 1,4-Dichlorobenzene	EE. 2,6-Dinitrotoluene	EEE. Bis(2-ethylhexyl)phthalate	EEEE. Biphenyl	E1.
F. 1,2-Dichlorobenzene	FF. 3-Nitroaniline	FFF. Di-n-octylphthalate	FFFF. Retene	F1.
G. 2-Methylphenol	GG. Acenaphthene	GGG. Benzo(b)fluoranthene	GGGG. C30-Hopane	G1.
H. 2,2'-Oxybis(1-chloropropane)	HH. 2,4-Dinitrophenol	HHH. Benzo(k)fluoranthene	HHHH. 1-Methylphenanthrene	H1.
I. 4-Methylphenol	II. 4-Nitrophenol	III. Benzo(a)pyrene	IIII. 1,4-Dioxane	I1.
J. N-Nitroso-di-n-propylamine	JJ. Dibenzofuran	JJJ. Indeno(1,2,3-cd)pyrene	JJJJ. Acetophenone	J1.
K. Hexachloroethane	KK. 2,4-Dinitrotoluene	KKK. Dibenz(a,h)anthracene	KKKK. Atrazine	K1.
L. Nitrobenzene	LL. Diethylphthalate	LLL. Benzo(g,h,i)perylene	LLLL. Benzaldehyde	L1.
M. Isophorone	MM. 4-Chlorophenyl-phenyl ether	MMM. Bis(2-Chloroisopropyl)ether	MMMM. Caprolactam	M1.
N. 2-Nitrophenol	NN. Fluorene	NNN. Aniline	NNNN. 2,6-Dichlorophenol	N1.
O. 2,4-Dimethylphenol	OO. 4-Nitroaniline	OOO. N-Nitrosodimethylamine	OOOO. 1,2-Diphenylhydrazine	O1.
P. Bis(2-chloroethoxy)methane	PP. 4,6-Dinitro-2-methylphenol	PPP. Benzoic Acid	PPPP. 3-Methylphenol	P1.
Q. 2,4-Dichlorophenol	QQ. N-Nitrosodiphenylamine	QQQ. Benzyl alcohol	QQQQ. 3&4-Methylphenol	Q1.
R. 1,2,4-Trichlorobenzene	RR. 4-Bromophenyl-phenylether	RRR. Pyridine	RRRR. 4-Dimethyldibenzothiophene (4MDT)	R1.
S. Naphthalene	SS. Hexachlorobenzene	SSS. Benzidine	SSSS. 2/3-Dimethyldibenzothiophene (4MDT)	S1.
T. 4-Chloroaniline	TT. Pentachlorophenol	TTT. 1-Methylnaphthalene	TTTT. 1-Methyldibenzothiophene (1MDT)	T1.
U. Hexachlorobutadiene	UU. Phenanthrene	UUU.Benzo(b)thiophene	UUUU. Nitrosopyrrolidine	U1.
V. 4-Chloro-3-methylphenol	VV. Anthracene	VVV.Benzonaphthothiophene	VVVV.	V1.
W. 2-Methylnaphthalene	WW. Carbazole	WWW.Benzo(e)pyrene	WWWW.	W1.
X. Hexachlorocyclopentadiene	XX. Di-n-butylphthalate	XXX. 2,6-Dimethylnaphthalene	XXXX.	X1.
Y. 2,4,6-Trichlorophenol	YY. Fluoranthene	YYY. 2,3,5-Trimethylnaphthalene	YYYY.	Y1.
Z. 2,4,5-Trichlorophenol	ZZ. Pyrene	ZZZ. Perylene	ZZZZ.	Z1.

LDC #: 36638 B2a

VALIDATION FINDINGS WORKSHEET
Blanks

Page: 1 of 1
Reviewer: JVG
2nd Reviewer: [illegible]

METHOD: GC/MS BNA (EPA SW 846 Method 8270D)
Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Was a method blank analyzed for each matrix?
Y N N/A Was a method blank analyzed for each concentration preparation level?
Y N N/A Was a method blank associated with every sample?
Y N N/A Was the blank contaminated? If yes, please see qualification below.

Blank extraction date: 06/11/16 **Blank analysis date:** 06/27/16
Conc. units: ug/L Associated Samples: All

Compound	Blank ID								
MB	280-329438	1-A	2	3	4	5			
QQQ	0.692		0.34 /25U	0.86 /25U	0.44 /25U	1.7 /24U			
EEE	1.57				2.8 /10U				

Blank extraction date:_____ **Blank analysis date:**_____
Conc. units:_____ Associated Samples:_____

Compound	Blank ID								

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Common contaminants such as the phthalates and TICs noted above that were detected in samples within ten times the associated method blank concentration were qualified as not detected, "U". Other contaminants within five times the method blank concentration were also qualified as not detected, "U".

LDC #: 36638 B 2a

VALIDATION FINDINGS WORKSHEET
Matrix Spike/Matrix Spike Duplicates

Page: 1 of 1
Reviewer: JVG
2nd Reviewer: [illegible]

METHOD: GC/MS BNA (EPA SW 846 Method 8270D)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water.

Y N N/A Was a MS/MSD analyzed every 20 samples of each matrix?

Y N N/A Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?

#	Date	MS/MSD ID	Compound	MS %R (Limits)	MSD %R (Limits)	RPD (Limits)	Associated Samples	Qualifications
		6/7	Several	compounds	outside	limits	( )	No qual
		(10X)	for	% R(and)	% RPD( )	( )		(dil)
				( )	( )	( )		
			UUUU	was not spiked	( )	( )	1 (ND)	~~R/A~~
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
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LDC #: 36638B2a

VALIDATION FINDINGS WORKSHEET
Laboratory Control Samples (LCS)

Page: 1 of 1
Reviewer: JVG
2nd Reviewer: ↑

METHOD: GC/MS BNA (EPA SW 846 Method 8270D)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Was a LCS required?

Y N N/A Were the LCS/LCSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?

#	Date	LCS/LCSD ID	Compound	LCS %R (Limits)	LCSD %R (Limits)	RPD (Limits)	Associated Samples	Qualifications
		LCS 280-329438/6-A	SSS	0 (27-150)	( )	( )	All (ND)	J/R/P
			UUUU	was not spiked	( )	( )		J/R/P
				( )	( )	( )		
				( )	( )	( )		
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LDC#: 36638B2a

VALIDATION FINDINGS WORKSHEET
Field Duplicates

Reviewer: JVG
2nd Reviewer: [illegible]

METHOD: GC MS Semivolatiles (EPA SW 846 Method 8270D)
Y N NA Were field duplicate pairs identified in this SDG?
Y N NA Were target analytes detected in the field duplicate pairs?

Compound	Concentration (ug/L)		RPD (≤30%)	Difference (ug/L)	Limits (≤LOQ)	Qualifications (Parent Only)
	2	3				
Y	14	11		3	(≤20)	
NNNN	1.6	4.0U		2.4	(≤10)	
QQQ	0.34 U	0.86 U	(MB)	0.52	(≤25)	

(U at LOD)

V:\Josephine\FIELD DUPLICATES\36638B2a weston ang schenectady.wpd

LDC#: 36638B2a
Lab: Test America Denver

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Reviewer: JVG
2nd Reviewer: A

METHOD: GC/MS SVOA (EPA SW 846 Method 8270D)

The Relative Response Factor (RRF), average RRF, and percent relative standard deviation (%RSD) were recalculated for the compounds identified below using the following calculations:

$RRF = (A_x)(C_{is})/(A_{is})(C_x)$
average RRF = sum of the RRFs/number of standards
%RSD = 100 * (S/X)

A_x = Area of Compound
C_x = Concentration of compound,
S= Standard deviation of the RRFs,

A_{is} = Area of associated internal standard
C_{is} = Concentration of internal standard
X = Mean of the RRFs

#	Standard ID	Calibration Date	Compound (IS)	Reported RRF (50 std)	Recalculated RRF (50 std)	Reported Average RRF (Initial)	Recalculated Average RRF (Initial)	Reported %RSD	Recalculated %RSD
1	ICAL SMS K	6/8/16	Phenol (DCB)	1.8709	1.8709	1.8403	1.8403	5.7	5.7
			Naphthalene (NPT)	1.0641	1.0641	1.0235	1.0235	10.2	10.2
			Diethyl phthalate (ANT)	1.1252	1.1252	1.0737	1.0737	7.6	7.6
			Hexachlorobenzene (PHN)	0.2063	0.2063	0.1991	0.1991	4.0	4.0
			BEHP (CRY)	0.7579	0.7579	0.7446	0.7447	5.5	5.5
			Benzo(a)pyrene (PRY)	1.1318	1.1318	1.1411	1.1411	2.8	2.8

Naphthalene @ 50ug/L

$$RRF = \frac{(Area\ std)(Conc\ IS)}{(Area\ IS)(Conc\ std)} = \frac{(1543576)(40)}{(1160439)(50)} = 1.0641$$

ICAL RRF (IS = 40ug/mL)

Conc(ug/mL)	Phenol	Naphthalene	Diethyl phthal	Hexachlorob	BEHP	Benzo(a)py
4.00	1.9224	1.1435	1.1100	0.2046	0.6802	1.1042
10.00	1.9380	1.1416	1.1761	0.2079	0.7193	1.1409
20.00	1.9110	1.0810	1.1415	0.1945	0.7119	1.1103
50.00	1.8709	1.0641	1.1252	0.2063	0.7579	1.1318
80.00	1.8825	1.0166	1.0622	0.1995	0.8015	1.1760
120.00	1.8410	0.9752	1.0496	0.2037	0.7932	1.1975
160.00	1.6822	0.8992	0.9919	0.1898	0.7432	1.1413
200.00	1.6742	0.8665	0.9328	0.1864	0.7500	1.1270
X =	1.8403	1.0235	1.0737	0.1991	0.7447	1.1411
S =	0.1046	0.1040	0.0813	0.0080	0.0408	0.0316

LDC#: 36638B2a
Lab: Test America Denver

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Calculation Verification

Reviewer: JVG
2nd Reviewer: A

METHOD: GC/MS SVOA (EPA SW 846 Method 8270D)

The percent difference (%D) of the initial calibration average Relative Response Factors (RRFs) and the continuing calibration RRFs were recalculated for the compounds identified below using the following calculation:

% Difference = 100 * (ave. RRF - RRF)/ave. RRF
RRF = (Ax)(Cis)/(Ais)(Cx)

Where:
ave. RRF = initial calibration average RRF
RRF = continuing calibration RRF
Ax = Area of compound
Cx = Concentration of compound
Ais = Area of associated internal standard
Cis = Concentration of internal standard

#	Standard ID	Calibration Date	Compound		Ave RRF	Reported RRF	Recalculated RRF	Reported % D	Recalculated %D
1	K16532	06/27/16	Phenol	(DCB)	1.8403	1.8257	1.8257	0.8	0.8
			Naphthalene	(NPT)	1.0235	0.9897	0.9897	3.3	3.3
			Diethyl phthalate	(ANT)	1.0737	1.0606	1.0606	1.2	1.2
			Hexachlorobenzene	(PHN)	0.1991	0.1957	0.1957	1.7	1.7
			BEHP	(CRY)	0.7446	0.7520	0.7520	1.0	1.0
			Benzo(a)pyrene	(PRY)	1.1411	1.1523	1.1523	1.0	1.0

Naphthalene

$$RRF = \frac{(\text{Area std})(\text{Conc IS})}{(\text{Area IS})(\text{Conc std})} = \frac{(2165902)(40)}{(1094180)(80)} = 0.9897$$

LDC#: 36638B2a
Lab: Test America Denver

VALIDATION FINDINGS WORKSHEET
Surrogate Results Verification

Reviewer: JVG
2nd Reviewer: A

METHOD: GC/MS SVOA (EPA SW 846 Method 8270D)

The percent recoveries (%R) of surrogate compounds were recalculated for the compounds identified below using the following calculation:

Surrogate Found = (Area surr) (Conc IS) / (Area IS) (average RRF surr)
%Recovery: Surrogate Found/Surrogate Spiked * 100

Where: SURRF = Surrogate Found
SURRS = Surrogate Spiked

Sample:
SC-TU008-MW004-G-1

NBZ-d5 = (697091)(40) / (1230880)(0.4434)
= 51.090

	Surrogate Spiked (ug/L)	Surrogate Found (ug/L)	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Nitrobenzene-d5	100	51.1	51	51	0
2-Fluorobiphenyl	100	53.3	53	53	0
Terphenyl-d14	100	59.3	59	59	0
Phenol-d5	100	55.0	55	55	0
2-Fluorophenol	100	51.9	52	52	0
2,4,6-Tribromophenol	100	78.0	78	78	0

LDC#: 36638B2a
Lab: Test America Denver

VALIDATION FINDINGS WORKSHEET
Matrix Spike/Matrix Spike Duplicate Results Verification

Reviewer: JVG
2nd Reviewer: [illegible]

METHOD: GC/MS SVOA (EPA SW 846 Method 8270D)

The percent recoveries (%R) and relative percent differences (RPD) of the matrix spike and matrix spike duplicate were recalculated for the compounds identified below using the following calculation:

SSC = (Area spike) (Conc IS) / (Area IS) (average RRF spike)

%Recovery = 100 * (SSC - SC)/SA

Where: SSC = Spiked concentration
SC = Sample concentration
SA = Spike added

RPD = | MS - MSD | * 2/(MS + MSD)

MS = Matrix spike recovery
MSD = Matrix spike duplicate recovery

MS/MSD Sample:
SC-TU008-MW001-G-1
(10X - several compounds diluted out)

Pyrene (MS) on column = (13602)(40)(10ml)(10) / (795992)(1.2911)(1.0567L)

SSC = 50.10

Compound	SA (ug/L)		SC (ug/L)	SSC (ug/L)		MS Percent Recovery		MSD Percent Recovery		MS/MSD RPD	
	MS	MSD		MS	MSD	Reported	Recalc.	Reported	Recalc.	Reported	Recalc.
Pyrene	75.7	76.9	0.0	50.1	52.9	66	66	69	69	5	5

LDC#: 36638B2a
Lab: Test America Denver

VALIDATION FINDINGS WORKSHEET
Laboratory Control Sample Results Verification

Reviewer: JVG
2nd Reviewer: A.

METHOD: GC/MS SVOA (EPA SW 846 Method 8270D)

The percent recoveries (%R) and relative percent differences (RPD) of the laboratory control sample and laboratory control duplicate (if applicable) were recalculated for the compounds identified below using the following calculation:

SSC = (Area spike) (Conc IS) / (Area IS) (average RRF spike)

%Recovery = 100 * SSC/SA Where: SSC = Spiked concentration
SA = Spike added

RPD = | LCS - LCSD | * 2/(LCS + LCSD) Where: LCS = Laboratory control spike recovery
LCSD = Laboratory control spike duplicate recovery

'LCS ID:
LCS 280-329438/2-A Pyrene on column = (1539431)(40)(1.0ml) / (740749)(1.2911)(1.0L)

SSC = 64.39

Compound	SA (ug/L)		SSC (ug/L)		LCS Percent Recovery		LCSD Percent Recovery		LCS/LCSD RPD	
	LCS	LCSD	LCS	LCSD	Reported	Recalc.	Reported	Recalc.	Reported	Recalc.
Pyrene	80.0		64.4		80	80				

LDC#: 36638B2a
Lab: Test America Denver

VALIDATION FINDINGS WORKSHEET
Sample Results Verification

Reviewer: JVG
2nd Reviewer: AC

METHOD: GC/MS SVOA (EPA SW 846 Method 8270D)

Compound results for all Level IV samples reported with a positive detect were recalculated and verified using the following equation:

$$\text{Concentration} = \frac{(Ax)(Is)(Vt)(DF)}{(Ais)(RRF)(Vo)(Vi)(\%S)}$$

Ax =	Area of the characteristic ion (EICP) for the compound to be measured
Ais =	Area of the characteristic ion (EICP) for the specific internal standard
Is =	Amount of internal standard added in nanograms (ng)
Vo =	Volume or weight of sample extract in milliliters (ml) or grams (g).
Vi =	Volume of extract injected in microliters (ul)
Vt =	Volume of the concentrated extract in microliters (ul)
Df =	Dilution Factor.
%S =	Percent solids, applicable to soil and solid matrices only.

For linear regression:
Conc=(Response ratio x IS conc - b)/m

Sample ID:
SC-TU008-MW004-G-1 2,4,6-TCP

$$\text{Conc} = \frac{(138581)(40)(1mL)}{(692611)(0.3486)(0.9811L)}$$

$$= 23.4010$$

Sample	Compound	Calculated Concentration ug/L	Reported Concentration ug/L	Qualification
SC-TU008-MW004-G-1	2,4,6-TCP	23.4	23.0	

08/02/16

The attached zipped file contains three files:

File	Format	Description	
01) Readme_Schenectady_080216.doc	MS Word 2003	A "Readme" file (this document).	
	MS Excel 2007	A spreadsheet for the following SDG(s):	
02) SCHENECTADY_ERPIMS_EDD_280-84062-1.xlsx		280-84062-1	36638A
03) SCHENECTADY_ERPIMS_EDD_280-84354-1_TAML.xlsx		280-84354-1	36638B
04) SCHENECTADY_ERPIMS_EDD_280-84354-1_TAMQ.xlsx			

No discrepancies were observed between the hardcopy data packages and the electronic data deliverables during EDD population of validation qualifiers. A 100% verification of the EDD was not performed.

Please contact Pei Geng at (760) 827-1100 if you have any questions regarding this electronic data submittal.

LDC #: 86638

EDD POPULATION COMPLETENESS WORKSHEET

Date: 08/02/16
Page: 1 of 1
2nd Reviewer:

The LDC job number listed above was entered by

	EDD Process		Comments/Action
I.	EDD Completeness	-	
Ia.	- All methods present?	y	
Ib.	- All samples present/match report?	y	
Ic.	- All reported analytes present?	y	
Id.	10% or 100% verification of EDD?	y	
II.	EDD Preparation/Entry	-	
IIa.	- Carryover U/J?	y	
IIb.	- Reason Codes used? If so, note which codes	N	
IIc.	-Additional Information (QC Level, Validator, Date, Validated Y/N, etc.)	N	
III.	Reasonableness Checks	-	
IIIa.	- Do all qualified ND results have ND qualifier (i.e. UJ)?	y	
IIIb.	- Do all qualified detect results have detect qualifier (i.e. J)?	y	
IIIc.	- If reason codes used, do all qualified results have reason code field populated?	y	
IIId.	-Does the detect flag require changing for blank qualifiers? If so, are all U results marked ND?	y/y	
IIIe.	- Do blank concentrations in report match EDD, where data was qualified due to blank?	y	
IIIf.	- Were any results rejected for overall assessment? If so, were results changed to nonreportable?	N/A	
IIIg.	- Is the readme complete? If applicable, were edits or discrepancies listed in the readme?	y.	

Notes:

LABORATORY DATA CONSULTANTS, INC.
2701 Loker Ave. West, Suite 220, Carlsbad, CA 92010 Bus: 760-827-1100 Fax: 760-827-1099

Weston Solutions, Inc.
1371 Brass Mill Rd., Suite N
Belcamp, MD 21017
ATTN: Mr. Joseph Gross

August 11, 2016

SUBJECT: Revised Schenectady ANGB, Data Validation

Dear Mr. Gross,

Enclosed is the revised validation report for the fractions listed below. Please replace the previously submitted report with the enclosed revised report.

LDC Project #36666:

SDG #	**Fraction**
280-84064-1	Volatiles, Semivolatiles

Please feel free to contact us if you have any questions.

Sincerely,

Pei Geng
Project Manager/Senior Chemist

LABORATORY DATA CONSULTANTS, INC.
2701 Loker Ave. West, Suite 220, Carlsbad, CA 92010 Bus: 760-827-1100 Fax: 760-827-1099

Weston Solutions, Inc.
1371 Brass Mill Rd., Suite N
Belcamp, MD 21017
ATTN: Mr. Joseph Gross

August 9, 2016

SUBJECT: Schenectady ANGB, Data Validation

Dear Mr. Gross,

Enclosed is the final validation report for the fractions listed below. This SDG was received on July 12, 2016. Attachment 1 is a summary of the samples that were reviewed for each analysis.

LDC Project #36666:

SDG #	**Fraction**
280-84064-1	Volatiles, Semivolatiles

The data validation was performed under Stage 2B guidelines. The analyses were validated using the following documents, as applicable to each method:

- Final Remedial Investigation Work Plan, Uniform Federal Policy, Quality Assurance Project Plan at Schenectady Air National Guard Base, Scotia, New York, May 2016
- U.S. Department of Defense, Quality Systems Manual for Environmental Laboratories, Version 5.0, July 2013
- USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review, August 2014
- EPA SW 846, Third Edition, Test Methods for Evaluating Solid Waste, update 1, July 1992; update IIA, August 1993; update II, September 1994; update IIB, January 1995; update III, December 1996; update IIIA, April 1998; IIIB, November 2004; update IV, February 2007; update V, July 2014

Please feel free to contact us if you have any questions.

Sincerely,

Pei Geng
Project Manager/Senior Chemist

EDD Stage 2B

LDC #36666 (Weston Solutions, Inc.- West Chester, PA / Schenectady ANGB)

LDC	SDG#	DATE REC'D	(2) DATE DUE	VOA (8260C)		SVOA (8270D)																													
Matrix:	Water/Soil			W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S
A	280-84064-1	07/12/16	07/26/16	1	9	0	9																												
Total	A/PG			1	9	0	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	19

Shaded cells indicate Stage 4 validation (all other cells are Stage 2B validation). These sample counts do not include MS/MSD, and DUPs

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Schenectady ANGB

LDC Report Date: August 11, 2016

Parameters: Volatiles

Validation Level: Stage 2B

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-84064-1

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
SC-TU008-MW001-S0002	280-84064-1	Soil	06/03/16
SC-TU008-MW001-S1012	280-84064-2	Soil	06/03/16
SC-TU008-MW002-S0406	280-84064-3	Soil	06/02/16
SC-TU008-MW002-S0406-D	280-84064-4	Soil	06/02/16
SC-TU008-MW002-S0002	280-84064-5	Soil	06/02/16
SC-TU008-MW003-S0204	280-84064-6	Soil	06/02/16
SC-TU008-MW003-S0405	280-84064-7	Soil	06/02/16
SC-TU008-MW004-S0507	280-84064-8	Soil	06/02/16
SC-TU008-MW004-S0305	280-84064-9	Soil	06/02/16
SC-TU008-TB060316	280-84064-10	Water	06/03/16

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Final Remedial Investigation Work Plan, Uniform Federal Policy, Quality Assurance Project Plan at Schenectady Air National Guard Base, Scotia, New York (May 2016), the U.S. Department of Defense (DoD) Quality Systems Manual (QSM) for Environmental Laboratories, Version 5.0 (July 2013), and a modified outline of the USEPA National Functional Guidelines (NFG) for Superfund Organic Methods Data Review (August 2014). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Volatile Organic Compounds (VOCs) by Environmental Protection Agency (EPA) SW 846 Method 8260C

All sample results were subjected to Stage 2B data validation, which comprises an evaluation of quality control (QC) summary results.

The following are definitions of the data qualifiers utilized during data validation:

J+ (Estimated, High Bias): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated, displaying high bias, due to non-conformances discovered during data validation.

J- (Estimated, Low Bias): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated, displaying low bias, due to non-conformances discovered during data validation.

J (Estimated, Bias Indeterminate): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation. Bias is indeterminate.

U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered non-detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).

UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.

N (Presumptive): The analysis indicates the presence of a compound or analyte that has been "tentatively identified."

NJ (Presumptive and estimated): The analysis indicates the presence of a compound or analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.

R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.

NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

II. GC/MS Instrument Performance Check

A bromofluorobenzene (BFB) tune was performed at 12 hour intervals.

All ion abundance requirements were met.

III. Initial Calibration and Initial Calibration Verification

An initial calibration was performed as required by the method.

For compounds where average relative response factors (RRFs) were utilized, the percent relative standard deviations (%RSD) were less than or equal to 15.0%.

In the case where the laboratory used a calibration curve to evaluate the compounds, all coefficients of determination (r^2) were greater than or equal to 0.990.

Average relative response factors (RRF) for all compounds were within method criteria with the exception of Methyl Acetate and 2-Butanone. Since all compounds were within validation criteria, no data were qualified.

The percent differences (%D) of the initial calibration verification (ICV) standard were less than or equal to 20.0% for all compounds.

IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

The percent differences (%D) were less than or equal to 20.0% for all compounds with the following exceptions:

Date	Compound	%D	Associated Samples	Flag	A or P
06/13/16	Dichlorodifluoromethane Bromomethane	21.6 22.4	All soil samples in SDG 280-84064-1	UJ (all non-detects) UJ (all non-detects)	A

The percent differences (%D) of the ending continuing calibration verifications (CCVs) were less than or equal to 50.0% for all compounds.

All of the continuing calibration relative response factors (RRF) were within method criteria with the exception of Methyl Acetate and 2-Butanone. Since all compounds were within validation criteria, no data were qualified.

V. Laboratory Blanks

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks with the following exceptions:

Blank ID	Analysis Date	Compound	Concentration	Associated Samples
MB 160-256397/9	06/15/16	o-Xylene	0.653 ug/L	SC-TU008-TB060316

Sample concentrations were compared to concentrations detected in the laboratory blanks. The sample concentrations were either not detected or were significantly greater than the concentrations found in the associated laboratory blanks.

VI. Field Blanks

Sample SC-TU008-TB060316 was identified as a trip blank. No contaminants were found with the following exceptions:

Blank ID	Collection Date	Compound	Concentration	Associated Samples
SC-TU008-TB060316	06/03/16	2-Butanone Chloroethane	6.9 ug/L 1.2 ug/L	SC-TU008-MW001-S0002 SC-TU008-MW001-S1012 SC-TU008-MW002-S0406 SC-TU008-MW002-S0406-D SC-TU008-MW002-S0002 SC-TU008-MW003-S0204 SC-TU008-MW003-S0405 SC-TU008-MW004-S0507 SC-TU008-MW004-S0305

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater than the concentrations found in the associated field blanks.

VII. Surrogates

Surrogates were added to all samples as required by the method. All surrogate recoveries (%R) were within QC limits with the following exceptions:

Sample	Surrogate	%R (Limits)	Affected Compound	Flag	A or P
SC-TU008-MW001-S0002	Bromofluorobenzene	143 (79-119)	All compounds	J+ (all detects)	P
SC-TU008-MW001-S1012	Bromofluorobenzene	120 (79-119)	All compounds	NA	-
SC-TU008-MW002-S0406	Bromofluorobenzene	245 (79-119)	All compounds	J+ (all detects)	P

Sample	Surrogate	%R (Limits)	Affected Compound	Flag	A or P
SC-TU008-MW002-S0406-D	Bromofluorobenzene Toluene-d8	249 (79-119) 121 (85-116)	All compounds	J+ (all detects)	P
SC-TU008-MW002-S0002	Bromofluorobenzene	121 (79-119)	All compounds	J+ (all detects)	P
SC-TU008-MW003-S0204	Bromofluorobenzene	125 (79-119)	All compounds	J+ (all detects)	P
SC-TU008-MW003-S0405	Bromofluorobenzene	204 (79-119)	All compounds	J+ (all detects)	P
SC-TU008-MW004-S0507	Bromofluorobenzene	123 (79-119)	All compounds	J+ (all detects)	P
SC-TU008-MW004-S0305	Bromofluorobenzene	126 (79-119)	All compounds	J+ (all detects)	P
SC-TU008-TB060316	Bromofluorobenzene	116 (85-114)	All compounds	J+ (all detects)	P

VIII. Matrix Spike/Matrix Spike Duplicates

The laboratory indicated power was lost to the instrument when running the MS/MSD, samples were reanalyzed and the same issue occurred again, LCS and LCSD were analyzed in order to demonstrate accuracy and precision.

IX. Laboratory Control Samples

Laboratory control samples (LCS) and laboratory control samples duplicates (LCSD) were analyzed as required by the method. Percent recoveries (%R) were within QC limits. Relative percent differences (RPD) were within QC limits.

X. Field Duplicates

Samples SC-TU008-MW002-S0406 and SC-TU008-MW002-S0406-D were identified as field duplicates. No results were detected in any of the samples with the following exceptions:

Compound	Concentration (ug/Kg)		RPD (Limits)	Difference (Limits)	Flag	A or P
	SC-TU008-MW002-S0406	SC-TU008-MW002-S0406-D				
Acetone	23	19	19 (≤50)	-	-	-
Isopropylbenzene	11	19	53 (≤50)	-	J (all detects)	A
Methylcyclohexane	5.6	4.0	-	1.6 (≤9.4)	-	-
Naphthalene	26	16	48 (≤50)	-	-	-

Compound	Concentration (ug/Kg)		RPD (Limits)	Difference (Limits)	Flag	A or P
	SC-TU008-MW002-S0406	SC-TU008-MW002-S0406-D				
n-Butylbenzene	120	100	18 (≤50)	-	-	-
sec-Butylbenzene	100	140	33 (≤50)	-	-	-
tert-Butylbenzene	20	38	62 (≤50)	-	J (all detects)	A
1,1,2-Trichloroethane	160	0.79U	-	159.21 (≤9.4)	J (all detects) UJ (all non-detects)	A
Carbon disulfide	0.94U	0.97	-	0.03 (≤9.4)	-	-
1,2-Dibromo-3-chloropropane	4.7U	4.8	-	0.1 (≤18.8)	-	-
Ethylbenzene	0.94U	0.58	-	0.36 (≤9.4)	-	-
4-Methyl-2-pentanone	4.7U	140	-	135.3 (≤38)	J (all detects) UJ (all non-detects)	A
n-Propylbenzene	0.94U	9.1	-	8.16 (≤9.4)	-	-
Xylenes, total	4.7U	1.5	-	3.2 (≤18.8)	-	-
m,p-Xylenes	1.9U	0.53	-	1.37 (≤9.4)	-	-
o-Xylene	0.66	0.95	-	0.29 (≤9.4)	-	-

XI. Internal Standards

All internal standard areas and retention times were within QC limits.

XII. Compound Quantitation

Raw data were not reviewed for Stage 2B validation.

XIII. Target Compound Identifications

Raw data were not reviewed for Stage 2B validation.

XIV. System Performance

Raw data were not reviewed for Stage 2B validation.

XV. Overall Assessment of Data

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

Due to continuing calibration %D, surrogate %R, and field duplicate RPD and difference, data were qualified as estimated in ten samples.

The quality control criteria reviewed, other than those discussed above, were met and are considered acceptable. Sample results that were found to be estimated (J) are usable for limited purposes only. Based upon the data validation all other results are considered valid and usable for all purposes.

Schenectady ANGB
Volatiles - Data Qualification Summary - SDG 280-84064-1

Sample	Compound	Flag*	A or P	Reason
SC-TU008-MW001-S0002 SC-TU008-MW001-S1012 SC-TU008-MW002-S0406 SC-TU008-MW002-S0406-D SC-TU008-MW002-S0002 SC-TU008-MW003-S0204 SC-TU008-MW003-S0405 SC-TU008-MW004-S0507 SC-TU008-MW004-S0305	Dichlorodifluoromethane Bromomethane	UJ (all non-detects) UJ (all non-detects)	A	Continuing calibration (%D)
SC-TU008-MW001-S0002 SC-TU008-MW002-S0406 SC-TU008-MW002-S0406-D SC-TU008-MW002-S0002 SC-TU008-MW003-S0204 SC-TU008-MW003-S0405 SC-TU008-MW004-S0507 SC-TU008-MW004-S0305 SC-TU008-TB060316	All compounds	J+ (all detects)	P	Surrogates (%R)
SC-TU008-MW002-S0406 SC-TU008-MW002-S0406-D	Isopropylbenzene tert-Butylbenzene	J (all detects) J (all detects)	A	Field duplicates (RPD)
SC-TU008-MW002-S0406 SC-TU008-MW002-S0406-D	1,1,2-Trichloroethane 4-Methyl-2-pentanone	J (all detects) UJ (all non-detects) J (all detects) UJ (all non-detects)	A	Field duplicates (difference)

* A non-biased (J) flag will always supersede biased (J+ or J-) flags since it is not possible to assess the direction of the potential bias.

Schenectady ANGB
Volatiles - Laboratory Blank Data Qualification Summary - SDG 280-84064-1

No Sample Data Qualified in this SDG

Schenectady ANGB
Volatiles - Field Blank Data Qualification Summary - SDG 280-84064-1

No Sample Data Qualified in this SDG

LDC #: 36666A1
SDG #: 280-84064-1
Laboratory: Test America

VALIDATION COMPLETENESS WORKSHEET
Stage 2B

Date: 07/25/16
Page: 1 of 2
Reviewer: JVG
2nd Reviewer: [illegible]

METHOD: GC/MS Volatiles (EPA SW 846 Method 8260C)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A / A	
II.	GC/MS Instrument performance check	A	
III.	Initial calibration/ICV	SW / A	ICAL ≤ 15% r² ICV ≤ 20%
IV.	Continuing calibration /ending	SW	CCV ≤ 20%/50%
V.	Laboratory Blanks	SW	
VI.	Field blanks	SW	TB = 10
VII.	Surrogate spikes	SW	
VIII.	Matrix spike/Matrix spike duplicates	SW	
IX.	Laboratory control samples	A	LCS/D
X.	Field duplicates	SW	D = 3/4
XI.	Internal standards	A	
XII.	Compound quantitation RL/LOQ/LODs	N	
XIII.	Target compound identification	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank; SB=Source blank; OTHER:

	Client ID	Lab ID	Matrix	Date
1	SC-TU008-MW001-S002	280-84064-1	Soil	06/03/16
2	SC-TU008-MW001-S1012	280-84064-2	Soil	06/03/16
3	SC-TU008-MW002-S0406	280-84064-3	Soil	06/02/16
4	SC-TU008-MW002-S0406-D	280-84064-4	Soil	06/02/16
5	SC-TU008-MW002-S0002	280-84064-5	Soil	06/02/16
6	SC-TU008-MW003-S0204	280-84064-6	Soil	06/02/16
7	SC-TU008-MW003-S0405	280-84064-7	Soil	06/02/16
8	SC-TU008-MW004-S0507	280-84064-8	Soil	06/02/16
9	SC-TU008-MW004-S0305	280-84064-9	Soil	06/02/16
10	SC-TU008-TB060316	280-84064-10	Water	06/03/16
11	~~SC-TU008-MW001-S1012MS~~	~~280-84064-2MS~~	~~Soil~~	~~06/03/16~~
12	~~SC-TU008-MW001-S1012MSD~~	~~280-84064-2MSD~~	~~Soil~~	~~06/03/16~~
13				

LDC #: 36666A1
SDG #: 280-84064-1
Laboratory: Test America

VALIDATION COMPLETENESS WORKSHEET
Stage 2B

Date: 07/25/16
Page: 2 of 2
Reviewer: SVG
2nd Reviewer: M

METHOD: GC/MS Volatiles (EPA SW 846 Method 8260C)

	Client ID	Lab ID	Matrix	Date
14				
15				
16				
17				

Notes:

1	MB 160- 256112/1-A						
2	L - 256397/9						

Note: MS/MSD not reported, power lost when running.

TARGET COMPOUND WORKSHEET

METHOD: VOA

A. Chloromethane	AA. Tetrachloroethene	AAA. 1,3,5-Trimethylbenzene	AAAA. Ethyl tert-butyl ether	A1. 1,3-Butadiene
B. Bromomethane	BB. 1,1,2,2-Tetrachloroethane	BBB. 4-Chlorotoluene	BBBB. tert-Amyl methyl ether	B1. Hexane
C. Vinyl choride	CC. Toluene	CCC. tert-Butylbenzene	CCCC. 1-Chlorohexane	C1. Heptane
D. Chloroethane	DD. Chlorobenzene	DDD. 1,2,4-Trimethylbenzene	DDDD. Isopropyl alcohol	D1. Propylene
E. Methylene chloride	EE. Ethylbenzene	EEE. sec-Butylbenzene	EEEE. Acetonitrile	E1. Freon 11
F. Acetone	FF. Styrene	FFF. 1,3-Dichlorobenzene	FFFF. Acrolein	F1. Freon 12
G. Carbon disulfide	GG. Xylenes, total	GGG. p-Isopropyltoluene	GGGG. Acrylonitrile	G1. Freon 113
H. 1,1-Dichloroethene	HH. Vinyl acetate	HHH. 1,4-Dichlorobenzene	HHHH. 1,4-Dioxane	H1. Freon 114
I. 1,1-Dichloroethane	II. 2-Chloroethylvinyl ether	III. n-Butylbenzene	IIII. Isobutyl alcohol	I1. 2-Nitropropane
J. 1,2-Dichloroethene, total	JJ. Dichlorodifluoromethane	JJJ. 1,2-Dichlorobenzene	JJJJ. Methacrylonitrile	J1. Dimethyl disulfide
K. Chloroform	KK. Trichlorofluoromethane	KKK. 1,2,4-Trichlorobenzene	KKKK. Propionitrile	K1. 2,3-Dimethyl pentane
L. 1,2-Dichloroethane	LL. Methyl-tert-butyl ether	LLL. Hexachlorobutadiene	LLLL. Ethyl ether	L1. 2,4-Dimethyl pentane
M. 2-Butanone	MM. 1,2-Dibromo-3-chloropropane	MMM. Naphthalene	MMMM. Benzyl chloride	M1. 3,3-Dimethyl pentane
N. 1,1,1-Trichloroethane	NN. Methyl ethyl ketone	NNN. 1,2,3-Trichlorobenzene	NNNN. Iodomethane	N1. 2-Methylpentane
O. Carbon tetrachloride	OO. 2,2-Dichloropropane	OOO. 1,3,5-Trichlorobenzene	OOOO.1,1-Difluoroethane	O1. 3-Methylpentane
P. Bromodichloromethane	PP. Bromochloromethane	PPP. trans-1,2-Dichloroethene	PPPP. Tetrahydrofuran	P1. 3-Ethylpentane
Q. 1,2-Dichloropropane	QQ. 1,1-Dichloropropene	QQQ. cis-1,2-Dichloroethene	QQQQ. Methyl acetate	Q1. 2,2-Dimethylpentane
R. cis-1,3-Dichloropropene	RR. Dibromomethane	RRR. m,p-Xylenes	RRRR. Ethyl acetate	R1. 2,2,3- Trimethylbutane
S. Trichloroethene	SS. 1,3-Dichloropropane	SSS. o-Xylene	SSSS. Cyclohexane	S1. 2,2,4-Trimethylpentane
T. Dibromochloromethane	TT. 1,2-Dibromoethane	TTT. 1,1,2-Trichloro-1,2,2-trifluoroethane	TTTT. Methylcyclohexane	T1. 2-Methylhexane
U. 1,1,2-Trichloroethane	UU. 1,1,1,2-Tetrachloroethane	UUU. 1,2-Dichlorotetrafluoroethane	UUUU. Allyl chloride	U1. Nonanal
V. Benzene	VV. Isopropylbenzene	VVV. 4-Ethyltoluene	VVVV. Methyl methacrylate	V1. 2-Methylnaphthalene
W. trans-1,3-Dichloropropene	WW. Bromobenzene	WWW. Ethanol	WWWW. Ethyl methacrylate	W1. Methanol
X. Bromoform	XX. 1,2,3-Trichloropropane	XXX. Di-isopropyl ether	XXXX. cis-1,4-Dichloro-2-butene	X1. 1,2,3-Trimethylbenzene
Y. 4-Methyl-2-pentanone	YY. n-Propylbenzene	YYY. tert-Butanol	YYYY. trans-1,4-Dichloro-2-butene	Y1.
Z. 2-Hexanone	ZZ. 2-Chlorotoluene	ZZZ. tert-Butyl alcohol	ZZZZ. Pentachloroethane	Z1.

LDC #: 36666A1

VALIDATION FINDINGS WORKSHEET
Initial Calibration

Page: 1 of 1
Reviewer: JVG
2nd Reviewer: AL

METHOD: GC/MS VOA (EPA SW 846 Method 8260C)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Did the laboratory perform a 5 point calibration prior to sample analysis?
Y N N/A Were percent relative standard deviations (%RSD) ≤ 20% and relative response factors (RRF) within the method criteria?
Y N N/A Was a curve fit used for evaluation? If yes, what was the acceptance criteria used for evaluation? $r^2 \geq 0.99$
Y N N/A Did the initial calibration meet the acceptance criteria?

#	Date	Standard ID	Compound	Finding %RSD (Limit: ≤20.0)	Finding RRF (Limit)	Associated Samples	Qualifications
	06/02/16	ICAL	QQQQ *	*			Text
	06/14/16	ICAL	QQQQ, M	*			

Note: * = Ave RRF failed method criteria but within validation criteria

INICAL.wpd

LDC #: 36666A1

VALIDATION FINDINGS WORKSHEET
Continuing Calibration

Page: 1 of 1
Reviewer: JVG
2nd Reviewer: [illegible]

METHOD: GC/MS VOA (EPA SW 846 Method 8260C)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Was a continuing calibration standard analyzed at least once every 12 hours for each instrument?

Y N N/A Were percent differences (%D) ≤20 % and relative response factors (RRF) within the method criteria?

#	Date	Standard ID	Compound	Finding %D (Limit: ≤20.0%)	Finding RRF (Limit)	Associated Samples	Qualifications
	06/13/16	FCCN7268	JJ	21.6		All S, MB 160-256112/1-A	J/MJ/A
			B	22.4		(ND)	
			QQQQ	*			Text
	06/15/16	LCCN3228	QQQQ, M	*			Text

Note: * = ~~Ave~~ RRF failed method criteria but within validation criteria

CONCAL.wpd

LDC #: 36666A1

VALIDATION FINDINGS WORKSHEET
Blanks

Page: 1 of 1
Reviewer: JVG
2nd Reviewer: [illegible]

METHOD: GC/MS VOA (EPA SW 846 Method 8260C)
Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Was a method blank associated with every sample in this SDG?
Y N N/A Was a method blank analyzed at least once every 12 hours for each matrix and concentration?
Y N N/A Was there contamination in the method blanks? If yes, please see the qualifications below.

Blank analysis date: 06/15/16
Conc. units: ug/L
Associated Samples: 10 (MB)

Compound	Blank ID	Sample Identification								
MB	160-256397/9									
SSS	0.653									

Blank analysis date:
Conc. units:
Associated Samples:

Compound	Blank ID	Sample Identification								

LDC #: 36666 A1

VALIDATION FINDINGS WORKSHEET
Field Blanks

Page: 1 of 1
Reviewer: JVG
2nd Reviewer: AC

METHOD: GC/MS VOA (EPA SW 846 Method 8260C)
Y N N/A Were field blanks identified in this SDG?
Y N N/A Were target compounds detected in the field blanks?

Blank units: ug/L **Associated sample units:** ug/kg
Sampling date: 06/03/16
Field blank type: (circle one) Field Blank / Rinsate / Trip Blank / Other:_____ Associated Samples: All except 10 (ND)

Compound	Blank ID	Sample Identification								
	10									
M	6.9									
D	1.2									

Blank units:_____ **Associated sample units:**_____
Sampling date:_____
Field blank type: (circle one) Field Blank / Rinsate / Trip Blank / Other:_____ Associated Samples:_____

Compound	Blank ID	Sample Identification								

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Common contaminants such as Methylene chloride, Acetone, 2-Butanone and Carbon disulfide that were detected in samples within ten times the associated field blank concentration were qualified as not detected, "U". Other contaminants within five times the field blank concentration were also qualified as not detected, "U".

LDC #: 36666A1

VALIDATION FINDINGS WORKSHEET
Surrogate Spikes

Page: 1 of 1
Reviewer: JVG
2nd Reviewer: [illegible]

METHOD: GC/MS VOA (EPA SW 846 Method 8260C)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Were all surrogate %R within QC limits?

Y N N/A If the percent recovery (%R) for one or more surrogates was out of QC limits, was a reanalysis performed to confirm samples with %R out of outside of criteria?

#	Date	Sample ID	Surrogate	%Recovery (Limits)		Qualifications
		1 (ND + Det)	BFB	143	(79-119)	J+ dets / P
					( )	
		2 (ND)		120	( )	J+ dets / A
					( )	
		3 (ND + Det)		245	( )	J+ dets / P
					( )	
		4	BFB	249	( )	
			TOL	121	(85-116)	
		5	BFB	121	(79-119)	
					( )	
		6		125	( )	
					( )	
		7		204	( )	
					( )	
		8		123	( )	
					( )	
		9		126	( )	
					( )	
		10		116	(85-114)	
					( )	
		MB 160-256347/9		115	( )	
					( )	
					( )	

(TOL) = Toluene-d8
(BFB) = Bromofluorobenzene
(DCE) = 1,2-Dichloroethane-d4
(DFM) = Dibromofluoromethane

LDC #: 36666A1

VALIDATION FINDINGS WORKSHEET
Matrix Spike/Matrix Spike Duplicates

Page: 1 of 1
Reviewer: JVG
2nd Reviewer: [illegible]

METHOD : GC/MS VOA (EPA SW 846 Method 8260C)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water.

Y N N/A Was a MS/MSD analyzed every 20 samples of each matrix?

Y N N/A Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?

#	Date	MS/MSD ID	Compound	MS %R (Limits)	MSD %R (Limits)	RPD (Limits)	Associated Samples	Qualifications
		Lab indicated power was lost	to the instrument	(when	)			Text
		running MS/MSD, samples were reanalyzed and			)			
		the same issue ~~occurred~~	occurred		)	again	)	
		LCS and LCSD were analyzed	in order to		)	demonstrate	)	
		accuracy and precision	)	( )		( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		

LDC#: 36666A1

VALIDATION FINDINGS WORKSHEET
Field Duplicates

Reviewer: JVG
2nd Reviewer: [illegible]

METHOD: GC MS Volatiles (EPA SW 846 Method 8260C)
Y N NA Were field duplicate pairs identified in this SDG?
Y N NA Were target analytes detected in the field duplicate pairs?

Compound	Concentration (ug/Kg)		RPD (≤50%)	Difference (ug/Kg)	Limits (≤2XLOQ)	Qualifications (Parent Only)
	3	4				
F	23	19	19			
VV	11	19	53			Jdets/A
TTTT	5.6	4.0		1.6	(≤~~9.8~~ 4)	
MMM	26	16	48			
III	120	100	18			
EEE	100	140	33			
CCC	20	38	62			Jdets/A
U	160	0.79U		159.21	(≤~~7.8~~ 9.4)	J/UJ/A
G	0.94U	0.97		0.03	(≤9.4)	
MM	4.7U	4.8		0.1	(≤18.8)	
EE	0.94U	0.58		0.36	(≤9.4)	
Y	4.7U	140		135.3	(≤38)	J/UJ/A
YY	0.94U	9.1		8.16	(≤9.4)	
GG	4.7U	1.5		3.2	(≤18.8)	
RRR	1.9U	0.53		1.37	(≤~~18.8~~ 9.4)	
SSS	0.66	0.95		0.29	(≤9.4)	

(U at LOD)

V:\Josephine\FIELD DUPLICATES\36666A1 weston ang schenectady.wpd

LDC#: 36666A1
Lab: Test America St. Louis

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Reviewer: JVG
2nd Reviewer: [illegible]

METHOD: GC/MS VOA (EPA SW 846 Method 8260C)

The Relative Response Factor (RRF), average RRF, and percent relative standard deviation (%RSD) were recalculated for the compounds identified below using the following calculations:

$RRF = (A_x)(C_{is})/(A_{is})(C_x)$
average RRF = sum of the RRFs/number of standards
%RSD = 100 * (S/X)

A_x = Area of Compound
C_x = Concentration of compound,
S= Standard deviation of the RRFs,

A_{is} = Area of associated internal standard
C_{is} = Concentration of internal standard
X = Mean of the RRFs

#	Standard ID	Calibration Date	Compound (IS)	Reported RRF (50 std)	Recalculated RRF (50 std)	Reported Average RRF (Initial)	Recalculated Average RRF (Initial)	Reported %RSD	Recalculated %RSD
1	ICAL VMSF	6/2/16	Trichloroethene (FB)	0.3119	0.3119	0.3144	0.3143	3.8	3.8
			Ethylbenzene (CBZ)	2.0591	2.0591	2.0172	2.0172	11.0	11.0
			1,2,4-TMB (DCB)	3.2852	3.2852	3.1902	3.1902	14.2	14.2

Trichloroethene @ 50 ug/L

$$RRF = \frac{(\text{Area std})(\text{Conc IS})}{(\text{Area IS})(\text{Conc std})} = \frac{(447797)(50)}{(1435561)(50)} = 0.3119$$

ICAL RRF (IS = 12.5ug/L)

Conc STD (ug/L)	TCE	Ethylbenzene	1,2,4-TMB
5	0.3178	2.1831	3.4853
10	0.3019	2.2085	3.5592
20	0.2997	2.0795	3.4620
50	0.3119	2.0591	3.2852
100	0.3266	1.9761	2.9861
200	0.3281	1.5966	2.3634
X =	0.3143	2.0172	3.1902
S =	0.01206	0.22287	0.45418

LDC#: 36666A1
Lab: Test America St. Louis

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Calculation Verification

Reviewer: JVG
2nd Reviewer: [illegible]

METHOD: GC/MS VOA (EPA SW 846 Method 8260C)

The percent difference (%D) of the initial calibration average Relative Response Factors (RRFs) and the continuing calibration RRFs were recalculated for the compounds identified below using the following calculation:

% Difference = 100 * (ave. RRF - RRF)/ave. RRF
RRF = (Ax)(Cis)/(Ais)(Cx)

Where:
ave. RRF = initial calibration average RRF
RRF = continuing calibration RRF
Ax = Area of compound
Cx = Concentration of compound
Ais = Area of associated internal standard
Cis = Concentration of internal standard

#	Standard ID	Calibration Date	Compound	Ave RRF	Reported RRF	Recalculated RRF	Reported % D	Recalculated %D
1	FCCV7268 VMS F	6/13/2016	Trichloroethene (FB)	0.3144	0.3256	0.3256	3.6	3.6
			Ethylbenzene (CBZ)	2.0172	2.1208	2.1208	5.1	5.1
			1,2,4-TMB (DCB)	3.1902	3.4334	3.4334	7.6	7.6

CCV1 1,2,4-TMB

$$RRF = \frac{(\text{Area std})(\text{Conc IS})}{(\text{Area IS})(\text{Conc std})} = \frac{(1423669)(50)}{(414648)(50)} = 3.4334$$

LDC#: 36666A1
Lab: Test America St. Louis

VALIDATION FINDINGS WORKSHEET
Surrogate Results Verification

Reviewer: JVG
2nd Reviewer: K

METHOD: GC/MS VOA (EPA SW 846 Method 8260C)

The percent recoveries (%R) of surrogate compounds were recalculated for the compounds identified below using the following calculation:

Surrogate Found = (Area surr) (Conc IS) / (Area IS) (average RRF surr)
%Recovery: Surrogate Found/Surrogate Spiked * 100

Where: SURRF = Surrogate Found
SURRS = Surrogate Spiked

Sample:
SC-TU008-MW002-S0406

BFB $\frac{(685580)(50)}{(291994)(0.9579)}$
= 122.56

	Surrogate Spiked (ug/L)	Surrogate Found (ug/L)	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Dibromofluoromethane	50.0	54.4	109	109	0
1,2-Dichloroethane-d4	50.0	65.7	131	131	0
Toluene-d8	50.0	52.3	105	105	0
Bromofluorobenzene	50.0	122.6	245	245	0

LDC#: 36666A1
Lab: Test America St. Louis

VALIDATION FINDINGS WORKSHEET
Laboratory Control Sample Results Verification

Reviewer: JVG
2nd Reviewer: A

METHOD: GC/MS VOA (EPA SW 846 Method 8260C)

The percent recoveries (%R) and relative percent differences (RPD) of the laboratory control sample and laboratory control duplicate (if applicable) were recalculated for the compounds identified below using the following calculation:

SSC = (Area spike) (Conc IS) / (Area IS) (average RRF spike)

%Recovery = 100 * SSC/SA Where: SSC = Spiked concentration
SA = Spike added

RPD = | LCS - LCSD | * 2/(LCS + LCSD) Where: LCS = Laboratory control spike recovery
LCSD = Laboratory control spike duplicate recovery

'LCS ID:
LCS 160-256112/2-A Trichloroethene LCS on column = (443655)(50) / (1396842)(0.3144)

SSC = 50.51

Compound	SA (ug/Kg)		SSC (ug/Kg)		LCS Percent Recovery		LCSD Percent Recovery		LCS/LCSD RPD	
	LCS	LCSD	LCS	LCSD	Reported	Recalc.	Reported	Recalc.	Reported	Recalc.
Trichloroethene	50.0	50.0	50.5	52.1	101	101	104	104	3	3

LDC#: 36666A1
Lab: Test America St. Louis

VALIDATION FINDINGS WORKSHEET
Sample Results Verification

Reviewer: JVG
2nd Reviewer: M

METHOD: GC/MS VOA (EPA SW 846 Method 8260C)

Compound results for all Level IV samples reported with a positive detect were recalculated and verified using the following equation:

$$\text{Concentration} = \frac{(Ax)(Is)(Vt)(DF)}{(Ais)(RRF)(Vo)(\%S)}$$

Ax =	Area of the characteristic ion (EICP) for the compound to be measured
Ais =	Area of the characteristic ion (EICP) for the specific internal standard
Is =	Amount of internal standard added in nanograms
Vt=	Volume purged (mL)
RRF =	Relative response factor of the calibration standard.
Vo =	Volume or weight of sample purged in milliliters (ml) or grams (g).
Df =	Dilution factor.
%S =	Percent solids, applicable to soils and solid matrices only.

Sample:
SC-TU008-MW002-S0406 Naphthalene

$$\text{Conc} = \frac{(350066)(50)(5mL)}{(291994)(2.1881)(5.8733g)(0.907)}$$

$$= 25.713$$

Sample	Compound	Calculated Concentration ug/Kg	Reported Concentration ug/Kg	Qualification
SC-TU008-MW002-S0406	Naphthalene	25.7	26	

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Schenectady ANGB

LDC Report Date: August 11, 2016

Parameters: Semivolatiles

Validation Level: Stage 2B

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-84064-1

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
SC-TU008-MW001-S0002	280-84064-1	Soil	06/03/16
SC-TU008-MW001-S1012	280-84064-2	Soil	06/03/16
SC-TU008-MW002-S0406	280-84064-3	Soil	06/02/16
SC-TU008-MW002-S0406-D	280-84064-4	Soil	06/02/16
SC-TU008-MW002-S0002	280-84064-5	Soil	06/02/16
SC-TU008-MW003-S0204	280-84064-6	Soil	06/02/16
SC-TU008-MW003-S0405	280-84064-7	Soil	06/02/16
SC-TU008-MW004-S0507	280-84064-8	Soil	06/02/16
SC-TU008-MW004-S0305	280-84064-9	Soil	06/02/16
SC-TU008-MW001-S1012MS	280-84064-2MS	Soil	06/03/16
SC-TU008-MW001-S1012MSD	280-84064-2MSD	Soil	06/03/16

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Final Remedial Investigation Work Plan, Uniform Federal Policy, Quality Assurance Project Plan at Schenectady Air National Guard Base, Scotia, New York (May 2016), the U.S. Department of Defense (DoD) Quality Systems Manual (QSM) for Environmental Laboratories, Version 5.0 (July 2013), and a modified outline of the USEPA National Functional Guidelines (NFG) for Superfund Organic Methods Data Review (August 2014). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Semivolatile Organic Compounds (SVOCs) by Environmental Protection Agency (EPA) SW 846 Method 8270D

All sample results were subjected to Stage 2B data validation, which comprises an evaluation of quality control (QC) summary results.

The following are definitions of the data qualifiers utilized during data validation:

J+ (Estimated, High Bias): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated, displaying high bias, due to non-conformances discovered during data validation.

J- (Estimated, Low Bias): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated, displaying low bias, due to non-conformances discovered during data validation.

J (Estimated, Bias Indeterminate): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation. Bias is indeterminate.

U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered non-detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).

UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.

N (Presumptive): The analysis indicates the presence of a compound or analyte that has been "tentatively identified."

NJ (Presumptive and estimated): The analysis indicates the presence of a compound or analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.

R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.

NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

II. GC/MS Instrument Performance Check

A decafluorotriphenylphosphine (DFTPP) tune was performed at 12 hour intervals.

All ion abundance requirements were met.

III. Initial Calibration and Initial Calibration Verification

An initial calibration was performed as required by the method.

For compounds where average relative response factors (RRFs) were utilized, percent relative standard deviations (%RSD) were less than or equal to 15.0%.

In the case where the laboratory used a calibration curve to evaluate the compounds, all coefficients of determination (r^2) were greater than or equal to 0.990.

Average relative response factors (RRF) for all compounds were within validation criteria.

The percent differences (%D) of the initial calibration verification (ICV) standard were less than or equal to 20.0% for all compounds.

IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

The percent differences (%D) were less than or equal to 20.0% for all compounds.

The percent differences (%D) of the ending continuing calibration verifications (CCVs) were less than or equal to 50.0% for all compounds with the exception of Hexachlorocyclopentadiene. Since no samples were analyzed after this calibration, no data were qualified.

