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**US ARMY CORPS OF ENGINEERS, NEW YORK DISTRICT**
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24 September 2024

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SUBJECT: Final SEAD-25 Annual Report for the Former Seneca Army Depot in Romulus, NY; EPA Site ID# NY0213820830 and NY Site ID# 8-50-006

Dear Ms. Treinen, Ms. Sweet, and Mr. Sergott:

On behalf of the Army, please find attached for your records the Final SEAD-25 Annual Report for the Former Seneca Army Depot, located in Romulus, New York. The document details the SEAD-25 long-term monitoring activities conducted in 2024.

If you have any questions about the attached document, please call me at 917-575-1819.

Sincerely,

Digitally signed by GALLO.CHRISTOPHER.T.1604778820
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# SEAD-25 ANNUAL REPORT
# FINAL

# Long-Term Monitoring/Land Use Control Management
# Former Seneca Army Depot
# Romulus, New York

***PREPARED FOR:***

**U.S. ARMY CORPS OF ENGINEERS,**
**ENGINEERING AND SUPPORT CENTER,**
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**CONTRACT NO. W912DY22D0131**
**TASK ORDER NO. W912DY22F0374**

**September 2024**

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# SEAD-25 ANNUAL REPORT
# Long-Term Monitoring/Land Use Control Management
# Former Seneca Army Depot
# Romulus, New York

Contract No. W912DY22D0131
Task Order No. W912DY22F0374

*Prepared for*

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September 2024

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## LIST OF ACRONYMS AND ABBREVIATIONS

| | |
|---|---|
| µg/L | Microgram(s) per liter |
| AOC | Area of concern |
| BTEX | Benzene, toluene, ethylbenzene, and xylene |
| cm/sec | Centimeter(s) per second |
| COC | Contaminant of concern |
| cy | Cubic yard(s) |
| DCE | Dichloroethene |
| EA | EA Engineering, Science, and Technology, Inc., PBC |
| EPA | U.S. Environmental Protection Agency |
| ft/ft | Foot (feet) per foot |
| LTM | Long-term monitoring |
| NYS | New York State |
| NYSDEC | New York State Department of Environmental Conservation |
| Parsons | Parsons Engineering Science, Inc. |
| RI | Remedial investigation |
| ROD | Record of Decision |
| SEAD | Former Seneca Army Depot |
| SEDA | Seneca Army Depot Activity |
| SVOC | Semivolatile organic compound |
| TCE | Trichloroethene |
| VOC | Volatile organic compound |

# 1. INTRODUCTION

This Annual Inspection Report was prepared by EA Engineering, Science, and Technology, Inc., PBC (EA) on behalf of the U.S. Army Corps of Engineers, Engineering and Support Center – Huntsville and the Former Seneca Army Depot, herein referred to as "SEAD" or "the Depot" to provide a review of the long-term monitoring (LTM) activities conducted in May 2023 at the Fire Training and Demonstration Pad (SEAD-25) at SEAD in Seneca County, New York (**Figure 1**). This document provides conclusions from this year's LTM activities and recommendations for future LTM.

Groundwater monitoring was required at SEAD-25 as a condition of the Record of Decision (ROD) since contaminant concentrations found in the groundwater prior to the remedial action exceeded applicable groundwater standards. Semi-annual groundwater monitoring of the 10 monitoring wells (MW25-2, MW25-3, MW25-8, MW25-9, MW25-10, MW25-13, MW25-15, MW25-17, MW25-18, and MW25-19) located at SEAD-25 continued through 2013. The U.S. Environmental Protection Agency (EPA) and New York State Department of Environmental Conservation (NYSDEC) agreed, as recommended in the SEAD-25 Fourth Long-Term Monitoring and Site Review Report (Parsons Engineering Science, Inc. [Parsons] 2011a) and Draft Final Five-Year Review Report (Parsons 2011b), to reduce the frequency of the semi-annual monitoring events to annual monitoring events. It was also agreed to reduce the number of wells to be monitored from 10 to 5 since the down-gradient wells have shown no contaminants of concern (COCs) during any of the post-RA sampling events. Beginning in 2014 and through 2020, the focus of the sampling effort shifted to wells MW25-2, MW25-3, MW25-9, MW25-10, and MW25-17 where historical information indicates that COCs of interest were detected. Following multiple rounds of sampling that indicated stabilization of COCs below state and federal regulatory standards and two consecutive rounds of sampling where site COCs were non-detect, monitoring wells MW25-3, MW25-9, MW25-10, and MW25-17 were removed from the LTM program (Parsons 2021). The current LTM program consists of annual sampling of MW25-31S (installed in 2020) for five years and sampling MW25-2 every five years starting in 2025 (EA 2023).

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# 2. SITE BACKGROUND

## 2.1 SITE DESCRIPTION

The Seneca Army Depot is a 10,587-acre former military facility located in Seneca County in the towns of Romulus and Varick, New York, which was owned by the United States Government and operated by the Department of the Army between 1941 and 2000. The general location of SEAD is shown on **Figure 1.** In 1999 SEADs military mission was terminated, and the installation was closed in 2000. Since 2000, the Army has assumed a caretaker role at SEAD, pending the close-out of environmental investigations, studies, and remedial activities that are required at the former facility. As part of SEAD close-out activities, more than 8,250 acres of land within the former Depot was transferred to new owners for reuse.

The Seneca Army Depot is located between Seneca Lake and Cayuga Lake in Seneca County and is bordered by New York State Highway 96 on the east, New York State Highway 96A on the west, and sparsely populated farmland to the north and south. The Fire Training and Demonstration Pad (SEAD-25) is located in the eastern-central portion of SEAD. The site is bounded to the east by Administration Avenue, beyond which is undeveloped land covered by deciduous trees; to the south by Ordnance Drive beyond which is an open grassy field and a stand of coniferous trees; to the west by a drainage ditch running from the northeast to the southwest with grassland, brush and conifers between the site and the ditch; and to the north by grassland and a former baseball field. A site map of the SEAD-25 area is included on **Figure 2**. As situated, SEAD-25 sits a minimum of 1,350 feet away from the nearest SEAD boundary, which is located to the east of the area of concern (AOC). SEAD-25 was in use from the late 1960s to the late 1980s. The former pad was used for fire control training. During the 1980s, the pad was used twice for fire-fighting demonstrations, including one demonstration in 1982 or 1983, and one in 1987.

### 2.1.1 Site Hydrologic and Geologic Conditions

The hydrogeologic setting for SEAD-25 was previously described in detail in Section 3.1.6 of the Final Remedial Investigation (RI) Report (Parsons 1998). A brief summary of hydrologic conditions described in the RI Report and historical groundwater conditions encountered during previous sampling events is presented below. Hydrologic conditions, as observed during the 2023 LTM event, are discussed in Section 3.1 of this LTM report. Groundwater contours presented in the RI Report indicate that shallow groundwater flow below the pad is radial, with a stronger horizontal gradient to the south and west. The radial groundwater flow observed below the pad at SEAD-25 is believed to be a local phenomenon influenced by a bedrock topographic high located beneath the pad. The RI Report identified a west and southwest direction of groundwater flow in the deeper, competent shale bedrock.

The horizontal hydraulic gradients, as presented in the RI Report, ranged from 0.01 feet per foot (ft/ft) to 0.02 ft/ft in both the shallow saturated zone located in the till/weathered shale bedrock and in the deep saturated zone located in the competent shale bedrock. The hydraulic conductivities at SEAD-25 were found to range from $1.0 \times 10^{5}$ centimeters per second (cm/sec) to $3.4 \times 10^{3}$ cm/sec, with an average of 6.1 x 10-4 cm/sec in the shale/weathered bedrock. Both downward and upward vertical gradients were calculated for SEAD-25; the downward

hydraulic gradients ranged from -0.04 ft/ft to -0.21 ft/ft, and upward hydraulic gradients ranged from 0.01 ft/ft to 0.07 ft/ft.

SEAD-25 is located near a combined topographic and bedrock high within the east central portion of the former Depot. As such, all recharge to the local groundwater table comes from infiltration of storm-event precipitation percolating through the surface into the underlying aquifer at, and in proximity to, the AOC. Infiltration rates are hindered because much of the storm-event precipitation is captured in neighboring drainage ditches and is conveyed to lower elevation areas within the Depot, which are down-gradient of the AOC's well recharge area.

The shallow overburden underlying SEAD-25 is thin, consisting of a till and fractured shale ranging from roughly 5 to 15 feet in thickness, which overlies competent shale bedrock. The monitoring wells sampled as part of SEAD-25 LTM effort are located in the shallow, overburden aquifer where the groundwater contamination was originally identified. As such, the combination of run-off and low infiltration or aquifer recharge periods that occur during extended dry or low water periods cause the overburden water table to thin to levels where samples cannot be collected from many of the wells and historically has not allowed a strict adherence to a semi-annual sampling schedule. This affects the collection of samples from the two source area wells that are in the current LTM program (MW25-2 and MW25-31S). These wells are located closest to the former source area that was removed during the 2005 remedial action activities and historically have shown elevated levels of benzene, toluene, ethylbenzene, and xylene (BTEX) and chlorinated organic compound content.

## 2.2 REMEDIAL HISTORY

As described in the ROD (Parsons 2004), the primary COCs historically observed at SEAD-25 included aromatic volatile organic compounds (VOCs) (e.g., BTEX), specifically benzene, ethylbenzene, toluene and xylene in soil and groundwater and lesser amounts of five chlorinated VOCs, including 1,1,1-trichloroethane, 1,1-dichloroethane, 1,2-dichloroethene (DCE) (total), chloroform, trichloroethene (TCE), and vinyl chloride in groundwater.

The excavation of the BTEX-impacted soil at the SEAD-25 pad consisted of removing approximately 961 cubic yards (cy). The depth of excavation extended to the top of the competent shale bedrock, or approximately 4.5 feet below ground surface. Ten confirmatory soil samples (plus one duplicate sample) were collected from the sidewalls of the excavation area and analyzed for VOCs and semivolatile organic compounds (SVOCs). The analytical results of the confirmatory soil sample analyses achieved the site-specific cleanup goals, and the Army determined that soils at SEAD-25 did not require further action. The EPA and NYSDEC concurred with this determination that the excavation of the soil at the pad removed the source of groundwater contamination.

Excavation of the SVOC-impacted soil in the swale at SEAD-25 extended to bedrock from the toe of slope on one bank to the toe of slope on the other bank, resulting in the removal and off-site disposal of approximately 761 cy of soil from SEAD- 25. After the excavation, the swale bottom consisted of exposed competent bedrock, and since no native overburden soil remained in the swale, no confirmatory samples were collected or analyzed.

A total of approximately 1,722 cy (approximately 2,600 tons) of soil were excavated from the pad and the swale at SEAD-25 and disposed off-site at Ontario County Landfill. The pad excavation was backfilled with approximately 793 cy of on-site fill material and 168 cy of fill material obtained from an off-site source and restored to the existing grade.

The current LTM program consists of annual groundwater sampling of MW-31S (installed in 2020) for five years starting in 2023 and sampling MW25-2 every five years starting in 2025 (EA 2023) to monitor site COCs.

## 2.3 LAND USE CONTROL INSPECTION

SEAD-25 was inspected during the 2024 LTM event for compliance with the land use control restrictions that are in effect for AOCs located within the Planned Industrial/Office Development and Warehouse Area at the former Depot. Land use controls for the Planned Industrial/Office Development Warehouse Area implement and maintain requirements to:

- Prohibit the development and use of property for residential housing, elementary and secondary schools, childcare facilities, and playgrounds

- Prohibit access to or use of the groundwater, other than for monitoring purposes, until the applicable NYSDEC Class GA Groundwater Standards are met.

No residential housing units, elementary or secondary schools, childcare facilities, or playgrounds were observed at SEAD-25. No access to, or use of, groundwater was evident beyond that which is gained by the existing monitoring well network.

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# 3. LONG-TERM MONITORING RESULTS

## 3.1 2024 SAMPLING EVENT

The 2024 sampling event was completed during the week of 20 May 2024. Field forms documenting the collection of groundwater samples are provided in **Appendix A**. Groundwater laboratory analytical reports for this event are provided in the electronic copy of this report as **Appendix B**. Sampling procedures, sample handling and custody, holding times, and collection of field parameters were conducted in accordance with the *Final Uniform Federal Policy Quality Assurance Protection Plan, Long-Term Monitoring/Land Use Controls Management Former Seneca Army Depot* (EA 2023).

Water level measurements were collected from the 21 monitoring wells at SEAD-25; however, as discussed above, only one well (MW25-31S) was sampled. During the well gauging it was noted that some wells exhibited heaving and need to be cut down and resurveyed. Well maintenance and surveying are planned for Spring 2025, prior to the next sampling event.

Groundwater samples were collected using low-flow sampling techniques and were analyzed for VOCs via EPA SW846 Method 8260D. A peristaltic pump was used to purge wells. Samples were submitted to SGS Orlando in Orlando, Florida.

SGS Orlando is certified by the Department of Defense and the National Environmental Laboratory Accreditation Conference National Environmental Laboratory Accreditation Program.

Analytical results reported for the primary COCs (i.e., BTEX, and five chlorinated VOCs) and other detected VOCs were compared to New York State Class GA groundwater standards.

The following indicator and geochemical parameters were measured and recorded in the field:

- pH
- Dissolved oxygen
- Conductivity
- Temperature
- Oxidation-reduction potential
- Turbidity

A summary of these geochemical parameters is detailed in **Table 3**.

## 3.2 GROUNDWATER ELEVATIONS

SEAD-25 groundwater elevation data was recorded on 20 May 2024. Current groundwater elevation data and the historic post-2005 soil-removal action groundwater elevation range for SEAD-25 are presented in **Table 1.** Groundwater elevations observed during this event are broadly similar to those observed during recent LTM sampling events.

Groundwater contours were generated based on the groundwater elevation data collected on 20 May 2024 and are consistent with historic groundwater contour interpretation supporting the presence of a radial groundwater flow pattern beneath the pad (**Figure 3**). Contour interpretation indicates that shallow groundwater flow is radial, with a predominant flow direction to the south/southwest. The highest elevations are located in the area of the former Fire Training and Demonstration Pad where soil removal was conducted in 2005.

## 3.3 ANALYTICAL DATA SUMMARY

### 3.3.1 2024 LTM Results

During the 2024 sampling event, one groundwater sample (including one duplicate sample) was collected for the analysis of VOCs via Method 8260D. A summary of the primary COCs exceedances is presented in **Table 2** and **Figure 4**, along with the applicable NYSDEC Class GA groundwater standards. Full analytical results are provided in **Table 4**. The laboratory analysis reports are provided in the electronic copy of the report as **Appendix B**. The data validation report is provided in **Appendix C**; there were no non-compliance issues reported. Samples MW25-31S-20240520 and DUP-01-20240520 were submitted as a field duplicate pair in association with this SDG. Adequate field precision was demonstrated with the exceptions of ethylbenzene and o-xylene. The results reported for the associated analytes in the field duplicate pair have been qualified "J" on this basis. "J" indicates that the result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample. More information can be found in the data validation report.

BTEX VOCs were detected in MW25-31S (**Table 2**). Benzene (2.0 micrograms per liter [µg/L]), m,p-xylene (10.9 µg/L), and o-xylene (16.4 µg/L) exceeded New York State (NYS) Class GA groundwater standards. Ethylbenzene was detected below NYS Class GA groundwater standards in MW25-31S in the parent sample (3.3 µg/L) and exceeded NYS Class GA groundwater standards in the duplicate sample (6.2 µg/L). Though these values exceed NYS Class GA standards for groundwater, they have decreased over time. A summary of historical VOC data at MW25-31S can be found in **Table 5**.

# 4. LONG-TERM MONITORING CONCLUSIONS AND RECOMMENDATIONS

Over the last 4 sampling events, starting in 2021, the results have showed a decreasing trend, though BTEX VOCs are still detected greater than the NYS Class GA groundwater standards at SEAD-25. Due to the presence of the BTEX VOCs it is recommended to maintain the current sampling schedule which includes sampling MW25-31S annually. Well maintenance activities at SEAD-25 are also planned for Spring of 2025.

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# 5. REFERENCES

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# Tables

## Table 1. SEAD-25 Groundwater Elevation Data

| Monitoring Well | TOC Elevation (ft) | Well Depth (rel. TOC) (ft) | LTM - May 2024 | | | |
|---|---|---|---|---|---|---|
| | | | Date Measured | Saturated Thickness (ft) | Depth to Groundwater (ft) | GW Elevation (ft) |
| MW25-1 | 743.00 | 7.75 | 5/20/2024 | 1.75 | 6.00 | 737.00 |
| MW25-2 | 746.36 | 11.05 | 5/20/2024 | 5.08 | 5.97 | 740.39 |
| MW25-3 | 746.34 | 9.80 | 5/20/2024 | 3.31 | 6.49 | 739.85 |
| MW25-6 | 744.44 | 14.19 | 5/20/2024 | 7.58 | 6.61 | 737.83 |
| MW25-8 | 742.46 | 5.40 | 5/20/2024 | 1.03 | 4.37 | 738.09 |
| MW25-9 | 742.36 | 5.40 | 5/20/2024 | 1.60 | 3.80 | 738.56 |
| MW25-10 | 743.01 | 6.38 | 5/20/2024 | 0.85 | 5.53 | 737.48 |
| MW25-13 | 739.64 | 5.48 | 5/20/2024 | 0.53 | 4.95 | 734.69 |
| MW25-15 | 741.00 | 7.19 | 5/20/2024 | 2.14 | 5.05 | 735.95 |
| MW25-17 | 743.94 | 11.28 | 5/20/2024 | 5.73 | 5.55 | 738.39 |
| MW25-18 | 744.35 | 11.16 | 5/20/2024 | 5.06 | 6.10 | 738.25 |
| MW25-19 | 741.95 | 11.98 | 5/20/2024 | 6.64 | 5.34 | 736.61 |
| MW25-20 | 740.78 | 13.94 | 5/20/2024 | 9.20 | 4.74 | 736.04 |
| MW25-21 | 732.44 | 8.90 | 5/20/2024 | 6.25 | 2.65 | 729.79 |
| MW25-22S | 733.70 | 14.35 | 5/20/2024 | 13.20 | 1.15 | 732.55 |
| MW25-22D | 735.61 | 50.35 | 5/20/2024 | 48.53 | 1.82 | 733.79 |
| MW25-23 | 738.54 | 13.92 | 5/20/2024 | 10.62 | 3.30 | 735.24 |
| MW25-25 | 743.74 | 9.77 | 5/20/2024 | 7.76 | 2.01 | 741.73 |
| MW25-30 | 736.13 | 16.58 | 5/20/2024 | 13.24 | 3.34 | 732.79 |
| MW25-31S | 745.34 | 18.40 | 5/20/2024 | 12.06 | 6.34 | 739.00 |
| MW25-31D | 744.63 | 82.81 | 5/20/2024 | 75.77 | 7.04 | 737.59 |

Notes:
ft = Foot (feet)
GW= Groundwater
LTM = Long-term monitoring
TOC = Top of casing

## Table 2. VOC Detections for MW25-31S

| | | | Area | SEAD-25 | | SEAD-25 | |
|---|---|---|---|---|---|---|---|
| | | | Location ID | MW25-31S | | MW25-31S | |
| | | | Matrix | GW | | GW | |
| | | | Sample Date | 5/20/2024 | | 5/20/2024 | |
| | | | QC Type | Parent | | Duplicate | |
| **Parameter** | **Unit** | **Source Criteria** | **Action Level** | **Value** | **Qual** | **Value** | **Qual** |
| Benzene | µg/L | NYS CLASS GA | 1 | **2.0** | | **3.8** | |
| *cis* -1,2-Dichloroethene | µg/L | NYS CLASS GA | 5 | 0.71 | J | 1.3 | |
| Ethyl benzene | µg/L | NYS CLASS GA | 5 | 3.3 | J | **6.2** | **J** |
| Isopropylbenzene | µg/L | NYS CLASS GA | 5 | 0.32 | J | 0.63 | J |
| Meta/Para Xylene | µg/L | NYS CLASS GA | 5 | **10.9** | | **10.8** | |
| Ortho Xylene | µg/L | NYS CLASS GA | 5 | **16.4** | **J** | **23.4** | **J** |
| Toluene | µg/L | NYS CLASS GA | 5 | 0.36 | J | 0.36 | J |
| Trichloroethene | µg/L | NYS CLASS GA | 5 | ND | U | 0.73 | J |

Notes:
µg/L = Microgram(s) per liter
GW = Groundwater
ID = Identification
J = Concentration is estimated
ND = Not Detected
NYS = New York State
QC = Quality control
Qual = Qualifier
U = Analyte not detected
VOC = Volatile organic compounds
Chemical results greater than or equal to the action level (depending on criteria) are highlighted based on the Criteria that are present.
**Bold** and shaded values represent results that are above either a NYS Class GA Standard.

**Table 3. Water Quality Parameters (May 2024)**

| Location ID | Site Location | pH (S.U.) | Oxidation Reduction Potential (mV) | Dissolved Oxygen (mg/L) | Specific Conductivity (µS/cm) | Temperature (°C) | Turbidity (NTU) |
|---|---|---|---|---|---|---|---|
| MW25-31S | SEAD-25 | 6.59 | -52 | 0.04 | 0.918 | 15.16 | 6.93 |

Notes:

°C = Degrees Celsius

µS/cm = MicroSiemen(s) per centimeter

ID = Identification

mg/L = Milligram(s) per liter

mV = Millivolt(s)

NTU = Nephelometric turbidity unit

S.U. = Standard units

## Table 4. VOC Results for MW25-31S

| | | | Area | SEAD-25 | | SEAD-25 | |
|---|---|---|---|---|---|---|---|
| | | | Location ID | MW25-31S | | MW25-31S | |
| | | | Matrix | GW | | GW | |
| | | | Sample Date | 5/20/2024 | | 5/20/2024 | |
| | | | QC Type | Parent | | Duplicate | |
| **Parameter** | **Unit** | **Source Criteria** | **Action Level** | **Value** | **Qual** | **Value** | **Qual** |
| 1,1,1-Trichloroethane | µg/L | NYS CLASS GA | 5 | < 0.25 | U | < 0.25 | U |
| 1,1,2,2-Tetrachloroethane | µg/L | NYS CLASS GA | 5 | < 0.30 | U | < 0.30 | U |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | µg/L | NYS CLASS GA | 5 | < 0.48 | U | < 0.48 | U |
| 1,1,2-Trichloroethane | µg/L | NYS CLASS GA | 1 | < 0.47 | U | < 0.47 | U |
| 1,1-Dichloroethane | µg/L | NYS CLASS GA | 5 | < 0.34 | U | < 0.34 | U |
| 1,1-Dichloroethene | µg/L | NYS CLASS GA | 5 | < 0.32 | U | < 0.32 | U |
| 1,2,3-Trichlorobenzene | µg/L | NYS CLASS GA | 5 | < 0.61 | U | < 0.61 | U |
| 1,2,4-Trichlorobenzene | µg/L | NYS CLASS GA | 5 | < 0.50 | U | < 0.50 | U |
| 1,2-Dibromo-3-chloropropane | µg/L | NYS CLASS GA | 0.04 | < 1.0 | U | < 1.0 | U |
| 1,2-Dibromoethane | µg/L | NYS CLASS GA | NSL | < 0.28 | U | < 0.28 | U |
| 1,2-Dichlorobenzene | µg/L | NYS CLASS GA | 3 | < 0.32 | U | < 0.32 | U |
| 1,2-Dichloroethane | µg/L | NYS CLASS GA | 0.6 | < 0.31 | U | < 0.31 | U |
| 1,2-Dichloropropane | µg/L | NYS CLASS GA | 1 | < 0.43 | U | < 0.43 | U |
| 1,3-Dichlorobenzene | µg/L | NYS CLASS GA | 3 | < 0.22 | U | < 0.22 | U |
| 1,4-Dichlorobenzene | µg/L | NYS CLASS GA | 3 | < 0.26 | U | < 0.26 | U |
| 2-Butanone | µg/L | NYS CLASS GA | 50 | < 2.0 | U | < 2.0 | U |
| 2-Hexanone | µg/L | NYS CLASS GA | 50 | < 2.0 | U | < 2.0 | U |
| 4-Methyl-2-pentanone | µg/L | NYS CLASS GA | NSL | < 1.0 | U | < 1.0 | U |
| Acetone | µg/L | NYS CLASS GA | 50 | < 10 | U | < 10 | U |
| Benzene | µg/L | NYS CLASS GA | 1 | **2** | | **3.8** | |
| Bromochloromethane | µg/L | NYS CLASS GA | 5 | < 0.45 | U | < 0.45 | U |
| Bromodichloromethane | µg/L | NYS CLASS GA | 50 | < 0.24 | U | < 0.24 | U |
| Bromoform | µg/L | NYS CLASS GA | 50 | < 0.41 | U | < 0.41 | U |
| Bromomethane | µg/L | NYS CLASS GA | 5 | < 2.0 | U | < 2.0 | U |
| Carbon disulfide | µg/L | NYS CLASS GA | 60 | < 0.53 | U | < 0.53 | U |
| Carbon tetrachloride | µg/L | NYS CLASS GA | 5 | < 0.36 | U | < 0.36 | U |
| Chlorobenzene | µg/L | NYS CLASS GA | 5 | < 0.20 | U | < 0.20 | U |
| Chloroethane | µg/L | NYS CLASS GA | 5 | < 0.67 | U | < 0.67 | U |
| Chloroform | µg/L | NYS CLASS GA | 7 | < 0.30 | U | < 0.30 | U |
| Chloromethane | µg/L | NYS CLASS GA | NSL | < 0.50 | U | < 0.50 | U |
| cis-1,2-Dichloroethene | µg/L | NYS CLASS GA | 5 | 0.71 | J | 1.3 | |
| cis-1,3-Dichloropropene | µg/L | NYS CLASS GA | 0.4 | < 0.29 | U | < 0.29 | U |
| Cyclohexane | µg/L | NYS CLASS GA | NSL | < 0.39 | U | 0.5 | J |
| Dibromochloromethane | µg/L | NYS CLASS GA | 50 | < 0.28 | U | < 0.28 | U |
| Dichlorodifluoromethane | µg/L | NYS CLASS GA | 5 | < 0.50 | UJ | < 0.50 | UJ |
| Ethylbenzene | µg/L | NYS CLASS GA | 5 | 3.3 | J | **6.2** | J |
| Isopropylbenzene | µg/L | NYS CLASS GA | 5 | 0.32 | J | 0.63 | J |
| m- & p-Xylenes | µg/L | NYS CLASS GA | 5 | **10.9** | | **10.8** | |
| Methyl acetate | µg/L | NYS CLASS GA | NSL | < 5.0 | U | < 5.0 | U |
| Methyl tert-butyl ether | µg/L | NYS CLASS GA | 10 | < 0.23 | U | < 0.23 | U |
| Methylcyclohexane | µg/L | NYS CLASS GA | NSL | < 0.44 | U | 0.44 | J |
| Methylene chloride | µg/L | NYS CLASS GA | 5 | < 2.0 | U | < 2.0 | U |
| o-Xylene | µg/L | NYS CLASS GA | 5 | **16.4** | J | **23.4** | J |
| Styrene | µg/L | NYS CLASS GA | 5 | < 0.22 | U | < 0.22 | U |
| Tetrachloroethene | µg/L | NYS CLASS GA | 5 | < 0.22 | U | < 0.22 | U |
| Toluene | µg/L | NYS CLASS GA | 5 | 0.36 | J | 0.36 | J |
| trans-1,2-Dichloroethene | µg/L | NYS CLASS GA | 5 | < 0.22 | U | < 0.22 | U |
| trans-1,3-Dichloropropene | µg/L | NYS CLASS GA | 0.4 | < 0.21 | U | < 0.21 | U |
| Trichloroethene | µg/L | NYS CLASS GA | 5 | < 0.35 | U | 0.73 | J |
| Trichlorofluoromethane | µg/L | NYS CLASS GA | 5 | < 0.50 | U | < 0.50 | U |
| Vinyl chloride | µg/L | NYS CLASS GA | 2 | < 0.41 | U | < 0.41 | U |

Notes:
µg/L = Microgram(s) per liter
GW = Groundwater
ID = Identification
U = Analyte not detected
J = Concentration is estimated
NSL = No screening level available
NYS = New York State
QC = Quality control
Qual = Qualifier
**Bold** and shaded values represent results that are above a NYS Class GA Standard

## Table 5. Historical VOC Data for MW25-31S

| | | | Area | SEAD-25 | | SEAD-25 | | SEAD-25 | | SEAD-25 | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Location ID | MW25-31S | | MW25-31S | | MW25-31S | | MW25-31S | |
| | | | Matrix | GW | | GW | | GW | | GW | |
| | | | Sample Date | 3/22/2021 | | 5/6/2021 | | 6/28/2023 | | 5/20/2024 | |
| | | | QC Type | None | | None | | Parent | | Parent | |
| Parameter | Unit | Source Criteria | Action Level | Value | Qual | Value | Qual | Value | Qual | Value | Qual |
| 1,1,1-Trichloroethane | µg/L | NYS CLASS GA | 5 | < 1 | U | < 1 | U | < 1 | U | < 0.25 | U |
| 1,1,2,2-Tetrachloroethane | µg/L | NYS CLASS GA | 5 | < 1 | U | < 1 | U | < 1 | U | < 0.30 | U |
| 1,1,2-Trichloro-1,2,2- | µg/L | NYS CLASS GA | 5 | < 1 | U | < 1 | U | < 1 | U | < 0.48 | U |
| 1,1,2-Trichloroethane | µg/L | NYS CLASS GA | 1 | < 1 | U | < 1 | U | < 1 | U | < 0.47 | U |
| 1,1-Dichloroethane | µg/L | NYS CLASS GA | 5 | < 1 | U | < 1 | U | < 1 | U | < 0.34 | U |
| 1,1-Dichloroethene | µg/L | NYS CLASS GA | 5 | < 1 | U | < 1 | U | < 1 | U | < 0.32 | U |
| 1,2,3-Trichlorobenzene | µg/L | NYS CLASS GA | 5 | < 2 | U | < 2 | U | < 2 | U | < 0.61 | U |
| 1,2,4-Trichlorobenzene | µg/L | NYS CLASS GA | 5 | < 2 | U | < 2 | U | < 2 | U | < 0.50 | U |
| 1,2-Dibromo-3-chloropropane | µg/L | NYS CLASS GA | 0.04 | < 5 | U | < 5 | U | < 5 | U | < 1.0 | U |
| 1,2-Dibromoethane | µg/L | NYS CLASS GA | NSL | < 2 | U | < 2 | U | < 2 | U | < 0.28 | U |
| 1,2-Dichlorobenzene | µg/L | NYS CLASS GA | 3 | < 1 | U | < 1 | U | < 1 | U | < 0.32 | U |
| 1,2-Dichloroethane | µg/L | NYS CLASS GA | 0.6 | < 1 | U | < 1 | U | < 1 | U | < 0.31 | U |
| 1,2-Dichloropropane | µg/L | NYS CLASS GA | 1 | < 1 | U | < 1 | U | < 1 | U | < 0.43 | U |
| 1,3-Dichlorobenzene | µg/L | NYS CLASS GA | 3 | < 1 | U | < 1 | U | < 1 | U | < 0.22 | U |
| 1,4-Dichlorobenzene | µg/L | NYS CLASS GA | 3 | < 1 | U | < 1 | U | < 1 | U | < 0.26 | U |
| 2-Butanone | µg/L | NYS CLASS GA | 50 | < 5 | U | < 5 | U | < 5 | U | < 2.0 | U |
| 2-Hexanone | µg/L | NYS CLASS GA | 50 | < 10 | U | < 10 | U | < 10 | U | < 2.0 | U |
| 4-Methyl-2-pentanone | µg/L | NYS CLASS GA | NSL | < 5 | U | < 5 | U | < 5 | U | < 1.0 | U |
| Acetone | µg/L | NYS CLASS GA | 50 | < 25 | U | < 25 | U | < 25 | U | < 10 | U |
| Benzene | µg/L | NYS CLASS GA | 1 | **15** | J+ | **10** | J+ | **4.9** | | **2** | |
| Bromochloromethane | µg/L | NYS CLASS GA | 5 | < 1 | U | < 1 | U | < 1 | U | < 0.45 | U |
| Bromodichloromethane | µg/L | NYS CLASS GA | 50 | < 1 | U | < 1 | U | < 1 | U | < 0.24 | U |
| Bromoform | µg/L | NYS CLASS GA | 50 | < 1 | U | < 1 | U | < 1 | U | < 0.41 | U |
| Bromomethane | µg/L | NYS CLASS GA | 5 | < 5 | U | < 5 | U | < 5 | U | < 2.0 | U |
| Carbon disulfide | µg/L | NYS CLASS GA | 60 | < 2 | U | < 2 | U | < 2 | U | < 0.53 | U |
| Carbon tetrachloride | µg/L | NYS CLASS GA | 5 | < 1 | U | < 1 | U | < 1 | U | < 0.36 | U |
| Chlorobenzene | µg/L | NYS CLASS GA | 5 | < 1 | U | < 1 | U | < 1 | U | < 0.20 | U |
| Chloroethane | µg/L | NYS CLASS GA | 5 | < 2 | U | < 2 | U | < 2 | U | < 0.67 | U |
| Chloroform | µg/L | NYS CLASS GA | 7 | < 1 | U | < 1 | U | < 1 | U | < 0.30 | U |
| Chloromethane | µg/L | NYS CLASS GA | NSL | < 2 | U | < 2 | U | < 2 | U | < 0.50 | U |
| cis-1,2-Dichloroethene | µg/L | NYS CLASS GA | 5 | 4.9 | J+ | 3.8 | | 4.9 | | 0.71 | J |
| cis-1,3-Dichloropropene | µg/L | NYS CLASS GA | 0.4 | < 1 | U | < 1 | U | < 1 | U | < 0.29 | U |
| Cyclohexane | µg/L | NYS CLASS GA | NSL | 5.3 | J+ | < 1 | U | < 1 | U | < 0.39 | U |
| Dibromochloromethane | µg/L | NYS CLASS GA | 50 | < 1 | U | < 1 | U | < 1 | U | < 0.28 | U |
| Dichlorodifluoromethane | µg/L | NYS CLASS GA | 5 | < 2 | UJ | < 2 | UJ | < 2 | UJ | < 0.50 | UJ |
| Ethylbenzene | µg/L | NYS CLASS GA | 5 | **31** | J+ | **38** | | 1.5 | | 3.3 | J |
| Isopropylbenzene | µg/L | NYS CLASS GA | 5 | 3.0 | J+ | 3.8 | U | < 1 | U | 0.32 | J |
| m- & p-Xylenes | µg/L | NYS CLASS GA | 5 | **260** | J+ | **240** | | **60.8** | | **10.9** | |
| Methyl acetate | µg/L | NYS CLASS GA | NSL | < 20 | U | < 20 | U | < 20 | U | < 5.0 | U |
| Methyl tert-butyl ether | µg/L | NYS CLASS GA | 10 | < 1 | U | < 1 | U | < 1 | U | < 0.23 | U |
| Methylcyclohexane | µg/L | NYS CLASS GA | NSL | 6.0 | J+ | 4.3 | | < 1 | U | <0.44 | U |
| Methylene chloride | µg/L | NYS CLASS GA | 5 | < 5 | U | < 5 | U | < 5 | U | < 2.0 | U |
| o-Xylene | µg/L | NYS CLASS GA | 5 | **200** | | **210** | | **94.7** | | **16.4** | J |
| Styrene | µg/L | NYS CLASS GA | 5 | < 1 | U | < 1 | U | < 1 | U | < 0.22 | U |
| Tetrachloroethene | µg/L | NYS CLASS GA | 5 | < 1 | U | < 1 | U | < 1 | U | < 0.22 | U |
| Toluene | µg/L | NYS CLASS GA | 5 | **13** | J+ | **9.6** | | 2.2 | J+ | 0.36 | J |
| trans-1,2-Dichloroethene | µg/L | NYS CLASS GA | 5 | < 1 | U | < 1 | U | < 1 | U | < 0.22 | U |
| trans-1,3-Dichloropropene | µg/L | NYS CLASS GA | 0.4 | < 1 | U | < 1 | U | < 1 | U | < 0.21 | U |
| Trichloroethene | µg/L | NYS CLASS GA | 5 | 2.9 | J+ | 2.6 | | 3.2 | | <0.35 | U |
| Trichlorofluoromethane | µg/L | NYS CLASS GA | 5 | < 2 | UJ | < 2 | UJ | < 2 | UJ | < 0.50 | U |
| Vinyl chloride | µg/L | NYS CLASS GA | 2 | < 1 | U | 0.39 | J | < 1 | U | < 0.41 | U |

