



**INVENTUM ENGINEERING**

# **Tank Management and Closure Construction Completion Report Tank No. ST24**

Riverview Innovation & Technology Campus  
Brownfield Cleanup Program Site No. C915353

3875 River Road  
Tonawanda, New York 14150

August 19, 2025

## 1. Facility Information Summary

| Facility Information               |                                                       |
|------------------------------------|-------------------------------------------------------|
| <b>Name of Facility:</b>           | Riverview Innovation & Technology Campus, Inc. (RITC) |
| <b>Address:</b>                    | 3875 River Road, Tonawanda, NY 14150                  |
| <b>County:</b>                     | Erie                                                  |
| <b>Waste Generator Status:</b>     | Large Quantity Generator                              |
| <b>EPA Identification Number:</b>  | NYD088413877                                          |
| <b>Site Operator:</b>              | Ontario Specialty Contracting (OSC)                   |
| <b>Operator Address:</b>           | 140 Lee Street, Buffalo, NY 14210                     |
| <b>RITC Project Manager:</b>       | Dan Flanigan                                          |
| <b>RITC Project Manager Email:</b> | dflanigan@oscinc.com                                  |
| <b>Engineering Consultant:</b>     | Inventum Engineering                                  |
| <b>Consultant Address:</b>         | 441 Carlisle Drive, Suite C, Herndon, VA 20170        |
| <b>Consultant Contact:</b>         | John Black, P.E.                                      |
| <b>Consultant Email:</b>           | John.Black@inventumeng.com                            |

## 2. Above Ground Storage Tank Information

|                                    |                                                                                                                                                                                                                                           |
|------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Tank No.:                          | ST24                                                                                                                                                                                                                                      |
| Grid Location:                     | M33 to N35                                                                                                                                                                                                                                |
| Location Notes:                    | ST24 was the easternmost tank in the Water Treatment Area in the southwest corner of the property.                                                                                                                                        |
| Date of Closure:                   | 5/26/2022                                                                                                                                                                                                                                 |
| Tank Dimensions:                   | Vertical Cylinder<br>45-foot diameter, 50-foot height (estimated)                                                                                                                                                                         |
| Storage Capacity:                  | 600,000 gallons                                                                                                                                                                                                                           |
| Tank Exterior Coating Description: | Uncoated steel, riveted plate construction, with a floating steel roof.                                                                                                                                                                   |
| Tank Piping Description:           | None                                                                                                                                                                                                                                      |
| Secondary Containment Description: | Earthen Berm.<br>At initial inspection in September 2021 berm was heavily vegetated and held 0.5- to- 1-foot of water.                                                                                                                    |
| Contents Description:              | ST24 was nearly empty. A thin layer of light amber “tea” colored water covered a layer of rust scale and fine grain brown to black sediments with an odor of possible organic matter typical in soils. No tar-like material was observed. |

### 3. AST Closure Procedure

|                                                    |                                                                                        |
|----------------------------------------------------|----------------------------------------------------------------------------------------|
| Contractor:                                        | OSC                                                                                    |
| Contractor Address:                                | 140 Lee Street, Buffalo, New York 14210                                                |
| Dates of Cleaning:                                 | 5/18/2022 – 5/26/2022                                                                  |
| Cleaning Method:                                   | The ST24 flooring was mechanically scraped, and the tank body was sheared in May 2022. |
| Disposition of tank shell and piping:              | Recycled                                                                               |
| Recycler or Disposal Facility Address:             | Niagara Metals<br>4861 Packard Rd, Niagara Falls, NY 14304                             |
| Contents Volume Disposed:                          | 5.5 tons of rust scale and soil.                                                       |
| Disposition of Contents & Hazardous Waste Code(s): | The contents were disposed as non-hazardous solid waste.                               |
| Disposal Facility Address:                         | Modern Landfill<br>1445 Pletcher Rd, Model City, NY 14107                              |
| Disposal Facility EPA No.:                         | NA                                                                                     |
| Hazardous Waste Transporter Name:                  | NA                                                                                     |
| Hazardous Waste Transporter EPA No.:               | NA                                                                                     |

## 4. Inspection Summary

|                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                      |
|---------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Tank closure inspection:                          | The flooring of ST24 was in poor condition with numerous rusted holes throughout. Once the tank base was fully visible from removal of the sidewalls it was apparent that the water layer previously observed inside the tank infiltrated from the secondary containment when it held water from precipitation. There was no water present inside the tank during dismantling, as the secondary containment was dry. |
| Evidence of Leaks and/or additional observations: | The 6-inches of bedding sand below the ST24 tank base exhibited grey staining, a degraded petroleum-like odor, and sheen where pockets of water accumulated on the sand. At the time of initial inspection on May 26, 2022, two test pit locations were advanced within the limits of the tank footprint. The 12-inches of silty clay below the sand was stained.                                                    |

## 5. CAMP Data

Air monitoring was performed in accordance with the Community Air Monitoring Plan (CAMP) for all dates that tank work was completed including sampling, contents removal, cleaning, decommissioning and disposal. Decommissioning includes ancillary pipe removal, shearing, torch cutting, and/or contents stabilization. Daily summary graphs of particulate and volatile organic compound (VOC) monitoring are provided in the AST CCR CAMP Appendix.

| Tank Work                  | Dates                 |
|----------------------------|-----------------------|
| Sampling                   | 9/10/2021             |
| Contents Removal           | 5/18/2022             |
| Cleaning & Decommissioning | 5/18/2022 – 5/26/2022 |
| Disposal                   | 5/10/2024             |

### Additional Notes:

The ST24 tank area has been subject to additional investigation and bioremediation documented under separate cover in the Remedial Action Work Plan (RAWP) Full-Scale Water Treatment Area Bioremediation (Inventum, October 2024).

## 6. Attachments

1. Attachment A – Analytical Tables of tank contents for disposal profiling.
2. Attachment B – Photographic Log includes original, color photographs of the closure process.
3. Attachment C – Waste Manifests.
4. Attachment D – Laboratory Reports.



## Engineering Certification

I, John P. Black, certify that I am currently a NYS registered professional engineer as defined in 6 NYCRR Part 375 and that this Tank Management and Closure Construction Completion Report was prepared in accordance with all applicable statutes and regulations and in substantial conformance with the DER Technical Guidance for Site Investigation and Remediation (DER-10) and DER Green Remediation (DER-31) and that all activities were performed in full accordance with the DER-approved work plan and any DER-approved modifications.

Respectfully Submitted,  
Inventum Engineering, P.C.



Date:

8.18.2025

License No:

062818-1

It is a violation of the laws of New York for any person, unless acting under the direction of a Licensed Professional Engineer, to alter any item or any portion of this document in any way. If an item bearing the seal of a Licensed Professional Engineer is altered, the altering Engineer shall affix to the item his/her seal and notation "altered by" followed by his/her signature and the date of such alternation, and a specific description of the alteration.



***INVENTUM ENGINEERING, PC***

## Attachment A – Analytical Tables



Table 1  
Tank Management & Closure CCR  
ST24 Analytical Results  
Riverview Innovation & Technology Campus, Inc.  
Town of Tonawanda, New York

| Analytes                                      | Sample ID:               |       | TK-SD-ST24-09102021               |   |
|-----------------------------------------------|--------------------------|-------|-----------------------------------|---|
|                                               | Sample Date:             |       | 9/10/2021                         |   |
|                                               | Lab Report Number(s):    |       | R2109414, R2109415                |   |
|                                               | Contents:                |       | Black and Brown Solid, Rust Scale |   |
|                                               | Hazardous Waste Code(s): |       | None                              |   |
|                                               | TCLP Standards (ug/L)    | Units | ST24 - Former Pentane Tank        |   |
| VOCs SW8260C                                  |                          |       |                                   |   |
| 1,1,1-Trichloroethane (TCA)                   |                          | ug/kg | <2.2                              | U |
| 1,1,2,2-Tetrachloroethane                     |                          | ug/kg | <4.8                              | U |
| 1,1,2-Trichloroethane                         |                          | ug/kg | <2.2                              | U |
| 1,1,2-Trichloro-1,2,2-Trifluoroethane         |                          | ug/kg | <2.2                              | U |
| 1,1-Dichloroethane                            |                          | ug/kg | <2.2                              | U |
| 1,1-Dichloroethene                            |                          | ug/kg | <3.2                              | U |
| 1,2,3-Trichlorobenzene                        |                          | ug/kg | <5.7                              | U |
| 1,2,4-Trichlorobenzene                        |                          | ug/kg | <4.6                              | U |
| 1,2-Dibromo-3-Chloropropane                   |                          | ug/kg | <8.1                              | U |
| 1,2-Dibromoethane (Ethylene Dibromide)        |                          | ug/kg | <2.2                              | U |
| 1,2-Dichlorobenzene                           |                          | ug/kg | <2.2                              | U |
| 1,2-Dichloroethane                            |                          | ug/kg | <2.2                              | U |
| 1,2-Dichloropropane                           |                          | ug/kg | <2.2                              | U |
| 1,3-Dichlorobenzene                           |                          | ug/kg | <2.2                              | U |
| 1,4-Dichlorobenzene                           |                          | ug/kg | <2.4                              | U |
| 1,4-Dioxane (P-Dioxane)                       |                          | ug/kg | <220                              | U |
| Methyl Ethyl Ketone (2-Butanone)              |                          | ug/kg | 240                               |   |
| 2-Hexanone                                    |                          | ug/kg | 96                                |   |
| Methyl Isobutyl Ketone (4-Methyl-2-Pentanone) |                          | ug/kg | 19                                | J |
| Acetone                                       |                          | ug/kg | 1700                              |   |
| Benzene                                       |                          | ug/kg | 1500                              |   |
| Bromochloromethane                            |                          | ug/kg | <2.2                              | U |
| Bromodichloromethane                          |                          | ug/kg | <2.2                              | U |
| Bromoform                                     |                          | ug/kg | <5.4                              | U |
| Bromomethane                                  |                          | ug/kg | <23                               | U |
| Carbon Disulfide                              |                          | ug/kg | 130                               |   |
| Carbon Tetrachloride                          |                          | ug/kg | <2.9                              | U |
| Chlorobenzene                                 |                          | ug/kg | <2.2                              | U |
| Chloroethane                                  |                          | ug/kg | <4.5                              | U |
| Chloroform                                    |                          | ug/kg | <2.2                              | U |
| Chloromethane                                 |                          | ug/kg | <16                               | U |
| Cyclohexane                                   |                          | ug/kg | <2.9                              | U |
| Dibromochloromethane                          |                          | ug/kg | <2.2                              | U |
| Dichlorodifluoromethane                       |                          | ug/kg | <3.6                              | U |
| Methylene Chloride                            |                          | ug/kg | <31                               | U |
| Ethylbenzene                                  |                          | ug/kg | 16                                | J |
| Isopropylbenzene (Cumene)                     |                          | ug/kg | <2.2                              | U |
| Methyl Acetate                                |                          | ug/kg | 15                                | J |
| Tert-Butyl Methyl Ether                       |                          | ug/kg | <2.2                              | U |
| Methylcyclohexane                             |                          | ug/kg | <3.4                              | U |
| Styrene                                       |                          | ug/kg | <2.2                              | U |



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| Analytes                       | Sample ID:               |       | TK-SD-ST24-09102021               |   |
|--------------------------------|--------------------------|-------|-----------------------------------|---|
|                                | Sample Date:             |       | 9/10/2021                         |   |
|                                | Lab Report Number(s):    |       | R2109414, R2109415                |   |
|                                | Contents:                |       | Black and Brown Solid, Rust Scale |   |
|                                | Hazardous Waste Code(s): |       | None                              |   |
|                                | TCLP Standards (ug/L)    | Units | ST24 - Former Pentane Tank        |   |
| Tetrachloroethylene (PCE)      |                          | ug/kg | <2.5                              | U |
| Toluene                        |                          | ug/kg | 74                                |   |
| Trichloroethylene (TCE)        |                          | ug/kg | <2.4                              | U |
| Trichlorofluoromethane         |                          | ug/kg | <2.9                              | U |
| Vinyl Chloride                 |                          | ug/kg | <5.0                              | U |
| Cis-1,2-Dichloroethylene       |                          | ug/kg | <2.2                              | U |
| Cis-1,3-Dichloropropene        |                          | ug/kg | <2.2                              | U |
| m,p-Xylene                     |                          | ug/kg | 61                                | J |
| O-Xylene (1,2-Dimethylbenzene) |                          | ug/kg | 18                                | J |
| Trans-1,2-Dichloroethene       |                          | ug/kg | <2.2                              | U |
| Trans-1,3-Dichloropropene      |                          | ug/kg | <2.2                              | U |
| <b>SVOCs SW8270D</b>           |                          |       |                                   |   |
| 1,2,4,5-Tetrachlorobenzene     |                          | ug/kg | <270                              | U |
| 2,3,4,6-Tetrachlorophenol      |                          | ug/kg | <410                              | U |
| 2,4,5-Trichlorophenol          |                          | ug/kg | <300                              | U |
| 2,4,6-Trichlorophenol          |                          | ug/kg | <270                              | U |
| 2,4-Dichlorophenol             |                          | ug/kg | <230                              | U |
| 2,4-Dimethylphenol             |                          | ug/kg | <220                              | U |
| 2,4-Dinitrophenol              |                          | ug/kg | <2000                             | U |
| 2,4-Dinitrotoluene             |                          | ug/kg | <460                              | U |
| 2,6-Dinitrotoluene             |                          | ug/kg | <260                              | U |
| 2-Chloronaphthalene            |                          | ug/kg | <240                              | U |
| 2-Chlorophenol                 |                          | ug/kg | <200                              | U |
| 2-Methylnaphthalene            |                          | ug/kg | 250                               | J |
| 2-Methylphenol (O-Cresol)      |                          | ug/kg | <250                              | U |
| 2-Nitroaniline                 |                          | ug/kg | <280                              | U |
| 2-Nitrophenol                  |                          | ug/kg | <280                              | U |
| 3,3'-Dichlorobenzidine         |                          | ug/kg | <140                              | U |
| Cresols, M & P                 |                          | ug/kg | <230                              | U |
| 3-Nitroaniline                 |                          | ug/kg | <240                              | U |
| 4,6-Dinitro-2-Methylphenol     |                          | ug/kg | <670                              | U |
| 4-Bromophenyl Phenyl Ether     |                          | ug/kg | <310                              | U |
| 4-Chloro-3-Methylphenol        |                          | ug/kg | <240                              | U |
| 4-Chloroaniline                |                          | ug/kg | <200                              | U |
| 4-Chlorophenyl Phenyl Ether    |                          | ug/kg | <260                              | U |
| 4-Nitroaniline                 |                          | ug/kg | <120                              | U |
| 4-Nitrophenol                  |                          | ug/kg | <240                              | U |
| Acenaphthene                   |                          | ug/kg | 240                               | J |
| Acenaphthylene                 |                          | ug/kg | <240                              | U |
| Acetophenone                   |                          | ug/kg | <340                              | U |
| Anthracene                     |                          | ug/kg | <200                              | U |



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|                                                | Sample Date:             |       | 9/10/2021                         |   |
|                                                | Lab Report Number(s):    |       | R2109414, R2109415                |   |
|                                                | Contents:                |       | Black and Brown Solid, Rust Scale |   |
|                                                | Hazardous Waste Code(s): |       | None                              |   |
|                                                | TCLP Standards (ug/L)    | Units | ST24 - Former Pentane Tank        |   |
| Atrazine                                       |                          | ug/kg | <170                              | U |
| Benzo(A)Anthracene                             |                          | ug/kg | 2600                              | J |
| Benzaldehyde                                   |                          | ug/kg | <290                              | U |
| Benzo(A)Pyrene                                 |                          | ug/kg | 5200                              |   |
| Benzo(B)Fluoranthene                           |                          | ug/kg | 4900                              |   |
| Benzo(G,H,I)Perylene                           |                          | ug/kg | 4000                              | J |
| Benzo(K)Fluoranthene                           |                          | ug/kg | 1800                              | J |
| Biphenyl (Diphenyl)                            |                          | ug/kg | <350                              | U |
| Bis(2-Chloroisopropyl) Ether                   |                          | ug/kg | <250                              | U |
| Bis(2-Chloroethoxy) Methane                    |                          | ug/kg | <290                              | U |
| Bis(2-Chloroethyl) Ether (2-Chloroethyl Ether) |                          | ug/kg | <240                              | U |
| Bis(2-Ethylhexyl) Phthalate                    |                          | ug/kg | <220                              | U |
| Benzyl Butyl Phthalate                         |                          | ug/kg | <150                              | U |
| Caprolactam                                    |                          | ug/kg | <260                              | U |
| Carbazole                                      |                          | ug/kg | <200                              | U |
| Chrysene                                       |                          | ug/kg | 2900                              | J |
| Di-N-Butyl Phthalate                           |                          | ug/kg | <200                              | U |
| Di-N-Octylphthalate                            |                          | ug/kg | <420                              | U |
| Dibenz(A,H)Anthracene                          |                          | ug/kg | <260                              | U |
| Dibenzofuran                                   |                          | ug/kg | <220                              | U |
| Diethyl Phthalate                              |                          | ug/kg | <210                              | U |
| Dimethyl Phthalate                             |                          | ug/kg | <230                              | U |
| Fluoranthene                                   |                          | ug/kg | 4200                              | J |
| Fluorene                                       |                          | ug/kg | <230                              | U |
| Hexachlorobenzene                              |                          | ug/kg | <290                              | U |
| Hexachlorobutadiene                            |                          | ug/kg | <210                              | U |
| Hexachlorocyclopentadiene                      |                          | ug/kg | <380                              | U |
| Hexachloroethane                               |                          | ug/kg | <230                              | U |
| Indeno(1,2,3-C,D)Pyrene                        |                          | ug/kg | 4000                              | J |
| Isophorone                                     |                          | ug/kg | <250                              | U |
| N-Nitrosodi-N-Propylamine                      |                          | ug/kg | <370                              | U |
| N-Nitrosodiphenylamine                         |                          | ug/kg | <740                              | U |
| Naphthalene                                    |                          | ug/kg | 450                               | J |
| Nitrobenzene                                   |                          | ug/kg | <210                              | U |
| Pentachlorophenol                              |                          | ug/kg | <1200                             | U |
| Phenanthrene                                   |                          | ug/kg | 2400                              | J |
| Phenol                                         |                          | ug/kg | <240                              | U |
| Pyrene                                         |                          | ug/kg | 4100                              | J |
|                                                |                          |       |                                   |   |
| <b>TAL Metals SW6010</b>                       |                          |       |                                   |   |
| Aluminum                                       |                          | mg/kg | 4000                              |   |
| Antimony                                       |                          | mg/kg | <12.7                             | U |



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|                          | Contents:                |       | Black and Brown Solid, Rust Scale |    |
|                          | Hazardous Waste Code(s): |       | None                              |    |
|                          | TCLP Standards (ug/L)    | Units | ST24 - Former Pentane Tank        |    |
| Arsenic                  |                          | mg/kg | 31.5                              |    |
| Barium                   |                          | mg/kg | 57.7                              |    |
| Beryllium                |                          | mg/kg | 0.169                             | J  |
| Boron (RSI*)             |                          | mg/kg | 158                               |    |
| Cadmium                  |                          | mg/kg | 4.2                               |    |
| Calcium                  |                          | mg/kg | 2410                              |    |
| Chromium, Total          |                          | mg/kg | 63.4                              |    |
| Cobalt                   |                          | mg/kg | 4.0                               | J  |
| Copper                   |                          | mg/kg | 101                               |    |
| Iron                     |                          | mg/kg | 338000                            |    |
| Lead                     |                          | mg/kg | 668                               |    |
| Magnesium                |                          | mg/kg | 1160                              |    |
| Manganese                |                          | mg/kg | 1190                              |    |
| Molybdenum (RSI*)        |                          | mg/kg | 12.0                              |    |
| Nickel                   |                          | mg/kg | 37.2                              |    |
| Potassium                |                          | mg/kg | 846                               |    |
| Selenium                 |                          | mg/kg | 6.2                               |    |
| Silver                   |                          | mg/kg | 0.233                             | J  |
| Sodium                   |                          | mg/kg | 47.4                              | J  |
| Sulfur (RSI, 6020A)      |                          | mg/kg | 6870                              | C  |
| Thallium                 |                          | mg/kg | <21.2                             | U  |
| Tin (RSI*)               |                          | mg/kg | 15.1                              | J  |
| Uranium (RSI*)           |                          | mg/kg | <1.4                              | UC |
| Vanadium                 |                          | mg/kg | 18.1                              |    |
| Zinc                     |                          | mg/kg | 64.1                              |    |
|                          |                          |       |                                   |    |
| <b>Mercury SW7471</b>    |                          |       |                                   |    |
| Mercury                  |                          | mg/kg | 0.038                             | J  |
|                          |                          |       |                                   |    |
| <b>Ammonia E350.1M</b>   |                          |       |                                   |    |
| Nitrogen, Ammonia (As N) |                          | mg/kg | 13                                |    |
|                          |                          |       |                                   |    |



