

November 18, 2025

Mr. Michael Smith, P.E., Environmental Engineer Senior  
IDNR – Land Quality Bureau  
6200 Park Avenue, Suite 200  
Des Moines, Iowa 50321



**RE: 2025 WATER QUALITY RESULTS – MW-213  
AREA A - MARSHALL COUNTY SANITARY LANDFILL  
CLOSURE PERMIT # 64-SDP-6-92C**

Dear Mr. Smith:

This letter forwards the results of water quality testing performed in 2025 at MW-213. In accordance with the requirements of IDNR Letter dated January 12, 2024 (Doc #108775) the annual sampling of MW-213 has continued through 2025 (more frequently than annually) and will continue through 2026.

Permit Amendment #12 dated December 9, 2024 (Doc #111448) extended the Permit expiration date to September 30, 2030.

### **General**

A Site Plan and Groundwater Contour Map are attached.

Water samples were collected on April 14, 2025; July 15, 2025; and October 06, 2025, at MW-213 exceeding the annual frequency requirement. The Analytical Reports are included in Attachment A.

The detected compounds in 2025 include:

#### Volatile Organic Compounds

|                          |                  |
|--------------------------|------------------|
| 1,1-dichloroethane       | 4/14/25          |
| 1,2-dichloropropane      | 4/14/25, 10/6/25 |
| Benzene                  | 4/14/25          |
| Chloroethane             | 4/14/25          |
| cis-1,2-Dichloroethylene | 4/14/25, 10/6/25 |
| Vinyl Chloride           | 4/14/25          |

#### Inorganic Compounds (Metals)

|          |                           |
|----------|---------------------------|
| Barium   | 4/14/25, 7/15/25, 10/6/25 |
| Chromium | 4/14/25, 7/15/25, 10/6/25 |

Tables and graphs are attached to summarize the data recorded since October 13, 2016 (Attachment B).

#### Volatile Organic Compounds (VOC)

1,1-dichloroethane, 1,2-dichloropropane, Benzene, Chloroethane, cis-1,2-Dichloroethylene, and Vinyl Chloride are frequently detected at MW-213 since 2021.

1,2-dichloropropane (October, 2020 through April, 2023) and Vinyl Chloride (April, 2021 through April, 2025) are the two (2) VOC compounds that historically exceeded the GWPS.

### Inorganic Compounds

Barium is the only compound that is detected during every reported monitoring episode. Cobalt was detected several times at MW-213 prior to 2022. Arsenic, copper, nickel, and zinc have only been detected once since 2016. Chromium is detected during four (4) of six (6) episodes since 2022.

Only barium, cobalt, copper, and nickel have been detected at a concentration greater than the Prediction Limit. Arsenic, chromium, and zinc detections have remained below the Prediction Limit.

Only Cobalt (in 2020 and 2022) exceeded the applicable GWPS.

### **Relationship of Metal Concentrations to Water Elevation**

To determine whether inorganic compounds and sediment (measured as turbidity) become more concentrated as available water for sample collection becomes limited (as the water elevation decreases), water elevation and turbidity are graphed over time (Attachment C). Review of the graph in Attachment C does not indicate any clear relationship between water elevation and turbidity. An inverse relationship was anticipated but is not supported by the data.

### **Trends**

The evaluation of trends and statistically significant levels (SSL) requested in the IDNR Letter dated January 12, 2024 (Doc #108775) are presented in Attachment D.

Review of the data in Attachment D indicate that all evaluated compounds (1,1-dichloroethane, 1,2-dichloropropane, benzene, chloroethane, cis-1,2-dichloroethylene, vinyl chloride, barium, and cobalt) indicate an increasing trend based on the linear trend line added to the graphs. At the same time, it is recognized that all evaluated compound concentrations decreased between 2023 and 2025. The trends based on future sampling may decrease if the respective concentrations continue to decrease or remain steady at concentrations below the peaks recorded in 2022.

There were no statistically significant levels (SSL) recorded for the evaluated compounds, as all 95% Lower Confidence Levels are below the applicable groundwater protection standard (GWPS).

The water quality results, along with the water table elevations and turbidity, will again be evaluated and reported in 2026 as required. The trend analyses and the evaluation of statistically significant levels (SSL) will also be presented in 2026 (in accordance with the IDNR Letter dated January 12, 2024 (Doc #108775)).

### **Subsurface Characterization**

On April 14, 2025, and October 6, 2025, supplemental water samples were collected during the routine sampling at MW-213. The supplemental sampling included the analysis of the water samples for dissolved methane, ethane, and ethene. The intent of supplemental sampling was to identify whether the groundwater at MW-213 demonstrates impact by landfill gas (methane).

A summary of the methane, ethane, and ethene is included in the Table in Attachment E. Results indicate that dissolved methane was detected in groundwater at MW-213 in April 2025. The likely source of methane is from landfill gas associated with the decay of solid waste.

On July 15, 2025, the groundwater at MW-213 was further characterized by documenting water temperature, the dissolved oxygen content, the specific conductance, the pH, and the oxidation-reduction potential (ORP). Based on the values of the parameters recorded (Attachment E), it is determined that the subsurface conditions demonstrated rather high dissolved oxygen content and a significantly positive ORP value. Combined, these parameters suggest that there is an oxidizing environment at MW-213.

Generally, oxidizing conditions in the subsurface act to increase pH and thereby decrease the potential for elevated concentrations of formation-sourced dissolved metals to migrate with groundwater.

### **Summary**

Cyclic detections of VOC and trace metals concentrations are recorded at MW-213 over time. Only 1,2-dichloropropane, vinyl chloride, and cobalt have exceeded an applicable GWPS. A spike in both VOC and metals concentrations is generally recorded between 2020 and 2023. Concentrations of VOC and metals are currently decreasing but are anticipated to fluctuate over time based on study of the available data since 2016.

The fluctuation of metals concentrations over time has not been successfully tied to predictable variation in water elevation or turbidity of the formation water in MW-213.

The source of the water impacts is interpreted to be the result of landfill gas. The presence of both VOC and methane dissolved in water at MW-213 supports this interpretation. The source of the minor metals impacts at MW-213 is also interpreted to be tied to changes in subsurface conditions that result indirectly from the presence of landfill gas near MW-213.

### **Response to Findings**

Based on the findings reported herein, water quality monitoring at MW-213 will continue in 2026. Additionally, the Solid Waste Management Commission of Marshall County (SWMCMC) will evaluate the feasibility of constructing passive landfill gas controls near MW-213 in 2026.

The construction of any future passive gas control measures in Area A which are approved by SWMCMC can be incorporated into a future landfill cell construction project in Area B. Currently, the next landfill expansion project in Area B is tentatively scheduled to occur in the summer of 2027. The timing of a 2027 project to incorporate passive gas control in Area A near MW-213 is in advance of the current Closure Permit expiration date of September 30, 2030 (Doc #111448).

Please feel free to contact our office at (515) 733-4144 with any questions you may have.

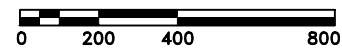
Respectfully Submitted,  
**HLW Engineering Group**



Todd Whipple, CPG.  
Project Manager

cc: Don Ballalatak, Manager

**HLW Engineering Group, 204 West Broad Street, P.O. Box 314, Story City, Iowa 50248**  
**(515) 733-4144**            **(515) 733-4146 Fax**



CONTOURS WITHIN AREA B4-7  
FROM BASE RECORD SURVEY OCT  
16, 2017. REMAINING CONTOURS  
FROM SEP, 2017 AERIAL.



HLW Engineering Group  
204 West Broad Street, P.O. Box 314  
Story City, Iowa 50248  
Phone: (515) 733-4144  
FAX: (515) 733-4146

**SITE PLAN WITH  
SUBSURFACE GAS PROBE LOCATIONS**  
MARSHALL COUNTY SANITARY LANDFILL  
MARSHALLTOWN, IOWA

|           |       |             |          |
|-----------|-------|-------------|----------|
| FIGURE: 1 |       | NO.         | DATE     |
| REVISION  | DRAWN | PROJECT NO. | DATE     |
|           | DRA   | 6003        | 10-21-25 |



**ATTACHMENT A**

**Laboratory Analytical Reports**

**4/14/2025**

**7/15/2025**

**10/06/2025**



Microbac Laboratories, Inc., Newton

CERTIFICATE OF ANALYSIS

1ID1424

Project Description

6003

For:

Todd Whipple

**HLW Engineering**

204 West Broad St

Story City, IA 50248

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Heather Murphy

Customer Relationship Specialist

Friday, June 20, 2025

Please find enclosed the analytical results for the samples you submitted to Microbac Laboratories. Review and compilation of your report was completed by Microbac Laboratories, Inc., Newton. If you have any questions, comments, or require further assistance regarding this report, please contact your service representative listed above.

I certify that all test results meet all of the requirements of the accrediting authority listed within this report. Analytical results are reported on a 'as received' basis unless specified otherwise. Analytical results for solids with units ending in (dry) are reported on a dry weight basis. A statement of uncertainty for each analysis is available upon request. This laboratory report shall not be reproduced, except in full, without the written approval of Microbac Laboratories. The reported results are related only to the samples analyzed as received.

Microbac Laboratories, Inc.

600 East 17th Street South | Newton, IA 50208 | 641-792-8451 p | [www.microbac.com](http://www.microbac.com)



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CERTIFICATE OF ANALYSIS

1ID1424

**HLW Engineering**

Todd Whipple  
204 West Broad St  
Story City, IA 50248

**Project Name: 6003**

Project / PO Number: N/A  
Received: 04/15/2025  
Reported: 06/20/2025

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**Sample Summary Report**

| <u>Sample Name</u> | <u>Laboratory ID</u> | <u>Client Matrix</u> | <u>Sample Type</u> | <u>Sample Begin</u> | <u>Sample Taken</u> | <u>Lab Received</u> |
|--------------------|----------------------|----------------------|--------------------|---------------------|---------------------|---------------------|
| MW-213             | 1ID1424-01           | Aqueous              | GRAB               |                     | 04/14/25 14:01      | 04/15/25 10:50      |



Microbac Laboratories, Inc., Newton

CERTIFICATE OF ANALYSIS

1ID1424

Analytical Testing Parameters

|                   |            |                  |                  |
|-------------------|------------|------------------|------------------|
| Client Sample ID: | MW-213     | Collected By:    | Whipple, Todd    |
| Sample Matrix:    | Aqueous    | Collection Date: | 04/14/2025 14:01 |
| Lab Sample ID:    | 1ID1424-01 |                  |                  |

Analyses Performed by: Microbac Laboratories Inc., - Marietta, OH

| Volatile Organic Compounds by GCMS | Result | RL   | Units | Note | Prepared      | Analyzed      | Analyst |
|------------------------------------|--------|------|-------|------|---------------|---------------|---------|
| <b>EPA RSK-175</b>                 |        |      |       |      |               |               |         |
| Methane                            | 13.2   | 5.00 | ug/L  |      | 04/21/25 1034 | 04/21/25 1317 | KJB     |
| Ethene                             | <5.00  | 5.00 | ug/L  |      | 04/17/25 1129 | 04/17/25 1531 | KJB     |
| Ethane                             | <5.00  | 5.00 | ug/L  |      | 04/17/25 1129 | 04/17/25 1531 | KJB     |

Analyses Performed by: Microbac Laboratories, Inc., Newton

| Determination of Volatile Organic Compounds | Result | RL   | Units | Note | Prepared      | Analyzed      | Analyst |
|---------------------------------------------|--------|------|-------|------|---------------|---------------|---------|
| <b>EPA 5030B/EPA 8260D</b>                  |        |      |       |      |               |               |         |
| Chloromethane                               | <1.0   | 1.0  | ug/L  |      | 04/22/25 0000 | 04/22/25 1556 | RAF     |
| Vinyl Chloride                              | 2.5    | 1.0  | ug/L  |      | 04/22/25 0000 | 04/22/25 1556 | RAF     |
| Bromomethane                                | <1.0   | 1.0  | ug/L  |      | 04/22/25 0000 | 04/22/25 1556 | RAF     |
| Chloroethane                                | 2.3    | 1.0  | ug/L  |      | 04/24/25 0000 | 04/24/25 2103 | RAF     |
| Trichlorofluoromethane                      | <1.0   | 1.0  | ug/L  |      | 04/22/25 0000 | 04/22/25 1556 | RAF     |
| 1,1-Dichloroethylene                        | <1.0   | 1.0  | ug/L  |      | 04/22/25 0000 | 04/22/25 1556 | RAF     |
| Acetone                                     | <10.0  | 10.0 | ug/L  |      | 04/22/25 0000 | 04/22/25 1556 | RAF     |
| Methyl Iodide                               | <1.0   | 1.0  | ug/L  |      | 04/22/25 0000 | 04/22/25 1556 | RAF     |
| Carbon Disulfide                            | <1.0   | 1.0  | ug/L  |      | 04/22/25 0000 | 04/22/25 1556 | RAF     |
| Methylene Chloride                          | <5.0   | 5.0  | ug/L  |      | 04/22/25 0000 | 04/22/25 1556 | RAF     |
| Acrylonitrile                               | <5.0   | 5.0  | ug/L  |      | 04/22/25 0000 | 04/22/25 1534 | RAF     |
| trans-1,2-Dichloroethylene                  | <1.0   | 1.0  | ug/L  |      | 04/22/25 0000 | 04/22/25 1556 | RAF     |
| 1,1-Dichloroethane                          | 2.5    | 1.0  | ug/L  |      | 04/24/25 0000 | 04/24/25 2103 | RAF     |
| Vinyl Acetate                               | <5.0   | 5.0  | ug/L  |      | 04/22/25 0000 | 04/22/25 1556 | RAF     |
| cis-1,2-Dichloroethylene                    | 20.9   | 1.0  | ug/L  |      | 04/24/25 0000 | 04/24/25 2103 | RAF     |
| 2-Butanone (MEK)                            | <10.0  | 10.0 | ug/L  |      | 04/22/25 0000 | 04/22/25 1556 | RAF     |
| Bromochloromethane                          | <1.0   | 1.0  | ug/L  |      | 04/22/25 0000 | 04/22/25 1556 | RAF     |
| Chloroform                                  | <1.0   | 1.0  | ug/L  |      | 04/22/25 0000 | 04/22/25 1556 | RAF     |
| 1,1,1-Trichloroethane                       | <1.0   | 1.0  | ug/L  |      | 04/22/25 0000 | 04/22/25 1556 | RAF     |
| Carbon Tetrachloride                        | <1.0   | 1.0  | ug/L  |      | 04/22/25 0000 | 04/22/25 1556 | RAF     |
| Benzene                                     | 1.6    | 1.0  | ug/L  |      | 04/22/25 0000 | 04/22/25 1556 | RAF     |
| 1,2-Dichloroethane                          | <1.0   | 1.0  | ug/L  |      | 04/22/25 0000 | 04/22/25 1556 | RAF     |
| Trichloroethylene                           | <1.0   | 1.0  | ug/L  |      | 04/22/25 0000 | 04/22/25 1556 | RAF     |
| 1,2-Dichloropropane                         | 2.5    | 1.0  | ug/L  |      | 04/24/25 0000 | 04/24/25 2103 | RAF     |
| Dibromomethane                              | <1.0   | 1.0  | ug/L  |      | 04/22/25 0000 | 04/22/25 1556 | RAF     |
| Bromodichloromethane                        | <1.0   | 1.0  | ug/L  |      | 04/22/25 0000 | 04/22/25 1556 | RAF     |
| cis-1,3-Dichloropropene                     | <1.0   | 1.0  | ug/L  |      | 04/22/25 0000 | 04/22/25 1556 | RAF     |
| 4-Methyl-2-pentanone (MIBK)                 | <5.0   | 5.0  | ug/L  |      | 04/22/25 0000 | 04/22/25 1556 | RAF     |
| Toluene                                     | <1.0   | 1.0  | ug/L  |      | 04/22/25 0000 | 04/22/25 1556 | RAF     |
| trans-1,3-Dichloropropene                   | <1.0   | 1.0  | ug/L  |      | 04/22/25 0000 | 04/22/25 1556 | RAF     |
| 1,1,2-Trichloroethane                       | <1.0   | 1.0  | ug/L  |      | 04/22/25 0000 | 04/22/25 1556 | RAF     |
| Tetrachloroethylene                         | <1.0   | 1.0  | ug/L  |      | 04/22/25 0000 | 04/22/25 1556 | RAF     |

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CERTIFICATE OF ANALYSIS

1ID1424

Client Sample ID: MW-213  
Sample Matrix: Aqueous  
Lab Sample ID: 1ID1424-01

Collected By: Whipple, Todd  
Collection Date: 04/14/2025 14:01

| Determination of Volatile Organic Compounds |      | Result        | RL    | Units | Note | Prepared      | Analyzed      | Analyst |
|---------------------------------------------|------|---------------|-------|-------|------|---------------|---------------|---------|
| 2-Hexanone (MBK)                            |      | <5.0          | 5.0   | ug/L  |      | 04/22/25 0000 | 04/22/25 1556 | RAF     |
| Dibromochloromethane                        |      | <1.0          | 1.0   | ug/L  |      | 04/22/25 0000 | 04/22/25 1556 | RAF     |
| 1,2-Dibromoethane                           |      | <1.0          | 1.0   | ug/L  |      | 04/22/25 0000 | 04/22/25 1556 | RAF     |
| Chlorobenzene                               |      | <1.0          | 1.0   | ug/L  |      | 04/22/25 0000 | 04/22/25 1556 | RAF     |
| 1,1,1,2-Tetrachloroethane                   |      | <1.0          | 1.0   | ug/L  |      | 04/22/25 0000 | 04/22/25 1556 | RAF     |
| Ethylbenzene                                |      | <1.0          | 1.0   | ug/L  |      | 04/22/25 0000 | 04/22/25 1556 | RAF     |
| Xylenes, total                              |      | <2.0          | 2.0   | ug/L  |      | 04/22/25 0000 | 04/22/25 1556 | RAF     |
| Styrene                                     |      | <1.0          | 1.0   | ug/L  |      | 04/22/25 0000 | 04/22/25 1556 | RAF     |
| Bromoform                                   |      | <1.0          | 1.0   | ug/L  |      | 04/22/25 0000 | 04/22/25 1556 | RAF     |
| 1,2,3-Trichloropropane                      |      | <1.0          | 1.0   | ug/L  |      | 04/22/25 0000 | 04/22/25 1556 | RAF     |
| trans-1,4-Dichloro-2-butene                 |      | <5.0          | 5.0   | ug/L  |      | 04/22/25 0000 | 04/22/25 1556 | RAF     |
| 1,1,2,2-Tetrachloroethane                   |      | <1.0          | 1.0   | ug/L  |      | 04/22/25 0000 | 04/22/25 1556 | RAF     |
| 1,4-Dichlorobenzene                         |      | <1.0          | 1.0   | ug/L  |      | 04/22/25 0000 | 04/22/25 1556 | RAF     |
| 1,2-Dichlorobenzene                         |      | <1.0          | 1.0   | ug/L  |      | 04/22/25 0000 | 04/22/25 1556 | RAF     |
| 1,2-Dibromo-3-chloropropane                 |      | <5.0          | 5.0   | ug/L  |      | 04/22/25 0000 | 04/22/25 1556 | RAF     |
| Surrogate: Dibromofluoromethane             | 101  | Limit: 57-134 | % Rec |       |      | 04/22/25 0000 | 04/22/25 1534 | RAF     |
| Surrogate: Dibromofluoromethane             | 109  | Limit: 75-136 | % Rec |       |      | 04/24/25 0000 | 04/24/25 2103 | RAF     |
| Surrogate: Dibromofluoromethane             | 105  | Limit: 75-136 | % Rec |       |      | 04/22/25 0000 | 04/22/25 1556 | RAF     |
| Surrogate: 1,2-Dichloroethane-d4            | 113  | Limit: 61-142 | % Rec |       |      | 04/24/25 0000 | 04/24/25 2103 | RAF     |
| Surrogate: 1,2-Dichloroethane-d4            | 82.5 | Limit: 53-140 | % Rec |       |      | 04/22/25 0000 | 04/22/25 1534 | RAF     |
| Surrogate: 1,2-Dichloroethane-d4            | 89.2 | Limit: 61-142 | % Rec |       |      | 04/22/25 0000 | 04/22/25 1556 | RAF     |
| Surrogate: Toluene-d8                       | 98.1 | Limit: 86-114 | % Rec |       |      | 04/22/25 0000 | 04/22/25 1534 | RAF     |
| Surrogate: Toluene-d8                       | 103  | Limit: 82-121 | % Rec |       |      | 04/24/25 0000 | 04/24/25 2103 | RAF     |
| Surrogate: Toluene-d8                       | 98.3 | Limit: 82-121 | % Rec |       |      | 04/22/25 0000 | 04/22/25 1556 | RAF     |
| Surrogate: 4-Bromofluorobenzene             | 96.4 | Limit: 80-116 | % Rec |       |      | 04/24/25 0000 | 04/24/25 2103 | RAF     |
| Surrogate: 4-Bromofluorobenzene             | 90.9 | Limit: 78-121 | % Rec |       |      | 04/22/25 0000 | 04/22/25 1534 | RAF     |
| Surrogate: 4-Bromofluorobenzene             | 93.6 | Limit: 80-116 | % Rec |       |      | 04/22/25 0000 | 04/22/25 1556 | RAF     |

| Determination of Total Metals |        | Result  | RL     | Units | Note | Prepared      | Analyzed      | Analyst |
|-------------------------------|--------|---------|--------|-------|------|---------------|---------------|---------|
| EPA 3005A/EPA 6020A           |        |         |        |       |      |               |               |         |
| Antimony, total               |        | <0.0010 | 0.0010 | mg/L  |      | 04/18/25 1612 | 06/18/25 1853 | RVV     |
| Arsenic, total                |        | <0.0020 | 0.0020 | mg/L  |      | 04/18/25 1612 | 06/18/25 1853 | RVV     |
| Barium, total                 | 0.982  |         | 0.0010 | mg/L  |      | 04/18/25 1612 | 06/18/25 1853 | RVV     |
| Beryllium, total              |        | <0.0005 | 0.0005 | mg/L  |      | 04/18/25 1612 | 06/18/25 1853 | RVV     |
| Cadmium, total                |        | <0.0002 | 0.0002 | mg/L  |      | 04/18/25 1612 | 06/18/25 1853 | RVV     |
| Chromium, total               | 0.0014 |         | 0.0010 | mg/L  |      | 04/18/25 1612 | 06/18/25 1853 | RVV     |
| Cobalt, total                 |        | <0.0005 | 0.0005 | mg/L  |      | 04/18/25 1612 | 06/18/25 1853 | RVV     |
| Copper, total                 |        | <0.0050 | 0.0050 | mg/L  |      | 04/18/25 1612 | 06/18/25 1853 | RVV     |
| Lead, total                   |        | <0.0010 | 0.0010 | mg/L  |      | 04/18/25 1612 | 06/18/25 1853 | RVV     |
| Nickel, total                 |        | <0.0050 | 0.0050 | mg/L  |      | 04/18/25 1612 | 06/18/25 1853 | RVV     |
| Selenium, total               |        | <0.0020 | 0.0020 | mg/L  |      | 04/18/25 1612 | 06/18/25 1853 | RVV     |
| Silver, total                 |        | <0.0050 | 0.0050 | mg/L  |      | 04/18/25 1612 | 06/18/25 1853 | RVV     |
| Thallium, total               |        | <0.0005 | 0.0005 | mg/L  |      | 04/18/25 1612 | 06/18/25 1853 | RVV     |
| Vanadium, total               |        | <0.0020 | 0.0020 | mg/L  |      | 04/18/25 1612 | 06/18/25 1853 | RVV     |

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CERTIFICATE OF ANALYSIS

1ID1424

|                   |            |                  |                  |
|-------------------|------------|------------------|------------------|
| Client Sample ID: | MW-213     | Collected By:    | Whipple, Todd    |
| Sample Matrix:    | Aqueous    | Collection Date: | 04/14/2025 14:01 |
| Lab Sample ID:    | 1ID1424-01 |                  |                  |

| Determination of Total Metals | Result  | RL     | Units | Note | Prepared      | Analyzed      | Analyst |
|-------------------------------|---------|--------|-------|------|---------------|---------------|---------|
| Zinc, total                   | <0.0050 | 0.0050 | mg/L  |      | 04/18/25 1612 | 06/18/25 1853 | RVV     |



Microbac Laboratories, Inc., Newton

CERTIFICATE OF ANALYSIS

1ID1424

Batch Log Summary

| Method      | Batch   | Laboratory ID | Client / Source ID |
|-------------|---------|---------------|--------------------|
| EPA 6020A   | 1ID1042 | 1ID1042-BLK1  |                    |
|             |         | 1ID1042-BS1   |                    |
|             |         | 1ID1042-MS1   | 1ID0775-01         |
|             |         | 1ID1042-MSD1  | 1ID0775-01         |
|             |         | 1ID1424-01    | MW-213             |
| Method      | Batch   | Laboratory ID | Client / Source ID |
| EPA 8260D   | 1ID1221 | 1ID1221-BS1   |                    |
|             |         | 1ID1221-BLK1  |                    |
|             |         | 1ID1424-01    | MW-213             |
|             |         | 1ID1424-01    | MW-213             |
|             |         | 1ID1221-MS1   | 1ID1698-05         |
|             |         | 1ID1221-MSD1  | 1ID1698-05         |
| Method      | Batch   | Laboratory ID | Client / Source ID |
| EPA 8260D   | 1ID1376 | 1ID1376-BS1   |                    |
|             |         | 1ID1376-BSD1  |                    |
|             |         | 1ID1376-BLK1  |                    |
|             |         | 1ID1424-01RE1 | MW-213             |
|             |         | 1ID1376-MS1   | 1ID1322-06RE1      |
|             |         | 1ID1376-MSD1  | 1ID1322-06RE1      |
| Method      | Batch   | Laboratory ID | Client / Source ID |
| EPA RSK-175 | B5D0943 | B5D0943-BLK1  |                    |
|             |         | B5D0943-BS1   |                    |
|             |         | B5D0943-BSD1  |                    |
|             |         | 1ID1424-01    | MW-213             |
| Method      | Batch   | Laboratory ID | Client / Source ID |
| EPA RSK-175 | B5D1124 | B5D1124-BLK1  |                    |
|             |         | B5D1124-BS1   |                    |
|             |         | B5D1124-BSD1  |                    |
|             |         | B5D1124-BS2   |                    |
|             |         | B5D1124-BS3   |                    |
|             |         | 1ID1424-01RE1 | MW-213             |

Batch Quality Control Summary: Microbac Laboratories, Inc., Newton

| Determination of Volatile Organic Compounds | Result | RL | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---------------------------------------------|--------|----|-------|-------------|---------------|------|-------------|-----|-----------|-------|
| Batch 1ID1221 - EPA 5030B - EPA 8260D       |        |    |       |             |               |      |             |     |           |       |



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| Determination of Volatile Organic Compounds | Result | RL   | Units | Spike Level                                       | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---------------------------------------------|--------|------|-------|---------------------------------------------------|---------------|------|-------------|-----|-----------|-------|
| Batch 1ID1221 - EPA 5030B - EPA 8260D       |        |      |       |                                                   |               |      |             |     |           |       |
| Blank (1ID1221-BLK1)                        |        |      |       | Prepared: 04/22/25 00:00 Analyzed: 04/22/25 14:54 |               |      |             |     |           |       |
| Chloromethane                               | <1.0   | 1.0  | ug/L  |                                                   |               |      |             |     |           |       |
| Vinyl Chloride                              | <1.0   | 1.0  | ug/L  |                                                   |               |      |             |     |           |       |
| Bromomethane                                | <1.0   | 1.0  | ug/L  |                                                   |               |      |             |     |           |       |
| Chloroethane                                | <1.0   | 1.0  | ug/L  |                                                   |               |      |             |     |           |       |
| Trichlorofluoromethane                      | <1.0   | 1.0  | ug/L  |                                                   |               |      |             |     |           |       |
| 1,1-Dichloroethylene                        | <1.0   | 1.0  | ug/L  |                                                   |               |      |             |     |           |       |
| Acetone                                     | <10.0  | 10.0 | ug/L  |                                                   |               |      |             |     |           |       |
| Methyl Iodide                               | <1.0   | 1.0  | ug/L  |                                                   |               |      |             |     |           |       |
| Carbon Disulfide                            | <1.0   | 1.0  | ug/L  |                                                   |               |      |             |     |           |       |
| Methylene Chloride                          | <5.0   | 5.0  | ug/L  |                                                   |               |      |             |     |           |       |
| Acrylonitrile                               | <5.0   | 5.0  | ug/L  |                                                   |               |      |             |     |           |       |
| trans-1,2-Dichloroethylene                  | <1.0   | 1.0  | ug/L  |                                                   |               |      |             |     |           |       |
| 1,1-Dichloroethane                          | <1.0   | 1.0  | ug/L  |                                                   |               |      |             |     |           |       |
| Vinyl Acetate                               | <5.0   | 5.0  | ug/L  |                                                   |               |      |             |     |           |       |
| cis-1,2-Dichloroethylene                    | <1.0   | 1.0  | ug/L  |                                                   |               |      |             |     |           |       |
| 2-Butanone (MEK)                            | <10.0  | 10.0 | ug/L  |                                                   |               |      |             |     |           |       |
| Bromochloromethane                          | <1.0   | 1.0  | ug/L  |                                                   |               |      |             |     |           |       |
| Chloroform                                  | <1.0   | 1.0  | ug/L  |                                                   |               |      |             |     |           |       |
| 1,1,1-Trichloroethane                       | <1.0   | 1.0  | ug/L  |                                                   |               |      |             |     |           |       |
| Carbon Tetrachloride                        | <1.0   | 1.0  | ug/L  |                                                   |               |      |             |     |           |       |
| Benzene                                     | <1.0   | 1.0  | ug/L  |                                                   |               |      |             |     |           |       |
| 1,2-Dichloroethane                          | <1.0   | 1.0  | ug/L  |                                                   |               |      |             |     |           |       |
| Trichloroethylene                           | <1.0   | 1.0  | ug/L  |                                                   |               |      |             |     |           |       |
| 1,2-Dichloropropane                         | <1.0   | 1.0  | ug/L  |                                                   |               |      |             |     |           |       |
| Dibromomethane                              | <1.0   | 1.0  | ug/L  |                                                   |               |      |             |     |           |       |
| Bromodichloromethane                        | <1.0   | 1.0  | ug/L  |                                                   |               |      |             |     |           |       |
| cis-1,3-Dichloropropene                     | <1.0   | 1.0  | ug/L  |                                                   |               |      |             |     |           |       |
| 4-Methyl-2-pentanone (MIBK)                 | <5.0   | 5.0  | ug/L  |                                                   |               |      |             |     |           |       |
| Toluene                                     | <1.0   | 1.0  | ug/L  |                                                   |               |      |             |     |           |       |
| trans-1,3-Dichloropropene                   | <1.0   | 1.0  | ug/L  |                                                   |               |      |             |     |           |       |
| 1,1,2-Trichloroethane                       | <1.0   | 1.0  | ug/L  |                                                   |               |      |             |     |           |       |
| Tetrachloroethylene                         | <1.0   | 1.0  | ug/L  |                                                   |               |      |             |     |           |       |
| 2-Hexanone (MBK)                            | <5.0   | 5.0  | ug/L  |                                                   |               |      |             |     |           |       |
| Dibromochloromethane                        | <1.0   | 1.0  | ug/L  |                                                   |               |      |             |     |           |       |
| 1,2-Dibromoethane                           | <1.0   | 1.0  | ug/L  |                                                   |               |      |             |     |           |       |
| Chlorobenzene                               | <1.0   | 1.0  | ug/L  |                                                   |               |      |             |     |           |       |
| 1,1,1,2-Tetrachloroethane                   | <1.0   | 1.0  | ug/L  |                                                   |               |      |             |     |           |       |
| Ethylbenzene                                | <1.0   | 1.0  | ug/L  |                                                   |               |      |             |     |           |       |
| Xylenes, total                              | <2.0   | 2.0  | ug/L  |                                                   |               |      |             |     |           |       |
| Styrene                                     | <1.0   | 1.0  | ug/L  |                                                   |               |      |             |     |           |       |
| Bromoform                                   | <1.0   | 1.0  | ug/L  |                                                   |               |      |             |     |           |       |
| 1,2,3-Trichloropropane                      | <1.0   | 1.0  | ug/L  |                                                   |               |      |             |     |           |       |
| trans-1,4-Dichloro-2-butene                 | <5.0   | 5.0  | ug/L  |                                                   |               |      |             |     |           |       |

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| Determination of Volatile Organic Compounds | Result | RL   | Units | Spike Level                                       | Source Result | %REC Limits | RPD | RPD Limit | Notes |
|---------------------------------------------|--------|------|-------|---------------------------------------------------|---------------|-------------|-----|-----------|-------|
| Batch 1ID1221 - EPA 5030B - EPA 8260D       |        |      |       |                                                   |               |             |     |           |       |
| Blank (1ID1221-BLK1)                        |        |      |       |                                                   |               |             |     |           |       |
|                                             |        |      |       | Prepared: 04/22/25 00:00 Analyzed: 04/22/25 14:54 |               |             |     |           |       |
| 1,1,2,2-Tetrachloroethane                   | <1.0   | 1.0  | ug/L  |                                                   |               |             |     |           |       |
| 1,4-Dichlorobenzene                         | <1.0   | 1.0  | ug/L  |                                                   |               |             |     |           |       |
| 1,2-Dichlorobenzene                         | <1.0   | 1.0  | ug/L  |                                                   |               |             |     |           |       |
| 1,2-Dibromo-3-chloropropane                 | <5.0   | 5.0  | ug/L  |                                                   |               |             |     |           |       |
| Surrogate: Dibromofluoromethane             | 51.9   |      | ug/L  | 50.2                                              |               | 103 75-136  |     |           |       |
| Surrogate: Dibromofluoromethane             | 51.9   |      | ug/L  | 50.2                                              |               | 103 57-134  |     |           |       |
| Surrogate: 1,2-Dichloroethane-d4            | 43.0   |      | ug/L  | 50.1                                              |               | 86.0 61-142 |     |           |       |
| Surrogate: 1,2-Dichloroethane-d4            | 43.0   |      | ug/L  | 50.1                                              |               | 86.0 53-140 |     |           |       |
| Surrogate: Toluene-d8                       | 49.0   |      | ug/L  | 50.4                                              |               | 97.4 82-121 |     |           |       |
| Surrogate: Toluene-d8                       | 49.0   |      | ug/L  | 50.4                                              |               | 97.4 86-114 |     |           |       |
| Surrogate: 4-Bromofluorobenzene             | 46.1   |      | ug/L  | 50.1                                              |               | 91.9 80-116 |     |           |       |
| Surrogate: 4-Bromofluorobenzene             | 46.1   |      | ug/L  | 50.1                                              |               | 91.9 78-121 |     |           |       |
| LCS (1ID1221-BS1)                           |        |      |       |                                                   |               |             |     |           |       |
|                                             |        |      |       | Prepared: 04/22/25 00:00 Analyzed: 04/22/25 14:10 |               |             |     |           |       |
| Chloromethane                               | 33.12  | 1.0  | ug/L  | 30.3                                              |               | 109 63-155  |     |           |       |
| Vinyl Chloride                              | 35.43  | 1.0  | ug/L  | 30.2                                              |               | 117 70-154  |     |           |       |
| Bromomethane                                | 34.60  | 1.0  | ug/L  | 30.1                                              |               | 115 52-176  |     |           |       |
| Chloroethane                                | 34.59  | 1.0  | ug/L  | 30.3                                              |               | 114 72-148  |     |           |       |
| Trichlorofluoromethane                      | 37.53  | 1.0  | ug/L  | 30.3                                              |               | 124 70-152  |     |           |       |
| 1,1-Dichloroethylene                        | 65.17  | 1.0  | ug/L  | 50.1                                              |               | 130 70-148  |     |           |       |
| Acetone                                     | 107.8  | 10.0 | ug/L  | 100                                               |               | 108 43-172  |     |           |       |
| Methyl Iodide                               | 138.0  | 1.0  | ug/L  | 100                                               |               | 138 69-170  |     |           |       |
| Carbon Disulfide                            | 119.5  | 1.0  | ug/L  | 100                                               |               | 119 72-162  |     |           |       |
| Methylene Chloride                          | 59.54  | 5.0  | ug/L  | 50.1                                              |               | 119 68-142  |     |           |       |
| Acrylonitrile                               | 55.83  | 5.0  | ug/L  | 50.2                                              |               | 111 56-135  |     |           |       |
| trans-1,2-Dichloroethylene                  | 64.69  | 1.0  | ug/L  | 50.1                                              |               | 129 66-148  |     |           |       |
| 1,1-Dichloroethane                          | 62.62  | 1.0  | ug/L  | 50.1                                              |               | 125 66-143  |     |           |       |
| Vinyl Acetate                               | 178.7  | 5.0  | ug/L  | 140                                               |               | 128 43-153  |     |           |       |
| cis-1,2-Dichloroethylene                    | 60.00  | 1.0  | ug/L  | 50.4                                              |               | 119 71-149  |     |           |       |
| 2-Butanone (MEK)                            | 101.0  | 10.0 | ug/L  | 100                                               |               | 101 52-159  |     |           |       |
| Bromochloromethane                          | 56.95  | 1.0  | ug/L  | 50.4                                              |               | 113 69-143  |     |           |       |
| Chloroform                                  | 59.28  | 1.0  | ug/L  | 50.1                                              |               | 118 69-144  |     |           |       |
| 1,1,1-Trichloroethane                       | 66.76  | 1.0  | ug/L  | 50.1                                              |               | 133 62-129  |     |           | Q2    |
| Carbon Tetrachloride                        | 66.37  | 1.0  | ug/L  | 50.1                                              |               | 133 63-141  |     |           |       |
| Benzene                                     | 57.66  | 1.0  | ug/L  | 50.4                                              |               | 114 71-134  |     |           |       |
| 1,2-Dichloroethane                          | 55.85  | 1.0  | ug/L  | 50.1                                              |               | 112 72-132  |     |           |       |
| Trichloroethylene                           | 61.42  | 1.0  | ug/L  | 50.1                                              |               | 123 71-135  |     |           |       |
| 1,2-Dichloropropane                         | 58.63  | 1.0  | ug/L  | 50.1                                              |               | 117 69-136  |     |           |       |
| Dibromomethane                              | 51.63  | 1.0  | ug/L  | 50.4                                              |               | 103 73-147  |     |           |       |
| Bromodichloromethane                        | 61.54  | 1.0  | ug/L  | 50.1                                              |               | 123 68-129  |     |           |       |
| cis-1,3-Dichloropropene                     | 48.99  | 1.0  | ug/L  | 50.1                                              |               | 97.8 65-134 |     |           |       |
| 4-Methyl-2-pentanone (MIBK)                 | 87.57  | 5.0  | ug/L  | 100                                               |               | 87.6 58-147 |     |           |       |
| Toluene                                     | 59.55  | 1.0  | ug/L  | 50.5                                              |               | 118 72-133  |     |           |       |
| trans-1,3-Dichloropropene                   | 48.67  | 1.0  | ug/L  | 50.1                                              |               | 97.2 67-130 |     |           |       |