Notes:
µg/L = Microgram(s) per liter
GW = Groundwater
ID = Identification
U = Analyte not detected
UJ = Analyte was not detected and the reported value is approximate.
J = Concentration is estimated
J+ = Concentration is estimate and may skew high.
NSL = No screening level available
NYS = New York State
QC = Quality control
Qual = Qualifier
VOC = Volatile organic compound
**Bold** and shaded values represent results that are above a NYS Class GA Standard

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# Figures



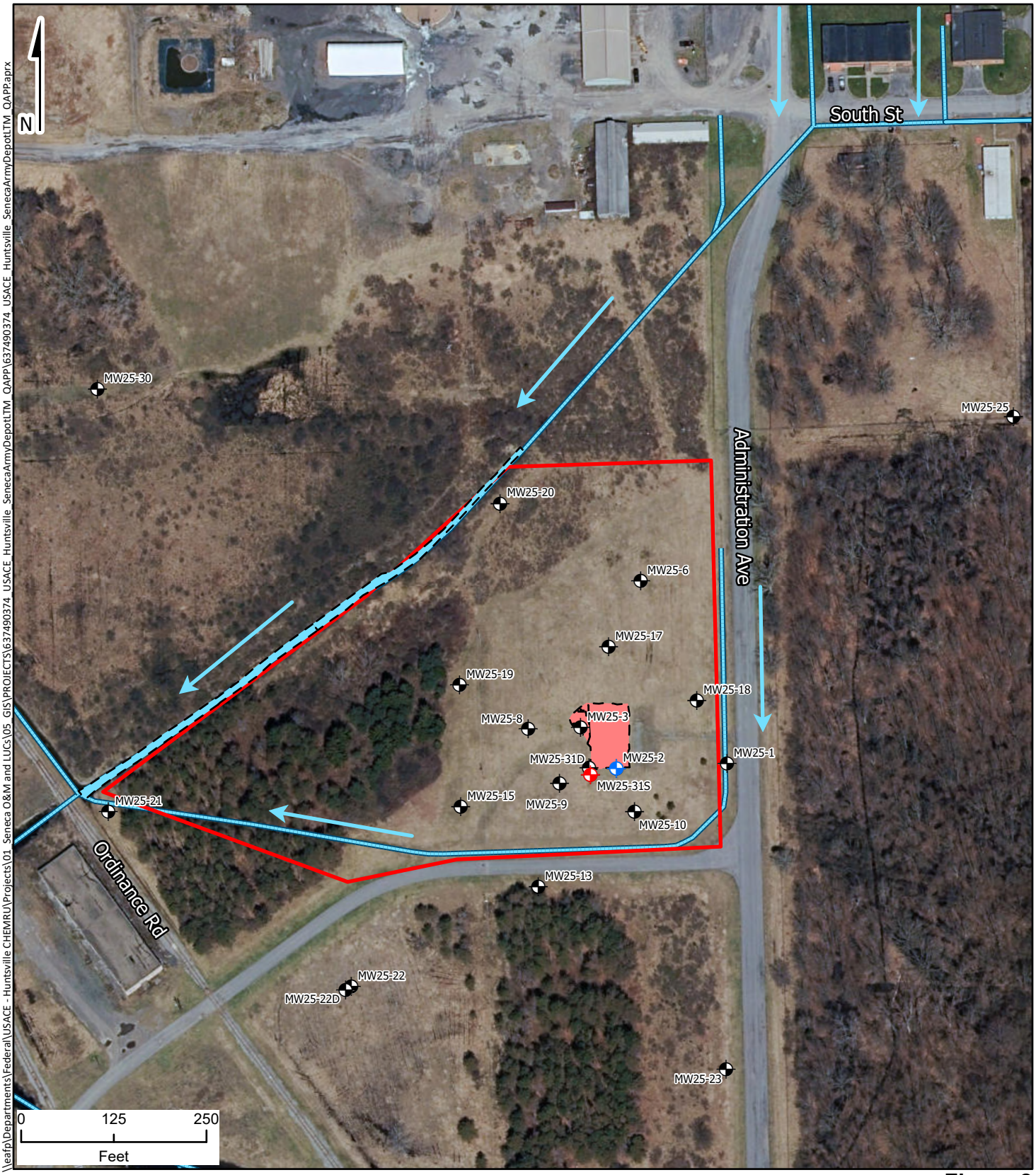

## Legend

- Former Depot Boundary
- SEAD-25 Boundary
- Site Location

**Figure 1**
Site Location
Former Seneca Army Depot
Romulus, New York

Map Date:9/8/2023 12:20 PM

Projection: NAD 1983 2011 StatePlane
New York Central FIPS 3102 Ft US




\\eafp\Departments\Federal\USACE - Huntsville CHEMRU\Projects\01 Seneca O&M and LUCs\05 GIS\PROJECTS\637490374 USACE Huntsville SenecaArmyDepotLTM QAPP\637490374 USACE Huntsville SenecaArmyDepotLTM QAPPaprx

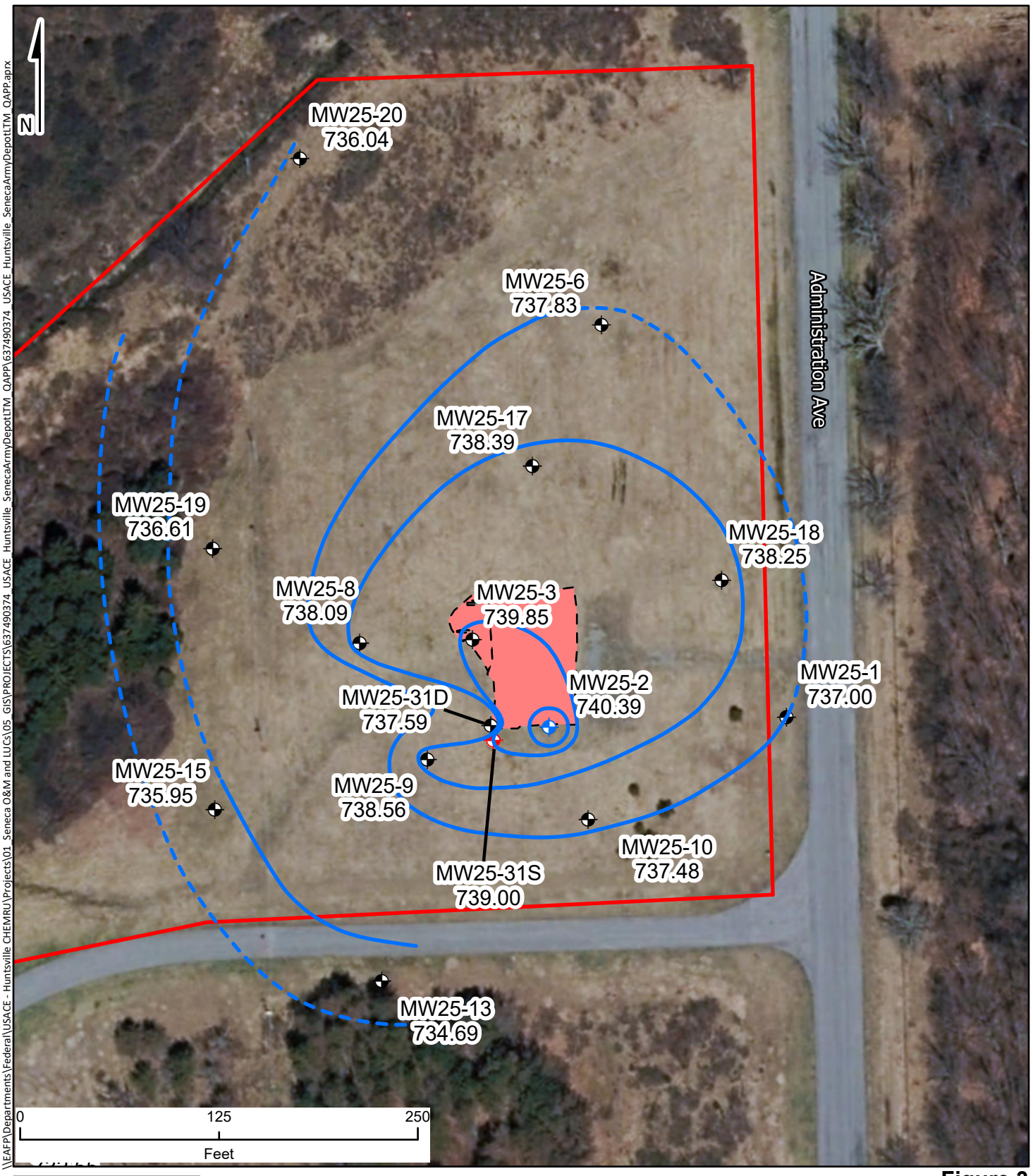

## Legend

- Former Depot Boundary
- SEAD-25 Boundary
- Excavated Area
- Swale
- Drainage
- Gauge Only
- LTM Sampling - Annually, for 5 years
- LTM Sampling - Every 5 years, starting in 2025
- Surface Water Flow

**Figure 2**
SEAD-25 Site Features
Former Seneca Army Depot
Romulus, New York

Map Date:6/4/2024 10:51 AM

Projection: NAD 1983 2011 StatePlane
New York Central FIPS 3102 Ft US




\\EAFP\Departments\Federal\USACE - Huntsville CHEMRU\Projects\01_Seneca O&M and LUCs\05_GIS\PROJECTS\637490374_USACE_Huntsville_SenecaArmyDepotLTM_QAPP\637490374_USACE_Huntsville_SenecaArmyDepotLTM_QAPP.aprx


## Legend

- Groundwater Contour (1 ft. interval)
- Inferred Groundwater Contour
- LTM Sampling - Every 5 years, starting in 2025
- LTM Sampling - Annually, for 5 years
- Gauge Only
- Former Depot Boundary
- SEAD-25 Boundary
- Excavated Area

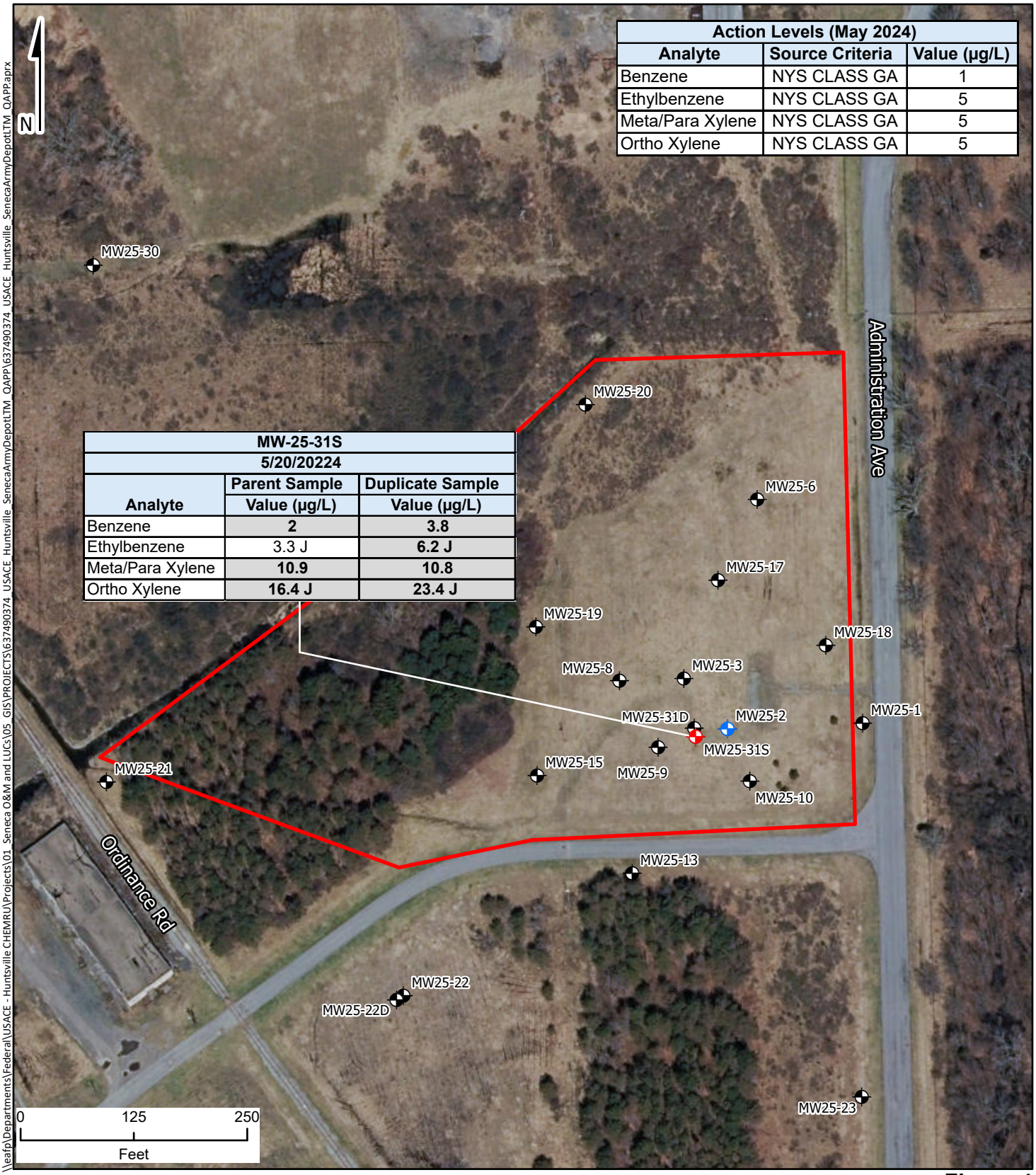
**Figure 3**

SEAD-25 Groundwater Elevation Contours
May 2024
Former Seneca Army Depot
Romulus, New York

Map Date: 6/3/2024 12:54 PM

Projection: NAD 1983 2011 StatePlane New York Central FIPS 3102 Ft US

Notes:
Contour lines are dotted where inferred.
Groundwater elevations presented in ft. amsl.
ft. amsl. = feet above mean sea level




| Action Levels (May 2024) | | |
|---|---|---|
| **Analyte** | **Source Criteria** | **Value (µg/L)** |
| Benzene | NYS CLASS GA | 1 |
| Ethylbenzene | NYS CLASS GA | 5 |
| Meta/Para Xylene | NYS CLASS GA | 5 |
| Ortho Xylene | NYS CLASS GA | 5 |

| MW-25-31S | | |
|---|---|---|
| 5/20/20224 | | |
| | **Parent Sample** | **Duplicate Sample** |
| **Analyte** | **Value (µg/L)** | **Value (µg/L)** |
| Benzene | **2** | **3.8** |
| Ethylbenzene | 3.3 J | **6.2 J** |
| Meta/Para Xylene | **10.9** | **10.8** |
| Ortho Xylene | **16.4 J** | **23.4 J** |


## Legend

- Former Depot Boundary
- SEAD-25 Boundary
- Gauge Only
- LTM Sampling - Annually, for 5 years
- LTM Sampling - Every 5 years, starting in 2025

Notes:
J = Concentration is estimated

# Figure 4

SEAD-25 VOC Exceedances
May 2024
Former Seneca Army Depot
Romulus, New York

Map Date: 7/11/2024 2:21 PM

Projection: NAD 1983 2011 StatePlane New York Central FIPS 3102 Ft US

Note:
**Bold Text = Concentrations detected at or above Action Level**

\\eafp\Departments\Federal\USACE - Huntsville CHEMRU\Projects\01 Seneca O&M and LUCs\05 GIS\PROJECTS\637490374 USACE Huntsville SenecaArmyDepotLTM QAPP\637490374 USACE Huntsville SenecaArmyDepotLTM QAPPaprx

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# Appendix A

# Field Forms

**FIELD CALIBRATION FORM**
**Horiba U-52**
**pH, CONDUCTIVITY, AND TURBIDITY**

| CALIBRATION |
|---|
| DATE: 5/20/2024 |
| TIME: 0745 |
| METER ID: 46899 |

**pH CALIBRATION**

| pH STANDARD | INITIAL READING | FINAL READING |
|---|---|---|
| 4.0 | 7.66 | 3.95 |

**CONDUCTIVITY CALIBARATION**

| CONDUCTIVITY STANDARD | STANDARD READING | FINAL READING |
|---|---|---|
| 4.49 | 5.02 | 4.53 |

**TURBIDITY CALIBRATION**

| STANDARD | INITIAL READING | FINAL READING |
|---|---|---|
| 0 NTU | 2.5 | 0.0 |

**COMMENTS**

**SIGNATURE**

# WELL PURGING AND SAMPLING RECORD

| | | | |
|---|---|---|---|
| Site Name/Location | SEAD-25 | Project No: | Page 1 of |
| Well ID | MW25-315 | Date 5/20/24 | Time 1000 |
| Well Site Description | open field | | |
| Weather/Temp | 75°F sun | | |
| Field Technician | MW/KC | | |

## WELL CONSTRUCTION DATA

| | | | |
|---|---|---|---|
| TOC Elevation (ft amsl) | | Screened Interval (ft bgs) | |
| Well Diameter (in.) | 2 | Nominal Borehole Diameter (in.) | 8 |

## FIELD MEASUREMENTS

| | | | |
|---|---|---|---|
| Well Depth (gauge after sampling) (ft) | 18.47 | Gallons per foot of depth | 0.163 |
| Depth to product (ft) | NA | Static water level (ft) | 6.34 |
| Product column height (ft) | ↓ | Water column height (ft) | 12.13 |
| Product volume (Gallons) | | Water volume (Gallons) | 1.98 |

## PURGE INFORMATION

| | | | |
|---|---|---|---|
| Pump Type / ID | peristaltic pump | Water Quality Meter Type / ID | Horiba U-52 |
| Pump Intake Depth (ft) | | Flow-Thru Cell Volume (L) | 1 |
| Purge Start Time | 1013 | Appearance/Odor (Start) | clear/none |
| Purge End Time | 1048 | Appearance/Odor (End) | clear/none |
| Average Purge Rate (mL/min) | 300 | Total Drawdown (ft) | |
| Well Went Dry (Y/N) | N | Stop Time — | Volume removed (L) — |
| Recovery Time | — | Recovery Rate (mL/min) — | Restart Purge Time — |
| Total Volume Removed (L) | 10.5 | Total Pump Time (min) | 35 |

| Date | Time | Purge Rate (mL/min) | Volume Removed (LPM) | pH (+/-0.1) | Cond. (µS/cm) (+- 3%) | Temp. (°C) (+- 3%) | ORP (mV) (+/- 10) | Turbidity (NTU) +/-10% or <5 NTU | DO (mg/L) +/-10% or <0.5 mg/L | Depth to Water (ft below TOC) |
|---|---|---|---|---|---|---|---|---|---|---|
| 5/20/24 | 1013 | ~~0.230~~ | | 6.50 | 0.913 | 18.92 | 12 | 588 | 0.42 | 6.79 |
| | 1018 | 300 | | 6.35 | 0.938 | 15.73 | -23 | 68.2 | 0.11 | 7.11 |
| | 1023 | 300 | | 6.55 | 0.941 | 15.11 | -38 | 14.8 | 0.05 | 7.71 |
| | 1028 | 300 | | 6.55 | 0.943 | 15.72 | -45 | 8.2 | 0.06 | 8.28 |
| | 1033 | 300 | | 6.56 | 0.932 | 15.64 | -49 | 7.7 | 0.05 | 8.93 |
| | 1038 | 300 | | 6.58 | 0.921 | 15.42 | -52 | 7.0 | 0.05 | 9.75 |
| | 1043 | 300 | | 6.60 | 0.918 | 15.07 | -52 | 6.8 | 0.05 | 10.78 |
| ↓ | 1048 | 300 | | 6.61 | 0.917 | 15.01 | -52 | 7.0 | 0.03 | 11.51 |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |

COMMENTS _____

## SAMPLE COLLECTION

| | | | |
|---|---|---|---|
| Sample Date | 5/20/2024 | Sample Time | 1048 |
| Sample ID | | | |
| QA/QC Collected / ID | DUP + MS/MSD | Sample Appearance/Odor | clear/none |
| Analyses | VOC | | |
| Sampler | MW/KC | Signature | |

**FIELD CALIBRATION FORM**

Site Name: Seneca Army Depot

| | |
|---|---|
| INSTRUMENT: PID | INSTRUMENT ID No: 36974 |
| OPERATOR: M. Wright | WEATHER: 75 sun |
| SPAN GAS TYPE: Isobutylene | DATE: 5/20/24 |
| CALIBRATION NOTES: | |
| Zero cal = 0.0 ppm | |
| Span cal = 100.0 ppm | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| COMMENTS: | |
| None | |
| | |
| | |
| | |
| | |
| SIGNATURE: | DATE: 5/20/24 |

**MONITORING WELL GAUGING LOG**

Inspector(s):

Weather Conditions:

Site Name: Seneca Army Depot (SEAD-25)

Date/Time: 5/20/24 0800-1400

| Well ID | PID Reading (ppm) | DTW (ft. below TOC) | DTB (ft. below TOC) | Well Condition / Notes |
|---|---|---|---|---|
| MW25-1 | 31.4 | 6.00 | 7.76 | Heaved, needs cut down Resurvey |
| MW25-2 | 0.0 | 5.97 | 11.08 | Good condition |
| MW25-3 | 0.0 | 6.49 | 9.84 | Heaved, needs cut down Resurvey |
| MW25-6 | 0.0 | 6.61 | 141.21 | Good condition |
| MW25-8 | 0.0 | 4.37 | 5.44 | Heaved, needs cut down Resurvey |
| MW25-9 | 0.0 | 3.80 | 5.45 | Heaved, needs cut down Resurvey |
| MW25-10 | 0.0 | ~~4.44~~ → | ~~3.46~~ → | Good condition DTW= 5.53 TD= 6.41 |
| MW25-13 | 0.0 | 4.95 | 5.51 | Heaved needs cut down + Resurvey |
| MW25-15 | 0.0 | 5.05 | 7.23 | Good condition |
| MW25-17 | 0.0 | 5.55 | 11.32 | Good condition |
| MW25-18 | 0.1 | 6.10 | 11.21 | good condition |
| MW25-19 | 0.2 | 5.38 | 12.03 | Good condition |
| MW25-20 | 0.1 | 4.74 | 13.96 | Good condition |
| MW25-21 | 0.0 | 2.65 | 9.00 | Good condition |
| MW25-22 | 0.0 | 1.15 | 14.58 | Good Condition |
| MW25-22D | 0.0 | 1.82 | 50.45 | Good condition |
| MW25-23 | 0.0 | 3.30 | 13.95 | Good condition |
| MW25-25 | 0.0 | 2.01 | 9.80 | Good condition |
| MW25-30 | 0.0 | 3.34 | 16.67 | Good condition |
| MW25-31S | 0.6 | 6.34 | 18.47 | Good condition |
| MW25-31D | 0.0 | 7.04 | 82.80 | Good condition |

# Appendix B

# Laboratory Reports

The results set forth herein are provided by SGS North America Inc.

*e-Hardcopy 2.0*
*Automated Report*

Technical Report for

EA Engineering

Former Seneca Army Depot; Romulus, NY

SGS Job Number: FC15866

Sampling Date: 05/20/24

Report to:

EA Science and Technology
269 W Jefferson St
Syracuse, NY 13202
fdesantis@eaest.com; mwright@eaest.com

ATTN: Frank DeSantis

Total number of pages in report: **327**

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable unless noted in the narrative, comments or footnotes.

Norm Farmer
Technical Director

Client Service contact: Andrea Colby 407-425-6700

Certifications: FL(E83510), LA(03051), KS(E-10327), NC(573), NJ(FL002), NY(12022), SC(96038001) DoD ELAP(ANAB L2229), AZ(AZ0806), CA(2937), TX(T104704404), PA(68-03573), VA(460177), AL, AK, AR, CT, IA, KY, MA, MI. MS, ND, NH, NV, OK, OR, IL, UT, VT, WA, WI, WV



Test results relate only to samples analyzed.

Sections: 1 2 3 4 5 6 7

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SGS North America Inc.

# Sample Summary

EA Engineering

**Job No:** FC15866

Former Seneca Army Depot; Romulus, NY

| Sample Number | Collected Date | Time | By | Received | Matrix Code | Type | Client Sample ID |
|---|---|---|---|---|---|---|---|
| FC15866-1 | 05/20/24 | 10:44 | MWKC | 05/22/24 | AQ | Ground Water | MW25-31S-05202024 |
| FC15866-1D | 05/20/24 | 10:44 | MWKC | 05/22/24 | AQ | Water Dup/MSD | MW25-31S-05202024 |
| FC15866-1S | 05/20/24 | 10:44 | MWKC | 05/22/24 | AQ | Water Matrix Spike | MW25-31S-05202024 |
| FC15866-2 | 05/20/24 | 00:00 | MWKC | 05/22/24 | AQ | Ground Water | DUP-01-05202024 |
| FC15866-3 | 05/20/24 | 00:00 | MWKC | 05/22/24 | AQ | Trip Blank Water | TB |

# SAMPLE DELIVERY GROUP CASE NARRATIVE

**Client:** EA Engineering **Job No:** FC15866

**Site:** Former Seneca Army Depot; Romulus, NY **Report Date:** 5/30/2024 1:48:43 PM

On 05/22/2024, 2 Sample(s), 1 Trip Blank(s), 0 Equip. Blank(s) and 0 Field Blank(s) were received at SGS North America Inc - Orlando. at a maximum corrected temperature of 2.6 C. Samples were intact and chemically preserved, unless noted below. A SGS North America Inc. - Orlando Job Number of FC15866 was assigned to the project.

Laboratory sample ID, client sample ID and dates of sample collection are detailed in the report's Results Summary Section. Specified quality control criteria were achieved for this job except as noted below. For more information, please refer to the analytical results and QC summary pages.

## MS Volatiles By Method SW846 8260D

**Matrix:** AQ **Batch ID:** V1A3001

Sample(s) FC15866-1MS, FC15866-1MSD were used as the QC samples indicated.

RPD(s) for MSD for Dichlorodifluoromethane, Methyl Bromide, Methyl Chloride, Vinyl Chloride are outside control limits for sample FC15866-1MSD. Probable cause is due to sample non-homogeneity.

V1A3001-MB: Sample was treated with an anti-foaming agent.

FC15866-1 for Dichlorodifluoromethane: Associated ICV outside DOD QSM control limits high, sample is ND.

FC15866-2 for Dichlorodifluoromethane: Associated ICV outside DOD QSM control limits high, sample is ND.

FC15866-3 for Dichlorodifluoromethane: Associated ICV outside DOD QSM control limits high, sample is ND.

SGS North America Inc. - Orlando certifies that data reported for samples received, listed on the associated custody chain or analytical task order, were produced to specifications meeting the Quality System precision, accuracy and completeness objectives except as noted. Estimated non-standard method measurement uncertainty data is available on request, based on quality control bias and implicit for standard methods. Acceptable uncertainty requires tested parameter quality control data to meet method criteria. SGS North America Inc.- Orlando is not responsible for data quality assumptions if partial reports are used and recommends that this report be used in its entirety.

Narrative prepared by:

_____

Kim Benham, Report Generation (signature on file)

# Summary of Hits



**Job Number:** FC15866
**Account:** EA Engineering
**Project:** Former Seneca Army Depot; Romulus, NY
**Collected:** 05/20/24



| Lab Sample ID / Analyte | Client Sample ID | Result/ Qual | LOQ | LOD | Units | Method |
|---|---|---|---|---|---|---|
| **FC15866-1** | **MW25-31S-05202024** | | | | | |
| Benzene | | 2.0 | 1.0 | 0.50 | ug/l | SW846 8260D |
| cis-1,2-Dichloroethylene | | 0.71 J | 1.0 | 0.50 | ug/l | SW846 8260D |
| Ethylbenzene | | 3.3 | 1.0 | 0.50 | ug/l | SW846 8260D |
| Isopropylbenzene | | 0.32 J | 1.0 | 0.50 | ug/l | SW846 8260D |
| Toluene | | 0.36 J | 1.0 | 0.50 | ug/l | SW846 8260D |
| m,p-Xylene | | 10.9 | 2.0 | 1.0 | ug/l | SW846 8260D |
| o-Xylene | | 16.4 | 1.0 | 0.50 | ug/l | SW846 8260D |
| **FC15866-2** | **DUP-01-05202024** | | | | | |
| Benzene | | 3.8 | 1.0 | 0.50 | ug/l | SW846 8260D |
| Cyclohexane | | 0.50 J | 1.0 | 0.50 | ug/l | SW846 8260D |
| cis-1,2-Dichloroethylene | | 1.3 | 1.0 | 0.50 | ug/l | SW846 8260D |
| Ethylbenzene | | 6.2 | 1.0 | 0.50 | ug/l | SW846 8260D |
| Isopropylbenzene | | 0.63 J | 1.0 | 0.50 | ug/l | SW846 8260D |
| Methylcyclohexane | | 0.44 J | 1.0 | 0.50 | ug/l | SW846 8260D |
| Toluene | | 0.36 J | 1.0 | 0.50 | ug/l | SW846 8260D |
| Trichloroethylene | | 0.73 J | 1.0 | 0.50 | ug/l | SW846 8260D |
| m,p-Xylene | | 10.8 | 2.0 | 1.0 | ug/l | SW846 8260D |
| o-Xylene | | 23.4 | 1.0 | 0.50 | ug/l | SW846 8260D |
| **FC15866-3** | **TB** | | | | | |
| No hits reported in this sample. | | | | | | |

## Sample Results

Report of Analysis

SGS North America Inc.