All of the continuing calibration relative response factors (RRF) were within validation criteria.

V. Laboratory Blanks

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

VI. Field Blanks

No field blanks were identified in this SDG.

VII. Surrogates

Surrogates were added to all samples as required by the method. Surrogate recoveries (%R) were not within QC limits for sample SC-TU008-MW002-S0002. Using professional judgment, no data were qualified when one base or one acid surrogate %R was outside the QC limits and the %R was greater than or equal to 10%.

VIII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) sample analysis was performed on an associated project sample. Percent recoveries (%R) were within QC limits with the following exceptions:

Spike ID (Associated Samples)	Compound	MS (%R) (Limits)	MSD (%R) (Limits)	Flag	A or P
SC-TU008-MW001-S1012MS/MSD (SC-TU008-MW001-S1012)	Benzidine Hexachlorocyclopentadiene	0 (5-150) 8 (47-120)	0 (5-150) 11 (47-120)	R (all non-detects) R (all non-detects)	A

For SC-TU008-MW001-S1012MS/MSD, N-Nitrosopyrrolidine was not included in the spike, and the associated sample results were qualified as rejected (R).

Relative percent differences (RPD) were within QC limits with the following exceptions:

Spike ID (Associated Samples)	Compound	RPD (Limits)	Flag	A or P
SC-TU008-MW001-S1012MS/MSD (SC-TU008-MW001-S1012)	Hexachlorocyclopentadiene	29 (≤20)	NA	-

IX. Laboratory Control Samples

Laboratory control samples (LCS) were analyzed as required by the method. Percent recoveries (%R) were within QC limits with the following exceptions:

LCS ID	Compound	%R (Limits)	Associated Samples	Flag	A or P
LCS 280-329894/2-A	Benzidine	0 (5-150)	All samples in SDG 280-84064-1	R (all non-detects)	P

For LCS 280-329894/2-A, N-Nitrosopyrrolidine was not included in the spike. The associated N-Nitrosopyrrolidine results in samples SC-TU008-MW001-S0002, SC-TU008-MW001-S1012, SC-TU008-MW002-S0406, SC-TU008-MW002-S0406-D, SC-TU008-MW002-S0002, SC-TU008-MW003-S0204, SC-TU008-MW003-S0405, SC-TU008-MW004-S0507, and SC-TU008-MW004-S0305 were qualified as rejected (R).

X. Field Duplicates

Samples SC-TU008-MW002-S0406 and SC-TU008-MW002-S0406-D were identified as field duplicates. No results were detected in any of the samples with the following exceptions:

Compound	Concentration (mg/Kg)		RPD (Limits)	Difference (Limits)	Flag	A or P
	SC-TU008-MW002-S0406	SC-TU008-MW002-S0406-D				
Acenaphthene	0.50	0.48	4 (≤50)	-	-	-
Dibenzofuran	0.50	0.068U	-	0.432 (≤0.68)	-	-
Fluoranthene	0.057	0.043	-	0.014 (≤0.70)	-	-
Fluorene	0.73	0.70	4 (≤50)	-	-	-
Phenanthrene	1.6	1.5	6 (≤50)	-	-	-
Pyrene	0.065	0.054	-	0.011 (≤0.84)	-	-

XI. Internal Standards

All internal standard areas and retention times were within QC limits.

XII. Compound Quantitation

Raw data were not reviewed for Stage 2B validation.

XIII. Target Compound Identifications

Raw data were not reviewed for Stage 2B validation.

XIV. System Performance

Raw data were not reviewed for Stage 2B validation.

XV. Overall Assessment of Data

The analysis was conducted within all specifications of the method.

Due to MS/MSD %R, LCS %R, and a compound not spiked in the MS/MSD and LCS, data were rejected in nine samples.

The quality control criteria reviewed, other than those discussed above, were met and are considered acceptable. Sample results that were found to be rejected (R) are unusable for all purposes. Based upon the data validation all other results are considered valid and usable for all purposes.

Schenectady ANGB
Semivolatiles - Data Qualification Summary - SDG 280-84064-1

Sample	Compound	Flag	A or P	Reason
SC-TU008-MW001-S1012	Benzidine Hexachlorocyclopentadiene	R (all non-detects) R (all non-detects)	A	Matrix spike/Matrix spike duplicate (%R)
SC-TU008-MW001-S1012	N-Nitrosopyrrolidine	R (all non-detects)	A	Matrix spike/Matrix spike duplicate (not spiked)
SC-TU008-MW001-S0002 SC-TU008-MW001-S1012 SC-TU008-MW002-S0406 SC-TU008-MW002-S0406-D SC-TU008-MW002-S0002 SC-TU008-MW003-S0204 SC-TU008-MW003-S0405 SC-TU008-MW004-S0507 SC-TU008-MW004-S0305	Benzidine	R (all non-detects)	P	Laboratory control samples (%R)
SC-TU008-MW001-S0002 SC-TU008-MW001-S1012 SC-TU008-MW002-S0406 SC-TU008-MW002-S0406-D SC-TU008-MW002-S0002 SC-TU008-MW003-S0204 SC-TU008-MW003-S0405 SC-TU008-MW004-S0507 SC-TU008-MW004-S0305	N-Nitrosopyrrolidine	R (all non-detects)	A	Laboratory control samples (not spiked)

Schenectady ANGB
Semivolatiles - Laboratory Blank Data Qualification Summary - SDG 280-84064-1

No Sample Data Qualified in this SDG

Schenectady ANGB
Semivolatiles - Field Blank Data Qualification Summary - SDG 280-84064-1

No Sample Data Qualified in this SDG

LDC #: 36666A2a

SDG #: 280-84064-1

Laboratory: Test America

VALIDATION COMPLETENESS WORKSHEET

Stage 2B

Date: 07/25/16

Page: 1 of 1

Reviewer: JVG

2nd Reviewer: [illegible]

METHOD: GC/MS Semivolatiles (EPA SW 846 Method 8270D)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A / A	
II.	GC/MS Instrument performance check	A	
III.	Initial calibration/ICV	A / A	ICAL ≤ 15% r✓ ICV ≤ 20%
IV.	Continuing calibration /ending.	SW	CCV ≤ 20% /50%
V.	Laboratory Blanks	A	
VI.	Field blanks	N	
VII.	Surrogate spikes	SW	
VIII.	Matrix spike/Matrix spike duplicates	SW	
IX.	Laboratory control samples	SW	LCS
X.	Field duplicates	SW	D = 3/4
XI.	Internal standards	A	
XII.	Compound quantitation RL/LOQ/LODs	N	
XIII.	Target compound identification	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank; SB=Source blank; OTHER:

	Client ID	Lab ID	Matrix	Date
1	SC-TU008-MW001-S002	280-84064-1	Soil	06/03/16
2	SC-TU008-MW001-S1012	280-84064-2	Soil	06/03/16
3	SC-TU008-MW002-S0406	280-84064-3	Soil	06/02/16
4	SC-TU008-MW002-S0406-D	280-84064-4	Soil	06/02/16
5	SC-TU008-MW002-S0002	280-84064-5	Soil	06/02/16
6	SC-TU008-MW003-S0204	280-84064-6	Soil	06/02/16
7	SC-TU008-MW003-S0405	280-84064-7	Soil	06/02/16
8	SC-TU008-MW004-S0507	280-84064-8	Soil	06/02/16
9	SC-TU008-MW004-S0305	280-84064-9	Soil	06/02/16
10	~~SC-TU008-TB060316~~	280-84064-10	Water	06/03/16
11	SC-TU008-MW001-S1012MS	280-84064-2MS	Soil	06/03/16
12	SC-TU008-MW001-S1012MSD	280-84064-2MSD	Soil	06/03/16
13				

MB 280-329894/1-A

VALIDATION FINDINGS WORKSHEET

METHOD: GC/MS SVOA

A. Phenol	AA. 2-Chloronaphthalene	AAA. Butylbenzylphthalate	AAAA. Dibenzothiophene	A1.
B. Bis (2-chloroethyl) ether	BB. 2-Nitroaniline	BBB. 3,3'-Dichlorobenzidine	BBBB. Benzo(a)fluoranthene	B1.
C. 2-Chlorophenol	CC. Dimethylphthalate	CCC. Benzo(a)anthracene	CCCC. Benzo(b)fluorene	C1.
D. 1,3-Dichlorobenzene	DD. Acenaphthylene	DDD. Chrysene	DDDD. cis/trans-Decalin	D1.
E. 1,4-Dichlorobenzene	EE. 2,6-Dinitrotoluene	EEE. Bis(2-ethylhexyl)phthalate	EEEE. Biphenyl	E1.
F. 1,2-Dichlorobenzene	FF. 3-Nitroaniline	FFF. Di-n-octylphthalate	FFFF. Retene	F1.
G. 2-Methylphenol	GG. Acenaphthene	GGG. Benzo(b)fluoranthene	GGGG. C30-Hopane	G1.
H. 2,2'-Oxybis(1-chloropropane)	HH. 2,4-Dinitrophenol	HHH. Benzo(k)fluoranthene	HHHH. 1-Methylphenanthrene	H1.
I. 4-Methylphenol	II. 4-Nitrophenol	III. Benzo(a)pyrene	IIII. 1,4-Dioxane	I1.
J. N-Nitroso-di-n-propylamine	JJ. Dibenzofuran	JJJ. Indeno(1,2,3-cd)pyrene	JJJJ. Acetophenone	J1.
K. Hexachloroethane	KK. 2,4-Dinitrotoluene	KKK. Dibenz(a,h)anthracene	KKKK. Atrazine	K1.
L. Nitrobenzene	LL. Diethylphthalate	LLL. Benzo(g,h,i)perylene	LLLL. Benzaldehyde	L1.
M. Isophorone	MM. 4-Chlorophenyl-phenyl ether	MMM. Bis(2-Chloroisopropyl)ether	MMMM. Caprolactam	M1.
N. 2-Nitrophenol	NN. Fluorene	NNN. Aniline	NNNN. 2,6-Dichlorophenol	N1.
O. 2,4-Dimethylphenol	OO. 4-Nitroaniline	OOO. N-Nitrosodimethylamine	OOOO. 1,2-Diphenylhydrazine	O1.
P. Bis(2-chloroethoxy)methane	PP. 4,6-Dinitro-2-methylphenol	PPP. Benzoic Acid	PPPP. 3-Methylphenol	P1.
Q. 2,4-Dichlorophenol	QQ. N-Nitrosodiphenylamine	QQQ. Benzyl alcohol	QQQQ. 3&4-Methylphenol	Q1.
R. 1,2,4-Trichlorobenzene	RR. 4-Bromophenyl-phenylether	RRR. Pyridine	RRRR. 4-Dimethyldibenzothiophene (4MDT)	R1.
S. Naphthalene	SS. Hexachlorobenzene	SSS. Benzidine	SSSS. 2/3-Dimethyldibenzothiophene (4MDT)	S1.
T. 4-Chloroaniline	TT. Pentachlorophenol	TTT. 1-Methylnaphthalene	TTTT. 1-Methyldibenzothiophene (1MDT)	T1.
U. Hexachlorobutadiene	UU. Phenanthrene	UUU.Benzo(b)thiophene	UUUU. N-Nitrosopyrrolidine	U1.
V. 4-Chloro-3-methylphenol	VV. Anthracene	VVV.Benzonaphthothiophene	VVVV.	V1.
W. 2-Methylnaphthalene	WW. Carbazole	WWW.Benzo(e)pyrene	WWWW.	W1.
X. Hexachlorocyclopentadiene	XX. Di-n-butylphthalate	XXX. 2,6-Dimethylnaphthalene	XXXX.	X1.
Y. 2,4,6-Trichlorophenol	YY. Fluoranthene	YYY. 2,3,5-Trimethylnaphthalene	YYYY.	Y1.
Z. 2,4,5-Trichlorophenol	ZZ. Pyrene	ZZZ. Perylene	ZZZZ.	Z1.

LDC #: 36666A2a

VALIDATION FINDINGS WORKSHEET
Continuing Calibration

Page: 1 of 1
Reviewer: JVG
2nd Reviewer: A

METHOD: GC/MS BNA (EPA SW 846 Method 8270D)
Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Was a continuing calibration standard analyzed at least once every 12 hours for each instrument?
Y N N/A Were percent differences (%D) ≤20 % and relative response factors (RRF) within the method criteria?

#	Date	Standard ID	Compound	Finding %D (Limit: <20.0%)	Finding RRF (Limit)	Associated Samples	Qualifications
	06/21/16	K16f21 (ending)	X	58.4			Text (No samples analyzed after closing CCV)

CONCAL.wpd

LDC #: 36666 A2a

VALIDATION FINDINGS WORKSHEET
Surrogate Recovery

Page: 1 of 1
Reviewer: JVG
2nd Reviewer: [illegible]

METHOD: GC/MS BNA (EPA SW 846 Method 8270D)
Please see qualification below for all questions answered "N". Not applicable questions are identified as "N/A".

Y (N) N/A Were percent recoveries (%R) for surrogates within QC limits?
Y N (N/A) If 2 or more base neutral or acid surrogates were outside QC limits, was a reanalysis performed to confirm %R?
Y N (N/A) If any %R was less than 10 percent, was a reanalysis performed to confirm %R?

#	Date	Sample ID	Surrogate	%R (Limits)	Qualifications
		5	TBP	22 (39-132)	No qual (only 1 out)
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
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(NBZ) = Nitrobenzene-d5
(FBP) = 2-Fluorobiphenyl
(TPH) = Terphenyl-d14
(PHL) = Phenol-d5
(2FP)= 2-Fluorophenol
(TBP) = 2,4,6-Tribromophenol
(2CP) = 2-Chlorophenol-d4
(DCB) = 1,2-Dichlorobenzene-d4

SUR.wpd

LDC #: 36666A2a

VALIDATION FINDINGS WORKSHEET
Matrix Spike/Matrix Spike Duplicates

Page: 1 of 1
Reviewer: JVG
2nd Reviewer: [illegible]

METHOD: GC/MS PAH (EPA SW 846 Method 8270C-SIM)
Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water.

Y N N/A Was a MS/MSD analyzed every 20 samples of each matrix?

Y N N/A Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?

#	Date	MS/MSD ID	Compound	MS %R (Limits)	MSD %R (Limits)	RPD (Limits)	Associated Samples	Qualifications
		11/12	UUUU	compound not spiked in the		)	2 (ND)	J/R/A
				(MS/MSD and LCS)		( )		
			SSS	0 (5-150)	0 (5-150)	( )		J/R/A
			X	8 (47-120)	11 (47-120)	( )		
			X	( )	( )	29 (20)		J dets/A
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
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				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		

	Compound	QC Limits (Soil)	RPD (Soil)	QC Limits (Water)	RPD (Water)
GG	Acenaphthene	31-137%	≤ 19%	46-118%	≤ 31%
ZZ.	Pyrene	35-142%	≤ 36%	26-127%	≤ 31%

LDC #: 36666 A2a

VALIDATION FINDINGS WORKSHEET
Laboratory Control Samples (LCS)

Page: 1 of 1
Reviewer: JVG
2nd Reviewer: M

METHOD: GC/MS BNA (EPA SW 846 Method 8270D)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".
Y N N/A Was a LCS required?
Y N N/A Were the LCS/LCSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?

#	Date	LCS/LCSD ID	Compound	LCS %R (Limits)	LCSD %R (Limits)	RPD (Limits)	Associated Samples	Qualifications
		LCS 280-329894/2-A	UUUU	Compound not spiked in the MS/MSD and LCS)	( )	( )	All (ND)	J/R/P
				( )	( )	( )		
				( )	( )	( )		
		LCS 280-329894/2-A	SSS	0 (6-150)	( )	( )	All (ND)	J/R/P
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
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LDC#: 36666A2a

VALIDATION FINDINGS WORKSHEET
Field Duplicates

Reviewer: JVG
2nd Reviewer: [illegible]

METHOD: GC MS Semivolatiles (EPA SW 846 Method 8270D)
Y N NA Were field duplicate pairs identified in this SDG?
Y N NA Were target analytes detected in the field duplicate pairs?

Compound	Concentration (mg/Kg)		RPD (≤50%)	Difference (ug/Kg)	Limits (≤2XLOQ)	Qualifications (Parent Only)
	3	4				
GG	0.50	0.48	4			
JJ	0.50	0.068U		0.432	(≤0.68)	
YY	0.057	0.043		0.014	(≤0.70)	
NN	0.73	0.70	4			
UU	1.6	1.5	6			
ZZ	0.065	0.054		0.011	(≤0.84)	

(U at LOD)

V:\Josephine\FIELD DUPLICATES\36666A2a weston ang schenectady.wpd

LDC#: 36666A2a
Lab: Test America Denver

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Reviewer: JVG
2nd Reviewer:

METHOD: GC/MS SVOA (EPA SW 846 Method 8270D)

The Relative Response Factor (RRF), average RRF, and percent relative standard deviation (%RSD) were recalculated for the compounds identified below using the following calculations:

$RRF = (A_x)(C_{is})/(A_{is})(C_x)$
average RRF = sum of the RRFs/number of standards
%RSD = 100 * (S/X)

A_x = Area of Compound
C_x = Concentration of compound,
S= Standard deviation of the RRFs,

A_{is} = Area of associated internal standard
C_{is} = Concentration of internal standard
X = Mean of the RRFs

#	Standard ID	Calibration Date	Compound (IS)	Reported RRF (50 std)	Recalculated RRF (50 std)	Reported Average RRF (Initial)	Recalculated Average RRF (Initial)	Reported %RSD	Recalculated %RSD
1	ICAL SMS K	6/8/16	Phenol (DCB)	1.8709	1.8709	1.8403	1.8403	5.7	5.7
			Naphthalene (NPT)	1.0641	1.0641	1.0235	1.0235	10.2	10.2
			Diethyl phthalate (ANT)	1.1252	1.1252	1.0737	1.0737	7.6	7.6
			Hexachlorobenzene (PHN)	0.2063	0.2063	0.1991	0.1991	4.0	4.0
			BEHP (CRY)	0.7579	0.7579	0.7446	0.7447	5.5	5.5
			Benzo(a)pyrene (PRY)	1.1318	1.1318	1.1411	1.1411	2.8	2.8

Naphthalene @ 50ug/L

$$RRF = \frac{(Area\ std)(Conc\ IS)}{(Area\ IS)(Conc\ std)} = \frac{(1543576)(40)}{(1160439)(50)} = 1.0641$$

ICAL RRF (IS = 40ug/mL)

Conc(ug/mL)	Phenol	Naphthalene	Diethyl phthal	Hexachlorob	Bis(2-ethex) ph	Benzo(a)py
4.00	1.9224	1.1435	1.1100	0.2046	0.6802	1.1042
10.00	1.9380	1.1416	1.1761	0.2079	0.7193	1.1409
20.00	1.9110	1.0810	1.1415	0.1945	0.7119	1.1103
50.00	1.8709	1.0641	1.1252	0.2063	0.7579	1.1318
80.00	1.8825	1.0166	1.0622	0.1995	0.8015	1.1760
120.00	1.8410	0.9752	1.0496	0.2037	0.7932	1.1975
160.00	1.6822	0.8992	0.9919	0.1898	0.7432	1.1413
200.00	1.6742	0.8665	0.9328	0.1864	0.7500	1.1270
X =	1.8403	1.0235	1.0737	0.1991	0.7447	1.1411
S =	0.1046	0.1040	0.0813	0.0080	0.0408	0.0316

LDC#: 36666A2a
Lab: Test America Denver

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Calculation Verification

Reviewer: JVG
2nd Reviewer: [illegible]

METHOD: GC/MS SVOA (EPA SW 846 Method 8270D)

The percent difference (%D) of the initial calibration average Relative Response Factors (RRFs) and the continuing calibration RRFs were recalculated for the compounds identified below using the following calculation:

% Difference = 100 * (ave. RRF - RRF)/ave. RRF
RRF = (Ax)(Cis)/(Ais)(Cx)

Where:
ave. RRF = initial calibration average RRF
RRF = continuing calibration RRF
Ax = Area of compound
Cx = Concentration of compound
Ais = Area of associated internal standard
Cis = Concentration of internal standard

#	Standard ID	Calibration Date	Compound	Ave RRF	Reported RRF	Recalculated RRF	Reported % D	Recalculated %D
1	G6_23657	06/21/16	Phenol (DCB)	1.8709	1.8717	1.8717	0.0	0.0
			Naphthalene (NPT)	1.0060	1.0023	1.0023	0.4	0.4
			Diethyl phthalate (ANT)	1.2441	1.2756	1.2756	2.5	2.5
			Hexachlorobenzene (PHN)	0.2076	0.1994	0.1994	3.9	3.9
			BEHP (CRY)	0.8794	0.9875	0.9875	12.3	12.3
			Benzo(a)pyrene (PRY)	1.1352	1.2008	1.2008	5.8	5.8

Naphthalene

$$RRF = \frac{(\text{Area std})(\text{Conc IS})}{(\text{Area IS})(\text{Conc std})} = \frac{(1856360)(40)}{(926036)(80)} = 1.0023$$

LDC#: 36666A2a
Lab: Test America Denver

VALIDATION FINDINGS WORKSHEET
Surrogate Results Verification

Reviewer: JVG
2nd Reviewer: AL

METHOD: GC/MS SVOA (EPA SW 846 Method 8270D)

The percent recoveries (%R) of surrogate compounds were recalculated for the compounds identified below using the following calculation:

Surrogate Found = (Area surr) (Conc IS) / (Area IS) (average RRF surr)
%Recovery: Surrogate Found/Surrogate Spiked * 100

Where: SURRF = Surrogate Found
SURRS = Surrogate Spiked

Sample:
SC-TU008-MW001-S1012

NBZ-d5 = (909285)(40) / (1122540)(0.4434)
= 73.07

	Surrogate Spiked (ug/L)	Surrogate Found (ug/L)	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Nitrobenzene-d5	100	73.1	73	73	0
2-Fluorobiphenyl	100	75.7	76	76	0
Terphenyl-d14	100	84.3	84	84	0
Phenol-d5	100	78.8	79	79	0
2-Fluorophenol	100	76.2	76	76	0
2,4,6-Tribromophenol	100	82.8	83	83	0

LDC#: 36666A2a
Lab: Test America Denver

VALIDATION FINDINGS WORKSHEET
Matrix Spike/Matrix Spike Duplicate Results Verification

Reviewer: JVG
2nd Reviewer: M

METHOD: GC/MS SVOA (EPA SW 846 Method 8270D)

The percent recoveries (%R) and relative percent differences (RPD) of the matrix spike and matrix spike duplicate were recalculated for the compounds identified below using the following calculation:

SSC = (Area spike) (Conc IS) / (Area IS) (average RRF spike)

%Recovery = 100 * (SSC - SC)/SA

Where: SSC = Spiked concentration
SC = Sample concentration
SA = Spike added

RPD = | MS - MSD | * 2/(MS + MSD)

MS = Matrix spike recovery
MSD = Matrix spike duplicate recovery

MS/MSD Sample:
SC-TU008-MW001-S1012

Phenol (MS) on column = $\frac{(803606)(40)(1mL)}{(290905)(1.8403)(31.4g)(0.841)}$

SSC = 2.27

Compound	SA (mg/Kg)		SC (mg/Kg)	SSC (mg/Kg)		MS Percent Recovery		MSD Percent Recovery		MS/MSD RPD	
	MS	MSD		MS	MSD	Reported	Recalc.	Reported	Recalc.	Reported	Recalc.
Phenol	3.03	3.15	0.0	2.27	2.41	75	75	76	76	6	6

LDC#: 36666A2a
Lab: Test America Denver

VALIDATION FINDINGS WORKSHEET
Laboratory Control Sample Results Verification

Reviewer: JVG
2nd Reviewer: K

METHOD: GC/MS SVOA (EPA SW 846 Method 8270D)

The percent recoveries (%R) and relative percent differences (RPD) of the laboratory control sample and laboratory control duplicate (if applicable) were recalculated for the compounds identified below using the following calculation:

SSC = (Area spike) (Conc IS) / (Area IS) (average RRF spike)

%Recovery = 100 * SSC/SA Where: SSC = Spiked concentration
SA = Spike added

RPD = | LCS - LCSD | * 2/(LCS + LCSD) Where: LCS = Laboratory control spike recovery
LCSD = Laboratory control spike duplicate recovery

LCS ID:
LCS 280-329894/2-A Pyrene on column = (1700149)(40)(1.0ml) / (757311)(1.2911)(30g)

SSC = 2.32

Compound	SA (mg/Kg)		SSC (mg/Kg)		LCS Percent Recovery		LCSD Percent Recovery		LCS/LCSD RPD	
	LCS	LCSD	LCS	LCSD	Reported	Recalc.	Reported	Recalc.	Reported	Recalc.
Pyrene	2.67	NA	2.32	NA	87	87				

LDC#: 36666A2a
Lab: Test America Denver

VALIDATION FINDINGS WORKSHEET
Sample Results Verification

Reviewer: JVG
2nd Reviewer: [illegible]

METHOD: GC/MS SVOA (EPA SW 846 Method 8270D)

Compound results for all Level IV samples reported with a positive detect were recalculated and verified using the following equation:

$$\text{Concentration} = \frac{(Ax)(Is)(Vt)(DF)}{(Ais)(RRF)(Vo)(Vi)(\%S)}$$

Ax =	Area of the characteristic ion (EICP) for the compound to be measured
Ais =	Area of the characteristic ion (EICP) for the specific internal standard
Is =	Amount of internal standard added in nanograms (ng)
Vo =	Volume or weight of sample extract in milliliters (ml) or grams (g).
Vi =	Volume of extract injected in microliters (ul)
Vt =	Volume of the concentrated extract in microliters (ul)
Df =	Dilution Factor.
%S =	Percent solids, applicable to soil and solid matrices only.

For linear regression:
Conc=(Response ratio x IS conc - b)/m

Sample ID:
SC-TU008-MW001-S0002 Benzo(a)pyrene

$$\text{Conc} = \frac{(23148)(40)(1mL)}{(752316)(1.1411)(31.5g)(0.883)}$$

$$= 0.0388$$

Sample	Compound	Calculated Concentration mg/Kg	Reported Concentration mg/Kg	Qualification
SC-TU008-MW001-S0002	Benzo(a)pyrene	0.039	0.039	

08/08/16

The attached zipped file contains three files:

File	Format	Description
01) Readme_Schenectady_080816.doc	MS Word 2003	A "Readme" file (this document).
02) SCHENECTADY_ERPIMS_EDD_280-84064-1_TAML.xlsx	MS Excel 2007	A spreadsheet for the following SDG(s): 280-84064-1 36666A
03) SCHENECTADY_ERPIMS_EDD_280-84064-1_TAMQ.xlsx		

No discrepancies were observed between the hardcopy data packages and the electronic data deliverables during EDD population of validation qualifiers. A 100% verification of the EDD was not performed.

Please contact Pei Geng at (760) 827-1100 if you have any questions regarding this electronic data submittal.

LDC #: 36664

EDD POPULATION COMPLETENESS WORKSHEET

Date: 08/08/16
Page: 1 of 1
2nd Reviewer: SL

The LDC job number listed above was entered by CS.

	EDD Process		Comments/Action
I.	EDD Completeness	-	
Ia.	- All methods present?	y	
Ib.	- All samples present/match report?	y	
Ic.	- All reported analytes present?	y	
Id.	-10% or 100% verification of EDD?	y	
II.	EDD Preparation/Entry	-	
IIa.	- Carryover U/J?	y	
IIb.	- Reason Codes used? If so, note which codes	—	
IIc.	-Additional Information (QC Level, Validator, Date, Validated Y/N, etc.)	—	
III.	Reasonableness Checks	-	
IIIa.	- Do all qualified ND results have ND qualifier (i.e. UJ)?	y	
IIIb.	- Do all qualified detect results have detect qualifier (i.e. J)?	y	
IIIc.	- If reason codes used, do all qualified results have reason code field populated?	—	
IIId.	-Does the detect flag require changing for blank qualifiers? If so, are all U results marked ND?	y NA	
IIIe.	- Do blank concentrations in report match EDD, where data was qualified due to blank?	NA	
IIIf.	- Were any results rejected for overall assessment? If so, were results changed to nonreportable?	N NA	
IIIg.	- Is the readme complete? If applicable, were edits or discrepancies listed in the readme?	y	

Notes: _____

LABORATORY DATA CONSULTANTS, INC.
2701 Loker Ave. West, Suite 220, Carlsbad, CA 92010 Bus: 760-827-1100 Fax: 760-827-1099

Weston Solutions, Inc.
1371 Brass Mill Rd., Suite N
Belcamp, MD 21017
ATTN: Mr. Joseph Gross

August 16, 2016

SUBJECT: Revised Schenectady ANGB, Data Validation

Dear Mr. Gross,

Enclosed are the revised validation reports for the fractions listed below. Please replace the previously submitted reports with the enclosed revised reports.

LDC Project #36701:

SDG #	Fraction
280-84351-1, 280-84353-1	Semivolatiles, Metals

Please feel free to contact us if you have any questions.

Sincerely,

Pei Geng
Project Manager/Senior Chemist

LABORATORY DATA CONSULTANTS, INC.
2701 Loker Ave. West, Suite 220, Carlsbad, CA 92010 Bus: 760-827-1100 Fax: 760-827-1099

Weston Solutions, Inc.
1371 Brass Mill Rd., Suite N
Belcamp, MD 21017
ATTN: Mr. Joseph Gross

August 3, 2016

SUBJECT: Schenectady ANGB, Data Validation

Dear Mr. Gross,

Enclosed are the final validation reports for the fractions listed below. These SDGs were received on July 19, 2016. Attachment 1 is a summary of the samples that were reviewed for each analysis.

LDC Project #36701:

SDG #	Fraction
280-84351-1, 280-84353-1	Semivolatiles, Metals

The data validation was performed under Stage 2B guidelines. The analyses were validated using the following documents, as applicable to each method:

- Final Remedial Investigation Work Plan, Uniform Federal Policy, Quality Assurance Project Plan at Schenectady Air National Guard Base, Scotia, New York, May 2016
- U.S. Department of Defense, Quality Systems Manual for Environmental Laboratories, Version 5.0, July 2013
- USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review, August 2014
- USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Superfund Data Review, August 2014
- EPA SW 846, Third Edition, Test Methods for Evaluating Solid Waste, update 1, July 1992; update IIA, August 1993; update II, September 1994; update IIB, January 1995; update III, December 1996; update IIIA, April 1998; IIIB, November 2004; update IV, February 2007; update V, July 2014

Please feel free to contact us if you have any questions.

Sincerely,

Pei Geng
Project Manager/Senior Chemist

6,742 pages-DL

Attachment 1

EDD Stage 2B

LDC #36701 (Weston Solutions, Inc.- West Chester, PA / Schenectady ANGB)

LDC	SDG#	DATE REC'D	(2) DATE DUE	SVOA (8270D)		Metals (6010C /7000)		D.Metals (6010C /7470A)																											
Matrix:	Water/Soil			W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S
A	280-84351-1	07/19/16	08/02/16	-	-	5	0	5	0																										
B	280-84353-1	07/19/16	08/02/16	5	7	5	7	4	0																										
Total	T/PG			5	7	10	7	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	38

Shaded cells indicate Stage 4 validation (all other cells are Stage 2B validation). These sample counts do not include MS/MSD, and DUPs

L:\Weston Solutions\Schenectady ANG\36701ST.wpd

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Schenectady ANGB

LDC Report Date: August 15, 2016

Parameters: Metals

Validation Level: Stage 2B

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-84351-1

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
SC-ZZ007-MW001-G-1	280-84351-1	Water	06/07/16
SC-ZZ007-MW002-G-1	280-84351-2	Water	06/07/16
SC-ZZ007-MWUNK-G-1	280-84351-3	Water	06/07/16
SC-ZZ007-MWUNK-G-1-D	280-84351-4	Water	06/07/16
SC-ZZ007-EB060716	280-84351-5	Water	06/07/16
SC-ZZ007-MW001-G-1F	280-84351-1F	Water	06/07/16
SC-ZZ007-MW002-G-1F	280-84351-2F	Water	06/07/16
SC-ZZ007-MWUNK-G-1F	280-84351-3F	Water	06/07/16
SC-ZZ007-MWUNK-G-1-DF	280-84351-4F	Water	06/07/16
SC-ZZ007-EB060716F	280-84351-5F	Water	06/07/16
SC-ZZ007-MWUNK-G-1MS	280-84351-3MS	Water	06/07/16
SC-ZZ007-MWUNK-G-1MSD	280-84351-3MSD	Water	06/07/16
SC-ZZ007-MWUNK-G-1FMS	280-84351-3FMS	Water	06/07/16
SC-ZZ007-MWUNK-G-1FMSD	280-84351-3FMSD	Water	06/07/16

Samples appended with "F" were analyzed for dissolved metals

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Final Remedial Investigation Work Plan, Uniform Federal Policy, Quality Assurance Project Plan at Schenectady Air National Guard Base, Scotia, New York (May 2016), the U.S. Department of Defense (DoD) Quality Systems Manual (QSM) for Environmental Laboratories, Version 5.0 (July 2013), and a modified outline of the USEPA National Functional Guidelines (NFG) for Inorganic Superfund Data Review (August 2014). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following methods:

Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Vanadium, and Zinc by Environmental Protection Agency (EPA) SW 846 Method 6010C
Mercury by EPA SW 846 Method 7470A

All sample results were subjected to Stage 2B data validation, which comprises an evaluation of quality control (QC) summary results.

The following are definitions of the data qualifiers utilized during data validation:

J+ (Estimated, High Bias): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated, displaying high bias, due to non-conformances discovered during data validation.

J- (Estimated, Low Bias): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated, displaying low bias, due to non-conformances discovered during data validation.

J (Estimated, Bias Indeterminate): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation. Bias is indeterminate.

U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered non-detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).

UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.

N (Presumptive): The analysis indicates the presence of a compound or analyte that has been "tentatively identified."

NJ (Presumptive and estimated): The analysis indicates the presence of a compound or analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.

R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.

NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition.

All technical holding time requirements were met.

II. Instrument Calibration

Initial and continuing calibrations were performed as required by the methods.

The initial calibration verification (ICV) and continuing calibration verification (CCV) standards were within QC limits.

III. ICP Interference Check Sample Analysis

The frequency of interference check sample (ICS) analysis was met. All criteria were within QC limits.

IV. Laboratory Blanks

Laboratory blanks were analyzed as required by the methods. No contaminants were found in the laboratory blanks with the following exceptions:

Blank ID	Analyte	Maximum Concentration	Associated Samples
PB (prep blank)	Calcium Manganese Sodium	48.6 ug/L 0.340 ug/L 133 ug/L	SC-ZZ007-MW001-G-1 SC-ZZ007-MW002-G-1 SC-ZZ007-MWUNK-G-1 SC-ZZ007-MWUNK-G-1-D SC-ZZ007-EB060716
ICB/CCB	Antimony	11.6 ug/L	SC-ZZ007-MW001-G-1 SC-ZZ007-MW002-G-1 SC-ZZ007-MWUNK-G-1 SC-ZZ007-MWUNK-G-1-D SC-ZZ007-EB060716
PB (prep blank)	Arsenic	4.49 ug/L	SC-ZZ007-MW001-G-1F SC-ZZ007-MW002-G-1F SC-ZZ007-MWUNK-G-1F SC-ZZ007-MWUNK-G-1-DF SC-ZZ007-EB060716F
ICB/CCB	Antimony Selenium	4.65 ug/L 5.36 ug/L	SC-ZZ007-MW001-G-1F SC-ZZ007-MW002-G-1F SC-ZZ007-MWUNK-G-1F SC-ZZ007-MWUNK-G-1-DF SC-ZZ007-EB060716F
ICB/CCB	Selenium	6.52 ug/L	SC-ZZ007-MW001-G-1 SC-ZZ007-MW002-G-1 SC-ZZ007-MWUNK-G-1

Blank ID	Analyte	Maximum Concentration	Associated Samples
ICB/CCB	Arsenic Beryllium Sodium	8.83 ug/L 0.520 ug/L 152 ug/L	SC-ZZ007-MW001-G-1 SC-ZZ007-MWUNK-G-1
ICB/CCB	Arsenic Beryllium Sodium	4.84 ug/L 0.520 ug/L 144 ug/L	SC-ZZ007-MW002-G-1 SC-ZZ007-MWUNK-G-1-D SC-ZZ007-EB060716
ICB/CCB	Thallium	5.57 ug/L	SC-ZZ007-MW001-G-1F SC-ZZ007-MW002-G-1F SC-ZZ007-MWUNK-G-1F SC-ZZ007-MWUNK-G-1-DF
ICB/CCB	Thallium	7.70 ug/L	SC-ZZ007-EB060716F
ICB/CCB	Selenium	5.36 ug/L	SC-ZZ007-MWUNK-G-1-D SC-ZZ007-EB060716

Data qualification by the laboratory blanks was based on the maximum contaminant concentration in the laboratory blanks in the analysis of each analyte. The sample concentrations were either not detected or were significantly greater than the concentrations found in the associated laboratory blanks with the following exceptions:

Sample	Analyte	Reported Concentration	Modified Final Concentration
SC-ZZ007-MWUNK-G-1	Antimony Arsenic	5.3 ug/L 8.7 ug/L	20U ug/L 25U ug/L
SC-ZZ007-EB060716	Calcium Manganese Sodium	150 ug/L 0.66 ug/L 310 ug/L	1000U ug/L 10U ug/L 5000U ug/L
SC-ZZ007-MWUNK-G-1F	Antimony Selenium Thallium	3.4 ug/L 9.5 ug/L 14 ug/L	20U ug/L 22U ug/L 40U ug/L
SC-ZZ007-MW002-G-1	Arsenic	10 ug/L	25U ug/L
SC-ZZ007-MWUNK-G-1-D	Arsenic	5.0 ug/L	25U ug/L
SC-ZZ007-MW001-G-1F	Thallium	5.8 ug/L	40U ug/L

V. Field Blanks

Samples SC-ZZ007-EB060716 and SC-ZZ007-EB060716F were identified as equipment blanks. No contaminants were found with the following exceptions:

Blank ID	Collection Date	Analyte	Concentration	Associated Samples
SC-ZZ007-EB060716	06/07/16	Barium Iron Magnesium Potassium	0.69 ug/L 43 ug/L 18 ug/L 240 ug/L	SC-ZZ007-MW001-G-1 SC-ZZ007-MW002-G-1 SC-ZZ007-MWUNK-G-1 SC-ZZ007-MWUNK-G-1-D
SC-ZZ007-EB060716F	06/07/16	Iron Manganese	36 ug/L 0.32 ug/L	SC-ZZ007-MW001-G-1F SC-ZZ007-MW002-G-1F SC-ZZ007-MWUNK-G-1F SC-ZZ007-MWUNK-G-1-DF

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater than the concentrations found in the associated field blanks with the following exceptions:

Sample	Analyte	Reported Concentration	Modified Final Concentration
SC-ZZ007-MWUNK-G-1	Potassium	2500 ug/L	3000U ug/L
SC-ZZ007-MWUNK-G-1-D	Potassium	2600 ug/L	3000U ug/L

VI. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) sample analysis was performed on an associated project sample. Percent recoveries (%R) were within QC limits. Relative percent differences (RPD) were within QC limits.

VII. Duplicate Sample Analysis

The laboratory has indicated that there were no duplicate (DUP) analyses specified for the samples in this SDG, and therefore duplicate analyses were not performed for this SDG.

VIII. Serial Dilution

Serial dilution analysis was performed on an associated project sample. Percent differences (%D) were within QC limits.

IX. Laboratory Control Samples

Laboratory control samples (LCS) were analyzed as required by the methods. Percent recoveries (%R) were within QC limits.

X. Field Duplicates

Samples SC-ZZ007-MWUNK-G-1 and SC-ZZ007-MWUNK-G-1-D and samples SC-ZZ007-MWUNK-G-1F and SC-ZZ007-MWUNK-G-1-DF were identified as field duplicates. No results were detected in any of the samples with the following exceptions:

Analyte	Concentration (ug/L)		RPD (Limits)	Difference (Limits)	Flag	A or P
	SC-ZZ007-MWUNK-G-1	SC-ZZ007-MWUNK-G-1-D				
Aluminum	32	30	-	2 (≤300)	-	-
Barium	83	86	4 (≤30)	-	-	-
Cadmium	0.47	1.8U	-	1.33 (≤5.0)	-	-
Calcium	79000	79000	0 (≤30)	-	-	-
Iron	110	130	17 (≤30)	-	-	-
Magnesium	28000	27000	4 (≤30)	-	-	-
Manganese	85	95	11 (≤30)	-	-	-
Nickel	1.9	1.9	-	0 (≤40)	-	-
Sodium	40000	40000	0 (≤30)	-	-	-
Thalium	10	19U	-	9 (≤40)	-	-
Zinc	13	15	-	2 (≤150)	-	-

Analyte	Concentration (ug/L)		RPD (Limits)	Difference (Limits)	Flag	A or P
	SC-ZZ007-MWUNK-G-1F	SC-ZZ007-MWUNK-G-1-DF				
Barium	78	79	1 (≤30)	-	-	-
Cadmium	1.8U	0.47	-	1.33 (≤5.0)	-	-
Calcium	85000	85000	0 (≤30)	-	-	-
Magnesium	28000	29000	4 (≤30)	-	-	-
Manganese	18	18	0 (≤30)	-	-	-
Potassium	2400	2500	-	100 (≤3000)	-	-

Analyte	Concentration (ug/L)		RPD (Limits)	Difference (Limits)	Flag	A or P
	SC-ZZ007-MWUNK-G-1F	SC-ZZ007-MWUNK-G-1-DF				
Sodium	39000	39000	0 (≤30)	-	-	-
Zinc	11	9.4	-	1.6 (≤150)	-	-

XI. Sample Result Verification

Raw data were not reviewed for Stage 2B validation.

XII. Overall Assessment of Data

The analysis was conducted within all specifications of the methods. No results were rejected in this SDG.

Due to laboratory blank contamination, data were qualified as not detected in six samples.

Due to equipment blank contamination, data were qualified as not detected in two samples.

The quality control criteria reviewed, other than those discussed above, were met and are considered acceptable. Based upon the data validation all other results are considered valid and usable for all purposes.

Schenectady ANGB
Metals - Data Qualification Summary - SDG 280-84351-1

No Sample Data Qualified in this SDG

Schenectady ANGB
Metals - Laboratory Blank Data Qualification Summary - SDG 280-84351-1

Sample	Analyte	Modified Final Concentration	A or P
SC-ZZ007-MWUNK-G-1	Antimony Arsenic	20U ug/L 25U ug/L	A
SC-ZZ007-EB060716	Calcium Manganese Sodium	1000U ug/L 10U ug/L 5000U ug/L	A
SC-ZZ007-MWUNK-G-1F	Antimony Selenium Thallium	20U ug/L 22U ug/L 40U ug/L	A
SC-ZZ007-MW002-G-1	Arsenic	25U ug/L	A
SC-ZZ007-MWUNK-G-1-D	Arsenic	25U ug/L	A
SC-ZZ007-MW001-G-1F	Thallium	40U ug/L	A

Schenectady ANGB
Metals - Field Blank Data Qualification Summary - SDG 280-84351-1

Sample	Analyte	Modified Final Concentration	A or P
SC-ZZ007-MWUNK-G-1	Potassium	3000U ug/L	A
SC-ZZ007-MWUNK-G-1-D	Potassium	3000U ug/L	A

LDC #: 36701A4b

SDG #: 280-84351-1

Laboratory: Test America

VALIDATION COMPLETENESS WORKSHEET

Stage 2B

Date: 7-21-16

Page: 1 of 1

Reviewer: MG

2nd Reviewer: [illegible]

METHOD: Metals (EPA SW 846 Method 6010~~B~~C/747~~1~~0A) 6010C/7470A

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A	
II.	Instrument Calibration	A	
III.	ICP Interference Check Sample (ICS) Analysis	A	
IV.	Laboratory Blanks	SW	
V.	Field Blanks	SW	EB = 5, 10
VI.	Matrix Spike/Matrix Spike Duplicates	A	MS/MSD PDS: 3, 8
VII.	Duplicate sample analysis	N	
VIII.	ICP Serial Dilution	A	SD: 3, 8
IX.	Laboratory control samples	A	LCS
X.	Field Duplicates	SW	D = 3 + 4, D = 8 + 9
XI.	Sample Result Verification	N	
XII.	Overall Assessment of Data	A	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank; SB=Source blank; OTHER:

Samples appended with "F" were analyzed as dissolved.

	Client ID	Lab ID	Matrix	Date
1 1	SC-ZZ007-MW001-G-1	280-84351-1	Water	06/07/16
2 1	SC-ZZ007-MW002-G-1	280-84351-2	Water	06/07/16
3 1	SC-ZZ007-MWUNK-G-1	280-84351-3	Water	06/07/16
4 1	SC-ZZ007-MWUNK-G-1-D	280-84351-4	Water	06/07/16
5 1	SC-ZZ007-EB060716	280-84351-5	Water	06/07/16
6 2	SC-ZZ007-MW001-G-1F	280-84351-1F	Water	06/07/16
7 2	SC-ZZ007-MW002-G-1F	280-84351-2F	Water	06/07/16
8 2	SC-ZZ007-MWUNK-G-1F	280-84351-3F	Water	06/07/16
9 2	SC-ZZ007-MWUNK-G-1-DF	280-84351-4F	Water	06/07/16
10 2	SC-ZZ007-EB060716F	280-84351-5F	Water	06/07/16
11 1	SC-ZZ007-MWUNK-G-1MS	280-84351-3MS	Water	06/07/16
12 1	SC-ZZ007-MWUNK-G-1MSD	280-84351-3MSD	Water	06/07/16
13 2	SC-ZZ007-MWUNK-G-1FMS	280-84351-3FMS	Water	06/07/16
14 2	SC-ZZ007-MWUNK-G-1FMSD	280-84351-3FMSD	Water	06/07/16
15 1	PBW1			
16 2	PBW2			

Notes:

LDC #: 36701A46

VALIDATION FINDINGS WORKSHEET
Sample Specific Element Reference

Reviewer: MG
2nd reviewer: AL

All circled elements are applicable to each sample.

Sample ID	Matrix	Target Analyte List (TAL)
1 → 10	W	Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, ____
QC 11→14	↓	Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, ____
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, ____
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, ____
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, ____
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, ____
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, ____
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, ____
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, ____
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, ____
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, ____
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, ____
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, ____
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, ____
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, ____
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, ____
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, ____
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, ____
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, ____
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, ____
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, ____
Analysis Method		
ICP	W	Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, ____
ICP-MS		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, ____
GFAA		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, ____

Comments: Mercury by CVAA if performed

LDC #: 36701A4b
SDG #: See Cover
METHOD: Trace metals (EPA SW 864 Method 6010C/7470A)

VALIDATION FINDINGS WORKSHEET
PB/ICB/CCB QUALIFIED SAMPLES
Soil preparation factor applied: NA

Reviewer: MG
2nd Reviewer: A

Sample Concentration units, unless otherwise noted: ug/L Associated Samples: 1-5

Analyte	Maximum PB[a] (mg/Kg)	Maximum PB[a] (ug/L)	Maximum ICB/CCB[a] (ug/L)	Action Limit	3	5								
Sb			11.6		5.3/20U									
Ca		48.6				150/1000U								
Mn		0.340				0.66/10U								
Na		133				310/5000U								

Sample Concentration units, unless otherwise noted: ug/L Associated Samples: 6-10

Analyte	Maximum PB[a] (mg/Kg)	Maximum PB[a] (ug/L)	Maximum ICB/CCB[a] (ug/L)	Action Limit	8									
Sb			4.65		3.4/20U									
As		4.49												
Se			5.36		9.5/22U									

Sample Concentration units, unless otherwise noted: ug/L Associated Samples: 1-3 (ND)

Analyte	Maximum PB[a] (mg/Kg)	Maximum PB[a] (ug/L)	Maximum ICB/CCB[a] (ug/L)	Action Limit	No Qual's.									
Se			6.52											

Sample Concentration units, unless otherwise noted: ug/L Associated Samples: 1,3

Analyte	Maximum PB[a] (mg/Kg)	Maximum PB[a] (ug/L)	Maximum ICB/CCB[a] (ug/L)	Action Limit	3									
As			8.83		8.7/25U									
Be			0.520											
Na			152											

LDC #: 36701A4b
SDG #: See Cover
METHOD: Trace metals (EPA SW 864 Method 6010C/7470A)

VALIDATION FINDINGS WORKSHEET
PB/ICB/CCB QUALIFIED SAMPLES
Soil preparation factor applied: NA

Reviewer: MG
2nd Reviewer: K

Sample Concentration units, unless otherwise noted: ug/L Associated Samples: 2,4,5

Analyte	Maximum PB[a] (mg/Kg)	Maximum PB[a] (ug/L)	Maximum ICB/CCB[a] (ug/L)	Action Limit	2	4	5							
As			4.84		10/25U	5.0/25U								
Be			0.520											
Na			144				see PB							

Sample Concentration units, unless otherwise noted: ug/L Associated Samples: 6-9

Analyte	Maximum PB[a] (mg/Kg)	Maximum PB[a] (ug/L)	Maximum ICB/CCB[a] (ug/L)	Action Limit	6	8								
Tl			5.57		5.8/40U	14/40U								

Sample Concentration units, unless otherwise noted: ug/L Associated Samples: 10 (ND)

Analyte	Maximum PB[a] (mg/Kg)	Maximum PB[a] (ug/L)	Maximum ICB/CCB[a] (ug/L)	Action Limit	No Qual.									
Tl			7.70											

Sample Concentration units, unless otherwise noted: ug/L Associated Samples: 4,5 (ND)

Analyte	Maximum PB[a] (mg/Kg)	Maximum PB[a] (ug/L)	Maximum ICB/CCB[a] (ug/L)	Action Limit	No Qual's.									
Se			5.36											

Samples with analyte concentrations within five times the associated ICB, CCB or PB concentration are listed above with the identifications from the Validation Completeness Worksheet. These sample results were qualified as not detected, "U".
Note : a - The listed analyte concentration is the highest ICB, CCB, or PB detected in the analysis of each element.

LDC #: 36701A4b

VALIDATION FINDINGS WORKSHEET
Field Blanks

Reviewer: MG
2nd Reviewer: AC

METHOD: Trace Metals (EPA SW846 6010C/7470A)
Y N N/A Were field blanks identified in this SDG?
Y N N/A Were target analytes detected in the field blanks?
Blank units: ug/L **Associated sample units:** ug/L
Sampling date: 6/7/16 Soil factor applied NA
Field blank type: (circle one) Field Blank / Rinsate / Other: EB Associated Samples: 1-4

Analyte	Blank ID	Sample Identification										
	5	Action Level	3	4								
Ba	0.69											
Fe	43											
Mg	18											
K	240		2500/3000U	2600/3000U								

Blank units: ug/L **Associated sample units:** ug/L
Sampling date: 6/7/16 Soil factor applied NA
Field blank type: (circle one) Field Blank / Rinsate / Other: EB Associated Samples: 6-9 (>LOQ or ND)

Analyte	Blank ID	Sample Identification										
	10	Action Level	No Qual's.									
Fe	36											
Mn	0.32											

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Samples with analyte concentrations within five times the associated field blank concentration are listed above, these sample results were qualified as not detected, "U".

LDC#: 36701A4b

VALIDATION FINDINGS WORKSHEET
Field Duplicates

Reviewer: MG
2nd Reviewer: M

METHOD: Metals (EPA Method 6010C/7470A)

Analyte	Concentration (ug/L) 3	Concentration (ug/L) 4	RPD (≤30)	Difference	Limits	Qualifiers (Parent Only)
Aluminum	32	30		2	(≤300)	
Antimony	5.3 U (MB)	12U		6.7	(≤20)	
Arsenic	8.7 U	5.0 U (MB)		3.7	(≤25)	
Barium	83	86	4			
Cadmium	0.47	1.8U		1.33	(≤5.0)	
Calcium	79000	79000	0			
Iron	110	130	17			
Magnesium	28000	27000	4			
Manganese	85	95	11			
Nickel	1.9	1.9		0	(≤40)	
Potassium	2500 U (EB)	2600 U		100	(≤3000)	
Sodium	40000	40000	0			
Thalium	10	19U		9	(≤40)	
Zinc	13	15		2	(≤150)	

V:\FIELD DUPLICATES\FD_inorganic\36701A4b.wpd

Analyte	Concentration (ug/L) 8	Concentration (ug/L) 9	RPD (≤30)	Difference	Limits	Qualifiers (Parent Only)
Antimony	3.4 U (MB)	12U		8.6	(≤20)	
Barium	78	79	1			
Cadmium	1.8U	0.47		1.33	(≤5.0)	
Calcium	85000	85000	0			
Magnesium	28000	29000	4			

VALIDATION FINDINGS WORKSHEET
Field Duplicates

METHOD: Metals (EPA Method 6010C/7470A)

Analyte	Concentration (ug/L)		RPD (≤30)	Difference	Limits	Qualifiers (Parent Only)
	8	9				
Manganese	18	18	0			
Potassium	2400	2500		100	(≤3000)	
Selenium	9.5 U (MB)	19U		9.5	(≤22)	
Sodium	39000	39000	0			
Thalium	14 U (MB)	19U		5	(≤40)	
Zinc	11	9.4		1.6	(≤150)	

V:\FIELD DUPLICATES\FD_inorganic\36701A4b.wpd

LDC #: 36701A46

VALIDATION FINDINGS WORKSHEET
Initial and Continuing Calibration Calculation Verification

Reviewer: MG
2nd Reviewer: K

METHOD: Trace Metals (EPA SW 846 Method 6010/6020/7000)

An initial and continuing calibration verification percent recovery (%R) was recalculated for each type of analysis using the following formula:

%R = Found / True x 100 Where, Found = concentration (in ug/L) of each analyte measured in the analysis of the ICV or CCV solution
True = concentration (in ug/L) of each analyte in the ICV or CCV source

Standard ID	Type of Analysis	Element	Found (ug/L)	True (ug/L)	Recalculated %R	Reported %R	Acceptable (Y/N)
0949 ICV	ICP (Initial calibration)	Cr	249.61	250	100	100	Y
	ICP/MS (Initial calibration)						
1525 ICV	CVAA (Initial calibration)	Hg	3.972	4.00	99	99	
0222 CCV	ICP (Continuing calibration)	Ni	485.42	500	97	97	
	ICP/MS (Continuing calibration)						
1752 CCV	CVAA (Continuing calibration)	Hg	5.137	5.00	103	103	
	GFAA (Initial calibration)						
	GFAA (Continuing calibation)						

Comments: Refer to Calibration Verification findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 36701A46

VALIDATION FINDINGS WORKSHEET
Level IV Recalculation Worksheet

Page: 1 of 1
Reviewer: MG
2nd Reviewer: K

METHOD: Trace Metals (EPA SW 846 Method 6010/6020/7000)

Percent recoveries (%R) for an ICP interference check sample, a laboratory control sample and a matrix spike sample were recalculated using the following formula:

$\%R = \frac{Found}{True} \times 100$

Where, Found = Concentration of each analyte measured in the analysis of the sample. For the matrix spike calculation, Found = SSR (spiked sample result) - SR (sample result).
True = Concentration of each analyte in the source.

A sample and duplicate relative percent difference (RPD) was recalculated using the following formula:

$RPD = \frac{|S-D|}{(S+D)/2} \times 100$

Where, S = Original sample concentration
D = Duplicate sample concentration

An ICP serial dilution percent difference (%D) was recalculated using the following formula:

$\%D = \frac{|I-SDR|}{I} \times 100$

Where, I = Initial Sample Result (mg/L)
SDR = Serial Dilution Result (mg/L) (Instrument Reading x 5)

Sample ID	Type of Analysis	Element	Found / S / I (units)	True / D / SDR (units)	Recalculated %R / RPD / %D	Reported %R / RPD / %D	Acceptable (Y/N)
1047 ICSAB	ICP interference check	Zn	950.2 (µg/L)	1000 (µg/L)	95	95	Y
0158 LCS	Laboratory control sample	Cd	99.67 (µg/L)	100 (µg/L)	100	100	↓
0206 11	Matrix spike	V	(SSR-SR) 478.7 (µg/L)	500 (µg/L)	96	96	↓
0206/0209 11/12	Duplicate	Se	2009 (µg/L)	2044 (µg/L)	2	2	↓
0201/0204 3	ICP serial dilution	Ca	78570 (µg/L)	79345 (µg/L)	0.99	0.99	↓

Comments: Refer to appropriate worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

TOTCLC.4SW

LDC #: 36701A46

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Page: 1 of 1
Reviewer: MG
2nd reviewer: M

METHOD: Trace Metals (EPA SW 846 Method 6010/6020/7000)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Have results been reported and calculated correctly?
Y N N/A Are results within the calibrated range of the instruments and within the linear range of the ICP?
Y N N/A Are all detection limits below the CRDL?

Detected analyte results for #3, Mg were recalculated and verified using the following equation:

Concentration = (RD)(FV)(Dil) / (In. Vol.)