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|                                         | Lab Report Number(s):    |       | R2109414, R2109415                |   |
|                                         | Contents:                |       | Black and Brown Solid, Rust Scale |   |
|                                         | Hazardous Waste Code(s): |       | None                              |   |
|                                         | TCLP Standards (ug/L)    | Units | ST24 - Former Pentane Tank        |   |
| Cyanide SW9012B                         |                          |       |                                   |   |
| Cyanide                                 |                          | mg/kg | 0.89                              |   |
|                                         |                          |       |                                   |   |
| PCBs 8082A                              |                          |       |                                   |   |
| PCB-1016 (Aroclor 1016)                 |                          | ug/kg | <360                              | U |
| PCB-1221 (Aroclor 1221)                 |                          | ug/kg | <540                              | U |
| PCB-1232 (Aroclor 1232)                 |                          | ug/kg | <400                              | U |
| PCB-1242 (Aroclor 1242)                 |                          | ug/kg | <360                              | U |
| PCB-1248 (Aroclor 1248)                 |                          | ug/kg | <380                              | U |
| PCB-1254 (Aroclor 1254)                 |                          | ug/kg | <360                              | U |
| PCB-1260 (Aroclor 1260)                 |                          | ug/kg | <360                              | U |
|                                         |                          |       |                                   |   |
| Pesticides 8081B                        |                          |       |                                   |   |
| P,P'-DDD                                |                          | ug/kg | <180                              | U |
| P,P'-DDE                                |                          | ug/kg | <180                              | U |
| P,P'-DDT                                |                          | ug/kg | <180                              | U |
| Aldrin                                  |                          | ug/kg | <180                              | U |
| Dieldrin                                |                          | ug/kg | <180                              | U |
| Alpha Endosulfan                        |                          | ug/kg | <180                              | U |
| Beta Endosulfan                         |                          | ug/kg | <180                              | U |
| Endosulfan Sulfate                      |                          | ug/kg | <180                              | U |
| Endrin                                  |                          | ug/kg | <180                              | U |
| Endrin Aldehyde                         |                          | ug/kg | <180                              | U |
| Endrin Ketone                           |                          | ug/kg | <180                              | U |
| Heptachlor                              |                          | ug/kg | <180                              | U |
| Heptachlor Epoxide                      |                          | ug/kg | <180                              | U |
| Methoxychlor                            |                          | ug/kg | <180                              | U |
| Toxaphene                               |                          | ug/kg | <4000                             | U |
| Alpha Bhc (Alpha Hexachlorocyclohexane) |                          | ug/kg | <180                              | U |
| cis-Chlordane                           |                          | ug/kg | <180                              | U |
| Beta Bhc (Beta Hexachlorocyclohexane)   |                          | ug/kg | <180                              | U |
| Delta BHC (Delta Hexachlorocyclohexane) |                          | ug/kg | <180                              | U |
| Gamma Bhc (Lindane)                     |                          | ug/kg | <180                              | U |
| Chlordane (Technical)                   |                          | ug/kg | <180                              | U |
|                                         |                          |       |                                   |   |



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Town of Tonawanda, New York

| Analytes                               | Sample ID:               |       | TK-SD-ST24-09102021               |   |  |
|----------------------------------------|--------------------------|-------|-----------------------------------|---|--|
|                                        | Sample Date:             |       | 9/10/2021                         |   |  |
|                                        | Lab Report Number(s):    |       | R2109414, R2109415                |   |  |
|                                        | Contents:                |       | Black and Brown Solid, Rust Scale |   |  |
|                                        | Hazardous Waste Code(s): |       | None                              |   |  |
|                                        | TCLP Standards (ug/L)    | Units | ST24 - Former Pentane Tank        |   |  |
| Herbicides SW8151A                     |                          |       |                                   |   |  |
| Acetic acid, (2,4,5-trichlorophenoxy)- |                          | ug/kg | <15                               | U |  |
| Silvex (2,4,5-TP)                      |                          | ug/kg | <14                               | U |  |
| 2,4-D (Dichlorophenoxyacetic Acid)     |                          | ug/kg | <20                               | U |  |
| Dicamba                                |                          | ug/kg | <9.3                              | U |  |
|                                        |                          |       |                                   |   |  |
| TCLP VOCs - SW8260C                    |                          |       |                                   |   |  |
| 1,2-Dichloroethane                     | 500                      | ug/l  | <50                               | U |  |
| Chlorobenzene                          | 100,000                  | ug/l  | <50                               | U |  |
| Tetrachloroethylene (PCE)              | 700                      | ug/l  | <50                               | U |  |
| Carbon Tetrachloride                   | 500                      | ug/l  | <50                               | U |  |
| Chloroform                             | 6,000                    | ug/l  | <50                               | U |  |
| Benzene                                | 500                      | ug/l  | <50                               | U |  |
| Vinyl Chloride                         | 200                      | ug/l  | <50                               | U |  |
| 1,1-Dichloroethene                     | 700                      | ug/l  | <50                               | U |  |
| Methyl Ethyl Ketone (2-Butanone)       | 200,000                  | ug/l  | <100                              | U |  |
| Trichloroethylene (TCE)                | 500                      | ug/l  | <50                               | U |  |
|                                        |                          |       |                                   |   |  |
| TCLP SVOCs - SW8270D                   |                          |       |                                   |   |  |
| 1,4-Dichlorobenzene                    | 7,500                    | ug/l  | <100                              | U |  |
| 2,4,5-Trichlorophenol                  | 400,000                  | ug/l  | <100                              | U |  |
| 2,4,6-Trichlorophenol                  | 2,000                    | ug/l  | <100                              | U |  |
| 2,4-Dinitrotoluene                     | 130                      | ug/l  | <100                              | U |  |
| 2-Methylphenol (O-Cresol)              | 200,000                  | ug/l  | <100                              | U |  |
| Cresols, M & P                         | 200,000                  | ug/l  | <100                              | U |  |
| Cresols (as m,p,o-Cresol)              | -                        | ug/l  | NS                                |   |  |
| Hexachlorobenzene                      | 130                      | ug/l  | <100                              | U |  |
| Hexachlorobutadiene                    | 500                      | ug/l  | <100                              | U |  |
| Hexachloroethane                       | 3,000                    | ug/l  | <100                              | U |  |
| Nitrobenzene                           | 2,000                    | ug/l  | <100                              | U |  |
| Pentachlorophenol                      | 100,000                  | ug/l  | <500                              | U |  |
| Pyridine                               | 5,000                    | ug/l  | <500                              | U |  |
|                                        |                          |       |                                   |   |  |
| TCLP Metals - SW6010                   |                          |       |                                   |   |  |
| Arsenic                                | 5,000                    | ug/l  | <500                              | U |  |
| Barium                                 | 100,000                  | ug/l  | <1000                             | U |  |
| Cadmium                                | 1,000                    | ug/l  | <100                              | U |  |
| Chromium, Total                        | 5,000                    | ug/l  | <100                              | U |  |
| Lead                                   | 5,000                    | ug/l  | <100                              | U |  |
| Selenium                               | 1,000                    | ug/l  | <500                              | U |  |
| Silver                                 | 5,000                    | ug/l  | <100                              | U |  |
|                                        |                          |       |                                   |   |  |



Table 1  
Tank Management & Closure CCR  
ST24 Analytical Results  
Riverview Innovation & Technology Campus, Inc.  
Town of Tonawanda, New York

|                                    |                          |          |                                   |    |
|------------------------------------|--------------------------|----------|-----------------------------------|----|
| Analytes                           | Sample ID:               |          | TK-SD-ST24-09102021               |    |
|                                    | Sample Date:             |          | 9/10/2021                         |    |
|                                    | Lab Report Number(s):    |          | R2109414, R2109415                |    |
|                                    | Contents:                |          | Black and Brown Solid, Rust Scale |    |
|                                    | Hazardous Waste Code(s): |          | None                              |    |
|                                    | TCLP Standards (ug/L)    | Units    | ST24 - Former Pentane Tank        |    |
| TCLP Mercury- SW7470               |                          |          |                                   |    |
| Mercury                            | 200                      | ug/l     | <0.200                            | U  |
| TCLP Pesticides - 8081B            |                          |          |                                   |    |
| Chlordane                          | 30                       | ug/l     | <2.5                              | U  |
| Endrin                             | 20                       | ug/l     | <0.50                             | U  |
| Gamma Bhc (Lindane)                | 400                      | ug/l     | <0.50                             | U  |
| Heptachlor                         | 8                        | ug/l     | <0.50                             | U  |
| Heptachlor Epoxide                 | 8                        | ug/l     | <0.50                             | U  |
| Methoxychlor                       | 10,000                   | ug/l     | <0.50                             | U  |
| Toxaphene                          | 500                      | ug/l     | <5.0                              | U  |
| TCLP Herbicides- SW8151A           |                          |          |                                   |    |
| 2,4-D (Dichlorophenoxyacetic Acid) | 10,000                   | ug/l     | <5.0                              | U  |
| Silvex (2,4,5-TP)                  | 1,000                    | ug/l     | <5.0                              | U  |
| SW9045D                            |                          |          |                                   |    |
| pH                                 | <2, >=12.5               | ph units | 6.61                              |    |
| Ignitability 1010MOD               |                          |          |                                   |    |
| Ignitability                       |                          | deg f    | Not Ignitable                     |    |
| SW1010                             |                          |          |                                   |    |
| Flash Point                        | <140                     | deg f    | Did not flash                     |    |
| Reactive Cyanide SW7.3.3.2         |                          |          |                                   |    |
| Reactive Cyanide                   |                          | mg/kg    | <0.011                            | UC |
| Reactive Sulfide SW7.3.4.2         |                          |          |                                   |    |
| Reactive Sulfide                   |                          | mg/kg    | 8.4                               | C  |
| Total Solids A2540G                |                          |          |                                   |    |
| Moisture, Percent                  |                          | %        | 47.6                              |    |
| Total Solids                       |                          | %        | 52.4                              |    |



Table 1  
Tank Management & Closure CCR  
ST24 Analytical Results  
Riverview Innovation & Technology Campus, Inc.  
Town of Tonawanda, New York

|                                                                                                                           |                          |        |                                   |  |
|---------------------------------------------------------------------------------------------------------------------------|--------------------------|--------|-----------------------------------|--|
| Analytes                                                                                                                  | Sample ID:               |        | TK-SD-ST24-09102021               |  |
|                                                                                                                           | Sample Date:             |        | 9/10/2021                         |  |
|                                                                                                                           | Lab Report Number(s):    |        | R2109414, R2109415                |  |
|                                                                                                                           | Contents:                |        | Black and Brown Solid, Rust Scale |  |
|                                                                                                                           | Hazardous Waste Code(s): |        | None                              |  |
|                                                                                                                           | TCLP Standards (ug/L)    | Units  | ST24 - Former Pentane Tank        |  |
| BTU/Higher Heat Value                                                                                                     |                          |        |                                   |  |
| BTU                                                                                                                       |                          | BTU/lb | 1607                              |  |
|                                                                                                                           |                          |        |                                   |  |
| Notes:                                                                                                                    |                          |        |                                   |  |
| NS: Not Sampled                                                                                                           |                          |        |                                   |  |
| NA: Sample collected, but not analyzed due to matrix interference                                                         |                          |        |                                   |  |
| "<": Analyzed for but detected at or above the quantitation limit                                                         |                          |        |                                   |  |
| J: Analyte detected below quantitation limit                                                                              |                          |        |                                   |  |
| C: Continuing Calibration Verification (CCV) below acceptable limits                                                      |                          |        |                                   |  |
| S: Lab Control Sample (LCS) Spike recovery is below acceptable limits                                                     |                          |        |                                   |  |
| P: Concentration >40% difference between the two GC columns.                                                              |                          |        |                                   |  |
| L: Laboratory Control Sample recovery outside accepted QC limits.                                                         |                          |        |                                   |  |
| D: Concentration is a result of a dilution, typically a secondary analysis of the sample due to exceeding the calibration |                          |        |                                   |  |
| (RSI)*: Additional metals analytes requested by disposal facility RSI                                                     |                          |        |                                   |  |
| Bold: Analyte was detected                                                                                                |                          |        |                                   |  |
| Bold with red highlight: Analyte exceeds TCLP standards or is characteristically hazardous for corrosivity, flammability  |                          |        |                                   |  |



***INVENTUM ENGINEERING, PC***

## Attachment B – Photographic Log

|                                                                                                                                                                                                   |                                                                                      |                         |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|-------------------------|
| <b>Client Name:</b><br>RITC                                                                                                                                                                       | <b>Date Photo was Taken:</b><br>9/17/2021                                            | <b>Project:</b><br>RITC |
| <b>Photo No. 1</b>                                                                                                                                                                                |    |                         |
| <b>Direction Photo Taken:</b><br><br>View is aerial.                                                                                                                                              |                                                                                      |                         |
| <b>Description:</b><br><br>ST24 was a former pentane tank located near the water treatment tanks on the southern property boundary. It was the eastern-most tank in the area, outlined in yellow. |                                                                                      |                         |
| <b>Client Name:</b><br>RITC                                                                                                                                                                       | <b>Date Photo was Taken:</b><br>9/9/2021                                             | <b>Project:</b><br>RITC |
| <b>Photo No. 2</b>                                                                                                                                                                                |  |                         |
| <b>Direction Photo Taken:</b><br><br>View is south.                                                                                                                                               |                                                                                      |                         |
| <b>Description:</b><br><br>The northern face of ST24. The tank was constructed of riveted steel and surrounded by dense vegetation.                                                               |                                                                                      |                         |



|                                                                                                                                                                          |                                                                                      |                         |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|-------------------------|
| <b>Client Name:</b><br>RITC                                                                                                                                              | <b>Date Photo was Taken:</b><br>9/29/2021                                            | <b>Project:</b><br>RITC |
| <b>Photo No. 3</b><br><b>Direction Photo Taken:</b><br><br>View is aerial.                                                                                               |    |                         |
| <b>Description:</b><br><br>The earthen berm secondary containment is cleared of vegetation. ST24 has a secondary containment independent of the ST21 – ST23 containment. |                                                                                      |                         |
| <b>Client Name:</b><br>RITC                                                                                                                                              | <b>Date Photo was Taken:</b><br>5/18/2022                                            | <b>Project:</b><br>RITC |
| <b>Photo No. 4</b><br><b>Direction Photo Taken:</b><br><br>View is southwest.                                                                                            |  |                         |
| <b>Description:</b><br><br>ST24 is dismantled.                                                                                                                           |                                                                                      |                         |



|                                                                                                          |                                                                                      |                         |
|----------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|-------------------------|
| <b>Client Name:</b><br>RITC                                                                              | <b>Date Photo was Taken:</b><br>5/18/2022                                            | <b>Project:</b><br>RITC |
| <b>Photo No. 5</b>                                                                                       |    |                         |
| <b>Direction Photo Taken:</b><br><br>View is southeast.                                                  |                                                                                      |                         |
| <b>Description:</b><br><br>ST24 is dismantled.                                                           |                                                                                      |                         |
| <b>Client Name:</b><br>RITC                                                                              | <b>Date Photo was Taken:</b><br>5/19/2022                                            | <b>Project:</b><br>RITC |
| <b>Photo No. 6</b>                                                                                       |  |                         |
| <b>Direction Photo Taken:</b><br><br>View is south.                                                      |                                                                                      |                         |
| <b>Description:</b><br><br>ST24 has been removed and the steel tank body is being sheared for recycling. |                                                                                      |                         |



|                                                                                                                                                                      |                                                                                      |                         |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|-------------------------|
| <b>Client Name:</b><br>RITC                                                                                                                                          | <b>Date Photo was Taken:</b><br>5/19/2022                                            | <b>Project:</b><br>RITC |
| <b>Photo No. 7</b><br><br><b>Direction Photo Taken:</b><br><br>View is northeast.                                                                                    |    |                         |
| <b>Description:</b><br><br>The base of ST24 is constructed of riveted steel and is in poor condition, with uniformly rusted holes throughout.                        |                                                                                      |                         |
| <b>Client Name:</b><br>RITC                                                                                                                                          | <b>Date Photo was Taken:</b><br>5/26/2022                                            | <b>Project:</b><br>RITC |
| <b>Photo No. 8</b><br><br><b>Direction Photo Taken:</b><br><br>View is west.                                                                                         |  |                         |
| <b>Description:</b><br><br>The base of ST24 has been removed. The tank was constructed on a layer of bedding sand that exhibited staining and a petroleum-like odor. |                                                                                      |                         |





***INVENTUM ENGINEERING, PC***

## Attachment C – Waste Manifests



# NON-HAZARDOUS WASTE & ASBESTOS WASTE SHIPMENT RECORDS

If waste is asbestos waste, complete Sections I, II, III and IV  
If waste is **NOT** asbestos waste, complete Sections I, II and III.