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | MW25-31S-05202024 | | |
| **Lab Sample ID:** | FC15866-1 | **Date Sampled:** | 05/20/24 |
| **Matrix:** | AQ - Ground Water | **Date Received:** | 05/22/24 |
| **Method:** | SW846 8260D | **Percent Solids:** | n/a |
| **Project:** | Former Seneca Army Depot; Romulus, NY | | |

| | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| Run #1 | 1A55304.D | 1 | 05/23/24 10:01 | JW | n/a | n/a | V1A3001 |
| Run #2 | | | | | | | |

| | Purge Volume |
|---|---|
| Run #1 | 5.0 ml |
| Run #2 | |

**VOA TCL List (SOM02.0)**

| CAS No. | Compound | Result | LOQ | LOD | DL | Units | Q |
|---|---|---|---|---|---|---|---|
| 67-64-1 | Acetone | 20 U | 25 | 20 | 10 | ug/l | |
| 71-43-2 | Benzene | 2.0 | 1.0 | 0.50 | 0.31 | ug/l | |
| 74-97-5 | Bromochloromethane | 0.50 U | 1.0 | 0.50 | 0.45 | ug/l | |
| 75-27-4 | Bromodichloromethane | 0.50 U | 1.0 | 0.50 | 0.24 | ug/l | |
| 75-25-2 | Bromoform | 0.50 U | 1.0 | 0.50 | 0.41 | ug/l | |
| 78-93-3 | 2-Butanone (MEK) | 3.5 U | 5.0 | 3.5 | 2.0 | ug/l | |
| 75-15-0 | Carbon Disulfide | 1.0 U | 2.0 | 1.0 | 0.53 | ug/l | |
| 56-23-5 | Carbon Tetrachloride | 0.50 U | 1.0 | 0.50 | 0.36 | ug/l | |
| 108-90-7 | Chlorobenzene | 0.50 U | 1.0 | 0.50 | 0.20 | ug/l | |
| 75-00-3 | Chloroethane | 1.0 U | 2.0 | 1.0 | 0.67 | ug/l | |
| 67-66-3 | Chloroform | 0.50 U | 1.0 | 0.50 | 0.30 | ug/l | |
| 110-82-7 | Cyclohexane | 0.50 U | 1.0 | 0.50 | 0.39 | ug/l | |
| 124-48-1 | Dibromochloromethane | 0.50 U | 1.0 | 0.50 | 0.28 | ug/l | |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | 2.0 U | 5.0 | 2.0 | 1.0 | ug/l | |
| 106-93-4 | 1,2-Dibromoethane | 1.0 U | 2.0 | 1.0 | 0.28 | ug/l | |
| 75-71-8 | Dichlorodifluoromethane [a] | 1.0 U | 2.0 | 1.0 | 0.50 | ug/l | |
| 95-50-1 | 1,2-Dichlorobenzene | 0.50 U | 1.0 | 0.50 | 0.32 | ug/l | |
| 541-73-1 | 1,3-Dichlorobenzene | 0.50 U | 1.0 | 0.50 | 0.22 | ug/l | |
| 106-46-7 | 1,4-Dichlorobenzene | 0.50 U | 1.0 | 0.50 | 0.26 | ug/l | |
| 75-34-3 | 1,1-Dichloroethane | 0.50 U | 1.0 | 0.50 | 0.34 | ug/l | |
| 107-06-2 | 1,2-Dichloroethane | 0.50 U | 1.0 | 0.50 | 0.31 | ug/l | |
| 75-35-4 | 1,1-Dichloroethylene | 0.50 U | 1.0 | 0.50 | 0.32 | ug/l | |
| 156-59-2 | cis-1,2-Dichloroethylene | 0.71 | 1.0 | 0.50 | 0.28 | ug/l | J |
| 156-60-5 | trans-1,2-Dichloroethylene | 0.50 U | 1.0 | 0.50 | 0.22 | ug/l | |
| 78-87-5 | 1,2-Dichloropropane | 0.50 U | 1.0 | 0.50 | 0.43 | ug/l | |
| 10061-01-5 | cis-1,3-Dichloropropene | 0.50 U | 1.0 | 0.50 | 0.29 | ug/l | |
| 10061-02-6 | trans-1,3-Dichloropropene | 0.50 U | 1.0 | 0.50 | 0.21 | ug/l | |
| 100-41-4 | Ethylbenzene | 3.3 | 1.0 | 0.50 | 0.36 | ug/l | |
| 76-13-1 | Freon 113 | 0.50 U | 1.0 | 0.50 | 0.48 | ug/l | |
| 591-78-6 | 2-Hexanone | 5.0 U | 10 | 5.0 | 2.0 | ug/l | |
| 98-82-8 | Isopropylbenzene | 0.32 | 1.0 | 0.50 | 0.22 | ug/l | J |
| 79-20-9 | Methyl Acetate | 10 U | 20 | 10 | 5.0 | ug/l | |

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | MW25-31S-05202024 | | |
| **Lab Sample ID:** | FC15866-1 | **Date Sampled:** | 05/20/24 |
| **Matrix:** | AQ - Ground Water | **Date Received:** | 05/22/24 |
| **Method:** | SW846 8260D | **Percent Solids:** | n/a |
| **Project:** | Former Seneca Army Depot; Romulus, NY | | |

**VOA TCL List (SOM02.0)**

| CAS No. | Compound | Result | LOQ | LOD | DL | Units | Q |
|---|---|---|---|---|---|---|---|
| 74-83-9 | Methyl Bromide | 4.0 U | 5.0 | 4.0 | 2.0 | ug/l | |
| 74-87-3 | Methyl Chloride | 1.0 U | 2.0 | 1.0 | 0.50 | ug/l | |
| 108-87-2 | Methylcyclohexane | 0.50 U | 1.0 | 0.50 | 0.44 | ug/l | |
| 75-09-2 | Methylene Chloride | 4.0 U | 5.0 | 4.0 | 2.0 | ug/l | |
| 108-10-1 | 4-Methyl-2-pentanone (MIBK) | 2.0 U | 5.0 | 2.0 | 1.0 | ug/l | |
| 1634-04-4 | Methyl Tert Butyl Ether | 0.50 U | 1.0 | 0.50 | 0.23 | ug/l | |
| 100-42-5 | Styrene | 0.50 U | 1.0 | 0.50 | 0.22 | ug/l | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 0.50 U | 1.0 | 0.50 | 0.30 | ug/l | |
| 127-18-4 | Tetrachloroethylene | 0.50 U | 1.0 | 0.50 | 0.22 | ug/l | |
| 108-88-3 | Toluene | 0.36 | 1.0 | 0.50 | 0.30 | ug/l | J |
| 87-61-6 | 1,2,3-Trichlorobenzene | 1.0 U | 2.0 | 1.0 | 0.61 | ug/l | |
| 120-82-1 | 1,2,4-Trichlorobenzene | 1.0 U | 2.0 | 1.0 | 0.50 | ug/l | |
| 71-55-6 | 1,1,1-Trichloroethane | 0.50 U | 1.0 | 0.50 | 0.25 | ug/l | |
| 79-00-5 | 1,1,2-Trichloroethane | 0.50 U | 1.0 | 0.50 | 0.47 | ug/l | |
| 79-01-6 | Trichloroethylene | 0.50 U | 1.0 | 0.50 | 0.35 | ug/l | |
| 75-69-4 | Trichlorofluoromethane | 1.0 U | 2.0 | 1.0 | 0.50 | ug/l | |
| 75-01-4 | Vinyl Chloride | 0.50 U | 1.0 | 0.50 | 0.41 | ug/l | |
| | m,p-Xylene | 10.9 | 2.0 | 1.0 | 0.47 | ug/l | |
| 95-47-6 | o-Xylene | 16.4 | 1.0 | 0.50 | 0.26 | ug/l | |

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 1868-53-7 | Dibromofluoromethane | 101% | | 83-118% |
| 17060-07-0 | 1,2-Dichloroethane-D4 | 99% | | 79-125% |
| 2037-26-5 | Toluene-D8 | 101% | | 85-112% |
| 460-00-4 | 4-Bromofluorobenzene | 100% | | 83-118% |

(a) Associated ICV outside DOD QSM control limits high, sample is ND.

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | DUP-01-05202024 | | |
| **Lab Sample ID:** | FC15866-2 | **Date Sampled:** | 05/20/24 |
| **Matrix:** | AQ - Ground Water | **Date Received:** | 05/22/24 |
| **Method:** | SW846 8260D | **Percent Solids:** | n/a |
| **Project:** | Former Seneca Army Depot; Romulus, NY | | |

| | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| Run #1 | 1A55312.D | 1 | 05/23/24 13:14 | JW | n/a | n/a | V1A3001 |
| Run #2 | | | | | | | |

| | Purge Volume |
|---|---|
| Run #1 | 5.0 ml |
| Run #2 | |

**VOA TCL List (SOM02.0)**

| CAS No. | Compound | Result | LOQ | LOD | DL | Units | Q |
|---|---|---|---|---|---|---|---|
| 67-64-1 | Acetone | 20 U | 25 | 20 | 10 | ug/l | |
| 71-43-2 | Benzene | 3.8 | 1.0 | 0.50 | 0.31 | ug/l | |
| 74-97-5 | Bromochloromethane | 0.50 U | 1.0 | 0.50 | 0.45 | ug/l | |
| 75-27-4 | Bromodichloromethane | 0.50 U | 1.0 | 0.50 | 0.24 | ug/l | |
| 75-25-2 | Bromoform | 0.50 U | 1.0 | 0.50 | 0.41 | ug/l | |
| 78-93-3 | 2-Butanone (MEK) | 3.5 U | 5.0 | 3.5 | 2.0 | ug/l | |
| 75-15-0 | Carbon Disulfide | 1.0 U | 2.0 | 1.0 | 0.53 | ug/l | |
| 56-23-5 | Carbon Tetrachloride | 0.50 U | 1.0 | 0.50 | 0.36 | ug/l | |
| 108-90-7 | Chlorobenzene | 0.50 U | 1.0 | 0.50 | 0.20 | ug/l | |
| 75-00-3 | Chloroethane | 1.0 U | 2.0 | 1.0 | 0.67 | ug/l | |
| 67-66-3 | Chloroform | 0.50 U | 1.0 | 0.50 | 0.30 | ug/l | |
| 110-82-7 | Cyclohexane | 0.50 | 1.0 | 0.50 | 0.39 | ug/l | J |
| 124-48-1 | Dibromochloromethane | 0.50 U | 1.0 | 0.50 | 0.28 | ug/l | |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | 2.0 U | 5.0 | 2.0 | 1.0 | ug/l | |
| 106-93-4 | 1,2-Dibromoethane | 1.0 U | 2.0 | 1.0 | 0.28 | ug/l | |
| 75-71-8 | Dichlorodifluoromethane [a] | 1.0 U | 2.0 | 1.0 | 0.50 | ug/l | |
| 95-50-1 | 1,2-Dichlorobenzene | 0.50 U | 1.0 | 0.50 | 0.32 | ug/l | |
| 541-73-1 | 1,3-Dichlorobenzene | 0.50 U | 1.0 | 0.50 | 0.22 | ug/l | |
| 106-46-7 | 1,4-Dichlorobenzene | 0.50 U | 1.0 | 0.50 | 0.26 | ug/l | |
| 75-34-3 | 1,1-Dichloroethane | 0.50 U | 1.0 | 0.50 | 0.34 | ug/l | |
| 107-06-2 | 1,2-Dichloroethane | 0.50 U | 1.0 | 0.50 | 0.31 | ug/l | |
| 75-35-4 | 1,1-Dichloroethylene | 0.50 U | 1.0 | 0.50 | 0.32 | ug/l | |
| 156-59-2 | cis-1,2-Dichloroethylene | 1.3 | 1.0 | 0.50 | 0.28 | ug/l | |
| 156-60-5 | trans-1,2-Dichloroethylene | 0.50 U | 1.0 | 0.50 | 0.22 | ug/l | |
| 78-87-5 | 1,2-Dichloropropane | 0.50 U | 1.0 | 0.50 | 0.43 | ug/l | |
| 10061-01-5 | cis-1,3-Dichloropropene | 0.50 U | 1.0 | 0.50 | 0.29 | ug/l | |
| 10061-02-6 | trans-1,3-Dichloropropene | 0.50 U | 1.0 | 0.50 | 0.21 | ug/l | |
| 100-41-4 | Ethylbenzene | 6.2 | 1.0 | 0.50 | 0.36 | ug/l | |
| 76-13-1 | Freon 113 | 0.50 U | 1.0 | 0.50 | 0.48 | ug/l | |
| 591-78-6 | 2-Hexanone | 5.0 U | 10 | 5.0 | 2.0 | ug/l | |
| 98-82-8 | Isopropylbenzene | 0.63 | 1.0 | 0.50 | 0.22 | ug/l | J |
| 79-20-9 | Methyl Acetate | 10 U | 20 | 10 | 5.0 | ug/l | |

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | DUP-01-05202024 | | |
| **Lab Sample ID:** | FC15866-2 | **Date Sampled:** | 05/20/24 |
| **Matrix:** | AQ - Ground Water | **Date Received:** | 05/22/24 |
| **Method:** | SW846 8260D | **Percent Solids:** | n/a |
| **Project:** | Former Seneca Army Depot; Romulus, NY | | |

**VOA TCL List (SOM02.0)**

| CAS No. | Compound | Result | LOQ | LOD | DL | Units | Q |
|---|---|---|---|---|---|---|---|
| 74-83-9 | Methyl Bromide | 4.0 U | 5.0 | 4.0 | 2.0 | ug/l | |
| 74-87-3 | Methyl Chloride | 1.0 U | 2.0 | 1.0 | 0.50 | ug/l | |
| 108-87-2 | Methylcyclohexane | 0.44 | 1.0 | 0.50 | 0.44 | ug/l | J |
| 75-09-2 | Methylene Chloride | 4.0 U | 5.0 | 4.0 | 2.0 | ug/l | |
| 108-10-1 | 4-Methyl-2-pentanone (MIBK) | 2.0 U | 5.0 | 2.0 | 1.0 | ug/l | |
| 1634-04-4 | Methyl Tert Butyl Ether | 0.50 U | 1.0 | 0.50 | 0.23 | ug/l | |
| 100-42-5 | Styrene | 0.50 U | 1.0 | 0.50 | 0.22 | ug/l | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 0.50 U | 1.0 | 0.50 | 0.30 | ug/l | |
| 127-18-4 | Tetrachloroethylene | 0.50 U | 1.0 | 0.50 | 0.22 | ug/l | |
| 108-88-3 | Toluene | 0.36 | 1.0 | 0.50 | 0.30 | ug/l | J |
| 87-61-6 | 1,2,3-Trichlorobenzene | 1.0 U | 2.0 | 1.0 | 0.61 | ug/l | |
| 120-82-1 | 1,2,4-Trichlorobenzene | 1.0 U | 2.0 | 1.0 | 0.50 | ug/l | |
| 71-55-6 | 1,1,1-Trichloroethane | 0.50 U | 1.0 | 0.50 | 0.25 | ug/l | |
| 79-00-5 | 1,1,2-Trichloroethane | 0.50 U | 1.0 | 0.50 | 0.47 | ug/l | |
| 79-01-6 | Trichloroethylene | 0.73 | 1.0 | 0.50 | 0.35 | ug/l | J |
| 75-69-4 | Trichlorofluoromethane | 1.0 U | 2.0 | 1.0 | 0.50 | ug/l | |
| 75-01-4 | Vinyl Chloride | 0.50 U | 1.0 | 0.50 | 0.41 | ug/l | |
| | m,p-Xylene | 10.8 | 2.0 | 1.0 | 0.47 | ug/l | |
| 95-47-6 | o-Xylene | 23.4 | 1.0 | 0.50 | 0.26 | ug/l | |

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 1868-53-7 | Dibromofluoromethane | 102% | | 83-118% |
| 17060-07-0 | 1,2-Dichloroethane-D4 | 100% | | 79-125% |
| 2037-26-5 | Toluene-D8 | 100% | | 85-112% |
| 460-00-4 | 4-Bromofluorobenzene | 100% | | 83-118% |

(a) Associated ICV outside DOD QSM control limits high, sample is ND.

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | TB | | |
| **Lab Sample ID:** | FC15866-3 | **Date Sampled:** | 05/20/24 |
| **Matrix:** | AQ - Trip Blank Water | **Date Received:** | 05/22/24 |
| **Method:** | SW846 8260D | **Percent Solids:** | n/a |
| **Project:** | Former Seneca Army Depot; Romulus, NY | | |

| | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| Run #1 | 1A55311.D | 1 | 05/23/24 12:50 | JW | n/a | n/a | V1A3001 |
| Run #2 | | | | | | | |

| | Purge Volume |
|---|---|
| Run #1 | 5.0 ml |
| Run #2 | |

**VOA TCL List (SOM02.0)**

| CAS No. | Compound | Result | LOQ | LOD | DL | Units | Q |
|---|---|---|---|---|---|---|---|
| 67-64-1 | Acetone | 20 U | 25 | 20 | 10 | ug/l | |
| 71-43-2 | Benzene | 0.50 U | 1.0 | 0.50 | 0.31 | ug/l | |
| 74-97-5 | Bromochloromethane | 0.50 U | 1.0 | 0.50 | 0.45 | ug/l | |
| 75-27-4 | Bromodichloromethane | 0.50 U | 1.0 | 0.50 | 0.24 | ug/l | |
| 75-25-2 | Bromoform | 0.50 U | 1.0 | 0.50 | 0.41 | ug/l | |
| 78-93-3 | 2-Butanone (MEK) | 3.5 U | 5.0 | 3.5 | 2.0 | ug/l | |
| 75-15-0 | Carbon Disulfide | 1.0 U | 2.0 | 1.0 | 0.53 | ug/l | |
| 56-23-5 | Carbon Tetrachloride | 0.50 U | 1.0 | 0.50 | 0.36 | ug/l | |
| 108-90-7 | Chlorobenzene | 0.50 U | 1.0 | 0.50 | 0.20 | ug/l | |
| 75-00-3 | Chloroethane | 1.0 U | 2.0 | 1.0 | 0.67 | ug/l | |
| 67-66-3 | Chloroform | 0.50 U | 1.0 | 0.50 | 0.30 | ug/l | |
| 110-82-7 | Cyclohexane | 0.50 U | 1.0 | 0.50 | 0.39 | ug/l | |
| 124-48-1 | Dibromochloromethane | 0.50 U | 1.0 | 0.50 | 0.28 | ug/l | |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | 2.0 U | 5.0 | 2.0 | 1.0 | ug/l | |
| 106-93-4 | 1,2-Dibromoethane | 1.0 U | 2.0 | 1.0 | 0.28 | ug/l | |
| 75-71-8 | Dichlorodifluoromethane [a] | 1.0 U | 2.0 | 1.0 | 0.50 | ug/l | |
| 95-50-1 | 1,2-Dichlorobenzene | 0.50 U | 1.0 | 0.50 | 0.32 | ug/l | |
| 541-73-1 | 1,3-Dichlorobenzene | 0.50 U | 1.0 | 0.50 | 0.22 | ug/l | |
| 106-46-7 | 1,4-Dichlorobenzene | 0.50 U | 1.0 | 0.50 | 0.26 | ug/l | |
| 75-34-3 | 1,1-Dichloroethane | 0.50 U | 1.0 | 0.50 | 0.34 | ug/l | |
| 107-06-2 | 1,2-Dichloroethane | 0.50 U | 1.0 | 0.50 | 0.31 | ug/l | |
| 75-35-4 | 1,1-Dichloroethylene | 0.50 U | 1.0 | 0.50 | 0.32 | ug/l | |
| 156-59-2 | cis-1,2-Dichloroethylene | 0.50 U | 1.0 | 0.50 | 0.28 | ug/l | |
| 156-60-5 | trans-1,2-Dichloroethylene | 0.50 U | 1.0 | 0.50 | 0.22 | ug/l | |
| 78-87-5 | 1,2-Dichloropropane | 0.50 U | 1.0 | 0.50 | 0.43 | ug/l | |
| 10061-01-5 | cis-1,3-Dichloropropene | 0.50 U | 1.0 | 0.50 | 0.29 | ug/l | |
| 10061-02-6 | trans-1,3-Dichloropropene | 0.50 U | 1.0 | 0.50 | 0.21 | ug/l | |
| 100-41-4 | Ethylbenzene | 0.50 U | 1.0 | 0.50 | 0.36 | ug/l | |
| 76-13-1 | Freon 113 | 0.50 U | 1.0 | 0.50 | 0.48 | ug/l | |
| 591-78-6 | 2-Hexanone | 5.0 U | 10 | 5.0 | 2.0 | ug/l | |
| 98-82-8 | Isopropylbenzene | 0.50 U | 1.0 | 0.50 | 0.22 | ug/l | |
| 79-20-9 | Methyl Acetate | 10 U | 20 | 10 | 5.0 | ug/l | |

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

# Report of Analysis





| | | | |
|---|---|---|---|
| **Client Sample ID:** | TB | | |
| **Lab Sample ID:** | FC15866-3 | **Date Sampled:** | 05/20/24 |
| **Matrix:** | AQ - Trip Blank Water | **Date Received:** | 05/22/24 |
| **Method:** | SW846 8260D | **Percent Solids:** | n/a |
| **Project:** | Former Seneca Army Depot; Romulus, NY | | |

**VOA TCL List (SOM02.0)**

| CAS No. | Compound | Result | LOQ | LOD | DL | Units | Q |
|---|---|---|---|---|---|---|---|
| 74-83-9 | Methyl Bromide | 4.0 U | 5.0 | 4.0 | 2.0 | ug/l | |
| 74-87-3 | Methyl Chloride | 1.0 U | 2.0 | 1.0 | 0.50 | ug/l | |
| 108-87-2 | Methylcyclohexane | 0.50 U | 1.0 | 0.50 | 0.44 | ug/l | |
| 75-09-2 | Methylene Chloride | 4.0 U | 5.0 | 4.0 | 2.0 | ug/l | |
| 108-10-1 | 4-Methyl-2-pentanone (MIBK) | 2.0 U | 5.0 | 2.0 | 1.0 | ug/l | |
| 1634-04-4 | Methyl Tert Butyl Ether | 0.50 U | 1.0 | 0.50 | 0.23 | ug/l | |
| 100-42-5 | Styrene | 0.50 U | 1.0 | 0.50 | 0.22 | ug/l | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 0.50 U | 1.0 | 0.50 | 0.30 | ug/l | |
| 127-18-4 | Tetrachloroethylene | 0.50 U | 1.0 | 0.50 | 0.22 | ug/l | |
| 108-88-3 | Toluene | 0.50 U | 1.0 | 0.50 | 0.30 | ug/l | |
| 87-61-6 | 1,2,3-Trichlorobenzene | 1.0 U | 2.0 | 1.0 | 0.61 | ug/l | |
| 120-82-1 | 1,2,4-Trichlorobenzene | 1.0 U | 2.0 | 1.0 | 0.50 | ug/l | |
| 71-55-6 | 1,1,1-Trichloroethane | 0.50 U | 1.0 | 0.50 | 0.25 | ug/l | |
| 79-00-5 | 1,1,2-Trichloroethane | 0.50 U | 1.0 | 0.50 | 0.47 | ug/l | |
| 79-01-6 | Trichloroethylene | 0.50 U | 1.0 | 0.50 | 0.35 | ug/l | |
| 75-69-4 | Trichlorofluoromethane | 1.0 U | 2.0 | 1.0 | 0.50 | ug/l | |
| 75-01-4 | Vinyl Chloride | 0.50 U | 1.0 | 0.50 | 0.41 | ug/l | |
| | m,p-Xylene | 1.0 U | 2.0 | 1.0 | 0.47 | ug/l | |
| 95-47-6 | o-Xylene | 0.50 U | 1.0 | 0.50 | 0.26 | ug/l | |

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 1868-53-7 | Dibromofluoromethane | 101% | | 83-118% |
| 17060-07-0 | 1,2-Dichloroethane-D4 | 101% | | 79-125% |
| 2037-26-5 | Toluene-D8 | 100% | | 85-112% |
| 460-00-4 | 4-Bromofluorobenzene | 99% | | 83-118% |

(a) Associated ICV outside DOD QSM control limits high, sample is ND.

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

## Misc. Forms

# Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody
- QC Evaluation: DOD QSM5.x Limits

# SGS North America Inc - Orlando

## Chain of Custody

4405 Vineland Road, Suite C-15 Orlando, Fl 32811
TEL. 407-425-6700 FAX: 407-425-0707
www.sgs.com

SGS - ORLANDO JOB # : PAGE 1 OF 1

SGS - ORLANDO Quote # SMF # FC15866

| Client / Reporting Information | | Project Information | | Analytical Information | Matrix Codes |
|---|---|---|---|---|---|
| Company Name: EA Engineering | | Project Name: SENECA army DEPOT | | | DW - Drinking Water<br>GW - Ground Water<br>WW - Water<br>SW - Surface Water<br>SO - Soil<br>SL- Sludge<br>OI - Oil<br>LIQ - Other Liquid<br>AIR - Air<br>SOL - Other Solid |
| Address: 333 West Washington St | | Street | | | |
| City: Syracuse State: NY Zip: 13202 | | City Romulus State NY | | | |
| Project Contact: mwright@ eaest.com Email: | | Project # | | | |
| Phone #: 315 694 7436 | | Fax # | | | |
| Sampler(s) Name(s) (Printed) Sampler 1: MW Sampler 2: KC | | Client Purchase Order # | | 82600 | |

| SGS Orlando Sample # | Field ID / Point of Collection | COLLECTION DATE | TIME | SAMPLED BY: | CONTAINER INFORMATION MATRIX | TOTAL # OF BOTTLES | OTHER | NONE | HCl | NaOH | HNO3 | H2SO4 | NaOH+ZnAc | DI WATER | MEOH | | LAB USE ONLY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | MW25-315-05202024 | 5/20/24 | 1044 | MW | GW | 9 | | | X | | | | | | | X | |
| 2 | Dup-01-05202024 | 1 | — | MW | GW | 3 | | | X | | | | | | | X | |
| 3 | TD | — | — | — | WW | 3 | | | X | | | | | | | X | |

INITIAL ASSESSMENT SP

LABEL VERIFICATION ZD

| Turnaround Time ( Business days) | Data Deliverable Information | Comments / Remarks |
|---|---|---|
| 10 Day (Business) Approved By: / Date: | ☐ COMMERCIAL "A" (RESULTS ONLY) | MW25-315 w/ MS/MSD |
| 7 Day | ☒ COMMERCIAL "B" (RESULTS PLUS QC) | |
| 5 Day | ☐ REDT1 (EPA LEVEL 3) | |
| 3 Day *RUSH* | ☐ FULLT1 (EPA LEVEL 4) | |
| 2 Day *RUSH* | ☐ EDD'S | |
| 1 Day *RUSH* | | |
| Other | | |
| Rush T/A Data Available VIA Email or Lablink | | |

Sample Custody must be documented below each time samples change possession, including courier delivery.

| | Relinquished by Sampler/Affiliation | Date Time: | Received By/Affiliation | Relinquished By/Affiliation | Date Time: | Received By/Affiliation |
|---|---|---|---|---|---|---|
| 1 | | 5/21/24 | 2 Fed Ex | 3 | | 4 930 05/22/24 |
| 5 | Relinquished by/Affiliation | Date Time: | 6 Received By/Affiliation | 7 Relinquished By/Affiliation | Date Time: | 8 Received By/Affiliation |

Lab Use Only : Cooler Temperature (s) Celsius (corrected): 3.0 IR1

http://www.sgs.com/en/terms-and-conditions

ORLD-SMT-0001-03-FORM-COC (4).xls Rev 031318

**FC15866: Chain of Custody**
**Page 1 of 2**

# SGS - Orlando Sample Receipt Summary

**Job Number:** fc15866 **Client:** EA ENGINEERING **Project:** SENECA ARMY DEPOT

**Date / Time Received:** 5/22/2024 9:30:00 AM **Delivery Method:** FED EX **Airbill #'s:** 7024 6628 9500

**Cooler Temps (Raw Measured) °C:** Cooler 1: (3.0);

**Cooler Temps (Corrected) °C:** Cooler 1: (2.6);

| Cooler Information | Y | or | N |
|---|---|---|---|
| 1. Custody Seals Present: | ☑ | | ☐ |
| 2. Custody Seals Intact: | ☑ | | ☐ |
| 3. Temp criteria achieved: | ☑ | | ☐ |
| 4. Cooler temp verification: | IR Gun | | |
| 5. Cooler media: | Ice (Bag) | | |

| Trip Blank Information | Y | or | N | N/A |
|---|---|---|---|---|
| 1. Trip Blank present / cooler: | ☑ | | ☐ | ☐ |
| 2. Trip Blank listed on COC: | ☑ | | ☐ | ☐ |

| | W | or | S | N/A |
|---|---|---|---|---|
| 3. Type of TB Received | ☑ | | ☐ | ☐ |

| Sample Information | Y | or | N | N/A |
|---|---|---|---|---|
| 1. Sample labels present on bottles: | ☑ | | ☐ | |
| 2. Samples presented properly | ☑ | | ☐ | |
| 3. Sufficient volume/containers recv'd for analysis | ☑ | | ☐ | |
| 4. Condition of sample: | Intact | | | |
| 5. Sample recv'd within HT | ☑ | | ☐ | |
| 6. Dates/Times/IDs on COC match sample label | ☑ | | ☐ | |
| 7. VOCs have headspace | ☐ | | ☑ | ☐ |
| 8. Bottles received for unspecified tests | ☐ | | ☑ | |
| 9. Compositing instructions clear | ☐ | | ☐ | ☑ |
| 10. Voa Soil Kits/Jars received past 48hrs? | ☐ | | ☐ | ☑ |
| 11. % Solids Jar Received? | ☐ | | ☐ | ☑ |
| 12. Residual Chlorine Present? | ☐ | | ☐ | ☑ |

**Misc Information**

Number of Encores: 25 Gram 5 Gram

Number of Lab Filtered Metals:

Test Strip Lot #s: pH 0-3: 226422 pH 10-12: Other: (Specify) pH 1.0 - 12.0 222221

Residual Chlorine Test Strip Lot #

Comments

Sample Receipt Summary 112723 EK Technician: SHAYLAP Date: 5/22/2024 4:31:56 PM Reviewer: Date:

# QC Evaluation: DOD QSM5.x Limits



**Job Number:** FC15866
**Account:** EA Engineering
**Project:** Former Seneca Army Depot; Romulus, NY
**Collected:** 05/20/24



| QC Sample ID | CAS# | Analyte | Sample Type | Result Type | Result | Units | Limits |
|---|---|---|---|---|---|---|---|
| V1A3001 | SW846 8260D | | | | | | |
| V1A3001-BS | 67-64-1 | Acetone | BSP | REC | 107 | % | 39-160 |
| V1A3001-BS | 71-43-2 | Benzene | BSP | REC | 98 | % | 79-120 |
| V1A3001-BS | 74-97-5 | Bromochloromethane | BSP | REC | 91 | % | 78-123 |
| V1A3001-BS | 75-27-4 | Bromodichloromethane | BSP | REC | 92 | % | 79-125 |
| V1A3001-BS | 75-25-2 | Bromoform | BSP | REC | 101 | % | 66-130 |
| V1A3001-BS | 78-93-3 | 2-Butanone (MEK) | BSP | REC | 99 | % | 56-143 |
| V1A3001-BS | 75-15-0 | Carbon Disulfide | BSP | REC | 100 | % | 64-133 |
| V1A3001-BS | 56-23-5 | Carbon Tetrachloride | BSP | REC | 100 | % | 72-136 |
| V1A3001-BS | 108-90-7 | Chlorobenzene | BSP | REC | 101 | % | 82-118 |
| V1A3001-BS | 75-00-3 | Chloroethane | BSP | REC | 112 | % | 60-138 |
| V1A3001-BS | 67-66-3 | Chloroform | BSP | REC | 96 | % | 79-124 |
| V1A3001-BS | 110-82-7 | Cyclohexane | BSP | REC | 97 | % | 71-130 |
| V1A3001-BS | 124-48-1 | Dibromochloromethane | BSP | REC | 107 | % | 74-126 |
| V1A3001-BS | 96-12-8 | 1,2-Dibromo-3-chloropropane | BSP | REC | 112 | % | 62-128 |
| V1A3001-BS | 106-93-4 | 1,2-Dibromoethane | BSP | REC | 100 | % | 77-121 |
| V1A3001-BS | 75-71-8 | Dichlorodifluoromethane | BSP | REC | 112 | % | 32-152 |
| V1A3001-BS | 95-50-1 | 1,2-Dichlorobenzene | BSP | REC | 98 | % | 80-119 |
| V1A3001-BS | 541-73-1 | 1,3-Dichlorobenzene | BSP | REC | 96 | % | 80-119 |
| V1A3001-BS | 106-46-7 | 1,4-Dichlorobenzene | BSP | REC | 100 | % | 79-118 |
| V1A3001-BS | 75-34-3 | 1,1-Dichloroethane | BSP | REC | 97 | % | 77-125 |
| V1A3001-BS | 107-06-2 | 1,2-Dichloroethane | BSP | REC | 93 | % | 73-128 |
| V1A3001-BS | 75-35-4 | 1,1-Dichloroethylene | BSP | REC | 98 | % | 71-131 |
| V1A3001-BS | 156-59-2 | cis-1,2-Dichloroethylene | BSP | REC | 94 | % | 78-123 |
| V1A3001-BS | 156-60-5 | trans-1,2-Dichloroethylene | BSP | REC | 99 | % | 75-124 |
| V1A3001-BS | 78-87-5 | 1,2-Dichloropropane | BSP | REC | 103 | % | 78-122 |
| V1A3001-BS | 10061-01-5 | cis-1,3-Dichloropropene | BSP | REC | 100 | % | 75-124 |
| V1A3001-BS | 10061-02-6 | trans-1,3-Dichloropropene | BSP | REC | 100 | % | 73-127 |
| V1A3001-BS | 100-41-4 | Ethylbenzene | BSP | REC | 102 | % | 79-121 |
| V1A3001-BS | 76-13-1 | Freon 113 | BSP | REC | 100 | % | 70-136 |
| V1A3001-BS | 591-78-6 | 2-Hexanone | BSP | REC | 100 | % | 57-139 |
| V1A3001-BS | 98-82-8 | Isopropylbenzene | BSP | REC | 102 | % | 72-131 |
| V1A3001-BS | 79-20-9 | Methyl Acetate | BSP | REC | 95 | % | 56-136 |
| V1A3001-BS | 74-83-9 | Methyl Bromide | BSP | REC | 108 | % | 53-141 |
| V1A3001-BS | 74-87-3 | Methyl Chloride | BSP | REC | 100 | % | 50-139 |
| V1A3001-BS | 108-87-2 | Methylcyclohexane | BSP | REC | 95 | % | 72-132 |
| V1A3001-BS | 75-09-2 | Methylene Chloride | BSP | REC | 103 | % | 74-124 |
| V1A3001-BS | 108-10-1 | 4-Methyl-2-pentanone (MIBK) | BSP | REC | 99 | % | 67-130 |
| V1A3001-BS | 1634-04-4 | Methyl Tert Butyl Ether | BSP | REC | 94 | % | 71-124 |
| V1A3001-BS | 100-42-5 | Styrene | BSP | REC | 106 | % | 78-123 |
| V1A3001-BS | 79-34-5 | 1,1,2,2-Tetrachloroethane | BSP | REC | 100 | % | 71-121 |
| V1A3001-BS | 127-18-4 | Tetrachloroethylene | BSP | REC | 106 | % | 74-129 |
| V1A3001-BS | 108-88-3 | Toluene | BSP | REC | 103 | % | 80-121 |