RD = Raw data concentration
FV = Final volume (ml)
In. Vol. = Initial volume (ml) or weight (G)
Dil = Dilution factor

Recalculation:

$$\frac{(27.860\ mg/L)(0.050\ L)(1000\ \mu g/mg)}{0.050\ L} = 27860\ \mu g/L$$

#	Sample ID	Analyte	Reported Concentration (µg/L)	Calculated Concentration (µg/L)	Acceptable (Y/N)
1	3	Mg	28000	28000	Y

Note:

RECALC.4SW

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Schenectady ANGB

LDC Report Date: August 15, 2016

Parameters: Semivolatiles

Validation Level: Stage 2B

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-84353-1

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
SC-TU009-MW001-S0305	280-84353-1	Soil	06/06/16
SC-TU009-MW001-S0608	280-84353-2	Soil	06/06/16
SC-TU009-MW002-S0507	280-84353-3	Soil	06/06/16
SC-TU009-MW002-S0305	280-84353-4	Soil	06/06/16
SC-TU009-MW002-S0507-D	280-84353-5	Soil	06/06/16
SC-TU009-MW003-S0507	280-84353-6	Soil	06/06/16
SC-TU009-MW003-S0305	280-84353-7	Soil	06/06/16
SC-TU009-EB060616	280-84353-8	Water	06/06/16
SC-TU009-MW003-G-1	280-84353-9	Water	06/08/16
SC-TU009-6MW24-G-1	280-84353-10	Water	06/08/16
SC-TU009-6MW22-G-1	280-84353-11	Water	06/08/16
SC-TU009-6MW22-G-1-D	280-84353-12	Water	06/08/16
SC-TU009-MW001-S0305MS	280-84353-1MS	Soil	06/06/16
SC-TU009-MW001-S0305MSD	280-84353-1MSD	Soil	06/06/16
SC-TU009-6MW22-G-1MS	280-84353-11MS	Water	06/08/16
SC-TU009-6MW22-G-1MSD	280-84353-11MSD	Water	06/08/16

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Final Remedial Investigation Work Plan, Uniform Federal Policy, Quality Assurance Project Plan at Schenectady Air National Guard Base, Scotia, New York (May 2016), the U.S. Department of Defense (DoD) Quality Systems Manual (QSM) for Environmental Laboratories, Version 5.0 (July 2013), and a modified outline of the USEPA National Functional Guidelines (NFG) for Superfund Organic Methods Data Review (August 2014). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Semivolatile Organic Compounds (SVOCs) by Environmental Protection Agency (EPA) SW 846 Method 8270D

All sample results were subjected to Stage 2B data validation, which comprises an evaluation of quality control (QC) summary results.

The following are definitions of the data qualifiers utilized during data validation:

J+ (Estimated, High Bias): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated, displaying high bias, due to non-conformances discovered during data validation.

J- (Estimated, Low Bias): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated, displaying low bias, due to non-conformances discovered during data validation.

J (Estimated, Bias Indeterminate): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation. Bias is indeterminate.

U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered non-detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).

UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.

N (Presumptive): The analysis indicates the presence of a compound or analyte that has been "tentatively identified."

NJ (Presumptive and estimated): The analysis indicates the presence of a compound or analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.

R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.

NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

II. GC/MS Instrument Performance Check

A decafluorotriphenylphosphine (DFTPP) tune was performed at 12 hour intervals.

All ion abundance requirements were met.

III. Initial Calibration and Initial Calibration Verification

An initial calibration was performed as required by the method.

For compounds where average relative response factors (RRFs) were utilized, percent relative standard deviations (%RSD) were less than or equal to 15.0%.

In the case where the laboratory used a calibration curve to evaluate the compounds, all coefficients of determination (r^2) were greater than or equal to 0.990.

Average relative response factors (RRF) for all compounds were within validation criteria.

The percent differences (%D) of the initial calibration verification (ICV) standard were less than or equal to 20.0% for all compounds.

IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

The percent differences (%D) were less than or equal to 20.0% for all compounds.

The percent differences (%D) of the ending continuing calibration verifications (CCVs) were less than or equal to 50.0% for all compounds.

All of the continuing calibration relative response factors (RRF) were within validation criteria.

V. Laboratory Blanks

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks with the following exceptions:

Blank ID	Extraction Date	Compound	Concentration	Associated Samples
MB 280-329438/1-A	06/11/16	Benzyl alcohol Bis(2-ethylhexyl)phthalate	0.692 ug/L 1.57 ug/L	All water samples in SDG 280-84353-1

Sample concentrations were compared to concentrations detected in the laboratory blanks. The sample concentrations were either not detected or were significantly greater than the concentrations found in the associated laboratory blanks with the following exceptions:

Sample	Compound	Reported Concentration	Modified Final Concentration
SC-TU009-EB060616	Benzyl alcohol Bis(2-ethylhexyl)phthalate	2.2 ug/L 2.6 ug/L	24U ug/L 9.6U ug/L
SC-TU009-MW003-G-1	Benzyl alcohol	0.42 ug/L	25U ug/L
SC-TU009-6MW24-G-1	Benzyl alcohol	1.9 ug/L	35U ug/L
SC-TU009-6MW22-G-1	Benzyl alcohol	1.3 ug/L	25U ug/L
SC-TU009-6MW22-G-1-D	Benzyl alcohol	0.67 ug/L	25U ug/L

VI. Field Blanks

Sample SC-TU009-EB060616 was identified as an equipment blank. No contaminants were found.

VII. Surrogates

Surrogates were added to all samples as required by the method. All surrogate recoveries (%R) were within QC limits with the following exceptions:

Sample	Surrogate	%R (Limits)	Affected Compound	Flag	A or P
SC-TU009-6MW22-G-1	2-Fluorophenol Phenol-d5 2,4,6-Tribromophenol	4 (19-119) 3 (10-115) 7 (43-140)	All acid compounds	R (all non-detects)	A
SC-TU009-6MW22-G-1-D	2-Fluorophenol Phenol-d5 2,4,6-Tribromophenol	4 (19-119) 4 (10-115) 7 (43-140)	All acid compounds	R (all non-detects)	P

Additionally, base surrogate recoveries (%R) were not within QC limits for samples SC-TU009-6MW24-G-1 and SC-TU009-6MW22-G-1. Using professional judgment, no data were qualified when one base or one acid surrogate %R was outside the QC limits and the %R was greater than or equal to 10%.

VIII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) sample analysis was performed on an associated project sample. Percent recoveries (%R) were within QC limits with the following exceptions:

Spike ID (Associated Samples)	Compound	MS (%R) (Limits)	MSD (%R) (Limits)	Flag	A or P
SC-TU009-MW001-S0305MS/MSD (SC-TU009-MW001-S0305)	Benzidine	0 (5-150)	0 (5-150)	R (all non-detects)	A
SC-TU009-6MW22-G-1MS/MSD (SC-TU009-6MW22-G-1 SC-TU009-6MW22-G-1-D)	2,4,5-Trichlorophenol	12 (53-123)	34 (53-123)	UJ (all non-detects)	A
	4-Nitroaniline	20 (70-120)	46 (70-120)	UJ (all non-detects)	
	Acenaphthene	39 (47-122)	45 (47-122)	UJ (all non-detects)	
	Acenaphthylene	35 (41-130)	-	UJ (all non-detects)	
	Anthracene	53 (57-123)	-	UJ (all non-detects)	
	Carbazole	38 (60-122)	40 (60-122)	UJ (all non-detects)	
	N-Nitrosodiphenylamine	30 (51-123)	29 (51-123)	UJ (all non-detects)	
	Pyrene	56 (57-126)	-	UJ (all non-detects)	
SC-TU009-6MW22-G-1MS/MSD (SC-TU009-6MW22-G-1 SC-TU009-6MW22-G-1-D)	2,4,6-Trichlorophenol	8 (50-125)	12 (50-125)	R (all non-detects)	A
	2,4-Dichlorophenol	7 (47-121)	16 (47-121)	R (all non-detects)	
	2,4-Dimethylphenol	5 (31-124)	5 (31-124)	R (all non-detects)	
	2,6-Dichlorophenol	6 (50-118)	14 (50-118)	R (all non-detects)	
	2-Chlorophenol	6 (38-117)	17 (38-117)	R (all non-detects)	
	2-Methylphenol	5 (30-117)	5 (30-117)	R (all non-detects)	
	3&4-Methylphenol	4 (29-110)	7 (29-110)	R (all non-detects)	
	3,3'-Dichlorobenzidine	0 (27-129)	3 (27-129)	R (all non-detects)	
	3-Nitroaniline	5 (41-128)	17 (41-128)	R (all non-detects)	
	4-Chloroaniline	0 (33-117)	0 (33-117)	R (all non-detects)	
	Benzidine	0 (27-150)	0 (27-150)	R (all non-detects)	
	Pentachlorophenol	0 (35-138)	19 (38-138)	R (all non-detects)	
	Phenol	3 (61-120)	12 (61-120)	R (all non-detects)	

Relative percent differences (RPD) were within QC limits with the following exceptions:

Spike ID (Associated Samples)	Compound	RPD (Limits)	Flag	A or P
SC-TU009-6MW22-G-1MS/MSD (SC-TU009-6MW22-G-1 SC-TU009-6MW22-G-1-D)	2,4,5-Trichlorophenol	101 (≤20)	NA	-
	2,4,6-Trichlorophenol	39 (≤20)		
	2,4-Dichlorophenol	80 (≤20)		
	2,6-Dichlorophenol	84 (≤20)		
	2-Chlorophenol	105 (≤20)		
	3&4-Methylphenol	57 (≤20)		
	3,3'-Dichlorobenzidine	200 (≤20)		
	3-Nitroaniline	116 (≤20)		
	4-Nitroaniline	83 (≤20)		
	Acenaphthylene	35 (≤20)		
	Anthracene	28 (≤20)		
	Benzo(a)anthracene	29 (≤20)		
	Benzo(a)pyrene	33 (≤20)		
	Benzo(b)fluoranthene	30 (≤20)		
	Benzo(g,h,i)perylene	28 (≤20)		
	Benzo(k)fluoranthene	30 (≤20)		
	Bis(2-ethylhexyl)phthalate	30 (≤20)		
	Butylbenzylphthalate	27 (≤20)		
	Chrysene	29 (≤20)		
	Dibenz(a,h)anthracene	28 (≤20)		
	Di-n-butylphthalate	24 (≤20)		
	Di-n-octylphthalate	31 (≤20)		
	Fluorene	24 (≤20)		
	Hexachlorobenzene	27 (≤20)		
	Indeno(1,2,3-cd)pyrene	24 (≤20)		
	Pentachlorophenol	200 (≤20)		
	Phenanthrene	25 (≤20)		
	Phenol	111 (≤20)		
	Pyrene	29 (≤20)		
SC-TU009-6MW22-G-1MS/MSD (SC-TU009-6MW22-G-1-D)	Fluoranthene	28 (≤20)	NA	-
SC-TU009-6MW22-G-1MS/MSD (SC-TU009-6MW22-G-1)	Fluoranthene	28 (≤20)	J (all detects)	A

For SC-TU009-MW001-S0305MS/MSD and SC-TU009-6MW22-G-1MS/MSD, N-Nitrosopyrrolidine was not included in the spike, and the associated sample results were qualified as rejected (R).

IX. Laboratory Control Samples

Laboratory control samples (LCS) were analyzed as required by the method. Percent recoveries (%R) were within QC limits with the following exceptions:

LCS ID	Compound	%R (Limits)	Associated Samples	Flag	A or P
LCS 280-329438/2-A	Benzidine	0 (27-150)	All water samples in SDG 280-84353-1	R (all non-detects)	P
LCS 280-330220/2-A	Benzidine	0 (5-150)	All soil samples in SDG 280-84353-1	R (all non-detects)	P

For LCS 280-329438/2-A and LCS 280-330220/2-A, N-Nitrosopyrrolidine was not included in the spike. The associated N-Nitrosopyrrolidine results in all the samples were qualified as rejected (R).

X. Field Duplicates

Samples SC-TU009-MW002-S0507 and SC-TU009-MW002-S0507-D and samples SC-TU009-6MW22-G-1 and SC-TU009-6MW22-G-1-D were identified as field duplicates. No results were detected in any of the samples with the following exceptions:

Compound	Concentration (mg/Kg)		RPD (Limits)	Difference (Limits)	Flag	A or P
	SC-TU009-MW002-S0507	SC-TU009-MW002-S0507-D				
Benzo(g,h,i)perylene	0.021	0.017	-	0.004 (≤0.70)	-	-
Pyrene	0.013	0.015	-	0.002 (≤0.86)	-	-

Compound	Concentration (ug/L)		RPD (Limits)	Difference (Limits)	Flag	A or P
	SC-TU009-6MW22-G-1	SC-TU009-6MW22-G-1-D				
Fluoranthene	0.27	0.50U	-	0.23 (≤20)	-	-

XI. Internal Standards

All internal standard areas and retention times were within QC limits.

XII. Compound Quantitation

Raw data were not reviewed for Stage 2B validation.

XIII. Target Compound Identifications

Raw data were not reviewed for Stage 2B validation.

XIV. System Performance

Raw data were not reviewed for Stage 2B validation.

XV. Overall Assessment of Data

The analysis was conducted within all specifications of the method.

Due to surrogate %R, MS/MSD %R, LCS/LCSD %R, and a compound not spiked in the MS/MSD and LCS, data were rejected in twelve samples.

Due to MS/MSD %R, data were qualified as estimated in one sample.

Due to laboratory blank contamination, data were qualified as not detected in five samples.

The quality control criteria reviewed, other than those discussed above, were met and are considered acceptable. Sample results that were found to be rejected (R) are unusable for all purposes. Sample results that were found to be estimated (J) are usable for limited purposes only. Based upon the data validation all other results are considered valid and usable for all purposes.

Schenectady ANGB
Semivolatiles - Data Qualification Summary - SDG 280-84353-1

Sample	Compound	Flag	A or P	Reason
SC-TU009-6MW22-G-1	2-Chlorophenol 2-Methylphenol 2,4-Dichlorophenol 2,6-Dichlorophenol 2,4-Dimethylphenol 2,4-Dinitrophenol 2,4,5-Trichlorophenol 2,4,6-Trichlorophenol 3&4-Methylphenol 4-Nitrophenol 4,6-Dinitro-2-methylphenol Pentachlorophenol Phenol	R (all non-detects) R (all non-detects) R (all non-detects) R (all non-detects) R (all non-detects) R (all non-detects) R (all non-detects) R (all non-detects) R (all non-detects) R (all non-detects) R (all non-detects) R (all non-detects)	A	Surrogate spikes (%R)
SC-TU009-6MW22-G-1-D	2-Chlorophenol 2-Methylphenol 2,4-Dichlorophenol 2,6-Dichlorophenol 2,4-Dimethylphenol 2,4-Dinitrophenol 2,4,5-Trichlorophenol 2,4,6-Trichlorophenol 3&4-Methylphenol 4-Nitrophenol 4,6-Dinitro-2-methylphenol Pentachlorophenol Phenol	R (all non-detects) R (all non-detects) R (all non-detects) R (all non-detects) R (all non-detects) R (all non-detects) R (all non-detects) R (all non-detects) R (all non-detects) R (all non-detects) R (all non-detects) R (all non-detects)	P	Surrogate spikes (%R)
SC-TU009-MW001-S0305	Benzidine	R (all non-detects)	A	Matrix spike/Matrix spike duplicate (%R)
SC-TU009-6MW22-G-1 SC-TU009-6MW22-G-1-D	4-Nitroaniline Acenaphthene Acenaphthylene Anthracene Carbazole N-Nitrosodiphenylamine Pyrene	UJ (all non-detects) UJ (all non-detects) UJ (all non-detects) UJ (all non-detects) UJ (all non-detects) UJ (all non-detects) UJ (all non-detects)	A	Matrix spike/Matrix spike duplicate (%R)
SC-TU009-6MW22-G-1 SC-TU009-6MW22-G-1-D	2,4,6-Trichlorophenol 2,4-Dichlorophenol 2,4-Dimethylphenol 2,6-Dichlorophenol 2-Chlorophenol 2-Methylphenol 3&4-Methylphenol 3,3'-Dichlorobenzidine 3-Nitroaniline 4-Chloroaniline Benzidine Pentachlorophenol Phenol	R (all non-detects) R (all non-detects) R (all non-detects) R (all non-detects) R (all non-detects) R (all non-detects) R (all non-detects) R (all non-detects) R (all non-detects) R (all non-detects) R (all non-detects) R (all non-detects) R (all non-detects)	A	Matrix spike/Matrix spike duplicate (%R)
SC-TU009-6MW22-G-1	Fluoranthene	J (all detects)	A	Matrix spike/Matrix spike duplicate (RPD)
SC-TU009-MW001-S0305 SC-TU009-6MW22-G-1	N-Nitrosopyrrolidine	R (all non-detects)	P	Matrix spike/Matrix spike duplicate (Not spiked)

Sample	Compound	Flag	A or P	Reason
SC-TU009-MW001-S0305 SC-TU009-MW001-S0608 SC-TU009-MW002-S0507 SC-TU009-MW002-S0305 SC-TU009-MW002-S0507-D SC-TU009-MW003-S0507 SC-TU009-MW003-S0305 SC-TU009-EB060616 SC-TU009-MW003-G-1 SC-TU009-6MW24-G-1 SC-TU009-6MW22-G-1 SC-TU009-6MW22-G-1-D	Benzidine	R (all non-detects)	P	Laboratory control samples (%R)
SC-TU009-MW001-S0305 SC-TU009-MW001-S0608 SC-TU009-MW002-S0507 SC-TU009-MW002-S0305 SC-TU009-MW002-S0507-D SC-TU009-MW003-S0507 SC-TU009-MW003-S0305 SC-TU009-EB060616 SC-TU009-MW003-G-1 SC-TU009-6MW24-G-1 SC-TU009-6MW22-G-1 SC-TU009-6MW22-G-1-D	N-Nitrosopyrrolidine	R (all non-detects)	P	Laboratory control samples (Not spiked)

Schenectady ANGB
Semivolatiles - Laboratory Blank Data Qualification Summary - SDG 280-84353-1

Sample	Compound	Modified Final Concentration	A or P
SC-TU009-EB060616	Benzyl alcohol Bis(2-ethylhexyl)phthalate	24U ug/L 9.6U ug/L	A
SC-TU009-MW003-G-1	Benzyl alcohol	25U ug/L	A
SC-TU009-6MW24-G-1	Benzyl alcohol	35U ug/L	A
SC-TU009-6MW22-G-1	Benzyl alcohol	25U ug/L	A
SC-TU009-6MW22-G-1-D	Benzyl alcohol	25U ug/L	A

Schenectady ANGB
Semivolatiles - Field Blank Data Qualification Summary - SDG 280-84353-1

No Sample Data Qualified in this SDG

LDC #: 36701B2a
SDG #: 280-84353-1
Laboratory: Test America

VALIDATION COMPLETENESS WORKSHEET
Stage 2B

Date: 07/26/16
Page: 1 of 2
Reviewer: SW
2nd Reviewer: [illegible]

METHOD: GC/MS Semivolatiles (EPA SW 846 Method 8270D)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A / A	
II.	GC/MS Instrument performance check	A	
III.	Initial calibration/ICV	A / A	ICAL ≤ 15% r2 ICV ≤ 20%
IV.	Continuing calibration /ending ccv	A	CCV ≤ 20% / 50%
V.	Laboratory Blanks	SW	
VI.	Field blanks	ND	EB = 8 (U by MB)
VII.	Surrogate spikes	SW	
VIII.	Matrix spike/Matrix spike duplicates	SW	
IX.	Laboratory control samples	SW	LCS
X.	Field duplicates	SW	D = 3/5, 11/12
XI.	Internal standards	A	
XII.	Compound quantitation RL/LOQ/LODs	N	
XIII.	Target compound identification	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank; SB=Source blank; OTHER:

	Client ID	Lab ID	Matrix	Date
1	SC-TU009-MW001-S0305	280-84353-1	Soil	06/06/16
2	SC-TU009-MW001-S0608	280-84353-2	Soil	06/06/16
3	SC-TU009-MW002-S0507 D1	280-84353-3	Soil	06/06/16
4	SC-TU009-MW002-S0305	280-84353-4	Soil	06/06/16
5	SC-TU009-MW002-S0507-D D1	280-84353-5	Soil	06/06/16
6	SC-TU009-MW003-S0507	280-84353-6	Soil	06/06/16
7	SC-TU009-MW003-S0305	280-84353-7	Soil	06/06/16
8 2	SC-TU009-EB060616	280-84353-8	Water	06/06/16
9 2	SC-TU009-MW003-G-1	280-84353-9	Water	06/08/16
10 2	SC-TU009-6MW24-G-1	280-84353-10	Water	06/08/16
11 2	SC-TU009-6MW22-G-1 D2	280-84353-11	Water	06/08/16
12 2	SC-TU009-6MW22-G-1-D D2	280-84353-12	Water	06/08/16
13	SC-TU009-MW001-S0305MS	280-84353-1MS	Soil	06/06/16

LDC #: 36701B2a

VALIDATION COMPLETENESS WORKSHEET

Stage 2B

SDG #: 280-84353-1

Laboratory: Test America

Date: 07/26/16

Page: 2 of 2

Reviewer: JVG

2nd Reviewer: AL

METHOD: GC/MS Semivolatiles (EPA SW 846 Method 8270D)

	Client ID	Lab ID	Matrix	Date
14	SC-TU009-MW001-S0305MSD	280-84353-1MSD	Soil	06/06/16
15 2	SC-TU009-6MW22-G-1MS	280-84353-11MS	Water	06/08/16
16 2	SC-TU009-6MW22-G-1MSD	280-84353-11MSD	Water	06/08/16
17				
18				
19				
20				
21				

Notes:

1	MB 280-330220/1-A						
2	↓ - 329438/1-A						

VALIDATION FINDINGS WORKSHEET

METHOD: GC/MS SVOA

A. Phenol	AA. 2-Chloronaphthalene	AAA. Butylbenzylphthalate	AAAA. Dibenzothiophene	A1.
B. Bis (2-chloroethyl) ether	BB. 2-Nitroaniline	BBB. 3,3'-Dichlorobenzidine	BBBB. Benzo(a)fluoranthene	B1.
C. 2-Chlorophenol	CC. Dimethylphthalate	CCC. Benzo(a)anthracene	CCCC. Benzo(b)fluorene	C1.
D. 1,3-Dichlorobenzene	DD. Acenaphthylene	DDD. Chrysene	DDDD. cis/trans-Decalin	D1.
E. 1,4-Dichlorobenzene	EE. 2,6-Dinitrotoluene	EEE. Bis(2-ethylhexyl)phthalate	EEEE. Biphenyl	E1.
F. 1,2-Dichlorobenzene	FF. 3-Nitroaniline	FFF. Di-n-octylphthalate	FFFF. Retene	F1.
G. 2-Methylphenol	GG. Acenaphthene	GGG. Benzo(b)fluoranthene	GGGG. C30-Hopane	G1.
H. 2,2'-Oxybis(1-chloropropane)	HH. 2,4-Dinitrophenol	HHH. Benzo(k)fluoranthene	HHHH. 1-Methylphenanthrene	H1.
I. 4-Methylphenol	II. 4-Nitrophenol	III. Benzo(a)pyrene	IIII. 1,4-Dioxane	I1.
J. N-Nitroso-di-n-propylamine	JJ. Dibenzofuran	JJJ. Indeno(1,2,3-cd)pyrene	JJJJ. Acetophenone	J1.
K. Hexachloroethane	KK. 2,4-Dinitrotoluene	KKK. Dibenz(a,h)anthracene	KKKK. Atrazine	K1.
L. Nitrobenzene	LL. Diethylphthalate	LLL. Benzo(g,h,i)perylene	LLLL. Benzaldehyde	L1.
M. Isophorone	MM. 4-Chlorophenyl-phenyl ether	MMM. Bis(2-Chloroisopropyl)ether	MMMM. Caprolactam	M1.
N. 2-Nitrophenol	NN. Fluorene	NNN. Aniline	NNNN. 2,6-Dichlorophenol	N1.
O. 2,4-Dimethylphenol	OO. 4-Nitroaniline	OOO. N-Nitrosodimethylamine	OOOO. 1,2-Diphenylhydrazine	O1.
P. Bis(2-chloroethoxy)methane	PP. 4,6-Dinitro-2-methylphenol	PPP. Benzoic Acid	PPPP. 3-Methylphenol	P1.
Q. 2,4-Dichlorophenol	QQ. N-Nitrosodiphenylamine	QQQ. Benzyl alcohol	QQQQ. 3&4-Methylphenol	Q1.
R. 1,2,4-Trichlorobenzene	RR. 4-Bromophenyl-phenylether	RRR. Pyridine	RRRR. 4-Dimethyldibenzothiophene (4MDT)	R1.
S. Naphthalene	SS. Hexachlorobenzene	SSS. Benzidine	SSSS. 2/3-Dimethyldibenzothiophene (4MDT)	S1.
T. 4-Chloroaniline	TT. Pentachlorophenol	TTT. 1-Methylnaphthalene	TTTT. 1-Methyldibenzothiophene (1MDT)	T1.
U. Hexachlorobutadiene	UU. Phenanthrene	UUU.Benzo(b)thiophene	UUUU. N- Nitrosopyrrolidine	U1.
V. 4-Chloro-3-methylphenol	VV. Anthracene	VVV.Benzonaphthothiophene	VVVV.	V1.
W. 2-Methylnaphthalene	WW. Carbazole	WWW.Benzo(e)pyrene	WWWW.	W1.
X. Hexachlorocyclopentadiene	XX. Di-n-butylphthalate	XXX. 2,6-Dimethylnaphthalene	XXXX.	X1.
Y. 2,4,6-Trichlorophenol	YY. Fluoranthene	YYY. 2,3,5-Trimethylnaphthalene	YYYY.	Y1.
Z. 2,4,5-Trichlorophenol	ZZ. Pyrene	ZZZ. Perylene	ZZZZ.	Z1.

LDC #: 36701 B2a

VALIDATION FINDINGS WORKSHEET
Blanks

Page: 1 of 1
Reviewer: JVG
2nd Reviewer: [illegible]

METHOD: GC/MS BNA (EPA SW 846 Method 8270D)
Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Was a method blank analyzed for each matrix?
Y N N/A Was a method blank analyzed for each concentration preparation level?
Y N N/A Was a method blank associated with every sample?
Y N N/A Was the blank contaminated? If yes, please see qualification below.

Blank extraction date: 06/11/16 **Blank analysis date:** 06/27/16
Conc. units: ug/L Associated Samples: All W

Compound	Blank ID								
MB	280-329438/1-A		8	9	10	11	12		
QQQ	0.692		2.2/24U	0.42/25U	1.9/35U	1.3/25U	0.67/25U		
EEE	1.57		2.6/9.6U						

Blank extraction date: _____ **Blank analysis date:** _____
Conc. units: _____ Associated Samples: _____

Compound	Blank ID								

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Common contaminants such as the phthalates and TICs noted above that were detected in samples within ten times the associated method blank concentration were qualified as not detected, "U". Other contaminants within five times the method blank concentration were also qualified as not detected, "U".

LDC #: 36701 B29

VALIDATION FINDINGS WORKSHEET
Surrogate Recovery

Page: 1 of 1
Reviewer: JVG
2nd Reviewer: K

METHOD: GC/MS BNA (EPA SW 846 Method 8270D)
Please see qualification below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Were percent recoveries (%R) for surrogates within QC limits?
Y N N/A If 2 or more base neutral or acid surrogates were outside QC limits, was a reanalysis performed to confirm %R?
Y N N/A If any %R was less than 10 percent, was a reanalysis performed to confirm %R?

#	Date	Sample ID	Surrogate	%R (Limits)	Qualifications
		10	TPH	49 (50-134)	No qual (only 1 out)
				( )	
		11 (ND)	2FP	4 (19-119)	J/R/A (acids only)
			PHL	3 (10-115)	
			TBP	7 (43-140)	
			TPH	32 (50-134)	No qual (only 1 base out)
				( )	
		12 (ND)	2FP	4 (19-119)	J/R/A (acids only)
			PHL	4 (10-115)	
			TBP	7 (43-140)	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
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				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	

(NBZ) = Nitrobenzene-d5
(FBP) = 2-Fluorobiphenyl
(TPH) = Terphenyl-d14
(PHL) = Phenol-d5
(2FP)= 2-Fluorophenol
(TBP) = 2,4,6-Tribromophenol
(2CP) = 2-Chlorophenol-d4
(DCB) = 1,2-Dichlorobenzene-d4

SUR.wpd

SEMI-VOLATILES SURROGATES

Acid	Base
Phenol-d5 (PHL)	Nitrobenzene-d5 (NBZ)
2-Fluorophenol (2-FP)	2-Fluorobiphenyl(FBP)
2,4,6 Tribromophenol (TBP)	Terphenyl-d14 (TPH)
2-Chlorophenol-d4	1,2-Dichlorobenzene-d4

Semi-Volatile Acid/Base Fraction

Acid Fraction	Base Neutral
2-Chlorophenol	1,2-Dichlorobenzene
2-Methylphenol	1,2,4-Trichlorobenzene
~~2-Nitrophenol~~ NON TRG	1,3-Dichlorobenzene
2,4-Dichlorophenol	1,4-Dichlorobenzene
2,6-Dichlorophenol	2-Chloronaphthalene
2,4-Dimethylphenol	2-Methylnaphthalene
2,4-Dinitrophenol	2-Nitroaniline
2,4,5-Trichlorophenol	2,4-Dinitrotoluene
2,4,6-Trichlorophenol	2,6-Dinitrotoluene
~~4-Chloro-3-methylphenol~~ NON TRG	3-Nitroaniline
3&4-Methylphenol	3,3'-Dichlorobenzidine
4-Nitrophenol	4-Bromophenyl-phenylether
4,6-Dinitro-2-methylphenol	4-Chloroaniline
Pentachlorophenol	4-Chlorophenyl-phenyl ether
Phenol	4-Nitroaniline
	Acenaphthene
	Acenaphthylene
	Anthracene
	Benzo(a)anthracene
	Benzo(a)pyrene
	Benzo(b)fluoranthene
	Benzo(g,h,i)perylene
	Benzo(k)fluoranthene
	Benzyl alcohol
	Bis (2-chloroethyl) ether
	Bis(2-chloroethoxy)methane
	Bis(2-chloroisopropyl)ether
	Bis(2-ethylhexyl)phthalate
	Butylbenzylphthalate
	Chrysene
	Di-n-butylphthalate
	Di-n-octylphthalate
	Dibenzo(a,h)anthracene
	Dibenzofuran
	Diethylphthalate
	Dimethylphthalate
	Fluoranthene
	Fluorene
	Hexachlorobenzene
	Hexachlorobutadiene
	Hexachloroethane
	Indeno(1,2,3-cd)pyrene
	Isophorone
	N-Nitroso-di-n-propylamine
	N-Nitrosodiphenylamine
	Naphthalene
	Nitrobenzene
	Phenanthrene
	Pyrene

LDC #: 36701B2a

VALIDATION FINDINGS WORKSHEET
Matrix Spike/Matrix Spike Duplicates

Page: 1 of 1
Reviewer: JVG
2nd Reviewer: [illegible]

METHOD: GC/MS BNA (EPA SW 846 Method 8270D)
Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water.

Y N N/A Was a MS/MSD analyzed every 20 samples of each matrix?

Y N N/A Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?

#	Date	MS/MSD ID	Compound	MS %R (Limits)	MSD %R (Limits)	RPD (Limits)	Associated Samples	Qualifications
		13/14	SSS	0 (5-150)	0 (5-150)	( )	1 (ND)	J/R/A
				( )	( )	( )		
				( )	( )	( )		
		15/16	See	attached)	( )	( )	11-12	See attached
				( )	( )	( )		
				( )	( )	( )		
		13/14	UUUU	Compound)	not spiked in the	( )	All (ND)	J/R/A
		15/16	↓	LCC and)	MS/MSD)	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		

15/16

FORM III
GC/MS SEMI VOA MATRIX SPIKE RECOVERY

p 1 of 6

Lab Name: TestAmerica Denver Job No.: 280-84353-1

SDG No.:

Matrix: Water Level: Low Lab File ID: K16541.D

Lab ID: 280-84353-11 MS Client ID: SC-TU009-6MW22-G-1 MS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC	QC LIMITS REC	#	
1,2,4,5-Tetrachlorobenzene	80.4	4.4 U	48.5	60	35-121		
1,2,4-Trichlorobenzene	80.4	0.99 U	44.5	55	29-116		
1,2-Dichlorobenzene	80.4	0.50 U	40.7	51	32-111		
1,2-Diphenylhydrazine	81.3	0.50 U	57.3	71	49-122		
1,3-Dichlorobenzene	80.4	0.99 U	38.1	47	28-110		
1,4-Dichlorobenzene	80.4	0.99 U	39.0	49	29-112		
2,2'-oxybis[1-chloropropane]	80.4	0.99 U	47.9	60	37-130		
2,4,5-Trichlorophenol Z	(MD) 80.4	0.99 U	9.37 J	12	53-123	Q J	J/UJ/A
2,4,6-Trichlorophenol Y	80.4	0.99 U	6.46 J	8	50-125	Q J	J/R/A
2,4-Dichlorophenol Q	80.4	2.0 U	5.62 J	7	47-121	Q J	
2,4-Dimethylphenol O	80.4	2.0 U	4.27 J	5	31-124	Q J	
2,4-Dinitrophenol	161	30 U	129	80	23-143	Q	
2,4-Dinitrotoluene	80.4	4.4 U	68.1	85	57-128		
2,6-Dichlorophenol NNNN	80.4	4.0 U	4.83 J	6	50-118	J	J/R/A
2,6-Dinitrotoluene	80.4	4.4 U	65.5	81	57-124		
2-Chloronaphthalene	80.4	0.99 U	54.0	67	40-116		
2-Chlorophenol C	80.4	4.4 U	4.43 J	6	38-117	Q J	
2-Methylnaphthalene W	80.4	0.99 U	49.6	62	40-121		
2-Methylphenol G	80.4	2.0 U	3.64 J	5	30-117	Q J	
3 & 4 Methylphenol QQQQ	80.4	0.50 U	3.24 J	4	29-110	Q J	
3,3'-Dichlorobenzidine BBB	80.4	4.4 U	4.4 U	0	27-129	J	
3-Nitroaniline FF	80.4	4.4 U	3.82 J	5	41-128	J	
4,6-Dinitro-2-methylphenol	161	8.7 U	125	78	44-137	Q	
4-Chloroaniline T	80.4	4.4 U	4.4 U	0	33-117	J	
4-Chlorophenyl phenyl ether	80.4	4.4 U	57.0	71	53-121		
4-Nitroaniline OO	80.4	4.4 U	15.7 J	20	70-120	J	J/UJ/A
4-Nitrophenol	161	4.0 U	133	83	59-129	Q	
Acenaphthene GG	80.4	0.99 U	31.6	39	47-122	Q J	
Acenaphthylene DD	80.4	0.99 U	27.9	35	41-130	Q J	
Anthracene VV	80.4	0.99 U	42.8	53	57-123	Q J	
Benzidine SSS	80.4	99 U	100 U	0	27-150	Q J	J/R/A
Benzo[a]anthracene	80.4	0.99 U	50.2	62	58-125	Q	
Benzo[a]pyrene	80.4	0.99 U	45.2	56	54-128	Q	
Benzo[b]fluoranthene	80.4	2.0 U	51.7	64	53-131	Q	
Benzo[g,h,i]perylene	80.4	0.99 U	52.2	65	50-134	Q	
Benzo[k]fluoranthene	80.4	0.99 U	52.0	65	57-129	Q	
Benzoic acid	80.4	30 U	62.5 J	78	41-120	Q	
Benzyl alcohol	80.4	1.3 J	52.7	64	31-112		
Bis(2-chloroethoxy)methane	80.4	2.0 U	54.6	68	48-120		
Bis(2-chloroethyl)ether	80.4	0.99 U	49.3	61	43-118		
Bis(2-ethylhexyl) phthalate	80.4	2.0 U	56.1	70	55-135		
Butyl benzyl phthalate	80.4	2.0 U	55.1	69	53-134		

Column to be used to flag recovery and RPD values

FORM III 8270D

FORM III
GC/MS SEMI VOA MATRIX SPIKE RECOVERY

p 2 of 6

Lab Name: TestAmerica Denver Job No.: 280-84353-1

SDG No.:

Matrix: Water Level: Low Lab File ID: K16541.D

Lab ID: 280-84353-11 MS Client ID: SC-TU009-6MW22-G-1 MS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC	QC LIMITS REC	#	
Carbazole WW	(ND) 80.4	0.99 U	30.8	38	60-122	Q J	J/UJ/A
Chrysene	80.4	2.0 U	53.5	67	59-123	Q	
Dibenz(a,h)anthracene	80.4	2.0 U	53.9	67	51-134		
Dibenzofuran	80.4	0.99 U	56.9	71	53-118		
Diethyl phthalate	80.4	0.99 U	66.3	82	56-125		
Dimethyl phthalate	80.4	0.50 U	64.1	80	45-127		
Di-n-butyl phthalate	80.4	4.4 U	58.1	72	59-127		
Di-n-octyl phthalate	80.4	0.99 U	57.7	72	51-140		
Fluoranthene	80.4	0.27 J	53.4	66	57-128	Q	
Fluorene	80.4	0.99 U	52.8	66	52-124	Q	
Hexachlorobenzene	80.4	2.0 U	54.4	68	53-125		
Hexachlorobutadiene	80.4	9.9 U	37.1	46	22-124		
Hexachlorocyclopentadiene	80.4	30 U	37.2 J	46	10-120		
Hexachloroethane	80.4	4.4 U	34.2	43	21-115		
Indeno[1,2,3-cd]pyrene	80.4	2.0 U	56.1	70	52-134	Q	
Isophorone	80.4	0.50 U	55.6	69	42-124		
Naphthalene	80.4	0.99 U	49.7	62	40-121	Q	
Nitrobenzene	80.4	2.0 U	53.7	67	45-121		
N-Nitrosodimethylamine	80.4	0.99 U	45.7	57	56-120	Q	
N-Nitrosodi-n-propylamine	80.4	0.99 U	54.0	67	49-119		
N-Nitrosodiphenylamine QQ	(ND) 80.4	0.99 U	24.2	30	51-123	J	J/UJ/A
Pentachlorophenol TT	161	60 U	60 U	0	35-138	Q J	J/R/A
Phenanthrene	80.4	0.99 U	55.7	69	59-120	Q	
Phenol A	80.4	4.4 U	2.80 J	3	61-120	Q J	
Pyrene ZZ	80.4	0.99 U	44.8	56	57-126	Q J	J/UJ/A

Column to be used to flag recovery and RPD values

FORM III 8270D

FORM III
GC/MS SEMI VOA MATRIX SPIKE DUPLICATE RECOVERY

p. 3 of 6

Lab Name: TestAmerica Denver Job No.: 280-84353-1

SDG No.:

Matrix: Water Level: Low Lab File ID: K16542.D

Lab ID: 280-84353-11 MSD Client ID: SC-TU009-6MW22-G-1 MSD

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC	% RPD	QC LIMITS RPD	QC LIMITS REC	#	
1,2,4,5-Tetrachlorobenzene	82.9	52.5	63	8	20	35-121		
1,2,4-Trichlorobenzene	82.9	45.4	55	2	20	29-116		
1,2-Dichlorobenzene	82.9	42.3	51	4	20	32-111		
1,2-Diphenylhydrazine	83.8	67.5	81	16	20	49-122		
1,3-Dichlorobenzene	82.9	40.0	48	5	20	28-110		
1,4-Dichlorobenzene	82.9	40.9	49	5	20	29-112		
2,2'-oxybis[1-chloropropane]	82.9	47.4	57	1	20	37-130		
2,4,5-Trichlorophenol Z	(100) 82.9	28.5	34	101	20	53-123	Q J	J/UJ/A
2,4,6-Trichlorophenol Y	82.9	9.60 J	12	39	20	50-125	Q J	J/R/A
2,4-Dichlorophenol &	82.9	13.0	16	80	20	47-121	Q J	J/R/A
2,4-Dimethylphenol O	82.9	4.50 J	5	5	20	31-124	Q J	J/R/A
2,4-Dinitrophenol	166	151	91	16	20	23-143	Q	
2,4-Dinitrotoluene	82.9	77.1	93	12	20	57-128		
2,6-Dichlorophenol NNNN	82.9	11.8	14	84	20	50-118	J	J/R/A
2,6-Dinitrotoluene	82.9	74.0	89	12	20	57-124		
2-Chloronaphthalene	82.9	56.8	69	5	20	40-116		
2-Chlorophenol C	82.9	14.2	17	105	20	38-117	Q J	J/R/A
2-Methylnaphthalene	82.9	53.9	65	8	20	40-121		
2-Methylphenol G	82.9	4.38 J	5	19	20	30-117	Q J	J/R/A
3 & 4 Methylphenol QQQQ	82.9	5.82 J	7	57	20	29-110	Q J	
3,3'-Dichlorobenzidine BBB	82.9	2.35 J	3	200	20	27-129	J	
3-Nitroaniline FF	82.9	14.4 J	17	116	20	41-128	J	
4,6-Dinitro-2-methylphenol	166	146	88	15	20	44-137	Q	
4-Chloroaniline T	82.9	4.6 U	0	NC	20	33-117	J	J/R/A
4-Chlorophenyl phenyl ether	82.9	67.9	82	17	20	53-121		
4-Nitroaniline OO	82.9	38.1 J	46	83	20	70-120	J	J/UJ/A
4-Nitrophenol	166	151	91	13	20	59-129	Q	
Acenaphthene GG	82.9	37.6	45	17	20	47-122	J	J/UJ/A
Acenaphthylene	82.9	39.7	48	35	20	41-130	J	
Anthracene	82.9	56.9	69	28	20	57-123	J	
Benzidine SSS	82.9	100 U	0	NC	20	27-150	J	J/R/A
Benzo[a]anthracene	82.9	67.5	81	29	20	58-125	J	
Benzo[a]pyrene	82.9	63.0	76	33	20	54-128	J	
Benzo[b]fluoranthene	82.9	70.2	85	30	20	53-131	J	
Benzo[g,h,i]perylene	82.9	69.3	84	28	20	50-134	J	
Benzo[k]fluoranthene	82.9	70.0	84	30	20	57-129	J	
Benzoic acid	82.9	71.9 J	87	14	20	41-120	Q	
Benzyl alcohol	82.9	52.5	62	0	20	31-112		
Bis(2-chloroethoxy)methane	82.9	53.1	64	3	20	48-120		
Bis(2-chloroethyl)ether	82.9	50.0	60	1	20	43-118		
Bis(2-ethylhexyl) phthalate	82.9	76.0	92	30	20	55-135	J	
Butyl benzyl phthalate	82.9	72.5	87	27	20	53-134	J	

Column to be used to flag recovery and RPD values

FORM III 8270D

FORM III
GC/MS SEMI VOA MATRIX SPIKE DUPLICATE RECOVERY

p. 4 of 6

Lab Name: TestAmerica Denver Job No.: 280-84353-1

SDG No.:

Matrix: Water Level: Low Lab File ID: K16542.D

Lab ID: 280-84353-11 MSD Client ID: SC-TU009-6MW22-G-1 MSD

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC	% RPD	QC LIMITS RPD	QC LIMITS REC	#	
Carbazole WW (MD)	82.9	33.3	40	8	20	60-122	Q J	J/UJ/A
Chrysene	82.9	71.6	86	29	20	59-123	J	
Dibenz(a,h)anthracene	82.9	71.7	87	28	20	51-134	J	
Dibenzofuran	82.9	64.7	78	13	20	53-118		
Diethyl phthalate	82.9	74.6	90	12	20	56-125		
Dimethyl phthalate	82.9	72.3	87	12	20	45-127		
Di-n-butyl phthalate	82.9	73.6	89	24	20	59-127	J	
Di-n-octyl phthalate	82.9	78.6	95	31	20	51-140	J	
Fluoranthene	82.9	71.0	85	28	20	57-128	J	
Fluorene	82.9	66.8	81	24	20	52-124	J	
Hexachlorobenzene	82.9	71.1	86	27	20	53-125	J	
Hexachlorobutadiene	82.9	40.3	49	8	20	22-124		
Hexachlorocyclopentadiene	82.9	41.2 J	50	10	20	10-120		
Hexachloroethane	82.9	35.3	43	3	20	21-115		
Indeno[1,2,3-cd]pyrene	82.9	71.4	86	24	20	52-134	J	
Isophorone	82.9	53.9	65	3	20	42-124		
Naphthalene	82.9	50.6	61	2	20	40-121		
Nitrobenzene	82.9	54.0	65	1	20	45-121		
N-Nitrosodimethylamine	82.9	46.4	56	1	20	56-120	Q	
N-Nitrosodi-n-propylamine ~~AA~~	82.9	52.7	64	2	20	49-119		
N-Nitrosodiphenylamine QQ (MD)	82.9	23.7	29	2	20	51-123	J	J/UJ/A
Pentachlorophenol TT	166	31.5 J	19	200	20	35-138	Q J	J/RJ/A
Phenanthrene	82.9	71.7	87	25	20	59-120	J	
Phenol A	82.9	9.71 J	12	111	20	61-120	J	
Pyrene	82.9	60.1	73	29	20	57-126	J	

Column to be used to flag recovery and RPD values

FORM III 8270D

FORM III
GC/MS SEMI VOA MATRIX SPIKE DUPLICATE RECOVERY

p. 5 of 6

Lab Name: TestAmerica Denver Job No.: 280-84353-1

SDG No.:

Matrix: Water Level: Low Lab File ID: K16542.D

Lab ID: 280-84353-11 MSD Client ID: SC-TU009-6MW22-G-1 MSD

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC	% RPD	QC LIMITS RPD	QC LIMITS REC	#
1,2,4,5-Tetrachlorobenzene	82.9	52.5	63	8	20	35-121	
1,2,4-Trichlorobenzene	82.9	45.4	55	2	20	29-116	
1,2-Dichlorobenzene	82.9	42.3	51	4	20	32-111	
1,2-Diphenylhydrazine	83.8	67.5	81	16	20	49-122	
1,3-Dichlorobenzene	82.9	40.0	48	5	20	28-110	
1,4-Dichlorobenzene	82.9	40.9	49	5	20	29-112	
2,2'-oxybis[1-chloropropane]	82.9	47.4	57	1	20	37-130	
2,4,5-Trichlorophenol Z	82.9	28.5	34	101	20	53-123	Q J
2,4,6-Trichlorophenol Y	82.9	9.60 J	12	39	20	50-125	Q J
2,4-Dichlorophenol Q	82.9	13.0	16	80	20	47-121	Q J
2,4-Dimethylphenol	82.9	4.50 J	5	5	20	31-124	Q J
2,4-Dinitrophenol	166	151	91	16	20	23-143	Q
2,4-Dinitrotoluene	82.9	77.1	93	12	20	57-128	
2,6-Dichlorophenol NNNN	82.9	11.8	14	84	20	50-118	J
2,6-Dinitrotoluene	82.9	74.0	89	12	20	57-124	
2-Chloronaphthalene	82.9	56.8	69	5	20	40-116	
2-Chlorophenol C	82.9	14.2	17	105	20	38-117	Q J
2-Methylnaphthalene	82.9	53.9	65	8	20	40-121	
2-Methylphenol	82.9	4.38 J	5	19	20	30-117	Q J
3 & 4 Methylphenol QQQQ	82.9	5.82 J	7	57	20	29-110	Q J
3,3'-Dichlorobenzidine	82.9	2.35 J	0	200	20	27-129	J
3-Nitroaniline FF	82.9	14.4 J	17	116	20	41-128	J
4,6-Dinitro-2-methylphenol	166	146	88	15	20	44-137	Q
4-Chloroaniline	82.9	4.6 U	0	NC	20	33-117	J
4-Chlorophenyl phenyl ether	82.9	67.9	82	17	20	53-121	
4-Nitroaniline OO	82.9	38.1 J	46	83	20	70-120	J
4-Nitrophenol	166	151	91	13	20	59-129	Q
Acenaphthene	82.9	37.6	45	17	20	47-122	J
Acenaphthylene DD	82.9	39.7	48	35	20	41-130	J
Anthracene VV	82.9	56.9	69	28	20	57-123	J
Benzidine	82.9	100 U	0	NC	20	27-150	J
Benzo[a]anthracene CCC	82.9	67.5	81	29	20	58-125	J
Benzo[a]pyrene III	82.9	63.0	76	33	20	54-128	J
Benzo[b]fluoranthene GGG	82.9	70.2	85	30	20	53-131	J
Benzo[g,h,i]perylene LLL	82.9	69.3	84	28	20	50-134	J
Benzo[k]fluoranthene HHH	82.9	70.0	84	30	20	57-129	J
Benzoic acid	82.9	71.9 J	87	14	20	41-120	Q
Benzyl alcohol	82.9	52.5	62	0	20	31-112	
Bis(2-chloroethoxy)methane	82.9	53.1	64	3	20	48-120	
Bis(2-chloroethyl)ether	82.9	50.0	60	1	20	43-118	
Bis(2-ethylhexyl) phthalate EEE	82.9	76.0	92	30	20	55-135	J
Butyl benzyl phthalate AAA	82.9	72.5	87	27	20	53-134	J

Jdets/A

Column to be used to flag recovery and RPD values

(All ND)

FORM III 8270D

FORM III
GC/MS SEMI VOA MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: TestAmerica Denver Job No.: 280-84353-1 p. 6 of 6

SDG No.:

Matrix: Water Level: Low Lab File ID: K16542.D

Lab ID: 280-84353-11 MSD Client ID: SC-TU009-6MW22-G-1 MSD

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC	% RPD	QC LIMITS RPD	QC LIMITS REC	#
Carbazole	82.9	33.3	40	8	20	60-122	Q J
Chrysene DDD	82.9	71.6	86	29	20	59-123	J
Dibenz(a,h)anthracene KKK	82.9	71.7	87	28	20	51-134	J
Dibenzofuran	82.9	64.7	78	13	20	53-118	
Diethyl phthalate	82.9	74.6	90	12	20	56-125	
Dimethyl phthalate	82.9	72.3	87	12	20	45-127	
Di-n-butyl phthalate XX	82.9	73.6	89	24	20	59-127	J
Di-n-octyl phthalate FFF	82.9	78.6	95	31	20	51-140	J
Fluoranthene YY	82.9	(Det) 71.0	85	28	20	57-128	J
Fluorene NN	82.9	66.8	81	24	20	52-124	J
Hexachlorobenzene SS	82.9	71.1	86	27	20	53-125	J
Hexachlorobutadiene	82.9	40.3	49	8	20	22-124	
Hexachlorocyclopentadiene	82.9	41.2 J	50	10	20	10-120	
Hexachloroethane	82.9	35.3	43	3	20	21-115	
Indeno[1,2,3-cd]pyrene JJJ	82.9	71.4	86	24	20	52-134	J
Isophorone	82.9	53.9	65	3	20	42-124	
Naphthalene	82.9	50.6	61	2	20	40-121	
Nitrobenzene	82.9	54.0	65	1	20	45-121	
N-Nitrosodimethylamine	82.9	46.4	56	1	20	56-120	Q
N-Nitrosodi-n-propylamine	82.9	52.7	64	2	20	49-119	
N-Nitrosodiphenylamine	82.9	23.7	29	2	20	51-123	J
Pentachlorophenol TT	166	31.5 J	19	200	20	35-138	Q J
Phenanthrene UU	82.9	71.7	87	25	20	59-120	J
Phenol A	82.9	9.71 J	12	111	20	61-120	J
Pyrene ZZ	82.9	60.1	73	29	20	57-126	J

J dets/A

(all J except YY)

Column to be used to flag recovery and RPD values

FORM III 8270D

LDC #: 36701 B2a

VALIDATION FINDINGS WORKSHEET
Laboratory Control Samples (LCS)

Page: 1 of 1
Reviewer: JVG
2nd Reviewer: [illegible]

METHOD: GC/MS BNA (EPA SW 846 Method 8270D)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Was a LCS required?

Y N N/A Were the LCS/LCSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?

#	Date	LCS/LCSD ID	Compound	LCS %R (Limits)	LCSD %R (Limits)	RPD (Limits)	Associated Samples	Qualifications
		LCS 280-329438/2-A	SSS	0 (27-150)	( )	( )	All W, MB 280-329438/1-A	(ND) J/R/P
				( )	( )	( )		
		LCS 280-330220/2-A	SSS	0 (5-150)	( )	( )	All S, MB 280-330220/1-A	
				( )	( )	( )		
				( )	( )	( )		
		LCS 280-329438/2-A	NNNN	Compound	not spiked in the	)	All (ND)	
		LCS 280-330220/2-A		(LCS and	MS/MSD)	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
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				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		

LDC#: 36701B2a

VALIDATION FINDINGS WORKSHEET
Field Duplicates

Page: 1 of 1
Reviewer: JVG
2nd Reviewer: A

METHOD: GC MS SVOA (EPA SW 846 Method 8270D)

Y N NA Were field duplicate pairs identified in this SDG?
Y N NA Were target analytes detected in the field duplicate pairs?