0024656

## Section I GENERATOR (Generator completes Section I, a-q)

| <b>a: Generator's US EPA ID Number:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |      | <b>b: Manifest Document Number:</b><br>0024656                                                                                             |                                                               |                                |                                                                                                                 |     |      |  |  |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|--------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------|--------------------------------|-----------------------------------------------------------------------------------------------------------------|-----|------|--|--|
| <b>c: Generator's Name and Location:</b><br>Riverview Innovation & Technology Campus<br>3875 River Road<br>Tonawanda, New York 14150                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |      | <b>e: Generator's Mailing Address:</b><br>Riverview Innovation & Technology Campus<br>140 Lee Street, Suite 200<br>Buffalo, New York 14210 |                                                               |                                |                                                                                                                 |     |      |  |  |
| <b>d: Generators Phone:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |      | <b>f: Phone:</b> 716-560-3006                                                                                                              |                                                               |                                |                                                                                                                 |     |      |  |  |
| <b>g. Owner's Name:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |      | <b>h. Owner's Phone:</b>                                                                                                                   |                                                               |                                |                                                                                                                 |     |      |  |  |
| <b>i. Waste Profile #:</b><br>M24-3739                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |      | <b>j. Exp. Date</b><br>4/22/27                                                                                                             | <b>k. Waste Shipping Name and Description</b><br>Tank Bottoms |                                | <b>l. Containers</b><br><table border="1"><tr><th>No.</th><th>Type</th></tr><tr><td></td><td></td></tr></table> | No. | Type |  |  |
| No.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Type |                                                                                                                                            |                                                               |                                |                                                                                                                 |     |      |  |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |      |                                                                                                                                            |                                                               |                                |                                                                                                                 |     |      |  |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |      |                                                                                                                                            |                                                               | <b>m. Total Quantity</b><br>30 | <b>n. Unit Wt/Vol</b><br>Tons<br>Voids                                                                          |     |      |  |  |
| GENERATOR'S CERTIFICATION: I hereby certify that the above named material is not a hazardous waste as defined by 40 CFR 261 or any applicable state law, has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations; AND, if this waste is a treatment residue of a previously restricted hazardous waste subject to the Land Disposal Restrictions. I certify and warrant that the waste has been treated in accordance with the requirements of 40 CFR 268 and is no longer a hazardous waste as defined by 40 CFR 261. |      |                                                                                                                                            |                                                               |                                |                                                                                                                 |     |      |  |  |
| <b>o. Generator Authorized Agent Name (Print)</b><br>Matt Reardon on behalf of RITC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |      | <b>p. Signature</b><br>[Signature] on behalf of RITC                                                                                       |                                                               | <b>q. Date</b><br>5/10/24      |                                                                                                                 |     |      |  |  |

## Section II TRANSPORTER (Generator completes Sec. II, a-b; Transporter completes Sec. II, c-e)

|                                                                                                                    |                                    |                             |
|--------------------------------------------------------------------------------------------------------------------|------------------------------------|-----------------------------|
| <b>a: Transporter's Name and Address:</b><br>Modern Disposal<br>4746 Model City Road<br>Model City, New York 14107 |                                    |                             |
| <b>b: Phone:</b> 716-754-8226                                                                                      |                                    |                             |
| <b>c. Transporter Authorized Agent Name (Print)</b><br>Tim Wood                                                    | <b>d. Signature</b><br>[Signature] | <b>e. Date</b><br>5-10-2024 |

## Section III DESTINATION (Generator completes Sec. III, a-c; Destination Site completes Sec. III, d-g)

|                                                                                                                                       |                                    |                           |                                         |
|---------------------------------------------------------------------------------------------------------------------------------------|------------------------------------|---------------------------|-----------------------------------------|
| <b>a: Disposal Facility and Site Address:</b><br>Modern Landfill, Inc.<br>1445 Pletcher Road<br>Model City, NY 14107                  |                                    | <b>c: US EPA Number</b>   | <b>d: Discrepancy Indication Space:</b> |
| <b>b: Phone:</b> 716-754-8226                                                                                                         |                                    |                           |                                         |
| I hereby certify that the above named material has been accepted and to the best of my knowledge, the foregoing is true and accurate. |                                    |                           |                                         |
| <b>e: Authorized Agent Name (Print)</b><br>Don Shou                                                                                   | <b>f. Signature</b><br>[Signature] | <b>q. Date</b><br>5/10/24 |                                         |

## Section IV ASBESTOS (Generator completes Sec. IV, a-d; Operator completes Sec. IV, e-g)

|                                                                                                                                                                                                                                                                                                                                                            |  |                                                                        |                |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|------------------------------------------------------------------------|----------------|
| <b>a: Operator's Name and Address:</b>                                                                                                                                                                                                                                                                                                                     |  | <b>c: Special Handling Instructions and Additional Information:</b>    |                |
| <b>b: Phone:</b>                                                                                                                                                                                                                                                                                                                                           |  |                                                                        |                |
| <b>d: Friable, Non-Friable or Both:</b>                                                                                                                                                                                                                                                                                                                    |  | <b>e: Percentage Friable/NonFriable:</b> 0% Friable and 0% Non-Friable |                |
| OPERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked, and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. |  |                                                                        |                |
| <b>e. Operator's Name and Title (Print)</b>                                                                                                                                                                                                                                                                                                                |  | <b>f. Signature</b>                                                    | <b>g. Date</b> |
| *Operator refers to the company which owns, leases, operates, controls or supervises the facility being demolished or renovated, or the demolition or renovation operation or both.                                                                                                                                                                        |  |                                                                        |                |

DESTINATION RETURN



1445 Pletcher Road  
Model City, NY 14107  
(716) 754-8226



Ticket: 1003437153  
Date: 5/10/2024  
Time: 13:14:02 - 13:32:52  
Scale

\*\*\*\*\* Reprinted Ticket \*\*\*\*\*

Gross: 50160 POU In Scale 1-INBOI  
Tare: 39100 POU Out Scale 2-OUTB  
Net: 11060 POU

Truck: 2814-30  
Customer: 0250310002/MODERN DISPOSAL ROI  
Carrier: MDS-001/MODERN DISPOSAL  
Driver: JAMESWOOCK/James M. Woock

Truck Type: RO30  
Route: M0106/MODERN ROLL OFF 06 WO: 0004077292  
Profile: M24-3739/RIVERVIEW INNOVATION Manifest: 24656  
PO: Q

Generator: 0250310002/MODERN DISPOSAL ROI  
Service Site: 0005730122 OSC @ TONAWANDA COKE  
Comment:

| Origin                    | Materials & Services          | Quantity | Unit |
|---------------------------|-------------------------------|----------|------|
| 141600/Tonawanda, City Of | DC Industrial Waste - General | 5.53     | TON  |

Driver: \_\_\_\_\_

Weighmaster: Dawn Srock



1445 Pletcher Road  
Model City, NY 14107  
(716) 754-8226



Ticket: 1003437153  
Date: 5/10/2024  
Time: 13:14:02 - 13:32:52  
Scale

\*\*\*\*\* Reprinted Ticket \*\*\*\*\*

Gross: 50160 POU In Scale 1-INBOI  
Tare: 39100 POU Out Scale 2-OUTB  
Net: 11060 POU

Truck: 2814-30  
Customer: 0250310002/MODERN DISPOSAL ROI  
Carrier: MDS-001/MODERN DISPOSAL  
Driver: JAMESWOOCK/James M. Woock

Truck Type: RO30  
Route: M0106/MODERN ROLL OFF 06 WO: 0004077292  
Profile: M24-3739/RIVERVIEW INNOVATION Manifest: 24656  
PO: Q

Generator: 0250310002/MODERN DISPOSAL ROI  
Service Site: 0005730122 OSC @ TONAWANDA COKE  
Comment:

| Origin                    | Materials & Services          | Quantity | Unit |
|---------------------------|-------------------------------|----------|------|
| 141600/Tonawanda, City Of | DC Industrial Waste - General | 5.53     | TON  |

Driver: \_\_\_\_\_

Weighmaster: Dawn Srock



***INVENTUM ENGINEERING, PC***

## Attachment D – Laboratory Reports



October 26, 2021

Service Request No:R2109410

Mr. John Black  
Inventum Engineering  
481 Carlisle Drive  
Herndon, VA 20170

### Laboratory Results for: RITC Tanks

Dear Mr.Black,

Enclosed are the results of the sample(s) submitted to our laboratory September 11, 2021  
For your reference, these analyses have been assigned our service request number **R2109410**.

All testing was performed according to our laboratory's quality assurance program and met the requirements of the TNI standards except as noted in the case narrative report. Any testing not included in the lab's accreditation is identified on a Non-Certified Analytes report. All results are intended to be considered in their entirety. ALS Environmental is not responsible for use of less than the complete report. Results apply only to the individual samples submitted to the lab for analysis, as listed in the report. The measurement uncertainty of the results included in this report is within that expected when using the prescribed method(s), and represented by Laboratory Control Sample control limits. Any events, such as QC failures or Holding Time exceedances, which may add to the uncertainty are explained in the report narrative or are flagged with qualifiers. The flags are explained in the Report Qualifiers and Definitions page of this report.

Please contact me if you have any questions. My extension is 7475. You may also contact me via email at [Meghan.Pedro@alsglobal.com](mailto:Meghan.Pedro@alsglobal.com).

Respectfully submitted,

**ALS Group USA, Corp. dba ALS Environmental**

Meghan Pedro  
Project Manager

**ADDRESS**

1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623

**PHONE** +1 585 288 5380 | **FAX** +1 585 288 8475

ALS Group USA, Corp.  
dba ALS Environmental



## Narrative Documents

**ALS Environmental—Rochester Laboratory**

1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623

Phone (585) 288-5380 Fax (585) 288-8475

[www.alsglobal.com](http://www.alsglobal.com)



**Client:** Inventum Engineering  
**Project:** RITC Tanks  
**Sample Matrix:** Water

**Service Request:** R2109410  
**Date Received:** 09/11/2021

### CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of ALS Environmental. This report contains analytical results for samples for the Tier level IV requested by the client.

#### Sample Receipt:

Three water samples were received for analysis at ALS Environmental on 09/11/2021. Any discrepancies upon initial sample inspection are annotated on the sample receipt and preservation form included within this report. The samples were stored at minimum in accordance with the analytical method requirements.

#### Semivolatiles by GC/MS:

Method 8270D, 09/16/2021: The lower control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). Since there were no detections of the analyte(s) above the MRL in the associated field samples, the quantitation is not affected. The data quality was not significantly affected and no further corrective action was taken.

Method 8270D, 09/17/2021: The upper control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). The field samples analyzed in this sequence did not contain the analyte(s) in question above the Method Reporting Limit (MRL). Since the exceedance equates to a potential high bias, the data quality was not significantly affected and no further corrective action was taken.

Method 8270D, 09/16/2021: The lower control limit for the spike recovery of the Laboratory Control Sample (LCS) was exceeded for one or more analyte. Precision is also outside limits. The LCS/batch MS/MSD are within limits for all analytes. The analytes affected are flagged in the LCS Summary.

Method 8270D, R2109410-002: The control limits for one or more surrogates in the sample are not applicable. The analysis of the sample required a dilution, which resulted in a surrogate concentration below the Method Reporting Limit (MRL). No further corrective action was appropriate.

#### Semivolatile GC:

Method 8081B, 09/20/2021: The upper control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). The field samples analyzed in this sequence did not contain the analyte(s) in question above the Method Reporting Limit (MRL). Since the exceedance equates to a potential high bias, the data quality was not significantly affected and no further corrective action was taken.

Method 8081B, 739415, R2109410-002: The control limits for one or more surrogates in the sample are not applicable. The chromatogram indicated the presence of target/non-target background components that masked the surrogate, which prevented adequate resolution for quantitation. No corrective action was appropriate.

Method 8081B, 739415, R2109410-002: The reporting limit is elevated for one or more analytes. The sample extract was diluted prior to instrumental analysis due to relatively high levels of non-target background components. The extract was highly colored and viscous, which indicated the need to perform a dilution prior to injection into the instrument. Clean-up of the extract was performed within the scope of the method, but did not eliminate enough of the background components to prevent dilution. The result(s) are flagged to indicate the matrix interference.

Method 8082A, 09/20/2021: The upper control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). The field samples analyzed in this sequence did not contain the analyte(s) in question above the Method Reporting Limit (MRL). Since the exceedance equates to a potential high bias, the data quality was not significantly affected and

Approved by \_\_\_\_\_

Date 10/26/2021

no further corrective action was taken.

Method 8151A, 739108: The control limits for one or more surrogates in the sample are not applicable. The analysis of the sample required a dilution, which resulted in a surrogate concentration below the Method Reporting Limit (MRL). No further corrective action was appropriate.

**Metals:**

Method 6020A: Sample(s) required dilution due to the nature of the matrix. The reporting limits are adjusted to reflect the dilution.

**General Chemistry:**

Method 353.2, R2109410-002: Sample(s) required dilution due to the nature of the matrix. The reporting limits are adjusted to reflect the dilution.

Method 353.2, R2109410-001,002,003: Sample(s) required dilution due to the nature of the matrix. The reporting limits are adjusted to reflect the dilution.

Method Kelada-01, R2109410-001 and -003: The Method Reporting Limit (MRL) was elevated due to color and salinity of sample.

**Subcontracted Analytical Parameters:**

One or more samples were subcontracted to another laboratory for testing. The certified analytical report from the subcontractor has been included in its entirety at the end of this report and includes the name and address of the subcontracted laboratory.

**Volatiles by GC/MS:**

Method 8260C, 09/22/2021: The upper control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). The field samples analyzed in this sequence did not contain the analyte(s) in question above the Method Reporting Limit (MRL). Since the exceedance equates to a potential high bias, the data quality was not significantly affected and no further corrective action was taken.

Method 8260C, 739515: Sample(s) required dilution due to the foaming nature of the matrix and/or the presence of a non-target compound at high concentration. The reporting limits are adjusted to reflect the dilution.

Approved by



Date

10/26/2021

### SAMPLE DETECTION SUMMARY

|                                       |                             |
|---------------------------------------|-----------------------------|
| <b>CLIENT ID: TK-LQ-ST22-09102021</b> | <b>Lab ID: R2109410-001</b> |
|---------------------------------------|-----------------------------|

| Analyte                         | Results | Flag | MDL   | MRL  | Units    | Method |
|---------------------------------|---------|------|-------|------|----------|--------|
| Fluoride, undistilled           | 2.65    |      | 0.010 | 0.10 | mg/L     | 300.0  |
| pH                              | 7.63    |      |       |      | pH Units | 9040C  |
| Benzene                         | 1.0     | J    | 0.20  | 5.0  | ug/L     | 8260C  |
| Toluene                         | 0.63    | J    | 0.20  | 5.0  | ug/L     | 8260C  |
| m,p-Xylenes                     | 0.45    | J    | 0.20  | 5.0  | ug/L     | 8260C  |
| 2-Methylnaphthalene             | 11      |      | 1.3   | 9.1  | ug/L     | 8270D  |
| 3- and 4-Methylphenol Coelution | 1.3     | J    | 1.2   | 9.1  | ug/L     | 8270D  |
| Acenaphthene                    | 1.8     | J    | 1.4   | 9.1  | ug/L     | 8270D  |
| Acenaphthylene                  | 13      |      | 1.4   | 9.1  | ug/L     | 8270D  |
| Anthracene                      | 11      |      | 1.3   | 9.1  | ug/L     | 8270D  |
| Benz(a)anthracene               | 57      |      | 1.6   | 9.1  | ug/L     | 8270D  |
| Benzo(a)pyrene                  | 47      |      | 1.2   | 9.1  | ug/L     | 8270D  |
| Benzo(b)fluoranthene            | 53      |      | 1.2   | 9.1  | ug/L     | 8270D  |
| Benzo(g,h,i)perylene            | 19      |      | 1.0   | 9.1  | ug/L     | 8270D  |
| Benzo(k)fluoranthene            | 21      |      | 1.3   | 9.1  | ug/L     | 8270D  |
| Biphenyl                        | 2.5     | J    | 1.4   | 9.1  | ug/L     | 8270D  |
| Carbazole                       | 26      |      | 1.6   | 9.1  | ug/L     | 8270D  |
| Chrysene                        | 61      |      | 1.2   | 9.1  | ug/L     | 8270D  |
| Dibenz(a,h)anthracene           | 8.6     | J    | 1.1   | 9.1  | ug/L     | 8270D  |
| Dibenzofuran                    | 10      |      | 1.4   | 9.1  | ug/L     | 8270D  |
| Fluoranthene                    | 40      |      | 1.5   | 9.1  | ug/L     | 8270D  |
| Fluorene                        | 19      |      | 1.3   | 9.1  | ug/L     | 8270D  |
| Indeno(1,2,3-cd)pyrene          | 20      |      | 1.8   | 9.1  | ug/L     | 8270D  |
| Naphthalene                     | 61      |      | 1.2   | 9.1  | ug/L     | 8270D  |
| Phenanthrene                    | 53      |      | 1.4   | 9.1  | ug/L     | 8270D  |
| Phenol                          | 1.4     | J    | 1.0   | 9.1  | ug/L     | 8270D  |
| Pyrene                          | 32      |      | 1.5   | 9.1  | ug/L     | 8270D  |

|                                       |                             |
|---------------------------------------|-----------------------------|
| <b>CLIENT ID: TK-LQ-ST23-09102021</b> | <b>Lab ID: R2109410-002</b> |
|---------------------------------------|-----------------------------|

| Analyte                          | Results | Flag | MDL | MRL | Units    | Method    |
|----------------------------------|---------|------|-----|-----|----------|-----------|
| Ammonia as Nitrogen, undistilled | 765000  |      | 26  | 50  | mg/L     | 350.1     |
| Cyanide, Total                   | 164     |      | 4.0 | 5.0 | mg/L     | Kelada-01 |
| Fluoride, undistilled            | 18      |      | 1.0 | 10  | mg/L     | 300.0     |
| pH                               | 7.51    |      |     |     | pH Units | 9040C     |
| 2-Butanone (MEK)                 | 11      | J    | 7.8 | 100 | ug/L     | 8260C     |
| Benzene                          | 440     |      | 2.0 | 50  | ug/L     | 8260C     |
| Ethylbenzene                     | 4.4     | J    | 2.0 | 50  | ug/L     | 8260C     |
| Styrene                          | 14      | J    | 2.0 | 50  | ug/L     | 8260C     |
| Toluene                          | 170     |      | 2.0 | 50  | ug/L     | 8260C     |
| m,p-Xylenes                      | 63      |      | 2.0 | 50  | ug/L     | 8260C     |
| o-Xylene                         | 19      | J    | 2.0 | 50  | ug/L     | 8260C     |
| 2,4-Dimethylphenol               | 2300    |      | 140 | 910 | ug/L     | 8270D     |

### SAMPLE DETECTION SUMMARY

|                                       |  |  |                             |  |  |  |
|---------------------------------------|--|--|-----------------------------|--|--|--|
| <b>CLIENT ID: TK-LQ-ST23-09102021</b> |  |  | <b>Lab ID: R2109410-002</b> |  |  |  |
|---------------------------------------|--|--|-----------------------------|--|--|--|

| Analyte                         | Results | Flag | MDL | MRL | Units | Method |
|---------------------------------|---------|------|-----|-----|-------|--------|
| 2-Methylnaphthalene             | 810     | J    | 130 | 910 | ug/L  | 8270D  |
| 2-Methylphenol                  | 9900    |      | 100 | 910 | ug/L  | 8270D  |
| 3- and 4-Methylphenol Coelution | 28000   |      | 120 | 910 | ug/L  | 8270D  |
| Acenaphthylene                  | 910     | J    | 140 | 910 | ug/L  | 8270D  |
| Anthracene                      | 490     | J    | 130 | 910 | ug/L  | 8270D  |
| Benz(a)anthracene               | 500     | J    | 160 | 910 | ug/L  | 8270D  |
| Benzo(a)pyrene                  | 540     | J    | 120 | 910 | ug/L  | 8270D  |
| Benzo(b)fluoranthene            | 550     | J    | 120 | 910 | ug/L  | 8270D  |
| Benzo(g,h,i)perylene            | 330     | J    | 100 | 910 | ug/L  | 8270D  |
| Benzo(k)fluoranthene            | 230     | J    | 130 | 910 | ug/L  | 8270D  |
| Carbazole                       | 830     | J    | 160 | 910 | ug/L  | 8270D  |
| Chrysene                        | 670     | J    | 120 | 910 | ug/L  | 8270D  |
| Dibenzofuran                    | 460     | J    | 140 | 910 | ug/L  | 8270D  |
| Fluoranthene                    | 1400    |      | 150 | 910 | ug/L  | 8270D  |
| Fluorene                        | 740     | J    | 130 | 910 | ug/L  | 8270D  |
| Indeno(1,2,3-cd)pyrene          | 300     | J    | 180 | 910 | ug/L  | 8270D  |
| Naphthalene                     | 3800    |      | 120 | 910 | ug/L  | 8270D  |
| Phenanthrene                    | 2300    |      | 140 | 910 | ug/L  | 8270D  |
| Phenol                          | 26000   |      | 100 | 910 | ug/L  | 8270D  |
| Pyrene                          | 1100    |      | 150 | 910 | ug/L  | 8270D  |
| 2,4-D                           | 310     | P    | 35  | 45  | ug/L  | 8151A  |

|                                       |  |  |                             |  |  |  |
|---------------------------------------|--|--|-----------------------------|--|--|--|
| <b>CLIENT ID: TK-LQ-ST24-09102021</b> |  |  | <b>Lab ID: R2109410-003</b> |  |  |  |
|---------------------------------------|--|--|-----------------------------|--|--|--|

| Analyte                          | Results | Flag | MDL   | MRL   | Units    | Method |
|----------------------------------|---------|------|-------|-------|----------|--------|
| Ammonia as Nitrogen, undistilled | 0.086   |      | 0.026 | 0.050 | mg/L     | 350.1  |
| Fluoride, undistilled            | 0.17    |      | 0.010 | 0.10  | mg/L     | 300.0  |
| pH                               | 7.44    |      |       |       | pH Units | 9040C  |



## Sample Receipt Information

**ALS Environmental—Rochester Laboratory**

1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623

Phone (585) 288-5380 Fax (585) 288-8475

[www.alsglobal.com](http://www.alsglobal.com)

**Client:** Inventum Engineering  
**Project:** RITC Tanks

**Service Request:**R2109410

**SAMPLE CROSS-REFERENCE**

| <u>SAMPLE #</u> | <u>CLIENT SAMPLE ID</u> | <u>DATE</u> | <u>TIME</u> |
|-----------------|-------------------------|-------------|-------------|
| R2109410-001    | TK-LQ-ST22-09102021     | 9/10/2021   |             |
| R2109410-002    | TK-LQ-ST23-09102021     | 9/10/2021   |             |
| R2109410-003    | TK-LQ-ST24-09102021     | 9/10/2021   |             |



## CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM

060028

1565 Jefferson Road, Building 300, Suite 360 • Rochester, NY 14623 | +1 585 288 5380 +1 585 288 8475 (fax) PAGE 1 OF 1

|                                                                           |  |                                                                                                                                                               |  |                                                                                                                                                                                                                                                 |  |                                           |  |                                               |  |                                                                                                                                                                                                                                                                                                                                                                                              |  |                 |  |              |  |              |  |  |  |  |  |  |  |  |  |
|---------------------------------------------------------------------------|--|---------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-------------------------------------------|--|-----------------------------------------------|--|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-----------------|--|--------------|--|--------------|--|--|--|--|--|--|--|--|--|
| Project Name<br><b>RITC</b>                                               |  | Project Number<br><b>TANKS</b>                                                                                                                                |  | ANALYSIS REQUESTED (Include Method Number and Container Preservative)                                                                                                                                                                           |  |                                           |  |                                               |  |                                                                                                                                                                                                                                                                                                                                                                                              |  |                 |  |              |  |              |  |  |  |  |  |  |  |  |  |
| Project Manager<br><b>JOHN BLACK</b>                                      |  | Report CC                                                                                                                                                     |  | PRESERVATIVE                                                                                                                                                                                                                                    |  |                                           |  |                                               |  |                                                                                                                                                                                                                                                                                                                                                                                              |  |                 |  |              |  |              |  |  |  |  |  |  |  |  |  |
| Company/Address<br><b>481 CARLISLE DR SUITE 202<br/>HERNDON, VA 20170</b> |  | Phone #<br><b>585-734-5255</b>                                                                                                                                |  | Email<br><b>john.black@inventumeng.com</b>                                                                                                                                                                                                      |  | Sampler's Signature<br><b>[Signature]</b> |  | Sampler's Printed Name<br><b>ROXANNE BIRX</b> |  | NUMBER OF CONTAINERS                                                                                                                                                                                                                                                                                                                                                                         |  |                 |  |              |  |              |  |  |  |  |  |  |  |  |  |
| CLIENT SAMPLE ID                                                          |  | FOR OFFICE USE ONLY LAB ID                                                                                                                                    |  | DATE                                                                                                                                                                                                                                            |  | TIME                                      |  | MATRIX                                        |  | PRESERVATIVE                                                                                                                                                                                                                                                                                                                                                                                 |  |                 |  |              |  |              |  |  |  |  |  |  |  |  |  |
| TK-LQ-ST21-09102021                                                       |  |                                                                                                                                                               |  | 9/10                                                                                                                                                                                                                                            |  |                                           |  |                                               |  | GC/MS VOCs 8260 • 824 • CLP<br>GC/MS SVOCs 8270 • 825<br>GC/MS 8221 • 801/802<br>PESTICIDES 8081 • 808<br>PCBs 8082 • 808<br>METALS TOTAL 7 Hg (List in comments below)<br>METALS DISSOLVED 7 Hg (List in comments below)<br>TOTAL CYANIDE<br>AMMONIA<br>CORROSIVITY<br>IGNITABILITY<br>BTU • FLASHPOINT<br>TOTAL SULFUR<br>FULL TCLP • (TCLP 9000)<br>CYANIDES, NITRATES, FLUORIDE, URANIUM |  |                 |  |              |  |              |  |  |  |  |  |  |  |  |  |
| TK-SD-ST22-09102021                                                       |  |                                                                                                                                                               |  | 9/10                                                                                                                                                                                                                                            |  |                                           |  |                                               |  | ✓                                                                                                                                                                                                                                                                                                                                                                                            |  |                 |  |              |  |              |  |  |  |  |  |  |  |  |  |
| TK-LQ-ST23-09102021                                                       |  |                                                                                                                                                               |  | 9/10                                                                                                                                                                                                                                            |  |                                           |  |                                               |  | ✓                                                                                                                                                                                                                                                                                                                                                                                            |  |                 |  |              |  |              |  |  |  |  |  |  |  |  |  |
| TK-SD-ST23-09102021                                                       |  |                                                                                                                                                               |  | 9/10                                                                                                                                                                                                                                            |  |                                           |  |                                               |  | ✓                                                                                                                                                                                                                                                                                                                                                                                            |  |                 |  |              |  |              |  |  |  |  |  |  |  |  |  |
| TK-LQ-ST24-09102021                                                       |  |                                                                                                                                                               |  | 9/10                                                                                                                                                                                                                                            |  |                                           |  |                                               |  | ✓                                                                                                                                                                                                                                                                                                                                                                                            |  |                 |  |              |  |              |  |  |  |  |  |  |  |  |  |
| TK-SD-ST24-09102021                                                       |  |                                                                                                                                                               |  | 9/10                                                                                                                                                                                                                                            |  |                                           |  |                                               |  | ✓                                                                                                                                                                                                                                                                                                                                                                                            |  |                 |  |              |  |              |  |  |  |  |  |  |  |  |  |
| SPECIAL INSTRUCTIONS/COMMENTS<br>Metals                                   |  | TURNAROUND REQUIREMENTS<br>RUSH (SURCHARGES APPLY)<br>1 day 2 day 3 day<br>4 day 5 day<br>X Standard (10 business days-No Surcharge)<br>REQUESTED REPORT DATE |  | REPORT REQUIREMENTS<br>I. Results Only<br>II. Results + QC Summaries (LCS, DUP, MS/MSD as required)<br>III. Results + QC and Calibration Summaries<br>X IV. Data Validation Report with Raw Data<br>MYS DEC, HONEYWELL<br>EDD<br>Edata X Yes No |  | INVOICE INFORMATION<br>PO #<br>BILL TO:   |  |                                               |  |                                                                                                                                                                                                                                                                                                                                                                                              |  |                 |  |              |  |              |  |  |  |  |  |  |  |  |  |
| STATE WHERE SAMPLES WERE COLLECTED NY                                     |  | RECEIVED BY                                                                                                                                                   |  | RECEIVED BY                                                                                                                                                                                                                                     |  | RECEIVED BY                               |  | RECEIVED BY                                   |  | RECEIVED BY                                                                                                                                                                                                                                                                                                                                                                                  |  | RECEIVED BY     |  | RECEIVED BY  |  | RECEIVED BY  |  |  |  |  |  |  |  |  |  |
| RELINQUISHED BY                                                           |  | RECEIVED BY                                                                                                                                                   |  | RELINQUISHED BY                                                                                                                                                                                                                                 |  | RECEIVED BY                               |  | RELINQUISHED BY                               |  | RECEIVED BY                                                                                                                                                                                                                                                                                                                                                                                  |  | RELINQUISHED BY |  | RECEIVED BY  |  | RECEIVED BY  |  |  |  |  |  |  |  |  |  |
| Signature<br><b>Keith Adderley</b>                                        |  | Signature<br><b>Matthew Mackey</b>                                                                                                                            |  | Signature                                                                                                                                                                                                                                       |  | Signature                                 |  | Signature                                     |  | Signature                                                                                                                                                                                                                                                                                                                                                                                    |  | Signature       |  | Signature    |  | Signature    |  |  |  |  |  |  |  |  |  |
| Printed Name<br><b>Keith Adderley</b>                                     |  | Printed Name<br><b>Matthew Mackey</b>                                                                                                                         |  | Printed Name                                                                                                                                                                                                                                    |  | Printed Name                              |  | Printed Name                                  |  | Printed Name                                                                                                                                                                                                                                                                                                                                                                                 |  | Printed Name    |  | Printed Name |  | Printed Name |  |  |  |  |  |  |  |  |  |
| Firm<br><b>Inventum Eng.</b>                                              |  | Firm<br><b>ALS</b>                                                                                                                                            |  | Firm                                                                                                                                                                                                                                            |  | Firm                                      |  | Firm                                          |  | Firm                                                                                                                                                                                                                                                                                                                                                                                         |  | Firm            |  | Firm         |  | Firm         |  |  |  |  |  |  |  |  |  |
| Date/Time<br><b>9/10/21</b>                                               |  | Date/Time<br><b>9/11/21 9:35</b>                                                                                                                              |  | Date/Time                                                                                                                                                                                                                                       |  | Date/Time                                 |  | Date/Time                                     |  | Date/Time                                                                                                                                                                                                                                                                                                                                                                                    |  | Date/Time       |  | Date/Time    |  | Date/Time    |  |  |  |  |  |  |  |  |  |



# Cooler Receipt and Preservation Check Form

R2109410

Inventum Engineering  
RITC Tanks

5



Project/Client RITC Folder Number \_\_\_\_\_

Cooler received on 9/11/21 by MM COURIER: ALS UPS FEDEX VELOCITY CLIENT

|   |                                                      |            |    |                                                   |                       |
|---|------------------------------------------------------|------------|----|---------------------------------------------------|-----------------------|
| 1 | Were Custody seals on outside of cooler?             | Y <u>N</u> | 5a | Perchlorate samples have required headspace?      | Y N <u>NA</u>         |
| 2 | Custody papers properly completed (ink, signed)?     | Y <u>N</u> | 5b | Did VOA vials, Alk, or Sulfide have sig* bubbles? | Y <u>N</u> NA         |
| 3 | Did all bottles arrive in good condition (unbroken)? | Y <u>N</u> | 6  | Where did the bottles originate?                  | <u>ALS/ROC</u> CLIENT |
| 4 | Circle: <u>Wet Ice</u> Dry Ice Gel packs present?    | <u>Y</u> N | 7  | Soil VOA received as: Bulk Encore 5035set         | <u>NA</u>             |

8. Temperature Readings Date: 9/11/21 Time: 9:45 ID: IR#7 IR#11 From: Temp Blank Sample Bottle

|                               |            |             |             |     |     |     |     |
|-------------------------------|------------|-------------|-------------|-----|-----|-----|-----|
| Observed Temp (°C)            | <u>9.7</u> | <u>13.4</u> | <u>10.6</u> |     |     |     |     |
| Within 0-6°C?                 | Y <u>N</u> | Y <u>N</u>  | Y <u>N</u>  | Y N | Y N | Y N | Y N |
| If <0°C, were samples frozen? | Y N        | Y N         | Y N         | Y N | Y N | Y N | Y N |

If out of Temperature, note packing/ice condition: Ice melted Poorly Packed (described below) Same Day Rule

& Client Approval to Run Samples: \_\_\_\_\_ Standing Approval Client aware at drop-off Client notified by: \_\_\_\_\_

All samples held in storage location: R1002 by MM on 9/11/21 at 10:15  
5035 samples placed in storage location: \_\_\_\_\_ by \_\_\_\_\_ on \_\_\_\_\_ at \_\_\_\_\_ within 48 hours of sampling? Y N

Cooler Breakdown/Preservation Check\*\*: Date: 9/14/21 Time: 10:49 by: MM

- Were all bottle labels complete (i.e. analysis, preservation, etc.)? YES NO
- Did all bottle labels and tags agree with custody papers? YES NO
- Were correct containers used for the tests indicated? YES NO
- Were 5035 vials acceptable (no extra labels, not leaking)? YES NO
- Air Samples: Cassettes / Tubes Intact Y / N with MS Y / N Canisters Pressurized YES Tedlar® Bags Inflated N/A

| pH                    | Lot of test paper | Reagent                                       | Preserved? | Lot Received                                                                                             | Exp         | Sample ID Adjusted | Vol. Added | Lot Added | Final pH |
|-----------------------|-------------------|-----------------------------------------------|------------|----------------------------------------------------------------------------------------------------------|-------------|--------------------|------------|-----------|----------|
| ≥12                   | <u>203/19</u>     | NaOH                                          | ✓          | <u>214719</u>                                                                                            | <u>4/22</u> |                    |            |           |          |
| ≤2                    |                   | HNO <sub>3</sub>                              | ✓          | <u>1120092</u>                                                                                           |             |                    |            |           |          |
| ≤2                    |                   | H <sub>2</sub> SO <sub>4</sub>                | ✓          | <u>1121-25</u>                                                                                           |             |                    |            |           |          |
| <4                    |                   | NaHSO <sub>4</sub>                            |            |                                                                                                          |             |                    |            |           |          |
| 5-9                   |                   | For 608pest                                   |            | No=Notify for 3day                                                                                       |             |                    |            |           |          |
| Residual Chlorine (-) |                   | For <u>CN</u> Phenol, 625, 608pest, 522       | ✓          | If +, contact PM to add Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> (625, 608, CN), ascorbic (phenol). |             |                    |            |           |          |
|                       |                   | Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> |            |                                                                                                          |             |                    |            |           |          |
|                       |                   | ZnAcetate                                     | -          |                                                                                                          |             |                    |            |           |          |
|                       |                   | HCl                                           | **         |                                                                                                          |             |                    |            |           |          |

\*\*VOAs and 1664 Not to be tested before analysis. Otherwise, all bottles of all samples with chemical preservatives are checked (not just representatives).

Bottle lot numbers: 2596 client 2-06-16, 70636 1275, 21-04-30

Explain all Discrepancies/ Other Comments:

\* TK-LQ-ST23-09/02/21 reactivity has broken cap,  
TK-LQ-ST22-09/02/21 8260 TCLP 1 vial shattered  
& Missing 1 NO<sub>2</sub> bottle

|            |        |
|------------|--------|
| HPROD      | BULK   |
| HTR        | FLDT   |
| <u>SUB</u> | HGFB   |
| ALS        | LL3541 |

Labels secondary reviewed by: MM  
PC Secondary Review: \_\_\_\_\_

\*significant air bubbles: VOA > 5-6 mm : WC > 1 in. diameter

**ALS Group USA, Corp.**  
dba ALS Environmental

**Internal Chain of Custody Report**

**Client:** Inventum Engineering  
**Project:** RITC Tanks

**Service Request:** R2109410

| Bottle ID       | Methods                                                                                                                                           | Date      | Time | Sample Location / User | Disposed On |
|-----------------|---------------------------------------------------------------------------------------------------------------------------------------------------|-----------|------|------------------------|-------------|
| R2109410-001.01 | 350.1,353.2                                                                                                                                       | 9/14/2021 | 1248 | SMO / GESMERIAN        |             |
|                 |                                                                                                                                                   | 9/15/2021 | 1147 | RT000226 / GLAFORCE    |             |
|                 |                                                                                                                                                   | 9/15/2021 | 1147 | R-016 / GLAFORCE       |             |
|                 |                                                                                                                                                   | 9/29/2021 | 1549 | R-002 / GLAFORCE       |             |
|                 |                                                                                                                                                   |           |      |                        |             |
| R2109410-001.03 | 7470A                                                                                                                                             | 9/14/2021 | 1248 | SMO / GESMERIAN        |             |
|                 |                                                                                                                                                   | 9/14/2021 | 1257 | R-002 / GESMERIAN      |             |
|                 |                                                                                                                                                   | 9/17/2021 | 1240 | In Lab / BDIAMOND      |             |
|                 |                                                                                                                                                   | 9/17/2021 | 1549 | R-A01 / BDIAMOND       |             |
|                 |                                                                                                                                                   |           |      |                        |             |
| R2109410-001.04 | 8081B,8082A                                                                                                                                       | 9/14/2021 | 1248 | SMO / GESMERIAN        |             |
|                 |                                                                                                                                                   | 9/14/2021 | 1257 | R-002 / GESMERIAN      |             |
|                 |                                                                                                                                                   | 9/16/2021 | 0837 | In Lab / VSTAUFFER     |             |
|                 |                                                                                                                                                   |           |      |                        |             |
| R2109410-001.06 |                                                                                                                                                   | 9/14/2021 | 1248 | SMO / GESMERIAN        |             |
|                 |                                                                                                                                                   | 9/14/2021 | 1257 | SUBBED / GESMERIAN     |             |
| R2109410-001.08 | ASTM D4809-06                                                                                                                                     | 9/14/2021 | 1248 | SMO / GESMERIAN        |             |
|                 |                                                                                                                                                   | 9/14/2021 | 1257 | SUBBED / GESMERIAN     |             |
|                 |                                                                                                                                                   |           |      |                        |             |
| R2109410-001.09 | 6010C,6010C,6010C,6010C,6010C,6010C,6010C,6010C,6010C,6010C,6010 C,6010C,6010C,6010C,6010C,6010C,6010C,6010C,6010C,6010C,6020A,601 OC,6010C,6010C | 9/14/2021 | 1248 | SMO / GESMERIAN        |             |
|                 |                                                                                                                                                   | 9/14/2021 | 1257 | R-A01 / GESMERIAN      |             |
|                 |                                                                                                                                                   | 9/21/2021 | 1049 | In Lab / BDIAMOND      |             |
|                 |                                                                                                                                                   | 9/21/2021 | 1237 | R-A01 / BDIAMOND       |             |
|                 |                                                                                                                                                   | 9/22/2021 | 1326 | In Lab / BDIAMOND      |             |
|                 |                                                                                                                                                   | 9/23/2021 | 0925 | R-A01 / BDIAMOND       |             |
|                 |                                                                                                                                                   |           |      |                        |             |
| R2109410-001.18 | 9040C,353.2,300.0                                                                                                                                 | 9/14/2021 | 1248 | SMO / GESMERIAN        |             |
|                 |                                                                                                                                                   | 9/15/2021 | 1337 | RT000540 / GLAFORCE    |             |
|                 |                                                                                                                                                   | 9/15/2021 | 1337 | R-017 / GLAFORCE       |             |
|                 |                                                                                                                                                   | 9/15/2021 | 1337 | R-017 / GLAFORCE       |             |
|                 |                                                                                                                                                   | 9/30/2021 | 1510 | R-002 / GESMERIAN      |             |
|                 |                                                                                                                                                   |           |      |                        |             |

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**Internal Chain of Custody Report**

**Client:** Inventum Engineering  
**Project:** RITC Tanks

**Service Request:** R2109410

| Bottle ID              | Methods   | Date      | Time | Sample Location / User | Disposed On |
|------------------------|-----------|-----------|------|------------------------|-------------|
| <b>R2109410-001.22</b> |           |           |      |                        |             |
|                        | Kelada-01 |           |      |                        |             |
|                        |           | 9/14/2021 | 1248 | SMO / GESMERIAN        |             |
|                        |           | 9/15/2021 | 0928 | RT000703 / GLAFORCE    |             |
|                        |           | 9/15/2021 | 0928 | R-015 / GLAFORCE       |             |
|                        |           | 10/1/2021 | 1506 | R-002 / GESMERIAN      |             |
| <b>R2109410-001.23</b> |           |           |      |                        |             |
|                        | 8260C     |           |      |                        |             |
|                        |           | 9/14/2021 | 1248 | SMO / GESMERIAN        |             |
|                        |           | 9/14/2021 | 1256 | R-001 / GESMERIAN      |             |
|                        |           | 9/21/2021 | 1721 | In Lab / KRUEST        |             |
|                        |           | 9/21/2021 | 1737 | R-001-S12 / KRUEST     |             |
| <b>R2109410-001.24</b> |           |           |      |                        |             |
|                        |           | 9/14/2021 | 1248 | SMO / GESMERIAN        |             |
|                        |           | 9/14/2021 | 1256 | R-001 / GESMERIAN      |             |
| <b>R2109410-001.25</b> |           |           |      |                        |             |
|                        |           | 9/14/2021 | 1248 | SMO / GESMERIAN        |             |
|                        |           | 9/14/2021 | 1256 | R-001 / GESMERIAN      |             |
| <b>R2109410-001.26</b> |           |           |      |                        |             |
|                        | 8270D     |           |      |                        |             |
|                        |           | 9/14/2021 | 1250 | SMO / GESMERIAN        |             |
|                        |           | 9/14/2021 | 1257 | R-002 / GESMERIAN      |             |
|                        |           | 9/15/2021 | 0808 | In Lab / VSTAUFFER     |             |
| <b>R2109410-001.27</b> |           |           |      |                        |             |
|                        |           | 9/14/2021 | 1250 | SMO / GESMERIAN        |             |
|                        |           | 9/14/2021 | 1257 | R-002 / GESMERIAN      |             |
| <b>R2109410-001.28</b> |           |           |      |                        |             |
|                        |           | 9/14/2021 | 1250 | SMO / GESMERIAN        |             |
|                        |           | 9/14/2021 | 1257 | R-002 / GESMERIAN      |             |
| <b>R2109410-001.29</b> |           |           |      |                        |             |
|                        | 8151A     |           |      |                        |             |
|                        |           | 9/14/2021 | 1250 | SMO / GESMERIAN        |             |
|                        |           | 9/14/2021 | 1257 | R-002 / GESMERIAN      |             |
|                        |           | 9/15/2021 | 0808 | In Lab / VSTAUFFER     |             |
| <b>R2109410-001.30</b> |           |           |      |                        |             |

**Client:** Inventum Engineering  
**Project:** RITC Tanks

[illegible]