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| Determination of Volatile Organic Compounds       | Result | RL   | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---------------------------------------------------|--------|------|-------|-------------|---------------|------|-------------|-----|-----------|-------|
| Batch 1ID1221 - EPA 5030B - EPA 8260D             |        |      |       |             |               |      |             |     |           |       |
| LCS (1ID1221-BS1)                                 |        |      |       |             |               |      |             |     |           |       |
| Prepared: 04/22/25 00:00 Analyzed: 04/22/25 14:10 |        |      |       |             |               |      |             |     |           |       |
| 1,1,2-Trichloroethane                             | 52.89  | 1.0  | ug/L  | 50.1        |               | 106  | 69-135      |     |           |       |
| Tetrachloroethylene                               | 54.26  | 1.0  | ug/L  | 50.1        |               | 108  | 69-130      |     |           |       |
| 2-Hexanone (MBK)                                  | 61.61  | 5.0  | ug/L  | 100         |               | 61.6 | 55-144      |     |           |       |
| Dibromochloromethane                              | 51.25  | 1.0  | ug/L  | 50.1        |               | 102  | 73-127      |     |           |       |
| 1,2-Dibromoethane                                 | 45.02  | 1.0  | ug/L  | 50.2        |               | 89.6 | 67-132      |     |           |       |
| Chlorobenzene                                     | 50.74  | 1.0  | ug/L  | 50.1        |               | 101  | 72-123      |     |           |       |
| 1,1,1,2-Tetrachloroethane                         | 50.85  | 1.0  | ug/L  | 50.3        |               | 101  | 73-127      |     |           |       |
| Ethylbenzene                                      | 53.11  | 1.0  | ug/L  | 50.2        |               | 106  | 71-127      |     |           |       |
| Xylenes, total                                    | 161.6  | 2.0  | ug/L  | 151         |               | 107  | 74-127      |     |           |       |
| Styrene                                           | 49.04  | 1.0  | ug/L  | 50.4        |               | 97.4 | 66-126      |     |           |       |
| Bromoform                                         | 49.37  | 1.0  | ug/L  | 50.1        |               | 98.5 | 68-130      |     |           |       |
| 1,2,3-Trichloropropane                            | 46.40  | 1.0  | ug/L  | 50.3        |               | 92.2 | 63-136      |     |           |       |
| trans-1,4-Dichloro-2-butene                       | 78.99  | 5.0  | ug/L  | 100         |               | 79.0 | 54-134      |     |           |       |
| 1,1,2,2-Tetrachloroethane                         | 40.07  | 1.0  | ug/L  | 50.1        |               | 80.0 | 61-131      |     |           |       |
| 1,4-Dichlorobenzene                               | 44.88  | 1.0  | ug/L  | 50.1        |               | 89.5 | 70-129      |     |           |       |
| 1,2-Dichlorobenzene                               | 46.76  | 1.0  | ug/L  | 50.1        |               | 93.3 | 69-126      |     |           |       |
| 1,2-Dibromo-3-chloropropane                       | 33.29  | 5.0  | ug/L  | 50.1        |               | 66.4 | 50-143      |     |           |       |
| Surrogate: Dibromofluoromethane                   | 54.6   |      | ug/L  | 50.2        |               | 109  | 75-136      |     |           |       |
| Surrogate: Dibromofluoromethane                   | 54.6   |      | ug/L  | 50.2        |               | 109  | 57-134      |     |           |       |
| Surrogate: 1,2-Dichloroethane-d4                  | 48.6   |      | ug/L  | 50.1        |               | 96.9 | 61-142      |     |           |       |
| Surrogate: 1,2-Dichloroethane-d4                  | 48.6   |      | ug/L  | 50.1        |               | 96.9 | 53-140      |     |           |       |
| Surrogate: Toluene-d8                             | 53.6   |      | ug/L  | 50.4        |               | 106  | 82-121      |     |           |       |
| Surrogate: Toluene-d8                             | 53.6   |      | ug/L  | 50.4        |               | 106  | 86-114      |     |           |       |
| Surrogate: 4-Bromofluorobenzene                   | 53.5   |      | ug/L  | 50.1        |               | 107  | 80-116      |     |           |       |
| Surrogate: 4-Bromofluorobenzene                   | 53.5   |      | ug/L  | 50.1        |               | 107  | 78-121      |     |           |       |
| Matrix Spike (1ID1221-MS1)                        |        |      |       |             |               |      |             |     |           |       |
| Source: 1ID1698-05                                |        |      |       |             |               |      |             |     |           |       |
| Prepared: 04/22/25 00:00 Analyzed: 04/23/25 00:06 |        |      |       |             |               |      |             |     |           |       |
| Chloromethane                                     | 236.7  | 10.0 | ug/L  | 303         | ND            | 78.1 | 61-152      |     |           |       |
| Vinyl Chloride                                    | 257.8  | 10.0 | ug/L  | 302         | ND            | 85.2 | 66-149      |     |           |       |
| Bromomethane                                      | 258.4  | 10.0 | ug/L  | 301         | ND            | 85.8 | 43-171      |     |           |       |
| Chloroethane                                      | 268.5  | 10.0 | ug/L  | 303         | ND            | 88.6 | 69-148      |     |           |       |
| Trichlorofluoromethane                            | 299.9  | 10.0 | ug/L  | 303         | ND            | 99.0 | 62-163      |     |           |       |
| 1,1-Dichloroethylene                              | 522.3  | 10.0 | ug/L  | 501         | ND            | 104  | 70-148      |     |           |       |
| Acetone                                           | 1081   | 100  | ug/L  | 1000        | ND            | 108  | 45-173      |     |           |       |
| Methyl Iodide                                     | 1093   | 10.0 | ug/L  | 1000        | ND            | 109  | 62-167      |     |           |       |
| Carbon Disulfide                                  | 913.3  | 10.0 | ug/L  | 1000        | ND            | 91.3 | 71-163      |     |           |       |
| Methylene Chloride                                | 516.5  | 50.0 | ug/L  | 501         | ND            | 103  | 69-140      |     |           |       |
| Acrylonitrile                                     | 529.3  | 50.0 | ug/L  | 502         | ND            | 105  | 38-147      |     |           |       |
| trans-1,2-Dichloroethylene                        | 537.6  | 10.0 | ug/L  | 501         | ND            | 107  | 69-144      |     |           |       |
| 1,1-Dichloroethane                                | 545.2  | 10.0 | ug/L  | 501         | ND            | 109  | 70-138      |     |           |       |
| Vinyl Acetate                                     | 1650   | 50.0 | ug/L  | 1400        | ND            | 118  | 58-142      |     |           |       |
| cis-1,2-Dichloroethylene                          | 526.7  | 10.0 | ug/L  | 504         | ND            | 105  | 68-151      |     |           |       |
| 2-Butanone (MEK)                                  | 927.5  | 100  | ug/L  | 1000        | ND            | 92.8 | 50-160      |     |           |       |
| Bromochloromethane                                | 513.3  | 10.0 | ug/L  | 504         | ND            | 102  | 65-143      |     |           |       |

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| Determination of Volatile Organic Compounds | Result             | RL   | Units | Spike Level                                       | Source Result | %REC | %REC Limits | RPD    | RPD Limit | Notes |
|---------------------------------------------|--------------------|------|-------|---------------------------------------------------|---------------|------|-------------|--------|-----------|-------|
| Batch 1ID1221 - EPA 5030B - EPA 8260D       |                    |      |       |                                                   |               |      |             |        |           |       |
| Matrix Spike (1ID1221-MS1)                  | Source: 1ID1698-05 |      |       | Prepared: 04/22/25 00:00 Analyzed: 04/23/25 00:06 |               |      |             |        |           |       |
| Chloroform                                  | 536.3              | 10.0 | ug/L  | 501                                               | ND            | 107  | 71-143      |        |           |       |
| 1,1,1-Trichloroethane                       | 582.6              | 10.0 | ug/L  | 501                                               | ND            | 116  | 63-133      |        |           |       |
| Carbon Tetrachloride                        | 587.2              | 10.0 | ug/L  | 501                                               | ND            | 117  | 63-142      |        |           |       |
| Benzene                                     | 518.7              | 10.0 | ug/L  | 504                                               | ND            | 103  | 69-133      |        |           |       |
| 1,2-Dichloroethane                          | 542.6              | 10.0 | ug/L  | 501                                               | ND            | 108  | 63-138      |        |           |       |
| Trichloroethylene                           | 555.5              | 10.0 | ug/L  | 501                                               | ND            | 111  | 71-133      |        |           |       |
| 1,2-Dichloropropane                         | 539.4              | 10.0 | ug/L  | 501                                               | ND            | 108  | 69-132      |        |           |       |
| Dibromomethane                              | 515.0              | 10.0 | ug/L  | 504                                               | ND            | 102  | 70-147      |        |           |       |
| Bromodichloromethane                        | 601.1              | 10.0 | ug/L  | 501                                               | ND            | 120  | 67-130      |        |           |       |
| cis-1,3-Dichloropropene                     | 456.5              | 10.0 | ug/L  | 501                                               | ND            | 91.1 | 61-126      |        |           |       |
| 4-Methyl-2-pentanone (MIBK)                 | 902.9              | 50.0 | ug/L  | 1000                                              | ND            | 90.3 | 55-147      |        |           |       |
| Toluene                                     | 541.3              | 10.0 | ug/L  | 505                                               | ND            | 107  | 71-133      |        |           |       |
| trans-1,3-Dichloropropene                   | 455.9              | 10.0 | ug/L  | 501                                               | ND            | 91.0 | 63-124      |        |           |       |
| 1,1,2-Trichloroethane                       | 528.0              | 10.0 | ug/L  | 501                                               | ND            | 105  | 69-133      |        |           |       |
| Tetrachloroethylene                         | 496.9              | 10.0 | ug/L  | 501                                               | ND            | 99.2 | 70-124      |        |           |       |
| 2-Hexanone (MBK)                            | 652.8              | 50.0 | ug/L  | 1000                                              | ND            | 65.3 | 53-141      |        |           |       |
| Dibromochloromethane                        | 507.7              | 10.0 | ug/L  | 501                                               | ND            | 101  | 74-122      |        |           |       |
| 1,2-Dibromoethane                           | 443.0              | 10.0 | ug/L  | 502                                               | ND            | 88.2 | 66-127      |        |           |       |
| Chlorobenzene                               | 466.1              | 10.0 | ug/L  | 501                                               | ND            | 93.1 | 76-116      |        |           |       |
| 1,1,1,2-Tetrachloroethane                   | 482.4              | 10.0 | ug/L  | 503                                               | ND            | 95.8 | 77-121      |        |           |       |
| Ethylbenzene                                | 481.5              | 10.0 | ug/L  | 502                                               | ND            | 96.0 | 73-124      |        |           |       |
| Xylenes, total                              | 1483               | 20.0 | ug/L  | 1510                                              | ND            | 98.2 | 75-123      |        |           |       |
| Styrene                                     | 453.7              | 10.0 | ug/L  | 504                                               | ND            | 90.1 | 70-120      |        |           |       |
| Bromoform                                   | 505.3              | 10.0 | ug/L  | 501                                               | ND            | 101  | 70-124      |        |           |       |
| 1,2,3-Trichloropropane                      | 492.4              | 10.0 | ug/L  | 503                                               | ND            | 97.8 | 62-135      |        |           |       |
| trans-1,4-Dichloro-2-butene                 | 797.8              | 50.0 | ug/L  | 1000                                              | ND            | 79.8 | 50-120      |        |           |       |
| 1,1,2,2-Tetrachloroethane                   | 385.6              | 10.0 | ug/L  | 501                                               | ND            | 77.0 | 63-126      |        |           |       |
| 1,4-Dichlorobenzene                         | 412.0              | 10.0 | ug/L  | 501                                               | ND            | 82.2 | 72-119      |        |           |       |
| 1,2-Dichlorobenzene                         | 450.5              | 10.0 | ug/L  | 501                                               | ND            | 89.9 | 71-117      |        |           |       |
| 1,2-Dibromo-3-chloropropane                 | 343.0              | 50.0 | ug/L  | 501                                               | ND            | 68.4 | 49-134      |        |           |       |
| Surrogate: Dibromofluoromethane             | 538                |      | ug/L  | 502                                               |               | 107  | 57-134      |        |           |       |
| Surrogate: Dibromofluoromethane             | 538                |      | ug/L  | 502                                               |               | 107  | 75-136      |        |           |       |
| Surrogate: 1,2-Dichloroethane-d4            | 518                |      | ug/L  | 501                                               |               | 103  | 53-140      |        |           |       |
| Surrogate: 1,2-Dichloroethane-d4            | 518                |      | ug/L  | 501                                               |               | 103  | 61-142      |        |           |       |
| Surrogate: Toluene-d8                       | 532                |      | ug/L  | 504                                               |               | 106  | 86-114      |        |           |       |
| Surrogate: Toluene-d8                       | 532                |      | ug/L  | 504                                               |               | 106  | 82-121      |        |           |       |
| Surrogate: 4-Bromofluorobenzene             | 538                |      | ug/L  | 501                                               |               | 107  | 78-121      |        |           |       |
| Surrogate: 4-Bromofluorobenzene             | 538                |      | ug/L  | 501                                               |               | 107  | 80-116      |        |           |       |
| Matrix Spike Dup (1ID1221-MSD1)             | Source: 1ID1698-05 |      |       | Prepared: 04/22/25 00:00 Analyzed: 04/23/25 00:28 |               |      |             |        |           |       |
| Chloromethane                               | 228.9              | 10.0 | ug/L  | 303                                               | ND            | 75.5 | 61-152      | 3.35   | 26        |       |
| Vinyl Chloride                              | 258.2              | 10.0 | ug/L  | 302                                               | ND            | 85.4 | 66-149      | 0.155  | 23        |       |
| Bromomethane                                | 258.2              | 10.0 | ug/L  | 301                                               | ND            | 85.7 | 43-171      | 0.0774 | 29        |       |
| Chloroethane                                | 260.2              | 10.0 | ug/L  | 303                                               | ND            | 85.8 | 69-148      | 3.14   | 25        |       |

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| Determination of Volatile Organic Compounds                                                          | Result | RL   | Units | Spike Level | Source Result | %REC | %REC Limits | RPD    | RPD Limit | Notes |
|------------------------------------------------------------------------------------------------------|--------|------|-------|-------------|---------------|------|-------------|--------|-----------|-------|
| Batch 1ID1221 - EPA 5030B - EPA 8260D                                                                |        |      |       |             |               |      |             |        |           |       |
| Matrix Spike Dup (1ID1221-MSD1) Source: 1ID1698-05 Prepared: 04/22/25 00:00 Analyzed: 04/23/25 00:28 |        |      |       |             |               |      |             |        |           |       |
| Trichlorofluoromethane                                                                               | 293.6  | 10.0 | ug/L  | 303         | ND            | 96.9 | 62-163      | 2.12   | 25        |       |
| 1,1-Dichloroethylene                                                                                 | 513.8  | 10.0 | ug/L  | 501         | ND            | 103  | 70-148      | 1.64   | 22        |       |
| Acetone                                                                                              | 939.6  | 100  | ug/L  | 1000        | ND            | 94.0 | 45-173      | 14.0   | 30        |       |
| Methyl Iodide                                                                                        | 1083   | 10.0 | ug/L  | 1000        | ND            | 108  | 62-167      | 0.882  | 24        |       |
| Carbon Disulfide                                                                                     | 892.5  | 10.0 | ug/L  | 1000        | ND            | 89.2 | 71-163      | 2.30   | 22        |       |
| Methylene Chloride                                                                                   | 522.0  | 50.0 | ug/L  | 501         | ND            | 104  | 69-140      | 1.06   | 19        |       |
| Acrylonitrile                                                                                        | 538.7  | 50.0 | ug/L  | 502         | ND            | 107  | 38-147      | 1.76   | 30        |       |
| trans-1,2-Dichloroethylene                                                                           | 531.9  | 10.0 | ug/L  | 501         | ND            | 106  | 69-144      | 1.07   | 22        |       |
| 1,1-Dichloroethane                                                                                   | 532.9  | 10.0 | ug/L  | 501         | ND            | 106  | 70-138      | 2.28   | 20        |       |
| Vinyl Acetate                                                                                        | 1704   | 50.0 | ug/L  | 1400        | ND            | 122  | 58-142      | 3.21   | 24        |       |
| cis-1,2-Dichloroethylene                                                                             | 515.2  | 10.0 | ug/L  | 504         | ND            | 102  | 68-151      | 2.21   | 22        |       |
| 2-Butanone (MEK)                                                                                     | 949.2  | 100  | ug/L  | 1000        | ND            | 94.9 | 50-160      | 2.31   | 23        |       |
| Bromochloromethane                                                                                   | 518.3  | 10.0 | ug/L  | 504         | ND            | 103  | 65-143      | 0.969  | 22        |       |
| Chloroform                                                                                           | 536.4  | 10.0 | ug/L  | 501         | ND            | 107  | 71-143      | 0.0187 | 21        |       |
| 1,1,1-Trichloroethane                                                                                | 581.7  | 10.0 | ug/L  | 501         | ND            | 116  | 63-133      | 0.155  | 23        |       |
| Carbon Tetrachloride                                                                                 | 581.2  | 10.0 | ug/L  | 501         | ND            | 116  | 63-142      | 1.03   | 22        |       |
| Benzene                                                                                              | 510.7  | 10.0 | ug/L  | 504         | ND            | 101  | 69-133      | 1.55   | 18        |       |
| 1,2-Dichloroethane                                                                                   | 536.0  | 10.0 | ug/L  | 501         | ND            | 107  | 63-138      | 1.22   | 20        |       |
| Trichloroethylene                                                                                    | 535.2  | 10.0 | ug/L  | 501         | ND            | 107  | 71-133      | 3.72   | 23        |       |
| 1,2-Dichloropropane                                                                                  | 537.6  | 10.0 | ug/L  | 501         | ND            | 107  | 69-132      | 0.334  | 20        |       |
| Dibromomethane                                                                                       | 494.8  | 10.0 | ug/L  | 504         | ND            | 98.2 | 70-147      | 4.00   | 22        |       |
| Bromodichloromethane                                                                                 | 588.0  | 10.0 | ug/L  | 501         | ND            | 117  | 67-130      | 2.20   | 21        |       |
| cis-1,3-Dichloropropene                                                                              | 444.8  | 10.0 | ug/L  | 501         | ND            | 88.8 | 61-126      | 2.60   | 21        |       |
| 4-Methyl-2-pentanone (MIBK)                                                                          | 907.5  | 50.0 | ug/L  | 1000        | ND            | 90.8 | 55-147      | 0.508  | 23        |       |
| Toluene                                                                                              | 527.7  | 10.0 | ug/L  | 505         | ND            | 105  | 71-133      | 2.54   | 19        |       |
| trans-1,3-Dichloropropene                                                                            | 455.7  | 10.0 | ug/L  | 501         | ND            | 91.0 | 63-124      | 0.0439 | 21        |       |
| 1,1,2-Trichloroethane                                                                                | 531.9  | 10.0 | ug/L  | 501         | ND            | 106  | 69-133      | 0.736  | 19        |       |
| Tetrachloroethylene                                                                                  | 479.8  | 10.0 | ug/L  | 501         | ND            | 95.8 | 70-124      | 3.50   | 24        |       |
| 2-Hexanone (MBK)                                                                                     | 672.1  | 50.0 | ug/L  | 1000        | ND            | 67.2 | 53-141      | 2.91   | 24        |       |
| Dibromochloromethane                                                                                 | 501.4  | 10.0 | ug/L  | 501         | ND            | 100  | 74-122      | 1.25   | 21        |       |
| 1,2-Dibromoethane                                                                                    | 441.2  | 10.0 | ug/L  | 502         | ND            | 87.8 | 66-127      | 0.407  | 23        |       |
| Chlorobenzene                                                                                        | 464.7  | 10.0 | ug/L  | 501         | ND            | 92.8 | 76-116      | 0.301  | 21        |       |
| 1,1,1,2-Tetrachloroethane                                                                            | 477.1  | 10.0 | ug/L  | 503         | ND            | 94.8 | 77-121      | 1.10   | 25        |       |
| Ethylbenzene                                                                                         | 476.8  | 10.0 | ug/L  | 502         | ND            | 95.0 | 73-124      | 0.981  | 20        |       |
| Xylenes, total                                                                                       | 1460   | 20.0 | ug/L  | 1510        | ND            | 96.7 | 75-123      | 1.54   | 20        |       |
| Styrene                                                                                              | 446.2  | 10.0 | ug/L  | 504         | ND            | 88.6 | 70-120      | 1.67   | 23        |       |
| Bromoform                                                                                            | 497.9  | 10.0 | ug/L  | 501         | ND            | 99.4 | 70-124      | 1.48   | 22        |       |
| 1,2,3-Trichloropropane                                                                               | 476.8  | 10.0 | ug/L  | 503         | ND            | 94.7 | 62-135      | 3.22   | 28        |       |
| trans-1,4-Dichloro-2-butene                                                                          | 771.2  | 50.0 | ug/L  | 1000        | ND            | 77.1 | 50-120      | 3.39   | 26        |       |
| 1,1,2,2-Tetrachloroethane                                                                            | 404.6  | 10.0 | ug/L  | 501         | ND            | 80.8 | 63-126      | 4.81   | 24        |       |
| 1,4-Dichlorobenzene                                                                                  | 404.9  | 10.0 | ug/L  | 501         | ND            | 80.8 | 72-119      | 1.74   | 24        |       |
| 1,2-Dichlorobenzene                                                                                  | 445.8  | 10.0 | ug/L  | 501         | ND            | 89.0 | 71-117      | 1.05   | 24        |       |
| 1,2-Dibromo-3-chloropropane                                                                          | 344.6  | 50.0 | ug/L  | 501         | ND            | 68.7 | 49-134      | 0.465  | 28        |       |

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| Determination of Volatile Organic Compounds | Result | RL                                                | Units | Spike Level                                       | Source Result | %REC Limits | RPD  | RPD Limit | Notes |
|---------------------------------------------|--------|---------------------------------------------------|-------|---------------------------------------------------|---------------|-------------|------|-----------|-------|
| Batch 1ID1221 - EPA 5030B - EPA 8260D       |        |                                                   |       |                                                   |               |             |      |           |       |
| Matrix Spike Dup (1ID1221-MSD1)             |        | Source: 1ID1698-05                                |       | Prepared: 04/22/25 00:00 Analyzed: 04/23/25 00:28 |               |             |      |           |       |
| Surrogate: Dibromofluoromethane             | 546    |                                                   | ug/L  | 502                                               |               | 109 57-134  |      |           |       |
| Surrogate: Dibromofluoromethane             | 546    |                                                   | ug/L  | 502                                               |               | 109 75-136  |      |           |       |
| Surrogate: 1,2-Dichloroethane-d4            | 502    |                                                   | ug/L  | 501                                               |               | 100 53-140  |      |           |       |
| Surrogate: 1,2-Dichloroethane-d4            | 502    |                                                   | ug/L  | 501                                               |               | 100 61-142  |      |           |       |
| Surrogate: Toluene-d8                       | 519    |                                                   | ug/L  | 504                                               |               | 103 86-114  |      |           |       |
| Surrogate: Toluene-d8                       | 519    |                                                   | ug/L  | 504                                               |               | 103 82-121  |      |           |       |
| Surrogate: 4-Bromofluorobenzene             | 540    |                                                   | ug/L  | 501                                               |               | 108 78-121  |      |           |       |
| Surrogate: 4-Bromofluorobenzene             | 540    |                                                   | ug/L  | 501                                               |               | 108 80-116  |      |           |       |
| Batch 1ID1376 - EPA 5030B - EPA 8260D       |        |                                                   |       |                                                   |               |             |      |           |       |
| Blank (1ID1376-BLK1)                        |        | Prepared: 04/24/25 00:00 Analyzed: 04/24/25 15:04 |       |                                                   |               |             |      |           |       |
| Chloroethane                                | <1.0   | 1.0                                               | ug/L  |                                                   |               |             |      |           |       |
| 1,1-Dichloroethane                          | <1.0   | 1.0                                               | ug/L  |                                                   |               |             |      |           |       |
| cis-1,2-Dichloroethylene                    | <1.0   | 1.0                                               | ug/L  |                                                   |               |             |      |           |       |
| 1,2-Dichloropropane                         | <1.0   | 1.0                                               | ug/L  |                                                   |               |             |      |           |       |
| Ethylbenzene                                | <1.0   | 1.0                                               | ug/L  |                                                   |               |             |      |           |       |
| 1,4-Dichlorobenzene                         | <1.0   | 1.0                                               | ug/L  |                                                   |               |             |      |           |       |
| Surrogate: Dibromofluoromethane             | 39.0   |                                                   | ug/L  | 50.2                                              |               | 77.6 75-136 |      |           |       |
| Surrogate: 1,2-Dichloroethane-d4            | 38.7   |                                                   | ug/L  | 50.1                                              |               | 77.3 61-142 |      |           |       |
| Surrogate: Toluene-d8                       | 52.2   |                                                   | ug/L  | 50.4                                              |               | 104 82-121  |      |           |       |
| Surrogate: 4-Bromofluorobenzene             | 47.2   |                                                   | ug/L  | 50.1                                              |               | 94.2 80-116 |      |           |       |
| LCS (1ID1376-BS1)                           |        | Prepared: 04/24/25 00:00 Analyzed: 04/24/25 13:57 |       |                                                   |               |             |      |           |       |
| Chloroethane                                | 28.84  | 1.0                                               | ug/L  | 30.3                                              |               | 95.1 72-148 |      |           |       |
| 1,1-Dichloroethane                          | 51.67  | 1.0                                               | ug/L  | 50.1                                              |               | 103 66-143  |      |           |       |
| cis-1,2-Dichloroethylene                    | 51.54  | 1.0                                               | ug/L  | 50.4                                              |               | 102 71-149  |      |           |       |
| 1,2-Dichloropropane                         | 42.41  | 1.0                                               | ug/L  | 50.1                                              |               | 84.7 69-136 |      |           |       |
| Ethylbenzene                                | 54.49  | 1.0                                               | ug/L  | 50.2                                              |               | 109 71-127  |      |           |       |
| 1,4-Dichlorobenzene                         | 48.68  | 1.0                                               | ug/L  | 50.1                                              |               | 97.1 70-129 |      |           |       |
| Surrogate: Dibromofluoromethane             | 52.5   |                                                   | ug/L  | 50.2                                              |               | 105 75-136  |      |           |       |
| Surrogate: 1,2-Dichloroethane-d4            | 55.2   |                                                   | ug/L  | 50.1                                              |               | 110 61-142  |      |           |       |
| Surrogate: Toluene-d8                       | 49.2   |                                                   | ug/L  | 50.4                                              |               | 97.7 82-121 |      |           |       |
| Surrogate: 4-Bromofluorobenzene             | 52.2   |                                                   | ug/L  | 50.1                                              |               | 104 80-116  |      |           |       |
| LCS Dup (1ID1376-BSD1)                      |        | Prepared: 04/24/25 00:00 Analyzed: 04/24/25 14:20 |       |                                                   |               |             |      |           |       |
| Chloroethane                                | 26.66  | 1.0                                               | ug/L  | 30.3                                              |               | 87.9 72-148 | 7.86 | 25        |       |
| 1,1-Dichloroethane                          | 49.50  | 1.0                                               | ug/L  | 50.1                                              |               | 98.8 66-143 | 4.29 | 24        |       |
| cis-1,2-Dichloroethylene                    | 49.91  | 1.0                                               | ug/L  | 50.4                                              |               | 99.1 71-149 | 3.21 | 26        |       |
| 1,2-Dichloropropane                         | 40.61  | 1.0                                               | ug/L  | 50.1                                              |               | 81.1 69-136 | 4.34 | 24        |       |
| Ethylbenzene                                | 52.09  | 1.0                                               | ug/L  | 50.2                                              |               | 104 71-127  | 4.50 | 26        |       |
| 1,4-Dichlorobenzene                         | 47.56  | 1.0                                               | ug/L  | 50.1                                              |               | 94.9 70-129 | 2.33 | 24        |       |
| Surrogate: Dibromofluoromethane             | 52.9   |                                                   | ug/L  | 50.2                                              |               | 105 75-136  |      |           |       |
| Surrogate: 1,2-Dichloroethane-d4            | 55.4   |                                                   | ug/L  | 50.1                                              |               | 111 61-142  |      |           |       |

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| Determination of Volatile Organic Compounds                    | Result  | RL     | Units | Spike Level                                                             | Source Result | %REC | %REC Limits | RPD  | RPD Limit | Notes |
|----------------------------------------------------------------|---------|--------|-------|-------------------------------------------------------------------------|---------------|------|-------------|------|-----------|-------|
| Batch 1ID1376 - EPA 5030B - EPA 8260D                          |         |        |       |                                                                         |               |      |             |      |           |       |
| LCS Dup (1ID1376-BSD1)                                         |         |        |       | Prepared: 04/24/25 00:00 Analyzed: 04/24/25 14:20                       |               |      |             |      |           |       |
| Surrogate: Toluene-d8                                          | 49.4    |        | ug/L  | 50.4                                                                    |               | 98.1 | 82-121      |      |           |       |
| Surrogate: 4-Bromofluorobenzene                                | 51.6    |        | ug/L  | 50.1                                                                    |               | 103  | 80-116      |      |           |       |
| Matrix Spike (1ID1376-MS1)                                     |         |        |       | Source: 1ID1322-06RE1 Prepared: 04/24/25 00:00 Analyzed: 04/24/25 22:10 |               |      |             |      |           |       |
| Chloroethane                                                   | 279.5   | 10.0   | ug/L  | 303                                                                     | ND            | 92.2 | 69-148      |      |           |       |
| 1,1-Dichloroethane                                             | 569.2   | 10.0   | ug/L  | 501                                                                     | ND            | 114  | 70-138      |      |           |       |
| cis-1,2-Dichloroethylene                                       | 579.5   | 10.0   | ug/L  | 504                                                                     | ND            | 115  | 68-151      |      |           |       |
| 1,2-Dichloropropane                                            | 438.8   | 10.0   | ug/L  | 501                                                                     | ND            | 87.6 | 69-132      |      |           |       |
| Ethylbenzene                                                   | 497.0   | 10.0   | ug/L  | 502                                                                     | ND            | 99.1 | 73-124      |      |           |       |
| 1,4-Dichlorobenzene                                            | 489.3   | 10.0   | ug/L  | 501                                                                     | ND            | 97.6 | 72-119      |      |           |       |
| Surrogate: Dibromofluoromethane                                | 674     |        | ug/L  | 502                                                                     |               | 134  | 75-136      |      |           |       |
| Surrogate: 1,2-Dichloroethane-d4                               | 728     |        | ug/L  | 501                                                                     |               | 145  | 61-142      |      |           | S1    |
| Surrogate: Toluene-d8                                          | 499     |        | ug/L  | 504                                                                     |               | 99.1 | 82-121      |      |           |       |
| Surrogate: 4-Bromofluorobenzene                                | 530     |        | ug/L  | 501                                                                     |               | 106  | 80-116      |      |           |       |
| Matrix Spike Dup (1ID1376-MSD1)                                |         |        |       | Source: 1ID1322-06RE1 Prepared: 04/24/25 00:00 Analyzed: 04/24/25 22:33 |               |      |             |      |           |       |
| Chloroethane                                                   | 292.0   | 10.0   | ug/L  | 303                                                                     | ND            | 96.3 | 69-148      | 4.37 | 25        |       |
| 1,1-Dichloroethane                                             | 595.0   | 10.0   | ug/L  | 501                                                                     | ND            | 119  | 70-138      | 4.43 | 20        |       |
| cis-1,2-Dichloroethylene                                       | 608.1   | 10.0   | ug/L  | 504                                                                     | ND            | 121  | 68-151      | 4.82 | 22        |       |
| 1,2-Dichloropropane                                            | 475.1   | 10.0   | ug/L  | 501                                                                     | ND            | 94.8 | 69-132      | 7.94 | 20        |       |
| Ethylbenzene                                                   | 530.5   | 10.0   | ug/L  | 502                                                                     | ND            | 106  | 73-124      | 6.52 | 20        |       |
| 1,4-Dichlorobenzene                                            | 531.2   | 10.0   | ug/L  | 501                                                                     | ND            | 106  | 72-119      | 8.21 | 24        |       |
| Surrogate: Dibromofluoromethane                                | 655     |        | ug/L  | 502                                                                     |               | 130  | 75-136      |      |           |       |
| Surrogate: 1,2-Dichloroethane-d4                               | 734     |        | ug/L  | 501                                                                     |               | 147  | 61-142      |      |           |       |
| Surrogate: Toluene-d8                                          | 494     |        | ug/L  | 504                                                                     |               | 98.1 | 82-121      |      |           |       |
| Surrogate: 4-Bromofluorobenzene                                | 545     |        | ug/L  | 501                                                                     |               | 109  | 80-116      |      |           |       |
| Determination of Total Metals                                  | Result  | RL     | Units | Spike Level                                                             | Source Result | %REC | %REC Limits | RPD  | RPD Limit | Notes |
| Batch 1ID1042 - EPA 3005A Total Recoverable Metals - EPA 6020A |         |        |       |                                                                         |               |      |             |      |           |       |
| Blank (1ID1042-BLK1)                                           |         |        |       | Prepared: 04/18/25 16:12 Analyzed: 06/18/25 18:16                       |               |      |             |      |           |       |
| Antimony, total                                                | <0.0010 | 0.0010 | mg/L  |                                                                         |               |      |             |      |           |       |
| Arsenic, total                                                 | <0.0020 | 0.0020 | mg/L  |                                                                         |               |      |             |      |           |       |
| Barium, total                                                  | <0.0010 | 0.0010 | mg/L  |                                                                         |               |      |             |      |           |       |
| Beryllium, total                                               | <0.0005 | 0.0005 | mg/L  |                                                                         |               |      |             |      |           |       |
| Cadmium, total                                                 | <0.0002 | 0.0002 | mg/L  |                                                                         |               |      |             |      |           |       |
| Chromium, total                                                | <0.0010 | 0.0010 | mg/L  |                                                                         |               |      |             |      |           | B     |
| Cobalt, total                                                  | <0.0005 | 0.0005 | mg/L  |                                                                         |               |      |             |      |           |       |
| Copper, total                                                  | <0.0050 | 0.0050 | mg/L  |                                                                         |               |      |             |      |           |       |
| Lead, total                                                    | <0.0010 | 0.0010 | mg/L  |                                                                         |               |      |             |      |           |       |
| Nickel, total                                                  | <0.0050 | 0.0050 | mg/L  |                                                                         |               |      |             |      |           |       |
| Selenium, total                                                | <0.0020 | 0.0020 | mg/L  |                                                                         |               |      |             |      |           |       |
| Silver, total                                                  | <0.0050 | 0.0050 | mg/L  |                                                                         |               |      |             |      |           |       |