Compound	Concentration (mg/kg)		RPD (≤ 50 %)	Difference (mg/kg)	Limits (≤ 2xLOQ)	Qualifications (Parent Only)
	3	5				
LLL	0.021	0.017		0.004	(≤0.70)	
ZZ	0.013	0.015		0.002	(≤0.86)	
					(≤)	
					(≤)	
					(≤)	

Compound	Concentration (ug/L)		RPD (≤ 30 %)	Difference (ug/L)	Limits (≤ LOQ)	Qualifications (Parent Only)
	11	12				
YY	0.27	0.504		0.23	(≤ 20)	
					(≤)	
					(≤)	
					(≤)	
					(≤)	

Compound	Concentration (_____)		RPD (≤____%)	Difference (_____)	Limits (≤_____)	Qualifications (Parent Only)
					(≤)	
					(≤)	
					(≤)	
					(≤)	
					(≤)	

Compound	Concentration (_____)		RPD (≤____%)	Difference (_____)	Limits (≤_____)	Qualifications (Parent Only)
					(≤)	
					(≤)	
					(≤)	
					(≤)	
					(≤)	

LDC#: 36701B2a
Lab: Test America Denver

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Reviewer: JVG
2nd Reviewer: [illegible]

METHOD: GC/MS SVOA (EPA SW 846 Method 8270D)

The Relative Response Factor (RRF), average RRF, and percent relative standard deviation (%RSD) were recalculated for the compounds identified below using the following calculations:

$RRF = (A_x)(C_{is})/(A_{is})(C_x)$
average RRF = sum of the RRFs/number of standards
%RSD = 100 * (S/X)

A_x = Area of Compound
C_x = Concentration of compound,
S= Standard deviation of the RRFs,

A_{is} = Area of associated internal standard
C_{is} = Concentration of internal standard
X = Mean of the RRFs

#	Standard ID	Calibration Date	Compound (IS)	Reported RRF (50 std)	Recalculated RRF (50 std)	Reported Average RRF (Initial)	Recalculated Average RRF (Initial)	Reported %RSD	Recalculated %RSD
1	ICAL SMS K	6/8/16	Phenol (DCB)	1.8709	1.8709	1.8403	1.8403	5.7	5.7
			Naphthalene (NPT)	1.0641	1.0641	1.0235	1.0235	10.2	10.2
			Diethyl phthalate (ANT)	1.1252	1.1252	1.0737	1.0737	7.6	7.6
			Hexachlorobenzene (PHN)	0.2063	0.2063	0.1991	0.1991	4.0	4.0
			BEHP (CRY)	0.7579	0.7579	0.7446	0.7447	5.5	5.5
			Benzo(a)pyrene (PRY)	1.1318	1.1318	1.1411	1.1411	2.8	2.8

Naphthalene @ 50ug/L

$$RRF = \frac{(\text{Area std})(\text{Conc IS})}{(\text{Area IS})(\text{Conc std})} = \frac{(1543576)(40)}{(1160439)(50)} = 1.0641$$

ICAL RRF (IS = 40ug/mL)

Conc(ug/mL)	Phenol	Naphthalene	Diethyl phthal	Hexachlorob	Bis(2-ethex) ph	Benzo(a)py
4.00	1.9224	1.1435	1.1100	0.2046	0.6802	1.1042
10.00	1.9380	1.1416	1.1761	0.2079	0.7193	1.1409
20.00	1.9110	1.0810	1.1415	0.1945	0.7119	1.1103
50.00	1.8709	1.0641	1.1252	0.2063	0.7579	1.1318
80.00	1.8825	1.0166	1.0622	0.1995	0.8015	1.1760
120.00	1.8410	0.9752	1.0496	0.2037	0.7932	1.1975
160.00	1.6822	0.8992	0.9919	0.1898	0.7432	1.1413
200.00	1.6742	0.8665	0.9328	0.1864	0.7500	1.1270
X =	1.8403	1.0235	1.0737	0.1991	0.7447	1.1411
S =	0.1046	0.1040	0.0813	0.0080	0.0408	0.0316

LDC#: 36701B2a
Lab: Test America Denver

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Calculation Verification

Reviewer: JVG
2nd Reviewer: AL

METHOD: GC/MS SVOA (EPA SW 846 Method 8270D)

The percent difference (%D) of the initial calibration average Relative Response Factors (RRFs) and the continuing calibration RRFs were recalculated for the compounds identified below using the following calculation:

% Difference = 100 * (ave. RRF - RRF)/ave. RRF
RRF = (Ax)(Cis)/(Ais)(Cx)

Where:
ave. RRF = initial calibration average RRF
RRF = continuing calibration RRF
Ax = Area of compound
Cx = Concentration of compound
Ais = Area of associated internal standard
Cis = Concentration of internal standard

#	Standard ID	Calibration Date	Compound		Ave RRF	Reported RRF	Recalculated RRF	Reported % D	Recalculated %D
1	G6_23834	06/28/16	Phenol	(DCB)	1.8709	1.8889	1.8889	1.0	1.0
			Naphthalene	(NPT)	1.0060	0.9893	0.9893	1.7	1.7
			Diethyl phthalate	(ANT)	1.2441	1.2408	1.2408	0.3	0.3
			Hexachlorobenzene	(PHN)	0.2076	0.1989	0.1989	4.2	4.2
			BEHP	(CRY)	0.8794	0.9897	0.9897	12.5	12.5
			Benzo(a)pyrene	(PRY)	1.1352	1.1912	1.1912	4.9	4.9

Naphthalene

$$RRF = \frac{(\text{Area std})(\text{Conc IS})}{(\text{Area IS})(\text{Conc std})} = \frac{(2231319)(40)}{(1127675)(80)} = 0.9893$$

LDC #: 36701B2a

VALIDATION FINDINGS WORKSHEET
Surrogate Results Verification

Reviewer: JVG
2nd reviewer: [illegible]

METHOD: GC/MS Semivolatiles (EPA SW 846 Method 8270D)

The percent recoveries (%R) of surrogates were recalculated for the compounds identified below using the following calculation:

% Recovery: SF/SS * 100

Where: SF = Surrogate Found
SS = Surrogate Spiked

Sample ID: SC-TU009-MW001-S0305

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Nitrobenzene-d5	100	67.6	68	68	0
2-Fluorobiphenyl	↓	68.6	69	69	↓
Terphenyl-d14	↓	76.8	77	77	↓
Phenol-d5	↓	70.9	71	71	↓
2-Fluorophenol	↓	71.9	72	72	↓
2,4,6-Tribromophenol	↓	63.7	64	64	↓
2-Chlorophenol-d4					
1,2-Dichlorobenzene-d4					

$$NB2 = \frac{(790739)(40.0)}{(1130794)(0.4137)} = 67.6$$

Sample ID:

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Nitrobenzene-d5					
2-Fluorobiphenyl					
Terphenyl-d14					
Phenol-d5					
2-Fluorophenol					
2,4,6-Tribromophenol					
2-Chlorophenol-d4					
1,2-Dichlorobenzene-d4					

Sample ID:

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Nitrobenzene-d5					
2-Fluorobiphenyl					
Terphenyl-d14					
Phenol-d5					
2-Fluorophenol					
2,4,6-Tribromophenol					
2-Chlorophenol-d4					
1,2-Dichlorobenzene-d4					

LDC #: 36701 B2a

VALIDATION FINDINGS WORKSHEET
Matrix Spike/Matrix Spike Duplicates Results Verification

Reviewer: JVG
2nd Reviewer: [illegible]

METHOD: GC/MS BNA (EPA SW 846 Method 8270D)

The percent recoveries (%R) and Relative Percent Difference (RPD) of the matrix spike and matrix spike duplicate were recalculated for the compounds identified below using the following calculation:

% Recovery = 100 * (SSC - SC)/SA Where: SSC = Spiked sample concentration; SA = Spike added; SC = Sample concentation

RPD = I MSC - MSC I * 2/(MSC + MSDC) MSC = Matrix spike concentration MSDC = Matrix spike duplicate concentration

MS/MSD samples: 13/14

Compound	Spike Added (mg/kg)		Sample Concentration (mg/kg)	Spiked Sample Concentration (mg/kg)		Matrix Spike Percent Recovery		Matrix Spike Duplicate Percent Recovery		MS/MSD RPD	
	MS	MSD	----	MS	MSD	Reported	Recalc	Reported	Recalc	Reported	Recalc
Phenol	3.48	3.49	0	2.48	2.45	69	69	70	70	2	2
N-Nitroso-di-n-propylamine											
4-Chloro-3-methylphenol											
Acenaphthene											
Pentachlorophenol											
Pyrene											

Comments: Refer to Matrix Spike/Matrix Spike Duplicates findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

Phenol (MS) $= \frac{(747231)(40)(1ml)}{(290252)(1.8709)(30.1g)(0.763)}$

$= 2.397$

≈ 2.40 mg/kg

MSDCLC.wpd

LDC #: 36701 B2a

VALIDATION FINDINGS WORKSHEET

Laboratory Control Sample/Laboratory Control Sample Duplicates Results Verification

Reviewer: JVG

2nd Reviewer: [illegible]

METHOD: GC/MS BNA (EPA SW 846 Method 8270D)

The percent recoveries (%R) and Relative Percent Difference (RPD) of the laboratory control sample and laboratory control sample duplicate were recalculated for the compounds identified below using the following calculation:

% Recovery = 100 * (SC/SA

Where: SSC = Spike concentration
SA = Spike added

RPD = I LCSC - LCSDC I * 2/(LCSC + LCSDC)

LCSC = Laboratory control sample concentration LCSDC = Laboratory control sample duplicate concentration

LCS/LCSD samples: LCS 280-329438/2-A

Compound	Spike Added (ug/L)		Spike Concentration (ug/L)		LCS Percent Recovery		LCSD Percent Recovery		LCS/LCSD RPD	
	LCS	LCSD	LCS	LCSD	Reported	Recalc	Reported	Recalc	Reported	Recalculated
Phenol										
N-Nitroso-di-n-propylamine										
4-Chloro-3-methylphenol										
Acenaphthene										
Pentachlorophenol										
Pyrene	80.0	NA	64.4	NA	80	80				

Comments: Refer to Laboratory Control Sample/Laboratory Control Sample Duplicates findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

$$\text{Pyrene} = \frac{(153943)(48)(1\text{ml})}{(940749)(1.2911)(1\text{L})} = 64.38 \text{ ug/L}$$

LDC #: 36701 B2a

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Reviewer: JVG
2nd reviewer: [illegible]

METHOD: GC/MS BNA (EPA SW 846 Method 8270D)

Y N N/A Were all reported results recalculated and verified for all level IV samples?
Y N N/A Were all recalculated results for detected target compounds agree within 10.0% of the reported results?

Concentration = $\frac{(A_x)(I_s)(V_t)(DF)(2.0)}{(A_{is})(RRF)(V_o)(V_i)(\%S)}$

A_x	=	Area of the characteristic ion (EICP) for the compound to be measured
A_{is}	=	Area of the characteristic ion (EICP) for the specific internal standard
I_s	=	Amount of internal standard added in nanograms (ng)
V_o	=	Volume or weight of sample extract in milliliters (ml) or grams (g).
V_i	=	Volume of extract injected in microliters (ul)
V_t	=	Volume of the concentrated extract in microliters (ul)
Df	=	Dilution Factor.
%S	=	Percent solids, applicable to soil and solid matrices only.
2.0	=	Factor of 2 to account for GPC cleanup

Example:

Sample I.D. 3, Pyrene

Conc. = $\frac{(12196)(40.0)(1\,ml)(\quad)(\quad)}{(985057)(1.3045)(32.9g)(0.86)(\quad)}$

= 0.0134 mg/kg

#	Sample ID	Compound	Reported Concentration (mg/kg)	Calculated Concentration (mg/kg)	Qualification
	3	Pyrene	0.013		

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Schenectady ANGB

LDC Report Date: August 15, 2016

Parameters: Metals

Validation Level: Stage 2B

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-84353-1

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
SC-TU009-MW001-S0305	280-84353-1	Soil	06/06/16
SC-TU009-MW001-S0608	280-84353-2	Soil	06/06/16
SC-TU009-MW002-S0507	280-84353-3	Soil	06/06/16
SC-TU009-MW002-S0305	280-84353-4	Soil	06/06/16
SC-TU009-MW002-S0507-D	280-84353-5	Soil	06/06/16
SC-TU009-MW003-S0507	280-84353-6	Soil	06/06/16
SC-TU009-MW003-S0305	280-84353-7	Soil	06/06/16
SC-TU009-EB060616	280-84353-8	Water	06/06/16
SC-TU009-MW003-G-1	280-84353-9	Water	06/08/16
SC-TU009-6MW24-G-1	280-84353-10	Water	06/08/16
SC-TU009-6MW22-G-1	280-84353-11	Water	06/08/16
SC-TU009-6MW22-G-1-D	280-84353-12	Water	06/08/16
SC-TU009-MW003-G-1F	280-84353-9F	Water	06/08/16
SC-TU009-6MW24-G-1F	280-84353-10F	Water	06/08/16
SC-TU009-6MW22-G-1F	280-84353-11F	Water	06/08/16
SC-TU009-6MW22-G-1-DF	280-84353-12F	Water	06/08/16
SC-TU009-MW001-S0305MS	280-84353-1MS	Soil	06/06/16
SC-TU009-MW001-S0305MSD	280-84353-1MSD	Soil	06/06/16
SC-TU009-6MW22-G-1MS	280-84353-11MS	Water	06/08/16
SC-TU009-6MW22-G-1MSD	280-84353-11MSD	Water	06/08/16
SC-TU009-6MW22-G-1FMS	280-84353-11FMS	Water	06/08/16
SC-TU009-6MW22-G-1FMSD	280-84353-11FMSD	Water	06/08/16

Samples appended with "F" were analyzed for dissolved metals

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Final Remedial Investigation Work Plan, Uniform Federal Policy, Quality Assurance Project Plan at Schenectady Air National Guard Base, Scotia, New York (May 2016), the U.S. Department of Defense (DoD) Quality Systems Manual (QSM) for Environmental Laboratories, Version 5.0 (July 2013), and a modified outline of the USEPA National Functional Guidelines (NFG) for Inorganic Superfund Data Review (August 2014). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following methods:

Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Vanadium, and Zinc by Environmental Protection Agency (EPA) SW 846 Method 6010C
Mercury by EPA SW 846 Methods 7470A/7471A

All sample results were subjected to Stage 2B data validation, which comprises an evaluation of quality control (QC) summary results.

The following are definitions of the data qualifiers utilized during data validation:

J+ (Estimated, High Bias): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated, displaying high bias, due to non-conformances discovered during data validation.

J- (Estimated, Low Bias): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated, displaying low bias, due to non-conformances discovered during data validation.

J (Estimated, Bias Indeterminate): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation. Bias is indeterminate.

U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered non-detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).

UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.

N (Presumptive): The analysis indicates the presence of a compound or analyte that has been "tentatively identified."

NJ (Presumptive and estimated): The analysis indicates the presence of a compound or analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.

R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.

NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition.

All technical holding time requirements were met.

II. Instrument Calibration

Initial and continuing calibrations were performed as required by the methods.

The initial calibration verification (ICV) and continuing calibration verification (CCV) standards were within QC limits.

III. ICP Interference Check Sample Analysis

The frequency of interference check sample (ICS) analysis was met. All criteria were within QC limits.

IV. Laboratory Blanks

Laboratory blanks were analyzed as required by the methods. No contaminants were found in the laboratory blanks with the following exceptions:

Blank ID	Analyte	Maximum Concentration	Associated Samples
PB (prep blank)	Calcium Manganese Sodium	48.6 ug/L 0.340 ug/L 133 ug/L	SC-TU009-EB060616 SC-TU009-MW003-G-1 SC-TU009-6MW24-G-1 SC-TU009-6MW22-G-1 SC-TU009-6MW22-G-1-D
ICB/CCB	Antimony Arsenic Beryllium Selenium Sodium	11.6 ug/L 4.84 ug/L 0.520 ug/L 5.36 ug/L 144 ug/L	SC-TU009-EB060616 SC-TU009-MW003-G-1 SC-TU009-6MW24-G-1 SC-TU009-6MW22-G-1 SC-TU009-6MW22-G-1-D
PB (prep blank)	Aluminum Barium Calcium Copper Iron Magnesium Manganese	16.2 mg/Kg 0.161 mg/Kg 21.7 mg/Kg 0.226 mg/Kg 11.4 mg/Kg 6.34 mg/Kg 0.275 mg/Kg	SC-TU009-MW001-S0305 SC-TU009-MW001-S0608 SC-TU009-MW002-S0507 SC-TU009-MW002-S0305 SC-TU009-MW002-S0507-D SC-TU009-MW003-S0507 SC-TU009-MW003-S0305
ICB/CCB	Antimony	8.46 ug/L	SC-TU009-MW001-S0305 SC-TU009-MW001-S0608 SC-TU009-MW002-S0507 SC-TU009-MW002-S0305 SC-TU009-MW002-S0507-D SC-TU009-MW003-S0507 SC-TU009-MW003-S0305

Blank ID	Analyte	Maximum Concentration	Associated Samples
PB (prep blank)	Arsenic	4.49 ug/L	SC-TU009-MW003-G-1F SC-TU009-6MW24-G-1F SC-TU009-6MW22-G-1F SC-TU009-6MW22-G-1-DF
ICB/CCB	Antimony Selenium Thallium	4.65 ug/L 5.36 ug/L 7.70 ug/L	SC-TU009-MW003-G-1F SC-TU009-6MW24-G-1F SC-TU009-6MW22-G-1F SC-TU009-6MW22-G-1-DF
ICB/CCB	Manganese	0.390 ug/L	SC-TU009-MW003-G-1F

Data qualification by the laboratory blanks was based on the maximum contaminant concentration in the laboratory blanks in the analysis of each analyte. The sample concentrations were either not detected or were significantly greater than the concentrations found in the associated laboratory blanks with the following exceptions:

Sample	Analyte	Reported Concentration	Modified Final Concentration
SC-TU009-EB060616	Calcium Manganese Sodium	84 ug/L 3.2 ug/L 210 ug/L	1000U ug/L 10U ug/L 5000U ug/L
SC-TU009-MW003-G-1	Arsenic Beryllium	12 ug/L 0.64 ug/L	25U ug/L 1.5U ug/L
SC-TU009-6MW22-G-1-D	Antimony	3.9 ug/L	20U ug/L
SC-TU009-6MW24-G-1F	Antimony	4.6 ug/L	20U ug/L
SC-TU009-6MW22-G-1-DF	Arsenic	5.0 ug/L	25U ug/L

V. Field Blanks

Sample SC-TU009-EB060616 was identified as an equipment blank. No contaminants were found with the following exceptions:

Blank ID	Collection Date	Analyte	Concentration	Associated Samples
SC-TU009-EB060616	06/06/16	Copper Iron Magnesium Zinc	5.5 ug/L 140 ug/L 24 ug/L 4.6 ug/L	SC-TU009-MW001-S0305 SC-TU009-MW001-S0608 SC-TU009-MW002-S0507 SC-TU009-MW002-S0305 SC-TU009-MW002-S0507-D SC-TU009-MW003-S0507 SC-TU009-MW003-S0305

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater than the concentrations found in the associated field blanks.

VI. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) sample analysis was performed on an associated project sample. Percent recoveries (%R) were within QC limits with the following exceptions:

Spike ID (Associated Samples)	Analyte	MS (%R) (Limits)	MSD (%R) (Limits)	Flag	A or P
SC-TU009-6MW22-G-1MS/MSD (SC-TU009-6MW22-G-1 SC-TU009-6MW22-G-1-D)	Calcium	83 (87-113)	80 (87-113)	J- (all detects)	A
SC-TU009-MW001-S0305MS/MSD (SC-TU009-MW001-S0305)	Antimony Silver	28 (79-114) 79 (82-112)	29 (79-114) 75 (82-112)	UJ (all non-detects)	A
SC-TU009-MW001-S0305MS/MSD (SC-TU009-MW001-S0305)	Chromium Potassium Vanadium	116 (85-113) 140 (81-116) -	127 (85-113) 169 (81-116) 125 (82-114)	J (all detects) J (all detects) J (all detects)	A

For SC-TU009-6MW22-G-1MS/MSD and SC-TU009-6MW22-G-1FMS/MSD, no data were qualified for Manganese percent recoveries (%R) outside the QC limits since the parent sample results were greater than 4X the spike concentration.

For SC-TU009-MW001-S0305MS/MSD, no data were qualified for Aluminum, Iron, and Manganese percent recoveries (%R) outside the QC limits since the parent sample results were greater than 4X the spike concentration.

Relative percent differences (RPD) were within QC limits with the following exceptions:

Spike ID (Associated Samples)	Analyte	RPD (Limits)	Flag	A or P
SC-TU009-MW001-S0305MS/MSD (SC-TU009-MW001-S0305)	Cadmium Cobalt Lead Manganese Selenium Sodium Thallium Arsenic Silver	24 (≤20) 23 (≤20) 23 (≤20) 30 (≤20) 23 (≤20) 22 (≤20) 21 (≤20) 22 (≤20) 27 (≤20)	J (all detects) UJ (all non-detects)	A

VII. Duplicate Sample Analysis

The laboratory has indicated that there were no duplicate (DUP) analyses specified for the samples in this SDG, and therefore duplicate analyses were not performed for this SDG.

VIII. Serial Dilution

Serial dilution analysis was performed on an associated project sample. Percent differences (%D) were within QC limits with the following exceptions:

Diluted Sample	Analyte	%D (Limits)	Associated Samples	Flag	A or P
SC-TU009-MW001-S0305	Aluminum	11 (≤10)	SC-TU009-MW001-S0305	J (all detects)	A

IX. Laboratory Control Samples

Laboratory control samples (LCS) were analyzed as required by the methods. Percent recoveries (%R) were within QC limits.

X. Field Duplicates

Samples SC-TU009-MW002-S0507 and SC-TU009-MW002-S0507-D, samples SC-TU009-6MW22-G-1 and SC-TU009-6MW22-G-1-D, and samples SC-TU009-6MW22-G-1F and SC-TU009-6MW22-G-1-DF were identified as field duplicates. No results were detected in any of the samples with the following exceptions:

Analyte	Concentration (mg/Kg)		RPD (Limits)	Difference (Limits)	Flag	A or P
	SC-TU009-MW002-S0507	SC-TU009-MW002-S0507-D				
Aluminum	15000	15000	0 (≤50)	-	-	-
Arsenic	8.0	13	-	5 (≤28)	-	-
Barium	83	72	14 (≤50)	-	-	-
Beryllium	0.88	0.83	-	0.05 (≤5.6)	-	-
Cadmium	0.22	0.83U	-	0.61 (≤5.6)	-	-
Calcium	3700	2600	35 (≤50)	-	-	-
Chromium	21	22	5 (≤50)	-	-	-
Cobalt	15	18	18 (≤50)	-	-	-
Copper	35	41	16 (≤50)	-	-	-
Iron	31000	35000	12 (≤50)	-	-	-
Lead	16	19	17 (≤50)	-	-	-

Analyte	Concentration (mg/Kg)		RPD (Limits)	Difference (Limits)	Flag	A or P
	SC-TU009-MW002-S0507	SC-TU009-MW002-S0507-D				
Magnesium	5300	5800	9 (≤50)	-	-	-
Manganese	480	440	9 (≤50)	-	-	-
Mercury	0.060	0.057	5 (≤50)	-	-	-
Nickel	31	37	18 (≤50)	-	-	-
Potassium	2100	2200	5 (≤50)	-	-	-
Vanadium	26	23	12 (≤50)	-	-	-
Zinc	76	87	13 (≤50)	-	-	-

Analyte	Concentration (ug/L)		RPD (Limits)	Difference (Limits)	Flag	A or P
	SC-TU009-6MW22-G-1	SC-TU009-6MW22-G-1-D				
Aluminum	130	130	-	0 (≤300)	-	-
Barium	1.9	2.5	-	0.6 (≤10)	-	-
Calcium	180000	180000	0 (≤50)	-	-	-
Iron	180	180	0 (≤50)	-	-	-
Lead	10U	2.7	-	7.3 (≤15)	-	-
Magnesium	40000	38000	5 (≤50)	-	-	-
Manganese	3500	4200	18 (≤50)	-	-	-
Nickel	6.2	6.2	-	0 (≤40)	-	-
Potassium	3700	3600	3 (≤50)	-	-	-
Sodium	52000	51000	2 (≤50)	-	-	-
Zinc	15	16	-	1 (≤150)	-	-

Analyte	Concentration (ug/L)		RPD (Limits)	Difference (Limits)	Flag	A or P
	SC-TU009-6MW22-G-1F	SC-TU009-6MW22-G-1-DF				
Cadmium	0.57	0.52	-	0.05 (≤5.0)	-	-
Calcium	190000	200000	5 (≤50)	-	-	-
Lead	4.0	2.8	-	1.2 (≤15)	-	-
Magnesium	42000	43000	2 (≤50)	-	-	-
Manganese	2300	2300	0 (≤50)	-	-	-
Nickel	4.9	4.4	-	0.5 (≤40)	-	-
Potassium	3500	3500	0 (≤50)	-	-	-
Sodium	48000	50000	4 (≤50)	-	-	-
Zinc	9.1	8.9	-	0.2 (≤150)	-	-

XI. Sample Result Verification

Raw data were not reviewed for Stage 2B validation.

XII. Overall Assessment of Data

The analysis was conducted within all specifications of the methods. No results were rejected in this SDG.

Due to MS/MSD %R and RPD and serial dilution %D, data were qualified as estimated in three samples.

Due to laboratory blank contamination, data were qualified as not detected in five samples.

The quality control criteria reviewed, other than those discussed above, were met and are considered acceptable. Sample results that were found to be estimated (J) are usable for limited purposes only. Based upon the data validation all other results are considered valid and usable for all purposes.

Schenectady ANGB
Metals - Data Qualification Summary - SDG 280-84353-1

Sample	Analyte	Flag	A or P	Reason
SC-TU009-6MW22-G-1 SC-TU009-6MW22-G-1-D	Calcium	J- (all detects)	A	Matrix spike/Matrix spike duplicate (%R)
SC-TU009-MW001-S0305	Antimony Silver	UJ (all non-detects)	A	Matrix spike/Matrix spike duplicate (%R)
SC-TU009-MW001-S0305	Chromium Potassium Vanadium	J (all detects) J (all detects) J (all detects)	A	Matrix spike/Matrix spike duplicate (%R)
SC-TU009-MW001-S0305	Cadmium Cobalt Lead Manganese Selenium Sodium Thallium Arsenic Silver	J (all detects) UJ (all non-detects)	A	Matrix spike/Matrix spike duplicate (RPD)
SC-TU009-MW001-S0305	Aluminum	J (all detects)	A	Serial dilution (%D)

Schenectady ANGB
Metals - Laboratory Blank Data Qualification Summary - SDG 280-84353-1

Sample	Analyte	Modified Final Concentration	A or P
SC-TU009-EB060616	Calcium Manganese Sodium	1000U ug/L 10U ug/L 5000U ug/L	A
SC-TU009-MW003-G-1	Arsenic Beryllium	25U ug/L 1.5U ug/L	A
SC-TU009-6MW22-G-1-D	Antimony	20U ug/L	A
SC-TU009-6MW24-G-1F	Antimony	20U ug/L	A
SC-TU009-6MW22-G-1-DF	Arsenic	25U ug/L	A

Schenectady ANGB
Metals - Field Blank Data Qualification Summary - SDG 280-84353-1

No Sample Data Qualified in this SDG

LDC #: 36701B4b
SDG #: 280-84353-1
Laboratory: Test America

VALIDATION COMPLETENESS WORKSHEET
Stage 2B

Date: 7-22-16
Page: 1 of 2
Reviewer: MG
2nd Reviewer: [illegible]

METHOD: Metals (EPA SW 846 Method ~~6010B/7471A~~) 6010C / 7470A / 7471A
MG

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A	
II.	Instrument Calibration	A	
III.	ICP Interference Check Sample (ICS) Analysis	A	
IV.	Laboratory Blanks	SW	
V.	Field Blanks	SW	EB = 8
VI.	Matrix Spike/Matrix Spike Duplicates	SW	MS/MSD PDS: 1
VII.	Duplicate sample analysis	N	
VIII.	ICP Serial Dilution	SW	SD: 1
IX.	Laboratory control samples	A	LCS
X.	Field Duplicates	SW	D = 3+5, D = 11+12, D = 15+16
XI.	Sample Result Verification	N	
XII.	Overall Assessment of Data	A	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank; SB=Source blank; OTHER:

Samples appended with "F" were analyzed as dissolved.

		Client ID	Lab ID	Matrix	Date
1	1	SC-TU009-MW001-S0305	280-84353-1	Soil	06/06/16
2	1	SC-TU009-MW001-S0608	280-84353-2	Soil	06/06/16
3	1	SC-TU009-MW002-S0507	280-84353-3	Soil	06/06/16
4	1	SC-TU009-MW002-S0305	280-84353-4	Soil	06/06/16
5	1	SC-TU009-MW002-S0507-D	280-84353-5	Soil	06/06/16
6	1	SC-TU009-MW003-S0507	280-84353-6	Soil	06/06/16
7	1	SC-TU009-MW003-S0305	280-84353-7	Soil	06/06/16
8	2	SC-TU009-EB060610	280-84353-8	Water	06/06/16
9	2	SC-TU009-MW003-G-1	280-84353-9	Water	06/08/16
10	2	SC-TU009-6MW24-G-1	280-84353-10	Water	06/08/16
11	2	SC-TU009-6MW22-G-1	280-84353-11	Water	06/08/16
12	2	SC-TU009-6MW22-G-1-D	280-84353-12	Water	06/08/16
13	3	SC-TU009-MW003-G-1F	280-84353-9F	Water	06/08/16
14	3	SC-TU009-6MW24-G-1F	280-84353-10F	Water	06/08/16
15	3	SC-TU009-6MW22-G-1F	280-84353-11F	Water	06/08/16
16	3	SC-TU009-6MW22-G-1-DF	280-84353-12F	Water	06/08/16
17	1	SC-TU009-MW001-S0305MS	280-84353-1MS	Soil	06/06/16

LDC #: 36701B4b
SDG #: 280-84353-1
Laboratory: Test America

VALIDATION COMPLETENESS WORKSHEET
Stage 2B

Date: 7-22-16
Page: 2 of 2
Reviewer: MG
2nd Reviewer: [illegible]

METHOD: Metals (EPA SW 846 Method ~~6010B/7471A~~) 6010C/7470A/7471A
amH

	Client ID	Lab ID	Matrix	Date
18 1	SC-TU009-MW001-S0305MSD	280-84353-1MSD	Soil	06/06/16
19 2	SC-TU009-6MW22-G-1MS	280-84353-11MS	Water	06/08/16
20 2	SC-TU009-6MW22-G-1MSD	280-84353-11MSD	Water	06/08/16
21 3	SC-TU009-6MW22-G-1FMS	280-84353-11FMS	Water	06/08/16
22 3	SC-TU009-6MW22-G-1FMSD	280-84353-11FMSD	Water	06/08/16
23				
24				
25 1	PBS			
26 2	PBW1			
27 3	PBW2			

Notes:

LDC #: 36701B46

VALIDATION FINDINGS WORKSHEET
Sample Specific Element Reference

Reviewer: MG
2nd reviewer: M

All circled elements are applicable to each sample.

Sample ID	Matrix	Target Analyte List (TAL)
1→16	S/W	Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, ____
QC 17→22	↓	Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, ____
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, ____
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, ____
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, ____
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, ____
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, ____
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, ____
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, ____
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, ____
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, ____
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, ____
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, ____
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, ____
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, ____
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, ____
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, ____
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, ____
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, ____
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, ____
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, ____
Analysis Method		
ICP	S/W	Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, ____
ICP-MS		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, ____
GFAA		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Si, CN⁻, ____

Comments: Mercury by CVAA if performed

LDC #: 36701B4b
SDG #: See Cover

VALIDATION FINDINGS WORKSHEET
PB/ICB/CCB QUALIFIED SAMPLES

Reviewer: MG
2nd Reviewer: A

METHOD: Trace metals (EPA SW 864 Method 6010C/7470A/7471A) Soil preparation factor applied: 100x
Sample Concentration units, unless otherwise noted: ug/L Associated Samples: 8-12

Analyte	Maximum PB[a] (mg/Kg)	Maximum PB[a] (ug/L)	Maximum ICB/CCB[a] (ug/L)	Action Limit	8	9	12							
Sb			11.6				3.9/20U							
As			4.84			12/25U								
Be			0.520			0.64/1.5U								
Ca		48.6			84/1000U									
Mn		0.340			3.2/10U									
Se			5.36											
Na		133	144		210/5000U									

Sample Concentration units, unless otherwise noted: mg/kg Associated Samples: 1-7 (>LOQ or ND)

Analyte	Maximum PB[a] (mg/Kg)	Maximum PB[a] (ug/L)	Maximum ICB/CCB[a] (ug/L)	Action Limit	No Qual's.									
Al	16.2													
Sb			8.46											
Ba	0.161													
Ca	21.7													
Cu	0.226													
Fe	11.4													
Mg	6.34													
Mn	0.275													

LDC #: 36701B4b
SDG #: See Cover
METHOD: Trace metals (EPA SW 864 Method 6010C/7470A/7471A)
Sample Concentration units, unless otherwise noted: ug/L

VALIDATION FINDINGS WORKSHEET
PB/ICB/CCB QUALIFIED SAMPLES
Soil preparation factor applied: 100x
Associated Samples: 13-16

Reviewer: MG
2nd Reviewer: AC

Analyte	Maximum PB[a] (mg/Kg)	Maximum PB[a] (ug/L)	Maximum ICB/CCB[a] (ug/L)	Action Limit	14	16								
Sb			4.65		4.6/20U									
As		4.49				5.0/25U								
Se			5.36											
Tl			7.70											

Sample Concentration units, unless otherwise noted: ug/L
Associated Samples: 13 (>LOQ)

Analyte	Maximum PB[a] (mg/Kg)	Maximum PB[a] (ug/L)	Maximum ICB/CCB[a] (ug/L)	Action Limit	No Qual.									
Mn			0.390											

Samples with analyte concentrations within five times the associated ICB, CCB or PB concentration are listed above with the identifications from the Validation Completeness Worksheet. These sample results were qualified as not detected, "U".
Note : a - The listed analyte concentration is the highest ICB, CCB, or PB detected in the analysis of each element.

LDC #: 36701B4b

VALIDATION FINDINGS WORKSHEET
Field Blanks

Reviewer: MG
2nd Reviewer: A

METHOD: Trace Metals (EPA SW846 6010C/7470A/7471A)
Y N N/A Were field blanks identified in this SDG?
Y N N/A Were target analytes detected in the field blanks?
Blank units: ug/L **Associated sample units:** 1-7: mg/kg; ~~9-16: ug/L~~
Sampling date: 6/6/16 Soil factor applied 1000x
Field blank type: (circle one) Field Blank / Rinsate / Other: EB Associated Samples: 1-7, ~~9-16~~

Analyte	Blank ID	Sample Identification										
	8	Action Level	~~9~~	~~10~~	~~11~~	~~12~~	~~13~~	~~14~~	~~15~~	~~16~~		
Cu	5.5		8.4/15U	4.3/15U			5.7/15U	4.6/15U				
Fe	140	1.40/1400		1200J+	~~180J+~~	180J+						
Mg	24											
Zn	4.6		~~120/150U~~	~~30/150U~~	~~15/150U~~	~~16/150U~~	~~120/150U~~	~~5.9/150U~~	~~9.1/150U~~	~~8.9/150U~~		

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
Samples with analyte concentrations within five times the associated field blank concentration are listed above, these sample results were qualified as not detected, "U".

LDC #: 36701B46

VALIDATION FINDINGS WORKSHEET
Matrix Spike/Matrix Spike Duplicates

Page: 1 of 1
Reviewer: MG
2nd Reviewer: [illegible]

METHOD: Trace metals (EPA SW 846 Method 6010/6020/7000)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A — Was a matrix spike analyzed for each matrix in this SDG?

Y N N/A — Were matrix spike percent recoveries (%R) within the control limits of 75-125? If the sample concentration exceeded the spike concentration by a factor of 4 or more, no action was taken.

Y N N/A — Were all duplicate sample relative percent differences (RPD) ≤ 20% for water samples and ≤35% for soil samples?

LEVEL IV ONLY:

Y N N/A — Were recalculated results acceptable? See Level IV Recalculation Worksheet for recalculations.

#	MS/MSD ID	Matrix	Analyte	MS %Recovery	MSD %Recovery	RPD (Limits)	Associated Samples	Qualifications		
1	19/20	water	Ca	83 (87-113)	80 (87-113)		11, 12	J-/UJ/A	(det)	
										PS
2	17/18	soil	Sb	28 (79-114)	29 (79-114)		1	* J/UJ/A	(ND)	92
			Cr	116 (85-113)	127 (85-113)			J dets/A	(det)	90
			K	140 (81-116)	169 (81-116)			↓	(↓)	97
			Ag	79 (82-112)	75 (82-112)			J/UJ/A	(ND)	93
			V		125 (82-114)			J dets/A	(det)	87
			Cd			24 (≤20)		J/UJ/A	(ND)	
			Co			23 ( )			(det)	
			Pb			23 ( )			(↓)	
			Mn			30 ( )			(↓)	
			Se			23 ( )			(ND)	
			Na			22 ( )			(↓)	
			Tl			21 ( )			(det)	
			As			22 ( )			(↓)	
			Ag			27 (↓)			(ND)	

Comments: #19/20: Mn – 4x
#17/18: Al, Fe Mn – 4x
#21/22: Mn – 4x

* PDS on #1 in limit for Sb, 92% rec

MSD.4SW

LDC #: 36701B46

VALIDATION FINDINGS WORKSHEET
ICP Serial Dilution

Page: 1 of 1
Reviewer: MG
2nd Reviewer: M

METHOD: Trace Metals (EPA SW 846 Method 6010/6020/7000)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A If analyte concentrations were > 50X the MDL (ICP) ,or >100X the MDL (ICP/MS), was a serial dilution analyzed?
Y N N/A Were ICP serial dilution percent differences (%D) ≤10%?
Y N N/A Is there evidence of negative interference? If yes, professional judgement will be used to qualify the data.

LEVEL IV ONLY:

Y N N/A Were recalculated results acceptable? See Level IV Recalculation Worksheet for recalculations.

#	Date	Diluted Sample ID	Matrix	Analyte	%D (Limits)	Associated Samples	Qualifications
1		1	soil	Al	11 (≤10)	1	J/UJ/A (det)

Comments:

SDILICPMS.wpd

LDC#: 36701B4b

VALIDATION FINDINGS WORKSHEET
Field Duplicates

Reviewer: MG
2nd Reviewer: [illegible]

METHOD: Metals (EPA Method 6010C/7470A/7471A)

Analyte	Concentration (mg/kg) 3	Concentration (mg/kg) 5	RPD (≤50)	Difference	Limits	Qualifiers (Parent Only)
Aluminum	15000	15000	0			
Arsenic	8.0	13		5	(≤28)	
Barium	83	72	14			
Beryllium	0.88	0.83		0.05	(≤5.6)	
Cadmium	0.22	0.83U		0.61	(≤5.6)	
Calcium	3700	2600	35			
Chromium	21	22	5			
Cobalt	15	18	18			
Copper	35	41	16			
Iron	31000	35000	12			
Lead	16	19	17			
Magnesium	5300	5800	9			
Manganese	480	440	9			
Mercury	0.060	0.057	5			
Nickel	31	37	18			
Potassium	2100	2200	5			
Vanadium	26	23	12			
Zinc	76	87	13			

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Analyte	Concentration (ug/L) 11	Concentration (ug/L) 12	RPD (≤30)	Difference	Limits	Qualifiers (Parent Only)
Aluminum	130	130		0	(≤300)	

LDC#: 36701B4b

VALIDATION FINDINGS WORKSHEET
Field Duplicates

Reviewer: MG
2nd Reviewer: ~~M~~

METHOD: Metals (EPA Method 6010C/7470A/7471A)

Analyte	Concentration (ug/L) 11	Concentration (ug/L) 12	RPD (≤30)	Difference	Limits	Qualifiers (Parent Only)
Antimony	12U	3.9 U (MB)		8.1	(≤20)	
Barium	1.9	2.5		0.6	(≤10)	
Calcium	180000	180000	0			
Iron	180	180	0			
Lead	10U	2.7		7.3	(≤15)	
Magnesium	40000	38000	5			
Manganese	3500	4200	18			
Nickel	6.2	6.2		0	(≤40)	
Potassium	3700	3600	3			
Sodium	52000	51000	2			
Zinc	15 ~~U~~ a	~~(MB)~~ a 16 ~~U~~ a		1	(≤150)	

V:\FIELD DUPLICATES\FD_inorganic\36701B4b.wpd

Analyte	Concentration (ug/L) 15	Concentration (ug/L) 16	RPD (≤30)	Difference	Limits	Qualifiers (Parent Only)
Arsenic	15U	5.0 U (MB)		10	(≤25)	
Cadmium	0.57	0.52		0.05	(≤5.0)	
Calcium	190000	200000	5			
Lead	4.0	2.8		1.2	(≤15)	
Magnesium	42000	43000	2			
Manganese	2300	2300	0			
Nickel	4.9	4.4		0.5	(≤40)	
Potassium	3500	3500	0			

VALIDATION FINDINGS WORKSHEET
Field Duplicates

METHOD: Metals (EPA Method 6010C/7470A/7471A)

Analyte	Concentration (ug/L)		RPD (≤30)	Difference	Limits	Qualifiers (Parent Only)
	15	16				
Sodium	48000	50000	4			
Zinc	9.1 ~~U~~ a (LOB)	8.9 ~~U~~ a		0.2	(≤150)	

V:\FIELD DUPLICATES\FD_inorganic\36701B4b.wpd

LDC #: 36701B46

VALIDATION FINDINGS WORKSHEET
Initial and Continuing Calibration Calculation Verification

Reviewer: MG
2nd Reviewer: A

METHOD: Trace Metals (EPA SW 846 Method 6010/6020/7000)

An initial and continuing calibration verification percent recovery (%R) was recalculated for each type of analysis using the following formula:

$$\%R = \frac{Found}{True} \times 100$$

Where, Found = concentration (in ug/L) of each analyte measured in the analysis of the ICV or CCV solution
True = concentration (in ug/L) of each analyte in the ICV or CCV source

Standard ID	Type of Analysis	Element	Found (ug/L)	True (ug/L)	Recalculated %R	Reported %R	Acceptable (Y/N)
0949 ICV	ICP (Initial calibration)	Tl	526.62	500	105	105	Y
	ICP/MS (Initial calibration)						
1525 ICV	CVAA (Initial calibration)	Hg	3.972	4.00	99	99	
0222 CCV	ICP (Continuing calibration)	Ba	506.71	500	101	101	
	ICP/MS (Continuing calibration)						
1821 CCV	CVAA (Continuing calibration)	Hg	5.138	5.00	103	103	
	GFAA (Initial calibration)						
	GFAA (Continuing calibation)						

Comments: Refer to Calibration Verification findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 36701B46

VALIDATION FINDINGS WORKSHEET
Level IV Recalculation Worksheet

Reviewer: MG
2nd Reviewer: MC

METHOD: Trace Metals (EPA SW 846 Method 6010/6020/7000)

Percent recoveries (%R) for an ICP interference check sample, a laboratory control sample and a matrix spike sample were recalculated using the following formula:

$\%R = \frac{Found}{True} \times 100$ Where, Found = Concentration of each analyte measured in the analysis of the sample. For the matrix spike calculation, Found = SSR (spiked sample result) - SR (sample result).
True = Concentration of each analyte in the source.

A sample and duplicate relative percent difference (RPD) was recalculated using the following formula:

$RPD = \frac{|S-D|}{(S+D)/2} \times 100$ Where, S = Original sample concentration
D = Duplicate sample concentration

An ICP serial dilution percent difference (%D) was recalculated using the following formula:

$\%D = \frac{|I-SDR|}{I} \times 100$ Where, I = Initial Sample Result (mg/L)
SDR = Serial Dilution Result (mg/L) (Instrument Reading x 5)

Sample ID	Type of Analysis	Element	Found / S / I (units)	True / D / SDR (units)	Recalculated %R / RPD / %D	Reported %R / RPD / %D	Acceptable (Y/N)
1047 ICSAB	ICP interference check	Co	454.8 (µg/L)	500 (µg/L)	91	91	Y
0158 LCS	Laboratory control sample	Sb	520.8 (µg/L)	500 (µg/L)	104	104	↓
0247 19	Matrix spike	Pb	(SSR-SR) 477.2 (µg/L)	500 (µg/L)	95	95	↓
0247/0250 19/20	Duplicate	Ag	50.13 (µg/L)	49.41 (µg/L)	1	1	↓
2116/2119 1	ICP serial dilution	Al	24125 ~~(µg/L)~~ (mg/kg)	26700 ~~(µg/L)~~ (mg/kg) only	11	11	↓

Comments: Refer to appropriate worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

TOTCLC.4SW

LDC #: 36701B46

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Reviewer: MG
2nd reviewer: K

METHOD: Trace Metals (EPA SW 846 Method 6010/6020/7000)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Have results been reported and calculated correctly?
Y N N/A Are results within the calibrated range of the instruments and within the linear range of the ICP?
Y N N/A Are all detection limits below the CRDL?

Detected analyte results for #1, Hg were recalculated and verified using the following equation:

Concentration = $\frac{(RD)(FV)(Dil)}{(In.\ Vol.)}$

RD = Raw data concentration
FV = Final volume (ml)
In. Vol. = Initial volume (ml) or weight (G)
Dil = Dilution factor

Recalculation:

$$\frac{(0.382\ mg/L)(0.050L)}{(0.60\ g)(0.763)} = 0.0417\ \frac{\mu g}{g} \text{ or } \frac{mg}{Kg}$$

#	Sample ID	Analyte	Reported Concentration (mg/kg)	Calculated Concentration (mg/kg)	Acceptable (Y/N)
1	1	Hg	0.042	0.042	Y
			(µg/L)	(µg/L)	
2	11	Ni	6.2	6.2	

Note:

RECALC.4SW

08/03/16

The attached zipped file contains three files:

File	Format	Description	
01) Readme_Schenectady_080316.doc	MS Word 2003	A "Readme" file (this document).	
	MS Excel 2007	A spreadsheet for the following SDG(s):	
02) SCHENECTEDY_ERPIMS_EDD_280-84351-1.xlsx		280-84351-1	36701A
03) SCHENECTEDY_ERPIMS_EDD_280-84353-1.xlsx		280-84353-1	36701B

No discrepancies were observed between the hardcopy data packages and the electronic data deliverables during EDD population of validation qualifiers. A 100% verification of the EDD was not performed.

Please contact Pei Geng at (760) 827-1100 if you have any questions regarding this electronic data submittal.

LDC #: 36701

EDD POPULATION COMPLETENESS WORKSHEET

Date: 08/02/16
Page: 1 of 1
2nd Reviewer: JE

The LDC job number listed above was entered by CB.

	EDD Process		Comments/Action
I.	EDD Completeness	-	
Ia.	- All methods present?	y	
Ib.	- All samples present/match report?	y	
Ic.	- All reported analytes present?	y	
Id.	10% or 100% verification of EDD?	y	
II.	EDD Preparation/Entry	-	
IIa.	- Carryover U/J?	y	
IIb.	- Reason Codes used? If so, note which codes	N	
IIc.	-Additional Information (QC Level, Validator, Date, Validated Y/N, etc.)	N	
III.	Reasonableness Checks	-	
IIIa.	- Do all qualified ND results have ND qualifier (i.e. UJ)?	y	
IIIb.	- Do all qualified detect results have detect qualifier (i.e. J)?	y	
IIIc.	- If reason codes used, do all qualified results have reason code field populated?	—	
IIId.	-Does the detect flag require changing for blank qualifiers? If so, are all U results marked ND?	y / y	
IIIe.	- Do blank concentrations in report match EDD, where data was qualified due to blank?	y	
IIIf.	- Were any results rejected for overall assessment? If so, were results changed to nonreportable?	N / NA	
IIIg.	- Is the readme complete? If applicable, were edits or discrepancies listed in the readme?	y	

Notes: _____

LABORATORY DATA CONSULTANTS, INC.
2701 Loker Ave. West, Suite 220, Carlsbad, CA 92010 Bus: 760-827-1100 Fax: 760-827-1099

Weston Solutions, Inc.
1371 Brass Mill Rd., Suite N
Belcamp, MD 21017
ATTN: Mr. Joseph Gross

January 3, 2017

SUBJECT: Revised Schenectady ANGB, Data Validation

Dear Mr. Gross,

Enclosed is the revised validation report for the fraction listed below. Please replace the previously submitted report with the enclosed revised report.

LDC Project #37655:

SDG #	**Fraction**
280-90734-1	Semivolatiles

Please feel free to contact us if you have any questions.

Sincerely,

Pei Geng
Project Manager/Senior Chemist

LABORATORY DATA CONSULTANTS, INC.
2701 Loker Ave. West, Suite 220, Carlsbad, CA 92010 Bus: 760-827-1100 Fax: 760-827-1099

Weston Solutions, Inc.
1371 Brass Mill Rd., Suite N
Belcamp, MD 21017
ATTN: Mr. Joseph Gross

December 22, 2016

SUBJECT: Schenectady ANGB, Data Validation

Dear Mr. Gross,

Enclosed is the final validation report for the fractions listed below. This SDG was received on December 9, 2016. Attachment 1 is a summary of the samples that were reviewed for each analysis.

LDC Project #37655:

SDG #	**Fraction**
280-90734-1	Volatiles, Semivolatiles

The data validation was performed under Stage 2B guidelines. The analyses were validated using the following documents, as applicable to each method:

- Final Remedial Investigation Work Plan, Uniform Federal Policy, Quality Assurance Project Plan at Schenectady Air National Guard Base, Scotia, New York, May 2016
- U.S. Department of Defense, Quality Systems Manual for Environmental Laboratories, Version 5.0, July 2013
- USEPA, Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review, August 2014
- EPA SW 846, Third Edition, Test Methods for Evaluating Solid Waste, update 1, July 1992; update IIA, August 1993; update II, September 1994; update IIB, January 1995; update III, December 1996; update IIIA, April 1998; IIIB, November 2004; update IV, February 2007; update V, July 2014

Please feel free to contact us if you have any questions.

Sincerely,

Pei Geng
Project Manager/Senior Chemist

919 pages-SF

Attachment 1

EDD Stage 2B

LDC #37655 (Weston Solutions, Inc.- West Chester, PA / Schenectady ANGB)

LDC	SDG#	DATE REC'D	(2) DATE DUE	VOA (8260C)		SVOA (8270D)																													
Matrix:	Water/Soil			W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S
A	280-90734-1	12/09/16	12/23/16	5	0	4	0																												
Total	T/PG			5	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9

Shaded cells indicate Stage 4 validation (all other cells are Stage 2B validation). These sample counts do not include MS/MSD, and DUPs

L:\Weston Solutions\Schenectady ANG\37655ST.wpd

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Schenectady ANGB

LDC Report Date: December 21, 2016

Parameters: Volatiles

Validation Level: Stage 2B

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-90734-1

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
SC-TU008-MW002-G-2	280-90734-1	Water	11/07/16
SC-TU008-MW002-G-2-D	280-90734-2	Water	11/07/16
SC-TU008-TB110716	280-90734-3	Water	11/07/16
SC-TU008-MW004-G-2	280-90734-4	Water	11/07/16
SC-TU008-MW001-G-2	280-90734-5	Water	11/07/16
SC-TU008-MW001-G-2MS	280-90734-5MS	Water	11/07/16
SC-TU008-MW001-G-2MSD	280-90734-5MSD	Water	11/07/16

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Final Remedial Investigation Work Plan, Uniform Federal Policy, Quality Assurance Project Plan at Schenectady Air National Guard Base, Scotia, New York (May 2016), the U.S. Department of Defense (DoD) Quality Systems Manual (QSM) for Environmental Laboratories, Version 5.0 (July 2013), and a modified outline of the USEPA National Functional Guidelines (NFG) for Superfund Organic Methods Data Review (August 2014). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Volatile Organic Compounds (VOCs) by Environmental Protection Agency (EPA) SW 846 Method 8260C

All sample results were subjected to Stage 2B data validation, which comprises an evaluation of quality control (QC) summary results.

The following are definitions of the data qualifiers utilized during data validation:

J+ (Estimated, High Bias): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated, displaying high bias, due to non-conformances discovered during data validation.

J- (Estimated, Low Bias): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated, displaying low bias, due to non-conformances discovered during data validation.

J (Estimated, Bias Indeterminate): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation. Bias is indeterminate.

U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered non-detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).

UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.

N (Presumptive): The analysis indicates the presence of a compound or analyte that has been "tentatively identified."

NJ (Presumptive and estimated): The analysis indicates the presence of a compound or analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.

R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.

NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

II. GC/MS Instrument Performance Check

A bromofluorobenzene (BFB) tune was performed at 12 hour intervals.

All ion abundance requirements were met.

III. Initial Calibration and Initial Calibration Verification

An initial calibration was performed as required by the method.

For compounds where average relative response factors (RRFs) were utilized, the percent relative standard deviations (%RSD) were less than or equal to 15.0%.

In the case where the laboratory used a calibration curve to evaluate the compounds, all coefficients of determination (r^2) were greater than or equal to 0.990.

Average relative response factors (RRF) for all compounds were within method criteria with the exception of Methyl Acetate and 2-Butanone. Since all compounds were within validation criteria, no data were qualified.

The percent differences (%D) of the initial calibration verification (ICV) standard were less than or equal to 20.0% for all compounds.

IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

The percent differences (%D) were less than or equal to 20.0% for all compounds with the following exceptions:

Date	Compound	%D	Associated Samples	Flag	A or P
11/16/16	Vinyl chloride Bromomethane Chloroethane Trichlorofluoromethane	20.5 39.2 45.1 24.6	All samples in SDG 280-90734-1	UJ (all non-detects) UJ (all non-detects) UJ (all non-detects) UJ (all non-detects)	A

The percent differences (%D) of the ending continuing calibration verifications (CCVs) were less than or equal to 50.0% for all compounds.

All of the continuing calibration relative response factors (RRF) were within method criteria with the exception of Methyl Acetate and 2-Butanone. Since all compounds were within validation criteria, no data were qualified.

V. Laboratory Blanks

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks with the following exceptions:

Blank ID	Analysis Date	Compound	Concentration	Associated Samples
MB 160-279462/6	11/16/16	1,2,3-Trichlorobenzene	3.07 ug/L	All samples in SDG 280-90734-1

Sample concentrations were compared to concentrations detected in the laboratory blanks. The sample concentrations were either not detected or were significantly greater than the concentrations found in the associated laboratory blanks.

VI. Field Blanks

Sample SC-TU008-TB110716 was identified as a trip blank. No contaminants were found.

VII. Surrogates

Surrogates were added to all samples as required by the method. All surrogate recoveries (%R) were within QC limits.

VIII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) sample analysis was performed on an associated project sample. Percent recoveries (%R) were within QC limits with the following exceptions:

Spike ID (Associated Samples)	Compound	MS (%R) (Limits)	MSD (%R) (Limits)	Flag	A or P
SC-TU008-MW001-G-2MS/MSD (SC-TU008-MW001-G-2)	Chloroethane	59 (60-138)	55 (60-138)	UJ (all non-detects)	A

Relative percent differences (RPD) were within QC limits.

IX. Laboratory Control Samples

Laboratory control samples (LCS) and laboratory control samples duplicates (LCSD) were analyzed as required by the method. Percent recoveries (%R) were within QC limits with the following exceptions:

LCS ID (Associated Samples)	Compound	LCS %R (Limits)	LCSD %R (Limits)	Flag	A or P
LCS/D160-279962/3,4 (All samples in SDG 280-90734-1)	Chloroethane	-	53 (60-138)	UJ (all non-detects)	P

Relative percent differences (RPD) were within QC limits.

X. Field Duplicates

Samples SC-TU008-MW002-G-2 and SC-TU008-MW002-G-2-D were identified as field duplicates. No results were detected in any of the samples.

XI. Internal Standards

All internal standard areas and retention times were within QC limits.

XII. Compound Quantitation

Raw data were not reviewed for Stage 2B validation.

XIII. Target Compound Identifications

Raw data were not reviewed for Stage 2B validation.

XIV. System Performance

Raw data were not reviewed for Stage 2B validation.

XV. Overall Assessment of Data

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

Due to continuing calibration %D, MS/MSD %R, and LCS/LCSD %R, data were qualified as estimated in five samples.

The quality control criteria reviewed, other than those discussed above, were met and are considered acceptable. Sample results that were found to be estimated (J) are usable for limited purposes only. Based upon the data validation all other results are considered valid and usable for all purposes.

Schenectady ANGB
Volatiles - Data Qualification Summary - SDG 280-90734-1

Sample	Compound	Flag	A or P	Reason
SC-TU008-MW002-G-2 SC-TU008-MW002-G-2-D SC-TU008-TB110716 SC-TU008-MW004-G-2 SC-TU008-MW001-G-2	Vinyl chloride Bromomethane Chloroethane Trichlorofluoromethane	UJ (all non-detects) UJ (all non-detects) UJ (all non-detects) UJ (all non-detects)	A	Continuing calibration (%D)
SC-TU008-MW001-G-2	Chloroethane	UJ (all non-detects)	A	Matrix spike/Matrix spike duplicate (%R)
SC-TU008-MW002-G-2 SC-TU008-MW002-G-2-D SC-TU008-TB110716 SC-TU008-MW004-G-2 SC-TU008-MW001-G-2	Chloroethane	UJ (all non-detects)	P	Laboratory control samples (%R)

Schenectady ANGB
Volatiles - Laboratory Blank Data Qualification Summary - SDG 280-90734-1

No Sample Data Qualified in this SDG

Schenectady ANGB
Volatiles - Field Blank Data Qualification Summary - SDG 280-90734-1

No Sample Data Qualified in this SDG

LDC #: 37655A1
SDG #: 280-90734-1
Laboratory: Test America

VALIDATION COMPLETENESS WORKSHEET
Stage 2B

Date: 12/12/16
Page: 1 of 1
Reviewer: JVG
2nd Reviewer: [illegible]

METHOD: GC/MS Volatiles (EPA SW 846 Method 8260C)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A, A	
II.	GC/MS Instrument performance check	A	
III.	Initial calibration/ICV	SW, A	ICAL ≤ 15% ICV ≤ 20%
IV.	Continuing calibration /tending	SW	CW ≤ 20/50%
V.	Laboratory Blanks	SW	
VI.	Field blanks	ND	TB = 3
VII.	Surrogate spikes	A	
VIII.	Matrix spike/Matrix spike duplicates	SW	
IX.	Laboratory control samples	SW	LCS 1D
X.	Field duplicates	ND	D = 1/2
XI.	Internal standards	A	
XII.	Compound quantitation RL/LOQ/LODs	N	
XIII.	Target compound identification	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank; SB=Source blank; OTHER:

	Client ID		Lab ID	Matrix	Date
1	SC-TU008-MW002-G-2	D	280-90734-1	Water	11/07/16
2	SC-TU008-MW002-G-2-D	D	280-90734-2	Water	11/07/16
3	SC-TU008-TB110716		280-90734-3	Water	11/07/16
4	SC-TU008-MW004-G-2		280-90734-4	Water	11/07/16
5	SC-TU008-MW001-G-2		280-90734-5	Water	11/07/16
6	SC-TU008-MW001-G-2MS		280-90734-5MS	Water	11/07/16
7	SC-TU008-MW001-G-2MSD		280-90734-5MSD	Water	11/07/16
8					
9					

Notes:

	MB 160-279462/6						

TARGET COMPOUND WORKSHEET

METHOD: VOA

A. Chloromethane	AA. Tetrachloroethene	AAA. 1,3,5-Trimethylbenzene	AAAA. Ethyl tert-butyl ether	A1. 1,3-Butadiene
B. Bromomethane	BB. 1,1,2,2-Tetrachloroethane	BBB. 4-Chlorotoluene	BBBB. tert-Amyl methyl ether	B1. Hexane
C. Vinyl choride	CC. Toluene	CCC. tert-Butylbenzene	CCCC. 1-Chlorohexane	C1. Heptane
D. Chloroethane	DD. Chlorobenzene	DDD. 1,2,4-Trimethylbenzene	DDDD. Isopropyl alcohol	D1. Propylene
E. Methylene chloride	EE. Ethylbenzene	EEE. sec-Butylbenzene	EEEE. Acetonitrile	E1. Freon 11
F. Acetone	FF. Styrene	FFF. 1,3-Dichlorobenzene	FFFF. Acrolein	F1. Freon 12
G. Carbon disulfide	GG. Xylenes, total	GGG. p-Isopropyltoluene	GGGG. Acrylonitrile	G1. Freon 113
H. 1,1-Dichloroethene	HH. Vinyl acetate	HHH. 1,4-Dichlorobenzene	HHHH. 1,4-Dioxane	H1. Freon 114
I. 1,1-Dichloroethane	II. 2-Chloroethylvinyl ether	III. n-Butylbenzene	IIII. Isobutyl alcohol	I1. 2-Nitropropane
J. 1,2-Dichloroethene, total	JJ. Dichlorodifluoromethane	JJJ. 1,2-Dichlorobenzene	JJJJ. Methacrylonitrile	J1. Dimethyl disulfide
K. Chloroform	KK. Trichlorofluoromethane	KKK. 1,2,4-Trichlorobenzene	KKKK. Propionitrile	K1. 2,3-Dimethyl pentane
L. 1,2-Dichloroethane	LL. Methyl-tert-butyl ether	LLL. Hexachlorobutadiene	LLLL. Ethyl ether	L1. 2,4-Dimethyl pentane
M. 2-Butanone	MM. 1,2-Dibromo-3-chloropropane	MMM. Naphthalene	MMMM. Benzyl chloride	M1. 3,3-Dimethyl pentane
N. 1,1,1-Trichloroethane	NN. Methyl ethyl ketone	NNN. 1,2,3-Trichlorobenzene	NNNN. Iodomethane	N1. 2-Methylpentane
O. Carbon tetrachloride	OO. 2,2-Dichloropropane	OOO. 1,3,5-Trichlorobenzene	OOOO.1,1-Difluoroethane	O1. 3-Methylpentane
P. Bromodichloromethane	PP. Bromochloromethane	PPP. trans-1,2-Dichloroethene	PPPP. Tetrahydrofuran	P1. 3-Ethylpentane
Q. 1,2-Dichloropropane	QQ. 1,1-Dichloropropene	QQQ. cis-1,2-Dichloroethene	QQQQ. Methyl acetate	Q1. 2,2-Dimethylpentane
R. cis-1,3-Dichloropropene	RR. Dibromomethane	RRR. m,p-Xylenes	RRRR. Ethyl acetate	R1. 2,2,3- Trimethylbutane
S. Trichloroethene	SS. 1,3-Dichloropropane	SSS. o-Xylene	SSSS. Cyclohexane	S1. 2,2,4-Trimethylpentane
T. Dibromochloromethane	TT. 1,2-Dibromoethane	TTT. 1,1,2-Trichloro-1,2,2-trifluoroethane	TTTT. Methylcyclohexane	T1. 2-Methylhexane
U. 1,1,2-Trichloroethane	UU. 1,1,1,2-Tetrachloroethane	UUU. 1,2-Dichlorotetrafluoroethane	UUUU. Allyl chloride	U1. Nonanal
V. Benzene	VV. Isopropylbenzene	VVV. 4-Ethyltoluene	VVVV. Methyl methacrylate	V1. 2-Methylnaphthalene
W. trans-1,3-Dichloropropene	WW. Bromobenzene	WWW. Ethanol	WWWW. Ethyl methacrylate	W1. Methanol
X. Bromoform	XX. 1,2,3-Trichloropropane	XXX. Di-isopropyl ether	XXXX. cis-1,4-Dichloro-2-butene	X1. 1,2,3-Trimethylbenzene
Y. 4-Methyl-2-pentanone	YY. n-Propylbenzene	YYY. tert-Butanol	YYYY. trans-1,4-Dichloro-2-butene	Y1.
Z. 2-Hexanone	ZZ. 2-Chlorotoluene	ZZZ. tert-Butyl alcohol	ZZZZ. Pentachloroethane	Z1.