* Sample used for QC is not from job FC15866

# QC Evaluation: DOD QSM5.x Limits



**Job Number:** FC15866
**Account:** EA Engineering
**Project:** Former Seneca Army Depot; Romulus, NY
**Collected:** 05/20/24



| QC Sample ID | CAS# | Analyte | Sample Type | Result Type | Result | Units | Limits |
|---|---|---|---|---|---|---|---|
| V1A3001-BS | 87-61-6 | 1,2,3-Trichlorobenzene | BSP | REC | 100 | % | 69-129 |
| V1A3001-BS | 120-82-1 | 1,2,4-Trichlorobenzene | BSP | REC | 97 | % | 69-130 |
| V1A3001-BS | 71-55-6 | 1,1,1-Trichloroethane | BSP | REC | 97 | % | 74-131 |
| V1A3001-BS | 79-00-5 | 1,1,2-Trichloroethane | BSP | REC | 103 | % | 80-119 |
| V1A3001-BS | 79-01-6 | Trichloroethylene | BSP | REC | 97 | % | 79-123 |
| V1A3001-BS | 75-69-4 | Trichlorofluoromethane | BSP | REC | 102 | % | 65-141 |
| V1A3001-BS | 75-01-4 | Vinyl Chloride | BSP | REC | 102 | % | 58-137 |
| V1A3001-BS | | m,p-Xylene | BSP | REC | 102 | % | 80-121 |
| V1A3001-BS | 95-47-6 | o-Xylene | BSP | REC | 100 | % | 78-122 |
| V1A3001-BS | 1868-53-7 | Dibromofluoromethane | BSP | SURR | 97 | % | 80-119 |
| V1A3001-BS | 17060-07-0 | 1,2-Dichloroethane-D4 | BSP | SURR | 98 | % | 81-118 |
| V1A3001-BS | 2037-26-5 | Toluene-D8 | BSP | SURR | 103 | % | 89-112 |
| V1A3001-BS | 460-00-4 | 4-Bromofluorobenzene | BSP | SURR | 98 | % | 85-114 |
| FC15866-1MS | 67-64-1 | Acetone | MS | REC | 99 | % | 39-160 |
| FC15866-1MS | 71-43-2 | Benzene | MS | REC | 100 | % | 79-120 |
| FC15866-1MS | 74-97-5 | Bromochloromethane | MS | REC | 92 | % | 78-123 |
| FC15866-1MS | 75-27-4 | Bromodichloromethane | MS | REC | 94 | % | 79-125 |
| FC15866-1MS | 75-25-2 | Bromoform | MS | REC | 99 | % | 66-130 |
| FC15866-1MS | 78-93-3 | 2-Butanone (MEK) | MS | REC | 100 | % | 56-143 |
| FC15866-1MS | 75-15-0 | Carbon Disulfide | MS | REC | 102 | % | 64-133 |
| FC15866-1MS | 56-23-5 | Carbon Tetrachloride | MS | REC | 101 | % | 72-136 |
| FC15866-1MS | 108-90-7 | Chlorobenzene | MS | REC | 101 | % | 82-118 |
| FC15866-1MS | 75-00-3 | Chloroethane | MS | REC | 100 | % | 60-138 |
| FC15866-1MS | 67-66-3 | Chloroform | MS | REC | 98 | % | 79-124 |
| FC15866-1MS | 110-82-7 | Cyclohexane | MS | REC | 106 | % | 71-130 |
| FC15866-1MS | 124-48-1 | Dibromochloromethane | MS | REC | 104 | % | 74-126 |
| FC15866-1MS | 96-12-8 | 1,2-Dibromo-3-chloropropane | MS | REC | 120 | % | 62-128 |
| FC15866-1MS | 106-93-4 | 1,2-Dibromoethane | MS | REC | 101 | % | 77-121 |
| FC15866-1MS | 75-71-8 | Dichlorodifluoromethane | MS | REC | 101 | % | 32-152 |
| FC15866-1MS | 95-50-1 | 1,2-Dichlorobenzene | MS | REC | 100 | % | 80-119 |
| FC15866-1MS | 541-73-1 | 1,3-Dichlorobenzene | MS | REC | 102 | % | 80-119 |
| FC15866-1MS | 106-46-7 | 1,4-Dichlorobenzene | MS | REC | 100 | % | 79-118 |
| FC15866-1MS | 75-34-3 | 1,1-Dichloroethane | MS | REC | 96 | % | 77-125 |
| FC15866-1MS | 107-06-2 | 1,2-Dichloroethane | MS | REC | 94 | % | 73-128 |
| FC15866-1MS | 75-35-4 | 1,1-Dichloroethylene | MS | REC | 103 | % | 71-131 |
| FC15866-1MS | 156-59-2 | cis-1,2-Dichloroethylene | MS | REC | 95 | % | 78-123 |
| FC15866-1MS | 156-60-5 | trans-1,2-Dichloroethylene | MS | REC | 100 | % | 75-124 |
| FC15866-1MS | 78-87-5 | 1,2-Dichloropropane | MS | REC | 104 | % | 78-122 |
| FC15866-1MS | 10061-01-5 | cis-1,3-Dichloropropene | MS | REC | 93 | % | 75-124 |
| FC15866-1MS | 10061-02-6 | trans-1,3-Dichloropropene | MS | REC | 95 | % | 73-127 |
| FC15866-1MS | 100-41-4 | Ethylbenzene | MS | REC | 105 | % | 79-121 |
| FC15866-1MS | 76-13-1 | Freon 113 | MS | REC | 110 | % | 70-136 |
| FC15866-1MS | 591-78-6 | 2-Hexanone | MS | REC | 113 | % | 57-139 |
| FC15866-1MS | 98-82-8 | Isopropylbenzene | MS | REC | 105 | % | 72-131 |
| FC15866-1MS | 79-20-9 | Methyl Acetate | MS | REC | 91 | % | 56-136 |

* Sample used for QC is not from job FC15866

# QC Evaluation: DOD QSM5.x Limits

**Job Number:** FC15866
**Account:** EA Engineering
**Project:** Former Seneca Army Depot; Romulus, NY
**Collected:** 05/20/24



| QC Sample ID | CAS# | Analyte | Sample Type | Result Type | Result | Units | Limits |
|---|---|---|---|---|---|---|---|
| FC15866-1MS | 74-83-9 | Methyl Bromide | MS | REC | 80 | % | 53-141 |
| FC15866-1MS | 74-87-3 | Methyl Chloride | MS | REC | 89 | % | 50-139 |
| FC15866-1MS | 108-87-2 | Methylcyclohexane | MS | REC | 105 | % | 72-132 |
| FC15866-1MS | 75-09-2 | Methylene Chloride | MS | REC | 98 | % | 74-124 |
| FC15866-1MS | 108-10-1 | 4-Methyl-2-pentanone (MIBK) | MS | REC | 106 | % | 67-130 |
| FC15866-1MS | 1634-04-4 | Methyl Tert Butyl Ether | MS | REC | 93 | % | 71-124 |
| FC15866-1MS | 100-42-5 | Styrene | MS | REC | 110 | % | 78-123 |
| FC15866-1MS | 79-34-5 | 1,1,2,2-Tetrachloroethane | MS | REC | 102 | % | 71-121 |
| FC15866-1MS | 127-18-4 | Tetrachloroethylene | MS | REC | 108 | % | 74-129 |
| FC15866-1MS | 108-88-3 | Toluene | MS | REC | 104 | % | 80-121 |
| FC15866-1MS | 87-61-6 | 1,2,3-Trichlorobenzene | MS | REC | 96 | % | 69-129 |
| FC15866-1MS | 120-82-1 | 1,2,4-Trichlorobenzene | MS | REC | 98 | % | 69-130 |
| FC15866-1MS | 71-55-6 | 1,1,1-Trichloroethane | MS | REC | 102 | % | 74-131 |
| FC15866-1MS | 79-00-5 | 1,1,2-Trichloroethane | MS | REC | 102 | % | 80-119 |
| FC15866-1MS | 79-01-6 | Trichloroethylene | MS | REC | 100 | % | 79-123 |
| FC15866-1MS | 75-69-4 | Trichlorofluoromethane | MS | REC | 96 | % | 65-141 |
| FC15866-1MS | 75-01-4 | Vinyl Chloride | MS | REC | 96 | % | 58-137 |
| FC15866-1MS | | m,p-Xylene | MS | REC | 105 | % | 80-121 |
| FC15866-1MS | 95-47-6 | o-Xylene | MS | REC | 102 | % | 78-122 |
| FC15866-1MS | 1868-53-7 | Dibromofluoromethane | MS | SURR | 97 | % | 80-119 |
| FC15866-1MS | 17060-07-0 | 1,2-Dichloroethane-D4 | MS | SURR | 98 | % | 81-118 |
| FC15866-1MS | 2037-26-5 | Toluene-D8 | MS | SURR | 102 | % | 89-112 |
| FC15866-1MS | 460-00-4 | 4-Bromofluorobenzene | MS | SURR | 101 | % | 85-114 |
| FC15866-1MSD | 67-64-1 | Acetone | MSD | REC | 99 | % | 39-160 |
| FC15866-1MSD | 67-64-1 | Acetone | MSD | RPD | 0 | % | 20 |
| FC15866-1MSD | 71-43-2 | Benzene | MSD | REC | 99 | % | 79-120 |
| FC15866-1MSD | 71-43-2 | Benzene | MSD | RPD | 1 | % | 20 |
| FC15866-1MSD | 74-97-5 | Bromochloromethane | MSD | REC | 95 | % | 78-123 |
| FC15866-1MSD | 74-97-5 | Bromochloromethane | MSD | RPD | 3 | % | 20 |
| FC15866-1MSD | 75-27-4 | Bromodichloromethane | MSD | REC | 94 | % | 79-125 |
| FC15866-1MSD | 75-27-4 | Bromodichloromethane | MSD | RPD | 1 | % | 20 |
| FC15866-1MSD | 75-25-2 | Bromoform | MSD | REC | 98 | % | 66-130 |
| FC15866-1MSD | 75-25-2 | Bromoform | MSD | RPD | 0 | % | 20 |
| FC15866-1MSD | 78-93-3 | 2-Butanone (MEK) | MSD | REC | 97 | % | 56-143 |
| FC15866-1MSD | 78-93-3 | 2-Butanone (MEK) | MSD | RPD | 3 | % | 20 |
| FC15866-1MSD | 75-15-0 | Carbon Disulfide | MSD | REC | 103 | % | 64-133 |
| FC15866-1MSD | 75-15-0 | Carbon Disulfide | MSD | RPD | 1 | % | 20 |
| FC15866-1MSD | 56-23-5 | Carbon Tetrachloride | MSD | REC | 106 | % | 72-136 |
| FC15866-1MSD | 56-23-5 | Carbon Tetrachloride | MSD | RPD | 5 | % | 20 |
| FC15866-1MSD | 108-90-7 | Chlorobenzene | MSD | REC | 101 | % | 82-118 |
| FC15866-1MSD | 108-90-7 | Chlorobenzene | MSD | RPD | 0 | % | 20 |
| FC15866-1MSD | 75-00-3 | Chloroethane | MSD | REC | 122 | % | 60-138 |
| FC15866-1MSD | 75-00-3 | Chloroethane | MSD | RPD | 20 | % | 20 |
| FC15866-1MSD | 67-66-3 | Chloroform | MSD | REC | 98 | % | 79-124 |
| FC15866-1MSD | 67-66-3 | Chloroform | MSD | RPD | 0 | % | 20 |

* Sample used for QC is not from job FC15866

# QC Evaluation: DOD QSM5.x Limits

**Job Number:** FC15866
**Account:** EA Engineering
**Project:** Former Seneca Army Depot; Romulus, NY
**Collected:** 05/20/24



| QC Sample ID | CAS# | Analyte | Sample Type | Result Type | Result | Units | Limits |
|---|---|---|---|---|---|---|---|
| FC15866-1MSD | 110-82-7 | Cyclohexane | MSD | REC | 106 | % | 71-130 |
| FC15866-1MSD | 110-82-7 | Cyclohexane | MSD | RPD | 1 | % | 20 |
| FC15866-1MSD | 124-48-1 | Dibromochloromethane | MSD | REC | 103 | % | 74-126 |
| FC15866-1MSD | 124-48-1 | Dibromochloromethane | MSD | RPD | 2 | % | 20 |
| FC15866-1MSD | 96-12-8 | 1,2-Dibromo-3-chloropropane | MSD | REC | 115 | % | 62-128 |
| FC15866-1MSD | 96-12-8 | 1,2-Dibromo-3-chloropropane | MSD | RPD | 4 | % | 20 |
| FC15866-1MSD | 106-93-4 | 1,2-Dibromoethane | MSD | REC | 100 | % | 77-121 |
| FC15866-1MSD | 106-93-4 | 1,2-Dibromoethane | MSD | RPD | 2 | % | 20 |
| FC15866-1MSD | 75-71-8 | Dichlorodifluoromethane | MSD | REC | 129 | % | 32-152 |
| FC15866-1MSD | 75-71-8 | Dichlorodifluoromethane | MSD | RPD | 25 | % | 20 |
| FC15866-1MSD | 95-50-1 | 1,2-Dichlorobenzene | MSD | REC | 100 | % | 80-119 |
| FC15866-1MSD | 95-50-1 | 1,2-Dichlorobenzene | MSD | RPD | 0 | % | 20 |
| FC15866-1MSD | 541-73-1 | 1,3-Dichlorobenzene | MSD | REC | 101 | % | 80-119 |
| FC15866-1MSD | 541-73-1 | 1,3-Dichlorobenzene | MSD | RPD | 1 | % | 20 |
| FC15866-1MSD | 106-46-7 | 1,4-Dichlorobenzene | MSD | REC | 101 | % | 79-118 |
| FC15866-1MSD | 106-46-7 | 1,4-Dichlorobenzene | MSD | RPD | 1 | % | 20 |
| FC15866-1MSD | 75-34-3 | 1,1-Dichloroethane | MSD | REC | 96 | % | 77-125 |
| FC15866-1MSD | 75-34-3 | 1,1-Dichloroethane | MSD | RPD | 0 | % | 20 |
| FC15866-1MSD | 107-06-2 | 1,2-Dichloroethane | MSD | REC | 94 | % | 73-128 |
| FC15866-1MSD | 107-06-2 | 1,2-Dichloroethane | MSD | RPD | 1 | % | 20 |
| FC15866-1MSD | 75-35-4 | 1,1-Dichloroethylene | MSD | REC | 104 | % | 71-131 |
| FC15866-1MSD | 75-35-4 | 1,1-Dichloroethylene | MSD | RPD | 1 | % | 20 |
| FC15866-1MSD | 156-59-2 | cis-1,2-Dichloroethylene | MSD | REC | 96 | % | 78-123 |
| FC15866-1MSD | 156-59-2 | cis-1,2-Dichloroethylene | MSD | RPD | 1 | % | 20 |
| FC15866-1MSD | 156-60-5 | trans-1,2-Dichloroethylene | MSD | REC | 101 | % | 75-124 |
| FC15866-1MSD | 156-60-5 | trans-1,2-Dichloroethylene | MSD | RPD | 1 | % | 20 |
| FC15866-1MSD | 78-87-5 | 1,2-Dichloropropane | MSD | REC | 104 | % | 78-122 |
| FC15866-1MSD | 78-87-5 | 1,2-Dichloropropane | MSD | RPD | 0 | % | 20 |
| FC15866-1MSD | 10061-01-5 | cis-1,3-Dichloropropene | MSD | REC | 94 | % | 75-124 |
| FC15866-1MSD | 10061-01-5 | cis-1,3-Dichloropropene | MSD | RPD | 1 | % | 20 |
| FC15866-1MSD | 10061-02-6 | trans-1,3-Dichloropropene | MSD | REC | 95 | % | 73-127 |
| FC15866-1MSD | 10061-02-6 | trans-1,3-Dichloropropene | MSD | RPD | 0 | % | 20 |
| FC15866-1MSD | 100-41-4 | Ethylbenzene | MSD | REC | 104 | % | 79-121 |
| FC15866-1MSD | 100-41-4 | Ethylbenzene | MSD | RPD | 1 | % | 20 |
| FC15866-1MSD | 76-13-1 | Freon 113 | MSD | REC | 110 | % | 70-136 |
| FC15866-1MSD | 76-13-1 | Freon 113 | MSD | RPD | 1 | % | 20 |
| FC15866-1MSD | 591-78-6 | 2-Hexanone | MSD | REC | 106 | % | 57-139 |
| FC15866-1MSD | 591-78-6 | 2-Hexanone | MSD | RPD | 6 | % | 20 |
| FC15866-1MSD | 98-82-8 | Isopropylbenzene | MSD | REC | 103 | % | 72-131 |
| FC15866-1MSD | 98-82-8 | Isopropylbenzene | MSD | RPD | 2 | % | 20 |
| FC15866-1MSD | 79-20-9 | Methyl Acetate | MSD | REC | 91 | % | 56-136 |
| FC15866-1MSD | 79-20-9 | Methyl Acetate | MSD | RPD | 0 | % | 20 |
| FC15866-1MSD | 74-83-9 | Methyl Bromide | MSD | REC | 104 | % | 53-141 |
| FC15866-1MSD | 74-83-9 | Methyl Bromide | MSD | RPD | 26 | % | 20 |
| FC15866-1MSD | 74-87-3 | Methyl Chloride | MSD | REC | 111 | % | 50-139 |

* Sample used for QC is not from job FC15866

# QC Evaluation: DOD QSM5.x Limits



**Job Number:** FC15866
**Account:** EA Engineering
**Project:** Former Seneca Army Depot; Romulus, NY
**Collected:** 05/20/24



| QC Sample ID | CAS# | Analyte | Sample Type | Result Type | Result | Units | Limits |
|---|---|---|---|---|---|---|---|
| FC15866-1MSD | 74-87-3 | Methyl Chloride | MSD | RPD | 22 | % | 20 |
| FC15866-1MSD | 108-87-2 | Methylcyclohexane | MSD | REC | 107 | % | 72-132 |
| FC15866-1MSD | 108-87-2 | Methylcyclohexane | MSD | RPD | 2 | % | 20 |
| FC15866-1MSD | 75-09-2 | Methylene Chloride | MSD | REC | 94 | % | 74-124 |
| FC15866-1MSD | 75-09-2 | Methylene Chloride | MSD | RPD | 3 | % | 20 |
| FC15866-1MSD | 108-10-1 | 4-Methyl-2-pentanone (MIBK) | MSD | REC | 102 | % | 67-130 |
| FC15866-1MSD | 108-10-1 | 4-Methyl-2-pentanone (MIBK) | MSD | RPD | 5 | % | 20 |
| FC15866-1MSD | 1634-04-4 | Methyl Tert Butyl Ether | MSD | REC | 94 | % | 71-124 |
| FC15866-1MSD | 1634-04-4 | Methyl Tert Butyl Ether | MSD | RPD | 1 | % | 20 |
| FC15866-1MSD | 100-42-5 | Styrene | MSD | REC | 109 | % | 78-123 |
| FC15866-1MSD | 100-42-5 | Styrene | MSD | RPD | 1 | % | 20 |
| FC15866-1MSD | 79-34-5 | 1,1,2,2-Tetrachloroethane | MSD | REC | 101 | % | 71-121 |
| FC15866-1MSD | 79-34-5 | 1,1,2,2-Tetrachloroethane | MSD | RPD | 0 | % | 20 |
| FC15866-1MSD | 127-18-4 | Tetrachloroethylene | MSD | REC | 106 | % | 74-129 |
| FC15866-1MSD | 127-18-4 | Tetrachloroethylene | MSD | RPD | 2 | % | 20 |
| FC15866-1MSD | 108-88-3 | Toluene | MSD | REC | 103 | % | 80-121 |
| FC15866-1MSD | 108-88-3 | Toluene | MSD | RPD | 1 | % | 20 |
| FC15866-1MSD | 87-61-6 | 1,2,3-Trichlorobenzene | MSD | REC | 108 | % | 69-129 |
| FC15866-1MSD | 87-61-6 | 1,2,3-Trichlorobenzene | MSD | RPD | 12 | % | 20 |
| FC15866-1MSD | 120-82-1 | 1,2,4-Trichlorobenzene | MSD | REC | 104 | % | 69-130 |
| FC15866-1MSD | 120-82-1 | 1,2,4-Trichlorobenzene | MSD | RPD | 6 | % | 20 |
| FC15866-1MSD | 71-55-6 | 1,1,1-Trichloroethane | MSD | REC | 103 | % | 74-131 |
| FC15866-1MSD | 71-55-6 | 1,1,1-Trichloroethane | MSD | RPD | 1 | % | 20 |
| FC15866-1MSD | 79-00-5 | 1,1,2-Trichloroethane | MSD | REC | 101 | % | 80-119 |
| FC15866-1MSD | 79-00-5 | 1,1,2-Trichloroethane | MSD | RPD | 2 | % | 20 |
| FC15866-1MSD | 79-01-6 | Trichloroethylene | MSD | REC | 101 | % | 79-123 |
| FC15866-1MSD | 79-01-6 | Trichloroethylene | MSD | RPD | 1 | % | 20 |
| FC15866-1MSD | 75-69-4 | Trichlorofluoromethane | MSD | REC | 118 | % | 65-141 |
| FC15866-1MSD | 75-69-4 | Trichlorofluoromethane | MSD | RPD | 21 | % | 20 |
| FC15866-1MSD | 75-01-4 | Vinyl Chloride | MSD | REC | 120 | % | 58-137 |
| FC15866-1MSD | 75-01-4 | Vinyl Chloride | MSD | RPD | 22 | % | 20 |
| FC15866-1MSD | | m,p-Xylene | MSD | REC | 105 | % | 80-121 |
| FC15866-1MSD | | m,p-Xylene | MSD | RPD | 0 | % | 20 |
| FC15866-1MSD | 95-47-6 | o-Xylene | MSD | REC | 101 | % | 78-122 |
| FC15866-1MSD | 95-47-6 | o-Xylene | MSD | RPD | 0 | % | 20 |
| FC15866-1MSD | 1868-53-7 | Dibromofluoromethane | MSD | SURR | 98 | % | 80-119 |
| FC15866-1MSD | 17060-07-0 | 1,2-Dichloroethane-D4 | MSD | SURR | 99 | % | 81-118 |
| FC15866-1MSD | 2037-26-5 | Toluene-D8 | MSD | SURR | 102 | % | 89-112 |
| FC15866-1MSD | 460-00-4 | 4-Bromofluorobenzene | MSD | SURR | 101 | % | 85-114 |
| V1A3001-MB | 1868-53-7 | Dibromofluoromethane | MB | SURR | 102 | % | 80-119 |
| V1A3001-MB | 17060-07-0 | 1,2-Dichloroethane-D4 | MB | SURR | 100 | % | 81-118 |
| V1A3001-MB | 2037-26-5 | Toluene-D8 | MB | SURR | 100 | % | 89-112 |
| V1A3001-MB | 460-00-4 | 4-Bromofluorobenzene | MB | SURR | 100 | % | 85-114 |
| FC15866-1 | 1868-53-7 | Dibromofluoromethane | SAMP | SURR | 101 | % | 80-119 |
| FC15866-1 | 17060-07-0 | 1,2-Dichloroethane-D4 | SAMP | SURR | 99 | % | 81-118 |

* Sample used for QC is not from job FC15866

# QC Evaluation: DOD QSM5.x Limits



**Job Number:** FC15866
**Account:** EA Engineering
**Project:** Former Seneca Army Depot; Romulus, NY
**Collected:** 05/20/24



| QC Sample ID | CAS# | Analyte | Sample Type | Result Type | Result | Units | Limits |
|---|---|---|---|---|---|---|---|
| FC15866-1 | 2037-26-5 | Toluene-D8 | SAMP | SURR | 101 | % | 89-112 |
| FC15866-1 | 460-00-4 | 4-Bromofluorobenzene | SAMP | SURR | 100 | % | 85-114 |
| FC15866-2 | 1868-53-7 | Dibromofluoromethane | SAMP | SURR | 102 | % | 80-119 |
| FC15866-2 | 17060-07-0 | 1,2-Dichloroethane-D4 | SAMP | SURR | 100 | % | 81-118 |
| FC15866-2 | 2037-26-5 | Toluene-D8 | SAMP | SURR | 100 | % | 89-112 |
| FC15866-2 | 460-00-4 | 4-Bromofluorobenzene | SAMP | SURR | 100 | % | 85-114 |
| FC15866-3 | 1868-53-7 | Dibromofluoromethane | SAMP | SURR | 101 | % | 80-119 |
| FC15866-3 | 17060-07-0 | 1,2-Dichloroethane-D4 | SAMP | SURR | 101 | % | 81-118 |
| FC15866-3 | 2037-26-5 | Toluene-D8 | SAMP | SURR | 100 | % | 89-112 |
| FC15866-3 | 460-00-4 | 4-Bromofluorobenzene | SAMP | SURR | 99 | % | 85-114 |

* Sample used for QC is not from job FC15866

## MS Volatiles



### QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Instrument Performance Checks (BFB)
- Internal Standard Area Summaries
- Surrogate Recovery Summaries
- Initial and Continuing Calibration Summaries
- Run Sequence Reports

# Method Blank Summary



**Job Number:** FC15866
**Account:** EAENYS EA Engineering
**Project:** Former Seneca Army Depot; Romulus, NY

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| V1A3001-MB [a] | 1A55303.D | 1 | 05/23/24 | JW | n/a | n/a | V1A3001 |

**The QC reported here applies to the following samples:** **Method:** SW846 8260D

FC15866-1, FC15866-2, FC15866-3

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 67-64-1 | Acetone | ND | 25 | 10 | ug/l | |
| 71-43-2 | Benzene | ND | 1.0 | 0.31 | ug/l | |
| 74-97-5 | Bromochloromethane | ND | 1.0 | 0.45 | ug/l | |
| 75-27-4 | Bromodichloromethane | ND | 1.0 | 0.24 | ug/l | |
| 75-25-2 | Bromoform | ND | 1.0 | 0.41 | ug/l | |
| 78-93-3 | 2-Butanone (MEK) | ND | 5.0 | 2.0 | ug/l | |
| 75-15-0 | Carbon Disulfide | ND | 2.0 | 0.53 | ug/l | |
| 56-23-5 | Carbon Tetrachloride | ND | 1.0 | 0.36 | ug/l | |
| 108-90-7 | Chlorobenzene | ND | 1.0 | 0.20 | ug/l | |
| 75-00-3 | Chloroethane | ND | 2.0 | 0.67 | ug/l | |
| 67-66-3 | Chloroform | ND | 1.0 | 0.30 | ug/l | |
| 110-82-7 | Cyclohexane | ND | 1.0 | 0.39 | ug/l | |
| 124-48-1 | Dibromochloromethane | ND | 1.0 | 0.28 | ug/l | |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | ND | 5.0 | 1.0 | ug/l | |
| 106-93-4 | 1,2-Dibromoethane | ND | 2.0 | 0.28 | ug/l | |
| 75-71-8 | Dichlorodifluoromethane | ND | 2.0 | 0.50 | ug/l | |
| 95-50-1 | 1,2-Dichlorobenzene | ND | 1.0 | 0.32 | ug/l | |
| 541-73-1 | 1,3-Dichlorobenzene | ND | 1.0 | 0.22 | ug/l | |
| 106-46-7 | 1,4-Dichlorobenzene | ND | 1.0 | 0.26 | ug/l | |
| 75-34-3 | 1,1-Dichloroethane | ND | 1.0 | 0.34 | ug/l | |
| 107-06-2 | 1,2-Dichloroethane | ND | 1.0 | 0.31 | ug/l | |
| 75-35-4 | 1,1-Dichloroethylene | ND | 1.0 | 0.32 | ug/l | |
| 156-59-2 | cis-1,2-Dichloroethylene | ND | 1.0 | 0.28 | ug/l | |
| 156-60-5 | trans-1,2-Dichloroethylene | ND | 1.0 | 0.22 | ug/l | |
| 78-87-5 | 1,2-Dichloropropane | ND | 1.0 | 0.43 | ug/l | |
| 10061-01-5 | cis-1,3-Dichloropropene | ND | 1.0 | 0.29 | ug/l | |
| 10061-02-6 | trans-1,3-Dichloropropene | ND | 1.0 | 0.21 | ug/l | |
| 100-41-4 | Ethylbenzene | ND | 1.0 | 0.36 | ug/l | |
| 76-13-1 | Freon 113 | ND | 1.0 | 0.48 | ug/l | |
| 591-78-6 | 2-Hexanone | ND | 10 | 2.0 | ug/l | |
| 98-82-8 | Isopropylbenzene | ND | 1.0 | 0.22 | ug/l | |
| 79-20-9 | Methyl Acetate | ND | 20 | 5.0 | ug/l | |
| 74-83-9 | Methyl Bromide | ND | 5.0 | 2.0 | ug/l | |
| 74-87-3 | Methyl Chloride | ND | 2.0 | 0.50 | ug/l | |
| 108-87-2 | Methylcyclohexane | ND | 1.0 | 0.44 | ug/l | |
| 75-09-2 | Methylene Chloride | ND | 5.0 | 2.0 | ug/l | |

# Method Blank Summary

**Job Number:** FC15866
**Account:** EAENYS EA Engineering
**Project:** Former Seneca Army Depot; Romulus, NY

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| V1A3001-MB [a] | 1A55303.D | 1 | 05/23/24 | JW | n/a | n/a | V1A3001 |

**The QC reported here applies to the following samples:** **Method:** SW846 8260D

FC15866-1, FC15866-2, FC15866-3

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 108-10-1 | 4-Methyl-2-pentanone (MIBK) | ND | 5.0 | 1.0 | ug/l | |
| 1634-04-4 | Methyl Tert Butyl Ether | ND | 1.0 | 0.23 | ug/l | |
| 100-42-5 | Styrene | ND | 1.0 | 0.22 | ug/l | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ND | 1.0 | 0.30 | ug/l | |
| 127-18-4 | Tetrachloroethylene | ND | 1.0 | 0.22 | ug/l | |
| 108-88-3 | Toluene | ND | 1.0 | 0.30 | ug/l | |
| 87-61-6 | 1,2,3-Trichlorobenzene | ND | 2.0 | 0.61 | ug/l | |
| 120-82-1 | 1,2,4-Trichlorobenzene | ND | 2.0 | 0.50 | ug/l | |
| 71-55-6 | 1,1,1-Trichloroethane | ND | 1.0 | 0.25 | ug/l | |
| 79-00-5 | 1,1,2-Trichloroethane | ND | 1.0 | 0.47 | ug/l | |
| 79-01-6 | Trichloroethylene | ND | 1.0 | 0.35 | ug/l | |
| 75-69-4 | Trichlorofluoromethane | ND | 2.0 | 0.50 | ug/l | |
| 75-01-4 | Vinyl Chloride | ND | 1.0 | 0.41 | ug/l | |
| | m,p-Xylene | ND | 2.0 | 0.47 | ug/l | |
| 95-47-6 | o-Xylene | ND | 1.0 | 0.26 | ug/l | |

| CAS No. | Surrogate Recoveries | | Limits |
|---|---|---|---|
| 1868-53-7 | Dibromofluoromethane | 102% | 83-118% |
| 17060-07-0 | 1,2-Dichloroethane-D4 | 100% | 79-125% |
| 2037-26-5 | Toluene-D8 | 100% | 85-112% |
| 460-00-4 | 4-Bromofluorobenzene | 100% | 83-118% |

(a) Sample was treated with an anti-foaming agent.