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1ID1424

| Determination of Total Metals                                                                        | Result  | RL     | Units | Spike Level | Source Result | %REC | %REC Limits | RPD   | RPD Limit | Notes |
|------------------------------------------------------------------------------------------------------|---------|--------|-------|-------------|---------------|------|-------------|-------|-----------|-------|
| Batch 1ID1042 - EPA 3005A Total Recoverable Metals - EPA 6020A                                       |         |        |       |             |               |      |             |       |           |       |
| Blank (1ID1042-BLK1) Prepared: 04/18/25 16:12 Analyzed: 06/18/25 18:16                               |         |        |       |             |               |      |             |       |           |       |
| Thallium, total                                                                                      | <0.0005 | 0.0005 | mg/L  |             |               |      |             |       |           |       |
| Vanadium, total                                                                                      | <0.0020 | 0.0020 | mg/L  |             |               |      |             |       |           |       |
| Zinc, total                                                                                          | <0.0050 | 0.0050 | mg/L  |             |               |      |             |       |           |       |
| LCS (1ID1042-BS1) Prepared: 04/18/25 16:12 Analyzed: 06/18/25 18:18                                  |         |        |       |             |               |      |             |       |           |       |
| Antimony, total                                                                                      | 0.115   | 0.0010 | mg/L  | 0.100       |               | 115  | 80-120      |       |           |       |
| Arsenic, total                                                                                       | 0.0981  | 0.0020 | mg/L  | 0.100       |               | 98.1 | 80-120      |       |           |       |
| Barium, total                                                                                        | 0.116   | 0.0010 | mg/L  | 0.100       |               | 116  | 80-120      |       |           |       |
| Beryllium, total                                                                                     | 0.114   | 0.0005 | mg/L  | 0.100       |               | 114  | 80-120      |       |           |       |
| Cadmium, total                                                                                       | 0.103   | 0.0002 | mg/L  | 0.100       |               | 103  | 80-120      |       |           |       |
| Chromium, total                                                                                      | 0.114   | 0.0010 | mg/L  | 0.100       |               | 114  | 80-120      |       |           |       |
| Cobalt, total                                                                                        | 0.115   | 0.0005 | mg/L  | 0.100       |               | 115  | 80-120      |       |           |       |
| Copper, total                                                                                        | 0.0924  | 0.0050 | mg/L  | 0.100       |               | 92.4 | 80-120      |       |           |       |
| Lead, total                                                                                          | 0.106   | 0.0010 | mg/L  | 0.100       |               | 106  | 80-120      |       |           |       |
| Nickel, total                                                                                        | 0.0909  | 0.0050 | mg/L  | 0.100       |               | 90.9 | 80-120      |       |           |       |
| Selenium, total                                                                                      | 0.1013  | 0.0020 | mg/L  | 0.100       |               | 101  | 80-120      |       |           |       |
| Silver, total                                                                                        | 0.113   | 0.0050 | mg/L  | 0.100       |               | 113  | 80-120      |       |           |       |
| Thallium, total                                                                                      | 0.114   | 0.0005 | mg/L  | 0.100       |               | 114  | 80-120      |       |           |       |
| Vanadium, total                                                                                      | 0.118   | 0.0020 | mg/L  | 0.100       |               | 118  | 80-120      |       |           |       |
| Zinc, total                                                                                          | 0.0974  | 0.0050 | mg/L  | 0.100       |               | 97.4 | 80-120      |       |           |       |
| Matrix Spike (1ID1042-MS1) Source: 1ID0775-01 Prepared: 04/18/25 16:12 Analyzed: 06/18/25 18:23      |         |        |       |             |               |      |             |       |           |       |
| Antimony, total                                                                                      | 0.114   | 0.0010 | mg/L  | 0.100       | ND            | 114  | 75-125      |       |           |       |
| Arsenic, total                                                                                       | 0.0943  | 0.0020 | mg/L  | 0.100       | ND            | 94.3 | 75-125      |       |           |       |
| Barium, total                                                                                        | 0.372   | 0.0010 | mg/L  | 0.100       | 0.264         | 107  | 75-125      |       |           |       |
| Beryllium, total                                                                                     | 0.117   | 0.0005 | mg/L  | 0.100       | ND            | 117  | 75-125      |       |           |       |
| Cadmium, total                                                                                       | 0.101   | 0.0002 | mg/L  | 0.100       | ND            | 101  | 75-125      |       |           |       |
| Chromium, total                                                                                      | 0.111   | 0.0010 | mg/L  | 0.100       | 0.0008        | 111  | 75-125      |       |           |       |
| Cobalt, total                                                                                        | 0.107   | 0.0005 | mg/L  | 0.100       | 0.0001        | 107  | 75-125      |       |           |       |
| Copper, total                                                                                        | 0.0863  | 0.0050 | mg/L  | 0.100       | 0.0017        | 84.6 | 75-125      |       |           |       |
| Lead, total                                                                                          | 0.103   | 0.0010 | mg/L  | 0.100       | ND            | 103  | 75-125      |       |           |       |
| Nickel, total                                                                                        | 0.0854  | 0.0050 | mg/L  | 0.100       | 0.0009        | 84.5 | 75-125      |       |           |       |
| Selenium, total                                                                                      | 0.0976  | 0.0020 | mg/L  | 0.100       | ND            | 97.6 | 75-125      |       |           |       |
| Silver, total                                                                                        | 0.112   | 0.0050 | mg/L  | 0.100       | ND            | 112  | 75-125      |       |           |       |
| Thallium, total                                                                                      | 0.109   | 0.0005 | mg/L  | 0.100       | ND            | 109  | 75-125      |       |           |       |
| Vanadium, total                                                                                      | 0.119   | 0.0020 | mg/L  | 0.100       | ND            | 119  | 75-125      |       |           |       |
| Zinc, total                                                                                          | 0.0966  | 0.0050 | mg/L  | 0.100       | 0.0071        | 89.5 | 75-125      |       |           |       |
| Matrix Spike Dup (1ID1042-MSD1) Source: 1ID0775-01 Prepared: 04/18/25 16:12 Analyzed: 06/18/25 18:26 |         |        |       |             |               |      |             |       |           |       |
| Antimony, total                                                                                      | 0.115   | 0.0010 | mg/L  | 0.100       | ND            | 115  | 75-125      | 0.152 | 20        |       |
| Arsenic, total                                                                                       | 0.0958  | 0.0020 | mg/L  | 0.100       | ND            | 95.8 | 75-125      | 1.63  | 20        |       |
| Barium, total                                                                                        | 0.391   | 0.0010 | mg/L  | 0.100       | 0.264         | 127  | 75-125      | 5.12  | 20        | M1    |
| Beryllium, total                                                                                     | 0.118   | 0.0005 | mg/L  | 0.100       | ND            | 118  | 75-125      | 0.696 | 20        |       |
| Cadmium, total                                                                                       | 0.103   | 0.0002 | mg/L  | 0.100       | ND            | 103  | 75-125      | 1.95  | 20        |       |
| Chromium, total                                                                                      | 0.112   | 0.0010 | mg/L  | 0.100       | 0.0008        | 111  | 75-125      | 0.330 | 20        |       |
| Cobalt, total                                                                                        | 0.107   | 0.0005 | mg/L  | 0.100       | 0.0001        | 106  | 75-125      | 0.202 | 20        |       |

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| Determination of Total Metals                                  | Result | RL                 | Units | Spike Level                                       | Source Result | %REC | %REC Limits | RPD    | RPD Limit | Notes |
|----------------------------------------------------------------|--------|--------------------|-------|---------------------------------------------------|---------------|------|-------------|--------|-----------|-------|
| Batch 1ID1042 - EPA 3005A Total Recoverable Metals - EPA 6020A |        |                    |       |                                                   |               |      |             |        |           |       |
| Matrix Spike Dup (1ID1042-MSD1)                                |        | Source: 1ID0775-01 |       | Prepared: 04/18/25 16:12 Analyzed: 06/18/25 18:26 |               |      |             |        |           |       |
| Copper, total                                                  | 0.0867 | 0.0050             | mg/L  | 0.100                                             | 0.0017        | 84.9 | 75-125      | 0.449  | 20        |       |
| Lead, total                                                    | 0.105  | 0.0010             | mg/L  | 0.100                                             | ND            | 105  | 75-125      | 2.15   | 20        |       |
| Nickel, total                                                  | 0.0865 | 0.0050             | mg/L  | 0.100                                             | 0.0009        | 85.6 | 75-125      | 1.24   | 20        |       |
| Selenium, total                                                | 0.0985 | 0.0020             | mg/L  | 0.100                                             | ND            | 98.5 | 75-125      | 0.978  | 20        |       |
| Silver, total                                                  | 0.111  | 0.0050             | mg/L  | 0.100                                             | ND            | 111  | 75-125      | 1.35   | 20        |       |
| Thallium, total                                                | 0.111  | 0.0005             | mg/L  | 0.100                                             | ND            | 111  | 75-125      | 1.45   | 20        |       |
| Vanadium, total                                                | 0.119  | 0.0020             | mg/L  | 0.100                                             | ND            | 119  | 75-125      | 0.0293 | 20        |       |
| Zinc, total                                                    | 0.0977 | 0.0050             | mg/L  | 0.100                                             | 0.0071        | 90.6 | 75-125      | 1.14   | 20        |       |

Batch Quality Control Summary: Microbac Laboratories Inc., - Marietta, OH

| Volatile Organic Compounds by GCMS | Result | RL                                                | Units | Spike Level | Source Result | %REC | %REC Limits | RPD   | RPD Limit | Notes |
|------------------------------------|--------|---------------------------------------------------|-------|-------------|---------------|------|-------------|-------|-----------|-------|
| Batch B5D0943 - 5021 - EPA RSK-175 |        |                                                   |       |             |               |      |             |       |           |       |
| Blank (B5D0943-BLK1)               |        | Prepared: 04/17/25 11:29 Analyzed: 04/17/25 12:41 |       |             |               |      |             |       |           |       |
| Methane                            | <5.00  | 5.00                                              | ug/L  |             |               |      |             |       |           |       |
| Ethene                             | <5.00  | 5.00                                              | ug/L  |             |               |      |             |       |           |       |
| Ethane                             | <5.00  | 5.00                                              | ug/L  |             |               |      |             |       |           |       |
| Propane                            | <5.00  | 5.00                                              | ug/L  |             |               |      |             |       |           |       |
| n-Butane                           | <5.00  | 5.00                                              | ug/L  |             |               |      |             |       |           |       |
| LCS (B5D0943-BS1)                  |        | Prepared: 04/17/25 11:29 Analyzed: 04/17/25 12:57 |       |             |               |      |             |       |           |       |
| Methane                            | 105    | 5.00                                              | ug/L  | 114.1884    |               | 92.1 | 85-115      |       |           |       |
| Ethene                             | 215    | 5.00                                              | ug/L  | 199.6873    |               | 108  | 85-115      |       |           |       |
| Ethane                             | 230    | 5.00                                              | ug/L  | 213.9965    |               | 107  | 85-115      |       |           |       |
| Propane                            | 341    | 5.00                                              | ug/L  | 313.9185    |               | 109  | 85-115      |       |           |       |
| n-Butane                           | 419    | 5.00                                              | ug/L  | 413.7764    |               | 101  | 85-115      |       |           |       |
| LCS Dup (B5D0943-BSD1)             |        | Prepared: 04/17/25 11:29 Analyzed: 04/17/25 13:14 |       |             |               |      |             |       |           |       |
| Methane                            | 119    | 5.00                                              | ug/L  | 114.1884    |               | 104  | 85-115      | 12.1  | 40        |       |
| Ethene                             | 229    | 5.00                                              | ug/L  | 199.6873    |               | 115  | 85-115      | 6.29  | 40        |       |
| Ethane                             | 245    | 5.00                                              | ug/L  | 213.9965    |               | 115  | 85-115      | 6.55  | 40        |       |
| Propane                            | 349    | 5.00                                              | ug/L  | 313.9185    |               | 111  | 85-115      | 2.32  | 40        |       |
| n-Butane                           | 418    | 5.00                                              | ug/L  | 413.7764    |               | 101  | 85-115      | 0.134 | 40        |       |

Batch B5D1124 - 5021 - EPA RSK-175

|                      |       |                                                   |      |  |  |  |  |  |  |  |
|----------------------|-------|---------------------------------------------------|------|--|--|--|--|--|--|--|
| Blank (B5D1124-BLK1) |       | Prepared: 04/21/25 10:34 Analyzed: 04/21/25 11:01 |      |  |  |  |  |  |  |  |
| Methane              | <5.00 | 5.00                                              | ug/L |  |  |  |  |  |  |  |
| Ethene               | <5.00 | 5.00                                              | ug/L |  |  |  |  |  |  |  |
| Ethane               | <5.00 | 5.00                                              | ug/L |  |  |  |  |  |  |  |
| LCS (B5D1124-BS1)    |       | Prepared: 04/21/25 10:34 Analyzed: 04/21/25 11:15 |      |  |  |  |  |  |  |  |



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11D1424

| Volatile Organic Compounds<br>by GCMS                                    | Result | RL   | Units | Spike<br>Level | Source<br>Result | %REC<br>Limits | RPD  | RPD<br>Limit | Notes |
|--------------------------------------------------------------------------|--------|------|-------|----------------|------------------|----------------|------|--------------|-------|
| Batch B5D1124 - 5021 - EPA RSK-175                                       |        |      |       |                |                  |                |      |              |       |
| LCS (B5D1124-BS1) Prepared: 04/21/25 10:34 Analyzed: 04/21/25 11:15      |        |      |       |                |                  |                |      |              |       |
| Methane                                                                  | 112    | 5.00 | ug/L  | 114.1884       |                  | 98.2 85-115    |      |              |       |
| Ethene                                                                   | 218    | 5.00 | ug/L  | 199.6873       |                  | 109 85-115     |      |              |       |
| Ethane                                                                   | 235    | 5.00 | ug/L  | 213.9965       |                  | 110 85-115     |      |              |       |
| LCS (B5D1124-BS2) Prepared: 04/21/25 10:34 Analyzed: 04/21/25 12:40      |        |      |       |                |                  |                |      |              |       |
| Methane                                                                  | 119    | 5.00 | ug/L  | 114.1884       |                  | 104 85-115     |      |              |       |
| Ethene                                                                   | 242    | 5.00 | ug/L  | 199.6873       |                  | 121 85-115     |      |              |       |
| Ethane                                                                   | 261    | 5.00 | ug/L  | 213.9965       |                  | 122 85-115     |      |              |       |
| LCS (B5D1124-BS3) Prepared: 04/21/25 10:34 Analyzed: 04/21/25 12:53      |        |      |       |                |                  |                |      |              |       |
| Methane                                                                  | 120    | 5.00 | ug/L  | 114.1884       |                  | 105 85-115     |      |              |       |
| Ethene                                                                   | 243    | 5.00 | ug/L  | 199.6873       |                  | 122 85-115     |      |              |       |
| Ethane                                                                   | 260    | 5.00 | ug/L  | 213.9965       |                  | 122 85-115     |      |              |       |
| LCS Dup (B5D1124-BSD1) Prepared: 04/21/25 10:34 Analyzed: 04/21/25 11:29 |        |      |       |                |                  |                |      |              |       |
| Methane                                                                  | 107    | 5.00 | ug/L  | 114.1884       |                  | 93.8 85-115    | 4.62 | 40           |       |
| Ethene                                                                   | 209    | 5.00 | ug/L  | 199.6873       |                  | 104 85-115     | 4.60 | 40           |       |
| Ethane                                                                   | 225    | 5.00 | ug/L  | 213.9965       |                  | 105 85-115     | 4.55 | 40           |       |

Definitions

|      |                                                                                          |
|------|------------------------------------------------------------------------------------------|
| B:   | The target analyte was detected in the blank at or above the method acceptance criteria. |
| H:   | Sample was analyzed past holding time.                                                   |
| M1:  | Matrix spike recovery is above acceptance limits.                                        |
| Q:   | One or more quality control criteria failed.                                             |
| Q2:  | LCS recovery is above acceptance limits.                                                 |
| RL:  | Reporting Limit                                                                          |
| RPD: | Relative Percent Difference                                                              |
| S1:  | Surrogate recovery is above acceptance limits.                                           |

Cooler Receipt Log

Cooler ID: Default Cooler Temp: 0.0°C

Cooler Inspection Checklist

|                  |     |                        |     |
|------------------|-----|------------------------|-----|
| Custody Seals    | No  | Containers Intact      | Yes |
| COC/Labels Agree | Yes | Preservation Confirmed | No  |
| Received On Ice  | Yes |                        |     |

Report Comments

The data and information on this, and other accompanying documents, represents only the sample(s) analyzed. This report is incomplete unless all pages indicated in the footnote are present and an authorized signature is included. The services were provided under and subject to Microbac's standard terms and conditions which can be located and reviewed at <https://www.microbac.com/standard-terms-conditions>.

Reviewed and Approved By:

Heather Murphy  
Customer Relationship Specialist  
heather.murphy@microbac.com  
06/20/25 13:06



600 East 1  
Newton, IA  
641-792-8



1 I D 1 4 2 4

HLW Engineering  
PM: Heather Murphy

Page 1 of

Printed: 3/20/2025 11:30:48A

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Page 17 of 17

#### SITE INFORMATION

Sampler: TODD WHIPPLE

Project: Marshall Sanitary Landfill-New Regs  
6003

#### SPECIAL INSTRUCTIONS

None

#### Turn Around Time

☐ Standard ☐ RUSH, need by \_\_\_/\_\_\_/\_\_\_

#### REPORT TO

Todd Whipple  
HLW Engineering  
204 West Broad St  
Story City, IA 50248

#### INVOICE TO

Don Ballalatak  
Marshall County Landfill  
2313 Marshalltown Blvd  
Marshalltown, IA 50158

#### LAB USE ONLY

Work Order 1151424

Temperature 0-0

Turn-Cooler: No



Custody Seal  
Containers Intact  
COC/Labels Agree  
Preservation Confirmed  
Received on Ice

| Number | Sample Identification / Client ID | Matrix  | Sample Type | Date           | Time         | Number of Containers | Analyses                                                               | Lab Sample Number |
|--------|-----------------------------------|---------|-------------|----------------|--------------|----------------------|------------------------------------------------------------------------|-------------------|
| -001   | MW-213                            | Aqueous | GRAB        | <u>4/14/25</u> | <u>14:01</u> | <u>10</u>            | Indfill-app1-voc-group<br>perungas-rsk-175<br>Indfill-app1-metals-6020 | <u>01</u>         |

Todd Whipple 4/15/25  
Relinquished By Date/Time

Received By Date/Time

Heather Murphy 4/15/25 1030  
Relinquished By Date/Time

Received for Lab By Date/Time

Original - Lab Copy Yellow - Sampler Copy

Remarks:





Microbac Laboratories, Inc., Newton

CERTIFICATE OF ANALYSIS

1IG1856

Project Description

6003

For:

Todd Whipple

**HLW Engineering**

204 West Broad St

Story City, IA 50248

---

Heather Murphy

Customer Relationship Specialist

Thursday, July 24, 2025

Please find enclosed the analytical results for the samples you submitted to Microbac Laboratories. Review and compilation of your report was completed by Microbac Laboratories, Inc., Newton. If you have any questions, comments, or require further assistance regarding this report, please contact your service representative listed above.

I certify that all test results meet all of the requirements of the accrediting authority listed within this report. Analytical results are reported on a 'as received' basis unless specified otherwise. Analytical results for solids with units ending in (dry) are reported on a dry weight basis. A statement of uncertainty for each analysis is available upon request. This laboratory report shall not be reproduced, except in full, without the written approval of Microbac Laboratories. The reported results are related only to the samples analyzed as received.

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CERTIFICATE OF ANALYSIS

1IG1856

**HLW Engineering**

Todd Whipple  
204 West Broad St  
Story City, IA 50248

**Project Name: 6003**

Project / PO Number: N/A  
Received: 07/16/2025  
Reported: 07/24/2025

---

**Sample Summary Report**

| <u>Sample Name</u> | <u>Laboratory ID</u> | <u>Client Matrix</u> | <u>Sample Type</u> | <u>Sample Begin</u> | <u>Sample Taken</u> | <u>Lab Received</u> |
|--------------------|----------------------|----------------------|--------------------|---------------------|---------------------|---------------------|
| MW-213             | 1IG1856-01           | Aqueous              | GRAB               |                     | 07/15/25 11:42      | 07/16/25 09:37      |



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1IG1856

Analytical Testing Parameters

|                   |            |                  |                  |
|-------------------|------------|------------------|------------------|
| Client Sample ID: | MW-213     | Collected By:    | Whipple, Todd    |
| Sample Matrix:    | Aqueous    | Collection Date: | 07/15/2025 11:42 |
| Lab Sample ID:    | 1IG1856-01 |                  |                  |

| Determination of Total Metals | Result        | RL     | Units | Note | Prepared      | Analyzed      | Analyst |
|-------------------------------|---------------|--------|-------|------|---------------|---------------|---------|
| <b>EPA 3005A/EPA 6020A</b>    |               |        |       |      |               |               |         |
| Antimony, total               | <0.0010       | 0.0010 | mg/L  |      | 07/22/25 1525 | 07/23/25 1709 | RVV     |
| Arsenic, total                | <0.0020       | 0.0020 | mg/L  |      | 07/22/25 1525 | 07/23/25 1709 | RVV     |
| Barium, total                 | <b>0.264</b>  | 0.0010 | mg/L  |      | 07/22/25 1525 | 07/23/25 1709 | RVV     |
| Beryllium, total              | <0.0005       | 0.0005 | mg/L  |      | 07/22/25 1525 | 07/23/25 1709 | RVV     |
| Cadmium, total                | <0.0002       | 0.0002 | mg/L  |      | 07/22/25 1525 | 07/23/25 1709 | RVV     |
| Chromium, total               | <b>0.0010</b> | 0.0010 | mg/L  |      | 07/22/25 1525 | 07/23/25 1709 | RVV     |
| Cobalt, total                 | <0.0005       | 0.0005 | mg/L  |      | 07/22/25 1525 | 07/23/25 1709 | RVV     |
| Copper, total                 | <0.0050       | 0.0050 | mg/L  |      | 07/22/25 1525 | 07/23/25 1709 | RVV     |
| Lead, total                   | <0.0010       | 0.0010 | mg/L  |      | 07/22/25 1525 | 07/23/25 1709 | RVV     |
| Nickel, total                 | <0.0050       | 0.0050 | mg/L  |      | 07/22/25 1525 | 07/23/25 1709 | RVV     |
| Selenium, total               | <0.0020       | 0.0020 | mg/L  |      | 07/22/25 1525 | 07/23/25 1709 | RVV     |
| Silver, total                 | <0.0050       | 0.0050 | mg/L  |      | 07/22/25 1525 | 07/23/25 1709 | RVV     |
| Thallium, total               | <0.0005       | 0.0005 | mg/L  |      | 07/22/25 1525 | 07/23/25 1709 | RVV     |
| Vanadium, total               | <0.0020       | 0.0020 | mg/L  |      | 07/22/25 1525 | 07/23/25 1709 | RVV     |
| Zinc, total                   | <0.0050       | 0.0050 | mg/L  |      | 07/22/25 1525 | 07/23/25 1709 | RVV     |

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Batch Log Summary

| Method    | Batch   | Laboratory ID | Client / Source ID |
|-----------|---------|---------------|--------------------|
| EPA 6020A | 1IG1243 | 1IG1243-BLK1  |                    |
|           |         | 1IG1243-BS1   |                    |
|           |         | 1IG1856-01    | MW-213             |
|           |         | 1IG1243-MS1   | 1IG1856-01         |
|           |         | 1IG1243-MSD1  | 1IG1856-01         |
|           |         | 1IG1243-PS1   | 1IG1856-01         |

Batch Quality Control Summary: Microbac Laboratories, Inc., Newton

| Determination of Total Metals                                  | Result | RL | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|----------------------------------------------------------------|--------|----|-------|-------------|---------------|------|-------------|-----|-----------|-------|
| Batch 1IG1243 - EPA 3005A Total Recoverable Metals - EPA 6020A |        |    |       |             |               |      |             |     |           |       |

Blank (1IG1243-BLK1)

Prepared: 07/22/25 15:25 Analyzed: 07/23/25 16:55

|                  |         |        |      |
|------------------|---------|--------|------|
| Antimony, total  | <0.0010 | 0.0010 | mg/L |
| Arsenic, total   | <0.0020 | 0.0020 | mg/L |
| Barium, total    | <0.0010 | 0.0010 | mg/L |
| Beryllium, total | <0.0005 | 0.0005 | mg/L |
| Cadmium, total   | <0.0002 | 0.0002 | mg/L |
| Chromium, total  | <0.0010 | 0.0010 | mg/L |
| Cobalt, total    | <0.0005 | 0.0005 | mg/L |
| Copper, total    | <0.0050 | 0.0050 | mg/L |
| Lead, total      | <0.0010 | 0.0010 | mg/L |
| Nickel, total    | <0.0050 | 0.0050 | mg/L |
| Selenium, total  | <0.0020 | 0.0020 | mg/L |
| Silver, total    | <0.0050 | 0.0050 | mg/L |
| Thallium, total  | <0.0005 | 0.0005 | mg/L |
| Vanadium, total  | <0.0020 | 0.0020 | mg/L |
| Zinc, total      | <0.0050 | 0.0050 | mg/L |

LCS (1IG1243-BS1)

Prepared: 07/22/25 15:25 Analyzed: 07/23/25 16:57

|                  |        |        |      |       |      |        |
|------------------|--------|--------|------|-------|------|--------|
| Antimony, total  | 0.107  | 0.0010 | mg/L | 0.100 | 107  | 80-120 |
| Arsenic, total   | 0.102  | 0.0020 | mg/L | 0.100 | 102  | 80-120 |
| Barium, total    | 0.115  | 0.0010 | mg/L | 0.100 | 115  | 80-120 |
| Beryllium, total | 0.0982 | 0.0005 | mg/L | 0.100 | 98.2 | 80-120 |
| Cadmium, total   | 0.103  | 0.0002 | mg/L | 0.100 | 103  | 80-120 |
| Chromium, total  | 0.111  | 0.0010 | mg/L | 0.100 | 111  | 80-120 |
| Cobalt, total    | 0.111  | 0.0005 | mg/L | 0.100 | 111  | 80-120 |
| Copper, total    | 0.104  | 0.0050 | mg/L | 0.100 | 104  | 80-120 |
| Lead, total      | 0.108  | 0.0010 | mg/L | 0.100 | 108  | 80-120 |
| Nickel, total    | 0.104  | 0.0050 | mg/L | 0.100 | 104  | 80-120 |
| Selenium, total  | 0.1027 | 0.0020 | mg/L | 0.100 | 103  | 80-120 |
| Silver, total    | 0.110  | 0.0050 | mg/L | 0.100 | 110  | 80-120 |
| Thallium, total  | 0.110  | 0.0005 | mg/L | 0.100 | 110  | 80-120 |
| Vanadium, total  | 0.115  | 0.0020 | mg/L | 0.100 | 115  | 80-120 |
| Zinc, total      | 0.109  | 0.0050 | mg/L | 0.100 | 109  | 80-120 |

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1IG1856

| Determination of Total Metals                                  | Result | RL                 | Units | Spike Level                                       | Source Result | %REC | Limits | RPD   | Limit | Notes |
|----------------------------------------------------------------|--------|--------------------|-------|---------------------------------------------------|---------------|------|--------|-------|-------|-------|
| Batch 1IG1243 - EPA 3005A Total Recoverable Metals - EPA 6020A |        |                    |       |                                                   |               |      |        |       |       |       |
| Matrix Spike (1IG1243-MS1)                                     |        | Source: 1IG1856-01 |       | Prepared: 07/22/25 15:25 Analyzed: 07/23/25 17:12 |               |      |        |       |       |       |
| Antimony, total                                                | 0.114  | 0.0010             | mg/L  | 0.100                                             | ND            | 114  | 75-125 |       |       | M1    |
| Arsenic, total                                                 | 0.105  | 0.0020             | mg/L  | 0.100                                             | ND            | 105  | 75-125 |       |       |       |
| Barium, total                                                  | 0.395  | 0.0010             | mg/L  | 0.100                                             | 0.264         | 130  | 75-125 |       |       |       |
| Beryllium, total                                               | 0.104  | 0.0005             | mg/L  | 0.100                                             | ND            | 104  | 75-125 |       |       |       |
| Cadmium, total                                                 | 0.105  | 0.0002             | mg/L  | 0.100                                             | ND            | 105  | 75-125 |       |       |       |
| Chromium, total                                                | 0.110  | 0.0010             | mg/L  | 0.100                                             | 0.0010        | 109  | 75-125 |       |       |       |
| Cobalt, total                                                  | 0.103  | 0.0005             | mg/L  | 0.100                                             | 0.00009       | 103  | 75-125 |       |       |       |
| Copper, total                                                  | 0.0984 | 0.0050             | mg/L  | 0.100                                             | ND            | 98.4 | 75-125 |       |       |       |
| Lead, total                                                    | 0.107  | 0.0010             | mg/L  | 0.100                                             | ND            | 107  | 75-125 |       |       |       |
| Nickel, total                                                  | 0.101  | 0.0050             | mg/L  | 0.100                                             | 0.0010        | 99.9 | 75-125 |       |       |       |
| Selenium, total                                                | 0.1056 | 0.0020             | mg/L  | 0.100                                             | ND            | 106  | 75-125 |       |       |       |
| Silver, total                                                  | 0.111  | 0.0050             | mg/L  | 0.100                                             | ND            | 111  | 75-125 |       |       |       |
| Thallium, total                                                | 0.110  | 0.0005             | mg/L  | 0.100                                             | ND            | 110  | 75-125 |       |       |       |
| Vanadium, total                                                | 0.117  | 0.0020             | mg/L  | 0.100                                             | ND            | 117  | 75-125 |       |       |       |
| Zinc, total                                                    | 0.106  | 0.0050             | mg/L  | 0.100                                             | ND            | 106  | 75-125 |       |       |       |
| Matrix Spike Dup (1IG1243-MSD1)                                |        | Source: 1IG1856-01 |       | Prepared: 07/22/25 15:25 Analyzed: 07/23/25 17:14 |               |      |        |       |       |       |
| Antimony, total                                                | 0.111  | 0.0010             | mg/L  | 0.100                                             | ND            | 111  | 75-125 | 2.25  | 20    |       |
| Arsenic, total                                                 | 0.103  | 0.0020             | mg/L  | 0.100                                             | ND            | 103  | 75-125 | 2.02  | 20    |       |
| Barium, total                                                  | 0.387  | 0.0010             | mg/L  | 0.100                                             | 0.264         | 122  | 75-125 | 2.14  | 20    |       |
| Beryllium, total                                               | 0.105  | 0.0005             | mg/L  | 0.100                                             | ND            | 105  | 75-125 | 0.268 | 20    |       |
| Cadmium, total                                                 | 0.104  | 0.0002             | mg/L  | 0.100                                             | ND            | 104  | 75-125 | 1.53  | 20    |       |
| Chromium, total                                                | 0.112  | 0.0010             | mg/L  | 0.100                                             | 0.0010        | 111  | 75-125 | 1.98  | 20    |       |
| Cobalt, total                                                  | 0.106  | 0.0005             | mg/L  | 0.100                                             | 0.00009       | 106  | 75-125 | 2.55  | 20    |       |
| Copper, total                                                  | 0.0973 | 0.0050             | mg/L  | 0.100                                             | ND            | 97.3 | 75-125 | 1.05  | 20    |       |
| Lead, total                                                    | 0.107  | 0.0010             | mg/L  | 0.100                                             | ND            | 107  | 75-125 | 0.165 | 20    |       |
| Nickel, total                                                  | 0.100  | 0.0050             | mg/L  | 0.100                                             | 0.0010        | 99.4 | 75-125 | 0.559 | 20    |       |
| Selenium, total                                                | 0.1026 | 0.0020             | mg/L  | 0.100                                             | ND            | 103  | 75-125 | 2.92  | 20    |       |
| Silver, total                                                  | 0.112  | 0.0050             | mg/L  | 0.100                                             | ND            | 112  | 75-125 | 0.829 | 20    |       |
| Thallium, total                                                | 0.111  | 0.0005             | mg/L  | 0.100                                             | ND            | 111  | 75-125 | 0.157 | 20    |       |
| Vanadium, total                                                | 0.117  | 0.0020             | mg/L  | 0.100                                             | ND            | 117  | 75-125 | 0.505 | 20    |       |
| Zinc, total                                                    | 0.105  | 0.0050             | mg/L  | 0.100                                             | ND            | 105  | 75-125 | 0.855 | 20    |       |
| Post Spike (1IG1243-PS1)                                       |        | Source: 1IG1856-01 |       | Prepared: 07/22/25 15:25 Analyzed: 07/23/25 17:17 |               |      |        |       |       |       |
| Antimony, total                                                | 0.0200 |                    | mg/L  | 0.0200                                            | 0.0004        | 98.1 | 80-120 |       |       | M2    |
| Arsenic, total                                                 | 0.0196 |                    | mg/L  | 0.0200                                            | 0.000006      | 97.8 | 80-120 |       |       |       |
| Barium, total                                                  | 0.276  |                    | mg/L  | 0.0200                                            | 0.264         | 58.7 | 80-120 |       |       |       |
| Beryllium, total                                               | 0.0196 |                    | mg/L  | 0.0200                                            | 0.000001      | 97.8 | 80-120 |       |       |       |
| Cadmium, total                                                 | 0.0196 |                    | mg/L  | 0.0200                                            | 0.000007      | 97.8 | 80-120 |       |       |       |
| Chromium, total                                                | 0.0211 |                    | mg/L  | 0.0200                                            | 0.0010        | 101  | 80-120 |       |       |       |
| Cobalt, total                                                  | 0.0194 |                    | mg/L  | 0.0200                                            | 0.00009       | 96.3 | 80-120 |       |       |       |
| Copper, total                                                  | 0.0192 |                    | mg/L  | 0.0200                                            | 0.0007        | 92.6 | 80-120 |       |       |       |
| Lead, total                                                    | 0.0197 |                    | mg/L  | 0.0200                                            | 0.00004       | 98.3 | 80-120 |       |       |       |
| Nickel, total                                                  | 0.0200 |                    | mg/L  | 0.0200                                            | 0.0010        | 95.1 | 80-120 |       |       |       |
| Selenium, total                                                | 0.0199 |                    | mg/L  | 0.0200                                            | 0.0003        | 97.9 | 80-120 |       |       |       |

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| Determination of Total Metals                                  | Result | RL                 | Units | Spike Level                                       | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|----------------------------------------------------------------|--------|--------------------|-------|---------------------------------------------------|---------------|------|-------------|-----|-----------|-------|
| Batch 1IG1243 - EPA 3005A Total Recoverable Metals - EPA 6020A |        |                    |       |                                                   |               |      |             |     |           |       |
| Post Spike (1IG1243-PS1)                                       |        | Source: 1IG1856-01 |       | Prepared: 07/22/25 15:25 Analyzed: 07/23/25 17:17 |               |      |             |     |           |       |
| Silver, total                                                  | 0.0209 |                    | mg/L  | 0.0200                                            | 0.00002       | 104  | 80-120      |     |           |       |
| Thallium, total                                                | 0.0199 |                    | mg/L  | 0.0200                                            | 0.000001      | 99.7 | 80-120      |     |           |       |
| Vanadium, total                                                | 0.0200 |                    | mg/L  | 0.0200                                            | -0.00005      | 99.9 | 80-120      |     |           |       |
| Zinc, total                                                    | 0.0217 |                    | mg/L  | 0.0200                                            | 0.0022        | 97.5 | 80-120      |     |           |       |

Definitions

|      |                                                   |
|------|---------------------------------------------------|
| M1:  | Matrix spike recovery is above acceptance limits. |
| M2:  | Matrix spike recovery is below acceptance limits. |
| RL:  | Reporting Limit                                   |
| RPD: | Relative Percent Difference                       |

Cooler Receipt Log

Cooler ID: Default Cooler Temp: 0.0°C

Cooler Inspection Checklist

|                  |     |                        |     |
|------------------|-----|------------------------|-----|
| Custody Seals    | No  | Containers Intact      | Yes |
| COC/Labels Agree | Yes | Preservation Confirmed | No  |
| Received On Ice  | Yes |                        |     |

Report Comments

The data and information on this, and other accompanying documents, represents only the sample(s) analyzed. This report is incomplete unless all pages indicated in the footnote are present and an authorized signature is included. The services were provided under and subject to Microbac's standard terms and conditions which can be located and reviewed at <https://www.microbac.com/standard-terms-conditions>.