LDC #: 376SA1

VALIDATION FINDINGS WORKSHEET
Initial Calibration

Page: 1 of 1
Reviewer: JVG
2nd Reviewer: [illegible]

METHOD: GC/MS VOA (EPA SW 846 Method 8260C)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Did the laboratory perform a 5 point calibration prior to sample analysis?
Y N N/A Were percent relative standard deviations (%RSD) ≤ 20% and relative response factors (RRF) within the method criteria?
Y N N/A Was a curve fit used for evaluation? If yes, what was the acceptance criteria used for evaluation? r² ≥ 0.99
Y N N/A Did the initial calibration meet the acceptance criteria?

#	Date	Standard ID	Compound	Finding %RSD (Limit: ≤20.0)	Finding RRF (Limit)	Associated Samples	Qualifications
	10/27/16	ICAL - VMSF	QQQ8, M		*		Text

Note: * = Ave RRF failed method criteria but within validation criteria

INICAL.wpd

LDC #: 37655A1

VALIDATION FINDINGS WORKSHEET
Continuing Calibration

Page: 1 of 1
Reviewer: JVG
2nd Reviewer: [illegible]

METHOD: GC/MS VOA (EPA SW 846 Method 8260C)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".
Y N N/A Was a continuing calibration standard analyzed at least once every 12 hours for each instrument?
Y N N/A Were percent differences (%D) ≤20 % and relative response factors (RRF) within the method criteria?

#	Date	Standard ID	Compound	Finding %D (Limit: ≤20.0%)	Finding RRF (Limit)	Associated Samples	Qualifications
	11/16/16	FCCV9668	C	20.5		All (ND)	J/UJ/A
			B	39.2		↓ ↓	↓
			D	45.1			
			KK	24.6			
			QQQ, M		*		Text

Note: * = Ave RRF failed method criteria but within validation criteria

CONCAL.wpd

LDC #: 37655A1

VALIDATION FINDINGS WORKSHEET
Blanks

Page: 1 of 1
Reviewer: JVG
2nd Reviewer: [illegible]

METHOD: GC/MS VOA (EPA SW 846 Method 8260C)
Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Was a method blank associated with every sample in this SDG?
Y N N/A Was a method blank analyzed at least once every 12 hours for each matrix and concentration?
Y N N/A Was there contamination in the method blanks? If yes, please see the qualifications below.

Blank analysis date: 11/16/16
Conc. units: ug/L
Associated Samples: All (ND)

Compound	Blank ID	Sample Identification								
	MB 160-279462/6									
NNN	3.07									

Blank analysis date:
Conc. units:
Associated Samples:

Compound	Blank ID	Sample Identification								

LDC #: 37655A1

VALIDATION FINDINGS WORKSHEET
Matrix Spike/Matrix Spike Duplicates

Reviewer: JVG
2nd Reviewer: [illegible]

METHOD : GC/MS VOA (EPA SW 846 Method 8260C)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water.

Y N N/A Was a MS/MSD analyzed every 20 samples of each matrix?

Y N N/A Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?

#	Date	MS/MSD ID	Compound	MS %R (Limits)	MSD %R (Limits)	RPD (Limits)	Associated Samples	Qualifications
		6/7	D	59 (60-138)	55 (60-138)	( )	5 (MD)	J/UJ/A
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
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				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		

LDC #: 37655A1

VALIDATION FINDINGS WORKSHEET
Laboratory Control Samples (LCS)

Page: 1 of 1
Reviewer: JVG
2nd Reviewer: [illegible]

METHOD: GC/MS VOA (EPA SW 846 Method 8260C)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Was a LCS required?

Y N N/A Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?

#	Date	LCS/LCSD ID	Compound	LCS %R (Limits)	LCSD %R (Limits)	RPD (Limits)	Associated Samples	Qualifications
		LCS/D 160-279962/3,4	D	( )	53 (66-138)	( )	All (ND)	J/UJ/P
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
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				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		

LDC#: 37655A1
Lab: Test America St. Louis

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Reviewer: JVG
2nd Reviewer: _____

METHOD: GC/MS VOA (EPA SW 846 Method 8260C)

The Relative Response Factor (RRF), average RRF, and percent relative standard deviation (%RSD) were recalculated for the compounds identified below using the following calculations:

$RRF = (A_x)(C_{is})/(A_{is})(C_x)$
average RRF = sum of the RRFs/number of standards
%RSD = 100 * (S/X)

A_x = Area of Compound
C_x = Concentration of compound,
S= Standard deviation of the RRFs,

A_{is} = Area of associated internal standard
C_{is} = Concentration of internal standard
X = Mean of the RRFs

#	Standard ID	Calibration Date	Compound (IS)	Reported RRF (50 std)	Recalculated RRF (50 std)	Reported Average RRF (Initial)	Recalculated Average RRF (Initial)	Reported %RSD	Recalculated %RSD
1	ICAL VMSF	10/27/16	Benzene (FB)	1.1636	1.1636	1.1757	1.1757	11	11
			Ethylbenzene (CBZ)	2.2225	2.2225	2.3198	2.3198	10.8	10.8
			1,1,2,2-Tetrachloroethane (DCB)	0.6452	0.6452	0.6740	0.6740	6.8	6.8

Benzene @ 50 ug/L

$$RRF = \frac{(Area\ std)(Conc\ IS)}{(Area\ IS)(Conc\ std)} = \frac{(1384917)(50)}{(1190155)(50)} = 1.1636$$

ICAL RRF (IS = 50ug/L)

Conc STD (ug/L)	Benzene	Ethylbenzene	~~1,1,2,TCA~~ 1.1.2.2-TCA
1.0	1.3066	2.5298	
2.5	1.2581	2.5169	
5.0	1.3275	2.6251	0.7654
10	1.1820	2.2624	0.6567
20	1.1112	2.1717	0.6563
50	1.1636	2.2225	0.6452
100	1.1333	1.9097	0.6509
200	0.9232		0.6693
X =	1.1757	2.3197	0.6740
S =	0.12733	0.25134	0.04550

LDC#: 37655A1
Lab: Test America St. Louis

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Calculation Verification

Reviewer: JVG
2nd Reviewer:

METHOD: GC/MS VOA (EPA SW 846 Method 8260C)

The percent difference (%D) of the initial calibration average Relative Response Factors (RRFs) and the continuing calibration RRFs were recalculated for the compounds identified below using the following calculation:

% Difference = 100 * (ave. RRF - RRF)/ave. RRF
RRF = (Ax)(Cis)/(Ais)(Cx)

Where:
ave. RRF = initial calibration average RRF
RRF = continuing calibration RRF
Ax = Area of compound
Cx = Concentration of compound
Ais = Area of associated internal standard
Cis = Concentration of internal standard

#	Standard ID	Calibration Date	Compound	Ave RRF	Reported RRF	Recalculated RRF	Reported % D	Recalculated %D
1	FCCV9668 VMS F	11/16/2016	Benzene (FB)	1.176	1.181	1.181	0.5	0.5
			Ethylbenzene (CBZ)	2.320	2.161	2.161	6.8	6.8
			1,1,2,2-Tetrachloroethane (DCB)	0.674	0.682	0.682	1.2	1.2

CCV1 Benzene

$$RRF = \frac{(\text{Area std})(\text{Conc IS})}{(\text{Area IS})(\text{Conc std})} = \frac{(1230504)(50)}{(1041921)(50)} = 1.181$$

LDC #: 37655A1

VALIDATION FINDINGS WORKSHEET
Surrogate Results Verification

Page: 1 of 1
Reviewer: JVG
2nd reviewer: ✓

METHOD: GC/MS VOA (EPA SW 846 Method 8260C)

The percent recoveries (%R) of surrogates were recalculated for the compounds identified below using the following calculation:

% Recovery: SF/SS * 100

Where: SF = Surrogate Found
SS = Surrogate Spiked

Sample ID: #1

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Dibromofluoromethane	50.0	51.4	103	103	0
1,2-Dichloroethane-d4		46.1	92	92	
Toluene-d8		53.3	107	107	
Bromofluorobenzene		53.7	107	107	

BFB = (355044)(50.0) / (288185)(1.1414) = 53.7 ng/L

Sample ID:

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Dibromofluoromethane					
1,2-Dichloroethane-d4					
Toluene-d8					
Bromofluorobenzene					

Sample ID:

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Dibromofluoromethane					
1,2-Dichloroethane-d4					
Toluene-d8					
Bromofluorobenzene					

Sample ID:

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Dibromofluoromethane					
1,2-Dichloroethane-d4					
Toluene-d8					
Bromofluorobenzene					

Sample ID:

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Dibromofluoromethane					
1,2-Dichloroethane-d4					
Toluene-d8					
Bromofluorobenzene					

LDC #: 37655 A1

VALIDATION FINDINGS WORKSHEET
Matrix Spike/Matrix Spike Duplicates Results Verification

Reviewer: JVG
2nd Reviewer: [illegible]

METHOD: GC/MS VOA (EPA SW 846 Method 8260C)

The percent recoveries (%R) and Relative Percent Difference (RPD) of the matrix spike and matrix spike duplicate were recalculated for the compounds identified below using the following calculation:

% Recovery = 100 * (SSC - SC)/SA Where: SSC = Spiked sample concentration, SA = Spike added, SC = Sample concentration

RPD = I MSC - MSC I * 2/(MSC + MSDC) MSC = Matrix spike concentration MSDC = Matrix spike duplicate concentration

MS/MSD sample: 6/7

Compound	Spike Added (ug/L)		Sample Concentration (ug/L)	Spiked Sample Concentration (ug/L)		Matrix Spike Percent Recovery		Matrix Spike Duplicate Percent Recovery		MS/MSD RPD	
	MS	MSD	-----	MS	MSD	Reported	Recalc	Reported	Recalc	Reported	Recalculated
1,1-Dichloroethene											
Trichloroethene											
Benzene	50	50	0	52.0	52.0	104	104	104	104	0	0
Toluene											
Chlorobenzene											

Comments: Refer to Matrix Spike/Matrix Spike Duplicates findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

Benzene (MS) = (178021)(50)(5 ml) / (963664)(1.1757)(5 ml) = 51.988 ≈ 52.0 ug/L

MSDCLC.1SC

LDC #: 07655A1

VALIDATION FINDINGS WORKSHEET
Laboratory Control Sample Results Verification

Reviewer: JVG
2nd Reviewer: [illegible]

METHOD: GC/MS VOA (EPA SW 846 Method 8260C)

The percent recoveries (%R) and Relative Percent Difference (RPD) of the laboratoy control sample and laboratory control sample duplicate (if applicable) were recalculated for the compounds identified below using the following calculation:

% Recovery = 100 * SSC/SA Where: SSC = Spiked sample concentration
SA = Spike added

RPD = I LCSC - LCSDC I * 2/(LCSC + LCSDC) LCSC = Laboraotry control sample concentration LCSDC = Laboratory control sample duplicate concentration

LCS ID: LCS D 160-279462/3,4

Compound	Spike Added (ug/L)		Spiked Sample Concentration (ug/L)		LCS Percent Recovery		LCSD Percent Recovery		LCS/LCSD RPD	
	LCS	LCSD	LCS	LCSD	Reported	Recalc.	Reported	Recalc.	Reported	Recalculated
1,1-Dichloroethene										
Trichloroethene										
Benzene	500	500	496	506	99	99	101	101	2	2
Toluene										
Chlorobenzene										

Comments: Refer to Laboratory Control Sample findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

Benzene (LCS) = (908136)(50)(5 ml) / (778502)(1.1757)(0.5 ml) = 496.09 ug/L

LCSCLC.wpd

LDC #: 37655A1

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Reviewer: JVG
2nd reviewer: [illegible]

METHOD: GC/MS VOA (EPA SW 846 Method 8260C)

Y N N/A Were all reported results recalculated and verified for all level IV samples?

Y N N/A Were all recalculated results for detected target compounds agree within 10.0% of the reported results?

Concentration = $\frac{(A_x)(I_s)(DF)}{(A_{is})(RRF)(V_o)(\%S)}$

A_x	=	Area of the characteristic ion (EICP) for the compound to be measured
A_{is}	=	Area of the characteristic ion (EICP) for the specific internal standard
I_s	=	Amount of internal standard added in nanograms (ng)
RRF	=	Relative response factor of the calibration standard.
V_o	=	Volume or weight of sample pruged in milliliters (ml) or grams (g).
Df	=	Dilution factor.
%S	=	Percent solids, applicable to soils and solid matrices only.

Example:

Sample I.D. ND, _____:

Conc. = (_____)(_____)(_____) / (_____)(_____)(_____)(_____)

=

#	Sample ID	Compound	Reported Concentration ( )	Calculated Concentration ( )	Qualification

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Schenectady ANGB

LDC Report Date: January 3, 2017

Parameters: Semivolatiles

Validation Level: Stage 2B

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-90734-1

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
SC-TU008-MW002-G-2	280-90734-1	Water	11/07/16
SC-TU008-MW002-G-2-D	280-90734-2	Water	11/07/16
SC-TU008-MW004-G-2	280-90734-4	Water	11/07/16
SC-TU008-MW001-G-2	280-90734-5	Water	11/07/16
SC-TU008-MW001-G-2MS	280-90734-5MS	Water	11/07/16
SC-TU008-MW001-G-2MSD	280-90734-5MSD	Water	11/07/16

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Final Remedial Investigation Work Plan, Uniform Federal Policy, Quality Assurance Project Plan at Schenectady Air National Guard Base, Scotia, New York (May 2016), the U.S. Department of Defense (DoD) Quality Systems Manual (QSM) for Environmental Laboratories, Version 5.0 (July 2013), and a modified outline of the USEPA National Functional Guidelines (NFG) for Superfund Organic Methods Data Review (August 2014). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Semivolatile Organic Compounds (SVOCs) by Environmental Protection Agency (EPA) SW 846 Method 8270D

All sample results were subjected to Stage 2B data validation, which comprises an evaluation of quality control (QC) summary results.

The following are definitions of the data qualifiers utilized during data validation:

J+ (Estimated, High Bias): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated, displaying high bias, due to non-conformances discovered during data validation.

J- (Estimated, Low Bias): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated, displaying low bias, due to non-conformances discovered during data validation.

J (Estimated, Bias Indeterminate): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation. Bias is indeterminate.

U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered non-detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).

UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.

N (Presumptive): The analysis indicates the presence of a compound or analyte that has been "tentatively identified."

NJ (Presumptive and estimated): The analysis indicates the presence of a compound or analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.

R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.

NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

II. GC/MS Instrument Performance Check

A decafluorotriphenylphosphine (DFTPP) tune was performed at 12 hour intervals.

All ion abundance requirements were met.

III. Initial Calibration and Initial Calibration Verification

An initial calibration was performed as required by the method.

For compounds where average relative response factors (RRFs) were utilized, percent relative standard deviations (%RSD) were less than or equal to 15.0%.

In the case where the laboratory used a calibration curve to evaluate the compounds, all coefficients of determination (r^2) were greater than or equal to 0.990.

Average relative response factors (RRF) for all compounds were within validation criteria.

The percent differences (%D) of the initial calibration verification (ICV) standard were less than or equal to 20.0% for all compounds.

IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

The percent differences (%D) were less than or equal to 20.0% for all compounds.

The percent differences (%D) of the ending continuing calibration verifications (CCVs) were less than or equal to 50.0% for all compounds.

All of the continuing calibration relative response factors (RRF) were within validation criteria.

V. Laboratory Blanks

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

VI. Field Blanks

No field blanks were identified in this SDG.

VII. Surrogates

Surrogates were added to all samples as required by the method. Surrogate recoveries (%R) were not within QC limits for sample SC-TU008-MW001-G-2. Using professional judgment, no data were qualified when one base or one acid surrogate %R was outside the QC limits and the %R was greater than or equal to 10%.

VIII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) sample analysis was performed on an associated project sample. Percent recoveries (%R) were within QC limits with the following exceptions:

Spike ID (Associated Samples)	Compound	MS (%R) (Limits)	MSD (%R) (Limits)	Flag	A or P
SC-TU008-MW001-G-2MS/MSD (SC-TU008-MW001-G-2)	Benzidine	0 (27-150)	0 (27-150)	R (all non-detects)	A
SC-TU008-MW001-G-2MS/MSD (SC-TU008-MW001-G-2)	Phenol	58 (61-120)	-	J (all detects)	A

Relative percent differences (RPD) were within QC limits with the following exceptions:

Spike ID (Associated Samples)	Compound	RPD (Limits)	Flag	A or P
SC-TU008-MW001-G-2MS/MSD (SC-TU008-MW001-G-2)	3,3'-Dichlorobenzidine 4-Chloroaniline	21 (≤20) 27 (≤20)	NA	-

IX. Laboratory Control Samples

Laboratory control samples (LCS) were analyzed as required by the method. Percent recoveries (%R) were within QC limits with the following exceptions:

LCS ID	Compound	%R (Limits)	Associated Samples	Flag	A or P
LCS 280-351287/2-A	Benzidine	0 (27-150)	All samples in SDG 280-90734-1	R (all non-detects)	P

X. Field Duplicates

Samples SC-TU008-MW002-G-2 and SC-TU008-MW002-G-2-D were identified as field duplicates. No results were detected in any of the samples.

XI. Internal Standards

All internal standard areas and retention times were within QC limits.

XII. Compound Quantitation

Raw data were not reviewed for Stage 2B validation.

XIII. Target Compound Identifications

Raw data were not reviewed for Stage 2B validation.

XIV. System Performance

Raw data were not reviewed for Stage 2B validation.

XV. Overall Assessment of Data

The analysis was conducted within all specifications of the method.

Due to MS/MSD %R and LCS/LCSD %R, data were rejected in four samples.

Due to MS/MSD %R, data were qualified as estimated in one sample.

The quality control criteria reviewed, other than those discussed above, were met and are considered acceptable. Sample results that were found to be rejected (R) are unusable for all purposes. Sample results that were found to be estimated (J) are usable for limited purposes only. Based upon the data validation all other results are considered valid and usable for all purposes.

Schenectady ANGB
Semivolatiles - Data Qualification Summary - SDG 280-90734-1

Sample	Compound	Flag	A or P	Reason
SC-TU008-MW001-G-2	Benzidine	R (all non-detects)	A	Matrix spike/Matrix spike duplicate (%R)
SC-TU008-MW001-G-2	Phenol	J (all detects)	A	Matrix spike/Matrix spike duplicate (%R)
SC-TU008-MW002-G-2 SC-TU008-MW002-G-2-D SC-TU008-MW004-G-2 SC-TU008-MW001-G-2	Benzidine	R (all non-detects)	P	Laboratory control samples (%R)

Schenectady ANGB
Semivolatiles - Laboratory Blank Data Qualification Summary - SDG 280-90734-1

No Sample Data Qualified in this SDG

Schenectady ANGB
Semivolatiles - Field Blank Data Qualification Summary - SDG 280-90734-1

No Sample Data Qualified in this SDG

LDC #: 37655A2a
SDG #: 280-90734-1
Laboratory: Test America

VALIDATION COMPLETENESS WORKSHEET
Stage 2B

Date: 12/12/16
Page: 1 of 1
Reviewer:
2nd Reviewer:

METHOD: GC/MS Semivolatiles (EPA SW 846 Method 8270D)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A / A	
II.	GC/MS Instrument performance check	A	
III.	Initial calibration/ICV	A / A	ICAL ≤ 15 %, rr ICV ≤ 20 %
IV.	Continuing calibration /ending	A	CCV ≤ 20/50 %
V.	Laboratory Blanks	A	
VI.	Field blanks	N	
VII.	Surrogate spikes	SW	
VIII.	Matrix spike/Matrix spike duplicates	SW	
IX.	Laboratory control samples	SW	LCS
X.	Field duplicates	ND	D = 1/r
XI.	Internal standards	A	
XII.	Compound quantitation RL/LOQ/LODs	N	
XIII.	Target compound identification	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank; SB=Source blank; OTHER:

	Client ID	Lab ID	Matrix	Date
1	SC-TU008-MW002-G-2 D	280-90734-1	Water	11/07/16
2	SC-TU008-MW002-G-2-D D	280-90734-2	Water	11/07/16
3	SC-TU008-MW004-G-2	280-90734-4	Water	11/07/16
4	SC-TU008-MW001-G-2	280-90734-5	Water	11/07/16
5	SC-TU008-MW001-G-2MS	280-90734-5MS	Water	11/07/16
6	SC-TU008-MW001-G-2MSD	280-90734-5MSD	Water	11/07/16
7				
8				
9				

Notes:

	MB280-351287/1-A						

VALIDATION FINDINGS WORKSHEET

METHOD: GC/MS SVOA

A. Phenol	AA. 2-Chloronaphthalene	AAA. Butylbenzylphthalate	AAAA. Dibenzothiophene	A1.
B. Bis (2-chloroethyl) ether	BB. 2-Nitroaniline	BBB. 3,3'-Dichlorobenzidine	BBBB. Benzo(a)fluoranthene	B1.
C. 2-Chlorophenol	CC. Dimethylphthalate	CCC. Benzo(a)anthracene	CCCC. Benzo(b)fluorene	C1.
D. 1,3-Dichlorobenzene	DD. Acenaphthylene	DDD. Chrysene	DDDD. cis/trans-Decalin	D1.
E. 1,4-Dichlorobenzene	EE. 2,6-Dinitrotoluene	EEE. Bis(2-ethylhexyl)phthalate	EEEE. Biphenyl	E1.
F. 1,2-Dichlorobenzene	FF. 3-Nitroaniline	FFF. Di-n-octylphthalate	FFFF. Retene	F1.
G. 2-Methylphenol	GG. Acenaphthene	GGG. Benzo(b)fluoranthene	GGGG. C30-Hopane	G1.
H. 2,2'-Oxybis(1-chloropropane)	HH. 2,4-Dinitrophenol	HHH. Benzo(k)fluoranthene	HHHH. 1-Methylphenanthrene	H1.
I. 4-Methylphenol	II. 4-Nitrophenol	III. Benzo(a)pyrene	IIII. 1,4-Dioxane	I1.
J. N-Nitroso-di-n-propylamine	JJ. Dibenzofuran	JJJ. Indeno(1,2,3-cd)pyrene	JJJJ. Acetophenone	J1.
K. Hexachloroethane	KK. 2,4-Dinitrotoluene	KKK. Dibenz(a,h)anthracene	KKKK. Atrazine	K1.
L. Nitrobenzene	LL. Diethylphthalate	LLL. Benzo(g,h,i)perylene	LLLL. Benzaldehyde	L1.
M. Isophorone	MM. 4-Chlorophenyl-phenyl ether	MMM. Bis(2-Chloroisopropyl)ether	MMMM. Caprolactam	M1.
N. 2-Nitrophenol	NN. Fluorene	NNN. Aniline	NNNN. 2,6-Dichlorophenol	N1.
O. 2,4-Dimethylphenol	OO. 4-Nitroaniline	OOO. N-Nitrosodimethylamine	OOOO. 1,2-Diphenylhydrazine	O1.
P. Bis(2-chloroethoxy)methane	PP. 4,6-Dinitro-2-methylphenol	PPP. Benzoic Acid	PPPP. 3-Methylphenol	P1.
Q. 2,4-Dichlorophenol	QQ. N-Nitrosodiphenylamine	QQQ. Benzyl alcohol	QQQQ. 3&4-Methylphenol	Q1.
R. 1,2,4-Trichlorobenzene	RR. 4-Bromophenyl-phenylether	RRR. Pyridine	RRRR. 4-Dimethyldibenzothiophene (4MDT)	R1.
S. Naphthalene	SS. Hexachlorobenzene	SSS. Benzidine	SSSS. 2/3-Dimethyldibenzothiophene (4MDT)	S1.
T. 4-Chloroaniline	TT. Pentachlorophenol	TTT. 1-Methylnaphthalene	TTTT. 1-Methyldibenzothiophene (1MDT)	T1.
U. Hexachlorobutadiene	UU. Phenanthrene	UUU.Benzo(b)thiophene	UUUU.	U1.
V. 4-Chloro-3-methylphenol	VV. Anthracene	VVV.Benzonaphthothiophene	VVVV.	V1.
W. 2-Methylnaphthalene	WW. Carbazole	WWW.Benzo(e)pyrene	WWWW.	W1.
X. Hexachlorocyclopentadiene	XX. Di-n-butylphthalate	XXX. 2,6-Dimethylnaphthalene	XXXX.	X1.
Y. 2,4,6-Trichlorophenol	YY. Fluoranthene	YYY. 2,3,5-Trimethylnaphthalene	YYYY.	Y1.
Z. 2,4,5-Trichlorophenol	ZZ. Pyrene	ZZZ. Perylene	ZZZZ.	Z1.

LDC #: 37655A2a

VALIDATION FINDINGS WORKSHEET
Surrogate Recovery

Page: 1 of 1
Reviewer: JVG
2nd Reviewer: [illegible]

METHOD: GC/MS BNA (EPA SW 846 Method 8270D)

Please see qualification below for all questions answered "N". Not applicable questions are identified as "N/A".

Y (N) N/A Were percent recoveries (%R) for surrogates within QC limits?
Y N (N/A) If 2 or more base neutral or acid surrogates were outside QC limits, was a reanalysis performed to confirm %R?
Y N (N/A) If any %R was less than 10 percent, was a reanalysis performed to confirm %R?

#	Date	Sample ID	Surrogate	%R (Limits)	Qualifications
		4	TPH	35 (50-134)	No qual (only 1 out)
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
				( )	
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				( )	
				( )	
				( )	

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

(2FP)= 2-Fluorophenol
(TBP) = 2,4,6-Tribromophenol
(2CP) = 2-Chlorophenol-d4
(DCB) = 1,2-Dichlorobenzene-d4

SUR.wpd

LDC #: 37655 A 2a

VALIDATION FINDINGS WORKSHEET
Matrix Spike/Matrix Spike Duplicates

Page: 1 of 1
Reviewer: JVG
2nd Reviewer: [illegible]

METHOD: GC/MS BNA (EPA SW 846 Method 8270D)
Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water.

Y N N/A Was a MS/MSD analyzed every 20 samples of each matrix?

Y N N/A Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?

#	Date	MS/MSD ID	Compound	MS %R (Limits)	MSD %R (Limits)	RPD (Limits)	Associated Samples	Qualifications
		5/6	SSS	0 (27-150)	0 (27-150)	( )	4 (ND)	J/R/A
			A	58 (61-120)	( )	( )	(Det)	J/UJ/A
			BBB	( )	( )	21 (20)	(ND)	J dets/A
			T	( )	( )	27 ( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
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				( )	( )	( )		

LDC #: 37655A29

VALIDATION FINDINGS WORKSHEET
Laboratory Control Samples (LCS)

Page: 1 of 1
Reviewer: JVG
2nd Reviewer: [illegible]

METHOD: GC/MS BNA (EPA SW 846 Method 8270D)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Was a LCS required?

Y N N/A Were the LCS/LCSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?

#	Date	LCS/LCSD ID	Compound	LCS %R (Limits)	LCSD %R (Limits)	RPD (Limits)	Associated Samples	Qualifications
		LCS 280-351287/2-A	555	0 (27-150)	( )	( )	All (ND)	J/R/P
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
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				( )	( )	( )		

LDC#: 37655A2a
Lab: Test America Denver

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Reviewer: JVG
2nd Reviewer: [illegible]

METHOD: GC/MS SVOA (EPA SW 846 Method 8270D)

The Relative Response Factor (RRF), average RRF, and percent relative standard deviation (%RSD) were recalculated for the compounds identified below using the following calculations:

$RRF = (A_x)(C_{is})/(A_{is})(C_x)$
average RRF = sum of the RRFs/number of standards
%RSD = 100 * (S/X)

A_x = Area of Compound
C_x = Concentration of compound,
S= Standard deviation of the RRFs,

A_{is} = Area of associated internal standard
C_{is} = Concentration of internal standard
X = Mean of the RRFs

#	Standard ID	Calibration Date	Compound (IS)	Reported RRF (50 std)	Recalculated RRF (50 std)	Reported Average RRF (Initial)	Recalculated Average RRF (Initial)	Reported %RSD	Recalculated %RSD
1	ICAL SMS D	11/18/16	Phenol (DCB)	2.1502	2.1502	1.9998	1.9998	4.6	4.6
			Naphthalene (NPT)	1.0545	1.0545	1.0037	1.0037	9.5	9.5
			Diethyl phthalate (ANT)	1.2280	1.2280	1.1605	1.1605	8.4	8.4
			Hexachlorobenzene (PHN)	0.2038	0.2038	0.1908	0.1908	6.4	6.4
			Chrysene (CRY)	1.1390	1.1390	1.1201	1.1201	2.6	2.6
			Benzo(a)pyrene (PRY)	1.1653	1.1653	1.0924	1.0924	7.8	7.8

Naphthalene @ 50ug/L

$$RRF = \frac{(\text{Area std})(\text{Conc IS})}{(\text{Area IS})(\text{Conc std})} = \frac{(172684)(40)}{(131013)(50)} = 1.0545$$

ICAL RRF (IS = 40ug/mL)

Conc(ug/mL)	Phenol	Naphthalene	Diethyl phthalate	Hexachlorobenzene	Chrysene	Benzo(a)pyrene
4.00	1.8705	1.1140	1.1542	0.1748	1.1096	0.9100
10.00	2.0398	1.0944	1.2907	0.2015	1.1343	1.0494
20.00	2.0534	1.0547	1.2246	0.2040	1.1428	1.0948
50.00	2.1502	1.0545	1.2280	0.2038	1.1390	1.1653
80.00	2.0585	1.0198	1.1965	0.1970	1.1596	1.1859
120.00	1.9438	0.9340	1.1360	0.1874	1.1065	1.1133
160.00	1.9693	0.9093	1.0697	0.1818	1.0964	1.1264
200.00	1.9130	0.8487	0.9843	0.1761	1.0725	1.0941
X =	1.9998	1.0037	1.1605	0.1908	1.1201	1.0924
S =	0.0917	0.0953	0.0977	0.0123	0.0287	0.0852

LDC#: 37655A2a
Lab: Test America Denver

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Calculation Verification

Reviewer: JVG
2nd Reviewer:

METHOD: GC/MS SVOA (EPA SW 846 Method 8270D)

The percent difference (%D) of the initial calibration average Relative Response Factors (RRFs) and the continuing calibration RRFs were recalculated for the compounds identified below using the following calculation:

% Difference = 100 * (ave. RRF - RRF)/ave. RRF
RRF = (Ax)(Cis)/(Ais)(Cx)

Where:
ave. RRF = initial calibration average RRF
RRF = continuing calibration RRF
Ax = Area of compound
Cx = Concentration of compound
Ais = Area of associated internal standard
Cis = Concentration of internal standard

#	Standard ID	Calibration Date	Compound	Ave RRF	Reported RRF	Recalculated RRF	Reported % D	Recalculated %D
1	D19448	12/02/16	Phenol (DCB)	1.9998	2.0543	2.0543	2.7	2.7
			Naphthalene (NPT)	1.0037	1.0135	1.0135	1.0	1.0
			Diethyl phthalate (ANT)	1.1605	1.1864	1.1864	2.2	2.2
			Hexachlorobenzene (PHN)	0.1908	0.1962	0.1962	2.8	2.8
			Chrysene (CRY)	1.1201	1.1303	1.1303	0.9	0.9
			Benzo(a)pyrene (PRY)	1.0924	1.1548	1.1548	5.7	5.7

Naphthalene

$$RRF = \frac{(\text{Area std})(\text{Conc IS})}{(\text{Area IS})(\text{Conc std})} = \frac{(302797)(40)}{(149375)(80)} = 1.0135$$

LDC #: 37655A2a

VALIDATION FINDINGS WORKSHEET
Surrogate Results Verification

Reviewer: JVG
2nd reviewer: ~~\~~

METHOD: GC/MS Semivolatiles (EPA SW 846 Method 8270D)

The percent recoveries (%R) of surrogates were recalculated for the compounds identified below using the following calculation:

% Recovery: SF/SS * 100

Where: SF = Surrogate Found
SS = Surrogate Spiked

Sample ID: 1

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Nitrobenzene-d5	100	77.6	78	78	0
2-Fluorobiphenyl		80.7	81	81	
Terphenyl-d14		77.4	77	77	
Phenol-d5		81.0	81	81	
2-Fluorophenol		78.8	79	79	
2,4,6-Tribromophenol		100.6	101	101	
2-Chlorophenol-d4					
1,2-Dichlorobenzene-d4					

$NB2 = \frac{(114993)(40.0)}{(187820)(0.4300)} = 77.6$ ug/L

Sample ID:

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Nitrobenzene-d5					
2-Fluorobiphenyl					
Terphenyl-d14					
Phenol-d5					
2-Fluorophenol					
2,4,6-Tribromophenol					
2-Chlorophenol-d4					
1,2-Dichlorobenzene-d4					

Sample ID:

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Nitrobenzene-d5					
2-Fluorobiphenyl					
Terphenyl-d14					
Phenol-d5					
2-Fluorophenol					
2,4,6-Tribromophenol					
2-Chlorophenol-d4					
1,2-Dichlorobenzene-d4					

LDC #: 37655A2a

VALIDATION FINDINGS WORKSHEET
Matrix Spike/Matrix Spike Duplicates Results Verification

Reviewer: JVG
2nd Reviewer: [illegible]

METHOD: GC/MS BNA (EPA SW 846 Method 8270D)

The percent recoveries (%R) and Relative Percent Difference (RPD) of the matrix spike and matrix spike duplicate were recalculated for the compounds identified below using the following calculation:

% Recovery = 100 * (SSC - SC)/SA Where: SSC = Spiked sample concentration; SA = Spike added; SC = Sample concentation

RPD = I MSC - MSC I * 2/(MSC + MSDC) MSC = Matrix spike concentration MSDC = Matrix spike duplicate concentration

MS/MSD samples: 5/6

Compound	Spike Added (ug/L)		Sample Concentration (ug/L)	Spiked Sample Concentration (ug/L)		Matrix Spike Percent Recovery		Matrix Spike Duplicate Percent Recovery		MS/MSD RPD	
	MS	MSD	------	MS	MSD	Reported	Recalc.	Reported	Recalc.	Reported	Recalc.
Phenol											
N-Nitroso-di-n-propylamine											
4-Chloro-3-methylphenol											
Acenaphthene											
Pentachlorophenol											
Pyrene	89.1	84.0	0	86.0	86.2	96	96	103	103	0 ~~200~~	0 ~~Not calc'd~~. JVG (Spike amounts ~~not comparable~~)

Comments: Refer to Matrix Spike/Matrix Spike Duplicates findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

Pyrene (MS) = (401133)(40)(1ml)(1000) / (181253)(1.1471)(897.5ml) = 85.99 ≈ 86.0 ug/L

LDC #: 37655 A2a

VALIDATION FINDINGS WORKSHEET

Laboratory Control Sample/Laboratory Control Sample Duplicates Results Verification

Reviewer: JVG

2nd Reviewer: [illegible]

METHOD: GC/MS BNA (EPA SW 846 Method 8270D)

The percent recoveries (%R) and Relative Percent Difference (RPD) of the laboratory control sample and laboratory control sample duplicate were recalculated for the compounds identified below using the following calculation:

% Recovery = 100 * (SC/SA

Where: SSC = Spike concentration
SA = Spike added

RPD = I LCSC - LCSDC I * 2/(LCSC + LCSDC)

LCSC = Laboratory control sample concentration LCSDC = Laboratory control sample duplicate concentration

LCS/LCSD samples: LCS 280 - 351287/2-A

Compound	Spike Added (ug/L)		Spike Concentration (ug/L)		LCS Percent Recovery		LCSD Percent Recovery		LCS/LCSD RPD	
	LCS	LCSD	LCS	LCSD	Reported	Recalc	Reported	Recalc	Reported	Recalculated
Phenol										
N-Nitroso-di-n-propylamine										
4-Chloro-3-methylphenol										
Acenaphthene										
Pentachlorophenol										
Pyrene	80.0	NA	82.2	NA	103	103				

Comments: Refer to Laboratory Control Sample/Laboratory Control Sample Duplicates findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

Pyrene = (413129) (40) (1ml) / (175289) (1.1471) (1L) = 82.2 ug/L

LDC #: 37655 A2a

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Reviewer: JVG
2nd reviewer: [illegible]

METHOD: GC/MS BNA (EPA SW 846 Method 8270D)

Y N N/A Were all reported results recalculated and verified for all level IV samples?
Y N N/A Were all recalculated results for detected target compounds agree within 10.0% of the reported results?

$$\text{Concentration} = \frac{(A_x)(I_s)(V_t)(DF)(2.0)}{(A_{is})(RRF)(V_o)(V_i)(\%S)}$$

A_x	=	Area of the characteristic ion (EICP) for the compound to be measured
A_{is}	=	Area of the characteristic ion (EICP) for the specific internal standard
I_s	=	Amount of internal standard added in nanograms (ng)
V_o	=	Volume or weight of sample extract in milliliters (ml) or grams (g).
V_i	=	Volume of extract injected in microliters (ul)
V_t	=	Volume of the concentrated extract in microliters (ul)
Df	=	Dilution Factor.
%S	=	Percent solids, applicable to soil and solid matrices only.
2.0	=	Factor of 2 to account for GPC cleanup

Example:

Sample I.D. 4, Phenol

$$\text{Conc.} = \frac{(46297)(40)(1\text{ ml})(1000)(\quad)}{(78362)(1.9998)(995.5\text{ ml})(\quad)(\quad)}$$

= 24.24

≈ 24 ug/L

#	Sample ID	Compound	Reported Concentration (ug/L)	Calculated Concentration ( )	Qualification
	4	Phenol	24		

12/22/16

The attached zipped file contains two files:

File	Format	Description
01) Readme_Schenectady_122216.doc	MS Word 2003	A "Readme" file (this document).
02) Schenectady_ERPIMS_EDD_280-90734-1.xlsx	MS Excel 2007	A spreadsheet for the following SDG(s): 280-90734-1 37655A

No discrepancies were observed between the hardcopy data packages and the electronic data deliverables during EDD population of validation qualifiers. A 100% verification of the EDD was not performed.

Please contact Pei Geng at (760) 827-1100 if you have any questions regarding this electronic data submittal.

LDC #: 37655

EDD POPULATION COMPLETENESS WORKSHEET

Date: 12/22/16
Page: 1 of 1
2nd Reviewer: [illegible]

The LDC job number listed above was entered by [illegible].

	EDD Process		Comments/Action
I.	EDD Completeness	-	
Ia.	- All methods present?	Y	
Ib.	- All samples present/match report?	Y	
Ic.	- All reported analytes present?	Y	
Id.	- 10% or 100% verification of EDD?	Y	
II.	EDD Preparation/Entry	-	
IIa.	- Carryover U/J?	Y	
IIb.	- Reason Codes used? If so, note which codes.	N	
IIc.	- Additional Information (QC Level, Validator, Validated Y/N, etc.)	N	
III.	Reasonableness Checks	-	
IIIa.	- Do all qualified ND results have ND qualifier (e.g. UJ)?	Y	
IIIb.	- Do all qualified detect results have detect qualifier (e.g. J)?	Y	
IIIc.	- If reason codes are used, do all qualified results have reason code field populated, and vice versa?	NA	
IIId.	-Does the detect flag require changing for blank qualifier? If so, are all U results marked ND?	NA/—	
IIIe.	- Do blank concentrations in report match EDD where data was qualified due to blank contamination?	NA	
IIIf.	- Were any results reported above calibration range? If so, were results qualified appropriately?	N/NA	
IIIg.	-Is the readme complete? If applicable, were edits or discrepancies listed in the readme?	Y	

Notes: *see discrepancy sheet

LABORATORY DATA CONSULTANTS, INC.
2701 Loker Ave. West, Suite 220, Carlsbad, CA 92010 Bus: 760-827-1100 Fax: 760-827-1099

Weston Solutions, Inc.
1371 Brass Mill Rd., Suite N
Belcamp, MD 21017
ATTN: Mr. Joseph Gross

January 16, 2017

SUBJECT: Revised Schenectady ANGB, Data Validation

Dear Mr. Gross,

Enclosed is the revised validation report for the fraction listed below. Please replace the previously report with the enclosed revised report.

LDC Project #37709:

SDG #	**Fraction**
280-90936-1	Semivolatiles

Please feel free to contact us if you have any questions.

Sincerely,

Pei Geng
Project Manager/Senior Chemist

LABORATORY DATA CONSULTANTS, INC.
2701 Loker Ave. West, Suite 220, Carlsbad, CA 92010 Bus: 760-827-1100 Fax: 760-827-1099

Weston Solutions, Inc.
1371 Brass Mill Rd., Suite N
Belcamp, MD 21017
ATTN: Mr. Joseph Gross

January 9, 2017

SUBJECT: Revised Schenectady ANGB, Data Validation

Dear Mr. Gross,

Enclosed is the revised validation report for the fraction listed below. Please replace the previously report with the enclosed revised report.

LDC Project #37709:

SDG #	Fraction
280-90936-1	Semivolatiles

Please feel free to contact us if you have any questions.

Sincerely,

Pei Geng
Project Manager/Senior Chemist

LABORATORY DATA CONSULTANTS, INC.
2701 Loker Ave. West, Suite 220, Carlsbad, CA 92010 Bus: 760-827-1100 Fax: 760-827-1099

Weston Solutions, Inc.
1371 Brass Mill Rd., Suite N
Belcamp, MD 21017
ATTN: Mr. Joseph Gross

December 28, 2016

SUBJECT: Schenectady ANGB, Data Validation

Dear Mr. Gross,

Enclosed is the final validation report for the fractions listed below. This SDG was received on December 12, 2016. Attachment 1 is a summary of the samples that were reviewed for each analysis.

LDC Project #37709:

SDG #	**Fraction**
280-90936-1	Volatiles, Semivolatiles

The data validation was performed under Stage 2B guidelines. The analyses were validated using the following documents, as applicable to each method:

- Final Remedial Investigation Work Plan, Uniform Federal Policy, Quality Assurance Project Plan at Schenectady Air National Guard Base, Scotia, New York, May 2016
- U.S. Department of Defense, Quality Systems Manual for Environmental Laboratories, Version 5.0, July 2013
- USEPA, Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review, August 2014
- EPA SW 846, Third Edition, Test Methods for Evaluating Solid Waste, update 1, July 1992; update IIA, August 1993; update II, September 1994; update IIB, January 1995; update III, December 1996; update IIIA, April 1998; IIIB, November 2004; update IV, February 2007; update V, July 2014

Please feel free to contact us if you have any questions.

Sincerely,

Pei Geng
Project Manager/Senior Chemist

837 pages-SF

Attachment 1

EDD Stage 2B

LDC #37709 (Weston Solutions, Inc.- West Chester, PA / Schenectady ANGB)

LDC	SDG#	DATE REC'D	(2) DATE DUE	VOA (8260C)		SVOA (8270D)																													
Matrix:	Water/Soil			W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S
A	280-90936-1	12/12/16	12/27/16	2	0	1	0																												
Total	T/PG			2	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3

Shaded cells indicate Stage 4 validation (all other cells are Stage 2B validation). These sample counts do not include MS/MSD, and DUPs

L:\Weston Solutions\Schenectady ANG\37709ST.wpd

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Schenectady ANGB

LDC Report Date: December 22, 2016

Parameters: Volatiles

Validation Level: Stage 2B

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-90936-1

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
SC-TU008-MW006-G-1	280-90936-1	Water	11/10/16
SC-TU008-TB111016	280-90936-2	Water	11/10/16
SC-TU008-MW006-G-1MS	280-90936-1MS	Water	11/10/16
SC-TU008-MW006-G-1MSD	280-90936-1MSD	Water	11/10/16

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Final Remedial Investigation Work Plan, Uniform Federal Policy, Quality Assurance Project Plan at Schenectady Air National Guard Base, Scotia, New York (May 2016), the U.S. Department of Defense (DoD) Quality Systems Manual (QSM) for Environmental Laboratories, Version 5.0 (July 2013), and a modified outline of the USEPA National Functional Guidelines (NFG) for Superfund Organic Methods Data Review (August 2014). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Volatile Organic Compounds (VOCs) by Environmental Protection Agency (EPA) SW 846 Method 8260C

All sample results were subjected to Stage 2B data validation, which comprises an evaluation of quality control (QC) summary results.

The following are definitions of the data qualifiers utilized during data validation:

J+ (Estimated, High Bias): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated, displaying high bias, due to non-conformances discovered during data validation.

J- (Estimated, Low Bias): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated, displaying low bias, due to non-conformances discovered during data validation.

J (Estimated, Bias Indeterminate): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation. Bias is indeterminate.

U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered non-detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).

UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.

N (Presumptive): The analysis indicates the presence of a compound or analyte that has been "tentatively identified."

NJ (Presumptive and estimated): The analysis indicates the presence of a compound or analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.

R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.

NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

II. GC/MS Instrument Performance Check

A bromofluorobenzene (BFB) tune was performed at 12 hour intervals.

All ion abundance requirements were met.

III. Initial Calibration and Initial Calibration Verification

An initial calibration was performed as required by the method.

For compounds where average relative response factors (RRFs) were utilized, the percent relative standard deviations (%RSD) were less than or equal to 15.0%.

In the case where the laboratory used a calibration curve to evaluate the compounds, all coefficients of determination (r^2) were greater than or equal to 0.990.

Average relative response factors (RRF) for all compounds were within method criteria with the exception of Methyl Acetate and 2-Butanone. Since all compounds were within validation criteria, no data were qualified.

The percent differences (%D) of the initial calibration verification (ICV) standard were less than or equal to 20.0% for all compounds.

IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

The percent differences (%D) were less than or equal to 20.0% for all compounds.

The percent differences (%D) of the ending continuing calibration verifications (CCVs) were less than or equal to 50.0% for all compounds.

All of the continuing calibration relative response factors (RRF) were within method criteria with the exception of Methyl Acetate and 2-Butanone. Since all compounds were within validation criteria, no data were qualified.

V. Laboratory Blanks

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

VI. Field Blanks

Sample SC-TU008-TB111016 was identified as a trip blank. No contaminants were found.

VII. Surrogates

Surrogates were added to all samples as required by the method. All surrogate recoveries (%R) were within QC limits.

VIII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) sample analysis was performed on an associated project sample. Percent recoveries (%R) were within QC limits. Relative percent differences (RPD) were within QC limits.

IX. Laboratory Control Samples

Laboratory control samples (LCS) and laboratory control samples duplicates (LCSD) were analyzed as required by the methods. Percent recoveries (%R) were within QC limits. Relative percent differences (RPD) were within QC limits.

X. Field Duplicates

No field duplicates were identified in this SDG.

XI. Internal Standards

All internal standard areas and retention times were within QC limits.

XII. Compound Quantitation

Raw data were not reviewed for Stage 2B validation.

XIII. Target Compound Identifications

Raw data were not reviewed for Stage 2B validation.

XIV. System Performance

Raw data were not reviewed for Stage 2B validation.

XV. Overall Assessment of Data

The analysis was conducted within all specifications of the method. No results were rejected in this SDG.

The quality control criteria reviewed were met and are considered acceptable. Based upon the data validation all results are considered valid and usable for all purposes.

Schenectady ANGB
Volatiles - Data Qualification Summary - SDG 280-90936-1

No Sample Data Qualified in this SDG

Schenectady ANGB
Volatiles - Laboratory Blank Data Qualification Summary - SDG 280-90936-1

No Sample Data Qualified in this SDG

Schenectady ANGB
Volatiles - Field Blank Data Qualification Summary - SDG 280-90936-1

No Sample Data Qualified in this SDG

LDC #: 37709A1
SDG #: 280-90936-1
Laboratory: Test America

VALIDATION COMPLETENESS WORKSHEET
Stage 2B

Date: 12/19/16
Page: 1 of 1
Reviewer: [illegible]
2nd Reviewer: [illegible]

METHOD: GC/MS Volatiles (EPA SW 846 Method 8260C)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A / A	
II.	GC/MS Instrument performance check	A	
III.	Initial calibration/ICV	SW / A	ICAL ≤15% ICV ≤20%
IV.	Continuing calibration /ending	SW	CCV ≤20 / 50%
V.	Laboratory Blanks	A	
VI.	Field blanks	ND	TB = 2
VII.	Surrogate spikes	A	
VIII.	Matrix spike/Matrix spike duplicates	A	
IX.	Laboratory control samples	A	LCS 1D
X.	Field duplicates	N	
XI.	Internal standards	A	
XII.	Compound quantitation RL/LOQ/LODs	N	
XIII.	Target compound identification	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank; SB=Source blank; OTHER:

	Client ID	Lab ID	Matrix	Date
1	SC-TU008-MW006-G-1	280-90936-1	Water	11/10/16
2	SC-TU008-TB111016	280-90936-2	Water	11/10/16
3	SC-TU008-MW006-G-1MS	280-90936-1MS	Water	11/10/16
4	SC-TU008-MW006-G-1MSD	280-90936-1MSD	Water	11/10/16
5				
6				
7				
8				
9				

Notes:

	MB 160-280313/7						

TARGET COMPOUND WORKSHEET

METHOD: VOA

A. Chloromethane	AA. Tetrachloroethene	AAA. 1,3,5-Trimethylbenzene	AAAA. Ethyl tert-butyl ether	A1. 1,3-Butadiene
B. Bromomethane	BB. 1,1,2,2-Tetrachloroethane	BBB. 4-Chlorotoluene	BBBB. tert-Amyl methyl ether	B1. Hexane
C. Vinyl choride	CC. Toluene	CCC. tert-Butylbenzene	CCCC. 1-Chlorohexane	C1. Heptane
D. Chloroethane	DD. Chlorobenzene	DDD. 1,2,4-Trimethylbenzene	DDDD. Isopropyl alcohol	D1. Propylene
E. Methylene chloride	EE. Ethylbenzene	EEE. sec-Butylbenzene	EEEE. Acetonitrile	E1. Freon 11
F. Acetone	FF. Styrene	FFF. 1,3-Dichlorobenzene	FFFF. Acrolein	F1. Freon 12
G. Carbon disulfide	GG. Xylenes, total	GGG. p-Isopropyltoluene	GGGG. Acrylonitrile	G1. Freon 113
H. 1,1-Dichloroethene	HH. Vinyl acetate	HHH. 1,4-Dichlorobenzene	HHHH. 1,4-Dioxane	H1. Freon 114
I. 1,1-Dichloroethane	II. 2-Chloroethylvinyl ether	III. n-Butylbenzene	IIII. Isobutyl alcohol	I1. 2-Nitropropane
J. 1,2-Dichloroethene, total	JJ. Dichlorodifluoromethane	JJJ. 1,2-Dichlorobenzene	JJJJ. Methacrylonitrile	J1. Dimethyl disulfide
K. Chloroform	KK. Trichlorofluoromethane	KKK. 1,2,4-Trichlorobenzene	KKKK. Propionitrile	K1. 2,3-Dimethyl pentane
L. 1,2-Dichloroethane	LL. Methyl-tert-butyl ether	LLL. Hexachlorobutadiene	LLLL. Ethyl ether	L1. 2,4-Dimethyl pentane
M. 2-Butanone	MM. 1,2-Dibromo-3-chloropropane	MMM. Naphthalene	MMMM. Benzyl chloride	M1. 3,3-Dimethyl pentane
N. 1,1,1-Trichloroethane	NN. Methyl ethyl ketone	NNN. 1,2,3-Trichlorobenzene	NNNN. Iodomethane	N1. 2-Methylpentane
O. Carbon tetrachloride	OO. 2,2-Dichloropropane	OOO. 1,3,5-Trichlorobenzene	OOOO.1,1-Difluoroethane	O1. 3-Methylpentane
P. Bromodichloromethane	PP. Bromochloromethane	PPP. trans-1,2-Dichloroethene	PPPP. Tetrahydrofuran	P1. 3-Ethylpentane
Q. 1,2-Dichloropropane	QQ. 1,1-Dichloropropene	QQQ. cis-1,2-Dichloroethene	QQQQ. Methyl acetate	Q1. 2,2-Dimethylpentane
R. cis-1,3-Dichloropropene	RR. Dibromomethane	RRR. m,p-Xylenes	RRRR. Ethyl acetate	R1. 2,2,3- Trimethylbutane
S. Trichloroethene	SS. 1,3-Dichloropropane	SSS. o-Xylene	SSSS. Cyclohexane	S1. 2,2,4-Trimethylpentane
T. Dibromochloromethane	TT. 1,2-Dibromoethane	TTT. 1,1,2-Trichloro-1,2,2-trifluoroethane	TTTT. Methylcyclohexane	T1. 2-Methylhexane
U. 1,1,2-Trichloroethane	UU. 1,1,1,2-Tetrachloroethane	UUU. 1,2-Dichlorotetrafluoroethane	UUUU. Allyl chloride	U1. Nonanal
V. Benzene	VV. Isopropylbenzene	VVV. 4-Ethyltoluene	VVVV. Methyl methacrylate	V1. 2-Methylnaphthalene
W. trans-1,3-Dichloropropene	WW. Bromobenzene	WWW. Ethanol	WWWW. Ethyl methacrylate	W1. Methanol
X. Bromoform	XX. 1,2,3-Trichloropropane	XXX. Di-isopropyl ether	XXXX. cis-1,4-Dichloro-2-butene	X1. 1,2,3-Trimethylbenzene
Y. 4-Methyl-2-pentanone	YY. n-Propylbenzene	YYY. tert-Butanol	YYYY. trans-1,4-Dichloro-2-butene	Y1.
Z. 2-Hexanone	ZZ. 2-Chlorotoluene	ZZZ. tert-Butyl alcohol	ZZZZ. Pentachloroethane	Z1.