**ALS Group USA, Corp.**  
dba ALS Environmental  
**Internal Chain of Custody Report**

**Client:** Inventum Engineering  
**Project:** RITC Tanks

**Service Request:** R2109410

| Bottle ID       | Methods           | Date      | Time | Sample Location / User | Disposed On |
|-----------------|-------------------|-----------|------|------------------------|-------------|
|                 | 300.0,353.2,9040C | 9/15/2021 | 1337 | R-017 / GLAFORCE       |             |
|                 |                   | 9/15/2021 | 1337 | R-017 / GLAFORCE       |             |
|                 |                   | 9/30/2021 | 1510 | R-002 / GESMERIAN      |             |
|                 |                   |           |      |                        |             |
| R2109410-002.22 |                   |           |      |                        |             |
|                 | Kelada-01         | 9/14/2021 | 1248 | SMO / GESMERIAN        |             |
|                 |                   | 9/15/2021 | 0928 | RT000703 / GLAFORCE    |             |
|                 |                   | 9/15/2021 | 0928 | R-015 / GLAFORCE       |             |
|                 |                   | 10/1/2021 | 1506 | R-002 / GESMERIAN      |             |
| R2109410-002.23 |                   |           |      |                        |             |
|                 |                   | 9/14/2021 | 1248 | SMO / GESMERIAN        |             |
|                 |                   | 9/14/2021 | 1256 | R-001 / GESMERIAN      |             |
| R2109410-002.24 |                   |           |      |                        |             |
|                 | 8260C             | 9/14/2021 | 1248 | SMO / GESMERIAN        |             |
|                 |                   | 9/14/2021 | 1256 | R-001 / GESMERIAN      |             |
|                 |                   | 9/21/2021 | 1721 | In Lab / KRUEST        |             |
|                 |                   | 9/21/2021 | 1737 | R-001-S12 / KRUEST     |             |
| R2109410-002.25 |                   |           |      |                        |             |
|                 |                   | 9/14/2021 | 1248 | SMO / GESMERIAN        |             |
|                 |                   | 9/14/2021 | 1256 | R-001 / GESMERIAN      |             |
| R2109410-002.26 |                   |           |      |                        |             |
|                 | 8270D             | 9/14/2021 | 1250 | SMO / GESMERIAN        |             |
|                 |                   | 9/14/2021 | 1257 | R-002 / GESMERIAN      |             |
|                 |                   | 9/15/2021 | 0808 | In Lab / VSTAUFFER     |             |
| R2109410-002.27 |                   |           |      |                        |             |
|                 |                   | 9/14/2021 | 1250 | SMO / GESMERIAN        |             |
|                 |                   | 9/14/2021 | 1257 | R-002 / GESMERIAN      |             |
| R2109410-002.28 |                   |           |      |                        |             |
|                 | 8151A             | 9/14/2021 | 1250 | SMO / GESMERIAN        |             |
|                 |                   | 9/14/2021 | 1257 | R-002 / GESMERIAN      |             |
|                 |                   | 9/15/2021 | 0808 | In Lab / VSTAUFFER     |             |
| R2109410-002.29 |                   |           |      |                        |             |
|                 |                   | 9/14/2021 | 1250 | SMO / GESMERIAN        |             |

**ALS Group USA, Corp.**  
dba ALS Environmental  
**Internal Chain of Custody Report**

**Client:** Inventum Engineering  
**Project:** RITC Tanks

**Service Request:** R2109410

| Bottle ID       | Methods                                                                                                                                                 | Date      | Time | Sample Location / User | Disposed On |
|-----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|------|------------------------|-------------|
| R2109410-002.30 | 350.1,353.2                                                                                                                                             | 9/14/2021 | 1257 | R-002 / GESMERIAN      |             |
|                 |                                                                                                                                                         | 9/14/2021 | 1250 | SMO / GESMERIAN        |             |
|                 |                                                                                                                                                         | 9/14/2021 | 1257 | R-002 / GESMERIAN      |             |
| R2109410-003.01 |                                                                                                                                                         |           |      |                        |             |
|                 |                                                                                                                                                         | 9/14/2021 | 1248 | SMO / GESMERIAN        |             |
|                 |                                                                                                                                                         | 9/15/2021 | 1147 | RT000226 / GLAFORCE    |             |
|                 |                                                                                                                                                         | 9/15/2021 | 1147 | R-016 / GLAFORCE       |             |
|                 |                                                                                                                                                         | 9/29/2021 | 1549 | R-002 / GLAFORCE       |             |
| R2109410-003.03 | 7470A                                                                                                                                                   |           |      |                        |             |
|                 |                                                                                                                                                         | 9/14/2021 | 1248 | SMO / GESMERIAN        |             |
|                 |                                                                                                                                                         | 9/14/2021 | 1257 | R-002 / GESMERIAN      |             |
|                 |                                                                                                                                                         | 9/17/2021 | 1240 | In Lab / BDIAMOND      |             |
|                 |                                                                                                                                                         | 9/17/2021 | 1549 | R-A01 / BDIAMOND       |             |
| R2109410-003.04 |                                                                                                                                                         |           |      |                        |             |
|                 | 8270D                                                                                                                                                   |           |      |                        |             |
|                 |                                                                                                                                                         | 9/14/2021 | 1248 | SMO / GESMERIAN        |             |
|                 |                                                                                                                                                         | 9/14/2021 | 1257 | R-002 / GESMERIAN      |             |
|                 |                                                                                                                                                         | 9/15/2021 | 0808 | In Lab / VSTAUFFER     |             |
| R2109410-003.06 |                                                                                                                                                         |           |      |                        |             |
|                 |                                                                                                                                                         | 9/14/2021 | 1248 | SMO / GESMERIAN        |             |
|                 |                                                                                                                                                         | 9/14/2021 | 1257 | SUBBED / GESMERIAN     |             |
| R2109410-003.08 | ASTM D4809-06                                                                                                                                           |           |      |                        |             |
|                 |                                                                                                                                                         | 9/14/2021 | 1248 | SMO / GESMERIAN        |             |
|                 |                                                                                                                                                         | 9/14/2021 | 1257 | SUBBED / GESMERIAN     |             |
| R2109410-003.09 |                                                                                                                                                         |           |      |                        |             |
|                 | 6010C,6010C,6010C,6010C,6010C,6010C,6010C,6010C,6010C,6010C,6010<br>C,6010C,6010C,6010C,6010C,6010C,6010C,6010C,6010C,6010C,6010C,601<br>0C,6010C,6020A |           |      |                        |             |
|                 |                                                                                                                                                         | 9/14/2021 | 1248 | SMO / GESMERIAN        |             |
|                 |                                                                                                                                                         | 9/14/2021 | 1257 | R-A01 / GESMERIAN      |             |
|                 |                                                                                                                                                         | 9/21/2021 | 1049 | In Lab / BDIAMOND      |             |
|                 |                                                                                                                                                         | 9/21/2021 | 1238 | R-A01 / BDIAMOND       |             |
|                 |                                                                                                                                                         | 9/22/2021 | 1326 | In Lab / BDIAMOND      |             |
|                 |                                                                                                                                                         | 9/23/2021 | 0925 | R-A01 / BDIAMOND       |             |

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Internal Chain of Custody Report

Client: Inventum Engineering  
Project: RITC Tanks

Service Request: R2109410

| Bottle ID       | Methods           | Date      | Time | Sample Location / User | Disposed On |
|-----------------|-------------------|-----------|------|------------------------|-------------|
| R2109410-003.18 | 300.0,353.2,9040C | 9/14/2021 | 1248 | SMO / GESMERIAN        |             |
|                 |                   | 9/15/2021 | 1337 | R-017 / GLAFORCE       |             |
|                 |                   | 9/15/2021 | 1337 | RT000540 / GLAFORCE    |             |
|                 |                   | 9/15/2021 | 1337 | R-017 / GLAFORCE       |             |
|                 |                   | 9/30/2021 | 1510 | R-002 / GESMERIAN      |             |
|                 |                   |           |      |                        |             |
| R2109410-003.22 | Kelada-01         | 9/14/2021 | 1248 | SMO / GESMERIAN        |             |
|                 |                   | 9/15/2021 | 0928 | RT000703 / GLAFORCE    |             |
|                 |                   | 9/15/2021 | 0928 | R-015 / GLAFORCE       |             |
|                 |                   | 10/1/2021 | 1506 | R-002 / GESMERIAN      |             |
|                 |                   |           |      |                        |             |
| R2109410-003.23 | 8260C             | 9/14/2021 | 1248 | SMO / GESMERIAN        |             |
|                 |                   | 9/14/2021 | 1256 | R-001 / GESMERIAN      |             |
|                 |                   | 9/21/2021 | 1721 | In Lab / KRUEST        |             |
|                 |                   | 9/21/2021 | 1737 | R-001-S12 / KRUEST     |             |
|                 |                   |           |      |                        |             |
| R2109410-003.24 |                   | 9/14/2021 | 1248 | SMO / GESMERIAN        |             |
|                 |                   | 9/14/2021 | 1256 | R-001 / GESMERIAN      |             |
|                 |                   |           |      |                        |             |
| R2109410-003.25 |                   | 9/14/2021 | 1248 | SMO / GESMERIAN        |             |
|                 |                   | 9/14/2021 | 1256 | R-001 / GESMERIAN      |             |
|                 |                   |           |      |                        |             |
| R2109410-003.26 | 8151A             | 9/14/2021 | 1250 | SMO / GESMERIAN        |             |
|                 |                   | 9/14/2021 | 1257 | R-002 / GESMERIAN      |             |
|                 |                   | 9/15/2021 | 0808 | In Lab / VSTAUFFER     |             |
|                 |                   |           |      |                        |             |
| R2109410-003.27 |                   | 9/14/2021 | 1250 | SMO / GESMERIAN        |             |
|                 |                   | 9/14/2021 | 1257 | R-002 / GESMERIAN      |             |
|                 |                   |           |      |                        |             |
| R2109410-003.28 |                   | 9/14/2021 | 1250 | SMO / GESMERIAN        |             |
|                 |                   | 9/14/2021 | 1257 | R-002 / GESMERIAN      |             |
|                 |                   |           |      |                        |             |
| R2109410-003.29 |                   | 9/14/2021 | 1250 | SMO / GESMERIAN        |             |
|                 |                   | 9/14/2021 | 1257 | R-002 / GESMERIAN      |             |

**ALS Group USA, Corp.**  
dba ALS Environmental  
**Internal Chain of Custody Report**

**Client:** Inventum Engineering  
**Project:** RITC Tanks

**Service Request:** R2109410

| Bottle ID              | Methods     | Date      | Time | Sample Location / User | Disposed On |
|------------------------|-------------|-----------|------|------------------------|-------------|
| <b>R2109410-003.30</b> | 8081B,8082A | 9/14/2021 | 1250 | SMO / GESMERIAN        |             |
|                        |             | 9/14/2021 | 1257 | R-002 / GESMERIAN      |             |
|                        |             | 9/14/2021 | 1250 | SMO / GESMERIAN        |             |
|                        |             | 9/14/2021 | 1257 | R-002 / GESMERIAN      |             |



## Miscellaneous Forms

**ALS Environmental—Rochester Laboratory**

1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623

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## REPORT QUALIFIERS AND DEFINITIONS

|   |                                                                                                                                                                                                                                                                                                        |     |                                                                                                                                                                                                                      |
|---|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| U | Analyte was analyzed for but not detected. The sample quantitation limit has been corrected for dilution and for percent moisture, unless otherwise noted in the case narrative.                                                                                                                       | +   | Correlation coefficient for MSA is <0.995.                                                                                                                                                                           |
| J | Estimated value due to either being a Tentatively Identified Compound (TIC) or that the concentration is between the MRL and the MDL. Concentrations are not verified within the linear range of the calibration. For DoD: concentration >40% difference between two GC columns (pesticides/Aroclors). | N   | Inorganics- Matrix spike recovery was outside laboratory limits.                                                                                                                                                     |
| B | Analyte was also detected in the associated method blank at a concentration that may have contributed to the sample result.                                                                                                                                                                            | N   | Organics- Presumptive evidence of a compound (reported as a TIC) based on the MS library search.                                                                                                                     |
| E | Inorganics- Concentration is estimated due to the serial dilution was outside control limits.                                                                                                                                                                                                          | S   | Concentration has been determined using Method of Standard Additions (MSA).                                                                                                                                          |
| E | Organics- Concentration has exceeded the calibration range for that specific analysis.                                                                                                                                                                                                                 | W   | Post-Digestion Spike recovery is outside control limits and the sample absorbance is <50% of the spike absorbance.                                                                                                   |
| D | Concentration is a result of a dilution, typically a secondary analysis of the sample due to exceeding the calibration range or that a surrogate has been diluted out of the sample and cannot be assessed.                                                                                            | P   | Concentration >40% difference between the two GC columns.                                                                                                                                                            |
| * | Indicates that a quality control parameter has exceeded laboratory limits. Under the "Notes" column of the Form I, this qualifier denotes analysis was performed out of Holding Time.                                                                                                                  | C   | Confirmed by GC/MS                                                                                                                                                                                                   |
| H | Analysis was performed out of hold time for tests that have an "immediate" hold time criteria.                                                                                                                                                                                                         | Q   | DoD reports: indicates a pesticide/Aroclor is not confirmed ( $\geq 100\%$ Difference between two GC columns).                                                                                                       |
| # | Spike was diluted out.                                                                                                                                                                                                                                                                                 | X   | See Case Narrative for discussion.                                                                                                                                                                                   |
|   |                                                                                                                                                                                                                                                                                                        | MRL | Method Reporting Limit. Also known as:                                                                                                                                                                               |
|   |                                                                                                                                                                                                                                                                                                        | LOQ | Limit of Quantitation (LOQ)<br>The lowest concentration at which the method analyte may be reliably quantified under the method conditions.                                                                          |
|   |                                                                                                                                                                                                                                                                                                        | MDL | Method Detection Limit. A statistical value derived from a study designed to provide the lowest concentration that will be detected 99% of the time. Values between the MDL and MRL are estimated (see J qualifier). |
|   |                                                                                                                                                                                                                                                                                                        | LOD | Limit of Detection. A value at or above the MDL which has been verified to be detectable.                                                                                                                            |
|   |                                                                                                                                                                                                                                                                                                        | ND  | Non-Detect. Analyte was not detected at the concentration listed. Same as U qualifier.                                                                                                                               |

### Rochester Lab ID # for State Accreditations<sup>1</sup>



| NELAP States            |
|-------------------------|
| Florida ID # E87674     |
| New Hampshire ID # 2941 |
| New York ID # 10145     |
| Pennsylvania ID# 68-786 |
| Virginia #460167        |

| Non-NELAP States       |
|------------------------|
| Connecticut ID #PH0556 |
| Delaware Approved      |
| Maine ID #NY01587      |
| North Carolina #36701  |
| North Carolina #676    |
| Rhode Island LAO00333  |

<sup>1</sup> Analyses were performed according to our laboratory's NELAP-approved quality assurance program and any applicable state or agency requirements. The test results meet requirements of the current NELAP/TNI standards or state or agency requirements, where applicable, except as noted in the case narrative. Since not all analyte/method/matrix combinations are offered for state/NELAC accreditation, this report may contain results which are not accredited. For a specific list of accredited analytes, contact the laboratory or go to <https://www.alsglobal.com/locations/americas/north-america/usa/new-york/rochester-environmental>

## ALS Laboratory Group

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### Acronyms

|            |                                                                                                                                          |
|------------|------------------------------------------------------------------------------------------------------------------------------------------|
| ASTM       | American Society for Testing and Materials                                                                                               |
| A2LA       | American Association for Laboratory Accreditation                                                                                        |
| CARB       | California Air Resources Board                                                                                                           |
| CAS Number | Chemical Abstract Service registry Number                                                                                                |
| CFC        | Chlorofluorocarbon                                                                                                                       |
| CFU        | Colony-Forming Unit                                                                                                                      |
| DEC        | Department of Environmental Conservation                                                                                                 |
| DEQ        | Department of Environmental Quality                                                                                                      |
| DHS        | Department of Health Services                                                                                                            |
| DOE        | Department of Ecology                                                                                                                    |
| DOH        | Department of Health                                                                                                                     |
| EPA        | U. S. Environmental Protection Agency                                                                                                    |
| ELAP       | Environmental Laboratory Accreditation Program                                                                                           |
| GC         | Gas Chromatography                                                                                                                       |
| GC/MS      | Gas Chromatography/Mass Spectrometry                                                                                                     |
| LUFT       | Leaking Underground Fuel Tank                                                                                                            |
| M          | Modified                                                                                                                                 |
| MCL        | Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA. |
| MDL        | Method Detection Limit                                                                                                                   |
| MPN        | Most Probable Number                                                                                                                     |
| MRL        | Method Reporting Limit                                                                                                                   |
| NA         | Not Applicable                                                                                                                           |
| NC         | Not Calculated                                                                                                                           |
| NCASI      | National Council of the Paper Industry for Air and Stream Improvement                                                                    |
| ND         | Not Detected                                                                                                                             |
| NIOSH      | National Institute for Occupational Safety and Health                                                                                    |
| PQL        | Practical Quantitation Limit                                                                                                             |
| RCRA       | Resource Conservation and Recovery Act                                                                                                   |
| SIM        | Selected Ion Monitoring                                                                                                                  |
| TPH        | Total Petroleum Hydrocarbons                                                                                                             |
| tr         | Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.                           |

ALS Group USA, Corp.  
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Analyst Summary report

**Client:** Inventum Engineering  
**Project:** RITC Tanks/

**Service Request:** R2109410

**Sample Name:** TK-LQ-ST22-09102021  
**Lab Code:** R2109410-001  
**Sample Matrix:** Water

**Date Collected:** 09/10/21  
**Date Received:** 09/11/21

| Analysis Method | Extracted/Digested By | Analyzed By  |
|-----------------|-----------------------|--------------|
| 300.0           |                       | SMORGAN      |
| 350.1           |                       | SMEDBURY     |
| 353.2           |                       | SMEDBURY     |
| 353.2           |                       | MROGERSON    |
| 6010C           | BDIAMOND              | KMCLAEN      |
| 6020A           | BDIAMOND              | KMCLAEN      |
| 7470A           | BDIAMOND              | NMANSEN      |
| 8081B           | KSERCU                | AMOSSES      |
| 8082A           | KSERCU                | AMOSSES      |
| 8151A           | KSERCU                | AMOSSES      |
| 8260C           |                       | KRUEST       |
| 8270D           | KSERCU                | JMISIUREWICZ |
| 9040C           |                       | KAWONG       |
| ASTM D4809-06   |                       | WHYATT       |
| Kelada-01       |                       | CWOODS       |

**Sample Name:** TK-LQ-ST23-09102021  
**Lab Code:** R2109410-002  
**Sample Matrix:** Water

**Date Collected:** 09/10/21  
**Date Received:** 09/11/21

| Analysis Method | Extracted/Digested By | Analyzed By  |
|-----------------|-----------------------|--------------|
| 300.0           |                       | SMORGAN      |
| 350.1           |                       | SMEDBURY     |
| 353.2           |                       | MROGERSON    |
| 353.2           |                       | SMEDBURY     |
| 6010C           | BDIAMOND              | KMCLAEN      |
| 6020A           | BDIAMOND              | KMCLAEN      |
| 7470A           | BDIAMOND              | NMANSEN      |
| 8081B           | KSERCU                | AMOSSES      |
| 8082A           | KSERCU                | AMOSSES      |
| 8151A           | KSERCU                | AMOSSES      |
| 8260C           |                       | KRUEST       |
| 8270D           | KSERCU                | JMISIUREWICZ |
| 9040C           |                       | KAWONG       |

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Analyst Summary report

**Client:** Inventum Engineering  
**Project:** RITC Tanks/

**Service Request:** R2109410

**Sample Name:** TK-LQ-ST23-09102021  
**Lab Code:** R2109410-002  
**Sample Matrix:** Water

**Date Collected:** 09/10/21  
**Date Received:** 09/11/21

**Analysis Method**  
ASTM D4809-06  
Kelada-01

**Extracted/Digested By**

**Analyzed By**  
WHYATT  
CWOODS

**Sample Name:** TK-LQ-ST24-09102021  
**Lab Code:** R2109410-003  
**Sample Matrix:** Water

**Date Collected:** 09/10/21  
**Date Received:** 09/11/21

**Analysis Method**

**Extracted/Digested By**

**Analyzed By**

300.0

SMORGAN

350.1

SMEDBURY

353.2

MROGERSON

353.2

SMEDBURY

6010C

BDIAMOND

KMCLAEN

6020A

BDIAMOND

KMCLAEN

7470A

BDIAMOND

NMANSEN

8081B

KSERCU

AMOSSES

8082A

KSERCU

AMOSSES

8151A

KSERCU

AMOSSES

8260C

KRUEST

8270D

KSERCU

JMISIUREWICZ

9040C

KAWONG

ASTM D4809-06

WHYATT

Kelada-01

CWOODS



## INORGANIC PREPARATION METHODS

The preparation methods associated with this report are found in these tables unless discussed in the case narrative.