Reviewed and Approved By:

Heather Murphy  
Customer Relationship Specialist  
heather.murphy@microbac.com  
07/24/25 15:01

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PAGE 1 OF 1

|                                                                                                                                                                                          |  |                                                                                                                                                                                                               |  |                                                                                                                                                                                                                                                                 |  |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| <b>PRINT OR TYPE INFORMATION BELOW</b><br>SAMPLER: <u>TODD WHIPPLE</u><br>SITE NAME: <u>Marshall Co AREA A</u><br>ADDRESS: _____<br>CITY/ST/ZIP: <u>Marshalltown, IA</u><br>PHONE: _____ |  | <b>REPORT TO:</b><br>NAME: <u>TODD WHIPPLE</u><br>COMPANY NAME: <u>HLW Group</u><br>ADDRESS: <u>P.O. Box 314</u><br>CITY/ST/ZIP: <u>STORY CITY IA 50248</u><br>PHONE: <u>515 733-4144</u><br>FAX: <u>4146</u> |  | <b>BILL TO:</b><br>NAME: <u>Don Ballalatak, Director</u><br>COMPANY NAME: <u>Solid Waste Mgt Commission Marshall Co.</u><br>ADDRESS: <u>PO Box 217</u><br>CITY/ST/ZIP: <u>Marshalltown IA 50158</u><br>PHONE: _____<br>Keystone Quote No: _____ (If Applicable) |  |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|

| CLIENT<br>SAMPLE NUMBER | DATE    | TIME  | SAMPLE LOCATION | NO. OF CONTAINERS | MATRIX | GRAB/COMPOSITE | ANALYSES REQUIRED |  |  |  |  |  |  |  |  |  | LAB USE ONLY                                |                                                        |
|-------------------------|---------|-------|-----------------|-------------------|--------|----------------|-------------------|--|--|--|--|--|--|--|--|--|---------------------------------------------|--------------------------------------------------------|
|                         |         |       |                 |                   |        |                | Appendix I metals |  |  |  |  |  |  |  |  |  | LABORATORY WORK ORDER NO.<br><u>1IG1856</u> | SAMPLE TEMPERATURE<br>UPON RECEIPT:<br><u>0-010</u> °C |
| MW-213                  | 7-15-25 | 11:42 | MW-213          | 1                 | W      | G              | X                 |  |  |  |  |  |  |  |  |  |                                             | 01                                                     |
|                         |         |       |                 |                   |        |                |                   |  |  |  |  |  |  |  |  |  |                                             |                                                        |
|                         |         |       |                 |                   |        |                |                   |  |  |  |  |  |  |  |  |  |                                             |                                                        |
|                         |         |       |                 |                   |        |                |                   |  |  |  |  |  |  |  |  |  |                                             |                                                        |
|                         |         |       |                 |                   |        |                |                   |  |  |  |  |  |  |  |  |  |                                             |                                                        |
|                         |         |       |                 |                   |        |                |                   |  |  |  |  |  |  |  |  |  |                                             |                                                        |
|                         |         |       |                 |                   |        |                |                   |  |  |  |  |  |  |  |  |  |                                             |                                                        |
|                         |         |       |                 |                   |        |                |                   |  |  |  |  |  |  |  |  |  |                                             |                                                        |
|                         |         |       |                 |                   |        |                |                   |  |  |  |  |  |  |  |  |  |                                             |                                                        |
|                         |         |       |                 |                   |        |                |                   |  |  |  |  |  |  |  |  |  |                                             |                                                        |
|                         |         |       |                 |                   |        |                |                   |  |  |  |  |  |  |  |  |  |                                             |                                                        |
|                         |         |       |                 |                   |        |                |                   |  |  |  |  |  |  |  |  |  |                                             |                                                        |
|                         |         |       |                 |                   |        |                |                   |  |  |  |  |  |  |  |  |  |                                             |                                                        |
|                         |         |       |                 |                   |        |                |                   |  |  |  |  |  |  |  |  |  |                                             |                                                        |
|                         |         |       |                 |                   |        |                |                   |  |  |  |  |  |  |  |  |  |                                             |                                                        |

|                                                    |                        |                                                |                        |                                                                                                                    |
|----------------------------------------------------|------------------------|------------------------------------------------|------------------------|--------------------------------------------------------------------------------------------------------------------|
| Relinquished by: (Signature)<br><u>[Signature]</u> | Date<br><u>7/16/25</u> | Received by: (Signature)<br><u>[Signature]</u> | Date<br><u>7-16-25</u> | Turn-Around:<br><input type="checkbox"/> Standard <input type="checkbox"/> Rush<br>Contact Lab Prior to Submission |
|                                                    | Time                   |                                                | Time<br><u>9:37</u>    |                                                                                                                    |
| Relinquished by: (Signature)                       | Date                   | Received for Lab by: (Signature)               | Date                   | Remarks:                                                                                                           |
|                                                    | Time                   |                                                | Time                   |                                                                                                                    |





Microbac Laboratories, Inc., Newton

CERTIFICATE OF ANALYSIS

11J0829

Project Description

6003

For:

Todd Whipple

**HLW Engineering**

204 West Broad St

Story City, IA 50248

---

Heather Murphy

Customer Relationship Specialist

Friday, October 24, 2025

Please find enclosed the analytical results for the samples you submitted to Microbac Laboratories. Review and compilation of your report was completed by Microbac Laboratories, Inc., Newton. If you have any questions, comments, or require further assistance regarding this report, please contact your service representative listed above.

I certify that all test results meet all of the requirements of the accrediting authority listed within this report. Analytical results are reported on a 'as received' basis unless specified otherwise. Analytical results for solids with units ending in (dry) are reported on a dry weight basis. A statement of uncertainty for each analysis is available upon request. This laboratory report shall not be reproduced, except in full, without the written approval of Microbac Laboratories. The reported results are related only to the samples analyzed as received.

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CERTIFICATE OF ANALYSIS

11J0829

**HLW Engineering**

Todd Whipple  
204 West Broad St  
Story City, IA 50248

**Project Name: 6003**

Project / PO Number: N/A  
Received: 10/08/2025  
Reported: 10/24/2025

---

**Sample Summary Report**

| <u>Sample Name</u> | <u>Laboratory ID</u> | <u>Client Matrix</u> | <u>Sample Type</u> | <u>Sample Begin</u> | <u>Sample Taken</u> | <u>Lab Received</u> |
|--------------------|----------------------|----------------------|--------------------|---------------------|---------------------|---------------------|
| MW-213             | 11J0829-01           | Aqueous              | GRAB               |                     | 10/06/25 12:55      | 10/08/25 09:45      |



Microbac Laboratories, Inc., Newton

CERTIFICATE OF ANALYSIS

1IJ0829

Analytical Testing Parameters

Client Sample ID: MW-213  
Sample Matrix: Aqueous  
Lab Sample ID: 1IJ0829-01

Collected By: Whipple, Todd  
Collection Date: 10/06/2025 12:55

Analyses Performed by: Microbac Laboratories Inc., - Marietta, OH

| Volatile Organic Compounds by GCMS | Result | RL   | Units | Note | Prepared      | Analyzed      | Analyst |
|------------------------------------|--------|------|-------|------|---------------|---------------|---------|
| <b>EPA RSK-175</b>                 |        |      |       |      |               |               |         |
| Methane                            | <5.00  | 5.00 | ug/L  |      | 10/09/25 1248 | 10/10/25 1827 | KJB     |
| Ethene                             | <5.00  | 5.00 | ug/L  |      | 10/09/25 1248 | 10/10/25 1827 | KJB     |
| Ethane                             | <5.00  | 5.00 | ug/L  |      | 10/09/25 1248 | 10/10/25 1827 | KJB     |

Analyses Performed by: Microbac Laboratories, Inc., Newton

| Determination of Volatile Organic Compounds | Result | RL   | Units | Note | Prepared      | Analyzed      | Analyst |
|---------------------------------------------|--------|------|-------|------|---------------|---------------|---------|
| <b>EPA 5030B/EPA 8260D</b>                  |        |      |       |      |               |               |         |
| Chloromethane                               | <1.0   | 1.0  | ug/L  |      | 10/15/25 0000 | 10/15/25 2048 | RAF     |
| Vinyl Chloride                              | <1.0   | 1.0  | ug/L  |      | 10/15/25 0000 | 10/15/25 2048 | RAF     |
| Bromomethane                                | <1.0   | 1.0  | ug/L  |      | 10/15/25 0000 | 10/15/25 2048 | RAF     |
| Chloroethane                                | <1.0   | 1.0  | ug/L  |      | 10/15/25 0000 | 10/15/25 2048 | RAF     |
| Trichlorofluoromethane                      | <1.0   | 1.0  | ug/L  |      | 10/15/25 0000 | 10/15/25 2048 | RAF     |
| 1,1-Dichloroethylene                        | <1.0   | 1.0  | ug/L  |      | 10/15/25 0000 | 10/15/25 2048 | RAF     |
| Acetone                                     | <10.0  | 10.0 | ug/L  |      | 10/15/25 0000 | 10/15/25 2048 | RAF     |
| Methyl Iodide                               | <1.0   | 1.0  | ug/L  |      | 10/15/25 0000 | 10/15/25 2048 | RAF     |
| Carbon Disulfide                            | <1.0   | 1.0  | ug/L  |      | 10/15/25 0000 | 10/15/25 2048 | RAF     |
| Methylene Chloride                          | <5.0   | 5.0  | ug/L  |      | 10/15/25 0000 | 10/15/25 2048 | RAF     |
| Acrylonitrile                               | <5.0   | 5.0  | ug/L  |      | 10/15/25 0000 | 10/15/25 2048 | RAF     |
| trans-1,2-Dichloroethylene                  | <1.0   | 1.0  | ug/L  |      | 10/15/25 0000 | 10/15/25 2048 | RAF     |
| 1,1-Dichloroethane                          | <1.0   | 1.0  | ug/L  |      | 10/15/25 0000 | 10/15/25 2048 | RAF     |
| Vinyl Acetate                               | <5.0   | 5.0  | ug/L  |      | 10/15/25 0000 | 10/15/25 2048 | RAF     |
| cis-1,2-Dichloroethylene                    | 6.6    | 1.0  | ug/L  |      | 10/15/25 0000 | 10/15/25 2048 | RAF     |
| 2-Butanone (MEK)                            | <10.0  | 10.0 | ug/L  |      | 10/15/25 0000 | 10/15/25 2048 | RAF     |
| Bromochloromethane                          | <1.0   | 1.0  | ug/L  |      | 10/15/25 0000 | 10/15/25 2048 | RAF     |
| Chloroform                                  | <1.0   | 1.0  | ug/L  |      | 10/15/25 0000 | 10/15/25 2048 | RAF     |
| 1,1,1-Trichloroethane                       | <1.0   | 1.0  | ug/L  |      | 10/15/25 0000 | 10/15/25 2048 | RAF     |
| Carbon Tetrachloride                        | <1.0   | 1.0  | ug/L  |      | 10/15/25 0000 | 10/15/25 2048 | RAF     |
| Benzene                                     | <1.0   | 1.0  | ug/L  |      | 10/15/25 0000 | 10/15/25 2048 | RAF     |
| 1,2-Dichloroethane                          | <1.0   | 1.0  | ug/L  |      | 10/15/25 0000 | 10/15/25 2048 | RAF     |
| Trichloroethylene                           | <1.0   | 1.0  | ug/L  |      | 10/15/25 0000 | 10/15/25 2048 | RAF     |
| 1,2-Dichloropropane                         | 1.4    | 1.0  | ug/L  |      | 10/15/25 0000 | 10/15/25 2048 | RAF     |
| Dibromomethane                              | <1.0   | 1.0  | ug/L  |      | 10/15/25 0000 | 10/15/25 2048 | RAF     |
| Bromodichloromethane                        | <1.0   | 1.0  | ug/L  |      | 10/15/25 0000 | 10/15/25 2048 | RAF     |
| cis-1,3-Dichloropropene                     | <1.0   | 1.0  | ug/L  |      | 10/15/25 0000 | 10/15/25 2048 | RAF     |
| 4-Methyl-2-pentanone (MIBK)                 | <5.0   | 5.0  | ug/L  |      | 10/15/25 0000 | 10/15/25 2048 | RAF     |
| Toluene                                     | <1.0   | 1.0  | ug/L  |      | 10/15/25 0000 | 10/15/25 2048 | RAF     |
| trans-1,3-Dichloropropene                   | <1.0   | 1.0  | ug/L  |      | 10/15/25 0000 | 10/15/25 2048 | RAF     |
| 1,1,2-Trichloroethane                       | <1.0   | 1.0  | ug/L  |      | 10/15/25 0000 | 10/15/25 2048 | RAF     |
| Tetrachloroethylene                         | <1.0   | 1.0  | ug/L  |      | 10/15/25 0000 | 10/15/25 2048 | RAF     |

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CERTIFICATE OF ANALYSIS

11J0829

Client Sample ID: MW-213  
Sample Matrix: Aqueous  
Lab Sample ID: 11J0829-01

Collected By: Whipple, Todd  
Collection Date: 10/06/2025 12:55

| Determination of Volatile Organic Compounds | Result  | RL            | Units | Note | Prepared      | Analyzed      | Analyst |
|---------------------------------------------|---------|---------------|-------|------|---------------|---------------|---------|
| 2-Hexanone (MBK)                            | <5.0    | 5.0           | ug/L  |      | 10/15/25 0000 | 10/15/25 2048 | RAF     |
| Dibromochloromethane                        | <1.0    | 1.0           | ug/L  |      | 10/15/25 0000 | 10/15/25 2048 | RAF     |
| 1,2-Dibromoethane                           | <1.0    | 1.0           | ug/L  |      | 10/15/25 0000 | 10/15/25 2048 | RAF     |
| Chlorobenzene                               | <1.0    | 1.0           | ug/L  |      | 10/15/25 0000 | 10/15/25 2048 | RAF     |
| 1,1,1,2-Tetrachloroethane                   | <1.0    | 1.0           | ug/L  |      | 10/15/25 0000 | 10/15/25 2048 | RAF     |
| Ethylbenzene                                | <1.0    | 1.0           | ug/L  |      | 10/15/25 0000 | 10/15/25 2048 | RAF     |
| Xylenes, total                              | <2.0    | 2.0           | ug/L  |      | 10/15/25 0000 | 10/15/25 2048 | RAF     |
| Styrene                                     | <1.0    | 1.0           | ug/L  |      | 10/15/25 0000 | 10/15/25 2048 | RAF     |
| Bromoform                                   | <1.0    | 1.0           | ug/L  |      | 10/15/25 0000 | 10/15/25 2048 | RAF     |
| 1,2,3-Trichloropropane                      | <1.0    | 1.0           | ug/L  |      | 10/15/25 0000 | 10/15/25 2048 | RAF     |
| trans-1,4-Dichloro-2-butene                 | <5.0    | 5.0           | ug/L  |      | 10/15/25 0000 | 10/15/25 2048 | RAF     |
| 1,1,2,2-Tetrachloroethane                   | <1.0    | 1.0           | ug/L  |      | 10/15/25 0000 | 10/15/25 2048 | RAF     |
| 1,4-Dichlorobenzene                         | <1.0    | 1.0           | ug/L  |      | 10/15/25 0000 | 10/15/25 2048 | RAF     |
| 1,2-Dichlorobenzene                         | <1.0    | 1.0           | ug/L  |      | 10/15/25 0000 | 10/15/25 2048 | RAF     |
| 1,2-Dibromo-3-chloropropane                 | <5.0    | 5.0           | ug/L  |      | 10/15/25 0000 | 10/15/25 2048 | RAF     |
| Surrogate: Dibromofluoromethane             | 93.1    | Limit: 57-128 | % Rec |      | 10/15/25 0000 | 10/15/25 2048 | RAF     |
| Surrogate: Dibromofluoromethane             | 93.1    | Limit: 75-136 | % Rec |      | 10/15/25 0000 | 10/15/25 2048 | RAF     |
| Surrogate: 1,2-Dichloroethane-d4            | 99.0    | Limit: 49-135 | % Rec |      | 10/15/25 0000 | 10/15/25 2048 | RAF     |
| Surrogate: 1,2-Dichloroethane-d4            | 99.0    | Limit: 61-142 | % Rec |      | 10/15/25 0000 | 10/15/25 2048 | RAF     |
| Surrogate: Toluene-d8                       | 97.6    | Limit: 82-116 | % Rec |      | 10/15/25 0000 | 10/15/25 2048 | RAF     |
| Surrogate: Toluene-d8                       | 97.6    | Limit: 82-121 | % Rec |      | 10/15/25 0000 | 10/15/25 2048 | RAF     |
| Surrogate: 4-Bromofluorobenzene             | 107     | Limit: 77-114 | % Rec |      | 10/15/25 0000 | 10/15/25 2048 | RAF     |
| Surrogate: 4-Bromofluorobenzene             | 107     | Limit: 80-116 | % Rec |      | 10/15/25 0000 | 10/15/25 2048 | RAF     |
| Determination of Total Metals               | Result  | RL            | Units | Note | Prepared      | Analyzed      | Analyst |
| EPA 3005A/EPA 6020A                         |         |               |       |      |               |               |         |
| Antimony                                    | <0.0010 | 0.0010        | mg/L  |      | 10/08/25 1602 | 10/13/25 1624 | RVV     |
| Arsenic                                     | <0.0020 | 0.0020        | mg/L  |      | 10/08/25 1602 | 10/13/25 1624 | RVV     |
| Barium                                      | 0.310   | 0.0010        | mg/L  |      | 10/08/25 1602 | 10/13/25 1624 | RVV     |
| Beryllium                                   | <0.0005 | 0.0005        | mg/L  |      | 10/08/25 1602 | 10/13/25 1624 | RVV     |
| Cadmium                                     | <0.0002 | 0.0002        | mg/L  |      | 10/08/25 1602 | 10/13/25 1624 | RVV     |
| Chromium                                    | 0.0010  | 0.0010        | mg/L  |      | 10/08/25 1602 | 10/13/25 1624 | RVV     |
| Cobalt                                      | <0.0005 | 0.0005        | mg/L  |      | 10/08/25 1602 | 10/13/25 1624 | RVV     |
| Copper                                      | <0.0050 | 0.0050        | mg/L  |      | 10/08/25 1602 | 10/13/25 1624 | RVV     |
| Lead                                        | <0.0010 | 0.0010        | mg/L  |      | 10/08/25 1602 | 10/13/25 1624 | RVV     |
| Nickel                                      | <0.0050 | 0.0050        | mg/L  |      | 10/08/25 1602 | 10/13/25 1624 | RVV     |
| Selenium                                    | <0.0020 | 0.0020        | mg/L  |      | 10/08/25 1602 | 10/13/25 1624 | RVV     |
| Silver                                      | <0.0050 | 0.0050        | mg/L  |      | 10/08/25 1602 | 10/13/25 1624 | RVV     |
| Thallium                                    | <0.0005 | 0.0005        | mg/L  |      | 10/08/25 1602 | 10/13/25 1624 | RVV     |
| Vanadium                                    | <0.0020 | 0.0020        | mg/L  |      | 10/08/25 1602 | 10/13/25 1624 | RVV     |
| Zinc                                        | 0.0065  | 0.0050        | mg/L  |      | 10/08/25 1602 | 10/13/25 1624 | RVV     |

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1IJ0829

Batch Log Summary

| Method      | Batch   | Laboratory ID | Client / Source ID |
|-------------|---------|---------------|--------------------|
| EPA 6020A   | 1IJ0491 | 1IJ0491-BLK1  |                    |
|             |         | 1IJ0491-BS1   |                    |
|             |         | 1IJ0829-01    | MW-213             |
|             |         | 1IJ0491-MS1   | 1IJ0829-01         |
|             |         | 1IJ0491-MSD1  | 1IJ0829-01         |
|             |         | 1IJ0491-PS1   | 1IJ0829-01         |
| Method      | Batch   | Laboratory ID | Client / Source ID |
| EPA 8260D   | 1IJ0943 | 1IJ0943-BLK1  |                    |
|             |         | 1IJ0943-MS1   | 1IJ0908-01         |
|             |         | 1IJ0943-MSD1  | 1IJ0908-01         |
|             |         | 1IJ0943-BS1   |                    |
|             |         | 1IJ0943-BSD1  |                    |
|             |         | 1IJ0829-01RE1 | MW-213             |
| EPA RSK-175 | B5J0552 | 1IJ0829-01    | MW-213             |
|             |         | B5J0552-BS1   |                    |
|             |         | B5J0552-BSD1  |                    |
|             |         |               |                    |

Batch Quality Control Summary: Microbac Laboratories, Inc., Newton

| Determination of Volatile Organic Compounds | Result | RL   | Units | Spike Level                                       | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---------------------------------------------|--------|------|-------|---------------------------------------------------|---------------|------|-------------|-----|-----------|-------|
| Batch 1IJ0943 - EPA 5030B - EPA 8260D       |        |      |       |                                                   |               |      |             |     |           |       |
| Blank (1IJ0943-BLK1)                        |        |      |       | Prepared: 10/15/25 00:00 Analyzed: 10/15/25 10:17 |               |      |             |     |           |       |
| Chloromethane                               | <1.0   | 1.0  | ug/L  |                                                   |               |      |             |     |           |       |
| Vinyl Chloride                              | <1.0   | 1.0  | ug/L  |                                                   |               |      |             |     |           |       |
| Bromomethane                                | <1.0   | 1.0  | ug/L  |                                                   |               |      |             |     |           |       |
| Chloroethane                                | <1.0   | 1.0  | ug/L  |                                                   |               |      |             |     |           |       |
| Trichlorofluoromethane                      | <1.0   | 1.0  | ug/L  |                                                   |               |      |             |     |           |       |
| 1,1-Dichloroethylene                        | <1.0   | 1.0  | ug/L  |                                                   |               |      |             |     |           |       |
| Acetone                                     | <10.0  | 10.0 | ug/L  |                                                   |               |      |             |     |           |       |
| Methyl Iodide                               | <1.0   | 1.0  | ug/L  |                                                   |               |      |             |     |           |       |
| Carbon Disulfide                            | <1.0   | 1.0  | ug/L  |                                                   |               |      |             |     |           |       |
| Methylene Chloride                          | <5.0   | 5.0  | ug/L  |                                                   |               |      |             |     |           |       |
| Acrylonitrile                               | <5.0   | 5.0  | ug/L  |                                                   |               |      |             |     |           |       |
| trans-1,2-Dichloroethylene                  | <1.0   | 1.0  | ug/L  |                                                   |               |      |             |     |           |       |
| 1,1-Dichloroethane                          | <1.0   | 1.0  | ug/L  |                                                   |               |      |             |     |           |       |
| Vinyl Acetate                               | <5.0   | 5.0  | ug/L  |                                                   |               |      |             |     |           |       |
| cis-1,2-Dichloroethylene                    | <1.0   | 1.0  | ug/L  |                                                   |               |      |             |     |           |       |
| 2-Butanone (MEK)                            | <10.0  | 10.0 | ug/L  |                                                   |               |      |             |     |           |       |
| Bromochloromethane                          | <1.0   | 1.0  | ug/L  |                                                   |               |      |             |     |           |       |
| Chloroform                                  | <1.0   | 1.0  | ug/L  |                                                   |               |      |             |     |           |       |
| 1,1,1-Trichloroethane                       | <1.0   | 1.0  | ug/L  |                                                   |               |      |             |     |           |       |
| Carbon Tetrachloride                        | <1.0   | 1.0  | ug/L  |                                                   |               |      |             |     |           |       |

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| Determination of Volatile Organic Compounds | Result | RL   | Units | Spike Level                                       | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---------------------------------------------|--------|------|-------|---------------------------------------------------|---------------|------|-------------|-----|-----------|-------|
| Batch 11J0943 - EPA 5030B - EPA 8260D       |        |      |       |                                                   |               |      |             |     |           |       |
| Blank (11J0943-BLK1)                        |        |      |       | Prepared: 10/15/25 00:00 Analyzed: 10/15/25 10:17 |               |      |             |     |           |       |
| Benzene                                     | <1.0   | 1.0  | ug/L  |                                                   |               |      |             |     |           |       |
| 1,2-Dichloroethane                          | <1.0   | 1.0  | ug/L  |                                                   |               |      |             |     |           |       |
| Trichloroethylene                           | <1.0   | 1.0  | ug/L  |                                                   |               |      |             |     |           |       |
| 1,2-Dichloropropane                         | <1.0   | 1.0  | ug/L  |                                                   |               |      |             |     |           |       |
| Dibromomethane                              | <1.0   | 1.0  | ug/L  |                                                   |               |      |             |     |           |       |
| Bromodichloromethane                        | <1.0   | 1.0  | ug/L  |                                                   |               |      |             |     |           |       |
| cis-1,3-Dichloropropene                     | <1.0   | 1.0  | ug/L  |                                                   |               |      |             |     |           |       |
| 4-Methyl-2-pentanone (MIBK)                 | <5.0   | 5.0  | ug/L  |                                                   |               |      |             |     |           |       |
| Toluene                                     | <1.0   | 1.0  | ug/L  |                                                   |               |      |             |     |           |       |
| trans-1,3-Dichloropropene                   | <1.0   | 1.0  | ug/L  |                                                   |               |      |             |     |           |       |
| 1,1,2-Trichloroethane                       | <1.0   | 1.0  | ug/L  |                                                   |               |      |             |     |           |       |
| Tetrachloroethylene                         | <1.0   | 1.0  | ug/L  |                                                   |               |      |             |     |           |       |
| 2-Hexanone (MBK)                            | <5.0   | 5.0  | ug/L  |                                                   |               |      |             |     |           |       |
| Dibromochloromethane                        | <1.0   | 1.0  | ug/L  |                                                   |               |      |             |     |           |       |
| 1,2-Dibromoethane                           | <1.0   | 1.0  | ug/L  |                                                   |               |      |             |     |           |       |
| Chlorobenzene                               | <1.0   | 1.0  | ug/L  |                                                   |               |      |             |     |           |       |
| 1,1,1,2-Tetrachloroethane                   | <1.0   | 1.0  | ug/L  |                                                   |               |      |             |     |           |       |
| Ethylbenzene                                | <1.0   | 1.0  | ug/L  |                                                   |               |      |             |     |           |       |
| Xylenes, total                              | <2.0   | 2.0  | ug/L  |                                                   |               |      |             |     |           |       |
| Styrene                                     | <1.0   | 1.0  | ug/L  |                                                   |               |      |             |     |           |       |
| Bromoform                                   | <1.0   | 1.0  | ug/L  |                                                   |               |      |             |     |           |       |
| 1,2,3-Trichloropropane                      | <1.0   | 1.0  | ug/L  |                                                   |               |      |             |     |           |       |
| trans-1,4-Dichloro-2-butene                 | <5.0   | 5.0  | ug/L  |                                                   |               |      |             |     |           |       |
| 1,1,2,2-Tetrachloroethane                   | <1.0   | 1.0  | ug/L  |                                                   |               |      |             |     |           |       |
| 1,4-Dichlorobenzene                         | <1.0   | 1.0  | ug/L  |                                                   |               |      |             |     |           |       |
| 1,2-Dichlorobenzene                         | <1.0   | 1.0  | ug/L  |                                                   |               |      |             |     |           |       |
| 1,2-Dibromo-3-chloropropane                 | <5.0   | 5.0  | ug/L  |                                                   |               |      |             |     |           |       |
|                                             |        |      |       |                                                   |               |      |             |     |           |       |
| Surrogate: Dibromofluoromethane             | 44.4   |      | ug/L  | 50.2                                              |               | 88.5 | 57-128      |     |           |       |
| Surrogate: Dibromofluoromethane             | 44.4   |      | ug/L  | 50.2                                              |               | 88.5 | 75-136      |     |           |       |
| Surrogate: 1,2-Dichloroethane-d4            | 47.7   |      | ug/L  | 50.4                                              |               | 94.7 | 49-135      |     |           |       |
| Surrogate: 1,2-Dichloroethane-d4            | 47.7   |      | ug/L  | 50.4                                              |               | 94.7 | 61-142      |     |           |       |
| Surrogate: Toluene-d8                       | 48.4   |      | ug/L  | 50.5                                              |               | 96.0 | 82-116      |     |           |       |
| Surrogate: Toluene-d8                       | 48.4   |      | ug/L  | 50.5                                              |               | 96.0 | 82-121      |     |           |       |
| Surrogate: 4-Bromofluorobenzene             | 52.9   |      | ug/L  | 50.2                                              |               | 105  | 77-114      |     |           |       |
| Surrogate: 4-Bromofluorobenzene             | 52.9   |      | ug/L  | 50.2                                              |               | 105  | 80-116      |     |           |       |
| LCS (11J0943-BS1)                           |        |      |       | Prepared: 10/15/25 00:00 Analyzed: 10/15/25 17:00 |               |      |             |     |           |       |
| Chloromethane                               | 27.80  | 1.0  | ug/L  | 30.3                                              |               | 91.7 | 63-155      |     |           |       |
| Vinyl Chloride                              | 25.47  | 1.0  | ug/L  | 30.2                                              |               | 84.2 | 70-154      |     |           |       |
| Bromomethane                                | 24.04  | 1.0  | ug/L  | 30.1                                              |               | 79.8 | 52-176      |     |           |       |
| Chloroethane                                | 24.18  | 1.0  | ug/L  | 30.3                                              |               | 79.8 | 72-148      |     |           |       |
| Trichlorofluoromethane                      | 30.91  | 1.0  | ug/L  | 30.3                                              |               | 102  | 70-152      |     |           |       |
| 1,1-Dichloroethylene                        | 53.75  | 1.0  | ug/L  | 50.1                                              |               | 107  | 70-148      |     |           |       |
| Acetone                                     | 103.0  | 10.0 | ug/L  | 100                                               |               | 103  | 43-172      |     |           |       |

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| Determination of Volatile Organic Compounds       | Result | RL   | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---------------------------------------------------|--------|------|-------|-------------|---------------|------|-------------|-----|-----------|-------|
| Batch 11J0943 - EPA 5030B - EPA 8260D             |        |      |       |             |               |      |             |     |           |       |
| LCS (11J0943-BS1)                                 |        |      |       |             |               |      |             |     |           |       |
| Prepared: 10/15/25 00:00 Analyzed: 10/15/25 17:00 |        |      |       |             |               |      |             |     |           |       |
| Methyl Iodide                                     | 102.7  | 1.0  | ug/L  | 100         |               | 103  | 69-170      |     |           |       |
| Carbon Disulfide                                  | 96.46  | 1.0  | ug/L  | 100         |               | 96.5 | 72-162      |     |           |       |
| Methylene Chloride                                | 46.64  | 5.0  | ug/L  | 50.1        |               | 93.1 | 68-142      |     |           |       |
| Acrylonitrile                                     | 54.67  | 5.0  | ug/L  | 50.4        |               | 109  | 33-163      |     |           |       |
| trans-1,2-Dichloroethylene                        | 52.85  | 1.0  | ug/L  | 50.1        |               | 106  | 66-148      |     |           |       |
| 1,1-Dichloroethane                                | 49.57  | 1.0  | ug/L  | 50.1        |               | 98.9 | 66-143      |     |           |       |
| Vinyl Acetate                                     | 149.3  | 5.0  | ug/L  | 142         |               | 105  | 43-153      |     |           |       |
| cis-1,2-Dichloroethylene                          | 47.80  | 1.0  | ug/L  | 50.4        |               | 94.9 | 71-149      |     |           |       |
| 2-Butanone (MEK)                                  | 106.5  | 10.0 | ug/L  | 100         |               | 107  | 52-159      |     |           |       |
| Bromochloromethane                                | 49.55  | 1.0  | ug/L  | 50.4        |               | 98.3 | 69-143      |     |           |       |
| Chloroform                                        | 47.62  | 1.0  | ug/L  | 50.1        |               | 95.1 | 69-144      |     |           |       |
| 1,1,1-Trichloroethane                             | 50.27  | 1.0  | ug/L  | 50.1        |               | 100  | 62-129      |     |           |       |
| Carbon Tetrachloride                              | 53.96  | 1.0  | ug/L  | 50.1        |               | 108  | 63-141      |     |           |       |
| Benzene                                           | 51.22  | 1.0  | ug/L  | 50.4        |               | 102  | 71-134      |     |           |       |
| 1,2-Dichloroethane                                | 52.47  | 1.0  | ug/L  | 50.1        |               | 105  | 72-132      |     |           |       |
| Trichloroethylene                                 | 55.16  | 1.0  | ug/L  | 50.1        |               | 110  | 71-135      |     |           |       |
| 1,2-Dichloropropane                               | 51.43  | 1.0  | ug/L  | 50.1        |               | 103  | 69-136      |     |           |       |
| Dibromomethane                                    | 44.87  | 1.0  | ug/L  | 50.4        |               | 89.1 | 73-147      |     |           |       |
| Bromodichloromethane                              | 51.07  | 1.0  | ug/L  | 50.1        |               | 102  | 68-129      |     |           |       |
| cis-1,3-Dichloropropene                           | 44.23  | 1.0  | ug/L  | 50.1        |               | 88.3 | 65-134      |     |           |       |
| 4-Methyl-2-pentanone (MIBK)                       | 109.0  | 5.0  | ug/L  | 100         |               | 109  | 58-147      |     |           |       |
| Toluene                                           | 50.98  | 1.0  | ug/L  | 50.5        |               | 101  | 72-133      |     |           |       |
| trans-1,3-Dichloropropene                         | 49.00  | 1.0  | ug/L  | 50.1        |               | 97.9 | 67-130      |     |           |       |
| 1,1,2-Trichloroethane                             | 52.23  | 1.0  | ug/L  | 50.1        |               | 104  | 69-135      |     |           |       |
| Tetrachloroethylene                               | 54.15  | 1.0  | ug/L  | 50.1        |               | 108  | 69-130      |     |           |       |
| 2-Hexanone (MBK)                                  | 108.4  | 5.0  | ug/L  | 100         |               | 108  | 55-144      |     |           |       |
| Dibromochloromethane                              | 46.09  | 1.0  | ug/L  | 50.1        |               | 92.1 | 73-127      |     |           |       |
| 1,2-Dibromoethane                                 | 51.55  | 1.0  | ug/L  | 50.2        |               | 103  | 67-132      |     |           |       |
| Chlorobenzene                                     | 51.19  | 1.0  | ug/L  | 50.1        |               | 102  | 72-123      |     |           |       |
| 1,1,1,2-Tetrachloroethane                         | 48.05  | 1.0  | ug/L  | 50.3        |               | 95.4 | 73-127      |     |           |       |
| Ethylbenzene                                      | 51.15  | 1.0  | ug/L  | 50.2        |               | 102  | 71-127      |     |           |       |
| Xylenes, total                                    | 155.7  | 2.0  | ug/L  | 151         |               | 103  | 74-127      |     |           |       |
| Styrene                                           | 50.34  | 1.0  | ug/L  | 50.4        |               | 99.9 | 66-126      |     |           |       |
| Bromoform                                         | 49.77  | 1.0  | ug/L  | 50.1        |               | 99.3 | 68-130      |     |           |       |
| 1,2,3-Trichloropropane                            | 51.83  | 1.0  | ug/L  | 50.3        |               | 103  | 63-136      |     |           |       |
| trans-1,4-Dichloro-2-butene                       | 95.32  | 5.0  | ug/L  | 100         |               | 95.3 | 54-134      |     |           |       |
| 1,1,2,2-Tetrachloroethane                         | 49.88  | 1.0  | ug/L  | 50.1        |               | 99.6 | 61-131      |     |           |       |
| 1,4-Dichlorobenzene                               | 52.27  | 1.0  | ug/L  | 50.1        |               | 104  | 70-129      |     |           |       |
| 1,2-Dichlorobenzene                               | 51.76  | 1.0  | ug/L  | 50.1        |               | 103  | 69-126      |     |           |       |
| 1,2-Dibromo-3-chloropropane                       | 50.37  | 5.0  | ug/L  | 50.1        |               | 100  | 50-143      |     |           |       |
| Surrogate: Dibromofluoromethane                   | 46.0   |      | ug/L  | 50.2        |               | 91.6 | 57-128      |     |           |       |
| Surrogate: Dibromofluoromethane                   | 46.0   |      | ug/L  | 50.2        |               | 91.6 | 75-136      |     |           |       |