LDC #: 27709A1

VALIDATION FINDINGS WORKSHEET
Initial Calibration

Page: 1 of 1
Reviewer: JVG
2nd Reviewer: [illegible]

METHOD: GC/MS VOA (EPA SW 846 Method 8260C)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Did the laboratory perform a 5 point calibration prior to sample analysis?
Y N N/A Were percent relative standard deviations (%RSD) ≤ 20% and relative response factors (RRF) within the method criteria?
Y N N/A Was a curve fit used for evaluation? If yes, what was the acceptance criteria used for evaluation? r ≥ 0.99
Y N N/A Did the initial calibration meet the acceptance criteria?

#	Date	Standard ID	Compound	Finding %RSD (Limit: ≤20.0)	Finding RRF (Limit)	Associated Samples	Qualifications
	11/18/16	ICAL-VMSX	QQQQ, M		*		Text

Note: * = Ave RRF failed method criteria but within validation criteria

INICAL.wpd

LDC #: 37709A1

VALIDATION FINDINGS WORKSHEET
Continuing Calibration

Page: 1 of 1
Reviewer: JVG
2nd Reviewer: [illegible]

METHOD: GC/MS VOA (EPA SW 846 Method 8260C)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Was a continuing calibration standard analyzed at least once every 12 hours for each instrument?

Y N N/A Were percent differences (%D) ≤20 % and relative response factors (RRF) within the method criteria?

#	Date	Standard ID	Compound	Finding %D (Limit: <20.0%)	Finding RRF (Limit)	Associated Samples	Qualifications
	11/21/16	XCCV4417	QQQ, M		X		Text

Note: * = Ave RRF failed method criteria but within validation criteria

CONCAL.wpd

LDC#: 37709A1
Lab: Test America St. Louis

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Reviewer: JVG
2nd Reviewer: [illegible]

METHOD: GC/MS VOA (EPA SW 846 Method 8260C)

The Relative Response Factor (RRF), average RRF, and percent relative standard deviation (%RSD) were recalculated for the compounds identified below using the following calculations:

$RRF = (A_x)(C_{is})/(A_{is})(C_x)$
average RRF = sum of the RRFs/number of standards
%RSD = 100 * (S/X)

A_x = Area of Compound
C_x = Concentration of compound,
S= Standard deviation of the RRFs,

A_{is} = Area of associated internal standard
C_{is} = Concentration of internal standard
X = Mean of the RRFs

#	Standard ID	Calibration Date	Compound (IS)	Reported RRF (50 std)	Recalculated RRF (50 std)	Reported Average RRF (Initial)	Recalculated Average RRF (Initial)	Reported %RSD	Recalculated %RSD
1	ICAL VMSX	11/18/16	Trichloroethene (FB)	0.2775	0.2775	0.2799	0.2799	4	4
			Ethylbenzene (CBZ)	2.1112	2.1112	2.1371	2.1371	4.9	4.9
			1,1,2,2-Tetrachloroethane (DCB)	0.5568	0.5568	0.5694	0.5694	5.3	5.3

TCE @ 50 ug/L

$$RRF = \frac{(Area\ std)(Conc\ IS)}{(Area\ IS)(Conc\ std)} = \frac{(428332)(50)}{(1543811)(50)} = 0.2775$$

ICAL RRF (IS = 50ug/L)

Conc STD (ug/L)	TCE	Ethylbenzene	1,1,2,2-TCA
1.0		2.2349	
2.5	0.2851	2.2527	
5.0	0.3041	2.2194	0.5792
10	0.2767	2.1724	0.5280
20	0.2750	2.0896	0.5636
50	0.2775	2.1112	0.5568
100	0.2755	2.0809	0.5693
200	0.2652	1.9358	0.6196
X =	0.2799	2.1371	0.5694
S =	0.01217	0.10526	0.03007

LDC#: 37709A1
Lab: Test America St. Louis

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Calculation Verification

Reviewer: JVG
2nd Reviewer:

METHOD: GC/MS VOA (EPA SW 846 Method 8260C)

The percent difference (%D) of the initial calibration average Relative Response Factors (RRFs) and the continuing calibration RRFs were recalculated for the compounds identified below using the following calculation:

% Difference = 100 * (ave. RRF - RRF)/ave. RRF
RRF = (Ax)(Cis)/(Ais)(Cx)

Where:
ave. RRF = initial calibration average RRF
RRF = continuing calibration RRF
Ax = Area of compound
Cx = Concentration of compound
Ais = Area of associated internal standard
Cis = Concentration of internal standard

#	Standard ID	Calibration Date	Compound	Ave RRF	Reported RRF	Recalculated RRF	Reported % D	Recalculated %D
1	XCCV4417	11/21/2016	Trichloroethene (FB)	0.2799	0.2714	0.2714	3.0	3.0
			Ethylbenzene (CBZ)	2.137	2.062	2.062	3.5	3.5
			1,1,2,2-Tetrachloroethane (DCB)	0.5694	0.5605	0.5605	1.6	1.6

CCV1 Trichloroethene

$$RRF = \frac{(\text{Area std})(\text{Conc IS})}{(\text{Area IS})(\text{Conc std})} = \frac{(462104)(50)}{(1702395)(50)} = 0.2714$$

LDC #: 37709A1

VALIDATION FINDINGS WORKSHEET
Surrogate Results Verification

Reviewer: JVG
2nd reviewer: [illegible]

METHOD: GC/MS VOA (EPA SW 846 Method 8260C)

The percent recoveries (%R) of surrogates were recalculated for the compounds identified below using the following calculation:

% Recovery: SF/SS * 100

Where: SF = Surrogate Found
SS = Surrogate Spiked

Sample ID: 1

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Dibromofluoromethane	50.0	50.6	101		
1,2-Dichloroethane-d4		51.2	102		
Toluene-d8		46.7	93		
Bromofluorobenzene		44.9	90		

$BFB = \frac{(539581)(50)}{(491249)(1.2241)} = 44.9$ ug/L

Sample ID:

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Dibromofluoromethane					
1,2-Dichloroethane-d4					
Toluene-d8					
Bromofluorobenzene					

Sample ID:

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Dibromofluoromethane					
1,2-Dichloroethane-d4					
Toluene-d8					
Bromofluorobenzene					

Sample ID:

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Dibromofluoromethane					
1,2-Dichloroethane-d4					
Toluene-d8					
Bromofluorobenzene					

Sample ID:

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Dibromofluoromethane					
1,2-Dichloroethane-d4					
Toluene-d8					
Bromofluorobenzene					

LDC #: 37709 A1

VALIDATION FINDINGS WORKSHEET
Matrix Spike/Matrix Spike Duplicates Results Verification

Page: 1 of 1
Reviewer: JVG
2nd Reviewer: [illegible]

METHOD: GC/MS VOA (EPA SW 846 Method 8260C)

The percent recoveries (%R) and Relative Percent Difference (RPD) of the matrix spike and matrix spike duplicate were recalculated for the compounds identified below using the following calculation:

% Recovery = 100 * (SSC - SC)/SA Where: SSC = Spiked sample concentration; SA = Spike added; SC = Sample concentration

RPD = I MSC - MSC I * 2/(MSC + MSDC) MSC = Matrix spike concentration MSDC = Matrix spike duplicate concentration

MS/MSD sample: 3/4

Compound	Spike Added (ug/L)		Sample Concentration (ug/L)	Spiked Sample Concentration (ug/L)		Matrix Spike Percent Recovery		Matrix Spike Duplicate Percent Recovery		MS/MSD RPD	
	MS	MSD	—	MS	MSD	Reported	Recalc	Reported	Recalc	Reported	Recalculated
1,1-Dichloroethene											
Trichloroethene	50.0	50.0	0	49.4	47.9	99	99	96	96	3	3
Benzene											
Toluene											
Chlorobenzene											

Comments: Refer to Matrix Spike/Matrix Spike Duplicates findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

$$\underset{(MS)}{TCE} = \frac{(447950)(50)(5ml)}{(16192137)(0.2799)(5ml)} = 49.4 \text{ ug/L}$$

MSDCLC.1SC

LDC #: 37709A1

VALIDATION FINDINGS WORKSHEET
Laboratory Control Sample Results Verification

Reviewer: JVG
2nd Reviewer: [illegible]

METHOD: GC/MS VOA (EPA SW 846 Method 8260C)

The percent recoveries (%R) and Relative Percent Difference (RPD) of the laboratoy control sample and laboratory control sample duplicate (if applicable) were recalculated for the compounds identified below using the following calculation:

% Recovery = 100 * SSC/SA Where: SSC = Spiked sample concentration
SA = Spike added

RPD = I LCSC - LCSDC I * 2/(LCSC + LCSDC) LCSC = Laboraotry control sample concentration LCSDC = Laboratory control sample duplicate concentration

LCS ID: LCS ID 160-280373/4, 5

Compound	Spike Added (ug/L)		Spiked Sample Concentration (ug/L)		LCS Percent Recovery		LCSD Percent Recovery		LCS/LCSD RPD	
	LCS	LCSD	LCS	LCSD	Reported	Recalc.	Reported	Recalc.	Reported	Recalculated
1,1-Dichloroethene										
Trichloroethene	50.0	50.0	49.1	48.2	98	98	96	96	2	2
Benzene										
Toluene										
Chlorobenzene										

Comments: Refer to Laboratory Control Sample findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

$$TCE = \frac{(460307)(50)(5ml)}{(1673539)(0.2799)(5ml)} = 49.1 \text{ ug/L}$$

LDC #: 37009A1

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Reviewer: JVG
2nd reviewer: [illegible]

METHOD: GC/MS VOA (EPA SW 846 Method 8260C)

Y N N/A Were all reported results recalculated and verified for all level IV samples?

Y N N/A Were all recalculated results for detected target compounds agree within 10.0% of the reported results?

Concentration = $\frac{(A_x)(I_s)(DF)}{(A_{is})(RRF)(V_o)(\%S)}$

A_x	=	Area of the characteristic ion (EICP) for the compound to be measured
A_{is}	=	Area of the characteristic ion (EICP) for the specific internal standard
I_s	=	Amount of internal standard added in nanograms (ng)
RRF	=	Relative response factor of the calibration standard.
V_o	=	Volume or weight of sample pruged in milliliters (ml) or grams (g).
Df	=	Dilution factor.
%S	=	Percent solids, applicable to soils and solid matrices only.

Example:

Sample I.D. MD:

Conc. = ( ) ( ) ( ) / ( ) ( ) ( ) ( )

=

#	Sample ID	Compound	Reported Concentration ( )	Calculated Concentration ( )	Qualification

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Schenectady ANGB

LDC Report Date: January 16, 2017

Parameters: Semivolatiles

Validation Level: Stage 2B

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-90936-1

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
SC-TU008-MW006-G-1	280-90936-1	Water	11/10/16

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Final Remedial Investigation Work Plan, Uniform Federal Policy, Quality Assurance Project Plan at Schenectady Air National Guard Base, Scotia, New York (May 2016), the U.S. Department of Defense (DoD) Quality Systems Manual (QSM) for Environmental Laboratories, Version 5.0 (July 2013), and a modified outline of the USEPA National Functional Guidelines (NFG) for Superfund Organic Methods Data Review (August 2014). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following method:

Semivolatile Organic Compounds (SVOCs) by Environmental Protection Agency (EPA) SW 846 Method 8270D

All sample results were subjected to Stage 2B data validation, which comprises an evaluation of quality control (QC) summary results.

The following are definitions of the data qualifiers utilized during data validation:

J+ (Estimated, High Bias): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated, displaying high bias, due to non-conformances discovered during data validation.

J- (Estimated, Low Bias): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated, displaying low bias, due to non-conformances discovered during data validation.

J (Estimated, Bias Indeterminate): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation. Bias is indeterminate.

U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered non-detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).

UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.

N (Presumptive): The analysis indicates the presence of a compound or analyte that has been "tentatively identified."

NJ (Presumptive and estimated): The analysis indicates the presence of a compound or analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.

R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.

NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met with the following exceptions:

Sample	Compound	Total Days From Sample Collection Until Extraction	Required Holding Time (in Days) From Sample Collection Until Extraction	Flag	A or P
All samples in SDG 280-90936-1	All compounds	10	7	UJ (all non-detects)	P

The laboratory indicated that the extraction time reported on the sample results and QC forms were incorrect, it did not match the extraction time reported on the sample prep batch sheet. However, it has no effect on the extraction date and data was still qualified as noted above.

II. GC/MS Instrument Performance Check

A decafluorotriphenylphosphine (DFTPP) tune was performed at 12 hour intervals.

All ion abundance requirements were met.

III. Initial Calibration and Initial Calibration Verification

An initial calibration was performed as required by the method.

For compounds where average relative response factors (RRFs) were utilized, percent relative standard deviations (%RSD) were less than or equal to 15.0%.

In the case where the laboratory used a calibration curve to evaluate the compounds, all coefficients of determination (r^2) were greater than or equal to 0.990.

Average relative response factors (RRF) for all compounds were within validation criteria.

The percent differences (%D) of the initial calibration verification (ICV) standard were less than or equal to 20.0% for all compounds.

IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

The percent differences (%D) were less than or equal to 20.0% for all compounds.

The percent differences (%D) of the ending continuing calibration verifications (CCVs) were less than or equal to 50.0% for all compounds.

All of the continuing calibration relative response factors (RRF) were within validation criteria.

V. Laboratory Blanks

Laboratory blanks were analyzed as required by the method. No contaminants were found in the laboratory blanks.

VI. Field Blanks

No field blanks were identified in this SDG.

VII. Surrogates

Surrogates were added to all samples as required by the method. All surrogate recoveries (%R) were within QC limits.

VIII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

IX. Laboratory Control Samples

Laboratory control samples (LCS) and laboratory control samples duplicates (LCSD) were analyzed as required by the method. Percent recoveries (%R) were within QC limits with the following exceptions:

LCS ID (Associated Samples)	Compound	LCS %R (Limits)	LCSD %R (Limits)	Flag	A or P
LCS/D280-352340/2,3-A (All samples in SDG 280-90936-1)	Benzidine	0 (27-150)	0 (27-150)	R (all non-detects)	P

Relative percent differences (RPD) were within QC limits.

X. Field Duplicates

No field duplicates were identified in this SDG.

XI. Internal Standards

All internal standard areas and retention times were within QC limits.

XII. Compound Quantitation

Raw data were not reviewed for Stage 2B validation.

XIII. Target Compound Identifications

Raw data were not reviewed for Stage 2B validation.

XIV. System Performance

Raw data were not reviewed for Stage 2B validation.

XV. Overall Assessment of Data

The analysis was conducted within all specifications of the method.

Due to LCS/LCSD %R, data were rejected in one sample.

Due to technical holding time, data were qualified as estimated in one sample.

The quality control criteria reviewed, other than those discussed above, were met and are considered acceptable. Sample results that were found to be rejected (R) are unusable for all purposes. Sample results that were found to be estimated (J) are usable for limited purposes only. Based upon the data validation all other results are considered valid and usable for all purposes.

Schenectady ANGB
Semivolatiles - Data Qualification Summary - SDG 280-90936-1

Sample	Compound	Flag	A or P	Reason
SC-TU008-MW006-G-1	All compounds except Benzidine	UJ (all non-detects)	P	Technical holding times
SC-TU008-MW006-G-1	Benzidine	R (all non-detects)	P	Laboratory control samples (%R)

Schenectady ANGB
Semivolatiles - Laboratory Blank Data Qualification Summary - SDG 280-90936-1

No Sample Data Qualified in this SDG

Schenectady ANGB
Semivolatiles - Field Blank Data Qualification Summary - SDG 280-90936-1

No Sample Data Qualified in this SDG

LDC #: 37709A2a
SDG #: 280-90936-1
Laboratory: Test America

VALIDATION COMPLETENESS WORKSHEET
Stage 2B

Date: 12/19/16
Page: 1 of 1
Reviewer: JVG
2nd Reviewer: [illegible]

METHOD: GC/MS Semivolatiles (EPA SW 846 Method 8270D)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A / SW	
II.	GC/MS Instrument performance check	A	
III.	Initial calibration/ICV	A / A	ICAL ≤ 15% ~ ICV ≤ 20%
IV.	Continuing calibration	A	CW ≤ 20%/50%
V.	Laboratory Blanks	A	
VI.	Field blanks	N	
VII.	Surrogate spikes	A	
VIII.	Matrix spike/Matrix spike duplicates	N	CS
IX.	Laboratory control samples	SW	LCS/D
X.	Field duplicates	N	
XI.	Internal standards	A	
XII.	Compound quantitation RL/LOQ/LODs	N	
XIII.	Target compound identification	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank; SB=Source blank; OTHER:

	Client ID	Lab ID	Matrix	Date
1	SC-TU008-MW006-G-1	280-90936-1	Water	11/10/16
2				
3				
4				
5				
6				
7				
8				
9				

Notes:

–	MB 280-352340/1-A						

VALIDATION FINDINGS WORKSHEET

METHOD: GC/MS SVOA

A. Phenol	AA. 2-Chloronaphthalene	AAA. Butylbenzylphthalate	AAAA. Dibenzothiophene	A1.
B. Bis (2-chloroethyl) ether	BB. 2-Nitroaniline	BBB. 3,3'-Dichlorobenzidine	BBBB. Benzo(a)fluoranthene	B1.
C. 2-Chlorophenol	CC. Dimethylphthalate	CCC. Benzo(a)anthracene	CCCC. Benzo(b)fluorene	C1.
D. 1,3-Dichlorobenzene	DD. Acenaphthylene	DDD. Chrysene	DDDD. cis/trans-Decalin	D1.
E. 1,4-Dichlorobenzene	EE. 2,6-Dinitrotoluene	EEE. Bis(2-ethylhexyl)phthalate	EEEE. Biphenyl	E1.
F. 1,2-Dichlorobenzene	FF. 3-Nitroaniline	FFF. Di-n-octylphthalate	FFFF. Retene	F1.
G. 2-Methylphenol	GG. Acenaphthene	GGG. Benzo(b)fluoranthene	GGGG. C30-Hopane	G1.
H. 2,2'-Oxybis(1-chloropropane)	HH. 2,4-Dinitrophenol	HHH. Benzo(k)fluoranthene	HHHH. 1-Methylphenanthrene	H1.
I. 4-Methylphenol	II. 4-Nitrophenol	III. Benzo(a)pyrene	IIII. 1,4-Dioxane	I1.
J. N-Nitroso-di-n-propylamine	JJ. Dibenzofuran	JJJ. Indeno(1,2,3-cd)pyrene	JJJJ. Acetophenone	J1.
K. Hexachloroethane	KK. 2,4-Dinitrotoluene	KKK. Dibenz(a,h)anthracene	KKKK. Atrazine	K1.
L. Nitrobenzene	LL. Diethylphthalate	LLL. Benzo(g,h,i)perylene	LLLL. Benzaldehyde	L1.
M. Isophorone	MM. 4-Chlorophenyl-phenyl ether	MMM. Bis(2-Chloroisopropyl)ether	MMMM. Caprolactam	M1.
N. 2-Nitrophenol	NN. Fluorene	NNN. Aniline	NNNN. 2,6-Dichlorophenol	N1.
O. 2,4-Dimethylphenol	OO. 4-Nitroaniline	OOO. N-Nitrosodimethylamine	OOOO. 1,2-Diphenylhydrazine	O1.
P. Bis(2-chloroethoxy)methane	PP. 4,6-Dinitro-2-methylphenol	PPP. Benzoic Acid	PPPP. 3-Methylphenol	P1.
Q. 2,4-Dichlorophenol	QQ. N-Nitrosodiphenylamine	QQQ. Benzyl alcohol	QQQQ. 3&4-Methylphenol	Q1.
R. 1,2,4-Trichlorobenzene	RR. 4-Bromophenyl-phenylether	RRR. Pyridine	RRRR. 4-Dimethyldibenzothiophene (4MDT)	R1.
S. Naphthalene	SS. Hexachlorobenzene	SSS. Benzidine	SSSS. 2/3-Dimethyldibenzothiophene (4MDT)	S1.
T. 4-Chloroaniline	TT. Pentachlorophenol	TTT. 1-Methylnaphthalene	TTTT. 1-Methyldibenzothiophene (1MDT)	T1.
U. Hexachlorobutadiene	UU. Phenanthrene	UUU.Benzo(b)thiophene	UUUU.	U1.
V. 4-Chloro-3-methylphenol	VV. Anthracene	VVV.Benzonaphthothiophene	VVVV.	V1.
W. 2-Methylnaphthalene	WW. Carbazole	WWW.Benzo(e)pyrene	WWWW.	W1.
X. Hexachlorocyclopentadiene	XX. Di-n-butylphthalate	XXX. 2,6-Dimethylnaphthalene	XXXX.	X1.
Y. 2,4,6-Trichlorophenol	YY. Fluoranthene	YYY. 2,3,5-Trimethylnaphthalene	YYYY.	Y1.
Z. 2,4,5-Trichlorophenol	ZZ. Pyrene	ZZZ. Perylene	ZZZZ.	Z1.

LDC #: 37769 A 2a

VALIDATION FINDINGS WORKSHEET
Technical Holding Times

Reviewer: JVG
2nd Reviewer: [illegible]

All circled dates have exceeded the technical holding times.
Y N N/A Were all cooler temperatures within validation criteria?

METHOD : GC/MS BNA (EPA SW 846 Method 8270D)

Sample ID	Matrix	Preserved	Sampling Date	Extraction date	Analysis date	Total # of Days	Qualifier
All (ND)	W	N	11/10/16	11/20/16	12/06/16	10	5/US/P
Lab indicated that the extraction time reported on the ~~sample~~ results and QC forms were incorrect. ~~Since this is~~ ~~is not~~ ~~effect~~ ~~the holding time~~ data was qualified as noted above.							

TECHNICAL HOLDING TIME CRITERIA

Water: Extracted within 7 days, analyzed within 40 days.
Soil: Extracted within 14 days, analyzed within 40 days.

LDC #: 37709 A2a

VALIDATION FINDINGS WORKSHEET
Laboratory Control Samples (LCS)

Page: 1 of 1
Reviewer: JVG
2nd Reviewer: [illegible]

METHOD: GC/MS BNA (EPA SW 846 Method 8270D)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Was a LCS required?

Y N N/A Were the LCS/LCSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?

#	Date	LCS/LCSD ID	Compound	LCS %R (Limits)	LCSD %R (Limits)	RPD (Limits)	Associated Samples	Qualifications
		LCS ID 280-352340/2,3-A	SSS	0 (27-150)	0 (27-150)	( )	All (ND)	J/R/P
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
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				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		

LDC#: 37709A2a
Lab: Test America Denver

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Reviewer: JVG
2nd Reviewer:

METHOD: GC/MS SVOA (EPA SW 846 Method 8270D)

The Relative Response Factor (RRF), average RRF, and percent relative standard deviation (%RSD) were recalculated for the compounds identified below using the following calculations:

$RRF = (A_x)(C_{is})/(A_{is})(C_x)$
average RRF = sum of the RRFs/number of standards
%RSD = 100 * (S/X)

A_x = Area of Compound
C_x = Concentration of compound,
S= Standard deviation of the RRFs,

A_{is} = Area of associated internal standard
C_{is} = Concentration of internal standard
X = Mean of the RRFs

#	Standard ID	Calibration Date	Compound (IS)	Reported RRF (50 std)	Recalculated RRF (50 std)	Reported Average RRF (Initial)	Recalculated Average RRF (Initial)	Reported %RSD	Recalculated %RSD
1	ICAL SMS D	11/30/16	Phenol (DCB)	2.1502	2.1502	1.9998	1.9998	4.6	4.6
			Naphthalene (NPT)	1.0545	1.0545	1.0037	1.0037	9.5	9.5
			Diethyl phthalate (ANT)	1.2280	1.2280	1.1605	1.1605	8.4	8.4
			Hexachlorobenzene (PHN)	0.2038	0.2038	0.1908	0.1908	6.4	6.4
			Chrysene (CRY)	1.1390	1.1390	1.1201	1.1201	2.6	2.6
			Benzo(a)pyrene (PRY)	1.1653	1.1653	1.0924	1.0924	7.8	7.8

Naphthalene @ 50ug/L

$$RRF = \frac{(Area\ std)(Conc\ IS)}{(Area\ IS)(Conc\ std)} = \frac{(172684)(40)}{(131013)(50)} = 1.0545$$

ICAL RRF (IS = 40ug/mL)

Conc(ug/mL)	Phenol	Naphthalene	Diethyl phthalate	Hexachlorobenzene	Chrysene	Benzo(a)pyrene
4.00	1.8705	1.1140	1.1542	0.1748	1.1096	0.9100
10.00	2.0398	1.0944	1.2907	0.2015	1.1343	1.0494
20.00	2.0534	1.0547	1.2246	0.2040	1.1428	1.0948
50.00	2.1502	1.0545	1.2280	0.2038	1.1390	1.1653
80.00	2.0585	1.0198	1.1965	0.1970	1.1596	1.1859
120.00	1.9438	0.9340	1.1360	0.1874	1.1065	1.1133
160.00	1.9693	0.9093	1.0697	0.1818	1.0964	1.1264
200.00	1.9130	0.8487	0.9843	0.1761	1.0725	1.0941
X =	1.9998	1.0037	1.1605	0.1908	1.1201	1.0924
S =	0.0917	0.0953	0.0977	0.0123	0.0287	0.0852

LDC#: 37709A2a
Lab: Test America Denver

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Calculation Verification

Page: 1 of 1
Reviewer: JVG
2nd Reviewer: G

METHOD: GC/MS SVOA (EPA SW 846 Method 8270D)

The percent difference (%D) of the initial calibration average Relative Response Factors (RRFs) and the continuing calibration RRFs were recalculated for the compounds identified below using the following calculation:

% Difference = 100 * (ave. RRF - RRF)/ave. RRF
RRF = (Ax)(Cis)/(Ais)(Cx)

Where:
ave. RRF = initial calibration average RRF
RRF = continuing calibration RRF
Ax = Area of compound
Cx = Concentration of compound
Ais = Area of associated internal standard
Cis = Concentration of internal standard

#	Standard ID	Calibration Date	Compound		Ave RRF	Reported RRF	Recalculated RRF	Reported % D	Recalculated %D
1	D19485	12/05/16	Phenol	(DCB)	2.000	2.106	2.106	5.3	5.3
			Naphthalene	(NPT)	1.004	1.038	1.038	3.4	3.4
			Diethyl phthalate	(ANT)	1.161	1.212	1.212	4.4	4.4
			Hexachlorobenzene	(PHN)	0.1908	0.1948	0.1948	2.1	2.1
			Chrysene	(CRY)	1.120	1.131	1.131	1.0	1.0
			Benzo(a)pyrene	(PRY)	1.092	1.154	1.154	5.6	5.6

Naphthalene

$$RRF = \frac{(\text{Area std})(\text{Conc IS})}{(\text{Area IS})(\text{Conc std})} = \frac{(312947)(40)}{(150802)(80)} = 1.038$$

LDC #: 37709A2c

VALIDATION FINDINGS WORKSHEET
Surrogate Results Verification

Page: 1 of 1
Reviewer: JVG
2nd reviewer: ~~

METHOD: GC/MS Semivolatiles (EPA SW 846 Method 8270D)

The percent recoveries (%R) of surrogates were recalculated for the compounds identified below using the following calculation:

% Recovery: SF/SS * 100

Where: SF = Surrogate Found
SS = Surrogate Spiked

Sample ID: #1

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Nitrobenzene-d5	100	88.0	88	88	0
2-Fluorobiphenyl		90.4	90	90	
Terphenyl-d14		90.4	90	90	
Phenol-d5		90.9	91	91	
2-Fluorophenol		85.6	86	86	
2,4,6-Tribromophenol		113.1	113	113	
2-Chlorophenol-d4					
1,2-Dichlorobenzene-d4					

$NB2 = \frac{(142470)(40)}{(150669)(0.4300)} = 87.96 \approx 88.0$ ug/L

Sample ID:

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Nitrobenzene-d5					
2-Fluorobiphenyl					
Terphenyl-d14					
Phenol-d5					
2-Fluorophenol					
2,4,6-Tribromophenol					
2-Chlorophenol-d4					
1,2-Dichlorobenzene-d4					

Sample ID:

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Nitrobenzene-d5					
2-Fluorobiphenyl					
Terphenyl-d14					
Phenol-d5					
2-Fluorophenol					
2,4,6-Tribromophenol					
2-Chlorophenol-d4					
1,2-Dichlorobenzene-d4					

LDC #: 37709A2L

VALIDATION FINDINGS WORKSHEET

Laboratory Control Sample/Laboratory Control Sample Duplicates Results Verification

Reviewer: JVG

2nd Reviewer: O

METHOD: GC/MS BNA (EPA SW 846 Method 8270D)

The percent recoveries (%R) and Relative Percent Difference (RPD) of the laboratory control sample and laboratory control sample duplicate were recalculated for the compounds identified below using the following calculation:

% Recovery = 100 * (SC/SA

Where: SSC = Spike concentration
SA = Spike added

RPD = | LCSC - LCSDC | * 2/(LCSC + LCSDC)

LCSC = Laboratory control sample concentration LCSDC = Laboratory control sample duplicate concentration

LCS/LCSD samples: LCS/D 280-352340/2, 3-A

Compound	Spike Added (ug/L)		Spike Concentration (ug/L)		LCS Percent Recovery		LCSD Percent Recovery		LCS/LCSD RPD	
	LCS	LCSD	LCS	LCSD	Reported	Recalc	Reported	Recalc	Reported	Recalculated
Phenol	80.0	80.0	74.7	75.1	93	93	94	94	1	1
N-Nitroso-di-n-propylamine										
4-Chloro-3-methylphenol										
Acenaphthene										
Pentachlorophenol										
Pyrene										

Comments: Refer to Laboratory Control Sample/Laboratory Control Sample Duplicates findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

Phenol (LCS) = (124924)(40)(1 ml)(1000) / (33466)(1.9998)(1000 ml) = 74.7 ug/L

LDC #: 37709 A2a

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Reviewer: JVG
2nd reviewer: [illegible]

METHOD: GC/MS BNA (EPA SW 846 Method 8270D)

Y N N/A Were all reported results recalculated and verified for all level IV samples?
Y N N/A Were all recalculated results for detected target compounds agree within 10.0% of the reported results?

Concentration = $\frac{(A_x)(I_s)(V_t)(DF)(2.0)}{(A_{is})(RRF)(V_o)(V_i)(\%S)}$

A_x	=	Area of the characteristic ion (EICP) for the compound to be measured
A_{is}	=	Area of the characteristic ion (EICP) for the specific internal standard
I_s	=	Amount of internal standard added in nanograms (ng)
V_o	=	Volume or weight of sample extract in milliliters (ml) or grams (g).
V_i	=	Volume of extract injected in microliters (ul)
V_t	=	Volume of the concentrated extract in microliters (ul)
Df	=	Dilution Factor.
%S	=	Percent solids, applicable to soil and solid matrices only.
2.0	=	Factor of 2 to account for GPC cleanup

Example:

Sample I.D. ND, _____:

Conc. = (_____)(_____)(_____)(_____)(_____) / (_____)(_____)(_____)(_____)(_____)

=

#	Sample ID	Compound	Reported Concentration ( )	Calculated Concentration ( )	Qualification

LDC #: 37709

EDD POPULATION COMPLETENESS WORKSHEET

Date: 12/23/16
Page: 1 of 1
2nd Reviewer: [illegible]

The LDC job number listed above was entered by [illegible]

	EDD Process		Comments/Action
I.	EDD Completeness	-	
Ia.	- All methods present?	Y	
Ib.	- All samples present/match report?	Y	
Ic.	- All reported analytes present?	Y	
Id.	10% or 100% verification of EDD?	Y	
II.	EDD Preparation/Entry	-	
IIa.	- Carryover U/J?	Y	
IIb.	- Reason Codes used? If so, note which codes.	N	
IIc.	- Additional Information (QC Level, Validator, Validated Y/N, etc.)	N	
III.	Reasonableness Checks	-	
IIIa.	- Do all qualified ND results have ND qualifier (e.g. UJ)?	Y	
IIIb.	- Do all qualified detect results have detect qualifier (e.g. J)?	NA	
IIIc.	- If reason codes are used, do all qualified results have reason code field populated, and vice versa?	—	
IIId.	-Does the detect flag require changing for blank qualifier? If so, are all U results marked ND?	NA/—	
IIIe.	- Do blank concentrations in report match EDD where data was qualified due to blank contamination?	NA	
IIIf.	- Were any results reported above calibration range? If so, were results qualified appropriately?	N/NA	
IIIg.	-Is the readme complete? If applicable, were edits or discrepancies listed in the readme?	Y	

Notes: *see discrepancy sheet

12/23/16

The attached zipped file contains two files:

File	Format	Description
01) Readme_Schenectady_122316.doc	MS Word 2003	A "Readme" file (this document).
02) Schenectady_ERPIMS_EDD_280-90936-1.xlsx	MS Excel 2007	A spreadsheet for the following SDG(s): 280-90936-1 37709A

No discrepancies were observed between the hardcopy data packages and the electronic data deliverables during EDD population of validation qualifiers. A 100% verification of the EDD was not performed.

Please contact Pei Geng at (760) 827-1100 if you have any questions regarding this electronic data submittal.

LABORATORY DATA CONSULTANTS, INC.
2701 Loker Ave. West, Suite 220, Carlsbad, CA 92010 Bus: 760-827-1100 Fax: 760-827-1099

Weston Solutions, Inc.
1371 Brass Mill Rd., Suite N
Belcamp, MD 21017
ATTN: Mr. Joseph Gross

December 28, 2016

SUBJECT: Revised Schenectady ANGB, Data Validation

Dear Mr. Gross,

Enclosed is the revised validation report for the fraction listed below. Please replace the previously submitted report with the enclosed revised report.

LDC Project #37616:

SDG #	**Fraction**
280-90742-1	Metals

Please feel free to contact us if you have any questions.

Sincerely,

Pei Geng
Project Manager/Senior Chemist

LABORATORY DATA CONSULTANTS, INC.
2701 Loker Ave. West, Suite 220, Carlsbad, CA 92010 Bus: 760-827-1100 Fax: 760-827-1099

Weston Solutions, Inc.
1371 Brass Mill Rd., Suite N
Belcamp, MD 21017
ATTN: Mr. Joseph Gross

December 20, 2016

SUBJECT: Schenectady ANGB, Data Validation

Dear Mr. Gross,

Enclosed is the final validation report for the fraction listed below. This SDG was received on December 1, 2016. Attachment 1 is a summary of the samples that were reviewed for each analysis.

LDC Project #37616:

SDG #	**Fraction**
280-90742-1	Metals

The data validation was performed under Stage 2B guidelines. The analyses were validated using the following documents, as applicable to each method:

- Final Remedial Investigation Work Plan, Uniform Federal Policy, Quality Assurance Project Plan at Schenectady Air National Guard Base, Scotia, New York, May 2016
- U.S. Department of Defense, Quality Systems Manual for Environmental Laboratories, Version 5.0, July 2013
- USEPA, Contract Laboratory Program National Functional Guidelines for Inorganic Superfund Data Review, August 2014
- EPA SW 846, Third Edition, Test Methods for Evaluating Solid Waste, update 1, July 1992; update IIA, August 1993; update II, September 1994; update IIB, January 1995; update III, December 1996; update IIIA, April 1998; IIIB, November 2004; update IV, February 2007; update V, July 2014

Please feel free to contact us if you have any questions.

Sincerely,

Pei Geng
Project Manager/Senior Chemist

2,012 pages-DL

Attachment 1

EDD Stage 2B

LDC #37616 (Weston Solutions, Inc.- West Chester, PA / Schenectady ANGB)

LDC	SDG#	DATE REC'D	(2) DATE DUE	Metals (6010C /7470A)		D.Metals (6010C /7470A)																													
Matrix:	Water/Soil			W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S
A	280-90742-1	12/01/16	12/15/16	1	0	1	0																												
Total	T/PG			1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2

Shaded cells indicate Stage 4 validation (all other cells are Stage 2B validation). These sample counts do not include MS/MSD, and DUPs

L:\Weston Solutions\Schenectady ANG\37616ST.wpd

LDC Report# 37616A4b

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Schenectady ANGB

LDC Report Date: December 15, 2016

Parameters: Metals

Validation Level: Stage 2B

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): 280-90742-1

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
SC-TU009-MW003-G-2	280-90742-1	Water	11/07/16
SC-TU009-MW003-G-2F	280-90742-1F	Water	11/07/16
SC-TU009-MW003-G-2FMS	280-90742-1FMS	Water	11/07/16
SC-TU009-MW003-G-2FMSD	280-90742-1FMSD	Water	11/07/16

Samples appended with "F" were analyzed for dissolved metals

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Final Remedial Investigation Work Plan, Uniform Federal Policy, Quality Assurance Project Plan at Schenectady Air National Guard Base, Scotia, New York (May 2016), the U.S. Department of Defense (DoD) Quality Systems Manual (QSM) for Environmental Laboratories, Version 5.0 (July 2013), and a modified outline of the USEPA National Functional Guidelines (NFG) for Inorganic Superfund Data Review (August 2014). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following methods:

Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Vanadium, and Zinc by Environmental Protection Agency (EPA) SW 846 Method 6010C
Mercury by EPA SW 846 Method 7470A

All sample results were subjected to Stage 2B data validation, which comprises an evaluation of quality control (QC) summary results.

The following are definitions of the data qualifiers utilized during data validation:

J+ (Estimated, High Bias): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated, displaying high bias, due to non-conformances discovered during data validation.

J- (Estimated, Low Bias): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated, displaying low bias, due to non-conformances discovered during data validation.

J (Estimated, Bias Indeterminate): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation. Bias is indeterminate.

U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered non-detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).

UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.

N (Presumptive): The analysis indicates the presence of a compound or analyte that has been "tentatively identified."

NJ (Presumptive and estimated): The analysis indicates the presence of a compound or analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.

R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.

NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition.

All technical holding time requirements were met.

II. Instrument Calibration

Initial and continuing calibrations were performed as required by the methods.

The initial calibration verification (ICV) and continuing calibration verification (CCV) standards were within QC limits.

III. ICP Interference Check Sample Analysis

The frequency of interference check sample (ICS) analysis was met. All criteria were within QC limits.

IV. Laboratory Blanks

Laboratory blanks were analyzed as required by the methods. No contaminants were found in the laboratory blanks with the following exceptions:

Blank ID	Analyte	Maximum Concentration	Associated Samples
PB (prep blank)	Sodium	158 ug/L	SC-TU009-MW003-G-2
ICB/CCB	Arsenic Manganese Selenium Sodium	5.31 ug/L 0.390 ug/L 5.40 ug/L 200 ug/L	SC-TU009-MW003-G-2
PB (prep blank)	Barium Silver Sodium	1.30 ug/L 1.23 ug/L 225 ug/L	SC-TU009-MW003-G-2F
ICB/CCB	Antimony Manganese Silver Sodium	7.86 ug/L 0.510 ug/L 1.33 ug/L 258 ug/L	SC-TU009-MW003-G-2F

Data qualification by the laboratory blanks was based on the maximum contaminant concentration in the laboratory blanks in the analysis of each analyte. The sample concentrations were either not detected or were significantly greater than the concentrations found in the associated laboratory blanks with the following exceptions:

Sample	Analyte	Reported Concentration	Modified Final Concentration
SC-TU009-MW003-G-2	Arsenic	16 ug/L	25U ug/L
SC-TU009-MW003-G-2F	Silver	1.8 ug/L	15U ug/L

V. Field Blanks

No field blanks were identified in this SDG.

VI. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) sample analysis was performed on an associated project sample. For SC-TU009-MW003-G-2FMS/MSD, no data were qualified for Manganese percent recoveries (%R) outside the QC limits since the parent sample results were greater than 4X the spike concentration. Relative percent differences (RPD) were within QC limits.

VII. Duplicate Sample Analysis

The laboratory has indicated that there were no duplicate (DUP) analyses specified for the samples in this SDG, and therefore duplicate analyses were not performed for this SDG.

VIII. Serial Dilution

Serial dilution analysis was performed on an associated project sample. Percent differences (%D) were within QC limits.

IX. Laboratory Control Samples

Laboratory control samples (LCS) and laboratory control samples duplicates (LCSD) were analyzed as required by the methods. Percent recoveries (%R) were within QC limits. Relative percent differences (RPD) were within QC limits.

X. Field Duplicates

No field duplicates were identified in this SDG.

XI. Sample Result Verification

Raw data were not reviewed for Stage 2B validation.

XII. Overall Assessment of Data

The analysis was conducted within all specifications of the methods. No results were rejected in this SDG.

Due to laboratory blank contamination, data were qualified as not detected in two samples.

The quality control criteria reviewed, other than those discussed above, were met and are considered acceptable. Based upon the data validation all other results are considered valid and usable for all purposes.

Schenectady ANGB
Metals - Data Qualification Summary - SDG 280-90742-1

No Sample Data Qualified in this SDG

Schenectady ANGB
Metals - Laboratory Blank Data Qualification Summary - SDG 280-90742-1

Sample	Analyte	Modified Final Concentration	A or P
SC-TU009-MW003-G-2	Arsenic	25U ug/L	A
SC-TU009-MW003-G-2F	Silver	15U ug/L	A

Schenectady ANGB
Metals - Field Blank Data Qualification Summary - SDG 280-90742-1

No Sample Data Qualified in this SDG

LDC #: 37616A4b

SDG #: 280-90742-1

Laboratory: Test America, Inc.

VALIDATION COMPLETENESS WORKSHEET

Stage 2B

Date: 12/14/16

Page: 1 of 1

Reviewer: a

2nd Reviewer: a

METHOD: Metals (EPA SW 846 Method 6010~~B~~C/7470A)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A+A	
II.	Instrument Calibration	A	
III.	ICP Interference Check Sample (ICS) Analysis	A	
IV.	Laboratory Blanks	SW	
V.	Field Blanks	N	
VI.	Matrix Spike/Matrix Spike Duplicates	A	MS/D (3/4: Mn >4X
VII.	Duplicate sample analysis	N	
VIII.	ICP Serial Dilution	A	
IX.	Laboratory control samples	A	LCS/D
X.	Field Duplicates	N	
XI.	Sample Result Verification	N	
XII.	Overall Assessment of Data	A	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank; SB=Source blank; OTHER:

Samples appended with "F" were analyzed as dissolved.

	Client ID	Lab ID	Matrix	Date
1	SC-TU009-MW003-G-2	280-90742-1	Water	11/07/16
2	SC-TU009-MW003-G-2F	280-90742-1F	Water	11/07/16
3	SC-TU009-MW003-G-2FMS	280-90742-1FMS	Water	11/07/16
4	SC-TU009-MW003-G-2FMSD	280-90742-1FMSD	Water	11/07/16
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				

Notes:

.DC #: 37616A45

VALIDATION FINDINGS WORKSHEET
Sample Specific Element Reference

Reviewer: CR
2nd reviewer: [illegible]

All circled elements are applicable to each sample.

Sample ID	Matrix	Target Analyte List (TAL)
1,2		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Sn, Ti, ___
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Sn, Ti, ___
QC:3,4		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Sn, Ti, ___
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Sn, Ti, ___
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Sn, Ti, ___
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Sn, Ti, ___
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Sn, Ti, ___
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Sn, Ti, ___
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Sn, Ti, ___
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Sn, Ti, ___
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Sn, Ti, ___
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Sn, Ti, ___
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Sn, Ti, ___
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Sn, Ti, ___
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Sn, Ti, ___
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Sn, Ti, ___
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Sn, Ti, ___
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Sn, Ti, ___
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Sn, Ti, ___
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Sn, Ti, ___
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Sn, Ti, ___
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Sn, Ti, ___
		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Sn, Ti, ___
Analysis Method		
ICP		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Sn, Ti, ___
ICP-MS		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Sn, Ti, ___
GFAA		Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Ag, Na, Tl, V, Zn, Mo, B, Sn, Ti, ___

Comments: Mercury by CVAA if performed

LDC #: 37616A4b

VALIDATION FINDINGS WORKSHEET
PB/ICB/CCB QUALIFIED SAMPLES

Page: 1 of 1
Reviewer: 02
2nd Reviewer: 9

METHOD: Trace metals (EPA SW 864 Method 6010B/6020/7000) Soil preparation factor applied:_____

Sample Concentration units, unless otherwise noted: ug/L Associated Samples: 1

				Sample Identification										
Analyte	**Maximum PB[a] (ug/l)**	**Maximum ICB/CCB[a] (ug/l)**	**Action Level**	**1**										
As		5.31		16 / 25										
Mn		0.390												
Se		5.40												
Na	158	200												

Sample Concentration units, unless otherwise noted: ug/L Associated Samples: 2

				Sample Identification										
Analyte	**Maximum PB[a] (ug/l)**	**Maximum ICB/CCB[a] (ug/l)**	**Action Level**	**2**										
Sb		7.86												
Ba	1.30													
Mn		0.510												
Ag	1.23	1.33		1.8 / 15										
Na	225	258												

Samples with analyte concentrations within five times the associated ICB, CCB or PB concentration are listed above with the identifications from the Validation Completeness Worksheet. These sample results were qualified as not detected, "U".
Note : a - The listed analyte concentration is the highest ICB, CCB, or PB detected in the analysis of each element.

LDC #: 37616A4b

VALIDATION FINDINGS WORKSHEET
Initial and Continuing Calibration Calculation Verification

Reviewer: CR
2nd Reviewer: [illegible]

METHOD: Trace metals (EPA SW 846 Method 6010/6020/7000)

An initial and continuing calibration verification percent recovery (%R) was recalculated for each type of analysis using the following formula:

%R = Found / True x 100 Where, Found = concentration (in ug/L) of each analyte measured in the analysis of the ICV or CCV solution
True = concentration (in ug/L) of each analyte in the ICV or CCV source

Standard ID	Type of Analysis	Element	Found (ug/L)	True (ug/L)	Recalculated %R	Reported %R	Acceptable (Y/N)
ICV (11:57)	ICP (Initial calibration)	Co	247.53	250	99	99	Y
	ICP/MS (Initial calibration)						
ICV (14:52)	CVAA (Initial calibration)	Hg	4.163	4.00	~~96~~ a 104	~~96~~ a 104	Y
CCV (22:37)	ICP (Continuing calibration)	Ni	512.80	500	103	103	Y
	ICP/MS (Continuing calibration)						
CCV (15:52)	CVAA (Continuing calibration)	Hg	~~4.935~~ a 4.97167	5.00	99	99	Y

Comments:

CALCLC.4C4

LDC #: 37616A4b

VALIDATION FINDINGS WORKSHEET
Level IV Recalculation Worksheet

Page: 1 of 1
Reviewer: [illegible]
2nd Reviewer: [illegible]

METHOD: Trace Metals (EPA SW 846 Method 6010/6020/7000)

Percent recoveries (%R) for an ICP interference check sample, a laboratory control sample and a matrix spike sample were recalculated using the following formula:

$\%R = \frac{Found}{True} \times 100$

Where, Found = Concentration of each analyte measured in the analysis of the sample. For the matrix spike calculation, Found = SSR (spiked sample result) - SR (sample result).
True = Concentration of each analyte in the source.

A sample and duplicate relative percent difference (RPD) was recalculated using the following formula:

$RPD = \frac{|S-D|}{(S+D)/2} \times 100$

Where, S = Original sample concentration
D = Duplicate sample concentration

An ICP serial dilution percent difference (%D) was recalculated using the following formula:

$\%D = \frac{|I-SDR|}{I} \times 100$

Where, I = Initial Sample Result (mg/L)
SDR = Serial Dilution Result (mg/L) (Instrument Reading x 5)

Sample ID	Type of Analysis	Element	Found / S / I (units)	True / D / SDR (units)	Recalculated %R / RPD / %D	Reported %R / RPD / %D	Acceptable (Y/N)
ICSAB (12:48)	ICP interference check	Cu	529.69	500	106	106	Y
LCS	Laboratory control sample	Zn	456.01	500	91	91	↓
3	Matrix spike	Se	(SSR-SR) 1897.4	2000	95	95	↓
3/4	Duplicate	As	1009.1	1005.9	0	0	↓
~~2~~ 2	ICP serial dilution	Mg	65.129	66.525	2.1	2.1	↓

Comments: _____

TOTCLC.4SW

LDC #: 37616A1b

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Page: 1 of 1
Reviewer: 02
2nd reviewer: 2

METHOD: Trace Metals (EPA SW 846 Method 6010/6020/7000)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Have results been reported and calculated correctly?
Y N N/A Are results within the calibrated range of the instruments and within the linear range of the ICP?
Y N N/A Are all detection limits below the CRDL?

Detected analyte results for Ca were recalculated and verified using the following equation:

Concentration = (RD)(FV)(Dil) / (In. Vol.)

RD = Raw data concentration
FV = Final volume (ml)
In. Vol. = Initial volume (ml) or weight (G)
Dil = Dilution factor

Recalculation:
2: 221.55 mg/L x 1000 =
221550 ug/L

#	Sample ID	Analyte	Reported Concentration (ug/L)	Calculated Concentration (ug/L)	Acceptable (Y/N)
	2	Ca	220000	220000	Y
	~~2~~ 1	V	1.1	1.1	Y

Note:

RECALC.4SW

12/20/16

The attached zipped file contains two files:

File	Format	Description
01) Readme_Schenectady_122016.doc	MS Word 2003	A "Readme" file (this document).
02) Schenectady_ERPIMS_EDD_280-90742-1.xlsx	MS Excel 2007	A spreadsheet for the following SDG(s): 280-90742-1 37616A

No discrepancies were observed between the hardcopy data packages and the electronic data deliverables during EDD population of validation qualifiers. A 100% verification of the EDD was not performed.

Please contact Pei Geng at (760) 827-1100 if you have any questions regarding this electronic data submittal.