# Blank Spike Summary



**Job Number:** FC15866
**Account:** EAENYS EA Engineering
**Project:** Former Seneca Army Depot; Romulus, NY

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| V1A3001-BS | 1A55300.D | 1 | 05/23/24 | JW | n/a | n/a | V1A3001 |

**The QC reported here applies to the following samples:** **Method:** SW846 8260D

FC15866-1, FC15866-2, FC15866-3

| CAS No. | Compound | Spike ug/l | BSP ug/l | BSP % | Limits |
|---|---|---|---|---|---|
| 67-64-1 | Acetone | 125 | 134 | 107 | 50-147 |
| 71-43-2 | Benzene | 25 | 24.6 | 98 | 81-122 |
| 74-97-5 | Bromochloromethane | 25 | 22.7 | 91 | 76-123 |
| 75-27-4 | Bromodichloromethane | 25 | 23.1 | 92 | 79-123 |
| 75-25-2 | Bromoform | 25 | 25.2 | 101 | 66-123 |
| 78-93-3 | 2-Butanone (MEK) | 125 | 124 | 99 | 56-143 |
| 75-15-0 | Carbon Disulfide | 25 | 24.9 | 100 | 66-148 |
| 56-23-5 | Carbon Tetrachloride | 25 | 25.1 | 100 | 76-136 |
| 108-90-7 | Chlorobenzene | 25 | 25.2 | 101 | 82-124 |
| 75-00-3 | Chloroethane | 25 | 28.0 | 112 | 62-144 |
| 67-66-3 | Chloroform | 25 | 24.0 | 96 | 80-124 |
| 110-82-7 | Cyclohexane | 25 | 24.2 | 97 | 73-138 |
| 124-48-1 | Dibromochloromethane | 25 | 26.7 | 107 | 78-122 |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | 25 | 28.0 | 112 | 64-123 |
| 106-93-4 | 1,2-Dibromoethane | 25 | 25.1 | 100 | 75-120 |
| 75-71-8 | Dichlorodifluoromethane | 25 | 28.0 | 112 | 42-167 |
| 95-50-1 | 1,2-Dichlorobenzene | 25 | 24.5 | 98 | 82-124 |
| 541-73-1 | 1,3-Dichlorobenzene | 25 | 23.9 | 96 | 84-125 |
| 106-46-7 | 1,4-Dichlorobenzene | 25 | 24.9 | 100 | 78-120 |
| 75-34-3 | 1,1-Dichloroethane | 25 | 24.2 | 97 | 81-122 |
| 107-06-2 | 1,2-Dichloroethane | 25 | 23.2 | 93 | 75-125 |
| 75-35-4 | 1,1-Dichloroethylene | 25 | 24.4 | 98 | 78-137 |
| 156-59-2 | cis-1,2-Dichloroethylene | 25 | 23.4 | 94 | 78-120 |
| 156-60-5 | trans-1,2-Dichloroethylene | 25 | 24.8 | 99 | 76-127 |
| 78-87-5 | 1,2-Dichloropropane | 25 | 25.8 | 103 | 76-124 |
| 10061-01-5 | cis-1,3-Dichloropropene | 25 | 25.0 | 100 | 75-118 |
| 10061-02-6 | trans-1,3-Dichloropropene | 25 | 25.1 | 100 | 80-120 |
| 100-41-4 | Ethylbenzene | 25 | 25.5 | 102 | 81-121 |
| 76-13-1 | Freon 113 | 25 | 25.1 | 100 | 72-134 |
| 591-78-6 | 2-Hexanone | 125 | 125 | 100 | 61-129 |
| 98-82-8 | Isopropylbenzene | 25 | 25.5 | 102 | 83-132 |
| 79-20-9 | Methyl Acetate | 125 | 119 | 95 | 65-126 |
| 74-83-9 | Methyl Bromide | 25 | 27.1 | 108 | 59-143 |
| 74-87-3 | Methyl Chloride | 25 | 25.0 | 100 | 50-159 |
| 108-87-2 | Methylcyclohexane | 25 | 23.8 | 95 | 76-129 |
| 75-09-2 | Methylene Chloride | 25 | 25.7 | 103 | 69-135 |

* = Outside of Control Limits.

# Blank Spike Summary

**Job Number:** FC15866
**Account:** EAENYS EA Engineering
**Project:** Former Seneca Army Depot; Romulus, NY

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| V1A3001-BS | 1A55300.D | 1 | 05/23/24 | JW | n/a | n/a | V1A3001 |



**The QC reported here applies to the following samples:** **Method:** SW846 8260D

FC15866-1, FC15866-2, FC15866-3

| CAS No. | Compound | Spike ug/l | BSP ug/l | BSP % | Limits |
|---|---|---|---|---|---|
| 108-10-1 | 4-Methyl-2-pentanone (MIBK) | 125 | 124 | 99 | 66-122 |
| 1634-04-4 | Methyl Tert Butyl Ether | 25 | 23.6 | 94 | 72-117 |
| 100-42-5 | Styrene | 25 | 26.6 | 106 | 78-119 |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 25 | 24.9 | 100 | 72-120 |
| 127-18-4 | Tetrachloroethylene | 25 | 26.4 | 106 | 76-135 |
| 108-88-3 | Toluene | 25 | 25.8 | 103 | 80-120 |
| 87-61-6 | 1,2,3-Trichlorobenzene | 25 | 24.9 | 100 | 68-131 |
| 120-82-1 | 1,2,4-Trichlorobenzene | 25 | 24.2 | 97 | 73-129 |
| 71-55-6 | 1,1,1-Trichloroethane | 25 | 24.3 | 97 | 75-130 |
| 79-00-5 | 1,1,2-Trichloroethane | 25 | 25.8 | 103 | 76-119 |
| 79-01-6 | Trichloroethylene | 25 | 24.3 | 97 | 81-126 |
| 75-69-4 | Trichlorofluoromethane | 25 | 25.4 | 102 | 71-156 |
| 75-01-4 | Vinyl Chloride | 25 | 25.6 | 102 | 69-159 |
| | m,p-Xylene | 50 | 51.0 | 102 | 79-126 |
| 95-47-6 | o-Xylene | 25 | 25.0 | 100 | 80-127 |

| CAS No. | Surrogate Recoveries | BSP | Limits |
|---|---|---|---|
| 1868-53-7 | Dibromofluoromethane | 97% | 83-118% |
| 17060-07-0 | 1,2-Dichloroethane-D4 | 98% | 79-125% |
| 2037-26-5 | Toluene-D8 | 103% | 85-112% |
| 460-00-4 | 4-Bromofluorobenzene | 98% | 83-118% |

* = Outside of Control Limits.

# Matrix Spike/Matrix Spike Duplicate Summary



**Job Number:** FC15866
**Account:** EAENYS EA Engineering
**Project:** Former Seneca Army Depot; Romulus, NY

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| FC15866-1MS | 1A55324.D | 1 | 05/23/24 | JW | n/a | n/a | V1A3001 |
| FC15866-1MSD | 1A55325.D | 1 | 05/23/24 | JW | n/a | n/a | V1A3001 |
| FC15866-1 | 1A55304.D | 1 | 05/23/24 | JW | n/a | n/a | V1A3001 |

**The QC reported here applies to the following samples:** **Method:** SW846 8260D

FC15866-1, FC15866-2, FC15866-3

| CAS No. | Compound | FC15866-1 ug/l | Q | Spike ug/l | MS ug/l | MS % | Spike ug/l | MSD ug/l | MSD % | RPD | Limits Rec/RPD |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 67-64-1 | Acetone | 25 U | | 125 | 124 | 99 | 125 | 124 | 99 | 0 | 50-147/21 |
| 71-43-2 | Benzene | 2.0 | | 25 | 27.0 | 100 | 25 | 26.8 | 99 | 1 | 81-122/14 |
| 74-97-5 | Bromochloromethane | 1.0 U | | 25 | 23.1 | 92 | 25 | 23.7 | 95 | 3 | 76-123/14 |
| 75-27-4 | Bromodichloromethane | 1.0 U | | 25 | 23.6 | 94 | 25 | 23.4 | 94 | 1 | 79-123/19 |
| 75-25-2 | Bromoform | 1.0 U | | 25 | 24.7 | 99 | 25 | 24.6 | 98 | 0 | 66-123/21 |
| 78-93-3 | 2-Butanone (MEK) | 5.0 U | | 125 | 125 | 100 | 125 | 121 | 97 | 3 | 56-143/18 |
| 75-15-0 | Carbon Disulfide | 2.0 U | | 25 | 25.5 | 102 | 25 | 25.8 | 103 | 1 | 66-148/23 |
| 56-23-5 | Carbon Tetrachloride | 1.0 U | | 25 | 25.3 | 101 | 25 | 26.6 | 106 | 5 | 76-136/23 |
| 108-90-7 | Chlorobenzene | 1.0 U | | 25 | 25.3 | 101 | 25 | 25.2 | 101 | 0 | 82-124/14 |
| 75-00-3 | Chloroethane | 2.0 U | | 25 | 24.9 | 100 | 25 | 30.5 | 122 | 20 | 62-144/20 |
| 67-66-3 | Chloroform | 1.0 U | | 25 | 24.6 | 98 | 25 | 24.6 | 98 | 0 | 80-124/15 |
| 110-82-7 | Cyclohexane | 1.0 U | | 25 | 26.4 | 106 | 25 | 26.6 | 106 | 1 | 73-138/18 |
| 124-48-1 | Dibromochloromethane | 1.0 U | | 25 | 26.1 | 104 | 25 | 25.7 | 103 | 2 | 78-122/19 |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | 5.0 U | | 25 | 29.9 | 120 | 25 | 28.8 | 115 | 4 | 64-123/18 |
| 106-93-4 | 1,2-Dibromoethane | 2.0 U | | 25 | 25.3 | 101 | 25 | 24.9 | 100 | 2 | 75-120/13 |
| 75-71-8 | Dichlorodifluoromethane | 2.0 U | | 25 | 25.2 | 101 | 25 | 32.3 | 129 | 25* | 42-167/19 |
| 95-50-1 | 1,2-Dichlorobenzene | 1.0 U | | 25 | 25.1 | 100 | 25 | 25.1 | 100 | 0 | 82-124/14 |
| 541-73-1 | 1,3-Dichlorobenzene | 1.0 U | | 25 | 25.6 | 102 | 25 | 25.3 | 101 | 1 | 84-125/14 |
| 106-46-7 | 1,4-Dichlorobenzene | 1.0 U | | 25 | 25.1 | 100 | 25 | 25.3 | 101 | 1 | 78-120/15 |
| 75-34-3 | 1,1-Dichloroethane | 1.0 U | | 25 | 23.9 | 96 | 25 | 23.9 | 96 | 0 | 81-122/15 |
| 107-06-2 | 1,2-Dichloroethane | 1.0 U | | 25 | 23.4 | 94 | 25 | 23.6 | 94 | 1 | 75-125/14 |
| 75-35-4 | 1,1-Dichloroethylene | 1.0 U | | 25 | 25.7 | 103 | 25 | 25.9 | 104 | 1 | 78-137/18 |
| 156-59-2 | cis-1,2-Dichloroethylene | 0.71 | J | 25 | 24.4 | 95 | 25 | 24.7 | 96 | 1 | 78-120/15 |
| 156-60-5 | trans-1,2-Dichloroethylene | 1.0 U | | 25 | 25.1 | 100 | 25 | 25.3 | 101 | 1 | 76-127/17 |
| 78-87-5 | 1,2-Dichloropropane | 1.0 U | | 25 | 26.1 | 104 | 25 | 26.0 | 104 | 0 | 76-124/14 |
| 10061-01-5 | cis-1,3-Dichloropropene | 1.0 U | | 25 | 23.3 | 93 | 25 | 23.5 | 94 | 1 | 75-118/23 |
| 10061-02-6 | trans-1,3-Dichloropropene | 1.0 U | | 25 | 23.8 | 95 | 25 | 23.8 | 95 | 0 | 80-120/22 |
| 100-41-4 | Ethylbenzene | 3.3 | | 25 | 29.5 | 105 | 25 | 29.3 | 104 | 1 | 81-121/14 |
| 76-13-1 | Freon 113 | 1.0 U | | 25 | 27.4 | 110 | 25 | 27.6 | 110 | 1 | 72-134/20 |
| 591-78-6 | 2-Hexanone | 10 U | | 125 | 141 | 113 | 125 | 133 | 106 | 6 | 61-129/18 |
| 98-82-8 | Isopropylbenzene | 0.32 | J | 25 | 26.5 | 105 | 25 | 26.1 | 103 | 2 | 83-132/15 |
| 79-20-9 | Methyl Acetate | 20 U | | 125 | 114 | 91 | 125 | 114 | 91 | 0 | 65-126/18 |
| 74-83-9 | Methyl Bromide | 5.0 U | | 25 | 20.1 | 80 | 25 | 26.1 | 104 | 26* | 59-143/19 |
| 74-87-3 | Methyl Chloride | 2.0 U | | 25 | 22.3 | 89 | 25 | 27.7 | 111 | 22* | 50-159/19 |
| 108-87-2 | Methylcyclohexane | 1.0 U | | 25 | 26.3 | 105 | 25 | 26.7 | 107 | 2 | 76-129/17 |
| 75-09-2 | Methylene Chloride | 5.0 U | | 25 | 24.4 | 98 | 25 | 23.6 | 94 | 3 | 69-135/16 |

* = Outside of Control Limits.

# Matrix Spike/Matrix Spike Duplicate Summary



**Job Number:** FC15866
**Account:** EAENYS EA Engineering
**Project:** Former Seneca Army Depot; Romulus, NY

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| FC15866-1MS | 1A55324.D | 1 | 05/23/24 | JW | n/a | n/a | V1A3001 |
| FC15866-1MSD | 1A55325.D | 1 | 05/23/24 | JW | n/a | n/a | V1A3001 |
| FC15866-1 | 1A55304.D | 1 | 05/23/24 | JW | n/a | n/a | V1A3001 |

**The QC reported here applies to the following samples:** **Method:** SW846 8260D

FC15866-1, FC15866-2, FC15866-3

| CAS No. | Compound | FC15866-1 ug/l | Q | Spike ug/l | MS ug/l | MS % | Spike ug/l | MSD ug/l | MSD % | RPD | Limits Rec/RPD |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 108-10-1 | 4-Methyl-2-pentanone (MIBK) | 5.0 U | | 125 | 133 | 106 | 125 | 127 | 102 | 5 | 66-122/16 |
| 1634-04-4 | Methyl Tert Butyl Ether | 1.0 U | | 25 | 23.3 | 93 | 25 | 23.6 | 94 | 1 | 72-117/14 |
| 100-42-5 | Styrene | 1.0 U | | 25 | 27.6 | 110 | 25 | 27.2 | 109 | 1 | 78-119/23 |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 1.0 U | | 25 | 25.4 | 102 | 25 | 25.3 | 101 | 0 | 72-120/14 |
| 127-18-4 | Tetrachloroethylene | 1.0 U | | 25 | 26.9 | 108 | 25 | 26.4 | 106 | 2 | 76-135/16 |
| 108-88-3 | Toluene | 0.36 | J | 25 | 26.4 | 104 | 25 | 26.2 | 103 | 1 | 80-120/14 |
| 87-61-6 | 1,2,3-Trichlorobenzene | 2.0 U | | 25 | 23.9 | 96 | 25 | 27.0 | 108 | 12 | 68-131/25 |
| 120-82-1 | 1,2,4-Trichlorobenzene | 2.0 U | | 25 | 24.5 | 98 | 25 | 25.9 | 104 | 6 | 73-129/20 |
| 71-55-6 | 1,1,1-Trichloroethane | 1.0 U | | 25 | 25.6 | 102 | 25 | 25.8 | 103 | 1 | 75-130/16 |
| 79-00-5 | 1,1,2-Trichloroethane | 1.0 U | | 25 | 25.6 | 102 | 25 | 25.2 | 101 | 2 | 76-119/14 |
| 79-01-6 | Trichloroethylene | 1.0 U | | 25 | 25.0 | 100 | 25 | 25.3 | 101 | 1 | 81-126/15 |
| 75-69-4 | Trichlorofluoromethane | 2.0 U | | 25 | 24.0 | 96 | 25 | 29.6 | 118 | 21 | 71-156/21 |
| 75-01-4 | Vinyl Chloride | 1.0 U | | 25 | 24.0 | 96 | 25 | 30.0 | 120 | 22* | 69-159/18 |
| | m,p-Xylene | 10.9 | | 50 | 63.4 | 105 | 50 | 63.3 | 105 | 0 | 79-126/15 |
| 95-47-6 | o-Xylene | 16.4 | | 25 | 41.8 | 102 | 25 | 41.7 | 101 | 0 | 80-127/14 |

| CAS No. | Surrogate Recoveries | MS | MSD | FC15866-1 | Limits |
|---|---|---|---|---|---|
| 1868-53-7 | Dibromofluoromethane | 97% | 98% | 101% | 83-118% |
| 17060-07-0 | 1,2-Dichloroethane-D4 | 98% | 99% | 99% | 79-125% |
| 2037-26-5 | Toluene-D8 | 102% | 102% | 101% | 85-112% |
| 460-00-4 | 4-Bromofluorobenzene | 101% | 101% | 100% | 83-118% |

* = Outside of Control Limits.

# Instrument Performance Check (BFB)



**Job Number:** FC15866
**Account:** EAENYS EA Engineering
**Project:** Former Seneca Army Depot; Romulus, NY

**Sample:** V1A2090-BFB
**Lab File ID:** 1A55021.D
**Instrument ID:** GCMS1A
**Injection Date:** 05/14/24
**Injection Time:** 08:03

| m/e | Ion Abundance Criteria | Raw Abundance | % Relative Abundance | | Pass/Fail |
|---|---|---|---|---|---|
| 95 | Base peak, 100% relative abundance | 44629 | 100.0 | | Pass |
| 96 | 5.0 - 9.0% of mass 95 | 3129 | 7.01 | | Pass |
| 173 | Less than 2.0% of mass 174 | 308 | 0.69 | (0.61) [a] | Pass |
| 174 | 50.0 - 200.0% of mass 95 | 50595 | 113.4 | | Pass |
| 175 | 5.0 - 9.0% of mass 174 | 3664 | 8.21 | (7.24) [a] | Pass |
| 176 | 95.0 - 105.0% of mass 174 | 49408 | 110.7 | (97.7) [a] | Pass |
| 177 | 5.0 - 10.0% of mass 176 | 3261 | 7.31 | (6.60) [b] | Pass |

(a) Value is % of mass 174
(b) Value is % of mass 176

**This check applies to the following Samples, MS, MSD, Blanks, and Standards:**

| Lab Sample ID | Lab File ID | Date Analyzed | Time Analyzed | Hours Lapsed | Client Sample ID |
|---|---|---|---|---|---|
| V1A2090-IC2090 | 1A55022.D | 05/14/24 | 08:27 | 00:24 | Initial cal 1 |
| V1A2090-IC2090 | 1A55023.D | 05/14/24 | 08:51 | 00:48 | Initial cal 8 |
| V1A2090-IC2090 | 1A55024.D | 05/14/24 | 09:15 | 01:12 | Initial cal 2 |
| V1A2090-IC2090 | 1A55025.D | 05/14/24 | 09:40 | 01:37 | Initial cal 3 |
| V1A2090-IC2090 | 1A55026.D | 05/14/24 | 10:04 | 02:01 | Initial cal 4 |
| V1A2090-IC2090 | 1A55027.D | 05/14/24 | 10:28 | 02:25 | Initial cal 6 |
| V1A2090-IC2090 | 1A55028.D | 05/14/24 | 10:52 | 02:49 | Initial cal 7 |
| V1A2090-ICC2090 | 1A55031.D | 05/14/24 | 11:47 | 03:44 | Initial cal 5 |
| V1A2090-ICV2090 | 1A55033.D | 05/14/24 | 12:54 | 04:51 | Initial cal verification 5 |
| V1A2090-BS | 1A55034A.D | 05/14/24 | 13:18 | 05:15 | Blank Spike |
| V1A2090-ICV2090 | 1A55034.D | 05/14/24 | 13:18 | 05:15 | Initial cal verification 4 |
| V1A2090-MB | 1A55036.D | 05/14/24 | 14:07 | 06:04 | Method Blank |
| ZZZZZZ | 1A55037.D | 05/14/24 | 14:31 | 06:28 | (unrelated sample) |
| FC15476-3 | 1A55038.D | 05/14/24 | 14:55 | 06:52 | (used for QC only; not part of job FC15866) |
| ZZZZZZ | 1A55039.D | 05/14/24 | 15:19 | 07:16 | (unrelated sample) |
| ZZZZZZ | 1A55040.D | 05/14/24 | 15:44 | 07:41 | (unrelated sample) |
| ZZZZZZ | 1A55041.D | 05/14/24 | 16:08 | 08:05 | (unrelated sample) |
| ZZZZZZ | 1A55042.D | 05/14/24 | 16:32 | 08:29 | (unrelated sample) |
| ZZZZZZ | 1A55043.D | 05/14/24 | 16:56 | 08:53 | (unrelated sample) |
| ZZZZZZ | 1A55045.D | 05/14/24 | 17:44 | 09:41 | (unrelated sample) |
| FC15476-3MS | 1A55046.D | 05/14/24 | 18:09 | 10:06 | Matrix Spike |
| FC15476-3MSD | 1A55047.D | 05/14/24 | 18:33 | 10:30 | Matrix Spike Duplicate |
| V1A2090-ECC2090 | 1A55048.D | 05/14/24 | 18:57 | 10:54 | Ending cal 5 |

# Instrument Performance Check (BFB)



**Job Number:** FC15866
**Account:** EAENYS EA Engineering
**Project:** Former Seneca Army Depot; Romulus, NY

**Sample:** V1A3001-BFB
**Lab File ID:** 1A55298.D
**Instrument ID:** GCMS1A
**Injection Date:** 05/23/24
**Injection Time:** 07:36

| m/e | Ion Abundance Criteria | Raw Abundance | % Relative Abundance | | Pass/Fail |
|---|---|---|---|---|---|
| 95 | Base peak, 100% relative abundance | 44291 | 100.0 | | Pass |
| 96 | 5.0 - 9.0% of mass 95 | 3128 | 7.06 | | Pass |
| 173 | Less than 2.0% of mass 174 | 371 | 0.84 | (0.77) [a] | Pass |
| 174 | 50.0 - 200.0% of mass 95 | 48456 | 109.4 | | Pass |
| 175 | 5.0 - 9.0% of mass 174 | 3373 | 7.62 | (6.96) [a] | Pass |
| 176 | 95.0 - 105.0% of mass 174 | 46597 | 105.2 | (96.2) [a] | Pass |
| 177 | 5.0 - 10.0% of mass 176 | 3268 | 7.38 | (7.01) [b] | Pass |

(a) Value is % of mass 174
(b) Value is % of mass 176

**This check applies to the following Samples, MS, MSD, Blanks, and Standards:**

| Lab Sample ID | Lab File ID | Date Analyzed | Time Analyzed | Hours Lapsed | Client Sample ID |
|---|---|---|---|---|---|
| V1A3001-CC2090 | 1A55299.D | 05/23/24 | 08:00 | 00:24 | Continuing cal 4 |
| V1A3001-BS | 1A55300.D | 05/23/24 | 08:24 | 00:48 | Blank Spike |
| V1A3001-MB | 1A55303.D | 05/23/24 | 09:37 | 02:01 | Method Blank |
| FC15866-1 | 1A55304.D | 05/23/24 | 10:01 | 02:25 | MW25-31S-05202024 |
| ZZZZZZ | 1A55305.D | 05/23/24 | 10:25 | 02:49 | (unrelated sample) |
| ZZZZZZ | 1A55306.D | 05/23/24 | 10:49 | 03:13 | (unrelated sample) |
| ZZZZZZ | 1A55307.D | 05/23/24 | 11:14 | 03:38 | (unrelated sample) |
| ZZZZZZ | 1A55308.D | 05/23/24 | 11:38 | 04:02 | (unrelated sample) |
| ZZZZZZ | 1A55309.D | 05/23/24 | 12:02 | 04:26 | (unrelated sample) |
| ZZZZZZ | 1A55310.D | 05/23/24 | 12:26 | 04:50 | (unrelated sample) |
| FC15866-3 | 1A55311.D | 05/23/24 | 12:50 | 05:14 | TB |
| FC15866-2 | 1A55312.D | 05/23/24 | 13:14 | 05:38 | DUP-01-05202024 |
| ZZZZZZ | 1A55313.D | 05/23/24 | 13:39 | 06:03 | (unrelated sample) |
| ZZZZZZ | 1A55314.D | 05/23/24 | 14:03 | 06:27 | (unrelated sample) |
| ZZZZZZ | 1A55315.D | 05/23/24 | 14:27 | 06:51 | (unrelated sample) |
| ZZZZZZ | 1A55316.D | 05/23/24 | 14:51 | 07:15 | (unrelated sample) |
| ZZZZZZ | 1A55317.D | 05/23/24 | 15:15 | 07:39 | (unrelated sample) |
| ZZZZZZ | 1A55318.D | 05/23/24 | 15:40 | 08:04 | (unrelated sample) |
| ZZZZZZ | 1A55319.D | 05/23/24 | 16:04 | 08:28 | (unrelated sample) |
| ZZZZZZ | 1A55320.D | 05/23/24 | 16:28 | 08:52 | (unrelated sample) |
| ZZZZZZ | 1A55321.D | 05/23/24 | 16:52 | 09:16 | (unrelated sample) |
| ZZZZZZ | 1A55322.D | 05/23/24 | 17:16 | 09:40 | (unrelated sample) |
| ZZZZZZ | 1A55323.D | 05/23/24 | 17:40 | 10:04 | (unrelated sample) |
| FC15866-1MS | 1A55324.D | 05/23/24 | 18:05 | 10:29 | Matrix Spike |
| FC15866-1MSD | 1A55325.D | 05/23/24 | 18:29 | 10:53 | Matrix Spike Duplicate |
| V1A3001-ECC2090 | 1A55326.D | 05/23/24 | 18:53 | 11:17 | Ending cal 4 |

# Internal Standard Area Summary



**Job Number:** FC15866
**Account:** EAENYS EA Engineering
**Project:** Former Seneca Army Depot; Romulus, NY

| | | | |
|---|---|---|---|
| **Check Std:** | V1A3001-CC2090 | **Injection Date:** | 05/23/24 |
| **Lab File ID:** | 1A55299.D | **Injection Time:** | 08:00 |
| **Instrument ID:** | GCMS1A | **Method:** | SW846 8260D |

| | IS 1 AREA | RT | IS 2 AREA | RT | IS 3 AREA | RT |
|---|---|---|---|---|---|---|
| Initial Cal [a] | 212456 | 3.40 | 164913 | 5.35 | 95526 | 7.09 |
| Check Std [b] | 216760 | 3.40 | 160321 | 5.35 | 91953 | 7.09 |
| Upper Limit [c] | 433520 | 3.57 | 320642 | 5.52 | 183906 | 7.26 |
| Lower Limit [d] | 108380 | 3.23 | 80161 | 5.18 | 45977 | 6.92 |

| Lab Sample ID | IS 1 AREA | RT | IS 2 AREA | RT | IS 3 AREA | RT |
|---|---|---|---|---|---|---|
| V1A3001-BS | 214935 | 3.40 | 156956 | 5.35 | 90471 | 7.09 |
| V1A3001-MB [e] | 206264 | 3.40 | 157415 | 5.35 | 88018 | 7.09 |
| FC15866-1 | 204454 | 3.40 | 152246 | 5.35 | 85427 | 7.09 |
| ZZZZZZ | 205695 | 3.40 | 157179 | 5.35 | 87249 | 7.09 |
| ZZZZZZ | 201380 | 3.40 | 151258 | 5.35 | 84534 | 7.09 |
| ZZZZZZ | 202831 | 3.40 | 153157 | 5.35 | 84655 | 7.09 |
| ZZZZZZ | 201138 | 3.40 | 153450 | 5.35 | 83808 | 7.09 |
| ZZZZZZ | 199003 | 3.40 | 150610 | 5.35 | 82370 | 7.09 |
| ZZZZZZ | 201053 | 3.40 | 151836 | 5.35 | 84583 | 7.09 |
| FC15866-3 | 194270 | 3.40 | 146790 | 5.35 | 82294 | 7.09 |
| FC15866-2 | 197769 | 3.40 | 149845 | 5.35 | 86060 | 7.09 |
| ZZZZZZ | 200529 | 3.40 | 152002 | 5.35 | 85260 | 7.09 |
| ZZZZZZ | 197009 | 3.40 | 149382 | 5.35 | 83366 | 7.09 |
| ZZZZZZ | 197408 | 3.40 | 149694 | 5.35 | 82651 | 7.09 |
| ZZZZZZ | 196469 | 3.40 | 150058 | 5.35 | 84410 | 7.09 |
| ZZZZZZ | 199968 | 3.40 | 150521 | 5.35 | 85171 | 7.09 |
| ZZZZZZ | 197309 | 3.40 | 149432 | 5.35 | 83418 | 7.09 |
| ZZZZZZ | 196039 | 3.40 | 148425 | 5.35 | 82992 | 7.09 |
| ZZZZZZ | 197643 | 3.40 | 151403 | 5.35 | 84214 | 7.09 |
| ZZZZZZ | 191990 | 3.40 | 147081 | 5.35 | 83037 | 7.09 |
| ZZZZZZ | 193396 | 3.40 | 148977 | 5.35 | 83229 | 7.09 |
| ZZZZZZ | 195664 | 3.40 | 149625 | 5.35 | 81685 | 7.09 |
| FC15866-1MS | 212150 | 3.40 | 155064 | 5.35 | 88059 | 7.09 |
| FC15866-1MSD | 212819 | 3.40 | 158341 | 5.35 | 89129 | 7.09 |
| V1A3001-ECC2090 | 214039 | 3.40 | 156173 | 5.35 | 90836 | 7.09 |

**IS 1** = Fluorobenzene
**IS 2** = Chlorobenzene-D5
**IS 3** = 1,4-Dichlorobenzene-d4

(a) Initial Cal is: V1A2090-ICC2090 1A55031.D 05/14/24 11:47
(b) Check Std Limit = -50 to + 100% of initial cal area.
(c) Upper Limit = + 100% of check standard area; Retention time + 0.167 minutes.

# Internal Standard Area Summary



**Job Number:** FC15866
**Account:** EAENYS EA Engineering
**Project:** Former Seneca Army Depot; Romulus, NY

| | | | |
|---|---|---|---|
| **Check Std:** | V1A3001-CC2090 | **Injection Date:** | 05/23/24 |
| **Lab File ID:** | 1A55299.D | **Injection Time:** | 08:00 |
| **Instrument ID:** | GCMS1A | **Method:** | SW846 8260D |

| Lab Sample ID | IS 1 AREA | IS 1 RT | IS 2 AREA | IS 2 RT | IS 3 AREA | IS 3 RT |
|---|---|---|---|---|---|---|

(d) Lower Limit = -50% of check standard area; Retention time -0.167 minutes.
(e) Sample was treated with an anti-foaming agent.