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| Determination of Volatile Organic Compounds | Result | RL   | Units | Spike Level                                       | Source Result | %REC Limits | RPD    | RPD Limit | Notes |
|---------------------------------------------|--------|------|-------|---------------------------------------------------|---------------|-------------|--------|-----------|-------|
| Batch 11J0943 - EPA 5030B - EPA 8260D       |        |      |       |                                                   |               |             |        |           |       |
| LCS (11J0943-BS1)                           |        |      |       |                                                   |               |             |        |           |       |
|                                             |        |      |       | Prepared: 10/15/25 00:00 Analyzed: 10/15/25 17:00 |               |             |        |           |       |
| Surrogate: 1,2-Dichloroethane-d4            | 46.9   |      | ug/L  | 50.4                                              |               | 93.2 49-135 |        |           |       |
| Surrogate: 1,2-Dichloroethane-d4            | 46.9   |      | ug/L  | 50.4                                              |               | 93.2 61-142 |        |           |       |
| Surrogate: Toluene-d8                       | 48.7   |      | ug/L  | 50.5                                              |               | 96.4 82-116 |        |           |       |
| Surrogate: Toluene-d8                       | 48.7   |      | ug/L  | 50.5                                              |               | 96.4 82-121 |        |           |       |
| Surrogate: 4-Bromofluorobenzene             | 54.3   |      | ug/L  | 50.2                                              |               | 108 77-114  |        |           |       |
| Surrogate: 4-Bromofluorobenzene             | 54.3   |      | ug/L  | 50.2                                              |               | 108 80-116  |        |           |       |
| LCS Dup (11J0943-BSD1)                      |        |      |       |                                                   |               |             |        |           |       |
|                                             |        |      |       | Prepared: 10/15/25 00:00 Analyzed: 10/15/25 17:23 |               |             |        |           |       |
| Chloromethane                               | 26.72  | 1.0  | ug/L  | 30.3                                              |               | 88.1 63-155 | 3.96   | 24        |       |
| Vinyl Chloride                              | 24.34  | 1.0  | ug/L  | 30.2                                              |               | 80.5 70-154 | 4.54   | 25        |       |
| Bromomethane                                | 23.41  | 1.0  | ug/L  | 30.1                                              |               | 77.7 52-176 | 2.66   | 27        |       |
| Chloroethane                                | 22.91  | 1.0  | ug/L  | 30.3                                              |               | 75.6 72-148 | 5.39   | 25        |       |
| Trichlorofluoromethane                      | 29.29  | 1.0  | ug/L  | 30.3                                              |               | 96.6 70-152 | 5.38   | 26        |       |
| 1,1-Dichloroethylene                        | 50.54  | 1.0  | ug/L  | 50.1                                              |               | 101 70-148  | 6.16   | 24        |       |
| Acetone                                     | 107.3  | 10.0 | ug/L  | 100                                               |               | 107 43-172  | 4.06   | 30        |       |
| Methyl Iodide                               | 103.3  | 1.0  | ug/L  | 100                                               |               | 103 69-170  | 0.505  | 30        |       |
| Carbon Disulfide                            | 91.75  | 1.0  | ug/L  | 100                                               |               | 91.8 72-162 | 5.01   | 24        |       |
| Methylene Chloride                          | 45.29  | 5.0  | ug/L  | 50.1                                              |               | 90.4 68-142 | 2.94   | 21        |       |
| Acrylonitrile                               | 54.41  | 5.0  | ug/L  | 50.4                                              |               | 108 33-163  | 0.477  | 28        |       |
| trans-1,2-Dichloroethylene                  | 51.16  | 1.0  | ug/L  | 50.1                                              |               | 102 66-148  | 3.25   | 27        |       |
| 1,1-Dichloroethane                          | 48.17  | 1.0  | ug/L  | 50.1                                              |               | 96.1 66-143 | 2.86   | 24        |       |
| Vinyl Acetate                               | 145.4  | 5.0  | ug/L  | 142                                               |               | 102 43-153  | 2.69   | 30        |       |
| cis-1,2-Dichloroethylene                    | 47.68  | 1.0  | ug/L  | 50.4                                              |               | 94.7 71-149 | 0.251  | 26        |       |
| 2-Butanone (MEK)                            | 101.7  | 10.0 | ug/L  | 100                                               |               | 102 52-159  | 4.63   | 27        |       |
| Bromochloromethane                          | 50.64  | 1.0  | ug/L  | 50.4                                              |               | 100 69-143  | 2.18   | 23        |       |
| Chloroform                                  | 46.70  | 1.0  | ug/L  | 50.1                                              |               | 93.2 69-144 | 1.95   | 23        |       |
| 1,1,1-Trichloroethane                       | 47.84  | 1.0  | ug/L  | 50.1                                              |               | 95.5 62-129 | 4.95   | 24        |       |
| Carbon Tetrachloride                        | 52.51  | 1.0  | ug/L  | 50.1                                              |               | 105 63-141  | 2.72   | 25        |       |
| Benzene                                     | 49.64  | 1.0  | ug/L  | 50.4                                              |               | 98.4 71-134 | 3.13   | 24        |       |
| 1,2-Dichloroethane                          | 53.06  | 1.0  | ug/L  | 50.1                                              |               | 106 72-132  | 1.12   | 24        |       |
| Trichloroethylene                           | 53.90  | 1.0  | ug/L  | 50.1                                              |               | 108 71-135  | 2.31   | 24        |       |
| 1,2-Dichloropropane                         | 49.09  | 1.0  | ug/L  | 50.1                                              |               | 98.0 69-136 | 4.66   | 24        |       |
| Dibromomethane                              | 45.11  | 1.0  | ug/L  | 50.4                                              |               | 89.6 73-147 | 0.533  | 25        |       |
| Bromodichloromethane                        | 50.81  | 1.0  | ug/L  | 50.1                                              |               | 101 68-129  | 0.510  | 22        |       |
| cis-1,3-Dichloropropene                     | 43.14  | 1.0  | ug/L  | 50.1                                              |               | 86.1 65-134 | 2.50   | 23        |       |
| 4-Methyl-2-pentanone (MIBK)                 | 108.2  | 5.0  | ug/L  | 100                                               |               | 108 58-147  | 0.691  | 27        |       |
| Toluene                                     | 49.26  | 1.0  | ug/L  | 50.5                                              |               | 97.6 72-133 | 3.43   | 24        |       |
| trans-1,3-Dichloropropene                   | 48.74  | 1.0  | ug/L  | 50.1                                              |               | 97.3 67-130 | 0.532  | 24        |       |
| 1,1,2-Trichloroethane                       | 51.79  | 1.0  | ug/L  | 50.1                                              |               | 103 69-135  | 0.846  | 23        |       |
| Tetrachloroethylene                         | 51.50  | 1.0  | ug/L  | 50.1                                              |               | 103 69-130  | 5.02   | 25        |       |
| 2-Hexanone (MBK)                            | 108.9  | 5.0  | ug/L  | 100                                               |               | 109 55-144  | 0.488  | 25        |       |
| Dibromochloromethane                        | 45.09  | 1.0  | ug/L  | 50.1                                              |               | 90.1 73-127 | 2.19   | 22        |       |
| 1,2-Dibromoethane                           | 51.60  | 1.0  | ug/L  | 50.2                                              |               | 103 67-132  | 0.0969 | 24        |       |
| Chlorobenzene                               | 50.09  | 1.0  | ug/L  | 50.1                                              |               | 100 72-123  | 2.17   | 23        |       |

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| Determination of Volatile Organic Compounds                          | Result | RL   | Units | Spike Level | Source Result | %REC | %REC Limits | RPD    | RPD Limit | Notes |
|----------------------------------------------------------------------|--------|------|-------|-------------|---------------|------|-------------|--------|-----------|-------|
| Batch 11J0943 - EPA 5030B - EPA 8260D                                |        |      |       |             |               |      |             |        |           |       |
| LCS Dup (11J0943-BSD1)                                               |        |      |       |             |               |      |             |        |           |       |
| Prepared: 10/15/25 00:00 Analyzed: 10/15/25 17:23                    |        |      |       |             |               |      |             |        |           |       |
| 1,1,1,2-Tetrachloroethane                                            | 47.19  | 1.0  | ug/L  | 50.3        |               | 93.7 | 73-127      | 1.81   | 24        |       |
| Ethylbenzene                                                         | 49.91  | 1.0  | ug/L  | 50.2        |               | 99.5 | 71-127      | 2.45   | 26        |       |
| Xylenes, total                                                       | 151.7  | 2.0  | ug/L  | 151         |               | 100  | 74-127      | 2.60   | 25        |       |
| Styrene                                                              | 49.41  | 1.0  | ug/L  | 50.4        |               | 98.1 | 66-126      | 1.86   | 23        |       |
| Bromoform                                                            | 49.27  | 1.0  | ug/L  | 50.1        |               | 98.3 | 68-130      | 1.01   | 23        |       |
| 1,2,3-Trichloropropane                                               | 51.24  | 1.0  | ug/L  | 50.3        |               | 102  | 63-136      | 1.14   | 24        |       |
| trans-1,4-Dichloro-2-butene                                          | 95.25  | 5.0  | ug/L  | 100         |               | 95.2 | 54-134      | 0.0735 | 27        |       |
| 1,1,2,2-Tetrachloroethane                                            | 49.95  | 1.0  | ug/L  | 50.1        |               | 99.7 | 61-131      | 0.140  | 29        |       |
| 1,4-Dichlorobenzene                                                  | 51.90  | 1.0  | ug/L  | 50.1        |               | 104  | 70-129      | 0.710  | 24        |       |
| 1,2-Dichlorobenzene                                                  | 51.03  | 1.0  | ug/L  | 50.1        |               | 102  | 69-126      | 1.42   | 26        |       |
| 1,2-Dibromo-3-chloropropane                                          | 51.55  | 5.0  | ug/L  | 50.1        |               | 103  | 50-143      | 2.32   | 30        |       |
| Surrogate: Dibromofluoromethane                                      | 45.6   |      | ug/L  | 50.2        |               | 90.9 | 57-128      |        |           |       |
| Surrogate: Dibromofluoromethane                                      | 45.6   |      | ug/L  | 50.2        |               | 90.9 | 75-136      |        |           |       |
| Surrogate: 1,2-Dichloroethane-d4                                     | 46.9   |      | ug/L  | 50.4        |               | 93.2 | 49-135      |        |           |       |
| Surrogate: 1,2-Dichloroethane-d4                                     | 46.9   |      | ug/L  | 50.4        |               | 93.2 | 61-142      |        |           |       |
| Surrogate: Toluene-d8                                                | 48.5   |      | ug/L  | 50.5        |               | 96.1 | 82-116      |        |           |       |
| Surrogate: Toluene-d8                                                | 48.5   |      | ug/L  | 50.5        |               | 96.1 | 82-121      |        |           |       |
| Surrogate: 4-Bromofluorobenzene                                      | 54.4   |      | ug/L  | 50.2        |               | 109  | 77-114      |        |           |       |
| Surrogate: 4-Bromofluorobenzene                                      | 54.4   |      | ug/L  | 50.2        |               | 109  | 80-116      |        |           |       |
| Matrix Spike (11J0943-MS1)                                           |        |      |       |             |               |      |             |        |           |       |
| Source: 11J0908-01 Prepared: 10/15/25 00:00 Analyzed: 10/15/25 16:14 |        |      |       |             |               |      |             |        |           |       |
| Chloromethane                                                        | 296.8  | 10.0 | ug/L  | 303         | ND            | 97.9 | 61-152      |        |           |       |
| Vinyl Chloride                                                       | 261.6  | 10.0 | ug/L  | 302         | ND            | 86.5 | 66-149      |        |           |       |
| Bromomethane                                                         | 230.0  | 10.0 | ug/L  | 301         | ND            | 76.4 | 43-171      |        |           |       |
| Chloroethane                                                         | 241.7  | 10.0 | ug/L  | 303         | ND            | 79.7 | 69-148      |        |           |       |
| Trichlorofluoromethane                                               | 309.1  | 10.0 | ug/L  | 303         | ND            | 102  | 62-163      |        |           |       |
| 1,1-Dichloroethylene                                                 | 537.2  | 10.0 | ug/L  | 501         | ND            | 107  | 70-148      |        |           |       |
| Acetone                                                              | 1052   | 100  | ug/L  | 1000        | ND            | 105  | 45-173      |        |           |       |
| Methyl Iodide                                                        | 924.1  | 10.0 | ug/L  | 1000        | ND            | 92.4 | 62-167      |        |           |       |
| Carbon Disulfide                                                     | 969.5  | 10.0 | ug/L  | 1000        | ND            | 97.0 | 71-163      |        |           |       |
| Methylene Chloride                                                   | 464.0  | 50.0 | ug/L  | 501         | ND            | 92.6 | 69-140      |        |           |       |
| Acrylonitrile                                                        | 559.1  | 50.0 | ug/L  | 504         | ND            | 111  | 32-159      |        |           |       |
| trans-1,2-Dichloroethylene                                           | 531.0  | 10.0 | ug/L  | 501         | ND            | 106  | 69-144      |        |           |       |
| 1,1-Dichloroethane                                                   | 501.6  | 10.0 | ug/L  | 501         | ND            | 100  | 70-138      |        |           |       |
| Vinyl Acetate                                                        | 518.6  | 50.0 | ug/L  | 1420        | ND            | 36.4 | 58-142      |        |           | M2    |
| cis-1,2-Dichloroethylene                                             | 490.7  | 10.0 | ug/L  | 504         | ND            | 97.5 | 68-151      |        |           |       |
| 2-Butanone (MEK)                                                     | 1046   | 100  | ug/L  | 1000        | ND            | 105  | 50-160      |        |           |       |
| Bromochloromethane                                                   | 520.5  | 10.0 | ug/L  | 504         | ND            | 103  | 65-143      |        |           |       |
| Chloroform                                                           | 483.8  | 10.0 | ug/L  | 501         | ND            | 96.6 | 71-143      |        |           |       |
| 1,1,1-Trichloroethane                                                | 502.9  | 10.0 | ug/L  | 501         | ND            | 100  | 63-133      |        |           |       |
| Carbon Tetrachloride                                                 | 539.5  | 10.0 | ug/L  | 501         | ND            | 108  | 63-142      |        |           |       |
| Benzene                                                              | 517.6  | 10.0 | ug/L  | 504         | ND            | 103  | 69-133      |        |           |       |
| 1,2-Dichloroethane                                                   | 528.8  | 10.0 | ug/L  | 501         | ND            | 106  | 63-138      |        |           |       |
| Trichloroethylene                                                    | 557.7  | 10.0 | ug/L  | 501         | ND            | 111  | 71-133      |        |           |       |

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| Determination of Volatile Organic Compounds                                                          | Result | RL   | Units | Spike Level | Source Result | %REC | %REC Limits | RPD   | RPD Limit | Notes |
|------------------------------------------------------------------------------------------------------|--------|------|-------|-------------|---------------|------|-------------|-------|-----------|-------|
| Batch 11J0943 - EPA 5030B - EPA 8260D                                                                |        |      |       |             |               |      |             |       |           |       |
| Matrix Spike (11J0943-MS1) Source: 11J0908-01 Prepared: 10/15/25 00:00 Analyzed: 10/15/25 16:14      |        |      |       |             |               |      |             |       |           |       |
| 1,2-Dichloropropane                                                                                  | 520.4  | 10.0 | ug/L  | 501         | ND            | 104  | 69-132      |       |           |       |
| Dibromomethane                                                                                       | 463.3  | 10.0 | ug/L  | 504         | ND            | 92.0 | 70-147      |       |           |       |
| Bromodichloromethane                                                                                 | 514.4  | 10.0 | ug/L  | 501         | ND            | 103  | 67-130      |       |           |       |
| cis-1,3-Dichloropropene                                                                              | 436.6  | 10.0 | ug/L  | 501         | ND            | 87.2 | 61-126      |       |           |       |
| 4-Methyl-2-pentanone (MIBK)                                                                          | 1128   | 50.0 | ug/L  | 1000        | ND            | 113  | 55-147      |       |           |       |
| Toluene                                                                                              | 515.0  | 10.0 | ug/L  | 505         | ND            | 102  | 71-133      |       |           |       |
| trans-1,3-Dichloropropene                                                                            | 493.9  | 10.0 | ug/L  | 501         | ND            | 98.6 | 63-124      |       |           |       |
| 1,1,2-Trichloroethane                                                                                | 531.5  | 10.0 | ug/L  | 501         | ND            | 106  | 69-133      |       |           |       |
| Tetrachloroethylene                                                                                  | 545.8  | 10.0 | ug/L  | 501         | ND            | 109  | 70-124      |       |           |       |
| 2-Hexanone (MBK)                                                                                     | 1125   | 50.0 | ug/L  | 1000        | ND            | 112  | 53-141      |       |           |       |
| Dibromochloromethane                                                                                 | 469.6  | 10.0 | ug/L  | 501         | ND            | 93.8 | 74-122      |       |           |       |
| 1,2-Dibromoethane                                                                                    | 518.2  | 10.0 | ug/L  | 502         | ND            | 103  | 66-127      |       |           |       |
| Chlorobenzene                                                                                        | 519.5  | 10.0 | ug/L  | 501         | ND            | 104  | 76-116      |       |           |       |
| 1,1,1,2-Tetrachloroethane                                                                            | 492.6  | 10.0 | ug/L  | 503         | ND            | 97.8 | 77-121      |       |           |       |
| Ethylbenzene                                                                                         | 514.8  | 10.0 | ug/L  | 502         | ND            | 103  | 73-124      |       |           |       |
| Xylenes, total                                                                                       | 1582   | 20.0 | ug/L  | 1510        | ND            | 105  | 75-123      |       |           |       |
| Styrene                                                                                              | 511.7  | 10.0 | ug/L  | 504         | ND            | 102  | 70-120      |       |           |       |
| Bromoform                                                                                            | 515.0  | 10.0 | ug/L  | 501         | ND            | 103  | 70-124      |       |           |       |
| 1,2,3-Trichloropropane                                                                               | 531.6  | 10.0 | ug/L  | 503         | ND            | 106  | 62-135      |       |           |       |
| trans-1,4-Dichloro-2-butene                                                                          | 996.3  | 50.0 | ug/L  | 1000        | ND            | 99.6 | 50-120      |       |           |       |
| 1,1,2,2-Tetrachloroethane                                                                            | 500.0  | 10.0 | ug/L  | 501         | ND            | 99.8 | 63-126      |       |           |       |
| 1,4-Dichlorobenzene                                                                                  | 522.7  | 10.0 | ug/L  | 501         | ND            | 104  | 72-119      |       |           |       |
| 1,2-Dichlorobenzene                                                                                  | 514.0  | 10.0 | ug/L  | 501         | ND            | 103  | 71-117      |       |           |       |
| 1,2-Dibromo-3-chloropropane                                                                          | 520.7  | 50.0 | ug/L  | 501         | ND            | 104  | 49-134      |       |           |       |
| Surrogate: Dibromofluoromethane                                                                      | 456    |      | ug/L  | 502         |               | 90.8 | 57-128      |       |           |       |
| Surrogate: Dibromofluoromethane                                                                      | 456    |      | ug/L  | 502         |               | 90.8 | 75-136      |       |           |       |
| Surrogate: 1,2-Dichloroethane-d4                                                                     | 471    |      | ug/L  | 504         |               | 93.5 | 49-135      |       |           |       |
| Surrogate: 1,2-Dichloroethane-d4                                                                     | 471    |      | ug/L  | 504         |               | 93.5 | 61-142      |       |           |       |
| Surrogate: Toluene-d8                                                                                | 480    |      | ug/L  | 505         |               | 95.1 | 82-116      |       |           |       |
| Surrogate: Toluene-d8                                                                                | 480    |      | ug/L  | 505         |               | 95.1 | 82-121      |       |           |       |
| Surrogate: 4-Bromofluorobenzene                                                                      | 546    |      | ug/L  | 502         |               | 109  | 77-114      |       |           |       |
| Surrogate: 4-Bromofluorobenzene                                                                      | 546    |      | ug/L  | 502         |               | 109  | 80-116      |       |           |       |
| Matrix Spike Dup (11J0943-MSD1) Source: 11J0908-01 Prepared: 10/15/25 00:00 Analyzed: 10/15/25 16:37 |        |      |       |             |               |      |             |       |           |       |
| Chloromethane                                                                                        | 275.9  | 10.0 | ug/L  | 303         | ND            | 91.0 | 61-152      | 7.30  | 26        |       |
| Vinyl Chloride                                                                                       | 247.0  | 10.0 | ug/L  | 302         | ND            | 81.7 | 66-149      | 5.74  | 23        |       |
| Bromomethane                                                                                         | 217.0  | 10.0 | ug/L  | 301         | ND            | 72.0 | 43-171      | 5.82  | 29        |       |
| Chloroethane                                                                                         | 231.7  | 10.0 | ug/L  | 303         | ND            | 76.4 | 69-148      | 4.22  | 25        |       |
| Trichlorofluoromethane                                                                               | 298.7  | 10.0 | ug/L  | 303         | ND            | 98.6 | 62-163      | 3.42  | 25        |       |
| 1,1-Dichloroethylene                                                                                 | 515.5  | 10.0 | ug/L  | 501         | ND            | 103  | 70-148      | 4.12  | 22        |       |
| Acetone                                                                                              | 1050   | 100  | ug/L  | 1000        | ND            | 105  | 45-173      | 0.190 | 30        |       |
| Methyl Iodide                                                                                        | 967.6  | 10.0 | ug/L  | 1000        | ND            | 96.8 | 62-167      | 4.60  | 24        |       |
| Carbon Disulfide                                                                                     | 932.6  | 10.0 | ug/L  | 1000        | ND            | 93.3 | 71-163      | 3.88  | 22        |       |
| Methylene Chloride                                                                                   | 453.4  | 50.0 | ug/L  | 501         | ND            | 90.5 | 69-140      | 2.31  | 19        |       |

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| Determination of Volatile Organic Compounds                                                          | Result | RL   | Units | Spike Level | Source Result | %REC | %REC Limits | RPD   | RPD Limit | Notes |
|------------------------------------------------------------------------------------------------------|--------|------|-------|-------------|---------------|------|-------------|-------|-----------|-------|
| Batch 11J0943 - EPA 5030B - EPA 8260D                                                                |        |      |       |             |               |      |             |       |           |       |
| Matrix Spike Dup (11J0943-MSD1) Source: 11J0908-01 Prepared: 10/15/25 00:00 Analyzed: 10/15/25 16:37 |        |      |       |             |               |      |             |       |           |       |
| Acrylonitrile                                                                                        | 567.2  | 50.0 | ug/L  | 504         | ND            | 113  | 32-159      | 1.44  | 30        |       |
| trans-1,2-Dichloroethylene                                                                           | 508.2  | 10.0 | ug/L  | 501         | ND            | 101  | 69-144      | 4.39  | 22        |       |
| 1,1-Dichloroethane                                                                                   | 479.2  | 10.0 | ug/L  | 501         | ND            | 95.6 | 70-138      | 4.57  | 20        |       |
| Vinyl Acetate                                                                                        | 505.9  | 50.0 | ug/L  | 1420        | ND            | 35.5 | 58-142      | 2.48  | 24        | M2    |
| cis-1,2-Dichloroethylene                                                                             | 465.2  | 10.0 | ug/L  | 504         | ND            | 92.4 | 68-151      | 5.34  | 22        |       |
| 2-Butanone (MEK)                                                                                     | 1041   | 100  | ug/L  | 1000        | ND            | 104  | 50-160      | 0.565 | 23        |       |
| Bromochloromethane                                                                                   | 494.9  | 10.0 | ug/L  | 504         | ND            | 98.2 | 65-143      | 5.04  | 22        |       |
| Chloroform                                                                                           | 463.5  | 10.0 | ug/L  | 501         | ND            | 92.5 | 71-143      | 4.29  | 21        |       |
| 1,1,1-Trichloroethane                                                                                | 480.7  | 10.0 | ug/L  | 501         | ND            | 95.9 | 63-133      | 4.51  | 23        |       |
| Carbon Tetrachloride                                                                                 | 523.9  | 10.0 | ug/L  | 501         | ND            | 105  | 63-142      | 2.93  | 22        |       |
| Benzene                                                                                              | 495.6  | 10.0 | ug/L  | 504         | ND            | 98.3 | 69-133      | 4.34  | 18        |       |
| 1,2-Dichloroethane                                                                                   | 513.2  | 10.0 | ug/L  | 501         | ND            | 102  | 63-138      | 2.99  | 20        |       |
| Trichloroethylene                                                                                    | 533.9  | 10.0 | ug/L  | 501         | ND            | 107  | 71-133      | 4.36  | 23        |       |
| 1,2-Dichloropropane                                                                                  | 496.6  | 10.0 | ug/L  | 501         | ND            | 99.1 | 69-132      | 4.68  | 20        |       |
| Dibromomethane                                                                                       | 440.7  | 10.0 | ug/L  | 504         | ND            | 87.5 | 70-147      | 5.00  | 22        |       |
| Bromodichloromethane                                                                                 | 504.2  | 10.0 | ug/L  | 501         | ND            | 101  | 67-130      | 2.00  | 21        |       |
| cis-1,3-Dichloropropene                                                                              | 422.6  | 10.0 | ug/L  | 501         | ND            | 84.4 | 61-126      | 3.26  | 21        |       |
| 4-Methyl-2-pentanone (MIBK)                                                                          | 1099   | 50.0 | ug/L  | 1000        | ND            | 110  | 55-147      | 2.61  | 23        |       |
| Toluene                                                                                              | 490.3  | 10.0 | ug/L  | 505         | ND            | 97.1 | 71-133      | 4.91  | 19        |       |
| trans-1,3-Dichloropropene                                                                            | 474.4  | 10.0 | ug/L  | 501         | ND            | 94.7 | 63-124      | 4.03  | 21        |       |
| 1,1,2-Trichloroethane                                                                                | 520.0  | 10.0 | ug/L  | 501         | ND            | 104  | 69-133      | 2.19  | 19        |       |
| Tetrachloroethylene                                                                                  | 523.2  | 10.0 | ug/L  | 501         | ND            | 104  | 70-124      | 4.23  | 24        |       |
| 2-Hexanone (MBK)                                                                                     | 1109   | 50.0 | ug/L  | 1000        | ND            | 111  | 53-141      | 1.39  | 24        |       |
| Dibromochloromethane                                                                                 | 456.7  | 10.0 | ug/L  | 501         | ND            | 91.2 | 74-122      | 2.79  | 21        |       |
| 1,2-Dibromoethane                                                                                    | 505.6  | 10.0 | ug/L  | 502         | ND            | 101  | 66-127      | 2.46  | 23        |       |
| Chlorobenzene                                                                                        | 502.0  | 10.0 | ug/L  | 501         | ND            | 100  | 76-116      | 3.43  | 21        |       |
| 1,1,1,2-Tetrachloroethane                                                                            | 486.8  | 10.0 | ug/L  | 503         | ND            | 96.7 | 77-121      | 1.18  | 25        |       |
| Ethylbenzene                                                                                         | 496.7  | 10.0 | ug/L  | 502         | ND            | 99.0 | 73-124      | 3.58  | 20        |       |
| Xylenes, total                                                                                       | 1519   | 20.0 | ug/L  | 1510        | ND            | 101  | 75-123      | 4.06  | 20        |       |
| Styrene                                                                                              | 493.2  | 10.0 | ug/L  | 504         | ND            | 97.9 | 70-120      | 3.68  | 23        |       |
| Bromoform                                                                                            | 491.0  | 10.0 | ug/L  | 501         | ND            | 98.0 | 70-124      | 4.77  | 22        |       |
| 1,2,3-Trichloropropane                                                                               | 525.4  | 10.0 | ug/L  | 503         | ND            | 104  | 62-135      | 1.17  | 28        |       |
| trans-1,4-Dichloro-2-butene                                                                          | 987.3  | 50.0 | ug/L  | 1000        | ND            | 98.7 | 50-120      | 0.907 | 26        |       |
| 1,1,2,2-Tetrachloroethane                                                                            | 498.0  | 10.0 | ug/L  | 501         | ND            | 99.4 | 63-126      | 0.401 | 24        |       |
| 1,4-Dichlorobenzene                                                                                  | 512.2  | 10.0 | ug/L  | 501         | ND            | 102  | 72-119      | 2.03  | 24        |       |
| 1,2-Dichlorobenzene                                                                                  | 505.3  | 10.0 | ug/L  | 501         | ND            | 101  | 71-117      | 1.71  | 24        |       |
| 1,2-Dibromo-3-chloropropane                                                                          | 515.9  | 50.0 | ug/L  | 501         | ND            | 103  | 49-134      | 0.926 | 28        |       |
| Surrogate: Dibromofluoromethane                                                                      | 461    |      | ug/L  | 502         |               | 91.8 | 57-128      |       |           |       |
| Surrogate: Dibromofluoromethane                                                                      | 461    |      | ug/L  | 502         |               | 91.8 | 75-136      |       |           |       |
| Surrogate: 1,2-Dichloroethane-d4                                                                     | 470    |      | ug/L  | 504         |               | 93.2 | 49-135      |       |           |       |
| Surrogate: 1,2-Dichloroethane-d4                                                                     | 470    |      | ug/L  | 504         |               | 93.2 | 61-142      |       |           |       |
| Surrogate: Toluene-d8                                                                                | 479    |      | ug/L  | 505         |               | 95.0 | 82-116      |       |           |       |
| Surrogate: Toluene-d8                                                                                | 479    |      | ug/L  | 505         |               | 95.0 | 82-121      |       |           |       |

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| Determination of Volatile Organic Compounds | Result | RL | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---------------------------------------------|--------|----|-------|-------------|---------------|------|-------------|-----|-----------|-------|
| Batch 11J0943 - EPA 5030B - EPA 8260D       |        |    |       |             |               |      |             |     |           |       |

Matrix Spike Dup (11J0943-MSD1) Source: 11J0908-01 Prepared: 10/15/25 00:00 Analyzed: 10/15/25 16:37

|                                 |     |  |      |     |  |     |        |  |  |  |
|---------------------------------|-----|--|------|-----|--|-----|--------|--|--|--|
| Surrogate: 4-Bromofluorobenzene | 546 |  | ug/L | 502 |  | 109 | 77-114 |  |  |  |
| Surrogate: 4-Bromofluorobenzene | 546 |  | ug/L | 502 |  | 109 | 80-116 |  |  |  |

| Determination of Total Metals                                  | Result | RL | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|----------------------------------------------------------------|--------|----|-------|-------------|---------------|------|-------------|-----|-----------|-------|
| Batch 11J0491 - EPA 3005A Total Recoverable Metals - EPA 6020A |        |    |       |             |               |      |             |     |           |       |

Blank (11J0491-BLK1) Prepared: 10/08/25 16:02 Analyzed: 10/13/25 16:14

|           |         |        |      |  |  |  |  |  |  |   |
|-----------|---------|--------|------|--|--|--|--|--|--|---|
| Antimony  | <0.0010 | 0.0010 | mg/L |  |  |  |  |  |  | B |
| Arsenic   | <0.0020 | 0.0020 | mg/L |  |  |  |  |  |  |   |
| Barium    | <0.0010 | 0.0010 | mg/L |  |  |  |  |  |  |   |
| Beryllium | <0.0005 | 0.0005 | mg/L |  |  |  |  |  |  |   |
| Cadmium   | <0.0002 | 0.0002 | mg/L |  |  |  |  |  |  |   |
| Chromium  | <0.0010 | 0.0010 | mg/L |  |  |  |  |  |  | B |
| Cobalt    | <0.0005 | 0.0005 | mg/L |  |  |  |  |  |  |   |
| Copper    | <0.0050 | 0.0050 | mg/L |  |  |  |  |  |  |   |
| Lead      | <0.0010 | 0.0010 | mg/L |  |  |  |  |  |  |   |
| Nickel    | <0.0050 | 0.0050 | mg/L |  |  |  |  |  |  |   |
| Selenium  | <0.0020 | 0.0020 | mg/L |  |  |  |  |  |  |   |
| Silver    | <0.0050 | 0.0050 | mg/L |  |  |  |  |  |  |   |
| Thallium  | <0.0005 | 0.0005 | mg/L |  |  |  |  |  |  |   |
| Vanadium  | <0.0020 | 0.0020 | mg/L |  |  |  |  |  |  |   |
| Zinc      | <0.0050 | 0.0050 | mg/L |  |  |  |  |  |  |   |