LDC #: 37616

EDD POPULATION COMPLETENESS WORKSHEET

Date: 12/20/16
Page: 1 of 1
2nd Reviewer: [illegible]

The LDC job number listed above was entered by [illegible]

	EDD Process		Comments/Action
I.	EDD Completeness	-	
Ia.	- All methods present?	y	
Ib.	- All samples present/match report?	y	
Ic.	- All reported analytes present?	y	
Id.	- 10% or 100% verification of EDD?	y	
II.	EDD Preparation/Entry	-	
IIa.	- Carryover U/J?	y	
IIb.	- Reason Codes used? If so, note which codes.	N	
IIc.	- Additional Information (QC Level, Validator, Validated Y/N, etc.)	N	
III.	Reasonableness Checks	-	
IIIa.	- Do all qualified ND results have ND qualifier (e.g. UJ)?	y	
IIIb.	- Do all qualified detect results have detect qualifier (e.g. J)?	y	
IIIc.	- If reason codes are used, do all qualified results have reason code field populated, and vice versa?	NA	
IIId.	-Does the detect flag require changing for blank qualifier? If so, are all U results marked ND?	y/y	If less than LOQ change PARVQ to ND; PARVAL to "0" and MDL = LOQ/RL
IIIe.	- Do blank concentrations in report match EDD where data was qualified due to blank contamination?	y	
IIIf.	- Were any results reported above calibration range? If so, were results qualified appropriately?	N/NA	
IIIg.	-Is the readme complete? If applicable, were edits or discrepancies listed in the readme?	y	

Notes: *see discrepancy sheet

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APPENDIX G

REGIONAL SCREENING LEVEL CALCULATOR INPUT AND OUTPUT

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	A	B	C	D	E	F	G	H	I	J	K	L
1	UCL Statistics for Data Sets with Non-Detects											
2												
3	User Selected Options											
4	Date/Time of Computation			ProUCL 5.111/9/2016 2:09:42 PM								
5	From File			ProUCLinput_ZZ007_soil.xls								
6	Full Precision			OFF								
7	Confidence Coefficient			95%								
8	mber of Bootstrap Operations			2000								
9												
10												
11	Aluminum, Total											
12												
13	General Statistics											
14	Total Number of Observations					14	Number of Distinct Observations					9
15							Number of Missing Observations					0
16	Minimum					11000	Mean					16250
17	Maximum					22000	Median					16000
18	SD					3081	Std. Error of Mean					823.3
19	Coefficient of Variation					0.19	Skewness					0.16
20												
21	Normal GOF Test											
22	Shapiro Wilk Test Statistic					0.952	Shapiro Wilk GOF Test					
23	5% Shapiro Wilk Critical Value					0.874	Data appear Normal at 5% Significance Level					
24	Lilliefors Test Statistic					0.19	Lilliefors GOF Test					
25	5% Lilliefors Critical Value					0.226	Data appear Normal at 5% Significance Level					
26	Data appear Normal at 5% Significance Level											
27												
28	Assuming Normal Distribution											
29	95% Normal UCL						95% UCLs (Adjusted for Skewness)					
30	95% Student's-t UCL					17708	95% Adjusted-CLT UCL (Chen-1995)					17642
31							95% Modified-t UCL (Johnson-1978)					17714
32												
33	Gamma GOF Test											
34	A-D Test Statistic					0.372	Anderson-Darling Gamma GOF Test					
35	5% A-D Critical Value					0.734	Detected data appear Gamma Distributed at 5% Significance Level					
36	K-S Test Statistic					0.165	Kolmogorov-Smirnov Gamma GOF Test					
37	5% K-S Critical Value					0.228	Detected data appear Gamma Distributed at 5% Significance Level					
38	Detected data appear Gamma Distributed at 5% Significance Level											
39												
40	Gamma Statistics											
41	k hat (MLE)					29.27	k star (bias corrected MLE)					23.05
42	Theta hat (MLE)					555.1	Theta star (bias corrected MLE)					705.1
43	nu hat (MLE)					819.6	nu star (bias corrected)					645.3
44	MLE Mean (bias corrected)					16250	MLE Sd (bias corrected)					3385
45							Approximate Chi Square Value (0.05)					587.4
46	Adjusted Level of Significance					0.0312	Adjusted Chi Square Value					580.1
47												
48	Assuming Gamma Distribution											
49	95% Approximate Gamma UCL (use when n>=50))					17853	95% Adjusted Gamma UCL (use when n<50)					18078
50												
51	Lognormal GOF Test											
52	Shapiro Wilk Test Statistic					0.945	Shapiro Wilk Lognormal GOF Test					
53	5% Shapiro Wilk Critical Value					0.874	Data appear Lognormal at 5% Significance Level					
54	Lilliefors Test Statistic					0.16	Lilliefors Lognormal GOF Test					
55	5% Lilliefors Critical Value					0.226	Data appear Lognormal at 5% Significance Level					
56	Data appear Lognormal at 5% Significance Level											
57												
58	Lognormal Statistics											
59	Minimum of Logged Data					9.306	Mean of logged Data					9.679
60	Maximum of Logged Data					9.999	SD of logged Data					0.194
61												

	A	B	C	D	E	F	G	H	I	J	K	L
62					Assuming Lognormal Distribution							
63					95% H-UCL	17951			90% Chebyshev (MVUE) UCL			18802
64					95% Chebyshev (MVUE) UCL	19955			97.5% Chebyshev (MVUE) UCL			21556
65					99% Chebyshev (MVUE) UCL	24700						
66												
67					Nonparametric Distribution Free UCL Statistics							
68					Data appear to follow a Discernible Distribution at 5% Significance Level							
69												
70					Nonparametric Distribution Free UCLs							
71					95% CLT UCL	17604			95% Jackknife UCL			17708
72					95% Standard Bootstrap UCL	17579			95% Bootstrap-t UCL			17713
73					95% Hall's Bootstrap UCL	17801			95% Percentile Bootstrap UCL			17571
74					95% BCA Bootstrap UCL	17500						
75					90% Chebyshev(Mean, Sd) UCL	18720			95% Chebyshev(Mean, Sd) UCL			19839
76					97.5% Chebyshev(Mean, Sd) UCL	21392			99% Chebyshev(Mean, Sd) UCL			24442
77												
78					Suggested UCL to Use							
79					95% Student's-t UCL	17708						
80												
81					Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.							
82					Recommendations are based upon data size, data distribution, and skewness.							
83					These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).							
84					However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.							
85												

	A	B	C	D	E	F	G	H	I	J	K	L
86	Cobalt, Total											
87												
88					General Statistics							
89					Total Number of Observations	14			Number of Distinct Observations			8
90									Number of Missing Observations			0
91					Minimum	8.1			Mean			14.08
92					Maximum	23			Median			12
93					SD	4.893			Std. Error of Mean			1.308
94					Coefficient of Variation	0.348			Skewness			1.008
95												
96					Normal GOF Test							
97					Shapiro Wilk Test Statistic	0.817			Shapiro Wilk GOF Test			
98					5% Shapiro Wilk Critical Value	0.874			Data Not Normal at 5% Significance Level			
99					Lilliefors Test Statistic	0.307			Lilliefors GOF Test			
100					5% Lilliefors Critical Value	0.226			Data Not Normal at 5% Significance Level			
101					Data Not Normal at 5% Significance Level							
102												
103					Assuming Normal Distribution							
104					95% Normal UCL				95% UCLs (Adjusted for Skewness)			
105					95% Student's-t UCL	16.39			95% Adjusted-CLT UCL (Chen-1995)			16.61
106									95% Modified-t UCL (Johnson-1978)			16.45
107												
108					Gamma GOF Test							
109					A-D Test Statistic	1.017			Anderson-Darling Gamma GOF Test			
110					5% A-D Critical Value	0.735			Data Not Gamma Distributed at 5% Significance Level			
111					K-S Test Statistic	0.293			Kolmogorov-Smirnov Gamma GOF Test			
112					5% K-S Critical Value	0.229			Data Not Gamma Distributed at 5% Significance Level			
113					Data Not Gamma Distributed at 5% Significance Level							
114												
115					Gamma Statistics							
116					k hat (MLE)	10.05			k star (bias corrected MLE)			7.943
117					Theta hat (MLE)	1.401			Theta star (bias corrected MLE)			1.773
118					nu hat (MLE)	281.3			nu star (bias corrected)			222.4
119					MLE Mean (bias corrected)	14.08			MLE Sd (bias corrected)			4.995
120									Approximate Chi Square Value (0.05)			188.9
121					Adjusted Level of Significance	0.0312			Adjusted Chi Square Value			184.8
122												
123					Assuming Gamma Distribution							
124					95% Approximate Gamma UCL (use when n>=50))	16.58			95% Adjusted Gamma UCL (use when n<50)			16.94
125												
126					Lognormal GOF Test							
127					Shapiro Wilk Test Statistic	0.88			Shapiro Wilk Lognormal GOF Test			
128					5% Shapiro Wilk Critical Value	0.874			Data appear Lognormal at 5% Significance Level			
129					Lilliefors Test Statistic	0.275			Lilliefors Lognormal GOF Test			
130					5% Lilliefors Critical Value	0.226			Data Not Lognormal at 5% Significance Level			
131					Data appear Approximate Lognormal at 5% Significance Level							
132												
133					Lognormal Statistics							
134					Minimum of Logged Data	2.092			Mean of logged Data			2.594
135					Maximum of Logged Data	3.135			SD of logged Data			0.322
136												
137					Assuming Lognormal Distribution							
138					95% H-UCL	16.73			90% Chebyshev (MVUE) UCL			17.72
139					95% Chebyshev (MVUE) UCL	19.38			97.5% Chebyshev (MVUE) UCL			21.69
140					99% Chebyshev (MVUE) UCL	26.23						
141												
142					Nonparametric Distribution Free UCL Statistics							
143					Data appear to follow a Discernible Distribution at 5% Significance Level							
144												

	A	B	C	D	E	F	G	H	I	J	K	L
145	**Nonparametric Distribution Free UCLs**											
146					95% CLT UCL	16.23				95% Jackknife UCL		16.39
147					95% Standard Bootstrap UCL	16.14				95% Bootstrap-t UCL		17.04
148					95% Hall's Bootstrap UCL	16.26				95% Percentile Bootstrap UCL		16.21
149					95% BCA Bootstrap UCL	16.46						
150					90% Chebyshev(Mean, Sd) UCL	18				95% Chebyshev(Mean, Sd) UCL		19.78
151					97.5% Chebyshev(Mean, Sd) UCL	22.25				99% Chebyshev(Mean, Sd) UCL		27.09
152												
153	**Suggested UCL to Use**											
154					95% Student's-t UCL	16.39				or 95% Modified-t UCL		16.45
155					or 95% H-UCL	16.73						
156												
157	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.											
158	Recommendations are based upon data size, data distribution, and skewness.											
159	These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).											
160	However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.											
161												
162	**ProUCL computes and outputs H-statistic based UCLs for historical reasons only.**											
163	**H-statistic often results in unstable (both high and low) values of UCL95 as shown in examples in the Technical Guide.**											
164	**It is therefore recommended to avoid the use of H-statistic based 95% UCLs.**											
165	**Use of nonparametric methods are preferred to compute UCL95 for skewed data sets which do not follow a gamma distribution.**											
166												
167												

	A	B	C	D	E	F	G	H	I	J	K	L
168	Iron, Total											
169												
170					General Statistics							
171					Total Number of Observations	14	Number of Distinct Observations					14
172							Number of Missing Observations					0
173					Minimum	24000	Mean					35536
174					Maximum	47000	Median					33500
175					SD	8238	Std. Error of Mean					2202
176					Coefficient of Variation	0.232	Skewness					0.055
177												
178					Normal GOF Test							
179					Shapiro Wilk Test Statistic	0.907	Shapiro Wilk GOF Test					
180					5% Shapiro Wilk Critical Value	0.874	Data appear Normal at 5% Significance Level					
181					Lilliefors Test Statistic	0.175	Lilliefors GOF Test					
182					5% Lilliefors Critical Value	0.226	Data appear Normal at 5% Significance Level					
183					Data appear Normal at 5% Significance Level							
184												
185					Assuming Normal Distribution							
186					95% Normal UCL		95% UCLs (Adjusted for Skewness)					
187					95% Student's-t UCL	39435	95% Adjusted-CLT UCL (Chen-1995)					39192
188							95% Modified-t UCL (Johnson-1978)					39440
189												
190					Gamma GOF Test							
191					A-D Test Statistic	0.531	Anderson-Darling Gamma GOF Test					
192					5% A-D Critical Value	0.734	Detected data appear Gamma Distributed at 5% Significance Level					
193					K-S Test Statistic	0.194	Kolmogorov-Smirnov Gamma GOF Test					
194					5% K-S Critical Value	0.228	Detected data appear Gamma Distributed at 5% Significance Level					
195					Detected data appear Gamma Distributed at 5% Significance Level							
196												
197					Gamma Statistics							
198					k hat (MLE)	19.58	k star (bias corrected MLE)					15.43
199					Theta hat (MLE)	1815	Theta star (bias corrected MLE)					2303
200					nu hat (MLE)	548.1	nu star (bias corrected)					432
201					MLE Mean (bias corrected)	35536	MLE Sd (bias corrected)					9047
202							Approximate Chi Square Value (0.05)					384.8
203					Adjusted Level of Significance	0.0312	Adjusted Chi Square Value					378.9
204												
205					Assuming Gamma Distribution							
206					95% Approximate Gamma UCL (use when n>=50))	39893	95% Adjusted Gamma UCL (use when n<50)					40515
207												
208					Lognormal GOF Test							
209					Shapiro Wilk Test Statistic	0.911	Shapiro Wilk Lognormal GOF Test					
210					5% Shapiro Wilk Critical Value	0.874	Data appear Lognormal at 5% Significance Level					
211					Lilliefors Test Statistic	0.19	Lilliefors Lognormal GOF Test					
212					5% Lilliefors Critical Value	0.226	Data appear Lognormal at 5% Significance Level					
213					Data appear Lognormal at 5% Significance Level							
214												
215					Lognormal Statistics							
216					Minimum of Logged Data	10.09	Mean of logged Data					10.45
217					Maximum of Logged Data	10.76	SD of logged Data					0.237
218												
219					Assuming Lognormal Distribution							
220					95% H-UCL	40225	90% Chebyshev (MVUE) UCL					42365
221					95% Chebyshev (MVUE) UCL	45452	97.5% Chebyshev (MVUE) UCL					49737
222					99% Chebyshev (MVUE) UCL	58153						
223												
224					Nonparametric Distribution Free UCL Statistics							
225					Data appear to follow a Discernible Distribution at 5% Significance Level							
226												

	A	B	C	D	E	F	G	H	I	J	K	L
227	**Nonparametric Distribution Free UCLs**											
228					95% CLT UCL	39157				95% Jackknife UCL		39435
229					95% Standard Bootstrap UCL	38968				95% Bootstrap-t UCL		39467
230					95% Hall's Bootstrap UCL	38910				95% Percentile Bootstrap UCL		39071
231					95% BCA Bootstrap UCL	39179						
232					90% Chebyshev(Mean, Sd) UCL	42141				95% Chebyshev(Mean, Sd) UCL		45133
233					97.5% Chebyshev(Mean, Sd) UCL	49285				99% Chebyshev(Mean, Sd) UCL		57442
234												
235	**Suggested UCL to Use**											
236					95% Student's-t UCL	39435						
237												
238	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.											
239	Recommendations are based upon data size, data distribution, and skewness.											
240	These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).											
241	However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.											
242												

	A	B	C	D	E	F	G	H	I	J	K	L
243	Thallium, Total											
244												
245					General Statistics							
246					Total Number of Observations	14			Number of Distinct Observations			11
247									Number of Missing Observations			0
248					Minimum	0.17			Mean			0.506
249					Maximum	1.3			Median			0.27
250					SD	0.354			Std. Error of Mean			0.0947
251					Coefficient of Variation	0.7			Skewness			0.919
252												
253					Normal GOF Test							
254					Shapiro Wilk Test Statistic	0.819			Shapiro Wilk GOF Test			
255					5% Shapiro Wilk Critical Value	0.874			Data Not Normal at 5% Significance Level			
256					Lilliefors Test Statistic	0.319			Lilliefors GOF Test			
257					5% Lilliefors Critical Value	0.226			Data Not Normal at 5% Significance Level			
258					Data Not Normal at 5% Significance Level							
259												
260					Assuming Normal Distribution							
261					95% Normal UCL				95% UCLs (Adjusted for Skewness)			
262					95% Student's-t UCL	0.674			95% Adjusted-CLT UCL (Chen-1995)			0.687
263									95% Modified-t UCL (Johnson-1978)			0.678
264												
265					Gamma GOF Test							
266					A-D Test Statistic	1.119			Anderson-Darling Gamma GOF Test			
267					5% A-D Critical Value	0.745			Data Not Gamma Distributed at 5% Significance Level			
268					K-S Test Statistic	0.314			Kolmogorov-Smirnov Gamma GOF Test			
269					5% K-S Critical Value	0.231			Data Not Gamma Distributed at 5% Significance Level			
270					Data Not Gamma Distributed at 5% Significance Level							
271												
272					Gamma Statistics							
273					k hat (MLE)	2.382			k star (bias corrected MLE)			1.919
274					Theta hat (MLE)	0.213			Theta star (bias corrected MLE)			0.264
275					nu hat (MLE)	66.7			nu star (bias corrected)			53.74
276					MLE Mean (bias corrected)	0.506			MLE Sd (bias corrected)			0.366
277									Approximate Chi Square Value (0.05)			37.9
278					Adjusted Level of Significance	0.0312			Adjusted Chi Square Value			36.14
279												
280					Assuming Gamma Distribution							
281					95% Approximate Gamma UCL (use when n>=50))	0.718			95% Adjusted Gamma UCL (use when n<50)			0.753
282												
283					Lognormal GOF Test							
284					Shapiro Wilk Test Statistic	0.855			Shapiro Wilk Lognormal GOF Test			
285					5% Shapiro Wilk Critical Value	0.874			Data Not Lognormal at 5% Significance Level			
286					Lilliefors Test Statistic	0.292			Lilliefors Lognormal GOF Test			
287					5% Lilliefors Critical Value	0.226			Data Not Lognormal at 5% Significance Level			
288					Data Not Lognormal at 5% Significance Level							
289												
290					Lognormal Statistics							
291					Minimum of Logged Data	-1.772			Mean of logged Data			-0.905
292					Maximum of Logged Data	0.262			SD of logged Data			0.691
293												
294					Assuming Lognormal Distribution							
295					95% H-UCL	0.802			90% Chebyshev (MVUE) UCL			0.796
296					95% Chebyshev (MVUE) UCL	0.929			97.5% Chebyshev (MVUE) UCL			1.113
297					99% Chebyshev (MVUE) UCL	1.474						
298												
299					Nonparametric Distribution Free UCL Statistics							
300					Data do not follow a Discernible Distribution (0.05)							
301												

	A	B	C	D	E	F	G	H	I	J	K	L
302	**Nonparametric Distribution Free UCLs**											
303					95% CLT UCL	0.662				95% Jackknife UCL		0.674
304					95% Standard Bootstrap UCL	0.66				95% Bootstrap-t UCL		0.71
305					95% Hall's Bootstrap UCL	0.677				95% Percentile Bootstrap UCL		0.663
306					95% BCA Bootstrap UCL	0.678						
307					90% Chebyshev(Mean, Sd) UCL	0.791				95% Chebyshev(Mean, Sd) UCL		0.919
308					97.5% Chebyshev(Mean, Sd) UCL	1.098				99% Chebyshev(Mean, Sd) UCL		1.449
309												
310	**Suggested UCL to Use**											
311					95% Chebyshev (Mean, Sd) UCL	0.919						
312												
313	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.											
314	Recommendations are based upon data size, data distribution, and skewness.											
315	These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).											
316	However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.											
317												

	A	B	C	D	E	F	G	H	I	J	K	L
1	UCL Statistics for Data Sets with Non-Detects											
2												
3	User Selected Options											
4	Date/Time of Computation			ProUCL 5.111/9/2016 1:22:06 PM								
5	From File			ProUCLinput_TU009_soil.xls								
6	Full Precision			OFF								
7	Confidence Coefficient			95%								
8	mber of Bootstrap Operations			2000								
9												
10												
11	Aluminum											
12												
13	General Statistics											
14	Total Number of Observations					12	Number of Distinct Observations					7
15							Number of Missing Observations					0
16	Minimum					12500	Mean					16208
17	Maximum					24000	Median					15500
18	SD					3129	Std. Error of Mean					903.4
19	Coefficient of Variation					0.193	Skewness					1.572
20												
21	Normal GOF Test											
22	Shapiro Wilk Test Statistic					0.854	Shapiro Wilk GOF Test					
23	5% Shapiro Wilk Critical Value					0.859	Data Not Normal at 5% Significance Level					
24	Lilliefors Test Statistic					0.233	Lilliefors GOF Test					
25	5% Lilliefors Critical Value					0.243	Data appear Normal at 5% Significance Level					
26	Data appear Approximate Normal at 5% Significance Level											
27												
28	Assuming Normal Distribution											
29	95% Normal UCL						95% UCLs (Adjusted for Skewness)					
30	95% Student's-t UCL					17831	95% Adjusted-CLT UCL (Chen-1995)					18132
31							95% Modified-t UCL (Johnson-1978)					17899
32												
33	Gamma GOF Test											
34	A-D Test Statistic					0.556	Anderson-Darling Gamma GOF Test					
35	5% A-D Critical Value					0.731	Detected data appear Gamma Distributed at 5% Significance Level					
36	K-S Test Statistic					0.202	Kolmogorov-Smirnov Gamma GOF Test					
37	5% K-S Critical Value					0.245	Detected data appear Gamma Distributed at 5% Significance Level					
38	Detected data appear Gamma Distributed at 5% Significance Level											
39												
40	Gamma Statistics											
41	k hat (MLE)					33.15	k star (bias corrected MLE)					24.92
42	Theta hat (MLE)					489	Theta star (bias corrected MLE)					650.5
43	nu hat (MLE)					795.6	nu star (bias corrected)					598
44	MLE Mean (bias corrected)					16208	MLE Sd (bias corrected)					3247
45							Approximate Chi Square Value (0.05)					542.3
46	Adjusted Level of Significance					0.029	Adjusted Chi Square Value					534.2
47												
48	Assuming Gamma Distribution											
49	95% Approximate Gamma UCL (use when n>=50))					17874	95% Adjusted Gamma UCL (use when n<50)					18145
50												
51	Lognormal GOF Test											
52	Shapiro Wilk Test Statistic					0.911	Shapiro Wilk Lognormal GOF Test					
53	5% Shapiro Wilk Critical Value					0.859	Data appear Lognormal at 5% Significance Level					
54	Lilliefors Test Statistic					0.195	Lilliefors Lognormal GOF Test					
55	5% Lilliefors Critical Value					0.243	Data appear Lognormal at 5% Significance Level					
56	Data appear Lognormal at 5% Significance Level											
57												
58	Lognormal Statistics											
59	Minimum of Logged Data					9.433	Mean of logged Data					9.678
60	Maximum of Logged Data					10.09	SD of logged Data					0.177
61												

	A	B	C	D	E	F	G	H	I	J	K	L
62	**Assuming Lognormal Distribution**											
63					95% H-UCL	17875			90% Chebyshev (MVUE) UCL			18684
64					95% Chebyshev (MVUE) UCL	19812			97.5% Chebyshev (MVUE) UCL			21377
65					99% Chebyshev (MVUE) UCL	24451						
66												
67	**Nonparametric Distribution Free UCL Statistics**											
68	**Data appear to follow a Discernible Distribution at 5% Significance Level**											
69												
70	**Nonparametric Distribution Free UCLs**											
71					95% CLT UCL	17694			95% Jackknife UCL			17831
72					95% Standard Bootstrap UCL	17636			95% Bootstrap-t UCL			18817
73					95% Hall's Bootstrap UCL	26357			95% Percentile Bootstrap UCL			17708
74					95% BCA Bootstrap UCL	18000						
75					90% Chebyshev(Mean, Sd) UCL	18919			95% Chebyshev(Mean, Sd) UCL			20146
76					97.5% Chebyshev(Mean, Sd) UCL	21850			99% Chebyshev(Mean, Sd) UCL			25197
77												
78	**Suggested UCL to Use**											
79					95% Student's-t UCL	17831						
80												
81	When a data set follows an approximate (e.g., normal) distribution passing one of the GOF test											
82	When applicable, it is suggested to use a UCL based upon a distribution (e.g., gamma) passing both GOF tests in ProUCL											
83												
84	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.											
85	Recommendations are based upon data size, data distribution, and skewness.											
86	These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).											
87	However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.											
88												

	A	B	C	D	E	F	G	H	I	J	K	L
89	Cobalt											
90												
91					General Statistics							
92					Total Number of Observations	12			Number of Distinct Observations			11
93									Number of Missing Observations			0
94					Minimum	8.2			Mean			16.27
95					Maximum	25			Median			15.5
96					SD	4.903			Std. Error of Mean			1.416
97					Coefficient of Variation	0.301			Skewness			0.443
98												
99					Normal GOF Test							
100					Shapiro Wilk Test Statistic	0.946			Shapiro Wilk GOF Test			
101					5% Shapiro Wilk Critical Value	0.859			Data appear Normal at 5% Significance Level			
102					Lilliefors Test Statistic	0.191			Lilliefors GOF Test			
103					5% Lilliefors Critical Value	0.243			Data appear Normal at 5% Significance Level			
104					Data appear Normal at 5% Significance Level							
105												
106					Assuming Normal Distribution							
107					95% Normal UCL				95% UCLs (Adjusted for Skewness)			
108					95% Student's-t UCL	18.81			95% Adjusted-CLT UCL (Chen-1995)			18.79
109									95% Modified-t UCL (Johnson-1978)			18.84
110												
111					Gamma GOF Test							
112					A-D Test Statistic	0.284			Anderson-Darling Gamma GOF Test			
113					5% A-D Critical Value	0.731			Detected data appear Gamma Distributed at 5% Significance Level			
114					K-S Test Statistic	0.151			Kolmogorov-Smirnov Gamma GOF Test			
115					5% K-S Critical Value	0.245			Detected data appear Gamma Distributed at 5% Significance Level			
116					Detected data appear Gamma Distributed at 5% Significance Level							
117												
118					Gamma Statistics							
119					k hat (MLE)	11.84			k star (bias corrected MLE)			8.935
120					Theta hat (MLE)	1.374			Theta star (bias corrected MLE)			1.821
121					nu hat (MLE)	284.1			nu star (bias corrected)			214.4
122					MLE Mean (bias corrected)	16.27			MLE Sd (bias corrected)			5.442
123									Approximate Chi Square Value (0.05)			181.6
124					Adjusted Level of Significance	0.029			Adjusted Chi Square Value			176.9
125												
126					Assuming Gamma Distribution							
127					95% Approximate Gamma UCL (use when n>=50))	19.21			95% Adjusted Gamma UCL (use when n<50)			19.71
128												
129					Lognormal GOF Test							
130					Shapiro Wilk Test Statistic	0.958			Shapiro Wilk Lognormal GOF Test			
131					5% Shapiro Wilk Critical Value	0.859			Data appear Lognormal at 5% Significance Level			
132					Lilliefors Test Statistic	0.14			Lilliefors Lognormal GOF Test			
133					5% Lilliefors Critical Value	0.243			Data appear Lognormal at 5% Significance Level			
134					Data appear Lognormal at 5% Significance Level							
135												
136					Lognormal Statistics							
137					Minimum of Logged Data	2.104			Mean of logged Data			2.746
138					Maximum of Logged Data	3.219			SD of logged Data			0.31
139												
140					Assuming Lognormal Distribution							
141					95% H-UCL	19.6			90% Chebyshev (MVUE) UCL			20.7
142					95% Chebyshev (MVUE) UCL	22.71			97.5% Chebyshev (MVUE) UCL			25.48
143					99% Chebyshev (MVUE) UCL	30.94						
144												
145					Nonparametric Distribution Free UCL Statistics							
146					Data appear to follow a Discernible Distribution at 5% Significance Level							

	A	B	C	D	E	F	G	H	I	J	K	L
147												
148						**Nonparametric Distribution Free UCLs**						
149					95% CLT UCL	18.59				95% Jackknife UCL		18.81
150					95% Standard Bootstrap UCL	18.46				95% Bootstrap-t UCL		19.12
151					95% Hall's Bootstrap UCL	18.99				95% Percentile Bootstrap UCL		18.5
152					95% BCA Bootstrap UCL	18.79						
153					90% Chebyshev(Mean, Sd) UCL	20.51				95% Chebyshev(Mean, Sd) UCL		22.44
154					97.5% Chebyshev(Mean, Sd) UCL	25.11				99% Chebyshev(Mean, Sd) UCL		30.35
155												
156						**Suggested UCL to Use**						
157					95% Student's-t UCL	18.81						
158												
159	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.											
160	Recommendations are based upon data size, data distribution, and skewness.											
161	These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).											
162	However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.											
163												
164												

	A	B	C	D	E	F	G	H	I	J	K	L
165	Iron											
166												
167					General Statistics							
168					Total Number of Observations	12			Number of Distinct Observations			12
169									Number of Missing Observations			0
170					Minimum	24000			Mean			36208
171					Maximum	55000			Median			35500
172					SD	9079			Std. Error of Mean			2621
173					Coefficient of Variation	0.251			Skewness			0.699
174												
175					Normal GOF Test							
176					Shapiro Wilk Test Statistic	0.959			Shapiro Wilk GOF Test			
177					5% Shapiro Wilk Critical Value	0.859			Data appear Normal at 5% Significance Level			
178					Lilliefors Test Statistic	0.129			Lilliefors GOF Test			
179					5% Lilliefors Critical Value	0.243			Data appear Normal at 5% Significance Level			
180					Data appear Normal at 5% Significance Level							
181												
182					Assuming Normal Distribution							
183					95% Normal UCL				95% UCLs (Adjusted for Skewness)			
184					95% Student's-t UCL	40915			95% Adjusted-CLT UCL (Chen-1995)			41084
185									95% Modified-t UCL (Johnson-1978)			41003
186												
187					Gamma GOF Test							
188					A-D Test Statistic	0.146			Anderson-Darling Gamma GOF Test			
189					5% A-D Critical Value	0.732			Detected data appear Gamma Distributed at 5% Significance Level			
190					K-S Test Statistic	0.0954			Kolmogorov-Smirnov Gamma GOF Test			
191					5% K-S Critical Value	0.245			Detected data appear Gamma Distributed at 5% Significance Level			
192					Detected data appear Gamma Distributed at 5% Significance Level							
193												
194					Gamma Statistics							
195					k hat (MLE)	18.07			k star (bias corrected MLE)			13.61
196					Theta hat (MLE)	2004			Theta star (bias corrected MLE)			2661
197					nu hat (MLE)	433.7			nu star (bias corrected)			326.6
198					MLE Mean (bias corrected)	36208			MLE Sd (bias corrected)			9816
199									Approximate Chi Square Value (0.05)			285.7
200					Adjusted Level of Significance	0.029			Adjusted Chi Square Value			279.9
201												
202					Assuming Gamma Distribution							
203					95% Approximate Gamma UCL (use when n>=50))	41388			95% Adjusted Gamma UCL (use when n<50)			42251
204												
205					Lognormal GOF Test							
206					Shapiro Wilk Test Statistic	0.984			Shapiro Wilk Lognormal GOF Test			
207					5% Shapiro Wilk Critical Value	0.859			Data appear Lognormal at 5% Significance Level			
208					Lilliefors Test Statistic	0.0888			Lilliefors Lognormal GOF Test			
209					5% Lilliefors Critical Value	0.243			Data appear Lognormal at 5% Significance Level			
210					Data appear Lognormal at 5% Significance Level							
211												
212					Lognormal Statistics							
213					Minimum of Logged Data	10.09			Mean of logged Data			10.47
214					Maximum of Logged Data	10.92			SD of logged Data			0.246
215												
216					Assuming Lognormal Distribution							
217					95% H-UCL	41714			90% Chebyshev (MVUE) UCL			43950
218					95% Chebyshev (MVUE) UCL	47462			97.5% Chebyshev (MVUE) UCL			52336
219					99% Chebyshev (MVUE) UCL	61910						
220												

	A	B	C	D	E	F	G	H	I	J	K	L
221	Nonparametric Distribution Free UCL Statistics											
222	Data appear to follow a Discernible Distribution at 5% Significance Level											
223												
224	Nonparametric Distribution Free UCLs											
225					95% CLT UCL	40519			95% Jackknife UCL			40915
226					95% Standard Bootstrap UCL	40294			95% Bootstrap-t UCL			41823
227					95% Hall's Bootstrap UCL	42695			95% Percentile Bootstrap UCL			40500
228					95% BCA Bootstrap UCL	40917						
229					90% Chebyshev(Mean, Sd) UCL	44071			95% Chebyshev(Mean, Sd) UCL			47633
230					97.5% Chebyshev(Mean, Sd) UCL	52576			99% Chebyshev(Mean, Sd) UCL			62286
231												
232	Suggested UCL to Use											
233					95% Student's-t UCL	40915						
234												
235	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.											
236	Recommendations are based upon data size, data distribution, and skewness.											
237	These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).											
238	However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.											
239												

	A	B	C	D	E	F	G	H	I	J	K	L
240	Thallium											
241												
242	General Statistics											
243	Total Number of Observations					12	Number of Distinct Observations					11
244	Number of Detects					7	Number of Non-Detects					5
245	Number of Distinct Detects					7	Number of Distinct Non-Detects					4
246	Minimum Detect					0.13	Minimum Non-Detect					10
247	Maximum Detect					3.7	Maximum Non-Detect					12.5
248	Variance Detects					1.767	Percent Non-Detects					41.67%
249	Mean Detects					0.688	SD Detects					1.329
250	Median Detects					0.18	CV Detects					1.932
251	Skewness Detects					2.638	Kurtosis Detects					6.97
252	Mean of Logged Detects					-1.282	SD of Logged Detects					1.168
253												
254	Normal GOF Test on Detects Only											
255	Shapiro Wilk Test Statistic					0.486	Shapiro Wilk GOF Test					
256	5% Shapiro Wilk Critical Value					0.803	Detected Data Not Normal at 5% Significance Level					
257	Lilliefors Test Statistic					0.478	Lilliefors GOF Test					
258	5% Lilliefors Critical Value					0.304	Detected Data Not Normal at 5% Significance Level					
259	Detected Data Not Normal at 5% Significance Level											
260												
261	Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs											
262	KM Mean					0.688	KM Standard Error of Mean					0.502
263	KM SD					1.231	95% KM (BCA) UCL					1.679
264	95% KM (t) UCL					1.59	95% KM (Percentile Bootstrap) UCL					1.585
265	95% KM (z) UCL					1.514	95% KM Bootstrap t UCL					26.54
266	90% KM Chebyshev UCL					2.195	95% KM Chebyshev UCL					2.878
267	97.5% KM Chebyshev UCL					3.825	99% KM Chebyshev UCL					5.686
268												
269	Gamma GOF Tests on Detected Observations Only											
270	A-D Test Statistic					1.578	Anderson-Darling GOF Test					
271	5% A-D Critical Value					0.741	Detected Data Not Gamma Distributed at 5% Significance Level					
272	K-S Test Statistic					0.44	Kolmogorov-Smirnov GOF					
273	5% K-S Critical Value					0.324	Detected Data Not Gamma Distributed at 5% Significance Level					
274	Detected Data Not Gamma Distributed at 5% Significance Level											
275												
276	Gamma Statistics on Detected Data Only											
277	k hat (MLE)					0.67	k star (bias corrected MLE)					0.478
278	Theta hat (MLE)					1.027	Theta star (bias corrected MLE)					1.44
279	nu hat (MLE)					9.374	nu star (bias corrected)					6.69
280	Mean (detects)					0.688						
281												
282	Gamma ROS Statistics using Imputed Non-Detects											
283	GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs											
284	GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)											
285	For such situations, GROS method may yield incorrect values of UCLs and BTVs											
286	This is especially true when the sample size is small.											
287	For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates											
288	Minimum					0.01	Mean					0.572
289	Maximum					3.7	Median					0.245
290	SD					1.016	CV					1.776
291	k hat (MLE)					0.718	k star (bias corrected MLE)					0.594
292	Theta hat (MLE)					0.796	Theta star (bias corrected MLE)					0.962
293	nu hat (MLE)					17.24	nu star (bias corrected)					14.26
294	Adjusted Level of Significance (β)					0.029						
295	Approximate Chi Square Value (14.26, α)					6.751	Adjusted Chi Square Value (14.26, β)					5.979
296	95% Gamma Approximate UCL (use when n>=50)					1.208	95% Gamma Adjusted UCL (use when n<50)					1.364
297												

	A	B	C	D	E	F	G	H	I	J	K	L
298	**Estimates of Gamma Parameters using KM Estimates**											
299					Mean (KM)	0.688				SD (KM)		1.231
300					Variance (KM)	1.514				SE of Mean (KM)		0.502
301					k hat (KM)	0.312				k star (KM)		0.29
302					nu hat (KM)	7.499				nu star (KM)		6.958
303					theta hat (KM)	2.201				theta star (KM)		2.373
304					80% gamma percentile (KM)	1.046				90% gamma percentile (KM)		2.037
305					95% gamma percentile (KM)	3.181				99% gamma percentile (KM)		6.168
306												
307	**Gamma Kaplan-Meier (KM) Statistics**											
308					Approximate Chi Square Value (6.96, α)	2.147				Adjusted Chi Square Value (6.96, β)		1.764
309					95% Gamma Approximate KM-UCL (use when n>=50)	2.229				95% Gamma Adjusted KM-UCL (use when n<50)		2.714
310												
311	**Lognormal GOF Test on Detected Observations Only**											
312					Shapiro Wilk Test Statistic	0.648				**Shapiro Wilk GOF Test**		
313					5% Shapiro Wilk Critical Value	0.803				Detected Data Not Lognormal at 5% Significance Level		
314					Lilliefors Test Statistic	0.354				**Lilliefors GOF Test**		
315					5% Lilliefors Critical Value	0.304				Detected Data Not Lognormal at 5% Significance Level		
316	**Detected Data Not Lognormal at 5% Significance Level**											
317												
318	**Lognormal ROS Statistics Using Imputed Non-Detects**											
319					Mean in Original Scale	0.523				Mean in Log Scale		-1.282
320					SD in Original Scale	1.005				SD in Log Scale		0.889
321					95% t UCL (assumes normality of ROS data)	1.043				95% Percentile Bootstrap UCL		1.093
322					95% BCA Bootstrap UCL	1.399				95% Bootstrap t UCL		5.899
323					95% H-UCL (Log ROS)	0.853						
324												
325	**Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution**											
326					KM Mean (logged)	-1.282				KM Geo Mean		0.277
327					KM SD (logged)	1.082				95% Critical H Value (KM-Log)		3.065
328					KM Standard Error of Mean (logged)	0.442				95% H-UCL (KM -Log)		1.353
329					KM SD (logged)	1.082				95% Critical H Value (KM-Log)		3.065
330					KM Standard Error of Mean (logged)	0.442						
331												
332	**DL/2 Statistics**											
333					**DL/2 Normal**					**DL/2 Log-Transformed**		
334					Mean in Original Scale	2.755				Mean in Log Scale		-0.0278
335					SD in Original Scale	2.753				SD in Log Scale		1.775
336					95% t UCL (Assumes normality)	4.183				95% H-Stat UCL		51.61
337	**DL/2 is not a recommended method, provided for comparisons and historical reasons**											
338												
339	**Nonparametric Distribution Free UCL Statistics**											
340	**Data do not follow a Discernible Distribution at 5% Significance Level**											
341												
342	**Suggested UCL to Use**											
343					95% KM (Chebyshev) UCL	2.878						
344												
345	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.											
346	Recommendations are based upon data size, data distribution, and skewness.											
347	These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).											
348	However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.											
349												
350												

	A	B	C	D	E	F	G	H	I	J	K	L
351	Vanadium											
352												
353					General Statistics							
354					Total Number of Observations	12			Number of Distinct Observations			7
355									Number of Missing Observations			0
356					Minimum	21			Mean			25.29
357					Maximum	43			Median			23.5
358					SD	5.731			Std. Error of Mean			1.654
359					Coefficient of Variation	0.227			Skewness			3.137
360												
361					Normal GOF Test							
362					Shapiro Wilk Test Statistic	0.542			Shapiro Wilk GOF Test			
363					5% Shapiro Wilk Critical Value	0.859			Data Not Normal at 5% Significance Level			
364					Lilliefors Test Statistic	0.367			Lilliefors GOF Test			
365					5% Lilliefors Critical Value	0.243			Data Not Normal at 5% Significance Level			
366					Data Not Normal at 5% Significance Level							
367												
368					Assuming Normal Distribution							
369					95% Normal UCL				95% UCLs (Adjusted for Skewness)			
370					95% Student's-t UCL	28.26			95% Adjusted-CLT UCL (Chen-1995)			29.61
371									95% Modified-t UCL (Johnson-1978)			28.51
372												
373					Gamma GOF Test							
374					A-D Test Statistic	2.018			Anderson-Darling Gamma GOF Test			
375					5% A-D Critical Value	0.731			Data Not Gamma Distributed at 5% Significance Level			
376					K-S Test Statistic	0.333			Kolmogorov-Smirnov Gamma GOF Test			
377					5% K-S Critical Value	0.245			Data Not Gamma Distributed at 5% Significance Level			
378					Data Not Gamma Distributed at 5% Significance Level							
379												
380					Gamma Statistics							
381					k hat (MLE)	28.75			k star (bias corrected MLE)			21.62
382					Theta hat (MLE)	0.88			Theta star (bias corrected MLE)			1.17
383					nu hat (MLE)	689.9			nu star (bias corrected)			518.8
384					MLE Mean (bias corrected)	25.29			MLE Sd (bias corrected)			5.44
385									Approximate Chi Square Value (0.05)			466.9
386					Adjusted Level of Significance	0.029			Adjusted Chi Square Value			459.4
387												
388					Assuming Gamma Distribution							
389					95% Approximate Gamma UCL (use when n>=50))	28.1			95% Adjusted Gamma UCL (use when n<50)			28.56
390												
391					Lognormal GOF Test							
392					Shapiro Wilk Test Statistic	0.617			Shapiro Wilk Lognormal GOF Test			
393					5% Shapiro Wilk Critical Value	0.859			Data Not Lognormal at 5% Significance Level			
394					Lilliefors Test Statistic	0.32			Lilliefors Lognormal GOF Test			
395					5% Lilliefors Critical Value	0.243			Data Not Lognormal at 5% Significance Level			
396					Data Not Lognormal at 5% Significance Level							
397												
398					Lognormal Statistics							
399					Minimum of Logged Data	3.045			Mean of logged Data			3.213
400					Maximum of Logged Data	3.761			SD of logged Data			0.182
401												
402					Assuming Lognormal Distribution							
403					95% H-UCL	27.93			90% Chebyshev (MVUE) UCL			29.21
404					95% Chebyshev (MVUE) UCL	31.01			97.5% Chebyshev (MVUE) UCL			33.52
405					99% Chebyshev (MVUE) UCL	38.43						
406												
407					Nonparametric Distribution Free UCL Statistics							
408					Data do not follow a Discernible Distribution (0.05)							
409												

	A	B	C	D	E	F	G	H	I	J	K	L
410	**Nonparametric Distribution Free UCLs**											
411					95% CLT UCL	28.01				95% Jackknife UCL		28.26
412					95% Standard Bootstrap UCL	27.92				95% Bootstrap-t UCL		35.18
413					95% Hall's Bootstrap UCL	40.08				95% Percentile Bootstrap UCL		28.38
414					95% BCA Bootstrap UCL	29.92						
415					90% Chebyshev(Mean, Sd) UCL	30.25				95% Chebyshev(Mean, Sd) UCL		32.5
416					97.5% Chebyshev(Mean, Sd) UCL	35.62				99% Chebyshev(Mean, Sd) UCL		41.75
417												
418	**Suggested UCL to Use**											
419					95% Student's-t UCL	28.26				or 95% Modified-t UCL		28.51
420												
421	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.											
422	Recommendations are based upon data size, data distribution, and skewness.											
423	These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).											
424	However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.											
425												

Default
Resident Equation Inputs for Soil

Variable	Value
THQ (target hazard quotient) unitless	1
TR (target risk) unitless	0.000001
LT (lifetime) year	70
ET_{res} (exposure time) hour	24
ET_{res-c} (child exposure time) hour	24
ET_{res-a} (adult exposure time) hour	24
ET_{0-2} (mutagenic exposure time) hour	24
ET_{2-6} (mutagenic exposure time) hour	24
ET_{6-16} (mutagenic exposure time) hour	24
ET_{16-26} (mutagenic exposure time) hour	24
ED_{res} (exposure duration) year	26
ED_{res-c} (exposure duration - child) year	6
ED_{res-a} (exposure duration - adult) year	20
ED_{0-2} (mutagenic exposure duration) year	2
ED_{2-6} (mutagenic exposure duration) year	4
ED_{6-16} (mutagenic exposure duration) year	10
ED_{16-26} (mutagenic exposure duration) year	10
BW_{res-c} (body weight - child) kg	15
BW_{res-a} (body weight - adult) kg	80
BW_{0-2} (mutagenic body weight) kg	15
BW_{2-6} (mutagenic body weight) kg	15
BW_{6-16} (mutagenic body weight) kg	80
BW_{16-26} (mutagenic body weight) kg	80
SA_{res-c} (skin surface area - child) cm^2/day	2373
SA_{res-a} (skin surface area - adult) cm^2/day	6032

Default
Resident Equation Inputs for Soil

Variable	Value
SA_{0-2} (mutagenic skin surface area) cm^2/day	2373
SA_{2-6} (mutagenic skin surface area) cm^2/day	2373
SA_{6-16} (mutagenic skin surface area) cm^2/day	6032
SA_{16-26} (mutagenic skin surface area) cm^2/day	6032
EF_{res} (exposure frequency) day/year	350
EF_{res-c} (exposure frequency - child) day/year	350
EF_{res-a} (exposure frequency - adult) day/year	350
EF_{0-2} (mutagenic exposure frequency) day/year	350
EF_{2-6} (mutagenic exposure frequency) day/year	350
EF_{6-16} (mutagenic exposure frequency) day/year	350
EF_{16-26} (mutagenic exposure frequency) day/year	350
$IFS_{res-adj}$ (age-adjusted soil ingestion factor) mg/kg	36750
$IFSM_{res-adj}$ (mutagenic age-adjusted soil ingestion factor) mg/kg	166833.33
IRS_{res-c} (soil intake rate - child) mg/day	200
IRS_{res-a} (soil intake rate - adult) mg/day	100
IRS_{0-2} (mutagenic soil intake rate) mg/day	200
IRS_{2-6} (mutagenic soil intake rate) mg/day	200
IRS_{6-16} (mutagenic soil intake rate) mg/day	100
IRS_{16-26} (mutagenic soil intake rate) mg/day	100
AF_{res-a} (skin adherence factor - adult) mg/cm^2	0.07

Default
Resident Equation Inputs for Soil

Variable	Value
AF_{res-c} (skin adherence factor - child) mg/cm^2	0.2
AF_{0-2} (mutagenic skin adherence factor) mg/cm^2	0.2
AF_{2-6} (mutagenic skin adherence factor) mg/cm^2	0.2
AF_{6-16} (mutagenic skin adherence factor) mg/cm^2	0.07
AF_{16-26} (mutagenic skin adherence factor) mg/cm^2	0.07
$DFS_{res-adj}$ (age-adjusted soil dermal factor) mg/kg	103390
$DFSM_{res-adj}$ (mutagenic age-adjusted soil dermal factor) mg/kg	428260
$City_{PEF}$ (Climate Zone) Selection	Default
A_s (acres)	0.5
Q/C_{wp} (inverse of the ratio of the geometric mean air concentration to the emission flu	93.77
PEF (particulate emission factor) m^3/kg	1359344438
A (PEF Dispersion Constant)	16.2302
B (PEF Dispersion Constant)	18.7762
C (PEF Dispersion Constant)	216.108
V (fraction of vegetative cover) unitless	0.5
U_m (mean annual wind speed) m/s	4.69
U_t (equivalent threshold value)	11.32
F(x) (function dependant on U_m/U_t) unitless	0.194
$City_{VF}$ (Climate Zone) Selection	Default
A_s (acres)	0.5
Q/C_{vol}(inverse of the ratio of the geometric mean air concentration to the emission flu	68.18
foc (fraction organic carbon in soil) g/g	0.006
p_b (dry soil bulk density) g/cm^3	1.5

Default
Resident Equation Inputs for Soil

Variable	Value
p_s (soil particle density) g/cm^3	2.65
n (total soil porosity) L_{pore}/L_{soil}	0.43396
$_a$ (air-filled soil porosity) L_{air}/L_{soil}	0.28396
$_w$ (water-filled soil porosity) L_{water}/L_{soil}	0.15
T (exposure interval) s	819936000
A (VF Dispersion Constant)	11.911
B (VF Dispersion Constant)	18.4385
C (VF Dispersion Constant)	209.7845
City$_{VF\ mass\text{-}loading}$ (Climate Zone) Selection	Default
VF_{ml} (volitization factor - mass-limit) m^3/kg	.
Q/C_{vol} (inverse of the ratio of the geometric mean air concentration to the emission fl	68.18365
A_s (acres)	0.5
T (exposure interval) yr	26
d_s (depth of source) m	.
p_b (dry soil bulk density) g/cm^3	1.5
A (VF Dispersion Constant - Mass Limit)	11.911
B (VF Dispersion Constant - Mass Limit)	18.4385
C (VF Dispersion Constant - Mass Limit)	209.7845

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Default
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Chemical	CAS Number	Mutagen?	VOC?	Ingestion SF $(mg/kg\text{-}day)^{-1}$	SFO Ref	Inhalation Unit Risk $(ug/m^3)^{-1}$	IUR Ref	Chronic RfD (mg/kg-day)	Chronic RfD Ref	Chronic RfC (mg/m^3)	Chronic RfC Ref	GIABS	ABS	RBA	Volatilization Factor (m^3/kg)	Henry's Law Constant (unitless)	S (mg/L)	K_{oc} (cm3/g)	Soil Saturation Concentration (mg/kg)	Particulate Emission Factor (m^3/kg)
Acenaphthene	83-32-9	No	Yes	-		-		6.00E-02	IR	-		1	0.13	1	1.41E+05	7.52E-03	3.90E+00	5.03E+03	-	1.36E+09
Acenaphthylene	208-96-8	No	Yes	-		-		-		-		1	0.13	1	1.89E+05	4.66E-03	1.61E+01	5.03E+03	-	1.36E+09
Acetaldehyde	75-07-0	No	Yes	-		2.20E-06	I	-		9.00E-03	IR	1	-	1	8.72E+03	2.73E-03	1.00E+06	1.00E+00	1.07E+05	1.36E+09
Acetone	67-64-1	No	Yes	-		-		9.00E-01	IR	3.09E+01	AT	1	-	1	1.37E+04	1.43E-03	1.00E+06	2.36E+00	1.14E+05	1.36E+09
Aluminum	7429-90-5	No	No	-		-		1.00E+00	PP	5.00E-03	PP	1	-	1	-	-	-	-	-	1.36E+09
Anthracene	120-12-7	No	Yes	-		-		3.00E-01	IR	-		1	0.13	1	5.23E+05	2.27E-03	4.34E-02	1.64E+04	-	1.36E+09
Antimony (metallic)	7440-36-0	No	No	-		-		4.00E-04	IR	-		0.15	-	1	-	-	-	-	-	1.36E+09
Arsenic, Inorganic	7440-38-2	No	No	1.50E+00	I	4.30E-03	I	3.00E-04	IR	1.50E-05	CA	1	0.03	0.6	-	-	-	-	-	1.36E+09
Barium	7440-39-3	No	No	-		-		2.00E-01	IR	5.00E-04	HE	0.07	-	1	-	-	-	-	-	1.36E+09
Benz[a]anthracene	56-55-3	Yes	Yes	1.00E-01	W	6.00E-05	W	-		-		1	0.13	1	4.41E+06	4.91E-04	9.40E-03	1.77E+05	-	1.36E+09
Benzene	71-43-2	No	Yes	5.50E-02	I	7.80E-06	I	4.00E-03	IR	3.00E-02	IR	1	-	1	3.54E+03	2.27E-01	1.79E+03	1.46E+02	1.82E+03	1.36E+09
Benzo[a]pyrene	50-32-8	Yes	No	1.00E+00	I	6.00E-04	I	3.00E-04	IR	2.00E-06	IR	1	0.13	1	-	1.87E-05	1.62E-03	5.87E+05	-	1.36E+09
Benzo[b]fluoranthene	205-99-2	Yes	No	1.00E-01	W	6.00E-05	W	-		-		1	0.13	1	-	2.69E-05	1.50E-03	5.99E+05	-	1.36E+09
Benzo[g,h,i]perylene	191-24-2	No	No	-		-		-		-		1	0.13	1	-	1.35E-05	2.60E-04	1.95E+06	-	1.36E+09
Benzo[k]fluoranthene	207-08-9	Yes	No	1.00E-02	W	6.00E-06	W	-		-		1	0.13	1	-	2.39E-05	8.00E-04	5.87E+05	-	1.36E+09
Beryllium and compounds	7440-41-7	No	No	-		2.40E-03	I	2.00E-03	IR	2.00E-05	IR	0.007	-	1	-	-	-	-	-	1.36E+09
Bis(2-ethylhexyl)phthalate	117-81-7	No	No	1.40E-02	I	2.40E-06	C	2.00E-02	IR	-		1	0.1	1	-	1.10E-05	2.70E-01	1.20E+05	-	1.36E+09
Bromomethane	74-83-9	No	Yes	-		-		1.40E-03	IR	5.00E-03	IR	1	-	1	1.40E+03	3.00E-01	1.52E+04	1.32E+01	3.59E+03	1.36E+09
Butylbenzene, n-	104-51-8	No	Yes	-		-		5.00E-02	PP	-		1	-	1	8.14E+03	6.50E-01	1.18E+01	1.48E+03	1.08E+02	1.36E+09
Butylbenzene, sec-	135-98-8	No	Yes	-		-		1.00E-01	SC	-		1	-	1	7.35E+03	7.20E-01	1.76E+01	1.33E+03	1.45E+02	1.36E+09
Butylbenzene, tert-	98-06-6	No	Yes	-		-		1.00E-01	SC	-		1	-	1	7.36E+03	5.40E-01	2.95E+01	1.00E+03	1.83E+02	1.36E+09
Cadmium (Diet)	7440-43-9	No	No	-		1.80E-03	I	1.00E-03	IR	1.00E-05	AT	0.025	0.001	1	-	-	-	-	-	1.36E+09
Calcium	7440-70-2	No	No	-		-		-		-		1	-	1	-	-	-	-	-	1.36E+09

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Chemical	CAS Number	Mutagen?	VOC?	Ingestion SF $(mg/kg\text{-}day)^{-1}$	SFO Ref	Inhalation Unit Risk $(ug/m^3)^{-1}$	IUR Ref	Chronic RfD (mg/kg-day)	Chronic RfD Ref	Chronic RfC (mg/m^3)	Chronic RfC Ref	GIABS	ABS	RBA	Volatilization Factor (m^3/kg)	Henry's Law Constant (unitless)	S (mg/L)	K_{oc} (cm3/g)	Soil Saturation Concentration (mg/kg)	Particulate Emission Factor (m^3/kg)
Carbazole	86-74-8	No	No	-		-		-		-		1	0.1	1	-	4.74E-06	1.80E+00	9.16E+03	-	1.36E+09
Carbon Disulfide	75-15-0	No	Yes	-		-		1.00E-01	IR	7.00E-01	IR	1	-	1	1.17E+03	5.89E-01	2.16E+03	2.17E+01	7.38E+02	1.36E+09
Chloroform	67-66-3	No	Yes	3.10E-02	C	2.30E-05	I	1.00E-02	IR	9.77E-02	AT	1	-	1	2.63E+03	1.50E-01	7.95E+03	3.18E+01	2.54E+03	1.36E+09
Chloromethane	74-87-3	No	Yes	-		-		-		9.00E-02	IR	1	-	1	1.18E+03	3.61E-01	5.32E+03	1.32E+01	1.32E+03	1.36E+09
Chlorotoluene, p-	106-43-4	No	Yes	-		-		2.00E-02	SC	-		1	-	1	7.29E+03	1.79E-01	1.06E+02	3.75E+02	2.53E+02	1.36E+09
Chromium(III), Insoluble Salts	16065-83-1	No	No	-		-		1.50E+00	IR	-		0.013	-	1	-	-	-	-	-	1.36E+09
Chromium(VI)	18540-29-9	Yes	No	5.00E-01	J	8.40E-02	S	3.00E-03	IR	1.00E-04	IR	0.025	-	1	-	-	1.69E+06	-	-	1.36E+09
Chromium, Total	7440-47-3	No	No	-		-		-		-		0.013	-	1	-	-	-	-	-	1.36E+09
Chrysene	218-01-9	Yes	No	1.00E-03	W	6.00E-07	W	-		-		1	0.13	1	-	2.14E-04	2.00E-03	1.81E+05	-	1.36E+09
Cobalt	7440-48-4	No	No	-		9.00E-03	P	3.00E-04	PP	6.00E-06	PP	1	-	1	-	-	-	-	-	1.36E+09
Copper	7440-50-8	No	No	-		-		4.00E-02	HE	-		1	-	1	-	-	-	-	-	1.36E+09
Cumene	98-82-8	No	Yes	-		-		1.00E-01	IR	4.00E-01	IR	1	-	1	6.21E+03	4.70E-01	6.13E+01	6.98E+02	2.68E+02	1.36E+09
Dibenz[a,h]anthracene	53-70-3	Yes	No	1.00E+00	W	6.00E-04	W	-		-		1	0.13	1	-	5.76E-06	2.49E-03	1.91E+06	-	1.36E+09
Dibenzofuran	132-64-9	No	Yes	-		-		1.00E-03	SC	-		1	0.03	1	1.56E+05	8.71E-03	3.10E+00	9.16E+03	-	1.36E+09
Dibromo-3-chloropropane, 1,2-	96-12-8	Yes	Yes	8.00E-01	P	6.00E-03	P	2.00E-04	PP	2.00E-04	IR	1	-	1	3.20E+04	6.01E-03	1.23E+03	1.16E+02	9.79E+02	1.36E+09
Dibutyl Phthalate	84-74-2	No	No	-		-		1.00E-01	IR	-		1	0.1	1	-	7.40E-05	1.12E+01	1.16E+03	-	1.36E+09
Dichlorodifluoromethane	75-71-8	No	Yes	-		-		2.00E-01	IR	1.00E-01	SC	1	-	1	8.41E+02	1.40E+01	2.80E+02	4.39E+01	8.45E+02	1.36E+09
Dichloroethylene, 1,2-cis-	156-59-2	No	Yes	-		-		2.00E-03	IR	-		1	-	1	2.50E+03	1.67E-01	6.41E+03	3.96E+01	2.37E+03	1.36E+09
Ethylbenzene	100-41-4	No	Yes	1.10E-02	C	2.50E-06	C	1.00E-01	IR	1.00E+00	IR	1	-	1	5.67E+03	3.22E-01	1.69E+02	4.46E+02	4.80E+02	1.36E+09
Fluoranthene	206-44-0	No	No	-		-		4.00E-02	IR	-		1	0.13	1	-	3.62E-04	2.60E-01	5.55E+04	-	1.36E+09
Fluorene	86-73-7	No	Yes	-		-		4.00E-02	IR	-		1	0.13	1	2.81E+05	3.93E-03	1.69E+00	9.16E+03	-	1.36E+09
Hexanone, 2-	591-78-6	No	Yes	-		-		5.00E-03	IR	3.00E-02	IR	1	-	1	1.33E+04	3.81E-03	1.72E+04	1.50E+01	3.28E+03	1.36E+09

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Indeno[1,2,3-cd]pyrene	193-39-5	Yes	No	1.00E-01	W	6.00E-05	W	-		-		1	0.13	1	-	1.42E-05	1.90E-04	1.95E+06	-	1.36E+09
Iron	7439-89-6	No	No	-		-		7.00E-01	PP	-		1	-	1	-	-	-	-	-	1.36E+09
Isopropyltoluene, p-	99-87-6	No	Yes	-		-		-		-		1	-	1	8.53E+03	4.50E-01	2.34E+01	1.12E+03	1.62E+02	1.36E+09
Lead and Compounds	7439-92-1	No	No	-		-		-		-		1	-	1	-	-	-	-	-	1.36E+09
Magnesium	7439-95-4	No	No	-		-		-		-		1	-	1	-	-	-	-	-	1.36E+09
Magnesium	7439-95-4	No	No	-		-		-		-		1	-	1	-	-	-	-	-	1.36E+09
Manganese (Non-diet)	7439-96-5	No	No	-		-		2.40E-02	SU	5.00E-05	IR	0.04	-	1	-	-	-	-	-	1.36E+09
Manganese (Non-diet)	7439-96-5	No	No	-		-		2.40E-02	SU	5.00E-05	IR	0.04	-	1	-	-	-	-	-	1.36E+09
Mercuric Chloride	7487-94-7	No	No	-		-		3.00E-04	IR	3.00E-04	SU	0.07	-	1	-	-	6.90E+04	-	-	1.36E+09
Mercuric Chloride	7487-94-7	No	No	-		-		3.00E-04	IR	3.00E-04	SU	0.07	-	1	-	-	6.90E+04	-	-	1.36E+09
Mercury (elemental)	7439-97-6	No	Yes	-		-		-		3.00E-04	IR	1	-	1	3.47E+04	3.52E-01	6.00E-02	-	3.13E+00	1.36E+09
Mercury (elemental)	7439-97-6	No	Yes	-		-		-		3.00E-04	IR	1	-	1	3.47E+04	3.52E-01	6.00E-02	-	3.13E+00	1.36E+09
Methyl Ethyl Ketone (2-Butanone)	78-93-3	No	Yes	-		-		6.00E-01	IR	5.00E+00	IR	1	-	1	1.22E+04	2.33E-03	2.23E+05	4.51E+00	2.84E+04	1.36E+09
Methyl Ethyl Ketone (2-Butanone)	78-93-3	No	Yes	-		-		6.00E-01	IR	5.00E+00	IR	1	-	1	1.22E+04	2.33E-03	2.23E+05	4.51E+00	2.84E+04	1.36E+09
Methyl Isobutyl Ketone (4-methyl-2-pentanone)	108-10-1	No	Yes	-		-		-		3.00E+00	IR	1	-	1	1.06E+04	5.64E-03	1.90E+04	1.26E+01	3.36E+03	1.36E+09
Methylene Chloride	75-09-2	Yes	Yes	2.00E-03	I	1.00E-08	I	6.00E-03	IR	6.00E-01	IR	1	-	1	2.19E+03	1.33E-01	1.30E+04	2.17E+01	3.32E+03	1.36E+09
Methylnaphthalene, 2-	91-57-6	No	Yes	-		-		4.00E-03	IR	-		1	0.13	1	5.80E+04	2.12E-02	2.46E+01	2.48E+03	-	1.36E+09
Naphthalene	91-20-3	No	Yes	-		3.40E-05	C	2.00E-02	IR	3.00E-03	IR	1	0.13	1	4.63E+04	1.80E-02	3.10E+01	1.54E+03	-	1.36E+09
Nickel Refinery Dust	NA	No	No	-		2.40E-04	I	1.10E-02	CA	1.40E-05	CA	0.04	-	1	-	-	-	-	-	1.36E+09
Nickel Soluble Salts	7440-02-0	No	No	-		2.60E-04	C	2.00E-02	IR	9.00E-05	AT	0.04	-	1	-	-	-	-	-	1.36E+09
Phenanthrene	85-01-8	No	Yes	-		-		-		-		1	0.13	1	6.43E+05	1.73E-03	1.15E+00	1.67E+04	-	1.36E+09
Propyl benzene	103-65-1	No	Yes	-		-		1.00E-01	SC	1.00E+00	SC	1	-	1	6.99E+03	4.29E-01	5.22E+01	8.13E+02	2.64E+02	1.36E+09
Pyrene	129-00-0	No	Yes	-		-		3.00E-02	IR	-		1	0.13	1	2.38E+06	4.87E-04	1.35E-01	5.43E+04	-	1.36E+09
Selenium	7782-49-2	No	No	-		-		5.00E-03	IR	2.00E-02	CA	1	-	1	-	-	-	-	-	1.36E+09
Silver	7440-22-4	No	No	-		-		5.00E-03	IR	-		0.04	-	1	-	-	-	-	-	1.36E+09
Thallium (Soluble Salts)	7440-28-0	No	No	-		-		1.00E-05	SC	-		1	-	1	-	-	-	-	-	1.36E+09