# Surrogate Recovery Summary



**Job Number:** FC15866
**Account:** EAENYS EA Engineering
**Project:** Former Seneca Army Depot; Romulus, NY

**Method:** SW846 8260D **Matrix:** AQ

**Samples and QC shown here apply to the above method**

| Lab Sample ID | Lab File ID | S1 | S2 | S3 | S4 |
|---|---|---|---|---|---|
| FC15866-1 | 1A55304.D | 101 | 99 | 101 | 100 |
| FC15866-2 | 1A55312.D | 102 | 100 | 100 | 100 |
| FC15866-3 | 1A55311.D | 101 | 101 | 100 | 99 |
| FC15866-1MS | 1A55324.D | 97 | 98 | 102 | 101 |
| FC15866-1MSD | 1A55325.D | 98 | 99 | 102 | 101 |
| V1A3001-BS | 1A55300.D | 97 | 98 | 103 | 98 |
| V1A3001-MB | 1A55303.D | 102 | 100 | 100 | 100 |

| Surrogate Compounds | Recovery Limits |
|---|---|
| **S1** = Dibromofluoromethane | 83-118% |
| **S2** = 1,2-Dichloroethane-D4 | 79-125% |
| **S3** = Toluene-D8 | 85-112% |
| **S4** = 4-Bromofluorobenzene | 83-118% |

# Initial Calibration Summary



**Job Number:** FC15866
**Account:** EAENYS EA Engineering
**Project:** Former Seneca Army Depot; Romulus, NY

**Sample:** V1A2090-ICC2090
**Lab FileID:** 1A55031.D

Response Factor Report MSVOA17

Method : C:\msdchem\1\MET...A2090_05142024.M (RTE Integrator)
Title : SW-846 Method 5035A/8260B
Last Update : Tue May 14 12:44:06 2024
Response via : Initial Calibration

Calibration Files
1 =1A55022.D 2 =1A55024.D 3 =1A55025.D 4 =1A55026.D
5 =1A55031.D 6 =1A55027.D 7 =1A55028.D 8 =1A55023.D

| Compound | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | Avg | %RSD |
|---|---|---|---|---|---|---|---|---|---|---|
| 1) I Fluorobenzene | ISTD | | | | | | | | | |
| 2) Dichlorodifl | 0.132 | 0.192 | 0.177 | 0.177 | 0.185 | 0.187 | 0.179 | 0.171 | 0.175 | 10.69 |
| 3) Chloromethan | 0.186 | 0.173 | 0.173 | 0.167 | 0.168 | 0.173 | 0.166 | 0.201 | 0.176 | 6.79 |
| 4) 1,3-butadien | 0.096 | 0.145 | 0.149 | 0.152 | 0.156 | 0.158 | 0.156 | 0.142 | 0.144 | 14.07 |
| 5) Vinyl Chlori | 0.201 | 0.209 | 0.204 | 0.198 | 0.207 | 0.209 | 0.203 | 0.218 | 0.206 | 2.86 |
| 6) Bromomethane | 0.094 | 0.115 | 0.110 | 0.112 | 0.121 | 0.115 | 0.108 | 0.114 | 0.111 | 7.11 |
| 7) Chloroethane | 0.109 | 0.127 | 0.121 | 0.119 | 0.122 | 0.114 | 0.101 | 0.126 | 0.118 | 7.61 |
| 8) Trichloroflu | 0.315 | 0.366 | 0.346 | 0.345 | 0.355 | 0.357 | 0.344 | 0.351 | 0.347 | 4.25 |
| 9) Ethyl Ether | 0.114 | 0.143 | 0.152 | 0.150 | 0.154 | 0.150 | 0.149 | 0.155 | 0.146 | 9.15 |
| 10) Ethanol | | 0.000 | 0.000 | 0.001 | 0.001 | 0.001 | 0.001 | | 0.001 | 24.38 |
| ---- Quadratic regr., Force(0,0) ---- Coefficient = 0.9920 | | | | | | | | | | |
| Response Ratio = 0.00000 + 0.00051 *A + 0.00000 *A^2 | | | | | | | | | | |
| 11) 1,2-Dichloro | 0.197 | 0.249 | 0.253 | 0.239 | 0.243 | 0.249 | 0.242 | 0.241 | 0.239 | 7.45 |
| 12) 1,1-Dichloro | 0.257 | 0.299 | 0.315 | 0.297 | 0.312 | 0.314 | 0.307 | 0.307 | 0.301 | 6.27 |
| 13) Freon 113 | 0.189 | 0.252 | 0.265 | 0.250 | 0.254 | 0.258 | 0.250 | 0.263 | 0.248 | 9.84 |
| 14) Carbon Disul | 0.621 | 0.659 | 0.707 | 0.656 | 0.687 | 0.689 | 0.645 | 0.725 | 0.674 | 5.11 |
| 15) Iodomethane | | 0.150 | 0.198 | 0.224 | 0.261 | 0.290 | 0.287 | | 0.235 | 23.52 |
| ---- Quadratic regr., Force(0,0) ---- Coefficient = 0.9964 | | | | | | | | | | |
| Response Ratio = 0.00000 + 0.21293 *A + 0.04232 *A^2 | | | | | | | | | | |
| 16) Acrolein | 0.019 | 0.027 | 0.022 | 0.024 | 0.025 | 0.025 | 0.025 | 0.023 | 0.024 | 10.44 |
| 17) Allyl chlori | 0.198 | 0.229 | 0.223 | 0.225 | 0.230 | 0.240 | 0.237 | 0.247 | 0.229 | 6.49 |
| 18) Methylene Ch | | 0.420 | 0.329 | 0.258 | 0.248 | 0.224 | 0.220 | | 0.283 | 27.37 |
| ---- Linear regr., Force(0,0) ---- Coefficient = 0.9992 | | | | | | | | | | |
| Response Ratio = 0.00000 + 0.23794 *A | | | | | | | | | | |
| 19) Acetone | | 0.028 | 0.026 | 0.028 | 0.027 | 0.027 | 0.026 | 0.028 | 0.027 | 3.13 |
| 20) Methyl aceta | 0.073 | 0.084 | 0.085 | 0.086 | 0.088 | 0.085 | 0.085 | 0.087 | 0.084 | 5.54 |
| 21) trans-1,2-Di | 0.277 | 0.290 | 0.317 | 0.299 | 0.314 | 0.318 | 0.306 | 0.325 | 0.306 | 5.34 |
| 22) Hexane | 0.136 | 0.188 | 0.193 | 0.195 | 0.198 | 0.198 | 0.193 | 0.187 | 0.186 | 11.05 |
| 23) Methyl Tert | 0.377 | 0.463 | 0.475 | 0.508 | 0.525 | 0.510 | 0.512 | 0.471 | 0.480 | 9.85 |
| 24) Acetonitrile | | 0.016 | 0.013 | 0.011 | 0.010 | 0.010 | 0.010 | 0.023 | 0.013 | 36.53 |
| ---- Linear regr., Force(0,0) ---- Coefficient = 0.9995 | | | | | | | | | | |
| Response Ratio = 0.00000 + 0.01049 *A | | | | | | | | | | |
| 25) Tert Butyl A | | 0.008 | 0.007 | 0.009 | 0.008 | 0.009 | 0.010 | 0.008 | 0.008 | 12.40 |
| 26) Di-isopropyl | 0.403 | 0.470 | 0.513 | 0.522 | 0.555 | 0.535 | 0.546 | 0.489 | 0.504 | 9.88 |
| 27) Chloroprene | 0.409 | 0.539 | 0.525 | 0.521 | 0.534 | 0.539 | 0.528 | 0.533 | 0.516 | 8.48 |
| 28) 1,1-Dichloro | 0.366 | 0.398 | 0.422 | 0.390 | 0.402 | 0.405 | 0.399 | 0.405 | 0.398 | 3.96 |
| 29) Acrylonitril | 0.042 | 0.055 | 0.053 | 0.054 | 0.056 | 0.054 | 0.053 | 0.054 | 0.053 | 8.74 |
| 30) ETBE | 0.429 | 0.514 | 0.561 | 0.575 | 0.606 | 0.591 | 0.596 | 0.531 | 0.551 | 10.63 |
| 31) Vinyl acetat | 0.189 | 0.259 | 0.261 | 0.277 | 0.285 | 0.290 | 0.291 | 0.250 | 0.263 | 12.81 |
| 32) cis-1,2-Dich | 0.256 | 0.286 | 0.296 | 0.279 | 0.291 | 0.291 | 0.286 | 0.306 | 0.286 | 5.16 |
| 33) 2,2-Dichloro | 0.277 | 0.292 | 0.319 | 0.295 | 0.303 | 0.317 | 0.314 | 0.298 | 0.302 | 4.71 |
| 34) Bromochlorom | 0.137 | 0.154 | 0.161 | 0.153 | 0.162 | 0.158 | 0.155 | 0.162 | 0.155 | 5.33 |

```
35) Cyclohexane  0.286 0.354 0.379 0.370 0.381 0.383 0.376 0.350 0.360   8.94
36) Chloroform   0.399 0.413 0.464 0.435 0.444 0.447 0.436 0.472 0.439   5.54
37) Ethyl acetat 0.072 0.106 0.099 0.108 0.109 0.107 0.110 0.099 0.101  12.37
38) Tetrahydrofu       0.035 0.030 0.034 0.034 0.032 0.031 0.022 0.031  14.11
39) Dibromofluor 0.285 0.281 0.285 0.280 0.274 0.276 0.279 0.287 0.281   1.61
40) Carbon Tetra 0.324 0.391 0.413 0.370 0.397 0.385 0.383 0.420 0.386   7.69
41) 1,1,1-Trichl 0.336 0.388 0.405 0.392 0.399 0.412 0.398 0.425 0.394   6.70
42) 2-Butanone   0.031 0.047 0.041 0.046 0.046 0.045 0.047 0.042 0.043  12.42
43) 1,1-Dichloro 0.259 0.293 0.316 0.301 0.315 0.320 0.310 0.294 0.301   6.62
44) tert-Butyl f       0.121 0.112 0.132 0.135 0.134 0.140 0.103 0.125  11.05
45) Propionitril 0.014 0.017 0.016 0.017 0.016 0.016 0.016 0.017 0.016   6.12
46) Methacryloni 0.056 0.071 0.067 0.071 0.071 0.070 0.069 0.070 0.068   7.28
47) Benzene      0.872 0.950 1.020 0.955 0.988 0.995 0.970 1.035 0.973   5.17
48) TAME         0.371 0.461 0.474 0.505 0.537 0.528 0.538 0.462 0.484  11.60
49) 1,2-Dichloro 0.233 0.233 0.231 0.238 0.239 0.246 0.251 0.239 0.239   2.86
50) 1,2-Dichloro 0.278 0.258 0.271 0.259 0.269 0.264 0.262 0.274 0.267   2.73
51) Isobutyl Alc 0.006 0.009 0.008 0.009 0.009 0.010 0.010 0.009 0.009  13.14
52) Tert Amyl Al       0.005 0.005 0.006 0.006 0.007 0.008 0.005 0.006  21.62
            ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9972
              Response Ratio = 0.00000 + 0.00454 *A + 0.00017 *A^2

53) Trichloroeth 0.247 0.271 0.290 0.275 0.279 0.284 0.279 0.289 0.277   4.96
54) Methylcycloh 0.299 0.418 0.441 0.438 0.462 0.463 0.457 0.409 0.423  12.78
55) Dibromometha 0.114 0.138 0.141 0.140 0.145 0.142 0.140 0.141 0.138   7.18
56) 1,2-Dichloro 0.170 0.213 0.225 0.217 0.225 0.223 0.220 0.217 0.214   8.53
57) Bromodichlor 0.276 0.305 0.309 0.312 0.321 0.320 0.319 0.319 0.310   4.80
58) Methyl metha       0.073 0.081 0.086 0.096 0.094 0.098       0.088  10.82
59) 1,4-Dioxane        0.001 0.001 0.001 0.001 0.001 0.001       0.001  22.18
            ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9991
              Response Ratio = 0.00000 + 0.00063 *A + 0.00001 *A^2

60) 2-Chloroethy 0.060 0.089 0.084 0.099 0.107 0.099 0.103 0.076 0.090  17.71
            ---- Linear regr., Force(0,0) ----  Coefficient =  0.9983
              Response Ratio = 0.00000 + 0.10075 *A

61) cis-1,3-Dich 0.247 0.317 0.337 0.341 0.360 0.357 0.359 0.320 0.330  11.35

62) I   Chlorobenzene-d5      ----------------ISTD---------------------
63) Toluene-d8   1.258 1.282 1.285 1.296 1.304 1.312 1.317 1.272 1.291   1.58
64) Toluene      1.220 1.309 1.410 1.366 1.411 1.424 1.400 1.379 1.365   5.05
65) 2-Nitropropa 0.021 0.030 0.030 0.034 0.035 0.036 0.037 0.030 0.032  15.90
            ---- Linear regr., Force(0,0) ----  Coefficient =  0.9987
              Response Ratio = 0.00000 + 0.03543 *A

66) 4-Methyl-2-p 0.088 0.117 0.112 0.138 0.145 0.139 0.145 0.112 0.124  16.47
            ---- Linear regr., Force(0,0) ----  Coefficient =  0.9981
              Response Ratio = 0.00000 + 0.14029 *A

67) trans-1,3-Di 0.277 0.338 0.354 0.371 0.391 0.390 0.396 0.345 0.358  10.99
68) Tetrachloroe 0.397 0.467 0.503 0.470 0.490 0.493 0.487 0.493 0.475   7.14
69) Ethyl methac       0.205 0.216 0.249 0.263 0.260 0.262       0.242  10.56
70) 1,1,2-Trichl 0.144 0.211 0.211 0.210 0.215 0.213 0.210 0.211 0.203  11.86
71) Dibromochlor 0.248 0.329 0.340 0.340 0.362 0.359 0.360 0.350 0.336  11.10
72) 1,3-Dichloro 0.336 0.376 0.385 0.389 0.398 0.385 0.382 0.378 0.379   4.89
73) 1,2-Dibromoe 0.232 0.267 0.275 0.274 0.286 0.283 0.278 0.277 0.271   6.27
74) 3,3-Dimethyl 0.006 0.009 0.009 0.013 0.013 0.015 0.018 0.009 0.011  35.39
            ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9986
              Response Ratio = 0.00000 + 0.00894 *A + 0.00009 *A^2

75) 2-hexanone         0.088 0.084 0.106 0.111 0.111 0.117 0.078 0.099  15.55
```

# Initial Calibration Summary

**Job Number:** FC15866
**Account:** EAENYS EA Engineering
**Project:** Former Seneca Army Depot; Romulus, NY

**Sample:** V1A2090-ICC2090
**Lab FileID:** 1A55031.D

```
             ---- Linear regr., Force(0,0) ----  Coefficient =  0.9975
               Response Ratio = 0.00000 + 0.11105 *A

 76) 1-Chlorohexa 0.399 0.426 0.427 0.436 0.435 0.442 0.438 0.454 0.432   3.70
 77) Ethylbenzene 1.278 1.434 1.545 1.492 1.547 1.536 1.509 1.485 1.478   6.03
 78) Chlorobenzen 0.857 0.946 0.977 0.942 0.963 0.967 0.950 0.987 0.949   4.23
 79) 1,1,1,2-Tetr 0.293 0.344 0.362 0.355 0.371 0.369 0.370 0.351 0.352   7.30
 80) m,p-Xylene   0.949 1.132 1.213 1.194 1.222 1.224 1.195 1.184 1.164   7.89
 81) o-Xylene     1.005 1.126 1.193 1.192 1.241 1.236 1.212 1.167 1.172   6.57
 82) Styrene      0.640 0.870 0.921 0.935 0.986 0.977 0.972 0.839 0.892  12.85
 83) Bromoform    0.168 0.200 0.204 0.219 0.221 0.224 0.222 0.201 0.207   9.04
 84) Isopropylben 1.192 1.468 1.556 1.533 1.599 1.584 1.553 1.500 1.498   8.73

 85) I   1,4-Dichlorobenzene-d ----------------ISTD--------------------
 86) 4-Bromofluor 0.847 0.850 0.856 0.849 0.879 0.871 0.884 0.846 0.860   1.79
 87) cis-1,4-Dich       0.091 0.087 0.094 0.099 0.099 0.101       0.095   5.62
 88) n-Propylbenz 2.386 2.745 2.921 2.824 2.997 2.994 2.980 2.807 2.832   7.19
 89) Bromobenzene 0.649 0.739 0.728 0.720 0.763 0.747 0.749 0.782 0.735   5.40
 90) 1,1,2,2-Tetr 0.381 0.430 0.427 0.443 0.451 0.442 0.449 0.481 0.438   6.47
 91) 1,3,5-Trimet 1.618 2.017 2.120 2.132 2.273 2.236 2.236 1.966 2.075  10.31
 92) 2-Chlorotolu 1.444 1.641 1.661 1.610 1.719 1.690 1.700 1.723 1.649   5.53
 93) trans-1,4-Di       0.103 0.111 0.120 0.130 0.126 0.129 0.102 0.117  10.18
 94) 1,2,3-Trichl 0.128 0.131 0.129 0.132 0.136 0.136 0.140 0.132 0.133   3.04
 95) Cyclohexanon       0.002 0.004 0.005 0.006 0.007 0.008       0.005  35.42
             ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9982
               Response Ratio = 0.00000 + 0.00397 *A + 0.00041 *A^2

 96) 4-Chlorotolu 1.476 1.695 1.743 1.700 1.800 1.767 1.771 1.726 1.710   5.91
 97) tert-Butylbe 0.867 1.097 1.098 1.106 1.178 1.157 1.159 1.090 1.094   8.94
 98) 1,2,4-Trimet 1.544 1.902 1.965 2.031 2.173 2.140 2.141 1.816 1.964  10.76
 99) Pentachloroe 0.315 0.364 0.388 0.406 0.419 0.425 0.432 0.384 0.392   9.88
100) sec-Butylben 1.974 2.555 2.653 2.652 2.852 2.766 2.777 2.511 2.593  10.61
101) 4-Isopropylt 1.627 2.202 2.262 2.281 2.460 2.411 2.422 2.081 2.218  12.18
102) 1,3-Dichloro 1.207 1.391 1.348 1.330 1.392 1.342 1.349 1.394 1.344   4.53
103) 1,2,3-Trimet 1.483 1.843 1.904 1.888 2.013 1.983 1.990 1.949 1.881   9.09
104) 1,4-Dichloro 1.238 1.366 1.352 1.309 1.363 1.342 1.330 1.432 1.342   4.10
105) n-Butylbenze 0.605 0.864 0.874 0.899 0.991 0.962 0.986 0.825 0.876  14.28
106) Benzyl Chlor      0.159 0.161 0.179 0.185 0.197 0.206 0.138 0.175  13.48
107) 1,2-Dichloro 0.999 1.167 1.163 1.139 1.185 1.164 1.168 1.249 1.154   6.12
108) 1,2-Dibromo-      0.044 0.042 0.046 0.051 0.051 0.053 0.036 0.046  13.08
109) Hexachlorobu 0.339 0.377 0.364 0.359 0.401 0.379 0.378 0.383 0.372   4.97
110) 1,2,4-Trichl 0.455 0.581 0.577 0.593 0.641 0.648 0.689 0.588 0.597  11.66
111) Naphthalene       0.754 0.760 0.879 0.952 1.031 1.165       0.924  17.36
             ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9997
               Response Ratio = 0.00000 + 0.76742 *A + 0.19798 *A^2

112) 1,2,3-Trichl 0.354 0.442 0.441 0.467 0.501 0.498 0.553 0.457 0.464  12.49
 ---------------------------------------------------------------------------
 (#) = Out of Range  ###  Number of calibration levels exceeded format  ###

           V1A2090_05142024.M        Tue May 14 13:37:54 2024
```

# Initial Calibration Verification



**Job Number:** FC15866
**Account:** EAENYS EA Engineering
**Project:** Former Seneca Army Depot; Romulus, NY

**Sample:** V1A2090-ICV2090
**Lab FileID:** 1A55033.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\05-14-2024\1A55033.D Vial: 13
Acq On : 14 May 2024 12:54 pm Operator: jeniferw
Sample : ICV2090-5 Inst : MSVOA17
Misc : MS56557,V1A2090,,,,, Multiplr: 1.00
MS Integration Params: med.p

Method : C:\msdchem\1\MET...A2090_05142024.M (RTE Integrator)
Title : SW-846 Method 5035A/8260B
Last Update : Tue May 14 12:44:06 2024
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) | R.T. |
|---|---|---|---|---|---|---|---|
| 1 I | Fluorobenzene | 1.000 | 1.000 | 0.0 | 101 | 0.00 | 3.40 |
| 2 | Dichlorodifluoromethane | 0.175 | 0.243 | -38.9# | 133 | 0.00 | 1.02 |
| 3 | Chloromethane | 0.176 | 0.189 | -7.4 | 114 | 0.00 | 1.13 |
| 4 | 1,3-butadiene | 0.144 | 0.155 | -7.6 | 100 | 0.00 | 1.18 |
| 5 | Vinyl Chloride | 0.206 | 0.224 | -8.7 | 109 | 0.00 | 1.17 |
| 6 | Bromomethane | 0.111 | 0.124 | -11.7 | 103 | 0.00 | 1.34 |
| 7 | Chloroethane | 0.118 | 0.123 | -4.2 | 102 | 0.00 | 1.41 |
| 8 | Trichlorofluoromethane | 0.347 | 0.362 | -4.3 | 103 | 0.00 | 1.50 |
| 9 | Ethyl Ether | 0.146 | 0.157 | -7.5 | 103 | 0.00 | 1.65 |
| | | Amount | Calc. | %Drift | | | |
| 10 | Ethanol | 800.000 | 829.250 | -3.7 | 114 | 0.00 | 1.70 |
| | | AvgRF | CCRF | %Dev | | | |
| 11 | 1,2-Dichlorotrifluoroetha | 0.239 | 0.256 | -7.1 | 106 | 0.00 | 1.74 |
| 12 | 1,1-Dichloroethene | 0.301 | 0.312 | -3.7 | 101 | 0.00 | 1.76 |
| 13 | Freon 113 | 0.248 | 0.268 | -8.1 | 107 | 0.00 | 1.78 |
| 14 | Carbon Disulfide | 0.674 | 0.666 | 1.2 | 98 | 0.00 | 1.78 |
| | | Amount | Calc. | %Drift | | | |
| 15 | Iodomethane | 40.000 | 39.819 | 0.5 | 95 | 0.00 | 1.83 |
| | | AvgRF | CCRF | %Dev | | | |
| 16 | Acrolein | 0.024 | 0.025 | -4.2 | 104 | 0.00 | 1.90 |
| 17 | Allyl chloride | 0.229 | 0.235 | -2.6 | 103 | 0.00 | 2.00 |
| | | Amount | Calc. | %Drift | | | |
| 18 | Methylene Chloride | 40.000 | 39.108 | 2.2 | 95 | 0.00 | 2.04 |
| | | AvgRF | CCRF | %Dev | | | |
| 19 | Acetone | 0.027 | 0.030 | -11.1 | 112 | 0.00 | 2.04 |
| 20 | Methyl acetate | 0.084 | 0.082 | 2.4 | 94 | 0.00 | 2.12 |
| 21 | trans-1,2-Dichloroethene | 0.306 | 0.311 | -1.6 | 100 | 0.00 | 2.13 |
| 22 | Hexane | 0.186 | 0.204 | -9.7 | 104 | 0.00 | 2.20 |
| 23 | Methyl Tert Butyl Ether | 0.480 | 0.515 | -7.3 | 99 | 0.00 | 2.19 |
| | | Amount | Calc. | %Drift | | | |
| 24 | Acetonitrile | 400.000 | 432.366 | -8.1 | 114 | 0.00 | 2.27 |
| | | AvgRF | CCRF | %Dev | | | |
| 25 | Tert Butyl Alcohol | 0.008 | 0.008 | 0.0 | 109 | 0.00 | 2.20 |
| 26 | Di-isopropyl ether | 0.504 | 0.525 | -4.2 | 96 | 0.00 | 2.39 |

# Initial Calibration Verification

**Job Number:** FC15866
**Account:** EAENYS EA Engineering
**Project:** Former Seneca Army Depot; Romulus, NY

**Sample:** V1A2090-ICV2090
**Lab FileID:** 1A55033.D

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 27 | | Chloroprene | 0.516 | 0.513 | 0.6 | 97 | 0.00 | 2.43 |
| 28 | | 1,1-Dichloroethane | 0.398 | 0.391 | 1.8 | 98 | 0.00 | 2.44 |
| 29 | | Acrylonitrile | 0.053 | 0.052 | 1.9 | 94 | 0.00 | 2.43 |
| 30 | | ETBE | 0.551 | 0.598 | -8.5 | 100 | 0.00 | 2.58 |
| 31 | | Vinyl acetate | 0.263 | 0.314 | -19.4 | 111 | 0.00 | 2.56 |
| 32 | | cis-1,2-Dichloroethene | 0.286 | 0.283 | 1.0 | 98 | 0.00 | 2.72 |
| 33 | | 2,2-Dichloropropane | 0.302 | 0.333 | -10.3 | 111 | 0.00 | 2.78 |
| 34 | | Bromochloromethane | 0.155 | 0.152 | 1.9 | 95 | 0.00 | 2.82 |
| 35 | | Cyclohexane | 0.360 | 0.372 | -3.3 | 99 | 0.00 | 2.86 |
| 36 | | Chloroform | 0.439 | 0.439 | 0.0 | 100 | 0.00 | 2.86 |
| 37 | | Ethyl acetate | 0.101 | 0.110 | -8.9 | 102 | 0.00 | 2.91 |
| 38 | | Tetrahydrofuran | 0.031 | 0.033 | -6.5 | 99 | 0.00 | 2.94 |
| 39 | S | Dibromofluoromethane | 0.281 | 0.275 | 2.1 | 101 | 0.00 | 2.95 |
| 40 | | Carbon Tetrachloride | 0.386 | 0.379 | 1.8 | 96 | 0.00 | 2.96 |
| 41 | | 1,1,1-Trichloroethane | 0.394 | 0.397 | -0.8 | 100 | 0.00 | 2.99 |
| 42 | | 2-Butanone | 0.043 | 0.044 | -2.3 | 97 | 0.00 | 3.00 |
| 43 | | 1,1-Dichloropropene | 0.301 | 0.324 | -7.6 | 104 | 0.00 | 3.05 |
| 44 | | tert-Butyl formate | 0.125 | 0.120 | 4.0 | 89 | 0.00 | 3.09 |
| 45 | | Propionitrile | 0.016 | 0.018 | -12.5 | 112 | 0.00 | 3.14 |
| 46 | | Methacrylonitrile | 0.068 | 0.075 | -10.3 | 107 | 0.00 | 3.17 |
| 47 | | Benzene | 0.973 | 0.999 | -2.7 | 102 | 0.00 | 3.18 |
| 48 | | TAME | 0.484 | 0.515 | -6.4 | 97 | 0.00 | 3.25 |
| 49 | S | 1,2-Dichloroethane-d4 | 0.239 | 0.235 | 1.7 | 99 | 0.00 | 3.24 |
| 50 | | 1,2-Dichloroethane | 0.267 | 0.262 | 1.9 | 98 | 0.00 | 3.27 |
| 51 | | Isobutyl Alcohol | 0.009 | 0.009 | 0.0 | 101 | 0.00 | 3.25 |
| | | ---------- | Amount | Calc. | %Drift | ---------- | | |
| 52 | | Tert Amyl Alcohol | 400.000 | 408.072 | -2.0 | 111 | 0.00 | 3.32 |
| | | ---------- | AvgRF | CCRF | %Dev | ---------- | | |
| 53 | | Trichloroethene | 0.277 | 0.282 | -1.8 | 102 | 0.00 | 3.51 |
| 54 | | Methylcyclohexane | 0.423 | 0.447 | -5.7 | 98 | 0.00 | 3.53 |
| 55 | | Dibromomethane | 0.138 | 0.147 | -6.5 | 103 | 0.00 | 3.74 |
| 56 | | 1,2-Dichloropropane | 0.214 | 0.233 | -8.9 | 105 | 0.00 | 3.79 |
| 57 | | Bromodichloromethane | 0.310 | 0.312 | -0.6 | 98 | 0.00 | 3.83 |
| 58 | | Methyl methacrylate | 0.088 | 0.101 | -14.8 | 107 | 0.00 | 3.92 |
| | | ---------- | Amount | Calc. | %Drift | ---------- | | |
| 59 | | 1,4-Dioxane | ---------- | NA | ---------- | | | |
| 60 | | 2-Chloroethyl vinyl ether | 200.000 | 193.593 | 3.2 | 92 | 0.00 | 4.17 |
| | | ---------- | AvgRF | CCRF | %Dev | ---------- | | |
| 61 | | cis-1,3-Dichloropropene | 0.330 | 0.361 | -9.4 | 101 | 0.00 | 4.21 |
| 62 | I | Chlorobenzene-d5 | 1.000 | 1.000 | 0.0 | 101 | 0.00 | 5.35 |
| 63 | S | Toluene-d8 | 1.291 | 1.297 | -0.5 | 100 | 0.00 | 4.34 |
| 64 | | Toluene | 1.365 | 1.416 | -3.7 | 101 | 0.00 | 4.37 |
| | | ---------- | Amount | Calc. | %Drift | ---------- | | |
| 65 | | 2-Nitropropane | 200.000 | 196.381 | 1.8 | 100 | 0.00 | 4.47 |
| 66 | | 4-Methyl-2-pentanone | 200.000 | 207.985 | -4.0 | 101 | 0.00 | 4.58 |
| | | ---------- | AvgRF | CCRF | %Dev | ---------- | | |
| 67 | | trans-1,3-Dichloropropene | 0.358 | 0.377 | -5.3 | 97 | 0.00 | 4.61 |
| 68 | | Tetrachloroethene | 0.475 | 0.497 | -4.6 | 102 | 0.00 | 4.63 |
| 69 | | Ethyl methacrylate | 0.242 | 0.285 | -17.8 | 109 | 0.00 | 4.73 |
| 70 | | 1,1,2-Trichloroethane | 0.203 | 0.217 | -6.9 | 101 | 0.00 | 4.71 |
| 71 | | Dibromochloromethane | 0.336 | 0.374 | -11.3 | 104 | 0.00 | 4.84 |
| 72 | | 1,3-Dichloropropane | 0.379 | 0.423 | -11.6 | 107 | 0.00 | 4.89 |
| 73 | | 1,2-Dibromoethane | 0.271 | 0.287 | -5.9 | 101 | 0.00 | 5.00 |

# Initial Calibration Verification

**Job Number:** FC15866
**Account:** EAENYS EA Engineering
**Project:** Former Seneca Army Depot; Romulus, NY

**Sample:** V1A2090-ICV2090
**Lab FileID:** 1A55033.D

| | | | Amount | Calc. | %Drift | | | |
|---|---|---|---|---|---|---|---|---|
| 74 | | 3,3-Dimethyl-1-Butanol | 2000.000 | 2010.715 | -0.5 | 102 | 0.00 | 5.12 |
| 75 | | 2-hexanone | 200.000 | 207.307 | -3.7 | 104 | 0.00 | 5.14 |
| | | | AvgRF | CCRF | %Dev | | | |
| 76 | | 1-Chlorohexane | 0.432 | 0.428 | 0.9 | 99 | 0.00 | 5.37 |
| 77 | | Ethylbenzene | 1.478 | 1.565 | -5.9 | 102 | 0.00 | 5.40 |
| 78 | | Chlorobenzene | 0.949 | 0.969 | -2.1 | 101 | 0.00 | 5.37 |
| 79 | | 1,1,1,2-Tetrachloroethane | 0.352 | 0.376 | -6.8 | 102 | 0.00 | 5.41 |
| 80 | | m,p-Xylene | 1.164 | 1.222 | -5.0 | 101 | 0.00 | 5.50 |
| 81 | | o-Xylene | 1.172 | 1.222 | -4.3 | 99 | 0.00 | 5.80 |
| 82 | | Styrene | 0.892 | 1.005 | -12.7 | 102 | 0.00 | 5.84 |
| 83 | | Bromoform | 0.207 | 0.220 | -6.3 | 100 | 0.00 | 5.84 |
| 84 | | Isopropylbenzene | 1.498 | 1.592 | -6.3 | 100 | 0.00 | 6.04 |
| 85 | I | 1,4-Dichlorobenzene-d4 | 1.000 | 1.000 | 0.0 | 102 | 0.00 | 7.09 |
| 86 | S | 4-Bromofluorobenzene | 0.860 | 0.855 | 0.6 | 99 | 0.00 | 6.23 |
| 87 | | cis-1,4-Dichloro-2-butene | 0.095 | 0.102 | -7.4 | 105 | 0.00 | 6.27 |
| 88 | | n-Propylbenzene | 2.832 | 2.959 | -4.5 | 101 | 0.00 | 6.35 |
| 89 | | Bromobenzene | 0.735 | 0.772 | -5.0 | 103 | 0.00 | 6.31 |
| 90 | | 1,1,2,2-Tetrachloroethane | 0.438 | 0.440 | -0.5 | 100 | 0.00 | 6.38 |
| 91 | | 1,3,5-Trimethylbenzene | 2.075 | 2.239 | -7.9 | 100 | 0.00 | 6.51 |
| 92 | | 2-Chlorotoluene | 1.649 | 1.684 | -2.1 | 100 | 0.00 | 6.45 |
| 93 | | trans-1,4-Dichloro-2-Bute | 0.117 | 0.124 | -6.0 | 97 | 0.00 | 6.51 |
| 94 | | 1,2,3-Trichloropropane | 0.133 | 0.145 | -9.0 | 109 | 0.00 | 6.47 |
| | | | Amount | Calc. | %Drift | | | |
| 95 | | Cyclohexanone | 200.000 | 189.390 | 5.3 | 93 | 0.00 | 6.48 |
| | | | AvgRF | CCRF | %Dev | | | |
| 96 | | 4-Chlorotoluene | 1.710 | 1.773 | -3.7 | 100 | 0.00 | 6.58 |
| 97 | | tert-Butylbenzene | 1.094 | 1.145 | -4.7 | 99 | 0.00 | 6.74 |
| 98 | | 1,2,4-Trimethylbenzene | 1.964 | 2.190 | -11.5 | 103 | 0.00 | 6.80 |
| 99 | | Pentachloroethane | 0.392 | 0.435 | -11.0 | 106 | 0.00 | 6.74 |
| 100 | | sec-Butylbenzene | 2.593 | 2.657 | -2.5 | 95 | 0.00 | 6.89 |
| 101 | | 4-Isopropyltoluene | 2.218 | 2.435 | -9.8 | 101 | 0.00 | 7.01 |
| 102 | | 1,3-Dichlorobenzene | 1.344 | 1.320 | 1.8 | 97 | 0.00 | 7.04 |
| 103 | | 1,2,3-Trimethylbenzene | 1.881 | 2.052 | -9.1 | 104 | 0.00 | 7.14 |
| 104 | | 1,4-Dichlorobenzene | 1.342 | 1.337 | 0.4 | 100 | 0.00 | 7.11 |
| 105 | | n-Butylbenzene | 0.876 | 1.009 | -15.2 | 104 | 0.00 | 7.34 |
| 106 | | Benzyl Chloride | 0.175 | 0.187 | -6.9 | 103 | 0.00 | 7.29 |
| 107 | | 1,2-Dichlorobenzene | 1.154 | 1.145 | 0.8 | 99 | 0.00 | 7.43 |
| 108 | | 1,2-Dibromo-3-Chloropropa | 0.046 | 0.052 | -13.0 | 106 | 0.00 | 8.01 |
| 109 | | Hexachlorobutadiene | 0.372 | 0.393 | -5.6 | 100 | 0.00 | 8.51 |
| 110 | | 1,2,4-Trichlorobenzene | 0.597 | 0.634 | -6.2 | 101 | 0.00 | 8.50 |
| | | | Amount | Calc. | %Drift | | | |
| 111 | | Naphthalene | 40.000 | 40.341 | -0.9 | 100 | 0.00 | 8.71 |
| | | | AvgRF | CCRF | %Dev | | | |
| 112 | | 1,2,3-Trichlorobenzene | 0.464 | 0.479 | -3.2 | 97 | 0.00 | 8.84 |