### Water/Liquid Matrix

| Analytical Method             | Preparation Method |
|-------------------------------|--------------------|
| 200.7                         | 200.2              |
| 200.8                         | 200.2              |
| 6010C                         | 3005A/3010A        |
| 6020A                         | ILM05.3            |
| 9034 Sulfide Acid Soluble     | 9030B              |
| SM 4500-CN-E Residual Cyanide | SM 4500-CN-G       |
| SM 4500-CN-E WAD Cyanide      | SM 4500-CN-I       |

### Solid/Soil/Non-Aqueous Matrix

| Analytical Method                                                                                         | Preparation Method |
|-----------------------------------------------------------------------------------------------------------|--------------------|
| 6010C                                                                                                     | 3050B              |
| 6020A                                                                                                     | 3050B              |
| 6010C TCLP (1311) extract                                                                                 | 3005A/3010A        |
| 6010 SPLP (1312) extract                                                                                  | 3005A/3010A        |
| 7199                                                                                                      | 3060A              |
| 300.0 Anions/ 350.1/ 353.2/ SM 2320B/ SM 5210B/ 9056A Anions                                              | DI extraction      |
| For analytical methods not listed, the preparation method is the same as the analytical method reference. |                    |



## Sample Results

**ALS Environmental—Rochester Laboratory**

1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623

Phone (585) 288-5380 Fax (585) 288-8475

[www.alsglobal.com](http://www.alsglobal.com)



## Volatile Organic Compounds by GC/MS

**ALS Environmental—Rochester Laboratory**

1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623

Phone (585) 288-5380 Fax (585) 288-8475

[www.alsglobal.com](http://www.alsglobal.com)

**ALS Group USA, Corp.**  
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Analytical Report

**Client:** Inventum Engineering  
**Project:** RITC Tanks  
**Sample Matrix:** Water

**Service Request:** R2109410  
**Date Collected:** 09/10/21  
**Date Received:** 09/11/21 09:35

**Sample Name:** TK-LQ-ST22-09102021  
**Lab Code:** R2109410-001

**Units:** ug/L  
**Basis:** NA

**Volatile Organic Compounds by GC/MS**

**Analysis Method:** 8260C  
**Prep Method:** EPA 5030C

| Analyte Name                          | Result | MRL | MDL  | Dil. | Date Analyzed  | Q |
|---------------------------------------|--------|-----|------|------|----------------|---|
| 1,1,1-Trichloroethane (TCA)           | 0.20 U | 5.0 | 0.20 | 1    | 09/22/21 06:46 |   |
| 1,1,2,2-Tetrachloroethane             | 0.20 U | 5.0 | 0.20 | 1    | 09/22/21 06:46 |   |
| 1,1,2-Trichloroethane                 | 0.20 U | 5.0 | 0.20 | 1    | 09/22/21 06:46 |   |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.20 U | 5.0 | 0.20 | 1    | 09/22/21 06:46 |   |
| 1,1-Dichloroethane (1,1-DCA)          | 0.20 U | 5.0 | 0.20 | 1    | 09/22/21 06:46 |   |
| 1,1-Dichloroethene (1,1-DCE)          | 0.20 U | 5.0 | 0.20 | 1    | 09/22/21 06:46 |   |
| 1,2,3-Trichlorobenzene                | 0.25 U | 5.0 | 0.25 | 1    | 09/22/21 06:46 |   |
| 1,2,4-Trichlorobenzene                | 0.34 U | 5.0 | 0.34 | 1    | 09/22/21 06:46 |   |
| 1,2-Dibromo-3-chloropropane (DBCP)    | 0.45 U | 5.0 | 0.45 | 1    | 09/22/21 06:46 |   |
| 1,2-Dibromoethane                     | 0.20 U | 5.0 | 0.20 | 1    | 09/22/21 06:46 |   |
| 1,2-Dichlorobenzene                   | 0.20 U | 5.0 | 0.20 | 1    | 09/22/21 06:46 |   |
| 1,2-Dichloroethane                    | 0.20 U | 5.0 | 0.20 | 1    | 09/22/21 06:46 |   |
| 1,2-Dichloropropane                   | 0.20 U | 5.0 | 0.20 | 1    | 09/22/21 06:46 |   |
| 1,3-Dichlorobenzene                   | 0.20 U | 5.0 | 0.20 | 1    | 09/22/21 06:46 |   |
| 1,4-Dichlorobenzene                   | 0.20 U | 5.0 | 0.20 | 1    | 09/22/21 06:46 |   |
| 1,4-Dioxane                           | 13 U   | 100 | 13   | 1    | 09/22/21 06:46 |   |
| 2-Butanone (MEK)                      | 0.78 U | 10  | 0.78 | 1    | 09/22/21 06:46 |   |
| 2-Hexanone                            | 0.20 U | 10  | 0.20 | 1    | 09/22/21 06:46 |   |
| 4-Methyl-2-pentanone                  | 0.20 U | 10  | 0.20 | 1    | 09/22/21 06:46 |   |
| Acetone                               | 5.0 U  | 10  | 5.0  | 1    | 09/22/21 06:46 |   |
| Benzene                               | 1.0 J  | 5.0 | 0.20 | 1    | 09/22/21 06:46 |   |
| Bromochloromethane                    | 0.20 U | 5.0 | 0.20 | 1    | 09/22/21 06:46 |   |
| Bromodichloromethane                  | 0.20 U | 5.0 | 0.20 | 1    | 09/22/21 06:46 |   |
| Bromoform                             | 0.25 U | 5.0 | 0.25 | 1    | 09/22/21 06:46 |   |
| Bromomethane                          | 0.70 U | 5.0 | 0.70 | 1    | 09/22/21 06:46 |   |
| Carbon Disulfide                      | 0.42 U | 10  | 0.42 | 1    | 09/22/21 06:46 |   |
| Carbon Tetrachloride                  | 0.34 U | 5.0 | 0.34 | 1    | 09/22/21 06:46 |   |
| Chlorobenzene                         | 0.20 U | 5.0 | 0.20 | 1    | 09/22/21 06:46 |   |
| Chloroethane                          | 0.23 U | 5.0 | 0.23 | 1    | 09/22/21 06:46 |   |
| Chloroform                            | 0.24 U | 5.0 | 0.24 | 1    | 09/22/21 06:46 |   |
| Chloromethane                         | 0.28 U | 5.0 | 0.28 | 1    | 09/22/21 06:46 |   |
| Cyclohexane                           | 0.26 U | 10  | 0.26 | 1    | 09/22/21 06:46 |   |
| Dibromochloromethane                  | 0.20 U | 5.0 | 0.20 | 1    | 09/22/21 06:46 |   |
| Dichlorodifluoromethane (CFC 12)      | 0.21 U | 5.0 | 0.21 | 1    | 09/22/21 06:46 |   |
| Dichloromethane                       | 0.65 U | 5.0 | 0.65 | 1    | 09/22/21 06:46 |   |
| Ethylbenzene                          | 0.20 U | 5.0 | 0.20 | 1    | 09/22/21 06:46 |   |
| Isopropylbenzene (Cumene)             | 0.20 U | 5.0 | 0.20 | 1    | 09/22/21 06:46 |   |
| Methyl Acetate                        | 0.33 U | 10  | 0.33 | 1    | 09/22/21 06:46 |   |
| Methyl tert-Butyl Ether               | 0.20 U | 5.0 | 0.20 | 1    | 09/22/21 06:46 |   |
| Methylcyclohexane                     | 0.20 U | 10  | 0.20 | 1    | 09/22/21 06:46 |   |
| Styrene                               | 0.20 U | 5.0 | 0.20 | 1    | 09/22/21 06:46 |   |
| Tetrachloroethene (PCE)               | 0.21 U | 5.0 | 0.21 | 1    | 09/22/21 06:46 |   |
| Toluene                               | 0.63 J | 5.0 | 0.20 | 1    | 09/22/21 06:46 |   |

ALS Group USA, Corp.  
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Analytical Report

**Client:** Inventum Engineering  
**Project:** RITC Tanks  
**Sample Matrix:** Water  
  
**Sample Name:** TK-LQ-ST22-09102021  
**Lab Code:** R2109410-001

**Service Request:** R2109410  
**Date Collected:** 09/10/21  
**Date Received:** 09/11/21 09:35  
  
**Units:** ug/L  
**Basis:** NA

Volatile Organic Compounds by GC/MS

**Analysis Method:** 8260C  
**Prep Method:** EPA 5030C

| Analyte Name                    | Result | MRL | MDL  | Dil. | Date Analyzed  | Q |
|---------------------------------|--------|-----|------|------|----------------|---|
| Trichloroethene (TCE)           | 0.20 U | 5.0 | 0.20 | 1    | 09/22/21 06:46 |   |
| Trichlorofluoromethane (CFC 11) | 0.24 U | 5.0 | 0.24 | 1    | 09/22/21 06:46 |   |
| Vinyl Chloride                  | 0.20 U | 5.0 | 0.20 | 1    | 09/22/21 06:46 |   |
| cis-1,2-Dichloroethene          | 0.23 U | 5.0 | 0.23 | 1    | 09/22/21 06:46 |   |
| cis-1,3-Dichloropropene         | 0.20 U | 5.0 | 0.20 | 1    | 09/22/21 06:46 |   |
| m,p-Xylenes                     | 0.45 J | 5.0 | 0.20 | 1    | 09/22/21 06:46 |   |
| o-Xylene                        | 0.20 U | 5.0 | 0.20 | 1    | 09/22/21 06:46 |   |
| trans-1,2-Dichloroethene        | 0.20 U | 5.0 | 0.20 | 1    | 09/22/21 06:46 |   |
| trans-1,3-Dichloropropene       | 0.23 U | 5.0 | 0.23 | 1    | 09/22/21 06:46 |   |

| Surrogate Name       | % Rec | Control Limits | Date Analyzed  | Q |
|----------------------|-------|----------------|----------------|---|
| 4-Bromofluorobenzene | 105   | 85 - 122       | 09/22/21 06:46 |   |
| Dibromofluoromethane | 109   | 80 - 116       | 09/22/21 06:46 |   |
| Toluene-d8           | 110   | 87 - 121       | 09/22/21 06:46 |   |

**ALS Group USA, Corp.**  
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Analytical Report

**Client:** Inventum Engineering  
**Project:** RITC Tanks  
**Sample Matrix:** Water  
  
**Sample Name:** TK-LQ-ST23-09102021  
**Lab Code:** R2109410-002

**Service Request:** R2109410  
**Date Collected:** 09/10/21  
**Date Received:** 09/11/21 09:35

**Units:** ug/L  
**Basis:** NA

**Volatile Organic Compounds by GC/MS**

**Analysis Method:** 8260C  
**Prep Method:** EPA 5030C

| Analyte Name                          | Result | MRL  | MDL | Dil. | Date Analyzed  | Q |
|---------------------------------------|--------|------|-----|------|----------------|---|
| 1,1,1-Trichloroethane (TCA)           | 2.0 U  | 50   | 2.0 | 10   | 09/22/21 07:30 |   |
| 1,1,2,2-Tetrachloroethane             | 2.0 U  | 50   | 2.0 | 10   | 09/22/21 07:30 |   |
| 1,1,2-Trichloroethane                 | 2.0 U  | 50   | 2.0 | 10   | 09/22/21 07:30 |   |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 2.0 U  | 50   | 2.0 | 10   | 09/22/21 07:30 |   |
| 1,1-Dichloroethane (1,1-DCA)          | 2.0 U  | 50   | 2.0 | 10   | 09/22/21 07:30 |   |
| 1,1-Dichloroethene (1,1-DCE)          | 2.0 U  | 50   | 2.0 | 10   | 09/22/21 07:30 |   |
| 1,2,3-Trichlorobenzene                | 2.5 U  | 50   | 2.5 | 10   | 09/22/21 07:30 |   |
| 1,2,4-Trichlorobenzene                | 3.4 U  | 50   | 3.4 | 10   | 09/22/21 07:30 |   |
| 1,2-Dibromo-3-chloropropane (DBCP)    | 4.5 U  | 50   | 4.5 | 10   | 09/22/21 07:30 |   |
| 1,2-Dibromoethane                     | 2.0 U  | 50   | 2.0 | 10   | 09/22/21 07:30 |   |
| 1,2-Dichlorobenzene                   | 2.0 U  | 50   | 2.0 | 10   | 09/22/21 07:30 |   |
| 1,2-Dichloroethane                    | 2.0 U  | 50   | 2.0 | 10   | 09/22/21 07:30 |   |
| 1,2-Dichloropropane                   | 2.0 U  | 50   | 2.0 | 10   | 09/22/21 07:30 |   |
| 1,3-Dichlorobenzene                   | 2.0 U  | 50   | 2.0 | 10   | 09/22/21 07:30 |   |
| 1,4-Dichlorobenzene                   | 2.0 U  | 50   | 2.0 | 10   | 09/22/21 07:30 |   |
| 1,4-Dioxane                           | 130 U  | 1000 | 130 | 10   | 09/22/21 07:30 |   |
| 2-Butanone (MEK)                      | 11 J   | 100  | 7.8 | 10   | 09/22/21 07:30 |   |
| 2-Hexanone                            | 2.0 U  | 100  | 2.0 | 10   | 09/22/21 07:30 |   |
| 4-Methyl-2-pentanone                  | 2.0 U  | 100  | 2.0 | 10   | 09/22/21 07:30 |   |
| Acetone                               | 50 U   | 100  | 50  | 10   | 09/22/21 07:30 |   |
| Benzene                               | 440    | 50   | 2.0 | 10   | 09/22/21 07:30 |   |
| Bromochloromethane                    | 2.0 U  | 50   | 2.0 | 10   | 09/22/21 07:30 |   |
| Bromodichloromethane                  | 2.0 U  | 50   | 2.0 | 10   | 09/22/21 07:30 |   |
| Bromoform                             | 2.5 U  | 50   | 2.5 | 10   | 09/22/21 07:30 |   |
| Bromomethane                          | 7.0 U  | 50   | 7.0 | 10   | 09/22/21 07:30 |   |
| Carbon Disulfide                      | 4.2 U  | 100  | 4.2 | 10   | 09/22/21 07:30 |   |
| Carbon Tetrachloride                  | 3.4 U  | 50   | 3.4 | 10   | 09/22/21 07:30 |   |
| Chlorobenzene                         | 2.0 U  | 50   | 2.0 | 10   | 09/22/21 07:30 |   |
| Chloroethane                          | 2.3 U  | 50   | 2.3 | 10   | 09/22/21 07:30 |   |
| Chloroform                            | 2.4 U  | 50   | 2.4 | 10   | 09/22/21 07:30 |   |
| Chloromethane                         | 2.8 U  | 50   | 2.8 | 10   | 09/22/21 07:30 |   |
| Cyclohexane                           | 2.6 U  | 100  | 2.6 | 10   | 09/22/21 07:30 |   |
| Dibromochloromethane                  | 2.0 U  | 50   | 2.0 | 10   | 09/22/21 07:30 |   |
| Dichlorodifluoromethane (CFC 12)      | 2.1 U  | 50   | 2.1 | 10   | 09/22/21 07:30 |   |
| Dichloromethane                       | 6.5 U  | 50   | 6.5 | 10   | 09/22/21 07:30 |   |
| Ethylbenzene                          | 4.4 J  | 50   | 2.0 | 10   | 09/22/21 07:30 |   |
| Isopropylbenzene (Cumene)             | 2.0 U  | 50   | 2.0 | 10   | 09/22/21 07:30 |   |
| Methyl Acetate                        | 3.3 U  | 100  | 3.3 | 10   | 09/22/21 07:30 |   |
| Methyl tert-Butyl Ether               | 2.0 U  | 50   | 2.0 | 10   | 09/22/21 07:30 |   |
| Methylcyclohexane                     | 2.0 U  | 100  | 2.0 | 10   | 09/22/21 07:30 |   |
| Styrene                               | 14 J   | 50   | 2.0 | 10   | 09/22/21 07:30 |   |
| Tetrachloroethene (PCE)               | 2.1 U  | 50   | 2.1 | 10   | 09/22/21 07:30 |   |
| Toluene                               | 170    | 50   | 2.0 | 10   | 09/22/21 07:30 |   |

ALS Group USA, Corp.  
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Analytical Report

**Client:** Inventum Engineering  
**Project:** RITC Tanks  
**Sample Matrix:** Water  
  
**Sample Name:** TK-LQ-ST23-09102021  
**Lab Code:** R2109410-002

**Service Request:** R2109410  
**Date Collected:** 09/10/21  
**Date Received:** 09/11/21 09:35  
  
**Units:** ug/L  
**Basis:** NA

Volatile Organic Compounds by GC/MS

**Analysis Method:** 8260C  
**Prep Method:** EPA 5030C

| Analyte Name                    | Result      | MRL | MDL | Dil. | Date Analyzed  | Q |
|---------------------------------|-------------|-----|-----|------|----------------|---|
| Trichloroethene (TCE)           | 2.0 U       | 50  | 2.0 | 10   | 09/22/21 07:30 |   |
| Trichlorofluoromethane (CFC 11) | 2.4 U       | 50  | 2.4 | 10   | 09/22/21 07:30 |   |
| Vinyl Chloride                  | 2.0 U       | 50  | 2.0 | 10   | 09/22/21 07:30 |   |
| cis-1,2-Dichloroethene          | 2.3 U       | 50  | 2.3 | 10   | 09/22/21 07:30 |   |
| cis-1,3-Dichloropropene         | 2.0 U       | 50  | 2.0 | 10   | 09/22/21 07:30 |   |
| m,p-Xylenes                     | <b>63</b>   | 50  | 2.0 | 10   | 09/22/21 07:30 |   |
| o-Xylene                        | <b>19 J</b> | 50  | 2.0 | 10   | 09/22/21 07:30 |   |
| trans-1,2-Dichloroethene        | 2.0 U       | 50  | 2.0 | 10   | 09/22/21 07:30 |   |
| trans-1,3-Dichloropropene       | 2.3 U       | 50  | 2.3 | 10   | 09/22/21 07:30 |   |

| Surrogate Name       | % Rec | Control Limits | Date Analyzed  | Q |
|----------------------|-------|----------------|----------------|---|
| 4-Bromofluorobenzene | 107   | 85 - 122       | 09/22/21 07:30 |   |
| Dibromofluoromethane | 105   | 80 - 116       | 09/22/21 07:30 |   |
| Toluene-d8           | 109   | 87 - 121       | 09/22/21 07:30 |   |