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Chemical	CAS Number	Mutagen?	VOC?	Ingestion SF $(mg/kg\text{-}day)^{-1}$	SFO Ref	Inhalation Unit Risk $(ug/m^3)^{-1}$	IUR Ref	Chronic RfD (mg/kg-day)	Chronic RfD Ref	Chronic RfC (mg/m^3)	Chronic RfC Ref	GIABS	ABS	RBA	Volatilization Factor (m^3/kg)	Henry's Law Constant (unitless)	S (mg/L)	K_{oc} (cm3/g)	Soil Saturation Concentration (mg/kg)	Particulate Emission Factor (m^3/kg)
Toluene	108-88-3	No	Yes	-		-		8.00E-02	IR	5.00E+00	IR	1	-	1	4.29E+03	2.71E-01	5.26E+02	2.34E+02	8.18E+02	1.36E+09
Trichloroethane, 1,1,2-	79-00-5	No	Yes	5.70E-02	I	1.60E-05	I	4.00E-03	IR	2.00E-04	SC	1	-	1	7.22E+03	3.37E-02	4.59E+03	6.07E+01	2.16E+03	1.36E+09
Trichloroethylene	79-01-6	Yes	Yes	4.60E-02	I	4.10E-06	I	5.00E-04	IR	2.00E-03	IR	1	-	1	2.21E+03	4.03E-01	1.28E+03	6.07E+01	6.92E+02	1.36E+09
Trichlorofluoromethane	75-69-4	No	Yes	-		-		3.00E-01	IR	-		1	-	1	1.04E+03	3.97E+00	1.10E+03	4.39E+01	1.23E+03	1.36E+09
Trimethylbenzene, 1,2,4-	95-63-6	No	Yes	-		-		1.00E-02	IR	6.00E-02	IR	1	-	1	7.91E+03	2.52E-01	5.70E+01	6.14E+02	2.19E+02	1.36E+09
Trimethylbenzene, 1,3,5-	108-67-8	No	Yes	-		-		1.00E-02	IR	6.00E-02	IR	1	-	1	6.61E+03	3.59E-01	4.82E+01	6.02E+02	1.82E+02	1.36E+09
Vanadium and Compounds	7440-62-2	No	No	-		-		5.04E-03	SU	1.00E-04	AT	0.026	-	1	-	-	-	-	-	1.36E+09
Xylene, o-	95-47-6	No	Yes	-		-		2.00E-01	SU	1.00E-01	SU	1	-	1	6.46E+03	2.12E-01	1.78E+02	3.83E+02	4.34E+02	1.36E+09
Xylenes	1330-20-7	No	Yes	-		-		2.00E-01	IR	1.00E-01	IR	1	-	1	5.74E+03	2.71E-01	1.06E+02	3.83E+02	2.60E+02	1.36E+09
Zinc and Compounds	7440-66-6	No	No	-		-		3.00E-01	IR	-		1	-	1	-	-	-	-	-	1.36E+09

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Default
Resident Risk-Based Screening Levels (RSL) for Soil

Chemical	Ingestion SL TR=1.0E-6 (mg/kg)	Dermal SL TR=1.0E-6 (mg/kg)	Inhalation SL TR=1.0E-6 (mg/kg)	Carcinogenic SL TR=1.0E-6 (mg/kg)	Ingestion SL Child THQ=1 (mg/kg)	Dermal SL Child THQ=1 (mg/kg)	Inhalation SL Child THQ=1 (mg/kg)	Noncarcinogenic SL Child THI=1 (mg/kg)	Ingestion SL Adult THQ=1 (mg/kg)	Dermal SL Adult THQ=1 (mg/kg)	Inhalation SL Adult THQ=1 (mg/kg)	Noncarcinogenic SL Adult THI=1 (mg/kg)	Screening Level (mg/kg)
Acenaphthene	-	-	-	-	4.69E+03	1.52E+04	-	3.59E+03	5.01E+04	9.12E+04	-	3.23E+04	3.59E+03 nc
Acenaphthylene	-	-	-	-	-	-	-	-	-	-	-	-	
Acetaldehyde	-	-	1.11E+01	1.11E+01	-	-	8.18E+01	8.18E+01	-	-	8.18E+01	8.18E+01	1.11E+01 ca**
Acetone	-	-	-	-	7.04E+04	-	4.40E+05	6.07E+04	7.51E+05	-	4.40E+05	2.77E+05	6.07E+04 nc
Aluminum	-	-	-	-	7.82E+04	-	7.09E+06	7.74E+04	8.34E+05	-	7.09E+06	7.46E+05	7.74E+04 nc
Anthracene	-	-	-	-	2.35E+04	7.61E+04	-	1.79E+04	2.50E+05	4.56E+05	-	1.62E+05	1.79E+04 nc
Antimony (metallic)	-	-	-	-	3.13E+01	-	-	3.13E+01	3.34E+02	-	-	3.34E+02	3.13E+01 nc
Arsenic, Inorganic	7.72E-01	5.49E+00	8.88E+02	6.77E-01	3.91E+01	3.30E+02	2.13E+04	3.49E+01	4.17E+02	1.98E+03	2.13E+04	3.39E+02	6.77E-01 ca*
Barium	-	-	-	-	1.56E+04	-	7.09E+05	1.53E+04	1.67E+05	-	7.09E+05	1.35E+05	1.53E+04 nc
Benz[a]anthracene	1.53E+00	4.59E+00	7.43E+01	1.13E+00	-	-	-	-	-	-	-	-	1.13E+00 ca
Benzene	1.26E+01	-	1.27E+00	1.16E+00	3.13E+02	-	1.11E+02	8.17E+01	3.34E+03	-	1.11E+02	1.07E+02	1.16E+00 ca*
Benzo[a]pyrene	1.53E-01	4.59E-01	2.30E+03	1.15E-01	2.35E+01	7.61E+01	2.84E+03	1.78E+01	2.50E+02	4.56E+02	2.84E+03	1.53E+02	1.15E-01 ca
Benzo[b]fluoranthene	1.53E+00	4.59E+00	2.30E+04	1.15E+00	-	-	-	-	-	-	-	-	1.15E+00 ca
Benzo[g,h,i]perylene	-	-	-	-	-	-	-	-	-	-	-	-	
Benzo[k]fluoranthene	1.53E+01	4.59E+01	2.30E+05	1.15E+01	-	-	-	-	-	-	-	-	1.15E+01 ca
Beryllium and compounds	-	-	1.59E+03	1.59E+03	1.56E+02	-	2.84E+04	1.56E+02	1.67E+03	-	2.84E+04	1.58E+03	1.56E+02 nc
Bis(2-ethylhexyl)phthalate	4.97E+01	1.77E+02	1.59E+06	3.88E+01	1.56E+03	6.59E+03	-	1.26E+03	1.67E+04	3.95E+04	-	1.17E+04	3.88E+01 ca*
Bromomethane	-	-	-	-	1.10E+02	-	7.29E+00	6.83E+00	1.17E+03	-	7.29E+00	7.24E+00	6.83E+00 nc
Butylbenzene, n-	-	-	-	-	3.91E+03	-	-	3.91E+03	4.17E+04	-	-	4.17E+04	3.91E+03 sat
Butylbenzene, sec-	-	-	-	-	7.82E+03	-	-	7.82E+03	8.34E+04	-	-	8.34E+04	7.82E+03 sat
Butylbenzene, tert-	-	-	-	-	7.82E+03	-	-	7.82E+03	8.34E+04	-	-	8.34E+04	7.82E+03 sat
Cadmium (Diet)	-	-	2.12E+03	2.12E+03	7.82E+01	8.24E+02	1.42E+04	7.11E+01	8.34E+02	4.94E+03	1.42E+04	6.80E+02	7.11E+01 nc
Calcium	-	-	-	-	-	-	-	-	-	-	-	-	

Default
Resident Risk-Based Screening Levels (RSL) for Soil

Chemical	Ingestion SL TR=1.0E-6 (mg/kg)	Dermal SL TR=1.0E-6 (mg/kg)	Inhalation SL TR=1.0E-6 (mg/kg)	Carcinogenic SL TR=1.0E-6 (mg/kg)	Ingestion SL Child THQ=1 (mg/kg)	Dermal SL Child THQ=1 (mg/kg)	Inhalation SL Child THQ=1 (mg/kg)	Noncarcinogenic SL Child THI=1 (mg/kg)	Ingestion SL Adult THQ=1 (mg/kg)	Dermal SL Adult THQ=1 (mg/kg)	Inhalation SL Adult THQ=1 (mg/kg)	Noncarcinogenic SL Adult THI=1 (mg/kg)	Screening Level (mg/kg)
Carbazole	-	-	-	-	-	-	-	-	-	-	-	-	
Carbon Disulfide	-	-	-	-	7.82E+03	-	8.52E+02	7.68E+02	8.34E+04	-	8.52E+02	8.43E+02	7.68E+02 sat
Chloroform	2.24E+01	-	3.21E-01	3.16E-01	7.82E+02	-	2.68E+02	1.99E+02	8.34E+03	-	2.68E+02	2.59E+02	3.16E-01 ca
Chloromethane	-	-	-	-	-	-	1.10E+02	1.10E+02	-	-	1.10E+02	1.10E+02	1.10E+02 nc
Chlorotoluene, p-	-	-	-	-	1.56E+03	-	-	1.56E+03	1.67E+04	-	-	1.67E+04	1.56E+03 sat
Chromium(III), Insoluble Salts	-	-	-	-	1.17E+05	-	-	1.17E+05	1.25E+06	-	-	1.25E+06	1.17E+05 max
Chromium(VI)	3.06E-01	-	1.64E+01	3.01E-01	2.35E+02	-	1.42E+05	2.34E+02	2.50E+03	-	1.42E+05	2.46E+03	3.01E-01 ca
Chromium, Total	-	-	-	-	-	-	-	-	-	-	-	-	
Chrysene	1.53E+02	4.59E+02	2.30E+06	1.15E+02	-	-	-	-	-	-	-	-	1.15E+02 ca
Cobalt	-	-	4.24E+02	4.24E+02	2.35E+01	-	8.51E+03	2.34E+01	2.50E+02	-	8.51E+03	2.43E+02	2.34E+01 nc
Copper	-	-	-	-	3.13E+03	-	-	3.13E+03	3.34E+04	-	-	3.34E+04	3.13E+03 nc
Cumene	-	-	-	-	7.82E+03	-	2.59E+03	1.95E+03	8.34E+04	-	2.59E+03	2.51E+03	1.95E+03 sat
Dibenz[a,h]anthracene	1.53E-01	4.59E-01	2.30E+03	1.15E-01	-	-	-	-	-	-	-	-	1.15E-01 ca
Dibenzofuran	-	-	-	-	7.82E+01	1.10E+03	-	7.30E+01	8.34E+02	6.59E+03	-	7.40E+02	7.30E+01 nc
Dibromo-3-chloropropane, 1,2-	1.91E-01	-	5.40E-03	5.26E-03	1.56E+01	-	6.67E+00	4.68E+00	1.67E+02	-	6.67E+00	6.41E+00	5.26E-03 ca
Dibutyl Phthalate	-	-	-	-	7.82E+03	3.30E+04	-	6.32E+03	8.34E+04	1.98E+05	-	5.87E+04	6.32E+03 nc
Dichlorodifluoromethane	-	-	-	-	1.56E+04	-	8.77E+01	8.72E+01	1.67E+05	-	8.77E+01	8.76E+01	8.72E+01 nc
Dichloroethylene, 1,2-cis-	-	-	-	-	1.56E+02	-	-	1.56E+02	1.67E+03	-	-	1.67E+03	1.56E+02 nc
Ethylbenzene	6.32E+01	-	6.36E+00	5.78E+00	7.82E+03	-	5.91E+03	3.37E+03	8.34E+04	-	5.91E+03	5.52E+03	5.78E+00 ca
Fluoranthene	-	-	-	-	3.13E+03	1.01E+04	-	2.39E+03	3.34E+04	6.08E+04	-	2.15E+04	2.39E+03 nc
Fluorene	-	-	-	-	3.13E+03	1.01E+04	-	2.39E+03	3.34E+04	6.08E+04	-	2.15E+04	2.39E+03 nc
Hexanone, 2-	-	-	-	-	3.91E+02	-	4.16E+02	2.02E+02	4.17E+03	-	4.16E+02	3.78E+02	2.02E+02 nc

Default
Resident Risk-Based Screening Levels (RSL) for Soil

Chemical	Ingestion SL TR=1.0E-6 (mg/kg)	Dermal SL TR=1.0E-6 (mg/kg)	Inhalation SL TR=1.0E-6 (mg/kg)	Carcinogenic SL TR=1.0E-6 (mg/kg)	Ingestion SL Child THQ=1 (mg/kg)	Dermal SL Child THQ=1 (mg/kg)	Inhalation SL Child THQ=1 (mg/kg)	Noncarcinogenic SL Child THI=1 (mg/kg)	Ingestion SL Adult THQ=1 (mg/kg)	Dermal SL Adult THQ=1 (mg/kg)	Inhalation SL Adult THQ=1 (mg/kg)	Noncarcinogenic SL Adult THI=1 (mg/kg)	Screening Level (mg/kg)
Indeno[1,2,3-cd]pyrene	1.53E+00	4.59E+00	2.30E+04	1.15E+00	-	-	-	-	-	-	-	-	1.15E+00 ca
Iron	-	-	-	-	5.48E+04	-	-	5.48E+04	5.84E+05	-	-	5.84E+05	5.48E+04 nc
Isopropyltoluene, p-	-	-	-	-	-	-	-	-	-	-	-	-	
Lead and Compounds	-	-	-	-	-	-	-	-	-	-	-	-	
Magnesium	-	-	-	-	-	-	-	-	-	-	-	-	
Magnesium	-	-	-	-	-	-	-	-	-	-	-	-	
Manganese (Non-diet)	-	-	-	-	1.88E+03	-	7.09E+04	1.83E+03	2.00E+04	-	7.09E+04	1.56E+04	1.83E+03 nc
Manganese (Non-diet)	-	-	-	-	1.88E+03	-	7.09E+04	1.83E+03	2.00E+04	-	7.09E+04	1.56E+04	1.83E+03 nc
Mercuric Chloride	-	-	-	-	2.35E+01	-	4.25E+05	2.35E+01	2.50E+02	-	4.25E+05	2.50E+02	2.35E+01 nc
Mercuric Chloride	-	-	-	-	2.35E+01	-	4.25E+05	2.35E+01	2.50E+02	-	4.25E+05	2.50E+02	2.35E+01 nc
Mercury (elemental)	-	-	-	-	-	-	1.09E+01	1.09E+01	-	-	1.09E+01	1.09E+01	1.09E+01 sat
Mercury (elemental)	-	-	-	-	-	-	1.09E+01	1.09E+01	-	-	1.09E+01	1.09E+01	1.09E+01 sat
Methyl Ethyl Ketone (2-Butanone)	-	-	-	-	4.69E+04	-	6.36E+04	2.70E+04	5.01E+05	-	6.36E+04	5.64E+04	2.70E+04 nc
Methyl Ethyl Ketone (2-Butanone)	-	-	-	-	4.69E+04	-	6.36E+04	2.70E+04	5.01E+05	-	6.36E+04	5.64E+04	2.70E+04 nc
Methyl Isobutyl Ketone (4-methyl-2-pentanone)	-	-	-	-	-	-	3.31E+04	3.31E+04	-	-	3.31E+04	3.31E+04	3.31E+04 sat
Methylene Chloride	7.66E+01	-	2.22E+02	5.69E+01	4.69E+02	-	1.37E+03	3.50E+02	5.01E+03	-	1.37E+03	1.08E+03	5.69E+01 ca**
Methylnaphthalene, 2-	-	-	-	-	3.13E+02	1.01E+03	-	2.39E+02	3.34E+03	6.08E+03	-	2.15E+03	2.39E+02 nc
Naphthalene	-	-	3.83E+00	3.83E+00	1.56E+03	5.07E+03	1.45E+02	1.29E+02	1.67E+04	3.04E+04	1.45E+02	1.43E+02	3.83E+00 ca*
Nickel Refinery Dust	-	-	1.59E+04	1.59E+04	8.60E+02	-	1.98E+04	8.25E+02	9.18E+03	-	1.98E+04	6.28E+03	8.25E+02 nc
Nickel Soluble Salts	-	-	1.47E+04	1.47E+04	1.56E+03	-	1.28E+05	1.55E+03	1.67E+04	-	1.28E+05	1.48E+04	1.55E+03 nc
Phenanthrene	-	-	-	-	-	-	-	-	-	-	-	-	
Propyl benzene	-	-	-	-	7.82E+03	-	7.29E+03	3.77E+03	8.34E+04	-	7.29E+03	6.71E+03	3.77E+03 sat
Pyrene	-	-	-	-	2.35E+03	7.61E+03	-	1.79E+03	2.50E+04	4.56E+04	-	1.62E+04	1.79E+03 nc
Selenium	-	-	-	-	3.91E+02	-	2.84E+07	3.91E+02	4.17E+03	-	2.84E+07	4.17E+03	3.91E+02 nc
Silver	-	-	-	-	3.91E+02	-	-	3.91E+02	4.17E+03	-	-	4.17E+03	3.91E+02 nc
Thallium (Soluble Salts)	-	-	-	-	7.82E-01	-	-	7.82E-01	8.34E+00	-	-	8.34E+00	7.82E-01 nc

Default
Resident Risk-Based Screening Levels (RSL) for Soil

Chemical	Ingestion SL TR=1.0E-6 (mg/kg)	Dermal SL TR=1.0E-6 (mg/kg)	Inhalation SL TR=1.0E-6 (mg/kg)	Carcinogenic SL TR=1.0E-6 (mg/kg)	Ingestion SL Child THQ=1 (mg/kg)	Dermal SL Child THQ=1 (mg/kg)	Inhalation SL Child THQ=1 (mg/kg)	Noncarcinogenic SL Child THI=1 (mg/kg)	Ingestion SL Adult THQ=1 (mg/kg)	Dermal SL Adult THQ=1 (mg/kg)	Inhalation SL Adult THQ=1 (mg/kg)	Noncarcinogenic SL Adult THI=1 (mg/kg)	Screening Level (mg/kg)
Toluene	-	-	-	-	6.26E+03	-	2.24E+04	4.89E+03	6.67E+04	-	2.24E+04	1.67E+04	4.89E+03 sat
Trichloroethane, 1,1,2-	1.22E+01	-	1.27E+00	1.15E+00	3.13E+02	-	1.51E+00	1.50E+00	3.34E+03	-	1.51E+00	1.50E+00	1.15E+00 ca**
Trichloroethylene	8.78E+00	-	1.06E+00	9.43E-01	3.91E+01	-	4.61E+00	4.12E+00	4.17E+02	-	4.61E+00	4.56E+00	9.43E-01 ca**
Trichlorofluoromethane	-	-	-	-	2.35E+04	-	-	2.35E+04	2.50E+05	-	-	2.50E+05	2.35E+04 sat
Trimethylbenzene, 1,2,4-	-	-	-	-	7.82E+02	-	4.95E+02	3.03E+02	8.34E+03	-	4.95E+02	4.67E+02	3.03E+02 sat
Trimethylbenzene, 1,3,5-	-	-	-	-	7.82E+02	-	4.14E+02	2.71E+02	8.34E+03	-	4.14E+02	3.94E+02	2.71E+02 sat
Vanadium and Compounds	-	-	-	-	3.94E+02	-	1.42E+05	3.93E+02	4.20E+03	-	1.42E+05	4.08E+03	3.93E+02 nc
Xylene, o-	-	-	-	-	1.56E+04	-	6.73E+02	6.45E+02	1.67E+05	-	6.73E+02	6.71E+02	6.45E+02 sat
Xylenes	-	-	-	-	1.56E+04	-	5.98E+02	5.76E+02	1.67E+05	-	5.98E+02	5.96E+02	5.76E+02 sat
Zinc and Compounds	-	-	-	-	2.35E+04	-	-	2.35E+04	2.50E+05	-	-	2.50E+05	2.35E+04 nc

Default
Resident Risk-Based Screening Levels (RSL) for Soil

Chemical	Child HQ, 0.1	Adult HQ, 0.1	Cancer TR 1E=-6	Screening Level- Link to Rags 2	
Acenaphthene	359.00	3,230.00	-	**359.00**	**n**
Acenaphthylene	-	-	-	**0.00**	**n**
Acetaldehyde	8.18	8.18	11.1	**8.18**	**n**
Acetone	6,070.00	27,700.00	-	**6,070.00**	**n**
Aluminum	7,740.00	74,600.00	-	**7,740.00**	**n**
Anthracene	1,790.00	16,200.00	-	**1,790.00**	**n**
Antimony (metallic)	3.13	33.40	-	**3.13**	**n**
Arsenic, Inorganic	3.49	33.90	0.677	**0.68**	**c**
Barium	1,530.00	13,500.00	-	**1,530.00**	**n**
Benz[a]anthracene	-	-	1.13	**1.13**	**c**
Benzene	8.17	10.70	1.16	**1.16**	**c**
Benzo[a]pyrene	1.78	15.30	0.115	**0.12**	**c**
Benzo[b]fluoranthene	-	-	1.15	**1.15**	**c**
Benzo[g,h,i]perylene	-	-	-	**0.00**	**n**
Benzo[k]fluoranthene	-	-	11.5	**11.50**	**c**
Beryllium and compounds	15.60	158.00	1590	**15.60**	**n**
Bis(2-ethylhexyl)phthalate	126.00	1,170.00	38.8	**38.80**	**c**
Bromomethane	0.68	0.72	-	**0.68**	**n**
Butylbenzene, n-	391.00	4,170.00	-	**391.00**	**n**
Butylbenzene, sec-	782.00	8,340.00	-	**782.00**	**n**
Butylbenzene, tert-	782.00	8,340.00	-	**782.00**	**n**
Cadmium (Diet)	7.11	68.00	2120	**7.11**	**n**
Calcium	-	-	-	**0.00**	**n**

Default
Resident Risk-Based Screening Levels (RSL) for Soil

Chemical	Child HQ, 0.1	Adult HQ, 0.1	Cancer TR 1E=-6	Screening Level- Link to Rags 2	
Carbazole	-	-	-	**0.00**	**n**
Carbon Disulfide	76.80	84.30	-	**76.80**	**n**
Chloroform	19.90	25.90	0.316	**0.32**	**c**
Chloromethane	11.00	11.00	-	**11.00**	**n**
Chlorotoluene, p-	156.00	1,670.00	-	**156.00**	**n**
Chromium(III), Insoluble Salts	11,700.00	125,000.00	-	**11,700.00**	**n**
Chromium(VI)	23.40	246.00	0.301	**0.30**	**c**
Chromium, Total	-	-	-	**0.0000**	**n**
Chrysene	-	-	115	**115.00**	**c**
Cobalt	2.34	24.30	424	**2.34**	**n**
Copper	313.00	3,340.00	-	**313.00**	**n**
Cumene	195.00	251.00	-	**195.00**	**n**
Dibenz[a,h]anthracene	-	-	0.115	**0.12**	**c**
Dibenzofuran	7.30	74.00	-	**7.30**	**n**
Dibromo-3-chloropropane, 1,2-	0.47	0.64	0.00526	**0.01**	**c**
Dibutyl Phthalate	632.00	5,870.00	-	**632.00**	**n**
Dichlorodifluoromethane	8.72	8.76	-	**8.72**	**n**
Dichloroethylene, 1,2-cis-	15.60	167.00	-	**15.60**	**n**
Ethylbenzene	337.00	552.00	5.78	**5.78**	**c**
Fluoranthene	239.00	2,150.00	-	**239.00**	**n**
Fluorene	239.00	2,150.00	-	**239.00**	**n**
Hexanone, 2-	20.20	37.80	-	**20.20**	**n**

Default
Resident Risk-Based Screening Levels (RSL) for Soil

Chemical	Child HQ, 0.1	Adult HQ, 0.1	Cancer TR 1E=-6	Screening Level- Link to Rags 2	
Indeno[1,2,3-cd]pyrene	-	-	1.15	**1.15**	**c**
Iron	5,480.00	58,400.00	-	**5,480.00**	**n**
Isopropyltoluene, p-	-	-	-	**0.00**	**n**
Lead and Compounds	-	-	-	**0.00**	**n**
Magnesium	-	-	-	**0.00**	**n**
Magnesium	-	-	-	**0.00**	**n**
Manganese (Non-diet)	183.00	1,560.00	-	**183.00**	**n**
Manganese (Non-diet)	183.00	1,560.00	-	**183.00**	**n**
Mercuric Chloride	2.35	25.00	-	**2.35**	**n**
Mercuric Chloride	2.35	25.00	-	**2.35**	**n**
Mercury (elemental)	1.09	1.09	-	**1.09**	**n**
Mercury (elemental)	1.09	1.09	-	**1.09**	**n**
Methyl Ethyl Ketone (2-Butanone)	2,700.00	5,640.00	-	**2,700.00**	**n**
Methyl Ethyl Ketone (2-Butanone)	2,700.00	5,640.00	-	**2,700.00**	**n**
Methyl Isobutyl Ketone (4-methyl-2-pentanone)	3,310.00	3,310.00	-	**3,310.00**	**n**
Methylene Chloride	35.00	108.00	56.9	**35.00**	**n**
Methylnaphthalene, 2-	23.90	215.00	-	**23.90**	**n**
Naphthalene	12.90	14.30	3.83	**3.83**	**c**
Nickel Refinery Dust	82.50	628.00	15900	**82.50**	**n**
Nickel Soluble Salts	155.00	1,480.00	14700	**155.00**	**n**
Phenanthrene	-	-	-	**0.00**	**n**
Propyl benzene	377.00	671.00	-	**377.00**	**n**
Pyrene	179.00	1,620.00	-	**179.00**	**n**
Selenium	39.10	417.00	-	**39.10**	**n**
Silver	39.10	417.00	-	**39.10**	**n**
Thallium (Soluble Salts)	0.08	0.83	-	**0.08**	**n**

Default
Resident Risk-Based Screening Levels (RSL) for Soil

Chemical	Child HQ, 0.1	Adult HQ, 0.1	Cancer TR 1E=-6	Screening Level- Link to Rags 2	
Toluene	489.00	1,670.00	-	**489.00**	**n**
Trichloroethane, 1,1,2-	0.15	0.15	1.15	**0.15**	**n**
Trichloroethylene	0.41	0.46	0.943	**0.41**	**n**
Trichlorofluoromethane	2,350.00	25,000.00	-	**2,350.00**	**n**
Trimethylbenzene, 1,2,4-	30.30	46.70	-	**30.30**	**n**
Trimethylbenzene, 1,3,5-	27.10	39.40	-	**27.10**	**n**
Vanadium and Compounds	39.30	408.00	-	**39.30**	**n**
Xylene, o-	64.50	67.10	-	**64.50**	**n**
Xylenes	57.60	59.60	-	**57.60**	**n**
Zinc and Compounds	2,350.00	25,000.00	-	**2,350.00**	**n**

Default
Resident Equation Inputs for Tap Water

Variable	Value
THQ (target hazard quotient) unitless	1
TR (target risk) unitless	0.000001
LT (lifetime) year	70
K (volatilization factor of Andelman) L/m^3	0.5
l_{sc} (apparent thickness of stratum corneum) cm	0.001
ED_{res} (exposure duration - resident) year	26
ED_{res-c} (exposure duration - child) year	6
ED_{res-a} (exposure duration - adult) year	20
ED_{0-2} (mutagenic exposure duration first phase) year	2
ED_{2-6} (mutagenic exposure duration second phase) year	4
ED_{6-16} (mutagenic exposure duration third phase) year	10
ED_{16-26} (mutagenic exposure duration fourth phase) year	10
EF_{res} (exposure frequency) day/year	350
EF_{res-c} (exposure frequency - child) day/year	350
EF_{res-a} (exposure frequency - adult) day/year	350
EF_{0-2} (mutagenic exposure frequency first phase) day/year	350
EF_{2-6} (mutagenic exposure frequency second phase) day/year	350
EF_{6-16} (mutagenic exposure frequency third phase) day/year	350
EF_{16-26} (mutagenic exposure frequency fourth phase) day/year	350
$ET_{res-adj}$ (age-adjusted exposure time) hour/event	0.67077
$ET_{res-madj}$ (mutagenic age-adjusted exposure time) hour/event	0.67077
ET_{res} (exposure time) hour/day	24
ET_{res-c} (dermal exposure time - child) hour/event	0.54
ET_{res-a} (dermal exposure time - adult) hour/event	0.71
ET_{res-c} (inhalation exposure time - child) hour/day	24
ET_{res-a} (inhalation exposure time - adult) hour/day	24
ET_{0-2} (mutagenic inhalation exposure time first phase) hour/day	24
ET_{2-6} (mutagenic inhalation exposure time second phase) hour/day	24
ET_{6-16} (mutagenic inhalation exposure time third phase) hour/day	24
ET_{16-26} (mutagenic inhalation exposure time fourth phase) hour/day	24
ET_{0-2} (mutagenic dermal exposure time first phase) hour/event	0.54
ET_{2-6} (mutagenic dermal exposure time second phase) hour/event	0.54
ET_{6-16} (mutagenic dermal exposure time third phase) hour/event	0.71

Default
Resident Equation Inputs for Tap Water

Variable	Value
ET_{16-26} (mutagenic dermal exposure time fourth phase) hour/event	0.71
BW_{res-a} (body weight - adult) kg	80
BW_{res-c} (body weight - child) kg	15
BW_{0-2} (mutagenic body weight) kg	15
BW_{2-6} (mutagenic body weight) kg	15
BW_{6-16} (mutagenic body weight) kg	80
BW_{16-26} (mutagenic body weight) kg	80
$IFW_{res-adj}$ (adjusted intake factor) L/kg	327.95
$IFW_{res-adj}$ (adjusted intake factor) L/kg	327.95
$IFWM_{res-adj}$ (mutagenic adjusted intake factor) L/kg	1019.9
$IFWM_{res-adj}$ (mutagenic adjusted intake factor) L/kg	1019.9
IRW_{res-c} (water intake rate - child) L/day	0.78
IRW_{res-a} (water intake rate - adult) L/day	2.5
IRW_{0-2} (mutagenic water intake rate) L/day	0.78
IRW_{2-6} (mutagenic water intake rate) L/day	0.78
IRW_{6-16} (mutagenic water intake rate) L/day	2.5
IRW_{16-26} (mutagenic water intake rate) L/day	2.5
EV_{res-a} (events - adult) per day	1
EV_{res-c} (events - child) per day	1
EV_{0-2} (mutagenic events) per day	1
EV_{2-6} (mutagenic events) per day	1
EV_{6-16} (mutagenic events) per day	1
EV_{16-26} (mutagenic events) per day	1
$DFW_{res-adj}$ (age-adjusted dermal factor) cm^2-event/kg	2610650
$DFWM_{res-adj}$ (mutagenic age-adjusted dermal factor) cm^2-event/kg	8191633
$DFW_{res-adj}$ (age-adjusted dermal factor) cm^2-event/kg	2610650
$DFWM_{res-adj}$ (mutagenic age-adjusted dermal factor) cm^2-event/kg	8191633
SA_{res-c} (skin surface area - child) cm^2	6365
SA_{res-a} (skin surface area - adult) cm^2	19652
SA_{0-2} (mutagenic skin surface area) cm^2	6365
SA_{2-6} (mutagenic skin surface area) cm^2	6365
SA_{6-16} (mutagenic skin surface area) cm^2	19652
SA_{16-26} (mutagenic skin surface area) cm^2	19652

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Default
Resident Risk-Based Screening Levels (RSL) for Tap Water

Key: I = IRIS; P = PPRTV; D = DWSHA; O = OPP; A = ATSDR; C = Cal EPA; X = APPENDIX PPRTV SCREEN (See FAQ #27); H = HEAST; F = See FAQ; J = New Jersey; E = see user guide Section 2.3.5; L = see user guide on lead; M = mutagen; S = see user guide Section 5; V = volatile; R = RBA applied (See User Guide for Arsenic notice) ; c = cancer; n = noncancer; * = where: n SL < 100X c SL; ** = where n SL < 10X c SL; SSL values are based on DAF=1; m = Concentration may exceed ceiling limit (See User Guide); s = Concentration may exceed Csat (See User Guide)

Chemical	CAS Number	Mutagen?	VOC?	Chemical Type	Ingestion SF (mg/kg-day)$^{-1}$	SFO Ref	Inhalation Unit Risk (ug/m^3)$^{-1}$	IUR Ref	Chronic RfD (mg/kg-day)	Chronic RfD Ref	Chronic RfC (mg/m^3)	Chronic RfC Ref	GIABS	K_p (cm/hr)	MW	B (unitless)	t (hr)	T_{event} (hr/event)	FA (unitless)	In EPD?
Benzoic Acid	65-85-0	No	No	Organics	-		-		4.00E+00	IR	-		1	0.00565	122.12	0.0240142	1.2187987	0.5078328	1	Yes
Phenol	108-95-2	No	No	Organics	-		-		3.00E-01	IR	2.00E-01	CA	1	0.00434	94.114	0.0161936	0.8493729	0.3539054	1	Yes
Aluminum	7429-90-5	No	No	Inorganics	-		-		1.00E+00	PP	5.00E-03	PP	1	0.001	26.982	0.0019979	0.3574038	0.1489183	1	Yes
Barium	7440-39-3	No	No	Inorganics	-		-		2.00E-01	IR	5.00E-04	HE	0.07	0.001	137.33	0.0045072	1.4828868	0.6178695	1	Yes
Cadmium (Water)	7440-43-9water	No	No	Inorganics	-		1.80E-03	I	5.00E-04	IR	1.00E-05	AT	0.05	0.001	112.4	0.0040776	1.0752266	0.4480111	1	Yes
Chromium(III), Insoluble Salts	16065-83-1	No	No	Inorganics	-		-		1.50E+00	IR	-		0.013	0.001	52	0.0027735	0.4934691	0.2056121	1	Yes
Chromium(VI)	18540-29-9	Yes	No	Inorganics	5.00E-01	J	8.40E-02	S	3.00E-03	IR	1.00E-04	IR	0.025	0.002	52	0.005547	0.4934691	0.2056121	1	Yes
Chromium, Total	7440-47-3	No	No	Inorganics	-		-		-		-		0.013	0.001	51.996	0.0027734	0.4934437	0.2056015	1	Yes
Cobalt	7440-48-4	No	No	Inorganics	-		9.00E-03	P	3.00E-04	PP	6.00E-06	PP	1	0.0004	58.93	0.001181	0.5395951	0.2248313	1	Yes
Copper	7440-50-8	No	No	Inorganics	-		-		4.00E-02	HE	-		1	0.001	63.546	0.003066	0.5726874	0.2386197	1	Yes
Iron	7439-89-6	No	No	Inorganics	-		-		7.00E-01	PP	-		1	0.001	55.847	0.0028743	0.518565	0.2160687	1	Yes
Lead and Compounds	7439-92-1	No	No	Inorganics	-		-		-		-		1	0.0001	207.2	0.0005536	3.6507323	1.5211385	1	Yes
Magnesium	7439-95-4	No	No	Inorganics	-		-		-		-		1	0.001	24.305	0.0018962	0.3452773	0.1438655	1	Yes
Manganese (Non-diet)	7439-96-5	No	No	Inorganics	-		-		2.40E-02	SU	5.00E-05	IR	0.04	0.001	54.938	0.0028508	0.5125223	0.213551	1	Yes
Nickel Refinery Dust	NA	No	No	Inorganics	-		2.40E-04	I	1.10E-02	CA	1.40E-05	CA	0.04	0.0002	-	-	-	-	0	Yes
Nickel Soluble Salts	7440-02-0	No	No	Inorganics	-		2.60E-04	C	2.00E-02	IR	9.00E-05	AT	0.04	0.0002	58.71	0.0005894	0.5380665	0.2241944	1	Yes
Nickel Subsulfide	12035-72-2	No	No	Inorganics	1.70E+00	C	4.80E-04	I	1.10E-02	CA	1.40E-05	CA	0.04	0.0002	240.21	0.0011922	5.5877374	2.3282239	1	Yes
Thallium (Soluble Salts)	7440-28-0	No	No	Inorganics	-		-		1.00E-05	SC	-		1	0.001	204.38	0.0054985	3.5203674	1.4668198	1	Yes
Vanadium and Compounds	7440-62-2	No	No	Inorganics	-		-		5.04E-03	SU	1.00E-04	AT	0.026	0.001	50.94	0.0027451	0.4867702	0.2028209	1	Yes
Zinc and Compounds	7440-66-6	No	No	Inorganics	-		-		3.00E-01	IR	-		1	0.0006	65.37	0.0018658	0.5863163	0.2442985	1	Yes
Antimony (metallic)	7440-36-0	No	No	Inorganics	-		-		4.00E-04	IR	-		0.15	0.001	121.76	0.004244	1.2131542	0.5054809	1	Yes
Arsenic, Inorganic	7440-38-2	No	No	Inorganics	1.50E+00	I	4.30E-03	I	3.00E-04	IR	1.50E-05	CA	1	0.001	74.922	0.0033291	0.6631674	0.2763198	1	Yes
Beryllium and compounds	7440-41-7	No	No	Inorganics	-		2.40E-03	I	2.00E-03	IR	2.00E-05	IR	0.007	0.001	9.01	0.0011545	0.2834758	0.1181149	1	Yes
Mercuric Chloride	7487-94-7	No	No	Inorganics	-		-		3.00E-04	IR	3.00E-04	SU	0.07	0.001	271.5	0.0063374	8.3648853	3.4853689	1	Yes
Mercury (elemental)	7439-97-6	No	Yes	Inorganics	-		-		-		3.00E-04	IR	1	0.001	200.59	0.0054473	3.352463	1.3968596	1	Yes
Selenium	7782-49-2	No	No	Inorganics	-		-		5.00E-03	IR	2.00E-02	CA	1	0.001	78.96	0.0034177	0.6986119	0.2910883	1	Yes
Silver	7440-22-4	No	No	Inorganics	-		-		5.00E-03	IR	-		0.04	0.0006	107.87	0.0023968	1.0142196	0.4225915	1	Yes

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Default
Resident Risk-Based Screening Levels (RSL) for Tap Water

Chemical	$DA_{event\ (ca)}$	$DA_{event\ (nc\ child)}$	$DA_{event\ (nc\ adult)}$	MCL (ug/L)	Ingestion SL TR=1.0E-6 (ug/L)	Dermal SL TR=1.0E-6 (ug/L)	Inhalation SL TR=1.0E-6 (ug/L)	Carcinogenic SL TR=1.0E-6 (ug/L)	Ingestion SL Child THQ=1 (ug/L)	Dermal SL Child THQ=1 (ug/L)	Inhalation SL Child THQ=1 (ug/L)	Noncarcinogenic SL Child THI=1 (ug/L)	Ingestion SL Adult THQ=1 (ug/L)	Dermal SL Adult THQ=1 (ug/L)	Inhalation SL Adult THQ=1 (ug/L)
Benzoic Acid	-	9.8305465	16.981187	-	-	-	-	-	8.02E+04	1.20E+06	-	7.52E+04	1.33E+05	1.81E+06	-
Phenol	-	0.737291	1.273589	-	-	-	-	-	6.02E+03	1.41E+05	-	5.77E+03	1.00E+04	2.12E+05	-
Aluminum	-	2.4576366	4.2452967	-	-	-	-	-	2.01E+04	4.55E+06	-	2.00E+04	3.34E+04	5.98E+06	-
Barium	-	0.0344069	0.0594342	2.00E+03	-	-	-	-	4.01E+03	6.37E+04	-	3.77E+03	6.67E+03	8.37E+04	-
Cadmium (Water)	-	0.0000614	0.0001061	5.00E+00	-	-	-	-	1.00E+01	1.14E+02	-	9.22E+00	1.67E+01	1.49E+02	-
Chromium(III), Insoluble Salts	-	0.0479239	0.0827833	-	-	-	-	-	3.01E+04	8.87E+04	-	2.25E+04	5.01E+04	1.17E+05	-
Chromium(VI)	1.5595E-7	0.0001843	0.0003184	-	5.01E-02	1.16E-01	-	3.50E-02	6.02E+01	1.71E+02	-	4.45E+01	1.00E+02	2.24E+02	-
Chromium, Total	-	-	-	1.00E+02	-	-	-	-	-	-	-	-	-	-	-
Cobalt	-	0.0007373	0.0012736	-	-	-	-	-	6.02E+00	3.41E+03	-	6.01E+00	1.00E+01	4.48E+03	-
Copper	-	0.0983055	0.1698119	1.30E+03	-	-	-	-	8.02E+02	1.82E+05	-	7.99E+02	1.33E+03	2.39E+05	-
Iron	-	1.7203456	2.9717077	-	-	-	-	-	1.40E+04	3.19E+06	-	1.40E+04	2.34E+04	4.19E+06	-
Lead and Compounds	-	-	-	1.50E+01	-	-	-	-	-	-	-	-	-	-	-
Magnesium	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Manganese (Non-diet)	-	0.0023593	0.0040755	-	-	-	-	-	4.81E+02	4.37E+03	-	4.34E+02	8.01E+02	5.74E+03	-
Nickel Refinery Dust	-	0.0010814	0.0018679	-	-	-	-	-	2.21E+02	1.00E+04	-	2.16E+02	3.67E+02	1.32E+04	-
Nickel Soluble Salts	-	0.0019661	0.0033962	-	-	-	-	-	4.01E+02	1.82E+04	-	3.92E+02	6.67E+02	2.39E+04	-
Nickel Subsulfide	2.3028E-7	0.0010814	0.0018679	-	4.58E-02	1.72E+00	-	4.46E-02	2.21E+02	1.00E+04	-	2.16E+02	3.67E+02	1.32E+04	-
Thallium (Soluble Salts)	-	0.0000246	0.0000425	2.00E+00	-	-	-	-	2.01E-01	4.55E+01	-	2.00E-01	3.34E-01	5.98E+01	-
Vanadium and Compounds	-	0.000322	0.0005563	-	-	-	-	-	1.01E+02	5.96E+02	-	8.64E+01	1.68E+02	7.84E+02	-
Zinc and Compounds	-	0.737291	1.273589	-	-	-	-	-	6.02E+03	2.28E+06	-	6.00E+03	1.00E+04	2.99E+06	-
Antimony (metallic)	-	0.0001475	0.0002547	6.00E+00	-	-	-	-	8.02E+00	2.73E+02	-	7.79E+00	1.33E+01	3.59E+02	-
Arsenic, Inorganic	6.5246E-6	0.0007373	0.0012736	1.00E+01	5.19E-02	9.73E+00	-	5.17E-02	6.02E+00	1.37E+03	-	5.99E+00	1.00E+01	1.79E+03	-
Beryllium and compounds	-	0.0000344	0.0000594	4.00E+00	-	-	-	-	4.01E+01	6.37E+01	-	2.46E+01	6.67E+01	8.37E+01	-
Mercuric Chloride	-	0.0000516	0.0000892	2.00E+00	-	-	-	-	6.02E+00	9.56E+01	-	5.66E+00	1.00E+01	1.26E+02	-
Mercury (elemental)	-	-	-	2.00E+00	-	-	-	-	-	-	6.26E-01	6.26E-01	-	-	6.26E-01
Selenium	-	0.0122882	0.0212265	5.00E+01	-	-	-	-	1.00E+02	2.28E+04	-	9.98E+01	1.67E+02	2.99E+04	-
Silver	-	0.0004915	0.0008491	-	-	-	-	-	1.00E+02	1.52E+03	-	9.41E+01	1.67E+02	1.99E+03	-

Default
Resident Risk-Based Screening Levels (RSL) for Tap Water

Chemical	Noncarcinogenic SL Adult THI=1 (ug/L)	Screening Level (ug/L)	Child HQ, 0.1	Adult HQ, 0.1	Cancer TR 1E=-6	Screening Level- Link to Rags 2	
Benzoic Acid	1.24E+05	7.52E+04 nc	7,520.00	12,400.00	-	**7,520.00**	**n**
Phenol	9.56E+03	5.77E+03 nc	577.00	956.00	-	**577.00**	**n**
Aluminum	3.32E+04	2.00E+04 nc	2,000.00	3,320.00	-	**2,000.00**	**n**
Barium	6.18E+03	3.77E+03 nc	377.00	618.00	-	**377.00**	**n**
Cadmium (Water)	1.50E+01	9.22E+00 nc	0.92	1.50	-	**0.92**	**n**
Chromium(III), Insoluble Salts	3.50E+04	2.25E+04 nc	2,250.00	3,500.00	-	**2,250.00**	**n**
Chromium(VI)	6.92E+01	3.50E-02 ca	4.45	6.92	0.035	**0.04**	**c**
Chromium, Total	-		-	-	-	**0.00**	**n**
Cobalt	9.99E+00	6.01E+00 nc	0.60	1.00	-	**0.60**	**n**
Copper	1.33E+03	7.99E+02 nc	79.90	133.00	-	**79.90**	**n**
Iron	2.32E+04	1.40E+04 nc	1,400.00	2,320.00	-	**1,400.00**	**n**
Lead and Compounds	-		-	-	-	**15.00**	
Magnesium	-		-	-	-	**0.00**	**n**
Manganese (Non-diet)	7.03E+02	4.34E+02 nc	43.40	70.30	-	**43.40**	**n**
Nickel Refinery Dust	3.57E+02	2.16E+02 nc	21.60	35.70	-	**21.60**	**n**
Nickel Soluble Salts	6.49E+02	3.92E+02 nc	39.20	64.90	-	**39.20**	**n**
Nickel Subsulfide	3.57E+02	4.46E-02 ca	21.60	35.70	0.0446	**0.04**	**c**
Thallium (Soluble Salts)	3.32E-01	2.00E-01 nc	0.02	0.03	-	**0.02**	**n**
Vanadium and Compounds	1.38E+02	8.64E+01 nc	8.64	13.80	-	**8.64**	**n**
Zinc and Compounds	9.98E+03	6.00E+03 nc	600.00	998.00	-	**600.00**	**n**
Antimony (metallic)	1.29E+01	7.79E+00 nc	0.78	1.29	-	**0.78**	**n**
Arsenic, Inorganic	9.96E+00	5.17E-02 ca	0.60	1.00	0.0517	**0.05**	**c**
Beryllium and compounds	3.71E+01	2.46E+01 nc	2.46	3.71	-	**2.46**	**n**
Mercuric Chloride	9.27E+00	5.66E+00 nc	0.57	0.93	-	**0.57**	**n**
Mercury (elemental)	6.26E-01	6.26E-01 nc	0.06	0.06	-	**0.06**	**n**
Selenium	1.66E+02	9.98E+01 nc	9.98	16.60	-	**9.98**	**n**
Silver	1.54E+02	9.41E+01 nc	9.41	15.40	-	**9.41**	**n**

Default
Industrial Worker Equation Inputs for Soil

Variable	Value
TR (target cancer risk) unitless	0.000001
THQ (target hazard quotient) unitless	1
AT_w (averaging time)	365
EF_w (exposure frequency) d/yr	250
ED_w (exposure duration) yr	25
ET_w (exposure time) hr	8
LT (lifetime) yr	70
BW_w (body weight)	80
IR_w (soil ingestion rate) mg/day	100
SA_w (surface area) cm^2/day	3527
AF_w (skin adherence factor) mg/cm^2	0.12
$City_{PEF}$ (Climate Zone) Selection	Default
A_s (acres)	0.5
Q/C_{wp} (inverse of the ratio of the geometric mean air concentration to the emissic flu	93.77
PEF (particulate emission factor) m^3/kg	1359344438
A (PEF Dispersion Constant)	16.2302
B (PEF Dispersion Constant)	18.7762
C (PEF Dispersion Constant)	216.108
V (fraction of vegetative cover) unitless	0.5
U_m (mean annual wind speed) m/s	4.69
U_t (equivalent threshold value)	11.32
F(x) (function dependant on U_m/U_t) unitless	0.194
$City_{VF}$ (Climate Zone) Selection	Default
A_s (acres)	0.5
Q/C_{vol}(inverse of the ratio of the geometric mean air concentration to the emissic flu	68.18
foc (fraction organic carbon in soil) g/g	0.006
p_b (dry soil bulk density) g/cm^3	1.5
p_s (soil particle density) g/cm^3	2.65
n (total soil porosity) L_{pore}/L_{soil}	0.43396
$_a$ (air-filled soil porosity) L_{air}/L_{soil}	0.28396
$_w$ (water-filled soil porosity) L_{water}/L_{soil}	0.15
T (exposure interval) s	819936000
A (VF Dispersion Constant)	11.911
B (VF Dispersion Constant)	18.4385
C (VF Dispersion Constant)	209.7845
$City_{VF\ mass\text{-}loading}$ (Climate Zone) Selection	Default
VF_{ml} (volitization factor - mass-limit) m^3/kg	.
Q/C_{vol} (inverse of the ratio of the geometric mean air concentration to the emissic fl	68.18365
A_s (acres)	0.5
T (exposure interval) yr	26
d_s (depth of source) m	.
p_b (dry soil bulk density) g/cm^3	1.5
A (VF Dispersion Constant - Mass Limit)	11.911
B (VF Dispersion Constant - Mass Limit)	18.4385
C (VF Dispersion Constant - Mass Limit)	209.7845

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Default
Industrial Worker Risk-Based Screening Levels (RSL) for Soil

Key: I = IRIS; P = PPRTV; D = DWSHA; O = OPP; A = ATSDR; C = Cal EPA; X = APPENDIX PPRTV SCREEN (See FAQ #27); H = HEAST; F = See FAQ; J = New Jersey; E = see user guide Section 2.3.5; L = see user guide on lead; M = mutagen; S = see user guide Section 5; V = volatile; R = RBA applied (See User Guide for Arsenic notice) ; c = cancer; n = noncancer; * = where: n SL < 100X c SL; ** = where n SL < 10X c SL; SSL values are based on DAF=1; m = Concentration may exceed ceiling limit (See User Guide); s = Concentration may exceed Csat (See User Guide)

Chemical	CAS Number	Mutagen?	VOC ?	Ingestion SF (mg/kg-day)$^{-1}$	SFO Ref	Inhalation Unit Risk (ug/m^3)$^{-1}$	IUR Ref	Chronic RfD (mg/kg-day)	Chronic RfD Ref	Chronic RfC (mg/m^3)	Chronic RfC Ref	GIABS	ABS	RBA	Volatilization Factor (m^3/kg)	Henry's Law Constant (unitless)	Soil Saturation Concentration (mg/kg)	S (mg/L)	K_{oc} (cm3/g)	Particulate Emission Factor (m^3/kg)
Aluminum	7429-90-5	No	No	-		-		1.00E+00	PP	5.00E-03	PP	1	-	1	-	-	-	-	-	1.36E+09
Carbazole	86-74-8	No	No	-		-		-		-		1	0.1	1	-	4.74E-06	-	1.80E+00	9.16E+03	1.36E+09
Cobalt	7440-48-4	No	No	-		9.00E-03	P	3.00E-04	PP	6.00E-06	PP	1	-	1	-	-	-	-	-	1.36E+09
Iron	7439-89-6	No	No	-		-		7.00E-01	PP	-		1	-	1	-	-	-	-	-	1.36E+09
Methylcyclohexane	108-87-2	No	Yes	-		-		-		-		1	-	1	9.90E+02	1.76E+01	6.76E+01	1.40E+01	2.34E+02	1.36E+09
Thallium (Soluble Salts)	7440-28-0	No	No	-		-		1.00E-05	SC	-		1	-	1	-	-	-	-	-	1.36E+09
Trichloroethane, 1,1,2-	79-00-5	No	Yes	5.70E-02	I	1.60E-05	I	4.00E-03	IR	2.00E-04	SC	1	-	1	7.22E+03	3.37E-02	2.16E+03	4.59E+03	6.07E+01	1.36E+09
Vanadium and Compounds	7440-62-2	No	No	-		-		5.04E-03	SU	1.00E-04	AT	0.026	-	1	-	-	-	-	-	1.36E+09

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Default
Industrial Worker Risk-Based Screening Levels (RSL) for Soil

Chemical	Ingestion SL TR=1.0E-6 (mg/kg)	Dermal SL TR=1.0E-6 (mg/kg)	Inhalation SL TR=1.0E-6 (mg/kg)	Carcinogenic SL TR=1.0E-6 (mg/kg)	Ingestion SL THQ=1 (mg/kg)	Dermal SL THQ=1 (mg/kg)	Inhalation SL THQ=1 (mg/kg)	Noncarcinogenic SL THI=1 (mg/kg)	Screening Level (mg/kg)
Aluminum	-	-	-	-	1.17E+06	-	2.98E+07	1.12E+06	1.12E+06 max
Carbazole	-	-	-	-	-	-	-	-	
Cobalt	-	-	1.85E+03	1.85E+03	3.50E+02	-	3.57E+04	3.47E+02	3.47E+02 nc
Iron	-	-	-	-	8.18E+05	-	-	8.18E+05	8.18E+05 max
Methylcyclohexane	-	-	-	-	-	-	-	-	
Thallium (Soluble Salts)	-	-	-	-	1.17E+01	-	-	1.17E+01	1.17E+01 nc
Trichloroethane, 1,1,2-	5.74E+01	-	5.53E+00	5.05E+00	4.67E+03	-	6.32E+00	6.31E+00	5.05E+00 ca**
Vanadium and Compounds	-	-	-	-	5.89E+03	-	5.95E+05	5.83E+03	5.83E+03 nc

Table 2
Type 2 - Risk Reduction Standard (RRS) Calculations Groundwater

Industrial Worker Ingestion + Dermal Contact RSL

Analytes	SFO $(mg/kg\text{-}d)^{-1}$	RfD_o mg/kg-d	GI_{abs}	Cancer Ingestion RSL µg/L	Noncancer Ingestion RSL µg/L	Cancer Dermal Contact RSL µg/L	Noncancer Dermal Contact RSL µg/L	Industrial Worker Ingestion + Dermal Contact RSL Cancer µg/L	Industrial Worker Ingestion + Dermal Contact RSL Noncancer µg/L
Schenectady (ZZ007) ANGB									
Cobalt	NTV	3.00E-04	1	---	3.50E+01	---	1.12E+06	NBA	3.50E+01
Manganese	NTV	2.40E-02	0.04	---	2.80E+03	---	1.43E+06	NBA	2.80E+03
Schenectady (TU009) ANGB									
Iron	NTV	7.00E-01	1	---	8.18E+04	---	1.04E+09	NBA	8.18E+04
Manganese	NTV	2.40E-02	0.04	---	2.80E+03	---	1.43E+06	NBA	2.80E+03

Parameters		Units
Ingestion		
TR	1.00E-06	unitless
THQ	1	unitless
BW	80	kg
AT_c	25550	years
AT_{nc}	9125	years
EF	250	d/y
ED	25	yr
CF	1,000	µg/mg
IRw	1	L/day
Dermal		
CF	1,000	cm3/L
ET	0.08	
SA	980	cm2

NOTES: All toxicity factors obtained from IRIS database (EPA, 2016).

C = Cancer
mg/kg = Milligrams per kilogram

Dermally Absorbed Dose per Event (DA_{event}) Calculations[a]

COPC	SFO (mg/kg-d)$^{-1}$	RfD_o mg/kg-d	GI_{abs}	In EPD?	FA (unitless)	K_p (cm/hr)	τ_{event} (hr/event)	B (unitless)	t^* (hr)	Industrial Worker Dermal RSL (µg/L) Cancer	Industrial Worker Dermal RSL (µg/L) Noncancer
Schenectady (ZZ007 & TU009) ANGB											
Cobalt	NTV	3.00E-04	1	Yes	1.00E+00	4.00E-04	2.25E-01	1.18E-03	5.40E-01	---	1.12E+06
Iron	NTV	7.00E-01	1	Yes	1.00E+00	1.00E-03	2.16E-01	2.87E-03	5.19E-01	---	1.04E+09
Manganese	NTV	2.40E-02	0.04	Yes	1.00E+00	1.00E-03	2.14E-01	2.85E-03	5.13E-01	---	1.43E+06

[a] EPA, 2004b

[u] See Table 3.5. The maximum concentration used for EPC due to low sample size (n = 5).

[c] Calculated based on Equation 3.2 or 3.3 for organics and Equation 3.4 for inorganics in EPA, 2004b where t_{event} equals 0.08 for industrial and maintenance worker.

B = Ratio of the permeability coefficient of a COPC through the stratum corneum relative to its permeability coefficient across the viable epidermis.

FA = Fraction absorbed.

K_p = Dermal permeability coefficient.

NA = Not applicable.

τ_{event} = Lag time per event.

t^* = Time to reach steady-state.

EPD = Effective predictive domain (EPA, 2004b). If chemical is not (i.e., No) in the EPD, then dermal contact with water is not calculated.

Parameters		Units
Ingestion		
TR	1.00E-06	unitless
THQ	1	unitless
BW	80	kg
AT_c	25550	years
AT_{nc}	9125	years
EF	250	d/y
ED	25	yr
CF	1,000	µg/mg
IRw	1	L/day
Dermal		
CF	1,000	cm3/L
ET	0.08	hr/event
EV	1	event/day
SA	980	cm2