(#) = Out of Range SPCC's out = 0 CCC's out = 0
1A55031.D V1A2090_05142024.M Tue May 14 13:39:49 2024

# Initial Calibration Verification



**Job Number:** FC15866
**Account:** EAENYS EA Engineering
**Project:** Former Seneca Army Depot; Romulus, NY

**Sample:** V1A2090-ICV2090
**Lab FileID:** 1A55034.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\05-14-2024\1A55034.D Vial: 14
Acq On : 14 May 2024 1:18 pm Operator: jeniferw
Sample : ICV2090-4 Inst : MSVOA17
Misc : MS56557,V1A2090,,,,, Multiplr: 1.00
MS Integration Params: med.p

Method : C:\msdchem\1\MET...A2090_05142024.M (RTE Integrator)
Title : SW-846 Method 5035A/8260B
Last Update : Tue May 14 12:44:06 2024
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) | R.T. |
|---|---|---|---|---|---|---|---|
| 1 I | Fluorobenzene | 1.000 | 1.000 | 0.0 | 103 | 0.00 | 3.40 |
| 2 | Dichlorodifluoromethane | | ---------- | NA | ---------- | | |
| 3 | Chloromethane | | ---------- | NA | ---------- | | |
| 4 | 1,3-butadiene | | ---------- | NA | ---------- | | |
| 5 | Vinyl Chloride | | ---------- | NA | ---------- | | |
| 6 | Bromomethane | | ---------- | NA | ---------- | | |
| 7 | Chloroethane | | ---------- | NA | ---------- | | |
| 8 | Trichlorofluoromethane | | ---------- | NA | ---------- | | |
| 9 | Ethyl Ether | | ---------- | NA | ---------- | | |
| | ---------- | Amount | Calc. | %Drift | ---------- | | |
| 10 | Ethanol | | ---------- | NA | ---------- | | |
| | ---------- | AvgRF | CCRF | %Dev | ---------- | | |
| 11 | 1,2-Dichlorotrifluoroetha | | ---------- | NA | ---------- | | |
| 12 | 1,1-Dichloroethene | | ---------- | NA | ---------- | | |
| 13 | Freon 113 | | ---------- | NA | ---------- | | |
| 14 | Carbon Disulfide | | ---------- | NA | ---------- | | |
| | ---------- | Amount | Calc. | %Drift | ---------- | | |
| 15 | Iodomethane | | ---------- | NA | ---------- | | |
| | ---------- | AvgRF | CCRF | %Dev | ---------- | | |
| 16 | Acrolein | | ---------- | NA | ---------- | | |
| 17 | Allyl chloride | | ---------- | NA | ---------- | | |
| | ---------- | Amount | Calc. | %Drift | ---------- | | |
| 18 | Methylene Chloride | | ---------- | NA | ---------- | | |
| | ---------- | AvgRF | CCRF | %Dev | ---------- | | |
| 19 | Acetone | | ---------- | NA | ---------- | | |
| 20 | Methyl acetate | | ---------- | NA | ---------- | | |
| 21 | trans-1,2-Dichloroethene | | ---------- | NA | ---------- | | |
| 22 | Hexane | | ---------- | NA | ---------- | | |
| 23 | Methyl Tert Butyl Ether | | ---------- | NA | ---------- | | |
| | ---------- | Amount | Calc. | %Drift | ---------- | | |
| 24 | Acetonitrile | | ---------- | NA | ---------- | | |
| | ---------- | AvgRF | CCRF | %Dev | ---------- | | |
| 25 | Tert Butyl Alcohol | | ---------- | NA | ---------- | | |
| 26 | Di-isopropyl ether | | ---------- | NA | ---------- | | |

# Initial Calibration Verification

**Job Number:** FC15866
**Account:** EAENYS EA Engineering
**Project:** Former Seneca Army Depot; Romulus, NY

**Sample:** V1A2090-ICV2090
**Lab FileID:** 1A55034.D

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 27 | | Chloroprene | | ----------NA---------- | | | | | |
| 28 | | 1,1-Dichloroethane | | ----------NA---------- | | | | | |
| 29 | | Acrylonitrile | | ----------NA---------- | | | | | |
| 30 | | ETBE | | ----------NA---------- | | | | | |
| 31 | | Vinyl acetate | | ----------NA---------- | | | | | |
| 32 | | cis-1,2-Dichloroethene | | ----------NA---------- | | | | | |
| 33 | | 2,2-Dichloropropane | | ----------NA---------- | | | | | |
| 34 | | Bromochloromethane | | ----------NA---------- | | | | | |
| 35 | | Cyclohexane | | ----------NA---------- | | | | | |
| 36 | | Chloroform | | ----------NA---------- | | | | | |
| 37 | | Ethyl acetate | | ----------NA---------- | | | | | |
| 38 | | Tetrahydrofuran | | ----------NA---------- | | | | | |
| 39 | S | Dibromofluoromethane | 0.281 | 0.280 | 0.4 | 103 | 0.00 | 2.95 | |
| 40 | | Carbon Tetrachloride | | ----------NA---------- | | | | | |
| 41 | | 1,1,1-Trichloroethane | | ----------NA---------- | | | | | |
| 42 | | 2-Butanone | | ----------NA---------- | | | | | |
| 43 | | 1,1-Dichloropropene | | ----------NA---------- | | | | | |
| 44 | | tert-Butyl formate | | ----------NA---------- | | | | | |
| 45 | | Propionitrile | | ----------NA---------- | | | | | |
| 46 | | Methacrylonitrile | | ----------NA---------- | | | | | |
| 47 | | Benzene | | ----------NA---------- | | | | | |
| 48 | | TAME | | ----------NA---------- | | | | | |
| 49 | S | 1,2-Dichloroethane-d4 | 0.239 | 0.237 | 0.8 | 103 | 0.00 | 3.24 | |
| 50 | | 1,2-Dichloroethane | | ----------NA---------- | | | | | |
| 51 | | Isobutyl Alcohol | | ----------NA---------- | | | | | |
| | | ---------- | Amount | Calc. | %Drift | ---------- | | | |
| 52 | | Tert Amyl Alcohol | | ----------NA---------- | | | | | |
| | | ---------- | AvgRF | CCRF | %Dev | ---------- | | | |
| 53 | | Trichloroethene | | ----------NA---------- | | | | | |
| 54 | | Methylcyclohexane | | ----------NA---------- | | | | | |
| 55 | | Dibromomethane | | ----------NA---------- | | | | | |
| 56 | | 1,2-Dichloropropane | | ----------NA---------- | | | | | |
| 57 | | Bromodichloromethane | | ----------NA---------- | | | | | |
| 58 | | Methyl methacrylate | | ----------NA---------- | | | | | |
| | | ---------- | Amount | Calc. | %Drift | ---------- | | | |
| 59 | | 1,4-Dioxane | 500.000 | 584.975 | -17.0 | 123 | 0.00 | 3.94 | |
| 60 | | 2-Chloroethyl vinyl ether | | ----------NA---------- | | | | | |
| | | ---------- | AvgRF | CCRF | %Dev | ---------- | | | |
| 61 | | cis-1,3-Dichloropropene | | ----------NA---------- | | | | | |
| 62 | I | Chlorobenzene-d5 | 1.000 | 1.000 | 0.0 | 103 | 0.00 | 5.35 | |
| 63 | S | Toluene-d8 | 1.291 | 1.295 | -0.3 | 103 | 0.00 | 4.34 | |
| 64 | | Toluene | | ----------NA---------- | | | | | |
| | | ---------- | Amount | Calc. | %Drift | ---------- | | | |
| 65 | | 2-Nitropropane | | ----------NA---------- | | | | | |
| 66 | | 4-Methyl-2-pentanone | | ----------NA---------- | | | | | |
| | | ---------- | AvgRF | CCRF | %Dev | ---------- | | | |
| 67 | | trans-1,3-Dichloropropene | | ----------NA---------- | | | | | |
| 68 | | Tetrachloroethene | | ----------NA---------- | | | | | |
| 69 | | Ethyl methacrylate | | ----------NA---------- | | | | | |
| 70 | | 1,1,2-Trichloroethane | | ----------NA---------- | | | | | |
| 71 | | Dibromochloromethane | | ----------NA---------- | | | | | |
| 72 | | 1,3-Dichloropropane | | ----------NA---------- | | | | | |
| 73 | | 1,2-Dibromoethane | | ----------NA---------- | | | | | |

# Initial Calibration Verification

**Job Number:** FC15866
**Account:** EAENYS EA Engineering
**Project:** Former Seneca Army Depot; Romulus, NY

**Sample:** V1A2090-ICV2090
**Lab FileID:** 1A55034.D

| | | | Amount | Calc. | %Drift | | | |
|---|---|---|---|---|---|---|---|---|
| 74 | | 3,3-Dimethyl-1-Butanol | | ----------NA---------- | | | | |
| 75 | | 2-hexanone | | ----------NA---------- | | | | |
| | | | AvgRF | CCRF | %Dev | | | |
| 76 | | 1-Chlorohexane | | ----------NA---------- | | | | |
| 77 | | Ethylbenzene | | ----------NA---------- | | | | |
| 78 | | Chlorobenzene | | ----------NA---------- | | | | |
| 79 | | 1,1,1,2-Tetrachloroethane | | ----------NA---------- | | | | |
| 80 | | m,p-Xylene | | ----------NA---------- | | | | |
| 81 | | o-Xylene | | ----------NA---------- | | | | |
| 82 | | Styrene | | ----------NA---------- | | | | |
| 83 | | Bromoform | | ----------NA---------- | | | | |
| 84 | | Isopropylbenzene | | ----------NA---------- | | | | |
| 85 | I | 1,4-Dichlorobenzene-d4 | 1.000 | 1.000 | 0.0 | 102 | 0.00 | 7.09 |
| 86 | S | 4-Bromofluorobenzene | 0.860 | 0.863 | -0.3 | 103 | 0.00 | 6.23 |
| 87 | | cis-1,4-Dichloro-2-butene | | ----------NA---------- | | | | |
| 88 | | n-Propylbenzene | | ----------NA---------- | | | | |
| 89 | | Bromobenzene | | ----------NA---------- | | | | |
| 90 | | 1,1,2,2-Tetrachloroethane | | ----------NA---------- | | | | |
| 91 | | 1,3,5-Trimethylbenzene | | ----------NA---------- | | | | |
| 92 | | 2-Chlorotoluene | | ----------NA---------- | | | | |
| 93 | | trans-1,4-Dichloro-2-Bute | | ----------NA---------- | | | | |
| 94 | | 1,2,3-Trichloropropane | | ----------NA---------- | | | | |
| | | | Amount | Calc. | %Drift | | | |
| 95 | | Cyclohexanone | | ----------NA---------- | | | | |
| | | | AvgRF | CCRF | %Dev | | | |
| 96 | | 4-Chlorotoluene | | ----------NA---------- | | | | |
| 97 | | tert-Butylbenzene | | ----------NA---------- | | | | |
| 98 | | 1,2,4-Trimethylbenzene | | ----------NA---------- | | | | |
| 99 | | Pentachloroethane | | ----------NA---------- | | | | |
| 100 | | sec-Butylbenzene | | ----------NA---------- | | | | |
| 101 | | 4-Isopropyltoluene | | ----------NA---------- | | | | |
| 102 | | 1,3-Dichlorobenzene | | ----------NA---------- | | | | |
| 103 | | 1,2,3-Trimethylbenzene | | ----------NA---------- | | | | |
| 104 | | 1,4-Dichlorobenzene | | ----------NA---------- | | | | |
| 105 | | n-Butylbenzene | | ----------NA---------- | | | | |
| 106 | | Benzyl Chloride | | ----------NA---------- | | | | |
| 107 | | 1,2-Dichlorobenzene | | ----------NA---------- | | | | |
| 108 | | 1,2-Dibromo-3-Chloropropa | | ----------NA---------- | | | | |
| 109 | | Hexachlorobutadiene | | ----------NA---------- | | | | |
| 110 | | 1,2,4-Trichlorobenzene | | ----------NA---------- | | | | |
| | | | Amount | Calc. | %Drift | | | |
| 111 | | Naphthalene | | ----------NA---------- | | | | |
| | | | AvgRF | CCRF | %Dev | | | |
| 112 | | 1,2,3-Trichlorobenzene | | ----------NA---------- | | | | |

(#) = Out of Range SPCC's out = 0 CCC's out = 0
1A55026.D V1A2090_05142024.M Tue May 14 14:31:44 2024

# Continuing Calibration Summary



**Job Number:** FC15866
**Account:** EAENYS EA Engineering
**Project:** Former Seneca Army Depot; Romulus, NY

**Sample:** V1A3001-CC2090
**Lab FileID:** 1A55299.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\05-23-2024\1A55299.D Vial: 2
Acq On : 23 May 2024 8:00 am Operator: jeniferw
Sample : CC2090-4 Inst : MSVOA17
Misc : MS56642,V1A3001,,,,, Multiplr: 1.00
MS Integration Params: med.p

Method : C:\msdchem\1\MET...A2090_05142024.M (RTE Integrator)
Title : SW-846 Method 5035A/8260B
Last Update : Tue May 14 12:44:06 2024
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) | R.T. |
|---|---|---|---|---|---|---|---|
| 1 I | Fluorobenzene | 1.000 | 1.000 | 0.0 | 106 | 0.00 | 3.40 |
| 2 | Dichlorodifluoromethane | 0.175 | 0.153 | 12.6 | 91 | 0.00 | 1.02 |
| 3 | Chloromethane | 0.176 | 0.145 | 17.6 | 91 | 0.00 | 1.13 |
| 4 | 1,3-butadiene | 0.144 | 0.157 | -9.0 | 109 | 0.00 | 1.18 |
| 5 | Vinyl Chloride | 0.206 | 0.185 | 10.2 | 98 | 0.00 | 1.17 |
| 6 | Bromomethane | 0.111 | 0.108 | 2.7 | 102 | 0.00 | 1.34 |
| 7 | Chloroethane | 0.118 | 0.116 | 1.7 | 103 | 0.00 | 1.41 |
| 8 | Trichlorofluoromethane | 0.347 | 0.325 | 6.3 | 99 | 0.00 | 1.50 |
| 9 | Ethyl Ether | 0.146 | 0.139 | 4.8 | 98 | 0.00 | 1.65 |
| | | Amount | Calc. | %Drift | | | |
| 10 | Ethanol | 500.000 | 632.958 | -26.6# | 118 | 0.00 | 1.70 |
| | | AvgRF | CCRF | %Dev | | | |
| 11 | 1,2-Dichlorotrifluoroetha | 0.239 | 0.226 | 5.4 | 100 | 0.00 | 1.74 |
| 12 | 1,1-Dichloroethene | 0.301 | 0.284 | 5.6 | 101 | 0.00 | 1.76 |
| 13 | Freon 113 | 0.248 | 0.233 | 6.0 | 98 | 0.00 | 1.79 |
| 14 | Carbon Disulfide | 0.674 | 0.640 | 5.0 | 103 | 0.00 | 1.78 |
| | | Amount | Calc. | %Drift | | | |
| 15 | Iodomethane | 25.000 | 22.387 | 10.5 | 98 | 0.00 | 1.83 |
| | | AvgRF | CCRF | %Dev | | | |
| 16 | Acrolein | 0.024 | 0.022 | 8.3 | 94 | 0.00 | 1.90 |
| 17 | Allyl chloride | 0.229 | 0.224 | 2.2 | 105 | 0.00 | 2.00 |
| | | Amount | Calc. | %Drift | | | |
| 18 | Methylene Chloride | 25.000 | 24.818 | 0.7 | 97 | 0.00 | 2.04 |
| | | AvgRF | CCRF | %Dev | | | |
| 19 | Acetone | 0.027 | 0.028 | -3.7 | 104 | 0.00 | 2.04 |
| 20 | Methyl acetate | 0.084 | 0.081 | 3.6 | 99 | 0.00 | 2.12 |
| 21 | trans-1,2-Dichloroethene | 0.306 | 0.289 | 5.6 | 102 | 0.00 | 2.13 |
| 22 | Hexane | 0.186 | 0.181 | 2.7 | 98 | 0.00 | 2.20 |
| 23 | Methyl Tert Butyl Ether | 0.480 | 0.455 | 5.2 | 95 | 0.00 | 2.19 |
| | | Amount | Calc. | %Drift | | | |
| 24 | Acetonitrile | 250.000 | 279.706 | -11.9 | 112 | 0.00 | 2.27 |
| | | AvgRF | CCRF | %Dev | | | |
| 25 | Tert Butyl Alcohol | 0.008 | 0.009 | -12.5 | 110 | 0.00 | 2.20 |
| 26 | Di-isopropyl ether | 0.504 | 0.497 | 1.4 | 100 | 0.00 | 2.39 |

# Continuing Calibration Summary

**Job Number:** FC15866 **Sample:** V1A3001-CC2090
**Account:** EAENYS EA Engineering **Lab FileID:** 1A55299.D
**Project:** Former Seneca Army Depot; Romulus, NY

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 27 | | Chloroprene | 0.516 | 0.507 | 1.7 | 103 | 0.00 | 2.44 |
| 28 | | 1,1-Dichloroethane | 0.398 | 0.377 | 5.3 | 102 | 0.00 | 2.44 |
| 29 | | Acrylonitrile | 0.053 | 0.052 | 1.9 | 100 | 0.00 | 2.44 |
| 30 | | ETBE | 0.551 | 0.534 | 3.1 | 98 | 0.00 | 2.58 |
| 31 | | Vinyl acetate | 0.263 | 0.266 | -1.1 | 101 | 0.00 | 2.56 |
| 32 | | cis-1,2-Dichloroethene | 0.286 | 0.266 | 7.0 | 101 | 0.00 | 2.72 |
| 33 | | 2,2-Dichloropropane | 0.302 | 0.285 | 5.6 | 102 | 0.00 | 2.78 |
| 34 | | Bromochloromethane | 0.155 | 0.149 | 3.9 | 103 | 0.00 | 2.82 |
| 35 | | Cyclohexane | 0.360 | 0.341 | 5.3 | 98 | 0.00 | 2.86 |
| 36 | | Chloroform | 0.439 | 0.412 | 6.2 | 100 | 0.00 | 2.86 |
| 37 | | Ethyl acetate | 0.101 | 0.102 | -1.0 | 99 | 0.00 | 2.91 |
| 38 | | Tetrahydrofuran | 0.031 | 0.032 | -3.2 | 99 | 0.00 | 2.94 |
| 39 | S | Dibromofluoromethane | 0.281 | 0.277 | 1.4 | 105 | 0.00 | 2.95 |
| 40 | | Carbon Tetrachloride | 0.386 | 0.369 | 4.4 | 105 | 0.00 | 2.96 |
| 41 | | 1,1,1-Trichloroethane | 0.394 | 0.362 | 8.1 | 97 | 0.00 | 2.99 |
| 42 | | 2-Butanone | 0.043 | 0.046 | -7.0 | 106 | 0.00 | 3.00 |
| 43 | | 1,1-Dichloropropene | 0.301 | 0.289 | 4.0 | 101 | 0.00 | 3.05 |
| 44 | | tert-Butyl formate | 0.125 | 0.120 | 4.0 | 96 | 0.00 | 3.09 |
| 45 | | Propionitrile | 0.016 | 0.017 | -6.3 | 109 | 0.00 | 3.14 |
| 46 | | Methacrylonitrile | 0.068 | 0.069 | -1.5 | 102 | 0.00 | 3.17 |
| 47 | | Benzene | 0.973 | 0.908 | 6.7 | 100 | 0.00 | 3.18 |
| 48 | | TAME | 0.484 | 0.468 | 3.3 | 98 | 0.00 | 3.25 |
| 49 | S | 1,2-Dichloroethane-d4 | 0.239 | 0.240 | -0.4 | 107 | 0.00 | 3.24 |
| 50 | | 1,2-Dichloroethane | 0.267 | 0.242 | 9.4 | 99 | 0.00 | 3.27 |
| 51 | | Isobutyl Alcohol | 0.009 | 0.009 | 0.0 | 102 | 0.00 | 3.25 |
| | | ---------- | Amount | Calc. | %Drift | ---------- | | |
| 52 | | Tert Amyl Alcohol | 250.000 | 286.408 | -14.6 | 107 | 0.00 | 3.32 |
| | | ---------- | AvgRF | CCRF | %Dev | ---------- | | |
| 53 | | Trichloroethene | 0.277 | 0.257 | 7.2 | 99 | 0.00 | 3.51 |
| 54 | | Methylcyclohexane | 0.423 | 0.395 | 6.6 | 95 | 0.00 | 3.53 |
| 55 | | Dibromomethane | 0.138 | 0.131 | 5.1 | 99 | 0.00 | 3.74 |
| 56 | | 1,2-Dichloropropane | 0.214 | 0.204 | 4.7 | 99 | 0.00 | 3.79 |
| 57 | | Bromodichloromethane | 0.310 | 0.289 | 6.8 | 98 | 0.00 | 3.83 |
| 58 | | Methyl methacrylate | 0.088 | 0.088 | 0.0 | 108 | 0.00 | 3.92 |
| | | ---------- | Amount | Calc. | %Drift | ---------- | | |
| 59 | | 1,4-Dioxane | 500.000 | 617.948 | -23.6# | 135 | 0.00 | 3.94 |
| 60 | | 2-Chloroethyl vinyl ether | 125.000 | 105.489 | 15.6 | 90 | 0.00 | 4.17 |
| | | ---------- | AvgRF | CCRF | %Dev | ---------- | | |
| 61 | | cis-1,3-Dichloropropene | 0.330 | 0.321 | 2.7 | 99 | 0.00 | 4.21 |
| 62 | I | Chlorobenzene-d5 | 1.000 | 1.000 | 0.0 | 101 | 0.00 | 5.35 |
| 63 | S | Toluene-d8 | 1.291 | 1.332 | -3.2 | 103 | 0.00 | 4.34 |
| 64 | | Toluene | 1.365 | 1.347 | 1.3 | 99 | 0.00 | 4.37 |
| | | ---------- | Amount | Calc. | %Drift | ---------- | | |
| 65 | | 2-Nitropropane | 125.000 | 122.286 | 2.2 | 104 | 0.00 | 4.47 |
| 66 | | 4-Methyl-2-pentanone | 125.000 | 121.658 | 2.7 | 100 | 0.00 | 4.58 |
| | | ---------- | AvgRF | CCRF | %Dev | ---------- | | |
| 67 | | trans-1,3-Dichloropropene | 0.358 | 0.367 | -2.5 | 99 | 0.00 | 4.61 |
| 68 | | Tetrachloroethene | 0.475 | 0.464 | 2.3 | 99 | 0.00 | 4.63 |
| 69 | | Ethyl methacrylate | 0.242 | 0.236 | 2.5 | 95 | 0.00 | 4.73 |
| 70 | | 1,1,2-Trichloroethane | 0.203 | 0.212 | -4.4 | 101 | 0.00 | 4.71 |
| 71 | | Dibromochloromethane | 0.336 | 0.347 | -3.3 | 103 | 0.00 | 4.84 |
| 72 | | 1,3-Dichloropropane | 0.379 | 0.378 | 0.3 | 98 | 0.00 | 4.89 |
| 73 | | 1,2-Dibromoethane | 0.271 | 0.273 | -0.7 | 100 | 0.00 | 4.99 |

# Continuing Calibration Summary

**Job Number:** FC15866
**Account:** EAENYS EA Engineering
**Project:** Former Seneca Army Depot; Romulus, NY

**Sample:** V1A3001-CC2090
**Lab FileID:** 1A55299.D

| | | | Amount | Calc. | %Drift | | | |
|---|---|---|---|---|---|---|---|---|
| 74 | | 3,3-Dimethyl-1-Butanol | 1250.000 | 1373.390 | -9.9 | 100 | 0.00 | 5.12 |
| 75 | | 2-hexanone | 125.000 | 119.835 | 4.1 | 102 | 0.00 | 5.14 |
| | | | AvgRF | CCRF | %Dev | | | |
| 76 | | 1-Chlorohexane | 0.432 | 0.411 | 4.9 | 95 | 0.00 | 5.37 |
| 77 | | Ethylbenzene | 1.478 | 1.466 | 0.8 | 99 | 0.00 | 5.40 |
| 78 | | Chlorobenzene | 0.949 | 0.931 | 1.9 | 100 | 0.00 | 5.37 |
| 79 | | 1,1,1,2-Tetrachloroethane | 0.352 | 0.354 | -0.6 | 100 | 0.00 | 5.41 |
| 80 | | m,p-Xylene | 1.164 | 1.162 | 0.2 | 98 | 0.00 | 5.50 |
| 81 | | o-Xylene | 1.172 | 1.153 | 1.6 | 97 | 0.00 | 5.80 |
| 82 | | Styrene | 0.892 | 0.920 | -3.1 | 99 | 0.00 | 5.84 |
| 83 | | Bromoform | 0.207 | 0.220 | -6.3 | 101 | 0.00 | 5.84 |
| 84 | | Isopropylbenzene | 1.498 | 1.493 | 0.3 | 98 | 0.00 | 6.04 |
| 85 | I | 1,4-Dichlorobenzene-d4 | 1.000 | 1.000 | 0.0 | 97 | 0.00 | 7.09 |
| 86 | S | 4-Bromofluorobenzene | 0.860 | 0.853 | 0.8 | 97 | 0.00 | 6.23 |
| 87 | | cis-1,4-Dichloro-2-butene | 0.095 | 0.095 | 0.0 | 97 | 0.00 | 6.26 |
| 88 | | n-Propylbenzene | 2.832 | 2.850 | -0.6 | 97 | 0.00 | 6.35 |
| 89 | | Bromobenzene | 0.735 | 0.722 | 1.8 | 97 | 0.00 | 6.31 |
| 90 | | 1,1,2,2-Tetrachloroethane | 0.438 | 0.442 | -0.9 | 96 | 0.00 | 6.38 |
| 91 | | 1,3,5-Trimethylbenzene | 2.075 | 2.100 | -1.2 | 95 | 0.00 | 6.51 |
| 92 | | 2-Chlorotoluene | 1.649 | 1.637 | 0.7 | 98 | 0.00 | 6.45 |
| 93 | | trans-1,4-Dichloro-2-Bute | 0.117 | 0.123 | -5.1 | 99 | 0.00 | 6.51 |
| 94 | | 1,2,3-Trichloropropane | 0.133 | 0.136 | -2.3 | 99 | 0.00 | 6.47 |
| | | | Amount | Calc. | %Drift | | | |
| 95 | | Cyclohexanone | 125.000 | 165.345 | -32.3# | 125 | 0.00 | 6.48 |
| | | | AvgRF | CCRF | %Dev | | | |
| 96 | | 4-Chlorotoluene | 1.710 | 1.700 | 0.6 | 97 | 0.00 | 6.58 |
| 97 | | tert-Butylbenzene | 1.094 | 1.086 | 0.7 | 95 | 0.00 | 6.75 |
| 98 | | 1,2,4-Trimethylbenzene | 1.964 | 1.996 | -1.6 | 95 | 0.00 | 6.80 |
| 99 | | Pentachloroethane | 0.392 | 0.410 | -4.6 | 97 | 0.00 | 6.75 |
| 100 | | sec-Butylbenzene | 2.593 | 2.578 | 0.6 | 94 | 0.00 | 6.89 |
| 101 | | 4-Isopropyltoluene | 2.218 | 2.216 | 0.1 | 94 | 0.00 | 7.01 |
| 102 | | 1,3-Dichlorobenzene | 1.344 | 1.319 | 1.9 | 96 | 0.00 | 7.04 |
| 103 | | 1,2,3-Trimethylbenzene | 1.881 | 1.841 | 2.1 | 94 | 0.00 | 7.14 |
| 104 | | 1,4-Dichlorobenzene | 1.342 | 1.299 | 3.2 | 96 | 0.00 | 7.11 |
| 105 | | n-Butylbenzene | 0.876 | 0.858 | 2.1 | 92 | 0.00 | 7.34 |
| 106 | | Benzyl Chloride | 0.175 | 0.183 | -4.6 | 99 | 0.00 | 7.29 |
| 107 | | 1,2-Dichlorobenzene | 1.154 | 1.122 | 2.8 | 95 | 0.00 | 7.43 |
| 108 | | 1,2-Dibromo-3-Chloropropa | 0.046 | 0.049 | -6.5 | 103 | 0.00 | 8.01 |
| 109 | | Hexachlorobutadiene | 0.372 | 0.334 | 10.2 | 90 | 0.00 | 8.51 |
| 110 | | 1,2,4-Trichlorobenzene | 0.597 | 0.564 | 5.5 | 92 | 0.00 | 8.50 |
| | | | Amount | Calc. | %Drift | | | |
| 111 | | Naphthalene | 25.000 | 23.435 | 6.3 | 89 | 0.00 | 8.71 |
| | | | AvgRF | CCRF | %Dev | | | |
| 112 | | 1,2,3-Trichlorobenzene | 0.464 | 0.425 | 8.4 | 88 | 0.00 | 8.84 |

(#) = Out of Range SPCC's out = 0 CCC's out = 0
1A55026.D V1A2090_05142024.M Thu May 23 08:22:14 2024

# Continuing Calibration Summary



**Job Number:** FC15866
**Account:** EAENYS EA Engineering
**Project:** Former Seneca Army Depot; Romulus, NY

**Sample:** V1A3001-ECC2090
**Lab FileID:** 1A55326.D

Evaluate Continuing Calibration Report

Data File : R:\GBS Manila Data V...001\VIA3001\1A55326.d Vial: 29
Acq On : 23 May 2024 6:53 pm Operator: jeniferw
Sample : ECC2090-4 Inst : MSVOA17
Misc : MS56652,V1A3001,,,,, Multiplr: 1.00
MS Integration Params: med.p