**ALS Group USA, Corp.**  
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Analytical Report

**Client:** Inventum Engineering  
**Project:** RITC Tanks  
**Sample Matrix:** Water  
  
**Sample Name:** TK-LQ-ST24-09102021  
**Lab Code:** R2109410-003

**Service Request:** R2109410  
**Date Collected:** 09/10/21  
**Date Received:** 09/11/21 09:35

**Units:** ug/L  
**Basis:** NA

**Volatile Organic Compounds by GC/MS**

**Analysis Method:** 8260C  
**Prep Method:** EPA 5030C

| Analyte Name                          | Result | MRL  | MDL | Dil. | Date Analyzed  | Q |
|---------------------------------------|--------|------|-----|------|----------------|---|
| 1,1,1-Trichloroethane (TCA)           | 2.0 U  | 50   | 2.0 | 10   | 09/22/21 07:08 |   |
| 1,1,2,2-Tetrachloroethane             | 2.0 U  | 50   | 2.0 | 10   | 09/22/21 07:08 |   |
| 1,1,2-Trichloroethane                 | 2.0 U  | 50   | 2.0 | 10   | 09/22/21 07:08 |   |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 2.0 U  | 50   | 2.0 | 10   | 09/22/21 07:08 |   |
| 1,1-Dichloroethane (1,1-DCA)          | 2.0 U  | 50   | 2.0 | 10   | 09/22/21 07:08 |   |
| 1,1-Dichloroethene (1,1-DCE)          | 2.0 U  | 50   | 2.0 | 10   | 09/22/21 07:08 |   |
| 1,2,3-Trichlorobenzene                | 2.5 U  | 50   | 2.5 | 10   | 09/22/21 07:08 |   |
| 1,2,4-Trichlorobenzene                | 3.4 U  | 50   | 3.4 | 10   | 09/22/21 07:08 |   |
| 1,2-Dibromo-3-chloropropane (DBCP)    | 4.5 U  | 50   | 4.5 | 10   | 09/22/21 07:08 |   |
| 1,2-Dibromoethane                     | 2.0 U  | 50   | 2.0 | 10   | 09/22/21 07:08 |   |
| 1,2-Dichlorobenzene                   | 2.0 U  | 50   | 2.0 | 10   | 09/22/21 07:08 |   |
| 1,2-Dichloroethane                    | 2.0 U  | 50   | 2.0 | 10   | 09/22/21 07:08 |   |
| 1,2-Dichloropropane                   | 2.0 U  | 50   | 2.0 | 10   | 09/22/21 07:08 |   |
| 1,3-Dichlorobenzene                   | 2.0 U  | 50   | 2.0 | 10   | 09/22/21 07:08 |   |
| 1,4-Dichlorobenzene                   | 2.0 U  | 50   | 2.0 | 10   | 09/22/21 07:08 |   |
| 1,4-Dioxane                           | 130 U  | 1000 | 130 | 10   | 09/22/21 07:08 |   |
| 2-Butanone (MEK)                      | 7.8 U  | 100  | 7.8 | 10   | 09/22/21 07:08 |   |
| 2-Hexanone                            | 2.0 U  | 100  | 2.0 | 10   | 09/22/21 07:08 |   |
| 4-Methyl-2-pentanone                  | 2.0 U  | 100  | 2.0 | 10   | 09/22/21 07:08 |   |
| Acetone                               | 50 U   | 100  | 50  | 10   | 09/22/21 07:08 |   |
| Benzene                               | 2.0 U  | 50   | 2.0 | 10   | 09/22/21 07:08 |   |
| Bromochloromethane                    | 2.0 U  | 50   | 2.0 | 10   | 09/22/21 07:08 |   |
| Bromodichloromethane                  | 2.0 U  | 50   | 2.0 | 10   | 09/22/21 07:08 |   |
| Bromoform                             | 2.5 U  | 50   | 2.5 | 10   | 09/22/21 07:08 |   |
| Bromomethane                          | 7.0 U  | 50   | 7.0 | 10   | 09/22/21 07:08 |   |
| Carbon Disulfide                      | 4.2 U  | 100  | 4.2 | 10   | 09/22/21 07:08 |   |
| Carbon Tetrachloride                  | 3.4 U  | 50   | 3.4 | 10   | 09/22/21 07:08 |   |
| Chlorobenzene                         | 2.0 U  | 50   | 2.0 | 10   | 09/22/21 07:08 |   |
| Chloroethane                          | 2.3 U  | 50   | 2.3 | 10   | 09/22/21 07:08 |   |
| Chloroform                            | 2.4 U  | 50   | 2.4 | 10   | 09/22/21 07:08 |   |
| Chloromethane                         | 2.8 U  | 50   | 2.8 | 10   | 09/22/21 07:08 |   |
| Cyclohexane                           | 2.6 U  | 100  | 2.6 | 10   | 09/22/21 07:08 |   |
| Dibromochloromethane                  | 2.0 U  | 50   | 2.0 | 10   | 09/22/21 07:08 |   |
| Dichlorodifluoromethane (CFC 12)      | 2.1 U  | 50   | 2.1 | 10   | 09/22/21 07:08 |   |
| Dichloromethane                       | 6.5 U  | 50   | 6.5 | 10   | 09/22/21 07:08 |   |
| Ethylbenzene                          | 2.0 U  | 50   | 2.0 | 10   | 09/22/21 07:08 |   |
| Isopropylbenzene (Cumene)             | 2.0 U  | 50   | 2.0 | 10   | 09/22/21 07:08 |   |
| Methyl Acetate                        | 3.3 U  | 100  | 3.3 | 10   | 09/22/21 07:08 |   |
| Methyl tert-Butyl Ether               | 2.0 U  | 50   | 2.0 | 10   | 09/22/21 07:08 |   |
| Methylcyclohexane                     | 2.0 U  | 100  | 2.0 | 10   | 09/22/21 07:08 |   |
| Styrene                               | 2.0 U  | 50   | 2.0 | 10   | 09/22/21 07:08 |   |
| Tetrachloroethene (PCE)               | 2.1 U  | 50   | 2.1 | 10   | 09/22/21 07:08 |   |
| Toluene                               | 2.0 U  | 50   | 2.0 | 10   | 09/22/21 07:08 |   |

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Analytical Report

**Client:** Inventum Engineering  
**Project:** RITC Tanks  
**Sample Matrix:** Water  
  
**Sample Name:** TK-LQ-ST24-09102021  
**Lab Code:** R2109410-003

**Service Request:** R2109410  
**Date Collected:** 09/10/21  
**Date Received:** 09/11/21 09:35  
  
**Units:** ug/L  
**Basis:** NA

Volatile Organic Compounds by GC/MS

**Analysis Method:** 8260C  
**Prep Method:** EPA 5030C

| Analyte Name                    | Result | MRL | MDL | Dil. | Date Analyzed  | Q |
|---------------------------------|--------|-----|-----|------|----------------|---|
| Trichloroethene (TCE)           | 2.0 U  | 50  | 2.0 | 10   | 09/22/21 07:08 |   |
| Trichlorofluoromethane (CFC 11) | 2.4 U  | 50  | 2.4 | 10   | 09/22/21 07:08 |   |
| Vinyl Chloride                  | 2.0 U  | 50  | 2.0 | 10   | 09/22/21 07:08 |   |
| cis-1,2-Dichloroethene          | 2.3 U  | 50  | 2.3 | 10   | 09/22/21 07:08 |   |
| cis-1,3-Dichloropropene         | 2.0 U  | 50  | 2.0 | 10   | 09/22/21 07:08 |   |
| m,p-Xylenes                     | 2.0 U  | 50  | 2.0 | 10   | 09/22/21 07:08 |   |
| o-Xylene                        | 2.0 U  | 50  | 2.0 | 10   | 09/22/21 07:08 |   |
| trans-1,2-Dichloroethene        | 2.0 U  | 50  | 2.0 | 10   | 09/22/21 07:08 |   |
| trans-1,3-Dichloropropene       | 2.3 U  | 50  | 2.3 | 10   | 09/22/21 07:08 |   |

| Surrogate Name       | % Rec | Control Limits | Date Analyzed  | Q |
|----------------------|-------|----------------|----------------|---|
| 4-Bromofluorobenzene | 105   | 85 - 122       | 09/22/21 07:08 |   |
| Dibromofluoromethane | 103   | 80 - 116       | 09/22/21 07:08 |   |
| Toluene-d8           | 111   | 87 - 121       | 09/22/21 07:08 |   |



## Semivolatile Organic Compounds by GC/MS

**ALS Environmental—Rochester Laboratory**

1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623

Phone (585) 288-5380 Fax (585) 288-8475

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**ALS Group USA, Corp.**  
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Analytical Report

**Client:** Inventum Engineering  
**Project:** RITC Tanks  
**Sample Matrix:** Water  
  
**Sample Name:** TK-LQ-ST22-09102021  
**Lab Code:** R2109410-001

**Service Request:** R2109410  
**Date Collected:** 09/10/21  
**Date Received:** 09/11/21 09:35

**Units:** ug/L  
**Basis:** NA

**Semivolatile Organic Compounds by GC/MS**

**Analysis Method:** 8270D  
**Prep Method:** EPA 3510C

| Analyte Name                    | Result | MRL | MDL | Dil. | Date Analyzed  | Date Extracted | Q |
|---------------------------------|--------|-----|-----|------|----------------|----------------|---|
| 1,2,4,5-Tetrachlorobenzene      | 1.2 U  | 9.1 | 1.2 | 1    | 09/17/21 17:03 | 9/15/21        |   |
| 2,3,4,6-Tetrachlorophenol       | 1.2 U  | 9.1 | 1.2 | 1    | 09/17/21 17:03 | 9/15/21        |   |
| 2,4,5-Trichlorophenol           | 1.1 U  | 9.1 | 1.1 | 1    | 09/17/21 17:03 | 9/15/21        |   |
| 2,4,6-Trichlorophenol           | 1.4 U  | 9.1 | 1.4 | 1    | 09/17/21 17:03 | 9/15/21        |   |
| 2,4-Dichlorophenol              | 1.3 U  | 9.1 | 1.3 | 1    | 09/17/21 17:03 | 9/15/21        |   |
| 2,4-Dimethylphenol              | 1.4 U  | 9.1 | 1.4 | 1    | 09/17/21 17:03 | 9/15/21        |   |
| 2,4-Dinitrophenol               | 20 U   | 45  | 20  | 1    | 09/17/21 17:03 | 9/15/21        |   |
| 2,4-Dinitrotoluene              | 2.4 U  | 9.1 | 2.4 | 1    | 09/17/21 17:03 | 9/15/21        |   |
| 2,6-Dinitrotoluene              | 1.4 U  | 9.1 | 1.4 | 1    | 09/17/21 17:03 | 9/15/21        |   |
| 2-Chloronaphthalene             | 1.4 U  | 9.1 | 1.4 | 1    | 09/17/21 17:03 | 9/15/21        |   |
| 2-Chlorophenol                  | 1.1 U  | 9.1 | 1.1 | 1    | 09/17/21 17:03 | 9/15/21        |   |
| 2-Methylnaphthalene             | 11     | 9.1 | 1.3 | 1    | 09/17/21 17:03 | 9/15/21        |   |
| 2-Methylphenol                  | 1.0 U  | 9.1 | 1.0 | 1    | 09/17/21 17:03 | 9/15/21        |   |
| 2-Nitroaniline                  | 1.4 U  | 9.1 | 1.4 | 1    | 09/17/21 17:03 | 9/15/21        |   |
| 2-Nitrophenol                   | 1.5 U  | 9.1 | 1.5 | 1    | 09/17/21 17:03 | 9/15/21        |   |
| 3,3'-Dichlorobenzidine          | 1.2 U  | 9.1 | 1.2 | 1    | 09/17/21 17:03 | 9/15/21        |   |
| 3- and 4-Methylphenol Coelution | 1.3 J  | 9.1 | 1.2 | 1    | 09/17/21 17:03 | 9/15/21        |   |
| 3-Nitroaniline                  | 1.1 U  | 9.1 | 1.1 | 1    | 09/17/21 17:03 | 9/15/21        |   |
| 4,6-Dinitro-2-methylphenol      | 8.7 U  | 45  | 8.7 | 1    | 09/17/21 17:03 | 9/15/21        |   |
| 4-Bromophenyl Phenyl Ether      | 1.7 U  | 9.1 | 1.7 | 1    | 09/17/21 17:03 | 9/15/21        |   |
| 4-Chloro-3-methylphenol         | 1.1 U  | 9.1 | 1.1 | 1    | 09/17/21 17:03 | 9/15/21        |   |
| 4-Chloroaniline                 | 1.0 U  | 9.1 | 1.0 | 1    | 09/17/21 17:03 | 9/15/21        |   |
| 4-Chlorophenyl Phenyl Ether     | 1.5 U  | 9.1 | 1.5 | 1    | 09/17/21 17:03 | 9/15/21        |   |
| 4-Nitroaniline                  | 1.4 U  | 9.1 | 1.4 | 1    | 09/17/21 17:03 | 9/15/21        |   |
| 4-Nitrophenol                   | 6.4 U  | 45  | 6.4 | 1    | 09/17/21 17:03 | 9/15/21        |   |
| Acenaphthene                    | 1.8 J  | 9.1 | 1.4 | 1    | 09/17/21 17:03 | 9/15/21        |   |
| Acenaphthylene                  | 13     | 9.1 | 1.4 | 1    | 09/17/21 17:03 | 9/15/21        |   |
| Acetophenone                    | 1.3 U  | 9.1 | 1.3 | 1    | 09/17/21 17:03 | 9/15/21        |   |
| Anthracene                      | 11     | 9.1 | 1.3 | 1    | 09/17/21 17:03 | 9/15/21        |   |
| Atrazine                        | 2.1 U  | 9.1 | 2.1 | 1    | 09/17/21 17:03 | 9/15/21        |   |
| Benz(a)anthracene               | 57     | 9.1 | 1.6 | 1    | 09/17/21 17:03 | 9/15/21        |   |
| Benzaldehyde                    | 1.0 U  | 9.1 | 1.0 | 1    | 09/17/21 17:03 | 9/15/21        |   |
| Benzo(a)pyrene                  | 47     | 9.1 | 1.2 | 1    | 09/17/21 17:03 | 9/15/21        |   |
| Benzo(b)fluoranthene            | 53     | 9.1 | 1.2 | 1    | 09/17/21 17:03 | 9/15/21        |   |
| Benzo(g,h,i)perylene            | 19     | 9.1 | 1.0 | 1    | 09/17/21 17:03 | 9/15/21        |   |
| Benzo(k)fluoranthene            | 21     | 9.1 | 1.3 | 1    | 09/17/21 17:03 | 9/15/21        |   |
| Biphenyl                        | 2.5 J  | 9.1 | 1.4 | 1    | 09/17/21 17:03 | 9/15/21        |   |
| 2,2'-Oxybis(1-chloropropane)    | 1.4 U  | 9.1 | 1.4 | 1    | 09/17/21 17:03 | 9/15/21        |   |
| Bis(2-chloroethoxy)methane      | 1.9 U  | 9.1 | 1.9 | 1    | 09/17/21 17:03 | 9/15/21        |   |
| Bis(2-chloroethyl) Ether        | 1.3 U  | 9.1 | 1.3 | 1    | 09/17/21 17:03 | 9/15/21        |   |
| Bis(2-ethylhexyl) Phthalate     | 7.8 U  | 9.1 | 7.8 | 1    | 09/17/21 17:03 | 9/15/21        |   |
| Butyl Benzyl Phthalate          | 1.4 U  | 9.1 | 1.4 | 1    | 09/17/21 17:03 | 9/15/21        |   |
| Caprolactam                     | 1.0 U  | 9.1 | 1.0 | 1    | 09/17/21 17:03 | 9/15/21        |   |

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Analytical Report

**Client:** Inventum Engineering  
**Project:** RITC Tanks  
**Sample Matrix:** Water

**Service Request:** R2109410  
**Date Collected:** 09/10/21  
**Date Received:** 09/11/21 09:35

**Sample Name:** TK-LQ-ST22-09102021  
**Lab Code:** R2109410-001

**Units:** ug/L  
**Basis:** NA

**Semivolatile Organic Compounds by GC/MS**

**Analysis Method:** 8270D  
**Prep Method:** EPA 3510C

| Analyte Name              | Result       | MRL | MDL | Dil. | Date Analyzed  | Date Extracted | Q |
|---------------------------|--------------|-----|-----|------|----------------|----------------|---|
| Carbazole                 | <b>26</b>    | 9.1 | 1.6 | 1    | 09/17/21 17:03 | 9/15/21        |   |
| Chrysene                  | <b>61</b>    | 9.1 | 1.2 | 1    | 09/17/21 17:03 | 9/15/21        |   |
| Di-n-butyl Phthalate      | 1.7 U        | 9.1 | 1.7 | 1    | 09/17/21 17:03 | 9/15/21        |   |
| Di-n-octyl Phthalate      | 3.3 U        | 9.1 | 3.3 | 1    | 09/17/21 17:03 | 9/15/21        |   |
| Dibenz(a,h)anthracene     | <b>8.6 J</b> | 9.1 | 1.1 | 1    | 09/17/21 17:03 | 9/15/21        |   |
| Dibenzofuran              | <b>10</b>    | 9.1 | 1.4 | 1    | 09/17/21 17:03 | 9/15/21        |   |
| Diethyl Phthalate         | 1.1 U        | 9.1 | 1.1 | 1    | 09/17/21 17:03 | 9/15/21        |   |
| Dimethyl Phthalate        | 1.3 U        | 9.1 | 1.3 | 1    | 09/17/21 17:03 | 9/15/21        |   |
| Fluoranthene              | <b>40</b>    | 9.1 | 1.5 | 1    | 09/17/21 17:03 | 9/15/21        |   |
| Fluorene                  | <b>19</b>    | 9.1 | 1.3 | 1    | 09/17/21 17:03 | 9/15/21        |   |
| Hexachlorobenzene         | 1.6 U        | 9.1 | 1.6 | 1    | 09/17/21 17:03 | 9/15/21        |   |
| Hexachlorobutadiene       | 1.0 U        | 9.1 | 1.0 | 1    | 09/17/21 17:03 | 9/15/21        |   |
| Hexachlorocyclopentadiene | 2.2 U        | 9.1 | 2.2 | 1    | 09/17/21 17:03 | 9/15/21        |   |
| Hexachloroethane          | 1.1 U        | 9.1 | 1.1 | 1    | 09/17/21 17:03 | 9/15/21        |   |
| Indeno(1,2,3-cd)pyrene    | <b>20</b>    | 9.1 | 1.8 | 1    | 09/17/21 17:03 | 9/15/21        |   |
| Isophorone                | 1.4 U        | 9.1 | 1.4 | 1    | 09/17/21 17:03 | 9/15/21        |   |
| N-Nitrosodi-n-propylamine | 1.2 U        | 9.1 | 1.2 | 1    | 09/17/21 17:03 | 9/15/21        |   |
| N-Nitrosodiphenylamine    | 2.7 U        | 9.1 | 2.7 | 1    | 09/17/21 17:03 | 9/15/21        |   |
| Naphthalene               | <b>61</b>    | 9.1 | 1.2 | 1    | 09/17/21 17:03 | 9/15/21        |   |
| Nitrobenzene              | 1.5 U        | 9.1 | 1.5 | 1    | 09/17/21 17:03 | 9/15/21        |   |
| Pentachlorophenol (PCP)   | 9.7 U        | 45  | 9.7 | 1    | 09/17/21 17:03 | 9/15/21        |   |
| Phenanthrene              | <b>53</b>    | 9.1 | 1.4 | 1    | 09/17/21 17:03 | 9/15/21        |   |
| Phenol                    | <b>1.4 J</b> | 9.1 | 1.0 | 1    | 09/17/21 17:03 | 9/15/21        |   |
| Pyrene                    | <b>32</b>    | 9.1 | 1.5 | 1    | 09/17/21 17:03 | 9/15/21        |   |

| Surrogate Name       | % Rec | Control Limits | Date Analyzed  | Q |
|----------------------|-------|----------------|----------------|---|
| 2,4,6-Tribromophenol | 78    | 35 - 141       | 09/17/21 17:03 |   |
| 2-Fluorobiphenyl     | 75    | 31 - 118       | 09/17/21 17:03 |   |
| 2-Fluorophenol       | 41    | 10 - 105       | 09/17/21 17:03 |   |
| Nitrobenzene-d5      | 68    | 31 - 110       | 09/17/21 17:03 |   |
| Phenol-d6            | 31    | 10 - 107       | 09/17/21 17:03 |   |
| Terphenyl-d14        | 79    | 10 - 165       | 09/17/21 17:03 |   |