LCS (11J0491-BS1) Prepared: 10/08/25 16:02 Analyzed: 10/13/25 16:22

|           |        |        |      |       |  |      |        |  |  |  |
|-----------|--------|--------|------|-------|--|------|--------|--|--|--|
| Antimony  | 0.105  | 0.0010 | mg/L | 0.100 |  | 105  | 80-120 |  |  |  |
| Arsenic   | 0.0992 | 0.0020 | mg/L | 0.100 |  | 99.2 | 80-120 |  |  |  |
| Barium    | 0.111  | 0.0010 | mg/L | 0.100 |  | 111  | 80-120 |  |  |  |
| Beryllium | 0.0994 | 0.0005 | mg/L | 0.100 |  | 99.4 | 80-120 |  |  |  |
| Cadmium   | 0.103  | 0.0002 | mg/L | 0.100 |  | 103  | 80-120 |  |  |  |
| Chromium  | 0.103  | 0.0010 | mg/L | 0.100 |  | 103  | 80-120 |  |  |  |
| Cobalt    | 0.111  | 0.0005 | mg/L | 0.100 |  | 111  | 80-120 |  |  |  |
| Copper    | 0.102  | 0.0050 | mg/L | 0.100 |  | 102  | 80-120 |  |  |  |
| Lead      | 0.103  | 0.0010 | mg/L | 0.100 |  | 103  | 80-120 |  |  |  |
| Nickel    | 0.100  | 0.0050 | mg/L | 0.100 |  | 100  | 80-120 |  |  |  |
| Selenium  | 0.1035 | 0.0020 | mg/L | 0.100 |  | 104  | 80-120 |  |  |  |
| Silver    | 0.111  | 0.0050 | mg/L | 0.100 |  | 111  | 80-120 |  |  |  |
| Thallium  | 0.101  | 0.0005 | mg/L | 0.100 |  | 101  | 80-120 |  |  |  |
| Vanadium  | 0.107  | 0.0020 | mg/L | 0.100 |  | 107  | 80-120 |  |  |  |
| Zinc      | 0.109  | 0.0050 | mg/L | 0.100 |  | 109  | 80-120 |  |  |  |

Matrix Spike (11J0491-MS1) Source: 11J0829-01 Prepared: 10/08/25 16:02 Analyzed: 10/13/25 16:27

|          |       |        |      |       |        |     |        |  |  |  |
|----------|-------|--------|------|-------|--------|-----|--------|--|--|--|
| Antimony | 0.108 | 0.0010 | mg/L | 0.100 | 0.0008 | 107 | 75-125 |  |  |  |
| Arsenic  | 0.103 | 0.0020 | mg/L | 0.100 | 0.0005 | 103 | 75-125 |  |  |  |



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| Determination of Total Metals                                                                        | Result | RL     | Units | Spike Level | Source Result | %REC | %REC Limits | RPD   | RPD Limit | Notes |
|------------------------------------------------------------------------------------------------------|--------|--------|-------|-------------|---------------|------|-------------|-------|-----------|-------|
| Batch 11J0491 - EPA 3005A Total Recoverable Metals - EPA 6020A                                       |        |        |       |             |               |      |             |       |           |       |
| Matrix Spike (11J0491-MS1) Source: 11J0829-01 Prepared: 10/08/25 16:02 Analyzed: 10/13/25 16:27      |        |        |       |             |               |      |             |       |           |       |
| Barium                                                                                               | 0.411  | 0.0010 | mg/L  | 0.100       | 0.310         | 102  | 75-125      |       |           |       |
| Beryllium                                                                                            | 0.105  | 0.0005 | mg/L  | 0.100       | ND            | 105  | 75-125      |       |           |       |
| Cadmium                                                                                              | 0.103  | 0.0002 | mg/L  | 0.100       | ND            | 103  | 75-125      |       |           |       |
| Chromium                                                                                             | 0.113  | 0.0010 | mg/L  | 0.100       | 0.0010        | 112  | 75-125      |       |           |       |
| Cobalt                                                                                               | 0.114  | 0.0005 | mg/L  | 0.100       | 0.0001        | 113  | 75-125      |       |           |       |
| Copper                                                                                               | 0.101  | 0.0050 | mg/L  | 0.100       | ND            | 101  | 75-125      |       |           |       |
| Lead                                                                                                 | 0.104  | 0.0010 | mg/L  | 0.100       | ND            | 104  | 75-125      |       |           |       |
| Nickel                                                                                               | 0.0999 | 0.0050 | mg/L  | 0.100       | 0.0014        | 98.6 | 75-125      |       |           |       |
| Selenium                                                                                             | 0.1070 | 0.0020 | mg/L  | 0.100       | ND            | 107  | 75-125      |       |           |       |
| Silver                                                                                               | 0.115  | 0.0050 | mg/L  | 0.100       | ND            | 115  | 75-125      |       |           |       |
| Thallium                                                                                             | 0.104  | 0.0005 | mg/L  | 0.100       | 0.00006       | 104  | 75-125      |       |           |       |
| Vanadium                                                                                             | 0.117  | 0.0020 | mg/L  | 0.100       | 0.0004        | 116  | 75-125      |       |           |       |
| Zinc                                                                                                 | 0.112  | 0.0050 | mg/L  | 0.100       | 0.0065        | 106  | 75-125      |       |           |       |
| Matrix Spike Dup (11J0491-MSD1) Source: 11J0829-01 Prepared: 10/08/25 16:02 Analyzed: 10/13/25 16:30 |        |        |       |             |               |      |             |       |           |       |
| Antimony                                                                                             | 0.109  | 0.0010 | mg/L  | 0.100       | 0.0008        | 108  | 75-125      | 0.973 | 20        |       |
| Arsenic                                                                                              | 0.102  | 0.0020 | mg/L  | 0.100       | 0.0005        | 101  | 75-125      | 1.45  | 20        |       |
| Barium                                                                                               | 0.420  | 0.0010 | mg/L  | 0.100       | 0.310         | 110  | 75-125      | 2.06  | 20        |       |
| Beryllium                                                                                            | 0.107  | 0.0005 | mg/L  | 0.100       | ND            | 107  | 75-125      | 1.54  | 20        |       |
| Cadmium                                                                                              | 0.104  | 0.0002 | mg/L  | 0.100       | ND            | 104  | 75-125      | 0.626 | 20        |       |
| Chromium                                                                                             | 0.111  | 0.0010 | mg/L  | 0.100       | 0.0010        | 110  | 75-125      | 1.94  | 20        |       |
| Cobalt                                                                                               | 0.111  | 0.0005 | mg/L  | 0.100       | 0.0001        | 111  | 75-125      | 1.95  | 20        |       |
| Copper                                                                                               | 0.102  | 0.0050 | mg/L  | 0.100       | ND            | 102  | 75-125      | 1.25  | 20        |       |
| Lead                                                                                                 | 0.106  | 0.0010 | mg/L  | 0.100       | ND            | 106  | 75-125      | 1.58  | 20        |       |
| Nickel                                                                                               | 0.102  | 0.0050 | mg/L  | 0.100       | 0.0014        | 100  | 75-125      | 1.54  | 20        |       |
| Selenium                                                                                             | 0.1043 | 0.0020 | mg/L  | 0.100       | ND            | 104  | 75-125      | 2.52  | 20        |       |
| Silver                                                                                               | 0.116  | 0.0050 | mg/L  | 0.100       | ND            | 116  | 75-125      | 1.41  | 20        |       |
| Thallium                                                                                             | 0.105  | 0.0005 | mg/L  | 0.100       | 0.00006       | 104  | 75-125      | 0.473 | 20        |       |
| Vanadium                                                                                             | 0.118  | 0.0020 | mg/L  | 0.100       | 0.0004        | 118  | 75-125      | 1.54  | 20        |       |
| Zinc                                                                                                 | 0.112  | 0.0050 | mg/L  | 0.100       | 0.0065        | 106  | 75-125      | 0.325 | 20        |       |
| Post Spike (11J0491-PS1) Source: 11J0829-01 Prepared: 10/08/25 16:02 Analyzed: 10/13/25 16:32        |        |        |       |             |               |      |             |       |           |       |
| Antimony                                                                                             | 0.0221 |        | mg/L  | 0.0200      | 0.0008        | 106  | 80-120      |       |           |       |
| Arsenic                                                                                              | 0.0209 |        | mg/L  | 0.0200      | 0.0005        | 102  | 80-120      |       |           |       |
| Barium                                                                                               | 0.314  |        | mg/L  | 0.0200      | 0.310         | 21.2 | 80-120      |       |           | M6    |
| Beryllium                                                                                            | 0.0215 |        | mg/L  | 0.0200      | 0.00          | 108  | 80-120      |       |           |       |
| Cadmium                                                                                              | 0.0202 |        | mg/L  | 0.0200      | 0.00005       | 101  | 80-120      |       |           |       |
| Chromium                                                                                             | 0.0222 |        | mg/L  | 0.0200      | 0.0010        | 106  | 80-120      |       |           |       |
| Cobalt                                                                                               | 0.0211 |        | mg/L  | 0.0200      | 0.0001        | 105  | 80-120      |       |           |       |
| Copper                                                                                               | 0.0205 |        | mg/L  | 0.0200      | 0.0010        | 97.5 | 80-120      |       |           |       |
| Lead                                                                                                 | 0.0207 |        | mg/L  | 0.0200      | 0.00004       | 103  | 80-120      |       |           |       |
| Nickel                                                                                               | 0.0208 |        | mg/L  | 0.0200      | 0.0014        | 97.4 | 80-120      |       |           |       |
| Selenium                                                                                             | 0.0207 |        | mg/L  | 0.0200      | 0.00003       | 103  | 80-120      |       |           |       |
| Silver                                                                                               | 0.0231 |        | mg/L  | 0.0200      | 0.0003        | 114  | 80-120      |       |           |       |
| Thallium                                                                                             | 0.0209 |        | mg/L  | 0.0200      | 0.00006       | 104  | 80-120      |       |           |       |

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| Determination of Total Metals                                  | Result | RL                 | Units | Spike Level                                       | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|----------------------------------------------------------------|--------|--------------------|-------|---------------------------------------------------|---------------|------|-------------|-----|-----------|-------|
| Batch 11J0491 - EPA 3005A Total Recoverable Metals - EPA 6020A |        |                    |       |                                                   |               |      |             |     |           |       |
| Post Spike (11J0491-PS1)                                       |        | Source: 11J0829-01 |       | Prepared: 10/08/25 16:02 Analyzed: 10/13/25 16:32 |               |      |             |     |           |       |
| Vanadium                                                       | 0.0217 |                    | mg/L  | 0.0200                                            | 0.0004        | 107  | 80-120      |     |           |       |
| Zinc                                                           | 0.0266 |                    | mg/L  | 0.0200                                            | 0.0065        | 101  | 80-120      |     |           |       |

Batch Quality Control Summary: Microbac Laboratories Inc., - Marietta, OH

| Volatile Organic Compounds by GCMS | Result | RL                                                | Units | Spike Level | Source Result | %REC | %REC Limits | RPD  | RPD Limit | Notes |
|------------------------------------|--------|---------------------------------------------------|-------|-------------|---------------|------|-------------|------|-----------|-------|
| Batch B5J0552 - 5021 - EPA RSK-175 |        |                                                   |       |             |               |      |             |      |           |       |
| Blank (B5J0552-BLK1)               |        | Prepared: 10/09/25 12:48 Analyzed: 10/10/25 16:10 |       |             |               |      |             |      |           |       |
| Methane                            | <5.00  | 5.00                                              | ug/L  |             |               |      |             |      |           |       |
| Ethene                             | <5.00  | 5.00                                              | ug/L  |             |               |      |             |      |           |       |
| Ethane                             | <5.00  | 5.00                                              | ug/L  |             |               |      |             |      |           |       |
| LCS (B5J0552-BS1)                  |        | Prepared: 10/09/25 12:48 Analyzed: 10/10/25 18:41 |       |             |               |      |             |      |           |       |
| Methane                            | 114    | 5.00                                              | ug/L  | 114.1884    |               | 99.8 | 85-115      |      |           |       |
| Ethene                             | 201    | 5.00                                              | ug/L  | 199.6873    |               | 101  | 85-115      |      |           |       |
| Ethane                             | 218    | 5.00                                              | ug/L  | 213.9965    |               | 102  | 85-115      |      |           |       |
| LCS Dup (B5J0552-BSD1)             |        | Prepared: 10/09/25 12:48 Analyzed: 10/10/25 19:08 |       |             |               |      |             |      |           |       |
| Methane                            | 261    | 5.00                                              | ug/L  | 228.3768    |               | 114  | 85-115      | 78.4 | 40        | R1    |
| Ethene                             | 456    | 5.00                                              | ug/L  | 399.3747    |               | 114  | 85-115      | 77.7 | 40        | R1    |
| Ethane                             | 494    | 5.00                                              | ug/L  | 427.993     |               | 115  | 85-115      | 77.4 | 40        | R1    |

Definitions

|      |                                                                                                                        |
|------|------------------------------------------------------------------------------------------------------------------------|
| B:   | The target analyte was detected in the blank at or above the method acceptance criteria.                               |
| H2:  | Initial analysis was within holding time. Reanalysis was done past holding time.                                       |
| M2:  | Matrix spike recovery is below acceptance limits.                                                                      |
| M6:  | Matrix spike recovery is outside of acceptance limits. The analyte concentration is greater than 4X the spiking level. |
| R1:  | Duplicate RPD is outside acceptance criteria.                                                                          |
| RL:  | Reporting Limit                                                                                                        |
| RPD: | Relative Percent Difference                                                                                            |

Cooler Receipt Log

Cooler ID: Default Cooler Temp: 7.1°C

Cooler Inspection Checklist

|                  |     |                        |     |
|------------------|-----|------------------------|-----|
| Custody Seals    | No  | Containers Intact      | Yes |
| COC/Labels Agree | Yes | Preservation Confirmed | No  |
| Received On Ice  | Yes |                        |     |



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Report Comments

*The data and information on this, and other accompanying documents, represents only the sample(s) analyzed. This report is incomplete unless all pages indicated in the footnote are present and an authorized signature is included. **The services were provided under and subject to Microbac's standard terms and conditions which can be located and reviewed at <https://www.microbac.com/standard-terms-conditions>.***

Reviewed and Approved By:

Heather Murphy

Customer Relationship Specialist

heather.murphy@microbac.com

10/24/25 16:24

## CHAIN OF CUSTODY RECORD



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Page 1 of 1

Printed: 9/23/2025 8:34:22AM

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## SITE INFORMATION

Sampler: TODD WHIPPLEProject: **Marshall Sanitary Landfill-New Regs**  
6003

## SPECIAL INSTRUCTIONS

None

## Turn Around Time

☐ Standard ☐ RUSH, need by \_\_\_/\_\_\_/\_\_\_

## REPORT TO

Todd Whipple  
HLW Engineering  
204 West Broad St  
Story City, IA 50248

## INVOICE TO

Don Ballalatak  
Marshall County Landfill  
2313 Marshalltown Blvd  
Marshalltown, IA 50158

1 I J 0 8 2 9

HLW Engineering

PM: Heather Murphy

Temperature: 7.1°C °C

| Number | Sample Identification / Client ID | Matrix  | Sample Type | Date    | Time  | # Containers | Analyses                                                       | Lab Sample Number |
|--------|-----------------------------------|---------|-------------|---------|-------|--------------|----------------------------------------------------------------|-------------------|
| 01-001 | MW-213                            | Aqueous | GRAB        | 10-6-25 | 12:55 | 10           | Indfil-app1-metals-6020dfill-app1-voc-group<br>permgas-rsk-175 | 01                |
|        |                                   |         |             |         |       |              |                                                                |                   |
|        |                                   |         |             |         |       |              |                                                                |                   |

Relinquished By

Date/Time

Relinquished By

Date/Time

Received By

Date/Time

Received for Lab By

Date/Time

Remarks:

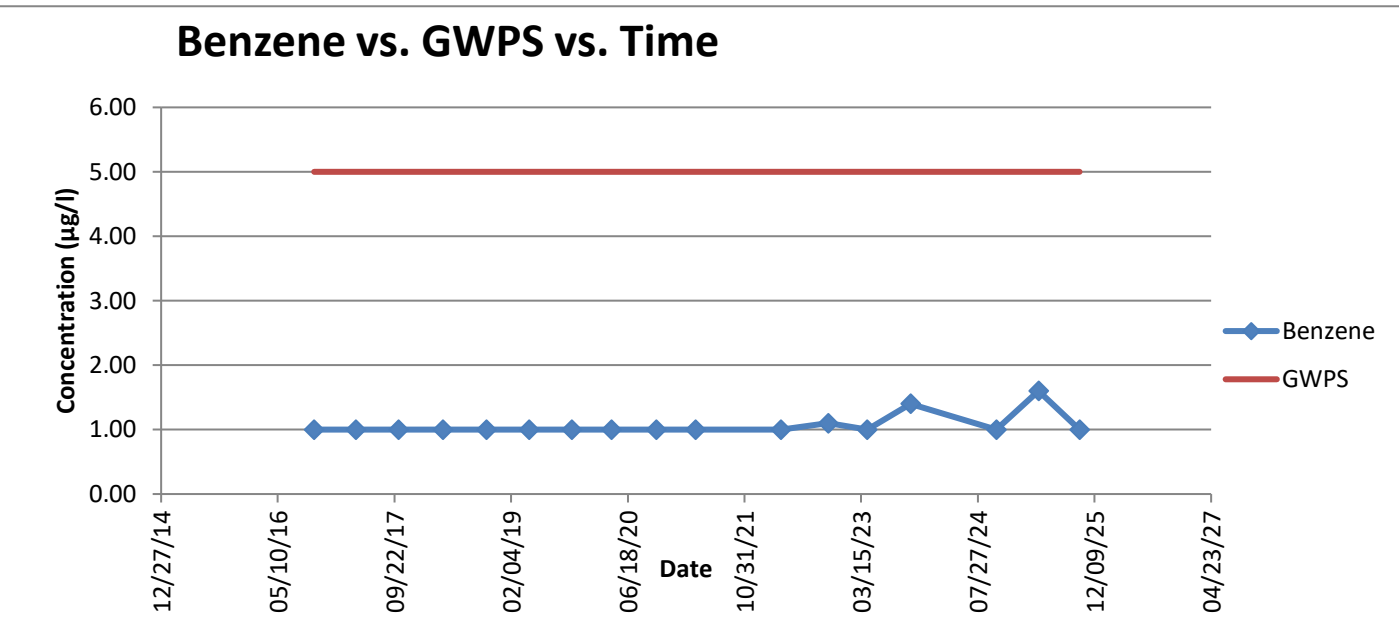
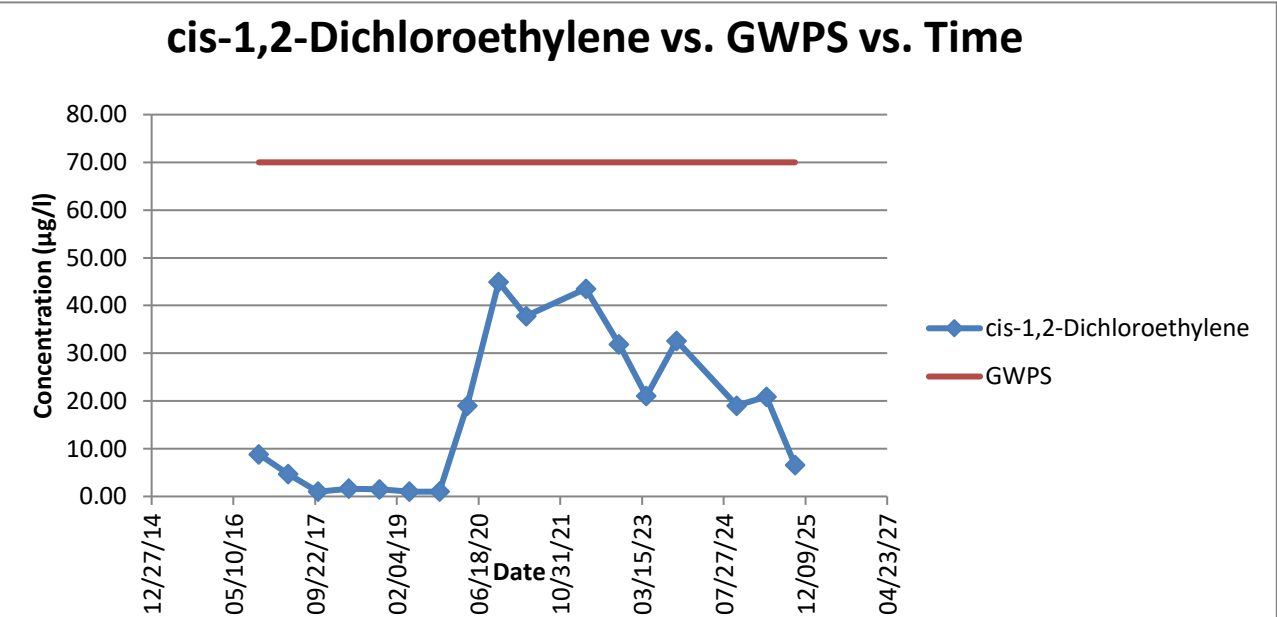
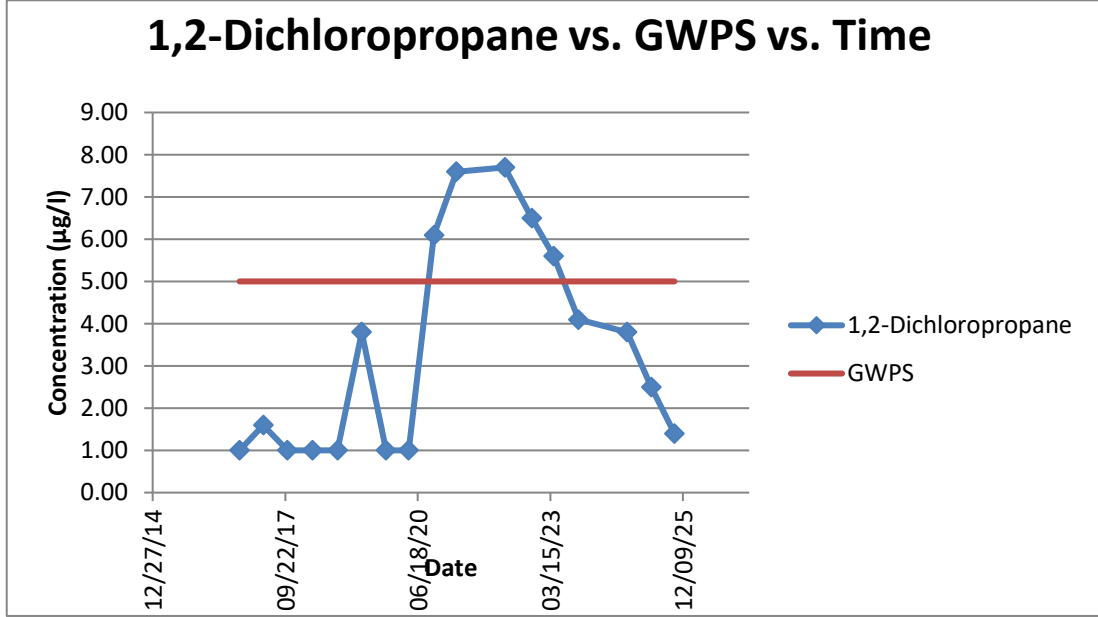
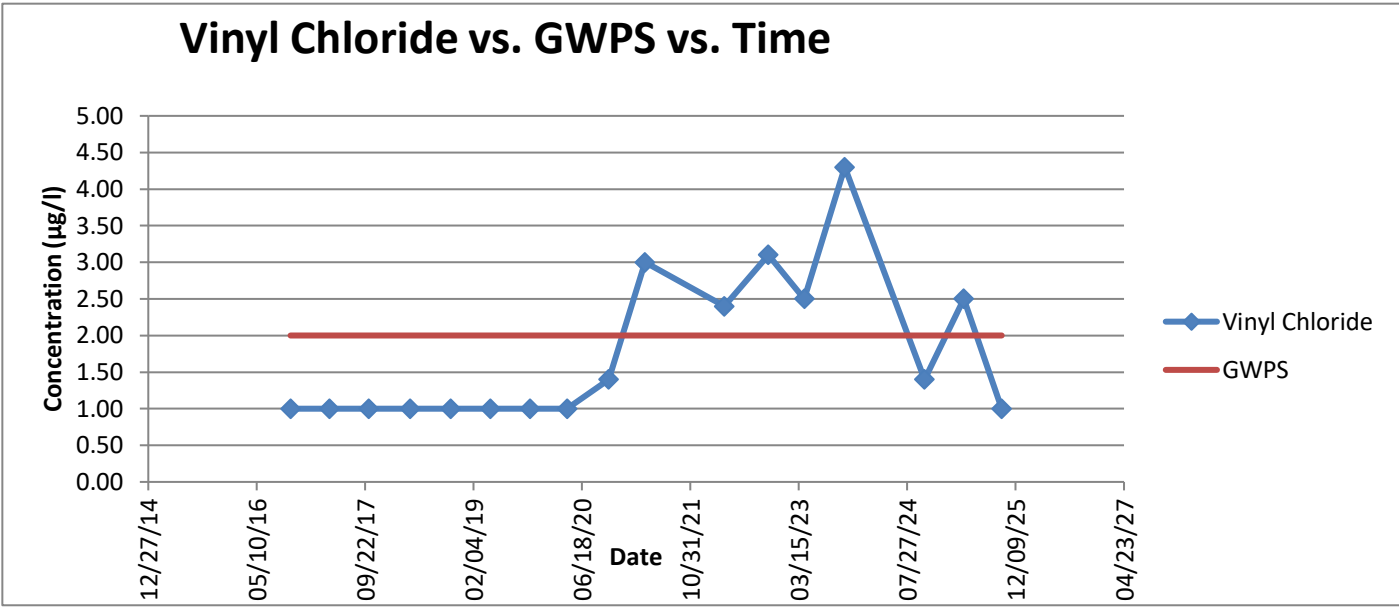
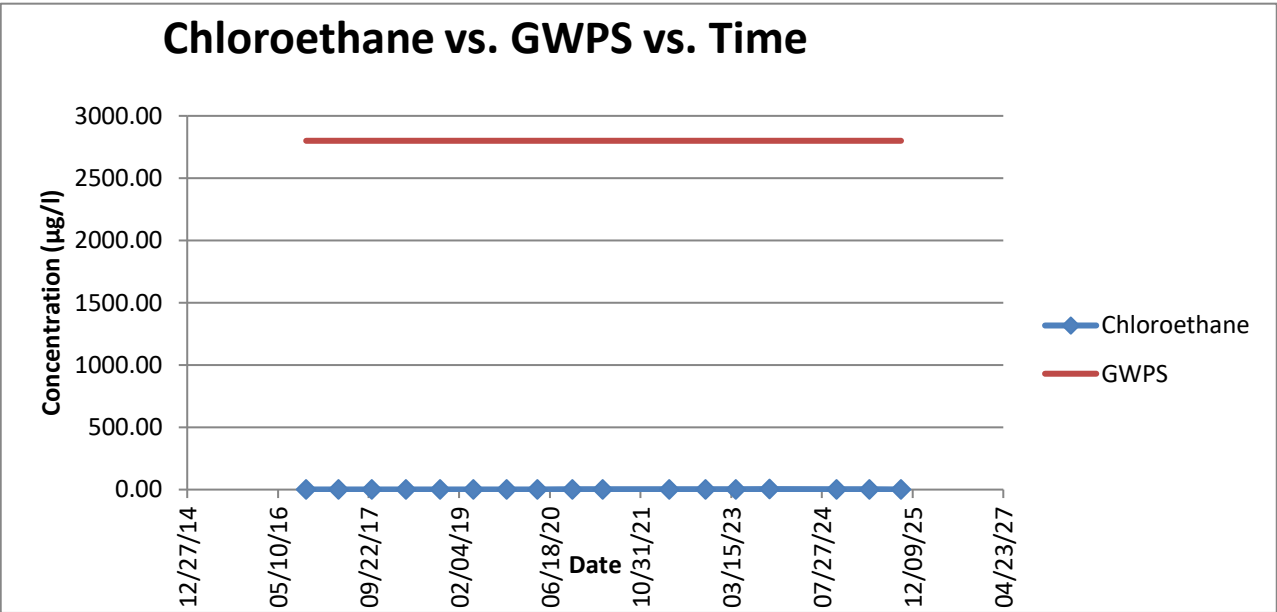
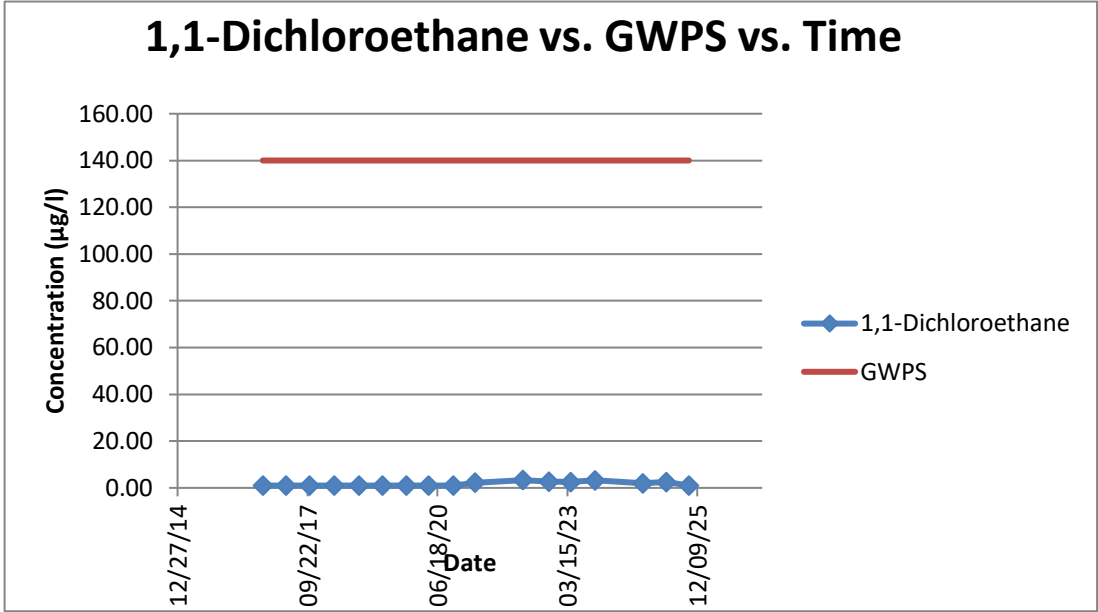
## **ATTACHMENT B**

### **Water Quality Summary Tables and Graphs**

MW-213 - AREA A  
Annual Water Quality Report  
Marshall County Sanitary Landfill  
Permit No. 64-SDP-06-92C

| Sample Date | 1,1-Dichloroethane    |              |  | 1,2-Dichloropropane   |              |  | Chloroethane          |              |  | cis-1,2-dichloroethene |              |  | Vinyl Chloride        |              |  | Benzene               |              |  |
|-------------|-----------------------|--------------|--|-----------------------|--------------|--|-----------------------|--------------|--|------------------------|--------------|--|-----------------------|--------------|--|-----------------------|--------------|--|
|             | Concentration<br>ug/L | GWPS<br>ug/L |  | Concentration<br>ug/L | GWPS<br>ug/L |  | Concentration<br>ug/L | GWPS<br>ug/L |  | Concentration<br>ug/L  | GWPS<br>ug/L |  | Concentration<br>ug/L | GWPS<br>ug/L |  | Concentration<br>ug/L | GWPS<br>ug/L |  |
| 10/13/2016  | 1.00                  | 140          |  | 1.00                  | 5            |  | 1.00                  | 2800         |  | 8.80                   | 70           |  | 1.00                  | 2            |  | 1.00                  | 5            |  |
| 4/10/2017   | 1.00                  | 140          |  | 1.60                  | 5            |  | 1.00                  | 2800         |  | 4.70                   | 70           |  | 1.00                  | 2            |  | 1.00                  | 5            |  |
| 10/9/2017   | 1.00                  | 140          |  | 1.00                  | 5            |  | 1.00                  | 2800         |  | 1.00                   | 70           |  | 1.00                  | 2            |  | 1.00                  | 5            |  |
| 4/17/2018   | 1.00                  | 140          |  | 1.00                  | 5            |  | 1.00                  | 2800         |  | 1.60                   | 70           |  | 1.00                  | 2            |  | 1.00                  | 5            |  |
| 10/22/2018  | 1.00                  | 140          |  | 1.00                  | 5            |  | 1.00                  | 2800         |  | 1.50                   | 70           |  | 1.00                  | 2            |  | 1.00                  | 5            |  |
| 4/22/2019   | 1.00                  | 140          |  | 3.80                  | 5            |  | 1.00                  | 2800         |  | 1.00                   | 70           |  | 1.00                  | 2            |  | 1.00                  | 5            |  |
| 10/23/2019  | 1.00                  | 140          |  | 1.00                  | 5            |  | 1.00                  | 2800         |  | 1.00                   | 70           |  | 1.00                  | 2            |  | 1.00                  | 5            |  |
| 4/10/2020   | 1.00                  | 140          |  | 1.00                  | 5            |  | 1.00                  | 2800         |  | 19.00                  | 70           |  | 1.00                  | 2            |  | 1.00                  | 5            |  |
| 10/19/2020  | 1.00                  | 140          |  | 6.10                  | 5            |  | 1.50                  | 2800         |  | 44.90                  | 70           |  | 1.40                  | 2            |  | 1.00                  | 5            |  |
| 4/5/2021    | 2.20                  | 140          |  | 7.60                  | 5            |  | 2.60                  | 2800         |  | 37.80                  | 70           |  | 3.00                  | 2            |  | 1.00                  | 5            |  |
| 4/6/2022    | 3.30                  | 140          |  | 7.70                  | 5            |  | 2.60                  | 2800         |  | 43.50                  | 70           |  | 2.40                  | 2            |  | 1.00                  | 5            |  |
| 10/25/2022  | 2.70                  | 140          |  | 6.50                  | 5            |  | 3.00                  | 2800         |  | 31.90                  | 70           |  | 3.10                  | 2            |  | 1.10                  | 5            |  |
| 4/10/2023   | 2.50                  | 140          |  | 5.60                  | 5            |  | 2.50                  | 2800         |  | 21.00                  | 70           |  | 2.50                  | 2            |  | 1.00                  | 5            |  |
| 10/13/2023  | 3.20                  | 140          |  | 4.10                  | 5            |  | 4.20                  | 2800         |  | 32.60                  | 70           |  | 4.30                  | 2            |  | 1.40                  | 5            |  |
| 10/15/2024  | 1.90                  | 140          |  | 3.80                  | 5            |  | 1.40                  | 2800         |  | 19.00                  | 70           |  | 1.40                  | 2            |  | 1.00                  | 5            |  |
| 4/14/2025   | 2.50                  | 140          |  | 2.50                  | 5            |  | 2.30                  | 2800         |  | 20.90                  | 70           |  | 2.50                  | 2            |  | 1.60                  | 5            |  |
| 10/6/2025   | 1.00                  | 140          |  | 1.40                  | 5            |  | 1.00                  | 2800         |  | 6.60                   | 70           |  | 1.00                  | 2            |  | 1.00                  | 5            |  |