Method : R:\GBS Manila Da...A2090_05142024.M (RTE Integrator)
Title : SW-846 Method 5035A/8260B
Last Update : Tue May 14 12:44:06 2024
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 50% Max. Rel. Area : 200%

| | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) | R.T. |
|---|---|---|---|---|---|---|---|
| 1 I | Fluorobenzene | 1.000 | 1.000 | 0.0 | 104 | 0.00 | 3.40 |
| 2 | Dichlorodifluoromethane | 0.175 | 0.151 | 13.7 | 89 | 0.00 | 1.01 |
| 3 | Chloromethane | 0.176 | 0.152 | 13.6 | 95 | 0.00 | 1.13 |
| 4 | 1,3-butadiene | 0.144 | 0.158 | -9.7 | 108 | 0.00 | 1.18 |
| 5 | Vinyl Chloride | 0.206 | 0.191 | 7.3 | 100 | 0.00 | 1.17 |
| 6 | Bromomethane | 0.111 | 0.110 | 0.9 | 102 | 0.00 | 1.34 |
| 7 | Chloroethane | 0.118 | 0.124 | -5.1 | 108 | 0.00 | 1.41 |
| 8 | Trichlorofluoromethane | 0.347 | 0.329 | 5.2 | 99 | 0.00 | 1.50 |
| 9 | Ethyl Ether | 0.146 | 0.144 | 1.4 | 100 | 0.00 | 1.65 |
| | | True | Calc. | % Drift | | | |
| 10 | Ethanol | 500.000 | 657.193 | -31.4 | 121 | 0.00 | 1.70 |
| | | AvgRF | CCRF | % Dev | | | |
| 11 | 1,2-Dichlorotrifluoroetha | 0.239 | 0.226 | 5.4 | 98 | 0.00 | 1.74 |
| 12 | 1,1-Dichloroethene | 0.301 | 0.279 | 7.3 | 98 | 0.00 | 1.76 |
| 13 | Freon 113 | 0.248 | 0.236 | 4.8 | 98 | 0.00 | 1.78 |
| 14 | Carbon Disulfide | 0.674 | 0.605 | 10.2 | 96 | 0.00 | 1.78 |
| | | True | Calc. | % Drift | | | |
| 15 | Iodomethane | 25.000 | 24.998 | 0.0 | 109 | 0.00 | 1.83 |
| | | AvgRF | CCRF | % Dev | | | |
| 16 | Acrolein | 0.024 | 0.020 | 16.7 | 88 | 0.00 | 1.90 |
| 17 | Allyl chloride | 0.229 | 0.214 | 6.6 | 99 | 0.00 | 1.99 |
| | | True | Calc. | % Drift | | | |
| 18 | Methylene Chloride | 25.000 | 32.009 | -28.0 | 123 | 0.00 | 2.04 |
| | | AvgRF | CCRF | % Dev | | | |
| 19 | Acetone | 0.027 | 0.025 | 7.4 | 94 | 0.00 | 2.04 |
| 20 | Methyl acetate | 0.084 | 0.086 | -2.4 | 105 | 0.00 | 2.12 |
| 21 | trans-1,2-Dichloroethene | 0.306 | 0.283 | 7.5 | 99 | 0.00 | 2.13 |
| 22 | Hexane | 0.186 | 0.174 | 6.5 | 93 | 0.00 | 2.19 |
| 23 | Methyl Tert Butyl Ether | 0.480 | 0.471 | 1.9 | 97 | 0.00 | 2.19 |
| | | True | Calc. | % Drift | | | |
| 24 | Acetonitrile | 250.000 | 233.768 | 6.5 | 92 | 0.00 | 2.27 |
| | | AvgRF | CCRF | % Dev | | | |
| 25 | Tert Butyl Alcohol | 0.008 | 0.008 | 0.0 | 99 | 0.00 | 2.20 |
| 26 | Di-isopropyl ether | 0.504 | 0.503 | 0.2 | 100 | 0.00 | 2.39 |

# Continuing Calibration Summary

**Job Number:** FC15866 **Sample:** V1A3001-ECC2090
**Account:** EAENYS EA Engineering **Lab FileID:** 1A55326.D
**Project:** Former Seneca Army Depot; Romulus, NY

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 27 | | Chloroprene | 0.516 | 0.494 | 4.3 | 99 | 0.00 | 2.44 |
| 28 | | 1,1-Dichloroethane | 0.398 | 0.380 | 4.5 | 102 | 0.00 | 2.44 |
| 29 | | Acrylonitrile | 0.053 | 0.051 | 3.8 | 97 | 0.00 | 2.44 |
| 30 | | ETBE | 0.551 | 0.554 | -0.5 | 100 | 0.00 | 2.57 |
| 31 | | Vinyl acetate | 0.263 | 0.253 | 3.8 | 95 | 0.00 | 2.56 |
| 32 | | cis-1,2-Dichloroethene | 0.286 | 0.272 | 4.9 | 102 | 0.00 | 2.72 |
| 33 | | 2,2-Dichloropropane | 0.302 | 0.267 | 11.6 | 94 | 0.00 | 2.78 |
| 34 | | Bromochloromethane | 0.155 | 0.151 | 2.6 | 103 | 0.00 | 2.82 |
| 35 | | Cyclohexane | 0.360 | 0.346 | 3.9 | 98 | 0.00 | 2.86 |
| 36 | | Chloroform | 0.439 | 0.415 | 5.5 | 100 | 0.00 | 2.86 |
| 37 | | Ethyl acetate | 0.101 | 0.100 | 1.0 | 96 | 0.00 | 2.91 |
| 38 | | Tetrahydrofuran | 0.031 | 0.027 | 12.9 | 85 | 0.00 | 2.94 |
| 39 | S | Dibromofluoromethane | 0.281 | 0.272 | 3.2 | 101 | 0.00 | 2.95 |
| 40 | | Carbon Tetrachloride | 0.386 | 0.354 | 8.3 | 100 | 0.00 | 2.96 |
| 41 | | 1,1,1-Trichloroethane | 0.394 | 0.366 | 7.1 | 97 | 0.00 | 2.98 |
| 42 | | 2-Butanone | 0.043 | 0.042 | 2.3 | 95 | 0.00 | 3.00 |
| 43 | | 1,1-Dichloropropene | 0.301 | 0.284 | 5.6 | 98 | 0.00 | 3.05 |
| 44 | | tert-Butyl formate | 0.125 | 0.120 | 4.0 | 95 | 0.00 | 3.09 |
| 45 | | Propionitrile | 0.016 | 0.015 | 6.3 | 94 | 0.00 | 3.14 |
| 46 | | Methacrylonitrile | 0.068 | 0.067 | 1.5 | 99 | 0.00 | 3.17 |
| 47 | | Benzene | 0.973 | 0.916 | 5.9 | 100 | 0.00 | 3.18 |
| 48 | | TAME | 0.484 | 0.472 | 2.5 | 98 | 0.00 | 3.24 |
| 49 | S | 1,2-Dichloroethane-d4 | 0.239 | 0.240 | -0.4 | 105 | 0.00 | 3.24 |
| 50 | | 1,2-Dichloroethane | 0.267 | 0.254 | 4.9 | 102 | 0.00 | 3.27 |
| 51 | | Isobutyl Alcohol | 0.009 | 0.009 | 0.0 | 98 | 0.00 | 3.25 |
| | | | True | Calc. | % Drift | | | |
| 52 | | Tert Amyl Alcohol | 250.000 | 256.256 | -2.5 | 93 | 0.00 | 3.32 |
| | | | AvgRF | CCRF | % Dev | | | |
| 53 | | Trichloroethene | 0.277 | 0.258 | 6.9 | 98 | 0.00 | 3.50 |
| 54 | | Methylcyclohexane | 0.423 | 0.400 | 5.4 | 95 | 0.00 | 3.53 |
| 55 | | Dibromomethane | 0.138 | 0.135 | 2.2 | 101 | 0.00 | 3.73 |
| 56 | | 1,2-Dichloropropane | 0.214 | 0.210 | 1.9 | 101 | 0.00 | 3.79 |
| 57 | | Bromodichloromethane | 0.310 | 0.293 | 5.5 | 98 | 0.00 | 3.83 |
| 58 | | Methyl methacrylate | 0.088 | 0.085 | 3.4 | 103 | 0.00 | 3.92 |
| | | | True | Calc. | % Drift | | | |
| 59 | | 1,4-Dioxane | 500.000 | 635.313 | -27.1 | 138 | 0.00 | 3.94 |
| 60 | | 2-Chloroethyl vinyl ether | 125.000 | 108.279 | 13.4 | 92 | 0.00 | 4.16 |
| | | | AvgRF | CCRF | % Dev | | | |
| 61 | | cis-1,3-Dichloropropene | 0.330 | 0.320 | 3.0 | 98 | 0.00 | 4.21 |
| 62 | I | Chlorobenzene-d5 | 1.000 | 1.000 | 0.0 | 98 | 0.00 | 5.35 |
| 63 | S | Toluene-d8 | 1.291 | 1.341 | -3.9 | 101 | 0.00 | 4.34 |
| 64 | | Toluene | 1.365 | 1.358 | 0.5 | 97 | 0.00 | 4.37 |
| | | | True | Calc. | % Drift | | | |
| 65 | | 2-Nitropropane | 125.000 | 122.625 | 1.9 | 101 | 0.00 | 4.47 |
| 66 | | 4-Methyl-2-pentanone | 125.000 | 127.130 | -1.7 | 102 | 0.00 | 4.58 |
| | | | AvgRF | CCRF | % Dev | | | |
| 67 | | trans-1,3-Dichloropropene | 0.358 | 0.377 | -5.3 | 99 | 0.00 | 4.61 |
| 68 | | Tetrachloroethene | 0.475 | 0.480 | -1.1 | 100 | 0.00 | 4.63 |
| 69 | | Ethyl methacrylate | 0.242 | 0.250 | -3.3 | 99 | 0.00 | 4.73 |
| 70 | | 1,1,2-Trichloroethane | 0.203 | 0.211 | -3.9 | 98 | 0.00 | 4.71 |
| 71 | | Dibromochloromethane | 0.336 | 0.352 | -4.8 | 101 | 0.00 | 4.84 |
| 72 | | 1,3-Dichloropropane | 0.379 | 0.395 | -4.2 | 100 | 0.00 | 4.89 |
| 73 | | 1,2-Dibromoethane | 0.271 | 0.284 | -4.8 | 102 | 0.00 | 4.99 |

# Continuing Calibration Summary

**Job Number:** FC15866
**Account:** EAENYS EA Engineering
**Project:** Former Seneca Army Depot; Romulus, NY

**Sample:** V1A3001-ECC2090
**Lab FileID:** 1A55326.D

| | | | True | Calc. | % Drift | | | |
|---|---|---|---|---|---|---|---|---|
| 74 | | 3,3-Dimethyl-1-Butanol | 1250.000 | 1385.680 | -10.9 | 99 | 0.00 | 5.12 |
| 75 | | 2-hexanone | 125.000 | 122.744 | 1.8 | 101 | 0.00 | 5.14 |
| | | | AvgRF | CCRF | % Dev | | | |
| 76 | | 1-Chlorohexane | 0.432 | 0.425 | 1.6 | 96 | 0.00 | 5.36 |
| 77 | | Ethylbenzene | 1.478 | 1.490 | -0.8 | 98 | 0.00 | 5.40 |
| 78 | | Chlorobenzene | 0.949 | 0.960 | -1.2 | 100 | 0.00 | 5.36 |
| 79 | | 1,1,1,2-Tetrachloroethane | 0.352 | 0.372 | -5.7 | 103 | 0.00 | 5.41 |
| 80 | | m,p-Xylene | 1.164 | 1.184 | -1.7 | 97 | 0.00 | 5.50 |
| 81 | | o-Xylene | 1.172 | 1.186 | -1.2 | 98 | 0.00 | 5.80 |
| 82 | | Styrene | 0.892 | 0.944 | -5.8 | 99 | 0.00 | 5.84 |
| 83 | | Bromoform | 0.207 | 0.214 | -3.4 | 96 | 0.00 | 5.84 |
| 84 | | Isopropylbenzene | 1.498 | 1.522 | -1.6 | 97 | 0.00 | 6.04 |
| 85 | I | 1,4-Dichlorobenzene-d4 | 1.000 | 1.000 | 0.0 | 95 | 0.00 | 7.09 |
| 86 | S | 4-Bromofluorobenzene | 0.860 | 0.849 | 1.3 | 95 | 0.00 | 6.23 |
| 87 | | cis-1,4-Dichloro-2-butene | 0.095 | 0.091 | 4.2 | 91 | 0.00 | 6.27 |
| 88 | | n-Propylbenzene | 2.832 | 2.907 | -2.6 | 98 | 0.00 | 6.35 |
| 89 | | Bromobenzene | 0.735 | 0.729 | 0.8 | 97 | 0.00 | 6.31 |
| 90 | | 1,1,2,2-Tetrachloroethane | 0.438 | 0.436 | 0.5 | 94 | 0.00 | 6.37 |
| 91 | | 1,3,5-Trimethylbenzene | 2.075 | 2.173 | -4.7 | 97 | 0.00 | 6.51 |
| 92 | | 2-Chlorotoluene | 1.649 | 1.648 | 0.1 | 98 | 0.00 | 6.45 |
| 93 | | trans-1,4-Dichloro-2-Bute | 0.117 | 0.118 | -0.9 | 94 | 0.00 | 6.51 |
| 94 | | 1,2,3-Trichloropropane | 0.133 | 0.136 | -2.3 | 98 | 0.00 | 6.47 |
| | | | True | Calc. | % Drift | | | |
| 95 | | Cyclohexanone | 125.000 | 205.806 | -64.6# | 164 | -0.07 | 6.41 |
| | | | AvgRF | CCRF | % Dev | | | |
| 96 | | 4-Chlorotoluene | 1.710 | 1.733 | -1.3 | 97 | 0.00 | 6.58 |
| 97 | | tert-Butylbenzene | 1.094 | 1.103 | -0.8 | 95 | 0.00 | 6.74 |
| 98 | | 1,2,4-Trimethylbenzene | 1.964 | 2.037 | -3.7 | 96 | 0.00 | 6.80 |
| 99 | | Pentachloroethane | 0.392 | 0.382 | 2.6 | 90 | 0.00 | 6.74 |
| 100 | | sec-Butylbenzene | 2.593 | 2.734 | -5.4 | 98 | 0.00 | 6.89 |
| 101 | | 4-Isopropyltoluene | 2.218 | 2.296 | -3.5 | 96 | 0.00 | 7.01 |
| 102 | | 1,3-Dichlorobenzene | 1.344 | 1.341 | 0.2 | 96 | 0.00 | 7.04 |
| 103 | | 1,2,3-Trimethylbenzene | 1.881 | 1.933 | -2.8 | 98 | 0.00 | 7.14 |
| 104 | | 1,4-Dichlorobenzene | 1.342 | 1.339 | 0.2 | 98 | 0.00 | 7.11 |
| 105 | | n-Butylbenzene | 0.876 | 0.920 | -5.0 | 98 | 0.00 | 7.34 |
| 106 | | Benzyl Chloride | 0.175 | 0.167 | 4.6 | 89 | 0.00 | 7.29 |
| 107 | | 1,2-Dichlorobenzene | 1.154 | 1.152 | 0.2 | 97 | 0.00 | 7.43 |
| 108 | | 1,2-Dibromo-3-Chloropropa | 0.046 | 0.052 | -13.0 | 106 | 0.00 | 8.01 |
| 109 | | Hexachlorobutadiene | 0.372 | 0.362 | 2.7 | 96 | 0.00 | 8.51 |
| 110 | | 1,2,4-Trichlorobenzene | 0.597 | 0.598 | -0.2 | 96 | 0.00 | 8.50 |
| | | | True | Calc. | % Drift | | | |
| 111 | | Naphthalene | 25.000 | 26.550 | -6.2 | 101 | 0.00 | 8.71 |
| | | | AvgRF | CCRF | % Dev | | | |
| 112 | | 1,2,3-Trichlorobenzene | 0.464 | 0.486 | -4.7 | 99 | 0.00 | 8.84 |

(#) = Out of Range SPCC's out = 0 CCC's out = 0

1A55026.D V1A2090_05142024.M Fri May 24 07:46:02 2024

# Run Sequence Report



**Job Number:** FC15866
**Account:** EAENYS EA Engineering
**Project:** Former Seneca Army Depot; Romulus, NY

**Run ID:** V1A2090 **Method:** SW846 8260D **Instrument ID:** GCMS1A

| Lab Sample ID | Lab File ID | Date/Time Analyzed | Prep QC Batch | Client Sample ID |
|---|---|---|---|---|
| V1A2090-BFB | 1A55021.D | 05/14/24 08:03 | n/a | BFB Tune |
| V1A2090-IC2090 | 1A55022.D | 05/14/24 08:27 | n/a | Initial cal 1 |
| V1A2090-IC2090 | 1A55023.D | 05/14/24 08:51 | n/a | Initial cal 8 |
| V1A2090-IC2090 | 1A55024.D | 05/14/24 09:15 | n/a | Initial cal 2 |
| V1A2090-IC2090 | 1A55025.D | 05/14/24 09:40 | n/a | Initial cal 3 |
| V1A2090-IC2090 | 1A55026.D | 05/14/24 10:04 | n/a | Initial cal 4 |
| V1A2090-IC2090 | 1A55027.D | 05/14/24 10:28 | n/a | Initial cal 6 |
| V1A2090-IC2090 | 1A55028.D | 05/14/24 10:52 | n/a | Initial cal 7 |
| V1A2090-ICC2090 | 1A55031.D | 05/14/24 11:47 | n/a | Initial cal 5 |
| V1A2090-ICV2090 | 1A55033.D | 05/14/24 12:54 | n/a | Initial cal verification 5 |
| V1A2090-BS | 1A55034A.D | 05/14/24 13:18 | n/a | Blank Spike |
| V1A2090-ICV2090 | 1A55034.D | 05/14/24 13:18 | n/a | Initial cal verification 4 |
| V1A2090-MB | 1A55036.D | 05/14/24 14:07 | n/a | Method Blank |
| ZZZZZZ | 1A55037.D | 05/14/24 14:31 | n/a | (unrelated sample) |
| FC15476-3 | 1A55038.D | 05/14/24 14:55 | n/a | (used for QC only; not part of job FC15866) |
| ZZZZZZ | 1A55039.D | 05/14/24 15:19 | n/a | (unrelated sample) |
| ZZZZZZ | 1A55040.D | 05/14/24 15:44 | n/a | (unrelated sample) |
| ZZZZZZ | 1A55041.D | 05/14/24 16:08 | n/a | (unrelated sample) |
| ZZZZZZ | 1A55042.D | 05/14/24 16:32 | n/a | (unrelated sample) |
| ZZZZZZ | 1A55043.D | 05/14/24 16:56 | n/a | (unrelated sample) |
| ZZZZZZ | 1A55045.D | 05/14/24 17:44 | n/a | (unrelated sample) |
| FC15476-3MS | 1A55046.D | 05/14/24 18:09 | n/a | Matrix Spike |
| FC15476-3MSD | 1A55047.D | 05/14/24 18:33 | n/a | Matrix Spike Duplicate |
| V1A2090-ECC2090 | 1A55048.D | 05/14/24 18:57 | n/a | Ending cal 5 |

# Run Sequence Report



**Job Number:** FC15866
**Account:** EAENYS EA Engineering
**Project:** Former Seneca Army Depot; Romulus, NY

| **Run ID:** V1A3001 | **Method:** SW846 8260D | **Instrument ID:** GCMS1A |
|---|---|---|

| Lab Sample ID | Lab File ID | Date/Time Analyzed | Prep QC Batch | Client Sample ID |
|---|---|---|---|---|
| V1A3001-BFB | 1A55298.D | 05/23/24 07:36 | n/a | BFB Tune |
| V1A3001-CC2090 | 1A55299.D | 05/23/24 08:00 | n/a | Continuing cal 4 |
| V1A3001-BS | 1A55300.D | 05/23/24 08:24 | n/a | Blank Spike |
| V1A3001-MB | 1A55303.D | 05/23/24 09:37 | n/a | Method Blank |
| FC15866-1 | 1A55304.D | 05/23/24 10:01 | n/a | MW25-31S-05202024 |
| ZZZZZZ | 1A55305.D | 05/23/24 10:25 | n/a | (unrelated sample) |
| ZZZZZZ | 1A55306.D | 05/23/24 10:49 | n/a | (unrelated sample) |
| ZZZZZZ | 1A55307.D | 05/23/24 11:14 | n/a | (unrelated sample) |
| ZZZZZZ | 1A55308.D | 05/23/24 11:38 | n/a | (unrelated sample) |
| ZZZZZZ | 1A55309.D | 05/23/24 12:02 | n/a | (unrelated sample) |
| ZZZZZZ | 1A55310.D | 05/23/24 12:26 | n/a | (unrelated sample) |
| FC15866-3 | 1A55311.D | 05/23/24 12:50 | n/a | TB |
| FC15866-2 | 1A55312.D | 05/23/24 13:14 | n/a | DUP-01-05202024 |
| ZZZZZZ | 1A55313.D | 05/23/24 13:39 | n/a | (unrelated sample) |
| ZZZZZZ | 1A55314.D | 05/23/24 14:03 | n/a | (unrelated sample) |
| ZZZZZZ | 1A55315.D | 05/23/24 14:27 | n/a | (unrelated sample) |
| ZZZZZZ | 1A55316.D | 05/23/24 14:51 | n/a | (unrelated sample) |
| ZZZZZZ | 1A55317.D | 05/23/24 15:15 | n/a | (unrelated sample) |
| ZZZZZZ | 1A55318.D | 05/23/24 15:40 | n/a | (unrelated sample) |
| ZZZZZZ | 1A55319.D | 05/23/24 16:04 | n/a | (unrelated sample) |
| ZZZZZZ | 1A55320.D | 05/23/24 16:28 | n/a | (unrelated sample) |
| ZZZZZZ | 1A55321.D | 05/23/24 16:52 | n/a | (unrelated sample) |
| ZZZZZZ | 1A55322.D | 05/23/24 17:16 | n/a | (unrelated sample) |
| ZZZZZZ | 1A55323.D | 05/23/24 17:40 | n/a | (unrelated sample) |
| FC15866-1MS | 1A55324.D | 05/23/24 18:05 | n/a | Matrix Spike |
| FC15866-1MSD | 1A55325.D | 05/23/24 18:29 | n/a | Matrix Spike Duplicate |
| V1A3001-ECC2090 | 1A55326.D | 05/23/24 18:53 | n/a | Ending cal 4 |

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# Appendix C

# Data Validation Sheets

# DATA VALIDATION REPORT

**Seneca Army Depot**
**May 2024 Sampling**

**SDG: FC15866**

**SGS North America Inc.**

Prepared by

**ENVIRONMENTAL DATA SERVICES, LTD.**

Prepared for

**EA Engineering, Science, and Technology, Inc.**

**Report Released 07/01/2024**

**5 Brilliant Avenue, Pittsburgh, PA 15215**
**412.408.3288 I www.eds-pa.com**

ENVIRONMENTAL DATA SERVICES, LTD.

## EXECUTIVE NARRATIVE

**Sample Delivery Group**: FC15866
**Laboratory:** SGS North America Inc.
**Site:** EA Seneca Army Depot
**Sampling dates**: 05/20/2024
**Number of Samples:** 3
**Test Method:** SW846 8260D
**Analysis:** VOCs

**Quality Assurance Project Plan:** Uniform Federal Policy Quality Assurance Project Plan for Long-Term Monitoring/Land Use Control Management. Former Seneca Army Depot, Romulus, New York (June 2023).

**Validation Guidelines:** United States Department of Defense (DOD) Environmental Data Quality Workgroup (EDQW), November 2019, General Data Validation Guidelines; DOD Data Validation Guidelines Module 1: Data Validation Procedure for Organic Analysis by GC/MS (May 2020); DOD Data Validation Guidelines Module 1, 2, 3, and 4 Revised Table for Sample Qualification in the Prescence of Blank Contamination (2022).

| Client Sample Identification | Laboratory Sample Identification | Matrix | Validation Stage |
|---|---|---|---|
| MW25-31S-20240520 | FC15866-1 | groundwater | S2BVM |
| DUP-01-20240520 | FC15866-2 | groundwater | S2BVM |
| TB | FC15866-3 | trip blank | S2BVM |

Table 1 provides a summary of the major and minor data quality issues identified in this data set. All data are acceptable except those results which have been qualified with “X”, rejected. Data validation qualifiers along with associated descriptions are provided in Table 2. All data qualification related to this group of samples is detailed on the attached sheets.

All data users should note two facts. First, an “X” flag means that the associated value is unusable due to significant quality control (QC) problems, the data is invalid and provides no information as to whether the compound is present or not. “X” values should not appear on any data tables even as a last resort. Second, no analyte concentration, even if it passed all QC tests, is guaranteed to be accurate. Strict QC serves to increase confidence in data, but any value potentially contains error.

# DATA ASSESSMENT

## 1. NARRATIVE AND COMPLETENESS REVIEW

*The case narrative was reviewed, and the data package was checked for completeness. No discrepancies were noted.*

## 2. SAMPLE DELIVERY AND CONDITION

*The samples arrived at the laboratory in acceptable condition with the following exception. Proper custody was documented.*

## 3. HOLDING TIME

**The amount of an analyte in a sample can change with time due to chemical instability, degradation, volatilization, etc. If the specified holding time is exceeded, the data may not be valid. Those analytes detected in the samples whose holding time has been exceeded will be qualified as estimated, "J". The non-detect results will be flagged as not detected at an estimated quantitation limit, "UJ", unless the holding time is grossly exceeded (by more than two times the holding time specified), in which case non-detect results are flagged "X", rejected. Qualifications were applied to the samples and analytes as shown below.**

*No problems were found for this criterion.*

## 4. MASS SPECTROMETER TUNING

**Tuning and performance criteria are established to ensure adequate mass resolution, proper identification of compounds and to some degree, sufficient instrument sensitivity. These criteria are not sample specific. Instrument performance is determined using standard materials. Therefore, these criteria should be met in all circumstances. The tuning standard for volatile organics is bromofluorobenzene. If the mass calibration is in error, all associated data will be classified as unusable "X". Qualifications were applied to the samples and analytes as shown below.**

*No problems were found for this criterion.*

## 5. CALIBRATION

**Satisfactory instrument calibration is established to ensure that the instrument can produce acceptable quantitative data. An initial calibration demonstrates that the instrument can give acceptable performance at the beginning of an experimental sequence. The continuing calibration checks document that the instrument is giving satisfactory daily performance.**

**A) Response Factor:**

**The response factor measures the instrument's response to specific chemical compounds. All analytes for initial and continuing calibration should meet the minimum relative response factor (RRF) criteria. If the RRF is less than minimum RRF specified, professional judgment is used, and all detects in the sample will be qualified as "J". All non-detects for that compound will be rejected "X". Qualifications were applied to the samples and analytes as shown below.**

*No problems were found for this criterion.*

**B) Percent Relative Standard Deviation and Percent Difference:**

**Percent relative standard deviation (%RSD) is calculated from the initial calibration and is used to indicate the stability of the specific compound response factor over increasing concentration. Percent difference (%D) compares the response factor of the continuing calibration check to the mean RRF from the initial calibration.**

**Percent RSD must be less than maximum %RSD listed in the Department of Defense Quality Systems Manual or, in cases where linear and non-linear regressions are used, correlation coefficients must be greater than those listed in the Department of Defense Quality Systems Manual. For the opening or closing continuing calibration verification (CCV) the %D must be within the inclusive opening or closing maximum %D limits as listed in the Department of Defense Quality Systems Manual for all target compounds. A value outside of these limits indicates potential detection and quantitation errors. If the %RSD exceeds quality control criteria, detects may be qualified as "J" and professional judgment is used to qualify non-detects. If the %D exceeds quality control criteria, the positive results are flagged as estimated, "J" and non-detects are flagged "UJ". Qualifications were applied to the samples and analytes as shown below.**

*No problems were found for this criterion with the following exception.*

*The observed %D for dichlorodifluoromethane was outside of the acceptable limits in the ICV associated with all samples in this sample delivery group (SDG). The non-detected sample results reported for the impacted analyte in all samples have been qualified "UJ" on this basis.*

## 6. BLANK CONTAMINATION

**Quality assurance (QA) blanks, i.e., method, trip, field, or rinse blanks are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Trip blanks (TB) measure cross-contamination of samples during shipment. Field and rinse blanks measure cross-contamination of samples during field operations. When an equipment blank, trip blank, or lab blank has an analyte detection greater than ½ the analyte Limit of Quantitation (LOQ), then all associated field samples are flagged per validation guidance.**

**A) Method blank contamination:**

*No problems were found for this criterion.*

**B) Field/Equipment/Source blank contamination:**

*No samples were submitted as an equipment/field blank in association with samples in this SDG.*

**C) Trip blank contamination:**

*Sample TB was submitted as a trip blank in association with the samples submitted in this SDG. No problems were found for this criterion.*

**D) Storage Blank associated with volatile samples only:**

*No storage blank was submitted in association with these samples.*

## 7. SURROGATES

**All samples are spiked with system monitoring compounds prior to sample preparation to evaluate overall laboratory performance and efficiency of the analytical technique. If the measured surrogate recovery limits were outside quality control limits established in the Department of Defense Quality Systems Manual, qualifications were applied to all the samples and analytes as shown below.**

*No problems were found for this criterion.*

## 8. COMPOUND IDENTIFICATION AND QUANTIFICATION

**Compound Identification**

**The compounds are identified on the GC/MS by using the analytes relative retention time (RRT) and ion spectra. For the results to be a positive hit the sample peak must be within ±0.06 RRT units of the standard compound and have an ion spectrum which has a ratio of the primary and secondary m/e intensities within 20% of that in the standard compound. In the cases where there is not an adequate ion spectrum match, the laboratory may have provided false positive identifications.**

*Target compound identifications were not reviewed at the Stage 2B level.*

*Tentatively Identified Compounds (TICs) were not reported and were not required to be reported for this program per the project QAPP.*

**Compound Quantification**

*Target compound result quantitation was not reviewed for samples at the Stage 2B level.*

*Manual integrations were not reviewed for samples at the Stage 2B level.*

## 9. MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

**Matrix spike/matrix spike duplicate (MS/MSD) data are generated to determine the long-term precision and accuracy of the analytical method in various matrices. The MS/MSD data may be used in conjunction with other quality control criteria for additional qualification of data. All MS/MSD percent recoveries must fall within the Department of Defense Quality Systems Manual limits. In addition, relative percent differences observed between results reported for the pair must be ≤ 20%.**

*Sample MW25-31S-20240520 was submitted for MS/MSD pair evaluation in association with the samples in this SDG. Upon evaluation all precision and accuracy indicators were favorable.*

## 10. INTERNAL STANDARDS PERFORMANCE

**Internal standard performance criteria are meant to ensure that the gas chromatograph/mass spectrometer (GC/MS) sensitivity and response are stable during every experimental run.**

**The internal standard area count must not vary by more than a factor of two from the associated continuing calibration standard. The retention time of the internal standard must not vary by more than ±10 seconds from the associated continuing calibration standard. The area count must be within a (50-200%) range of the associated standard. If the area count is greater than 200%, non-detected results are not qualified and positive results are flagged as estimated with potential negative bias, "J". If the area count is less than 50%, positive results are flagged as estimated with potential positive bias, "J", and non-detected results are flagged "UJ". If the area count is less than 20%, positive results and non-detected results will be classified as unusable "X". Qualifications were applied to the samples and analytes as shown below.**

*No problems were found for this criterion.*

## 11. FIELD DUPLICATES

**Field duplicates may be taken and analyzed as an indication of overall precision. These analyses measure both field and laboratory precision. A control limit of ≤50% for the Relative Percent Difference (RPD) for solid samples shall be used for original and duplicate sample values greater than or equal to the sample specific LOQ. A control limit of ≤ 30% for the Relative Percent Difference (RPD) for water samples shall be used for original and duplicate sample values greater than or equal to the sample specific LOQ. For field duplicate analyses that do not meet the technical criteria, the action was applied to only the parent sample and its duplicate.**

*Samples MW25-31S-20240520 and DUP-01-20240520 were submitted as a field duplicate pair in association with this SDG. Adequate field precision was demonstrated with the exceptions of ethylbenzene and o-xylene. The results reported for the associated analytes in the field duplicate pair have been qualified "J" on this basis.*

## 12. LABORATORY CONTROL SAMPLES

**The Laboratory Control Sample (LCS) serves as a monitor of the overall performance of each step during the analysis, including the sample preparation. Aqueous/water, soil/sediment, wipe, and filter LCSs shall be analyzed for each analyte utilizing the same sample preparations, analytical methods, and quality assurance/quality control (QA/QC) procedures as employed for the samples. All LCS percent recoveries must fall within the Department of Defense Quality Systems Manual limits. Qualifications were applied to the samples and analytes as shown below.**

*The LCS evaluations were performed at the appropriate frequency. No problems were found for this criterion.*

## 13. DILUTIONS, RE-EXTRACTIONS & REANALYSIS

**Samples may be re-analyzed for dilution, re-extraction and for other QC reasons. In such cases, the best result values are used.**

*No problems were found for this criterion.*

## 14. OTHER PROBLEMS

*None.*

**Table 1 Major and Minor Findings**

| | Were acceptance criteria met? | | |
|---|---|---|---|
| | Yes | No | |
| **Volatiles** | | Major | Minor |
| Sample Receipt/Preservative | x | | |
| Holding Time | x | | |
| Mass Spectrometer Tuning | x | | |
| Response Factor | x | | |
| Percent Relative Standard Deviation and Percent Difference | | | x |
| Internal Standards | x | | |
| Method Blank | x | | |
| Equipment/Source Blank | NA | | |
| Trip Blank | x | | |
| Storage Blank | NA | | |
| Surrogates | x | | |
| Compound Identification | NA | | |
| Matrix Spike/Matrix Spike Duplicate | x | | |
| Field Duplicate | | | x |
| Laboratory Control Samples | x | | |
| Other Quality Control Data out of Specification | x | | |
| Required Reporting Limits | x | | |

Major = Major data quality issue identified resulting in rejection of data.
Minor = Minor data quality issue identified resulting in the qualification of data. Data qualification should be used to inform the data users of data limitations.
NA = Not applicable

**Table 2 Data Validation Qualifiers**

| Data Qualifier | Definition |
|---|---|
| U | The analyte was analyzed for but was not detected above the level of the reported sample quantitation limit. |
| J | The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample. |
| J+ | The result is an estimated quantity, but the result may be biased high. |
| J- | The result is an estimated quantity, but the result may be biased low. |
| UJ | The analyte was analyzed for but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise. |
| X | The sample results (including non-detects) were affected by serious deficiencies in the ability to analyze the sample and to meet published method and project quality control criteria. The presence or absence of the analyte cannot be substantiated by the data provided. |
| N | The analysis indicates the presence of an analyte for which there is presumptive evidence to make a tentative identification. |
| NJ | The analyte was tentatively identified, and the associated numerical value represents its approximate concentration. |

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