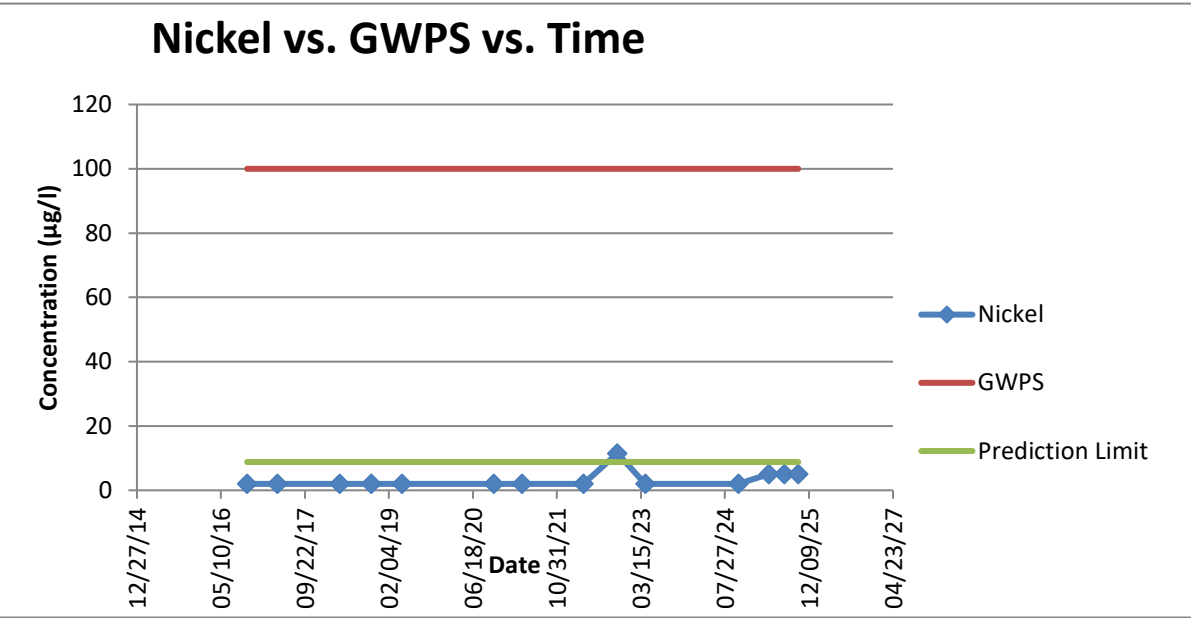
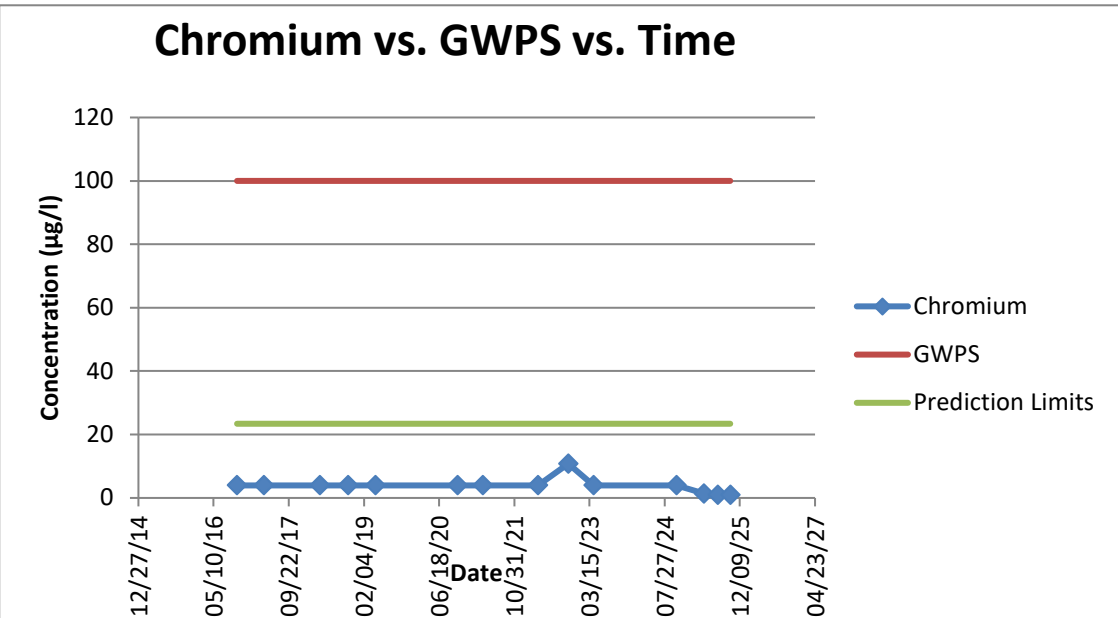
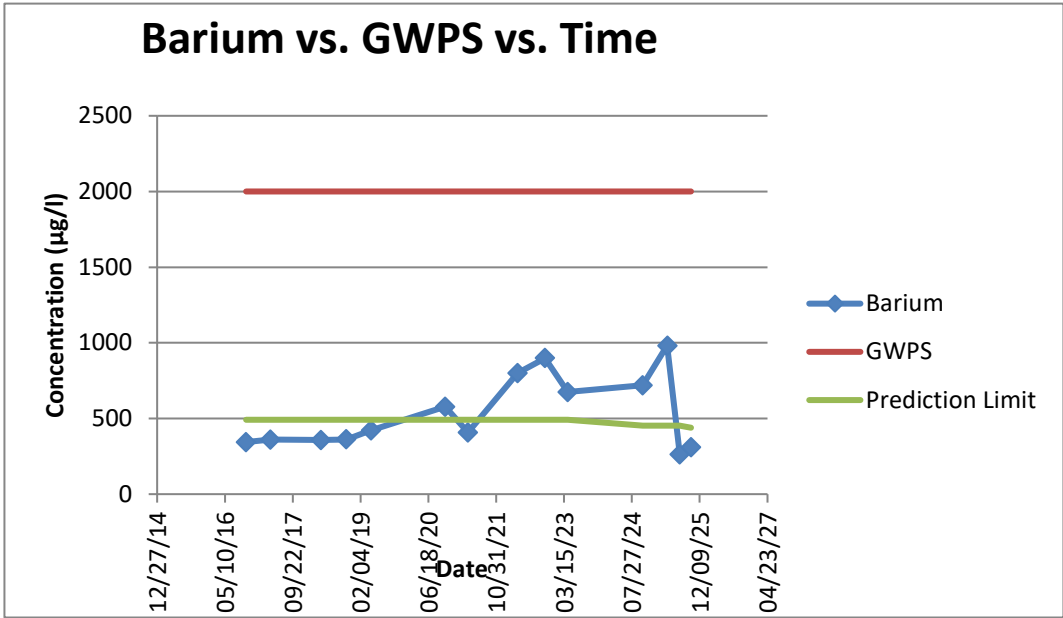
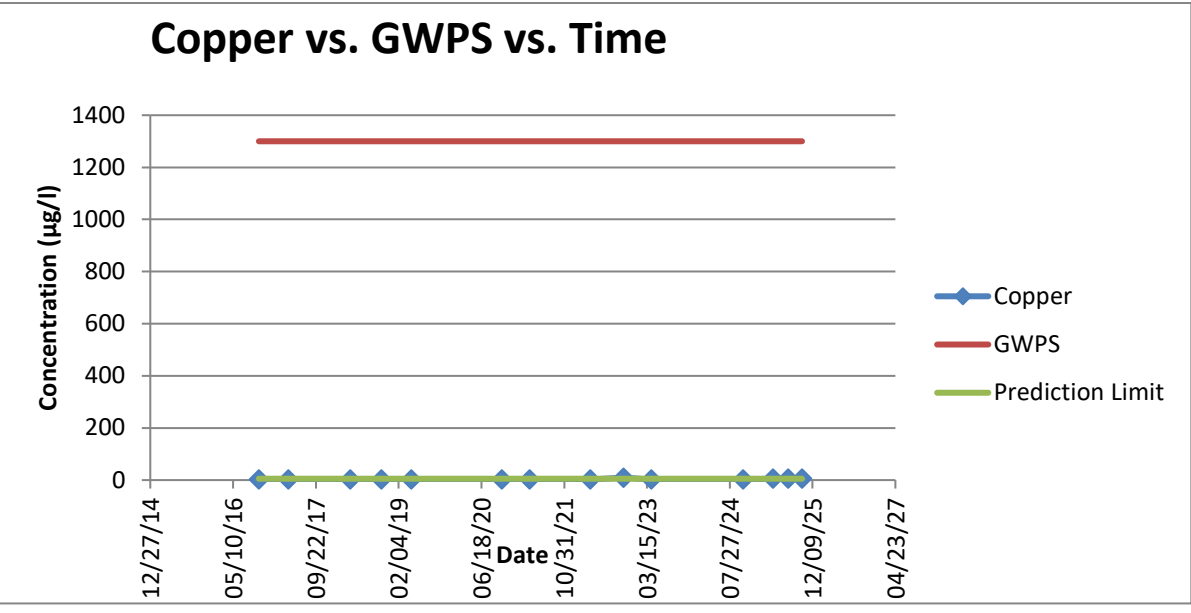
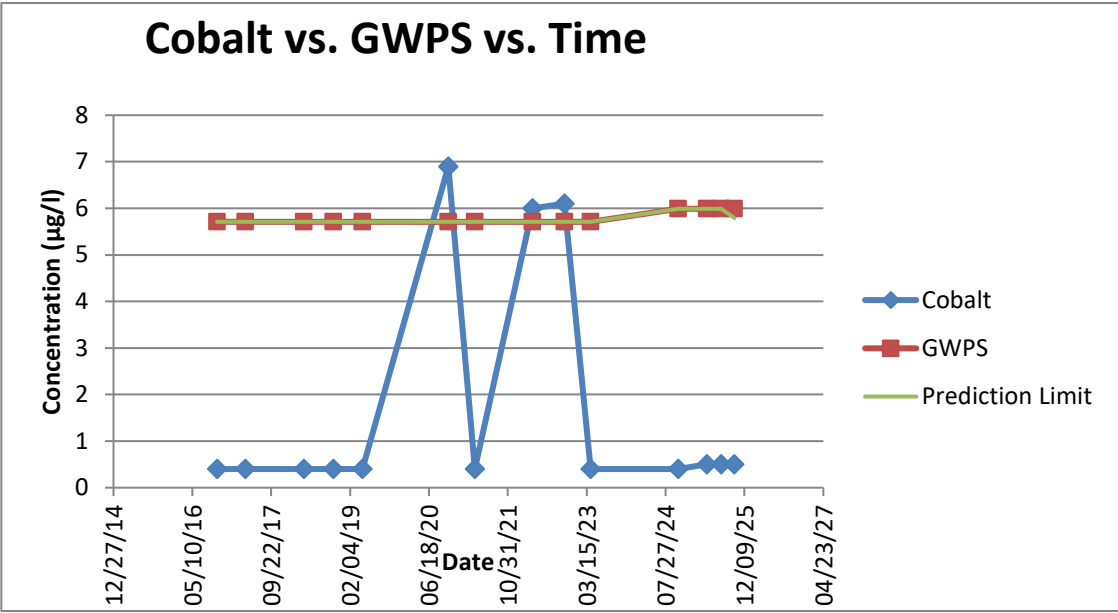
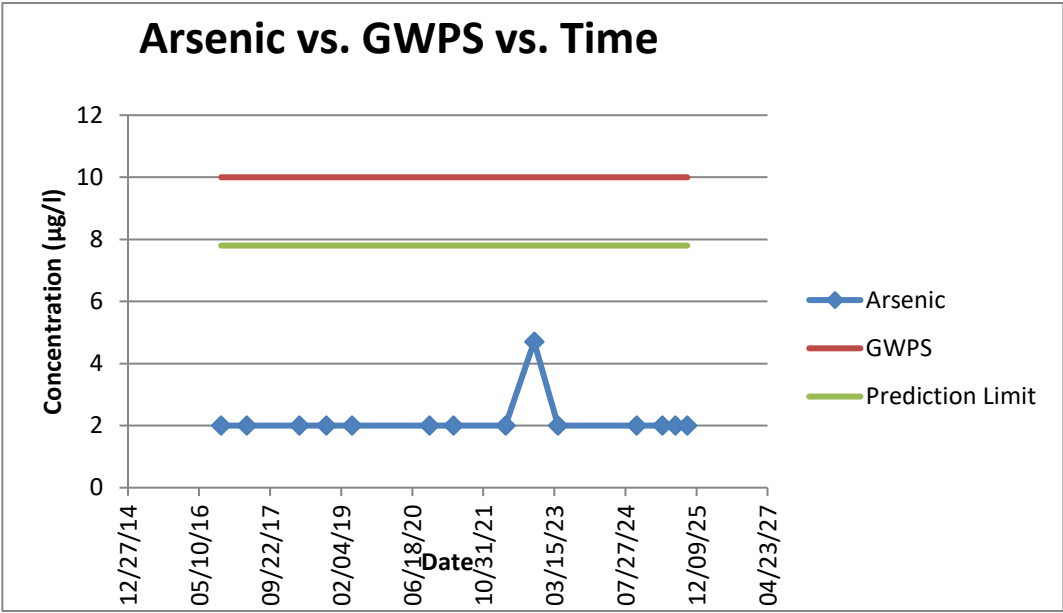
NOTES:  
10/13/23 Only VOC Tested.  
4/16/2024 MW-213 was Dry



MW-213 - AREA A  
Annual Water Quality Report  
Marshall County Sanitary Landfill  
Permit No. 64-SDP-06-92C

| Sample Date | Arsenic       |      |      | Barium        |        |      | Cobalt        |      |      | Chromium      |      |      | Copper        |      |      | Nickel        |      |      | Zinc          |      |      |
|-------------|---------------|------|------|---------------|--------|------|---------------|------|------|---------------|------|------|---------------|------|------|---------------|------|------|---------------|------|------|
|             | Concentration | PL   | GWPS | Concentration | PL     | GWPS | Concentration | PL   | GWPS | Concentration | PL   | GWPS | Concentration | PL   | GWPS | Concentration | PL   | GWPS | Concentration | PL   | GWPS |
|             | ug/L          | ug/L | ug/L | ug/L          | ug/L   | ug/L | ug/L          | ug/L | ug/L | ug/L          | ug/L | ug/L | ug/L          | ug/L | ug/L | ug/L          | ug/L | ug/L | ug/L          | ug/L | ug/L |
| 10/13/2016  | 2             | 7.8  | 10   | 345           | 491.54 | 2000 | 0.4           | 5.71 | 5.71 | 4             | 23.4 | 100  | 2             | 5.3  | 1300 | 2             | 8.8  | 100  | 8             | 54.6 | 2000 |
| 4/10/2017   | 2             | 7.8  | 10   | 360           | 491.54 | 2000 | 0.4           | 5.71 | 5.71 | 4             | 23.4 | 100  | 2             | 5.3  | 1300 | 2             | 8.8  | 100  | 8             | 54.6 | 2000 |
| 4/17/2018   | 2             | 7.8  | 10   | 357           | 491.54 | 2000 | 0.4           | 5.71 | 5.71 | 4             | 23.4 | 100  | 2             | 5.3  | 1300 | 2             | 8.8  | 100  | 8             | 54.6 | 2000 |
| 10/22/2018  | 2             | 7.8  | 10   | 362           | 491.54 | 2000 | 0.4           | 5.71 | 5.71 | 4             | 23.4 | 100  | 2             | 5.3  | 1300 | 2             | 8.8  | 100  | 8             | 54.6 | 2000 |
| 4/22/2019   | 2             | 7.8  | 10   | 421           | 491.54 | 2000 | 0.4           | 5.71 | 5.71 | 4             | 23.4 | 100  | 2             | 5.3  | 1300 | 2             | 8.8  | 100  | 20            | 54.6 | 2000 |
| 10/19/2020  | 2             | 7.8  | 10   | 578           | 491.54 | 2000 | 6.9           | 5.71 | 5.71 | 4             | 23.4 | 100  | 2             | 5.3  | 1300 | 2             | 8.8  | 100  | 20            | 54.6 | 2000 |
| 4/5/2021    | 2             | 7.8  | 10   | 409           | 491.54 | 2000 | 0.4           | 5.71 | 5.71 | 4             | 23.4 | 100  | 2             | 5    | 1300 | 2             | 9    | 100  | 20            | 54.6 | 2000 |
| 4/6/2022    | 2             | 7.8  | 10   | 800           | 491.54 | 2000 | 6.0           | 5.71 | 5.71 | 4             | 23.4 | 100  | 2             | 5.3  | 1300 | 2             | 8.8  | 100  | 20            | 54.6 | 2000 |
| 10/25/2022  | 4.7           | 7.8  | 10   | 899           | 491.54 | 2000 | 6.1           | 5.71 | 5.71 | 10.8          | 23.4 | 100  | 9.6           | 5.3  | 1300 | 11.5          | 8.8  | 100  | 20            | 54.6 | 2000 |
| 4/10/2023   | 2             | 7.8  | 10   | 674           | 491.54 | 2000 | 0.4           | 5.71 | 5.71 | 4             | 23.4 | 100  | 2             | 5.3  | 1300 | 2             | 8.8  | 100  | 20            | 54.6 | 2000 |
| 10/15/2024  | 2             | 7.8  | 10   | 720           | 452.89 | 2000 | 0.4           | 5.99 | 5.99 | 4             | 23.4 | 100  | 2             | 5.3  | 1300 | 2             | 8.8  | 100  | 20            | 54.6 | 2000 |
| 4/14/2025   | 2             | 7.8  | 10   | 982           | 452.89 | 2000 | 0.5           | 5.99 | 5.99 | 1.4           | 23.4 | 100  | 5             | 5.3  | 1300 | 5             | 8.8  | 100  | 5             | 54.6 | 2000 |
| 7/15/2025   | 2             | 7.8  | 10   | 264           | 452.89 | 2000 | 0.5           | 5.99 | 5.99 | 1             | 23.4 | 100  | 5             | 5.3  | 1300 | 5             | 8.8  | 100  | 5             | 54.6 | 2000 |
| 10/6/2025   | 2             | 7.8  | 10   | 310           | 438.91 | 2000 | 0.5           | 5.79 | 5.99 | 1             | 23.4 | 100  | 5             | 5.3  | 1300 | 5             | 8.8  | 100  | 6.5           | 54.6 | 2000 |

NOTES:  
10/13/23 Only VOC Tested.  
4/16/2024 MW-213 was Dry



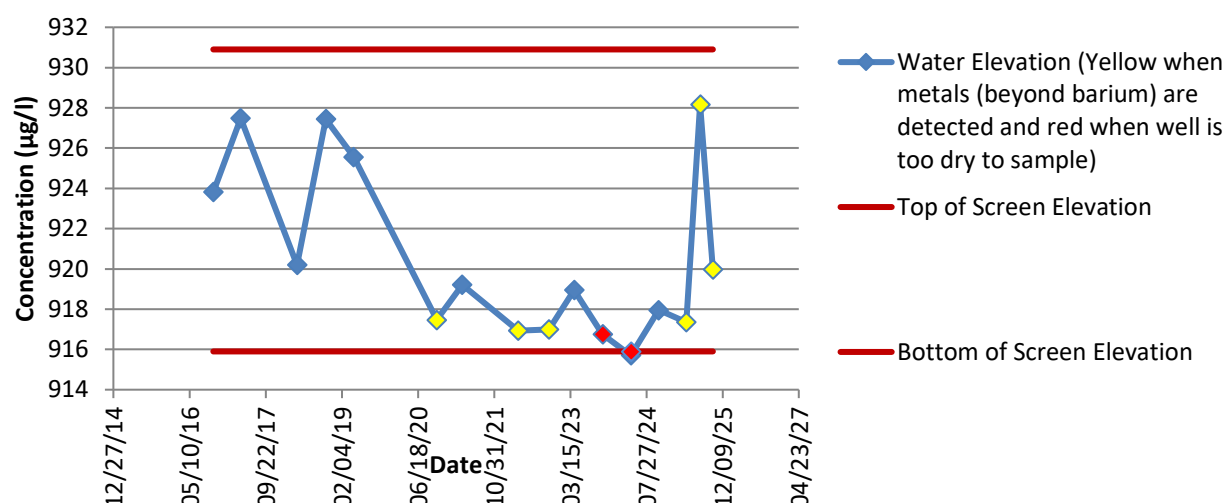
## **ATTACHMENT C**

### **Water Elevation and Turbidity Data**

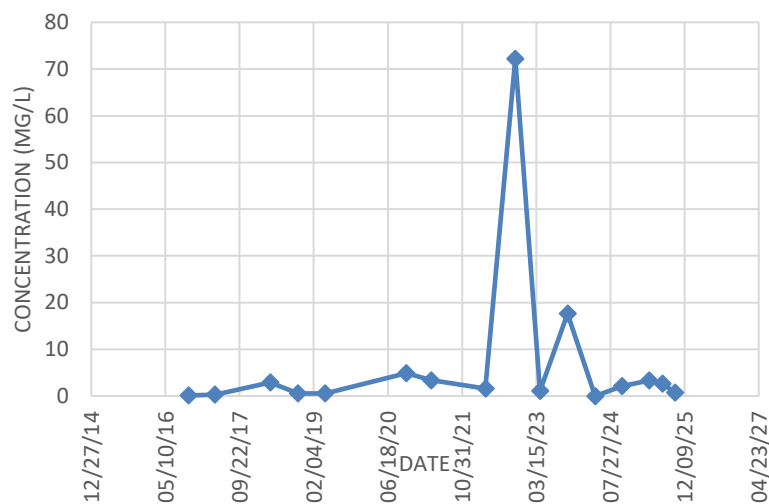
**MW-213 - AREA A**  
Annual Water Quality Report  
Marshall County Sanitary Landfill  
Permit No. 64-SDP-06-92C

| Sample Date | Top of Casing<br>(Elevation) | Depth to Water<br>(feet) | Water Surface<br>(Elevation) | Top of Screen<br>(Elevation) | Bottom of Screen<br>(Elevation) | Turbidity<br>(NTU) |
|-------------|------------------------------|--------------------------|------------------------------|------------------------------|---------------------------------|--------------------|
| 10/13/2016  | 950.9                        | 27.09                    | 923.81                       | 930.9                        | 915.9                           | 0.16               |
| 4/10/2017   | 950.9                        | 23.42                    | 927.48                       | 930.9                        | 915.9                           | 0.31               |
| 4/17/2018   | 950.9                        | 30.7                     | 920.2                        | 930.9                        | 915.9                           | 2.87               |
| 10/22/2018  | 950.9                        | 23.46                    | 927.44                       | 930.9                        | 915.9                           | 0.55               |
| 4/22/2019   | 950.9                        | 25.34                    | 925.56                       | 930.9                        | 915.9                           | 0.55               |
| 10/19/2020  | 950.9                        | 33.43                    | 917.47                       | 930.9                        | 915.9                           | 4.87               |
| 4/5/2021    | 950.9                        | 31.69                    | 919.21                       | 930.9                        | 915.9                           | 3.38               |
| 4/6/2022    | 950.9                        | 33.97                    | 916.93                       | 930.9                        | 915.9                           | 1.57               |
| 10/25/2022  | 950.9                        | 33.91                    | 916.99                       | 930.9                        | 915.9                           | 72.2               |
| 4/10/2023   | 950.9                        | 31.96                    | 918.94                       | 930.9                        | 915.9                           | 1.06               |
| 10/13/2023  | 950.9                        | 34.14                    | 916.76                       | 930.9                        | 915.9                           | 17.66              |
| 4/16/2024   | 950.9                        | 35.2                     | 915.7                        | 930.9                        | 915.9                           | Dry                |
| 10/15/2024  | 950.9                        | 32.95                    | 917.95                       | 930.9                        | 915.9                           | 2.12               |
| 4/14/2025   | 950.9                        | 33.54                    | 917.36                       | 930.9                        | 915.9                           | 3.36               |
| 7/15/2025   | 950.9                        | 22.73                    | 928.17                       | 930.9                        | 915.9                           | 2.61               |
| 10/6/2025   | 950.9                        | 30.92                    | 919.98                       | 930.9                        | 915.9                           | 0.77               |

### Water Elevation within the Screened Interval



### TURBIDITY



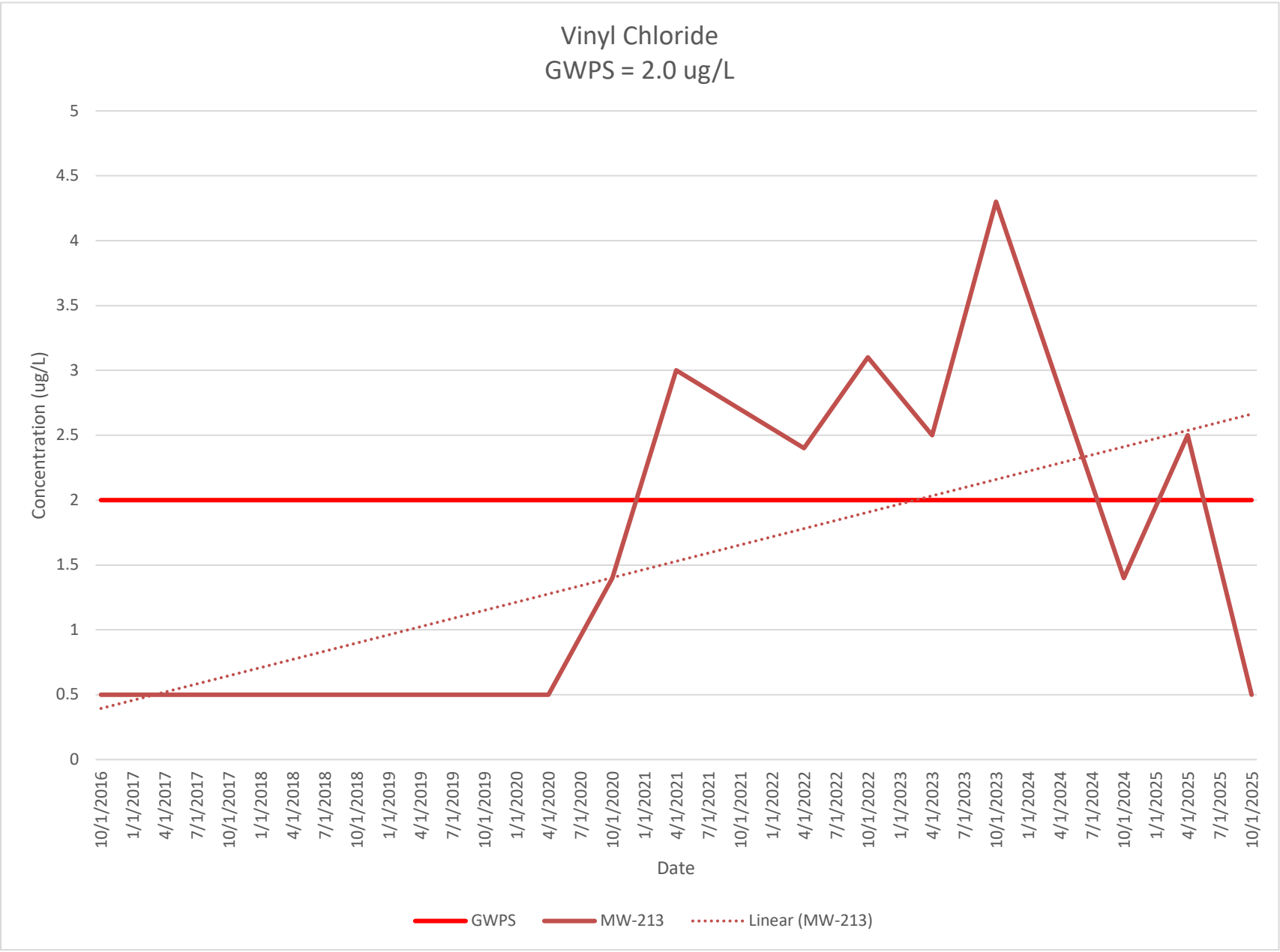
## **ATTACHMENT D**

### **Evaluation of Trends and Statistically Significant Levels (SSL)**

Times Series Graphs  
Marshall County Sanitary Landfill - AREA A  
64-SDP-06-92C

0.5 = Red text represent undetected values that are reported at one-half of the MRL

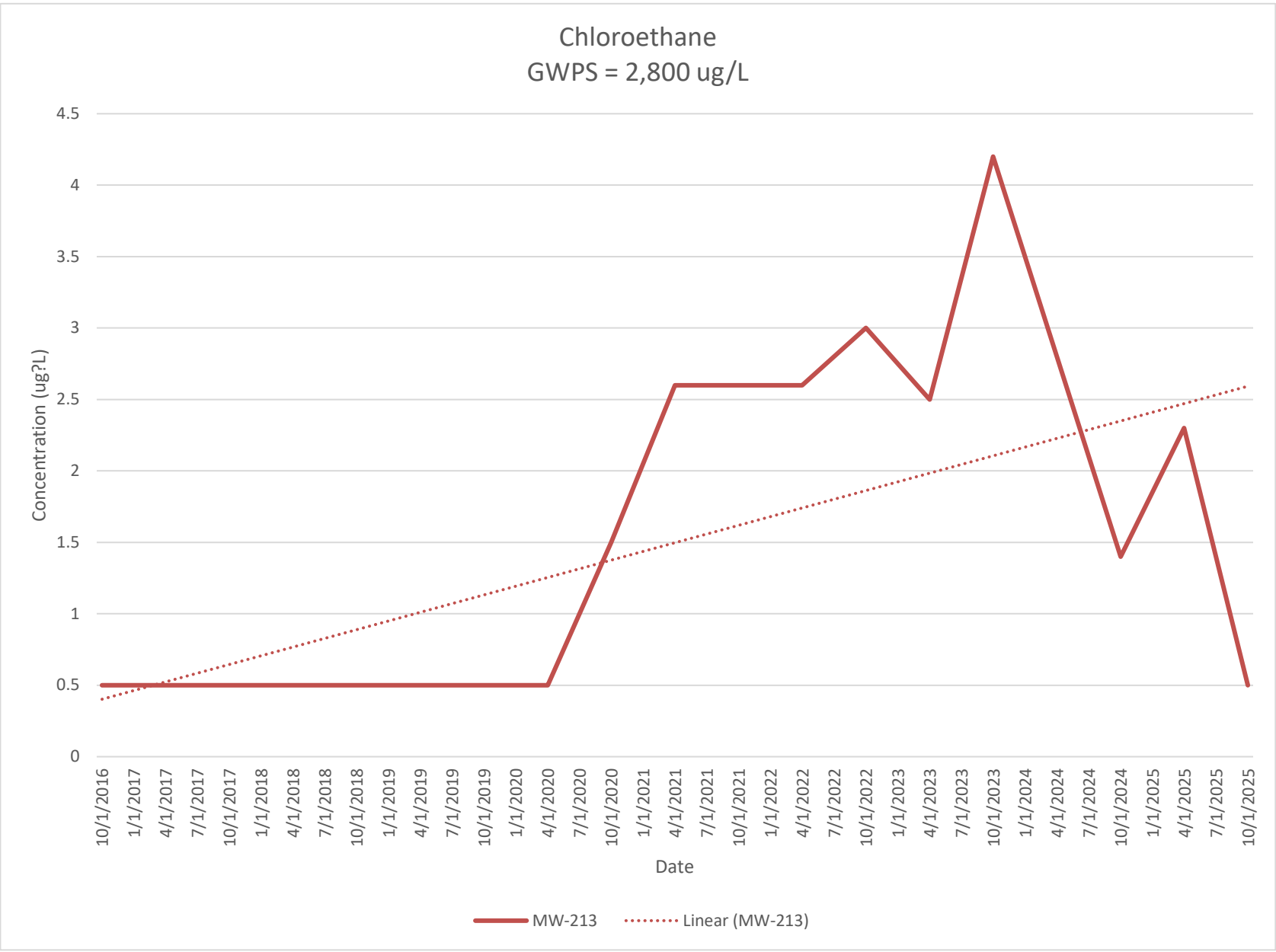
| Date                             | Compound (ug/L) | GWPS | MW-213   |
|----------------------------------|-----------------|------|----------|
| 10/13/2016                       | vinyl chloride  | 2    | 0.5      |
| 4/10/2017                        | vinyl chloride  | 2    | 0.5      |
| 10/9/2017                        | vinyl chloride  | 2    | 0.5      |
| 4/17/2018                        | vinyl chloride  | 2    | 0.5      |
| 10/22/2018                       | vinyl chloride  | 2    | 0.5      |
| 4/22/2019                        | vinyl chloride  | 2    | 0.5      |
| 10/23/2019                       | vinyl chloride  | 2    | 0.5      |
| 4/10/2020                        | vinyl chloride  | 2    | 0.5      |
| 10/19/2020                       | vinyl chloride  | 2    | 1.4      |
| 4/5/2021                         | vinyl chloride  | 2    | 3        |
| 4/6/2022                         | vinyl chloride  | 2    | 2.4      |
| 10/25/2022                       | vinyl chloride  | 2    | 3.1      |
| 4/10/2023                        | vinyl chloride  | 2    | 2.5      |
| 10/13/2023                       | vinyl chloride  | 2    | 4.3      |
| 10/15/2024                       | vinyl chloride  | 2    | 1.4      |
| 4/14/2025                        | vinyl chloride  | 2    | 2.5      |
| 10/6/2025                        | vinyl chloride  | 2    | 0.5      |
| Sample size = 8                  |                 |      | 8        |
| Mean value                       |                 |      | 2.4625   |
| standard deviation               |                 |      | 1.064116 |
| 95% Confidence Z(0.95)           |                 |      | 1.895    |
| Standard Error (ST Dev/√8)       |                 |      | 0.376222 |
| Margin of Error                  |                 |      | 0.712941 |
| 95% UCL (mean + Margin of Error) |                 |      | 3.175441 |
| 95% LCL (mean - Margin of Error) |                 |      | 1.749559 |
| GWPS (ug/L)                      |                 |      | 2.0      |
| Does 95% LCL Value exceed GWPS?  | If so, then SSL |      | No       |



Times Series Graphs  
Marshall County Sanitary Landfill - **AREA A**  
64-SDP-06-92C

0.5 = Red text represent undetected values that are reported at one-half of the MRL

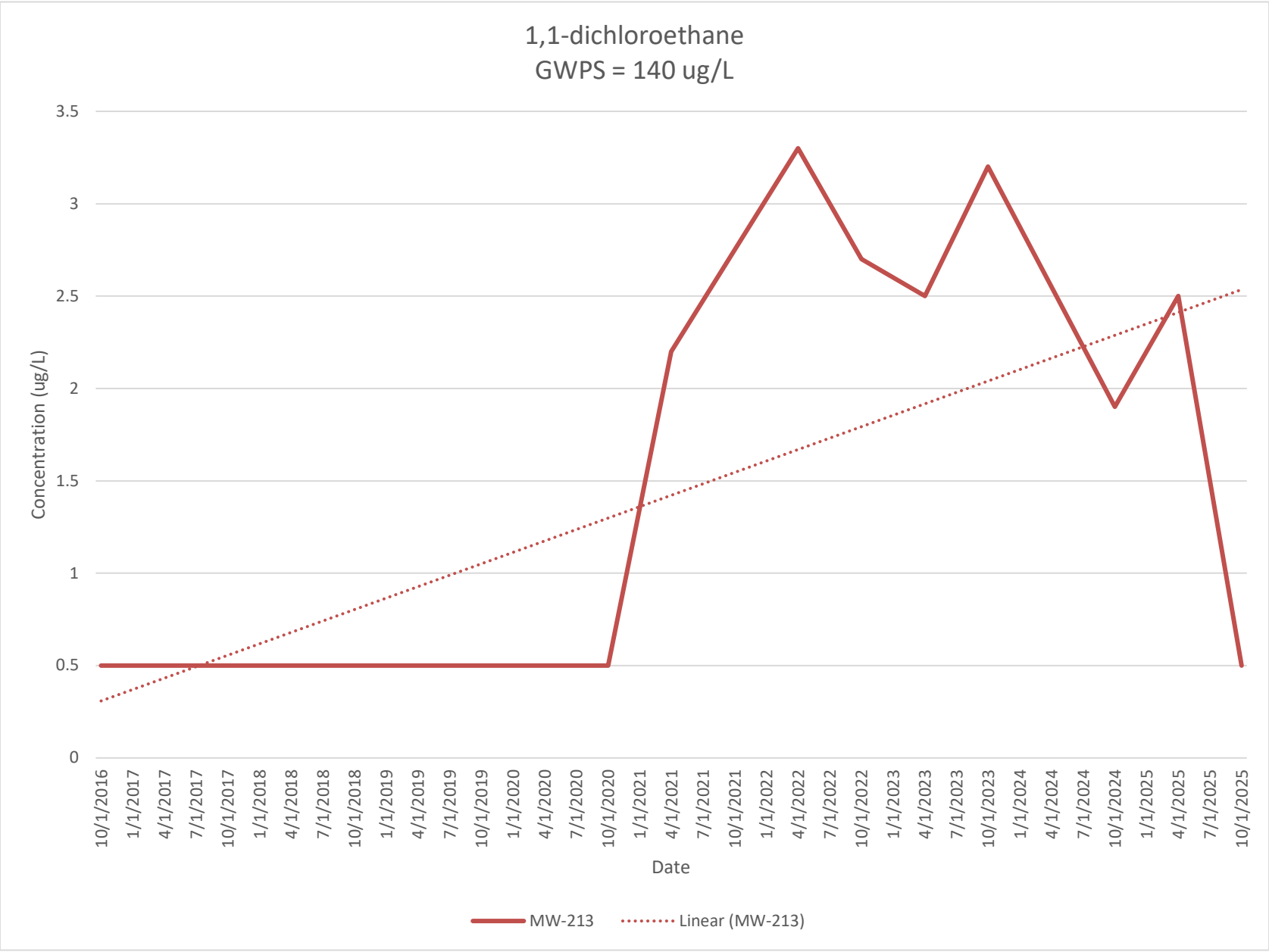
| Date                             | Compound (ug/L) | GWPS | MW-213   |
|----------------------------------|-----------------|------|----------|
| 10/13/2016                       | chloroethane    | 2800 | 0.5      |
| 4/10/2017                        | chloroethane    | 2800 | 0.5      |
| 10/9/2017                        | chloroethane    | 2800 | 0.5      |
| 4/17/2018                        | chloroethane    | 2800 | 0.5      |
| 10/22/2018                       | chloroethane    | 2800 | 0.5      |
| 4/22/2019                        | chloroethane    | 2800 | 0.5      |
| 10/23/2019                       | chloroethane    | 2800 | 0.5      |
| 4/10/2020                        | chloroethane    | 2800 | 0.5      |
| 10/19/2020                       | chloroethane    | 2800 | 1.5      |
| 4/5/2021                         | chloroethane    | 2800 | 2.6      |
| 4/6/2022                         | chloroethane    | 2800 | 2.6      |
| 10/25/2022                       | chloroethane    | 2800 | 3        |
| 4/10/2023                        | chloroethane    | 2800 | 2.5      |
| 10/13/2023                       | chloroethane    | 2800 | 4.2      |
| 10/15/2024                       | chloroethane    | 2800 | 1.4      |
| 4/14/2025                        | chloroethane    | 2800 | 2.3      |
| 10/6/2025                        | chloroethane    | 2800 | 0.5      |
| Sample size = 8                  |                 |      | 8        |
| Mean value                       |                 |      | 2.3875   |
| standard deviation               |                 |      | 1.019114 |
| 95% Confidence Z(0.95)           |                 |      | 1.895    |
| Standard Error (ST Dev/√8)       |                 |      | 0.360311 |
| Margin of Error                  |                 |      | 0.68279  |
| 95% UCL (mean + Margin of Error) |                 |      | 3.07029  |
| 95% LCL (mean - Margin of Error) |                 |      | 1.70471  |
| GWPS (ug/L)                      |                 |      | 2800     |
| Does 95% LCL Value exceed GWPS?  | If so, then SSL |      | No       |



Times Series Graphs  
Marshall County Sanitary Landfill - AREA A  
64-SDP-06-92C

0.5 = Red text represent undetected values that are reported at one-half of the MRL

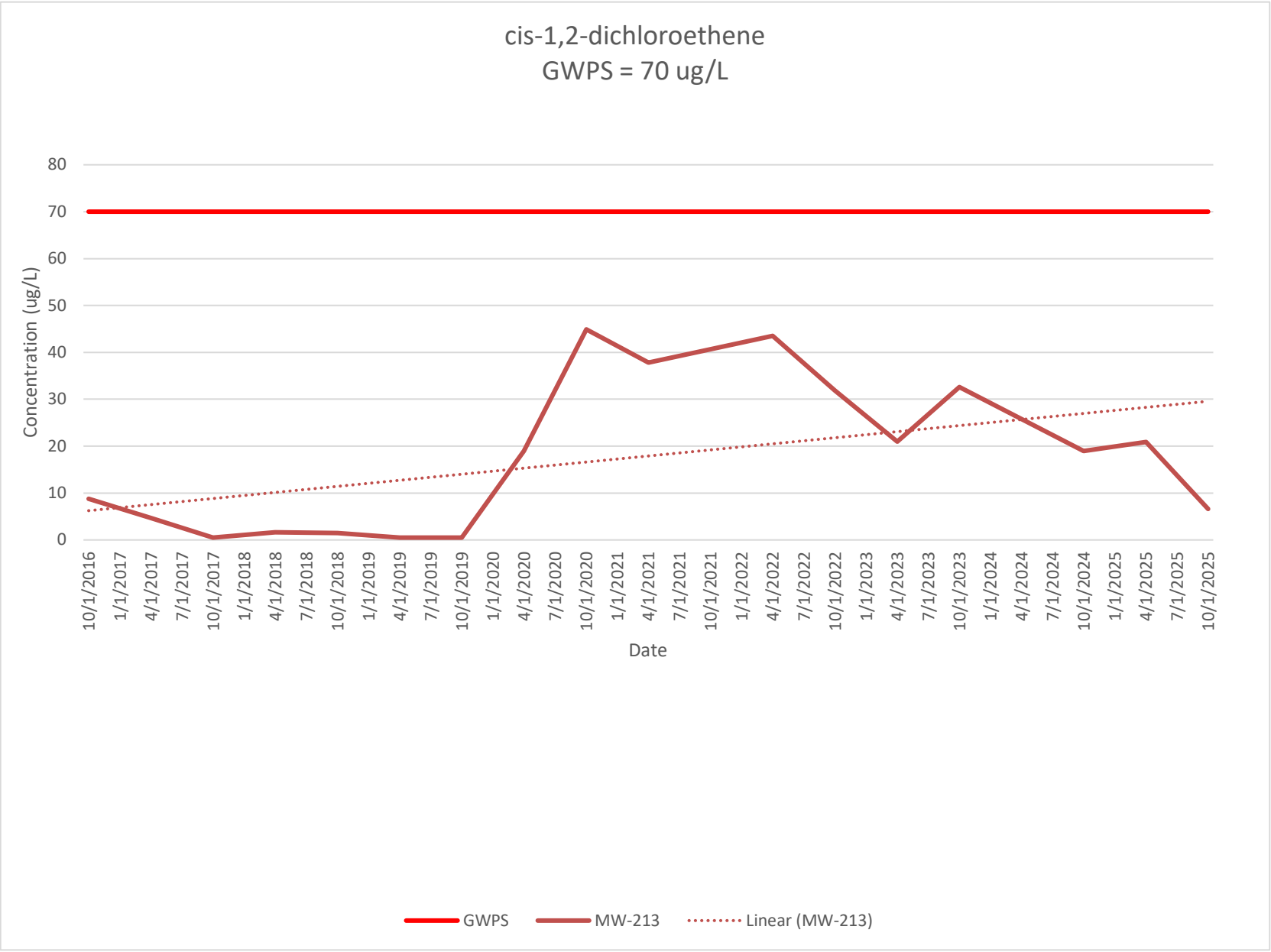
| Date                             | Compound (ug/L)    | GWPS | MW-213   |
|----------------------------------|--------------------|------|----------|
| 10/13/2016                       | 1,1-dichloroethane | 140  | 0.5      |
| 4/10/2017                        | 1,1-dichloroethane | 140  | 0.5      |
| 10/9/2017                        | 1,1-dichloroethane | 140  | 0.5      |
| 4/17/2018                        | 1,1-dichloroethane | 140  | 0.5      |
| 10/22/2018                       | 1,1-dichloroethane | 140  | 0.5      |
| 4/22/2019                        | 1,1-dichloroethane | 140  | 0.5      |
| 10/23/2019                       | 1,1-dichloroethane | 140  | 0.5      |
| 4/10/2020                        | 1,1-dichloroethane | 140  | 0.5      |
| 10/19/2020                       | 1,1-dichloroethane | 140  | 0.5      |
| 4/5/2021                         | 1,1-dichloroethane | 140  | 2.2      |
| 4/6/2022                         | 1,1-dichloroethane | 140  | 3.3      |
| 10/25/2022                       | 1,1-dichloroethane | 140  | 2.7      |
| 4/10/2023                        | 1,1-dichloroethane | 140  | 2.5      |
| 10/13/2023                       | 1,1-dichloroethane | 140  | 3.2      |
| 10/15/2024                       | 1,1-dichloroethane | 140  | 1.9      |
| 4/14/2025                        | 1,1-dichloroethane | 140  | 2.5      |
| 10/6/2025                        | 1,1-dichloroethane | 140  | 0.5      |
| Sample size = 8                  |                    |      | 8        |
| Mean value                       |                    |      | 2.35     |
| standard deviation               |                    |      | 0.824621 |
| 95% Confidence Z(0.95)           |                    |      | 1.895    |
| Standard Error (ST Dev/√8)       |                    |      | 0.291548 |
| Margin of Error                  |                    |      | 0.552483 |
| 95% UCL (mean + Margin of Error) |                    |      | 2.902483 |
| 95% LCL (mean - Margin of Error) |                    |      | 1.797517 |
| GWPS (ug/L)                      |                    |      | 140      |
| Does 95% LCL Value exceed GWPS?  | If so, then SSL    |      | No       |



Times Series Graphs  
Marshall County Sanitary Landfill - AREA A  
64-SDP-06-92C

0.5 = Red text represent undetected values that are reported at one-half of the MRL

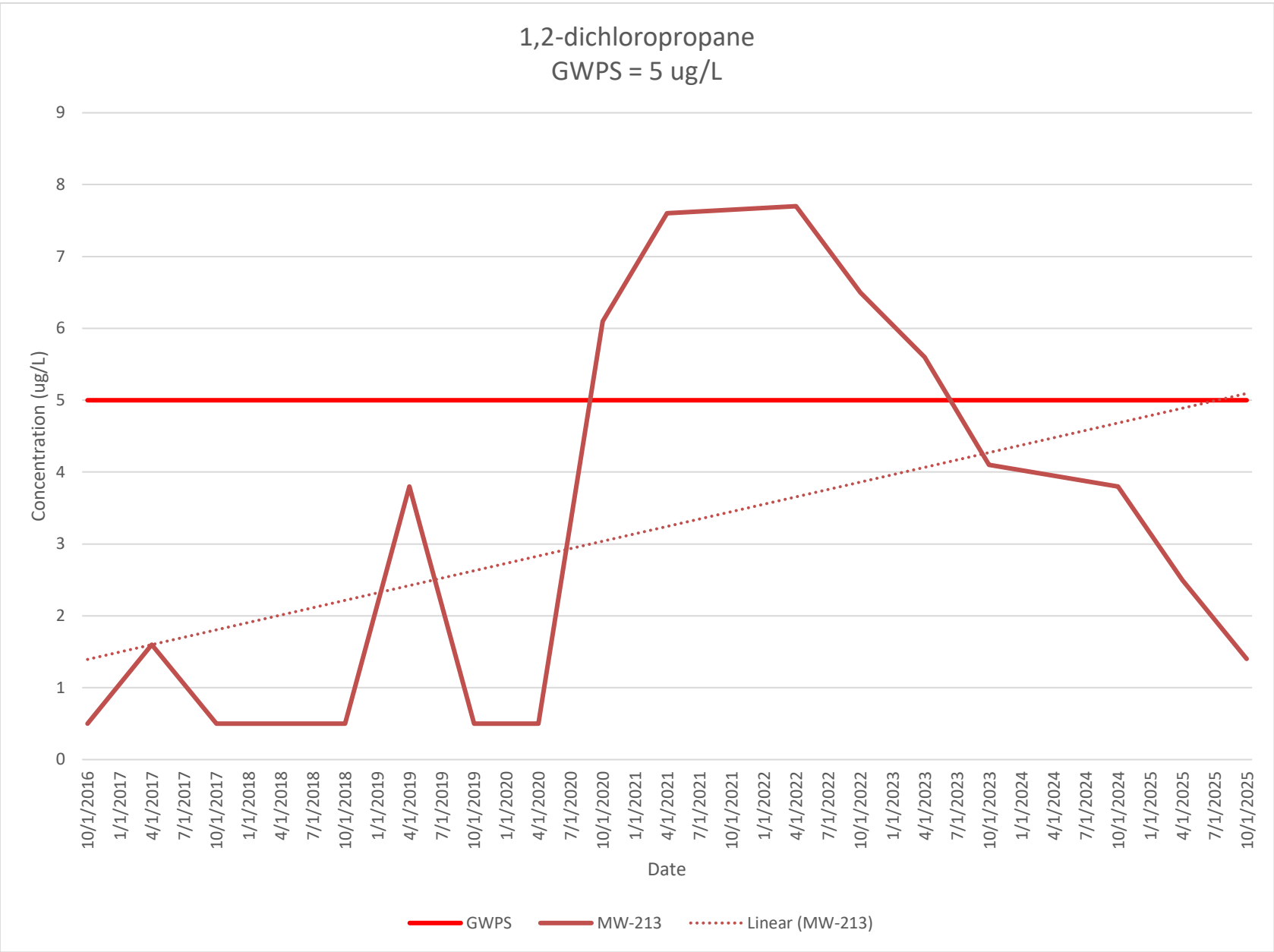
| Date                             | Compound (ug/L)        | GWPS | MW-213   |
|----------------------------------|------------------------|------|----------|
| 10/13/2016                       | cis-1,2-dichloroethene | 70   | 8.8      |
| 4/10/2017                        | cis-1,2-dichloroethene | 70   | 4.7      |
| 10/9/2017                        | cis-1,2-dichloroethene | 70   | 0.5      |
| 4/17/2018                        | cis-1,2-dichloroethene | 70   | 1.6      |
| 10/22/2018                       | cis-1,2-dichloroethene | 70   | 1.5      |
| 4/22/2019                        | cis-1,2-dichloroethene | 70   | 0.5      |
| 10/23/2019                       | cis-1,2-dichloroethene | 70   | 0.5      |
| 4/10/2020                        | cis-1,2-dichloroethene | 70   | 19.0     |
| 10/19/2020                       | cis-1,2-dichloroethene | 70   | 44.9     |
| 4/5/2021                         | cis-1,2-dichloroethene | 70   | 37.8     |
| 4/6/2022                         | cis-1,2-dichloroethene | 70   | 43.5     |
| 10/25/2022                       | cis-1,2-dichloroethene | 70   | 31.9     |
| 4/10/2023                        | cis-1,2-dichloroethene | 70   | 21.0     |
| 10/13/2023                       | cis-1,2-dichloroethene | 70   | 32.6     |
| 10/15/2024                       | cis-1,2-dichloroethene | 70   | 19.0     |
| 4/14/2025                        | cis-1,2-dichloroethene | 70   | 20.9     |
| 10/6/2025                        | cis-1,2-dichloroethene | 70   | 6.6      |
| Sample size = 8                  |                        |      | 8        |
| Mean value                       |                        |      | 26.7     |
| standard deviation               |                        |      | 11.16198 |
| 95% Confidence Z(0.95)           |                        |      | 1.895    |
| Standard Error (ST Dev/√8)       |                        |      | 3.946357 |
| Margin of Error                  |                        |      | 7.478346 |
| 95% UCL (mean + Margin of Error) |                        |      | 34.14085 |
| 95% LCL (mean - Margin of Error) |                        |      | 19.18415 |
| GWPS (ug/L)                      |                        |      | 70       |
| Does 95% LCL Value exceed GWPS?  | If so, then SSL        | No   |          |



Times Series Graphs  
Marshall County Sanitary Landfill - AREA A  
64-SDP-06-92C

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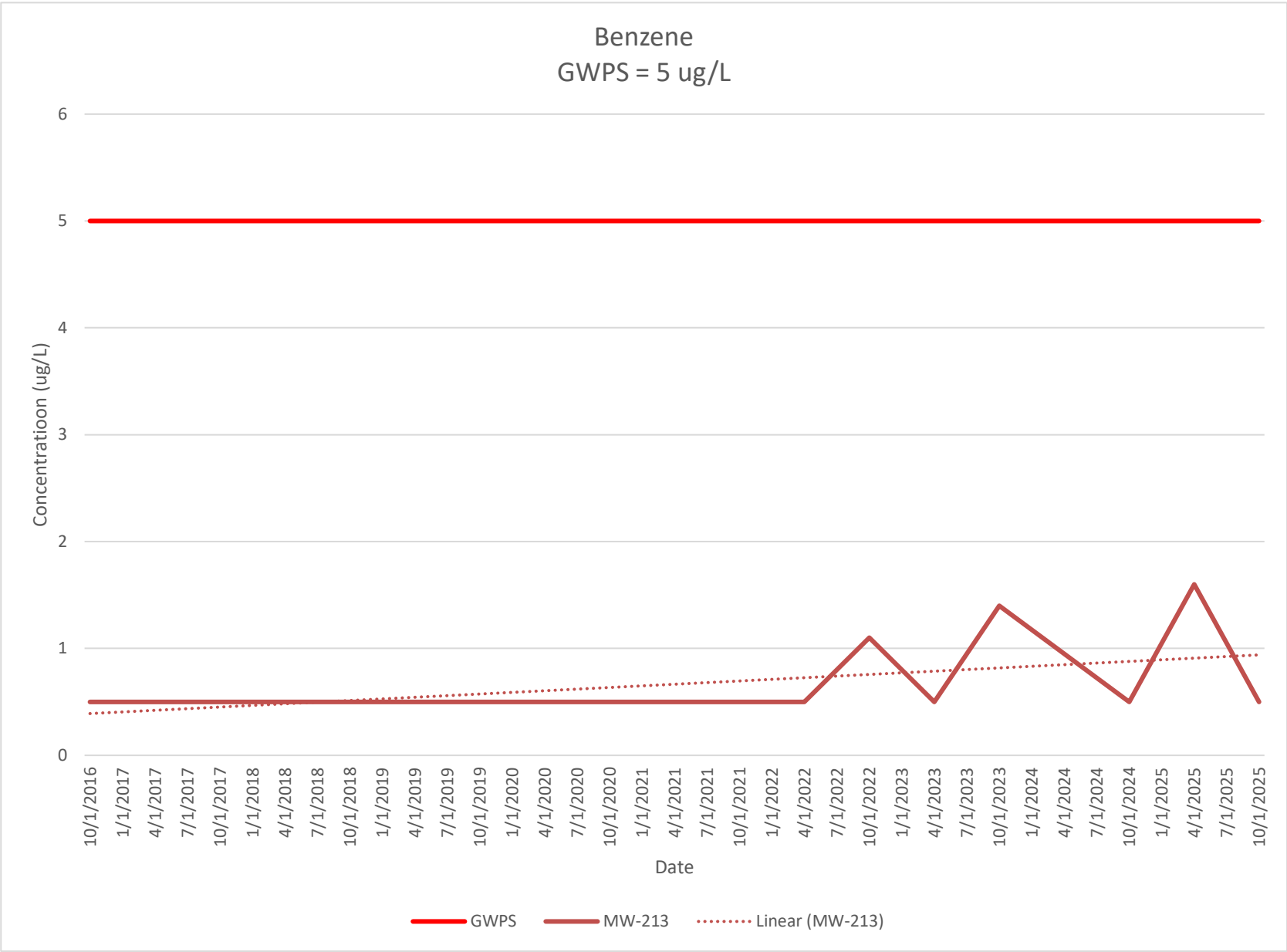
| Date                             | Compound (ug/L)     | GWPS | MW-213   |
|----------------------------------|---------------------|------|----------|
| 10/13/2016                       | 1,2-Dichloropropane | 5    | 0.5      |
| 4/10/2017                        | 1,2-Dichloropropane | 5    | 1.6      |
| 10/9/2017                        | 1,2-Dichloropropane | 5    | 0.5      |
| 4/17/2018                        | 1,2-Dichloropropane | 5    | 0.5      |
| 10/22/2018                       | 1,2-Dichloropropane | 5    | 0.5      |
| 4/22/2019                        | 1,2-Dichloropropane | 5    | 3.8      |
| 10/23/2019                       | 1,2-Dichloropropane | 5    | 0.5      |
| 4/10/2020                        | 1,2-Dichloropropane | 5    | 0.5      |
| 10/19/2020                       | 1,2-Dichloropropane | 5    | 6.1      |
| 4/5/2021                         | 1,2-Dichloropropane | 5    | 7.6      |
| 4/6/2022                         | 1,2-Dichloropropane | 5    | 7.7      |
| 10/25/2022                       | 1,2-Dichloropropane | 5    | 6.5      |
| 4/10/2023                        | 1,2-Dichloropropane | 5    | 5.6      |
| 10/13/2023                       | 1,2-Dichloropropane | 5    | 4.1      |
| 10/15/2024                       | 1,2-Dichloropropane | 5    | 3.8      |
| 4/14/2025                        | 1,2-Dichloropropane | 5    | 2.5      |
| 10/6/2025                        | 1,2-Dichloropropane | 5    | 1.4      |
| Sample size = 8                  |                     |      | 8        |
| Mean value                       |                     |      | 4.9      |
| standard deviation               |                     |      | 2.180596 |
| 95% Confidence Z(0.95)           |                     |      | 1.895    |
| Standard Error (ST Dev/√8)       |                     |      | 0.770957 |
| Margin of Error                  |                     |      | 1.460964 |
| 95% UCL (mean + Margin of Error) |                     |      | 6.360964 |
| 95% LCL (mean - Margin of Error) |                     |      | 3.439036 |
| GWPS (ug/L)                      |                     |      | 5.0      |
| Does 95% LCL Value exceed GWPS?  | If so, then SSL     |      | No       |



Times Series Graphs  
Marshall County Sanitary Landfill - AREA A  
64-SDP-06-92C

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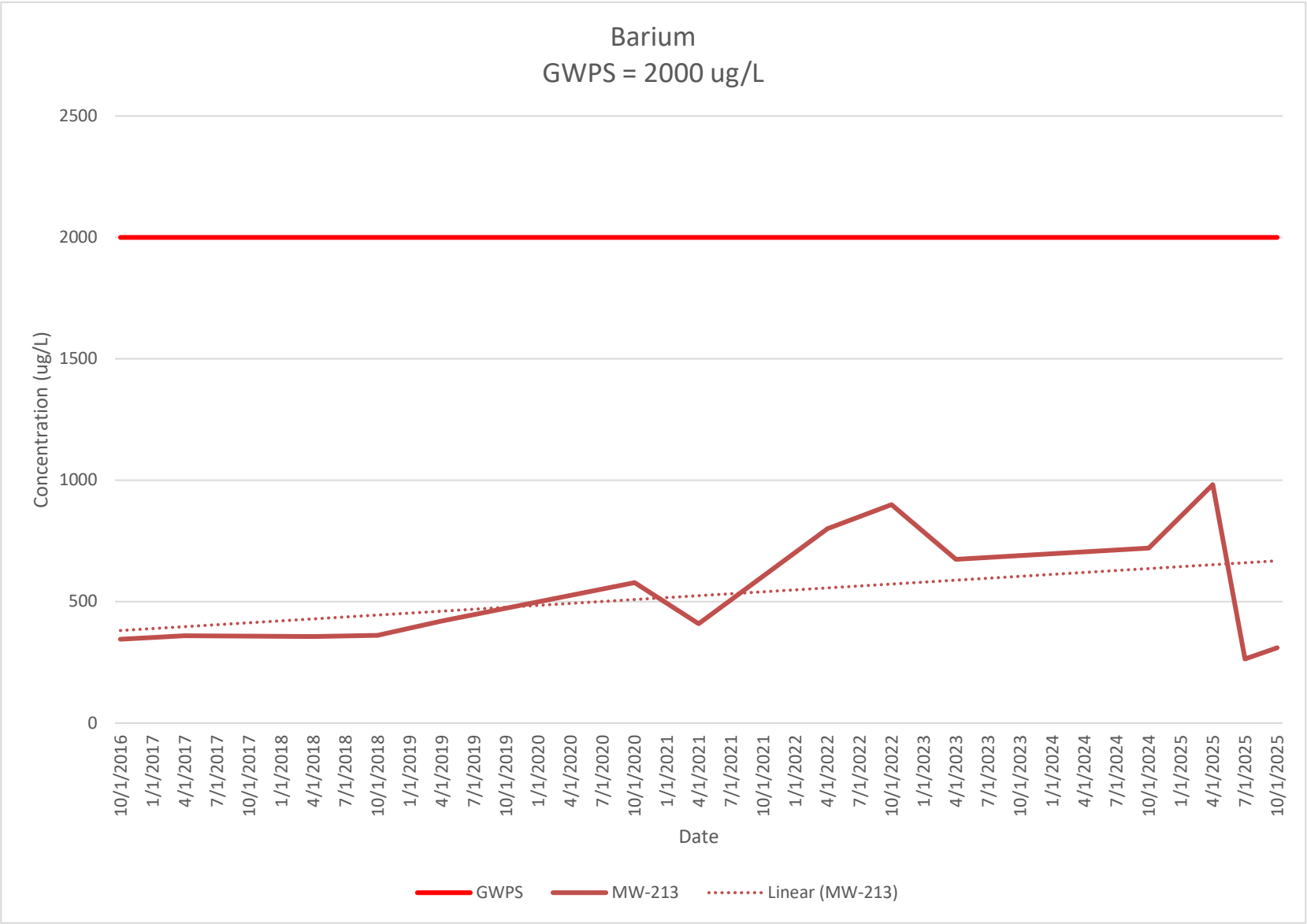
| Date                             | Compound (ug/L) | GWPS | MW-213   |
|----------------------------------|-----------------|------|----------|
| 10/13/2016                       | benzene         | 5    | 0.5      |
| 4/10/2017                        | benzene         | 5    | 0.5      |
| 10/9/2017                        | benzene         | 5    | 0.5      |
| 4/17/2018                        | benzene         | 5    | 0.5      |
| 10/22/2018                       | benzene         | 5    | 0.5      |
| 4/22/2019                        | benzene         | 5    | 0.5      |
| 10/23/2019                       | benzene         | 5    | 0.5      |
| 4/10/2020                        | benzene         | 5    | 0.5      |
| 10/19/2020                       | benzene         | 5    | 0.5      |
| 4/5/2021                         | benzene         | 5    | 0.5      |
| 4/6/2022                         | benzene         | 5    | 0.5      |
| 10/25/2022                       | benzene         | 5    | 1.1      |
| 4/10/2023                        | benzene         | 5    | 0.5      |
| 10/13/2023                       | benzene         | 5    | 1.4      |
| 10/15/2024                       | benzene         | 5    | 0.5      |
| 4/14/2025                        | benzene         | 5    | 1.6      |
| 10/6/2025                        | benzene         | 5    | 0.5      |
| Sample size = 8                  |                 |      | 8        |
| Mean value                       |                 |      | 0.825    |
| standard deviation               |                 |      | 0.438035 |
| 95% Confidence Z(0.95)           |                 |      | 1.895    |
| Standard Error (ST Dev/√8)       |                 |      | 0.154869 |
| Margin of Error                  |                 |      | 0.293477 |
| 95% UCL (mean + Margin of Error) |                 |      | 1.118477 |
| 95% LCL (mean - Margin of Error) |                 |      | 0.531523 |
| GWPS (ug/L)                      |                 |      | 5.0      |
| Does 95% LCL Value exceed GWPS?  | If so, then SSL |      | No       |



Times Series Graphs  
Marshall County Sanitary Landfill - **AREA A**  
64-SDP-06-92C

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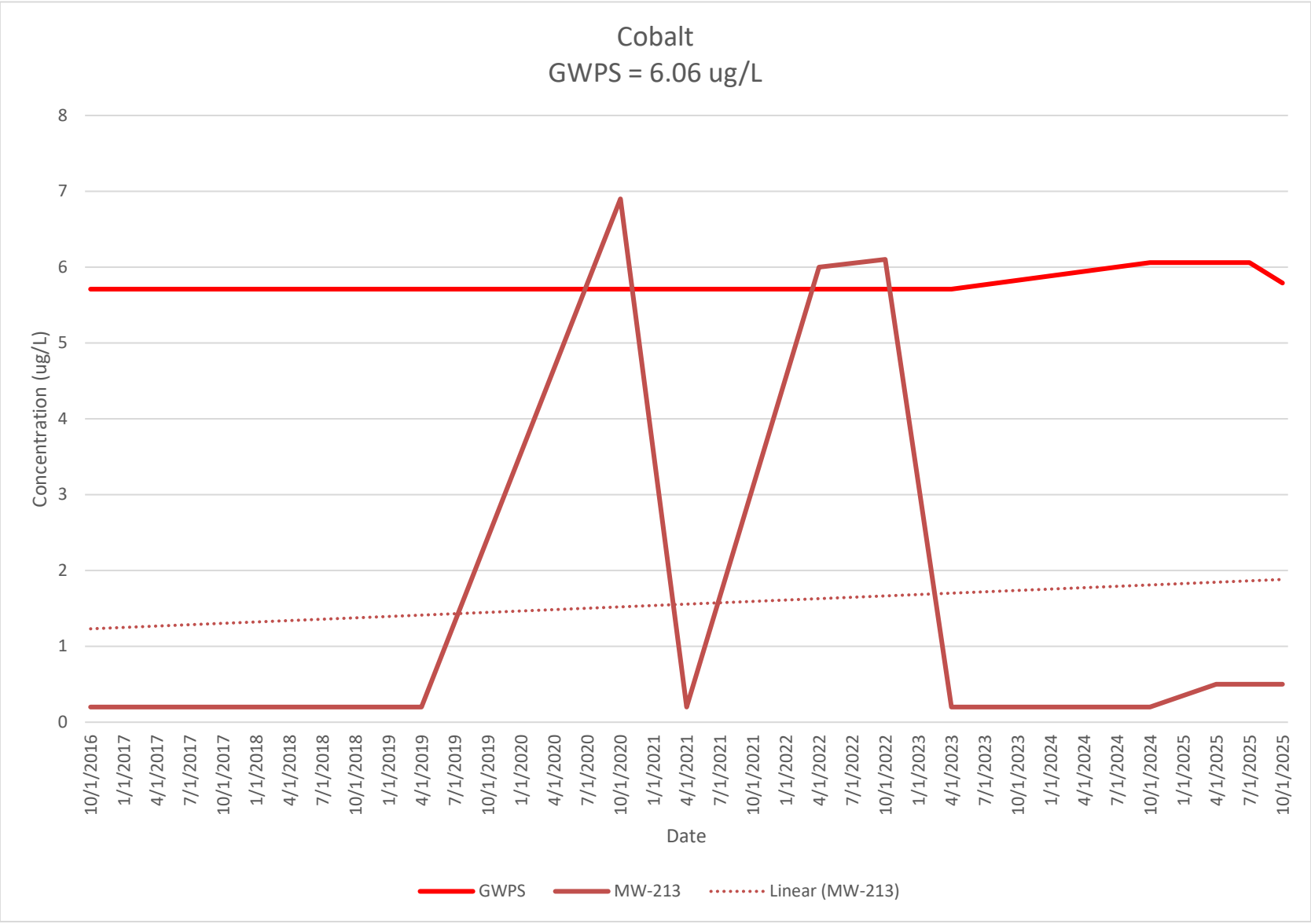
| Date                             | Compound (ug/L) | GWPS | MW-213   |
|----------------------------------|-----------------|------|----------|
| 10/13/2016                       | barium          | 2000 | 345      |
| 4/10/2017                        | barium          | 2000 | 360      |
| 4/17/2018                        | barium          | 2000 | 357      |
| 10/22/2018                       | barium          | 2000 | 362      |
| 4/22/2019                        | barium          | 2000 | 421      |
| 10/19/2020                       | barium          | 2000 | 578      |
| 4/5/2021                         | barium          | 2000 | 409      |
| 4/6/2022                         | barium          | 2000 | 800      |
| 10/25/2022                       | barium          | 2000 | 899      |
| 4/10/2023                        | barium          | 2000 | 674      |
| 10/15/2024                       | barium          | 2000 | 720      |
| 4/14/2025                        | barium          | 2000 | 982      |
| 7/15/2025                        | barium          | 2000 | 264      |
| 10/6/2025                        | barium          | 2000 | 310      |
| Sample size = 8                  |                 |      | 8        |
| Mean value                       |                 |      | 632.25   |
| standard deviation               |                 |      | 255.0386 |
| 95% Confidence Z(0.95)           |                 |      | 1.895    |
| Standard Error (ST Dev/√8)       |                 |      | 90.16976 |
| Margin of Error                  |                 |      | 170.8717 |
| 95% UCL (mean + Margin of Error) |                 |      | 803.1217 |
| 95% LCL (mean - Margin of Error) |                 |      | 461.3783 |
| GWPS (ug/L)                      |                 |      | 2000.0   |
| Does 95% LCL Value exceed GWPS?  | If so, then SSL |      | No       |



Times Series Graphs  
Marshall County Sanitary Landfill - **AREA A**  
64-SDP-06-92C

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| Date                             | Compound (ug/L) | GWPS | MW-213   |
|----------------------------------|-----------------|------|----------|
| 10/13/2016                       | cobalt          | 5.71 | 0.2      |
| 4/10/2017                        | cobalt          | 5.71 | 0.2      |
| 4/17/2018                        | cobalt          | 5.71 | 0.2      |
| 10/22/2018                       | cobalt          | 5.71 | 0.2      |
| 4/22/2019                        | cobalt          | 5.71 | 0.2      |
| 10/19/2020                       | cobalt          | 5.71 | 6.9      |
| 4/5/2021                         | cobalt          | 5.71 | 0.2      |
| 4/6/2022                         | cobalt          | 5.71 | 6.0      |
| 10/25/2022                       | cobalt          | 5.71 | 6.1      |
| 4/10/2023                        | cobalt          | 5.71 | 0.2      |
| 10/15/2024                       | cobalt          | 6.06 | 0.2      |
| 4/14/2025                        | cobalt          | 6.06 | 0.5      |
| 7/15/2025                        | cobalt          | 6.06 | 0.5      |
| 10/6/2025                        | cobalt          | 5.79 | 0.5      |
| Sample size = 8                  |                 |      | 8        |
| Mean value                       |                 |      | 1.775    |
| standard deviation               |                 |      | 2.471715 |
| 95% Confidence Z(0.95)           |                 |      | 1.895    |
| Standard Error (ST Dev/√8)       |                 |      | 0.873883 |
| Margin of Error                  |                 |      | 1.656009 |
| 95% UCL (mean + Margin of Error) |                 |      | 3.431009 |
| 95% LCL (mean - Margin of Error) |                 |      | 0.118991 |
| GWPS (ug/L)                      |                 |      | 5.79     |
| Does 95% LCL Value exceed GWPS?  | If so, then SSL |      | No       |



## **ATTACHMENT E**

### **Summary of Subsurface Characterization Parameters**

**Marshall County Sanitary Landfill - Area A**  
**64-SDP-06-92C**  
**Subsurface Conditions Assessment**

| <b>Date</b>      | <b>Monitoring Point</b> | <b>Temperature<br/>degrees C</b> | <b>Dissolved<br/>Oxygen<br/>%</b> | <b>Specific<br/>Conductance<br/>us/cm</b> | <b>pH</b> | <b>Oxidation-<br/>Reduction<br/>Potential</b> | <b>Dissolved<br/>Methane<br/>ug/L</b> | <b>Dissolved<br/>Ethane<br/>ug/L</b> | <b>Dissolved<br/>Ethene<br/>ug/L</b> |
|------------------|-------------------------|----------------------------------|-----------------------------------|-------------------------------------------|-----------|-----------------------------------------------|---------------------------------------|--------------------------------------|--------------------------------------|
| <b>4/14/2025</b> | <b>MW-213</b>           | ---                              | ---                               | ---                                       | ---       | ---                                           | <b>13.2</b>                           | <5                                   | <5                                   |
| <b>7/15/2025</b> | <b>MW-213</b>           | 12.5                             | 77                                | 939                                       | 6.76      | +88.7                                         | ---                                   | ---                                  | ---                                  |
| <b>10/6/2025</b> | <b>MW-213</b>           | ---                              | ---                               | ---                                       | ---       | ---                                           | <5                                    | <5                                   | <5                                   |