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Analytical Report

**Client:** Inventum Engineering  
**Project:** RITC Tanks  
**Sample Matrix:** Water

**Service Request:** R2109410  
**Date Collected:** 09/10/21  
**Date Received:** 09/11/21 09:35

**Sample Name:** TK-LQ-ST23-09102021  
**Lab Code:** R2109410-002

**Units:** ug/L  
**Basis:** NA

**Semivolatile Organic Compounds by GC/MS**

**Analysis Method:** 8270D  
**Prep Method:** EPA 3510C

| Analyte Name                    | Result       | MRL  | MDL  | Dil. | Date Analyzed  | Date Extracted | Q |
|---------------------------------|--------------|------|------|------|----------------|----------------|---|
| 1,2,4,5-Tetrachlorobenzene      | 120 U        | 910  | 120  | 100  | 09/17/21 17:31 | 9/15/21        |   |
| 2,3,4,6-Tetrachlorophenol       | 120 U        | 910  | 120  | 100  | 09/17/21 17:31 | 9/15/21        |   |
| 2,4,5-Trichlorophenol           | 110 U        | 910  | 110  | 100  | 09/17/21 17:31 | 9/15/21        |   |
| 2,4,6-Trichlorophenol           | 140 U        | 910  | 140  | 100  | 09/17/21 17:31 | 9/15/21        |   |
| 2,4-Dichlorophenol              | 130 U        | 910  | 130  | 100  | 09/17/21 17:31 | 9/15/21        |   |
| 2,4-Dimethylphenol              | <b>2300</b>  | 910  | 140  | 100  | 09/17/21 17:31 | 9/15/21        |   |
| 2,4-Dinitrophenol               | 2000 U       | 4500 | 2000 | 100  | 09/17/21 17:31 | 9/15/21        |   |
| 2,4-Dinitrotoluene              | 240 U        | 910  | 240  | 100  | 09/17/21 17:31 | 9/15/21        |   |
| 2,6-Dinitrotoluene              | 140 U        | 910  | 140  | 100  | 09/17/21 17:31 | 9/15/21        |   |
| 2-Chloronaphthalene             | 140 U        | 910  | 140  | 100  | 09/17/21 17:31 | 9/15/21        |   |
| 2-Chlorophenol                  | 110 U        | 910  | 110  | 100  | 09/17/21 17:31 | 9/15/21        |   |
| 2-Methylnaphthalene             | <b>810 J</b> | 910  | 130  | 100  | 09/17/21 17:31 | 9/15/21        |   |
| 2-Methylphenol                  | <b>9900</b>  | 910  | 100  | 100  | 09/17/21 17:31 | 9/15/21        |   |
| 2-Nitroaniline                  | 140 U        | 910  | 140  | 100  | 09/17/21 17:31 | 9/15/21        |   |
| 2-Nitrophenol                   | 150 U        | 910  | 150  | 100  | 09/17/21 17:31 | 9/15/21        |   |
| 3,3'-Dichlorobenzidine          | 120 U        | 910  | 120  | 100  | 09/17/21 17:31 | 9/15/21        |   |
| 3- and 4-Methylphenol Coelution | <b>28000</b> | 910  | 120  | 100  | 09/17/21 17:31 | 9/15/21        |   |
| 3-Nitroaniline                  | 110 U        | 910  | 110  | 100  | 09/17/21 17:31 | 9/15/21        |   |
| 4,6-Dinitro-2-methylphenol      | 870 U        | 4500 | 870  | 100  | 09/17/21 17:31 | 9/15/21        |   |
| 4-Bromophenyl Phenyl Ether      | 170 U        | 910  | 170  | 100  | 09/17/21 17:31 | 9/15/21        |   |
| 4-Chloro-3-methylphenol         | 110 U        | 910  | 110  | 100  | 09/17/21 17:31 | 9/15/21        |   |
| 4-Chloroaniline                 | 100 U        | 910  | 100  | 100  | 09/17/21 17:31 | 9/15/21        |   |
| 4-Chlorophenyl Phenyl Ether     | 150 U        | 910  | 150  | 100  | 09/17/21 17:31 | 9/15/21        |   |
| 4-Nitroaniline                  | 140 U        | 910  | 140  | 100  | 09/17/21 17:31 | 9/15/21        |   |
| 4-Nitrophenol                   | 640 U        | 4500 | 640  | 100  | 09/17/21 17:31 | 9/15/21        |   |
| Acenaphthene                    | 140 U        | 910  | 140  | 100  | 09/17/21 17:31 | 9/15/21        |   |
| Acenaphthylene                  | <b>910 J</b> | 910  | 140  | 100  | 09/17/21 17:31 | 9/15/21        |   |
| Acetophenone                    | 130 U        | 910  | 130  | 100  | 09/17/21 17:31 | 9/15/21        |   |
| Anthracene                      | <b>490 J</b> | 910  | 130  | 100  | 09/17/21 17:31 | 9/15/21        |   |
| Atrazine                        | 210 U        | 910  | 210  | 100  | 09/17/21 17:31 | 9/15/21        |   |
| Benz(a)anthracene               | <b>500 J</b> | 910  | 160  | 100  | 09/17/21 17:31 | 9/15/21        |   |
| Benzaldehyde                    | 100 U        | 910  | 100  | 100  | 09/17/21 17:31 | 9/15/21        |   |
| Benzo(a)pyrene                  | <b>540 J</b> | 910  | 120  | 100  | 09/17/21 17:31 | 9/15/21        |   |
| Benzo(b)fluoranthene            | <b>550 J</b> | 910  | 120  | 100  | 09/17/21 17:31 | 9/15/21        |   |
| Benzo(g,h,i)perylene            | <b>330 J</b> | 910  | 100  | 100  | 09/17/21 17:31 | 9/15/21        |   |
| Benzo(k)fluoranthene            | <b>230 J</b> | 910  | 130  | 100  | 09/17/21 17:31 | 9/15/21        |   |
| Biphenyl                        | 140 U        | 910  | 140  | 100  | 09/17/21 17:31 | 9/15/21        |   |
| 2,2'-Oxybis(1-chloropropane)    | 140 U        | 910  | 140  | 100  | 09/17/21 17:31 | 9/15/21        |   |
| Bis(2-chloroethoxy)methane      | 190 U        | 910  | 190  | 100  | 09/17/21 17:31 | 9/15/21        |   |
| Bis(2-chloroethyl) Ether        | 130 U        | 910  | 130  | 100  | 09/17/21 17:31 | 9/15/21        |   |
| Bis(2-ethylhexyl) Phthalate     | 780 U        | 910  | 780  | 100  | 09/17/21 17:31 | 9/15/21        |   |
| Butyl Benzyl Phthalate          | 140 U        | 910  | 140  | 100  | 09/17/21 17:31 | 9/15/21        |   |
| Caprolactam                     | 100 U        | 910  | 100  | 100  | 09/17/21 17:31 | 9/15/21        |   |

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Analytical Report

**Client:** Inventum Engineering  
**Project:** RITC Tanks  
**Sample Matrix:** Water

**Service Request:** R2109410  
**Date Collected:** 09/10/21  
**Date Received:** 09/11/21 09:35

**Sample Name:** TK-LQ-ST23-09102021  
**Lab Code:** R2109410-002

**Units:** ug/L  
**Basis:** NA

**Semivolatile Organic Compounds by GC/MS**

**Analysis Method:** 8270D  
**Prep Method:** EPA 3510C

| Analyte Name              | Result | MRL  | MDL | Dil. | Date Analyzed  | Date Extracted | Q |
|---------------------------|--------|------|-----|------|----------------|----------------|---|
| Carbazole                 | 830 J  | 910  | 160 | 100  | 09/17/21 17:31 | 9/15/21        |   |
| Chrysene                  | 670 J  | 910  | 120 | 100  | 09/17/21 17:31 | 9/15/21        |   |
| Di-n-butyl Phthalate      | 170 U  | 910  | 170 | 100  | 09/17/21 17:31 | 9/15/21        |   |
| Di-n-octyl Phthalate      | 330 U  | 910  | 330 | 100  | 09/17/21 17:31 | 9/15/21        |   |
| Dibenz(a,h)anthracene     | 110 U  | 910  | 110 | 100  | 09/17/21 17:31 | 9/15/21        |   |
| Dibenzofuran              | 460 J  | 910  | 140 | 100  | 09/17/21 17:31 | 9/15/21        |   |
| Diethyl Phthalate         | 110 U  | 910  | 110 | 100  | 09/17/21 17:31 | 9/15/21        |   |
| Dimethyl Phthalate        | 130 U  | 910  | 130 | 100  | 09/17/21 17:31 | 9/15/21        |   |
| Fluoranthene              | 1400   | 910  | 150 | 100  | 09/17/21 17:31 | 9/15/21        |   |
| Fluorene                  | 740 J  | 910  | 130 | 100  | 09/17/21 17:31 | 9/15/21        |   |
| Hexachlorobenzene         | 160 U  | 910  | 160 | 100  | 09/17/21 17:31 | 9/15/21        |   |
| Hexachlorobutadiene       | 100 U  | 910  | 100 | 100  | 09/17/21 17:31 | 9/15/21        |   |
| Hexachlorocyclopentadiene | 220 U  | 910  | 220 | 100  | 09/17/21 17:31 | 9/15/21        |   |
| Hexachloroethane          | 110 U  | 910  | 110 | 100  | 09/17/21 17:31 | 9/15/21        |   |
| Indeno(1,2,3-cd)pyrene    | 300 J  | 910  | 180 | 100  | 09/17/21 17:31 | 9/15/21        |   |
| Isophorone                | 140 U  | 910  | 140 | 100  | 09/17/21 17:31 | 9/15/21        |   |
| N-Nitrosodi-n-propylamine | 120 U  | 910  | 120 | 100  | 09/17/21 17:31 | 9/15/21        |   |
| N-Nitrosodiphenylamine    | 270 U  | 910  | 270 | 100  | 09/17/21 17:31 | 9/15/21        |   |
| Naphthalene               | 3800   | 910  | 120 | 100  | 09/17/21 17:31 | 9/15/21        |   |
| Nitrobenzene              | 150 U  | 910  | 150 | 100  | 09/17/21 17:31 | 9/15/21        |   |
| Pentachlorophenol (PCP)   | 970 U  | 4500 | 970 | 100  | 09/17/21 17:31 | 9/15/21        |   |
| Phenanthrene              | 2300   | 910  | 140 | 100  | 09/17/21 17:31 | 9/15/21        |   |
| Phenol                    | 26000  | 910  | 100 | 100  | 09/17/21 17:31 | 9/15/21        |   |
| Pyrene                    | 1100   | 910  | 150 | 100  | 09/17/21 17:31 | 9/15/21        |   |

| Surrogate Name       | % Rec | Control Limits | Date Analyzed  | Q |
|----------------------|-------|----------------|----------------|---|
| 2,4,6-Tribromophenol | 0 *   | 35 - 141       | 09/17/21 17:31 | D |
| 2-Fluorobiphenyl     | 0 *   | 31 - 118       | 09/17/21 17:31 | D |
| 2-Fluorophenol       | 0 *   | 10 - 105       | 09/17/21 17:31 | D |
| Nitrobenzene-d5      | 0 *   | 31 - 110       | 09/17/21 17:31 | D |
| Phenol-d6            | 0 *   | 10 - 107       | 09/17/21 17:31 | D |
| Terphenyl-d14        | 0 *   | 10 - 165       | 09/17/21 17:31 | D |

**ALS Group USA, Corp.**  
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Analytical Report

**Client:** Inventum Engineering  
**Project:** RITC Tanks  
**Sample Matrix:** Water

**Service Request:** R2109410  
**Date Collected:** 09/10/21  
**Date Received:** 09/11/21 09:35

**Sample Name:** TK-LQ-ST24-09102021  
**Lab Code:** R2109410-003

**Units:** ug/L  
**Basis:** NA

**Semivolatile Organic Compounds by GC/MS**

**Analysis Method:** 8270D  
**Prep Method:** EPA 3510C

| Analyte Name                    | Result | MRL | MDL | Dil. | Date Analyzed  | Date Extracted | Q |
|---------------------------------|--------|-----|-----|------|----------------|----------------|---|
| 1,2,4,5-Tetrachlorobenzene      | 1.2 U  | 9.1 | 1.2 | 1    | 09/17/21 17:59 | 9/15/21        |   |
| 2,3,4,6-Tetrachlorophenol       | 1.2 U  | 9.1 | 1.2 | 1    | 09/17/21 17:59 | 9/15/21        |   |
| 2,4,5-Trichlorophenol           | 1.1 U  | 9.1 | 1.1 | 1    | 09/17/21 17:59 | 9/15/21        |   |
| 2,4,6-Trichlorophenol           | 1.4 U  | 9.1 | 1.4 | 1    | 09/17/21 17:59 | 9/15/21        |   |
| 2,4-Dichlorophenol              | 1.3 U  | 9.1 | 1.3 | 1    | 09/17/21 17:59 | 9/15/21        |   |
| 2,4-Dimethylphenol              | 1.4 U  | 9.1 | 1.4 | 1    | 09/17/21 17:59 | 9/15/21        |   |
| 2,4-Dinitrophenol               | 20 U   | 45  | 20  | 1    | 09/17/21 17:59 | 9/15/21        |   |
| 2,4-Dinitrotoluene              | 2.4 U  | 9.1 | 2.4 | 1    | 09/17/21 17:59 | 9/15/21        |   |
| 2,6-Dinitrotoluene              | 1.4 U  | 9.1 | 1.4 | 1    | 09/17/21 17:59 | 9/15/21        |   |
| 2-Chloronaphthalene             | 1.4 U  | 9.1 | 1.4 | 1    | 09/17/21 17:59 | 9/15/21        |   |
| 2-Chlorophenol                  | 1.1 U  | 9.1 | 1.1 | 1    | 09/17/21 17:59 | 9/15/21        |   |
| 2-Methylnaphthalene             | 1.3 U  | 9.1 | 1.3 | 1    | 09/17/21 17:59 | 9/15/21        |   |
| 2-Methylphenol                  | 1.0 U  | 9.1 | 1.0 | 1    | 09/17/21 17:59 | 9/15/21        |   |
| 2-Nitroaniline                  | 1.4 U  | 9.1 | 1.4 | 1    | 09/17/21 17:59 | 9/15/21        |   |
| 2-Nitrophenol                   | 1.5 U  | 9.1 | 1.5 | 1    | 09/17/21 17:59 | 9/15/21        |   |
| 3,3'-Dichlorobenzidine          | 1.2 U  | 9.1 | 1.2 | 1    | 09/17/21 17:59 | 9/15/21        |   |
| 3- and 4-Methylphenol Coelution | 1.2 U  | 9.1 | 1.2 | 1    | 09/17/21 17:59 | 9/15/21        |   |
| 3-Nitroaniline                  | 1.1 U  | 9.1 | 1.1 | 1    | 09/17/21 17:59 | 9/15/21        |   |
| 4,6-Dinitro-2-methylphenol      | 8.7 U  | 45  | 8.7 | 1    | 09/17/21 17:59 | 9/15/21        |   |
| 4-Bromophenyl Phenyl Ether      | 1.7 U  | 9.1 | 1.7 | 1    | 09/17/21 17:59 | 9/15/21        |   |
| 4-Chloro-3-methylphenol         | 1.1 U  | 9.1 | 1.1 | 1    | 09/17/21 17:59 | 9/15/21        |   |
| 4-Chloroaniline                 | 1.0 U  | 9.1 | 1.0 | 1    | 09/17/21 17:59 | 9/15/21        |   |
| 4-Chlorophenyl Phenyl Ether     | 1.5 U  | 9.1 | 1.5 | 1    | 09/17/21 17:59 | 9/15/21        |   |
| 4-Nitroaniline                  | 1.4 U  | 9.1 | 1.4 | 1    | 09/17/21 17:59 | 9/15/21        |   |
| 4-Nitrophenol                   | 6.4 U  | 45  | 6.4 | 1    | 09/17/21 17:59 | 9/15/21        |   |
| Acenaphthene                    | 1.4 U  | 9.1 | 1.4 | 1    | 09/17/21 17:59 | 9/15/21        |   |
| Acenaphthylene                  | 1.4 U  | 9.1 | 1.4 | 1    | 09/17/21 17:59 | 9/15/21        |   |
| Acetophenone                    | 1.3 U  | 9.1 | 1.3 | 1    | 09/17/21 17:59 | 9/15/21        |   |
| Anthracene                      | 1.3 U  | 9.1 | 1.3 | 1    | 09/17/21 17:59 | 9/15/21        |   |
| Atrazine                        | 2.1 U  | 9.1 | 2.1 | 1    | 09/17/21 17:59 | 9/15/21        |   |
| Benz(a)anthracene               | 1.6 U  | 9.1 | 1.6 | 1    | 09/17/21 17:59 | 9/15/21        |   |
| Benzaldehyde                    | 1.0 U  | 9.1 | 1.0 | 1    | 09/17/21 17:59 | 9/15/21        |   |
| Benzo(a)pyrene                  | 1.2 U  | 9.1 | 1.2 | 1    | 09/17/21 17:59 | 9/15/21        |   |
| Benzo(b)fluoranthene            | 1.2 U  | 9.1 | 1.2 | 1    | 09/17/21 17:59 | 9/15/21        |   |
| Benzo(g,h,i)perylene            | 1.0 U  | 9.1 | 1.0 | 1    | 09/17/21 17:59 | 9/15/21        |   |
| Benzo(k)fluoranthene            | 1.3 U  | 9.1 | 1.3 | 1    | 09/17/21 17:59 | 9/15/21        |   |
| Biphenyl                        | 1.4 U  | 9.1 | 1.4 | 1    | 09/17/21 17:59 | 9/15/21        |   |
| 2,2'-Oxybis(1-chloropropane)    | 1.4 U  | 9.1 | 1.4 | 1    | 09/17/21 17:59 | 9/15/21        |   |
| Bis(2-chloroethoxy)methane      | 1.9 U  | 9.1 | 1.9 | 1    | 09/17/21 17:59 | 9/15/21        |   |
| Bis(2-chloroethyl) Ether        | 1.3 U  | 9.1 | 1.3 | 1    | 09/17/21 17:59 | 9/15/21        |   |
| Bis(2-ethylhexyl) Phthalate     | 7.8 U  | 9.1 | 7.8 | 1    | 09/17/21 17:59 | 9/15/21        |   |
| Butyl Benzyl Phthalate          | 1.4 U  | 9.1 | 1.4 | 1    | 09/17/21 17:59 | 9/15/21        |   |
| Caprolactam                     | 1.0 U  | 9.1 | 1.0 | 1    | 09/17/21 17:59 | 9/15/21        |   |

**ALS Group USA, Corp.**  
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Analytical Report

**Client:** Inventum Engineering  
**Project:** RITC Tanks  
**Sample Matrix:** Water

**Service Request:** R2109410  
**Date Collected:** 09/10/21  
**Date Received:** 09/11/21 09:35

**Sample Name:** TK-LQ-ST24-09102021  
**Lab Code:** R2109410-003

**Units:** ug/L  
**Basis:** NA

**Semivolatile Organic Compounds by GC/MS**

**Analysis Method:** 8270D  
**Prep Method:** EPA 3510C

| Analyte Name              | Result | MRL | MDL | Dil. | Date Analyzed  | Date Extracted | Q |
|---------------------------|--------|-----|-----|------|----------------|----------------|---|
| Carbazole                 | 1.6 U  | 9.1 | 1.6 | 1    | 09/17/21 17:59 | 9/15/21        |   |
| Chrysene                  | 1.2 U  | 9.1 | 1.2 | 1    | 09/17/21 17:59 | 9/15/21        |   |
| Di-n-butyl Phthalate      | 1.7 U  | 9.1 | 1.7 | 1    | 09/17/21 17:59 | 9/15/21        |   |
| Di-n-octyl Phthalate      | 3.3 U  | 9.1 | 3.3 | 1    | 09/17/21 17:59 | 9/15/21        |   |
| Dibenz(a,h)anthracene     | 1.1 U  | 9.1 | 1.1 | 1    | 09/17/21 17:59 | 9/15/21        |   |
| Dibenzofuran              | 1.4 U  | 9.1 | 1.4 | 1    | 09/17/21 17:59 | 9/15/21        |   |
| Diethyl Phthalate         | 1.1 U  | 9.1 | 1.1 | 1    | 09/17/21 17:59 | 9/15/21        |   |
| Dimethyl Phthalate        | 1.3 U  | 9.1 | 1.3 | 1    | 09/17/21 17:59 | 9/15/21        |   |
| Fluoranthene              | 1.5 U  | 9.1 | 1.5 | 1    | 09/17/21 17:59 | 9/15/21        |   |
| Fluorene                  | 1.3 U  | 9.1 | 1.3 | 1    | 09/17/21 17:59 | 9/15/21        |   |
| Hexachlorobenzene         | 1.6 U  | 9.1 | 1.6 | 1    | 09/17/21 17:59 | 9/15/21        |   |
| Hexachlorobutadiene       | 1.0 U  | 9.1 | 1.0 | 1    | 09/17/21 17:59 | 9/15/21        |   |
| Hexachlorocyclopentadiene | 2.2 U  | 9.1 | 2.2 | 1    | 09/17/21 17:59 | 9/15/21        |   |
| Hexachloroethane          | 1.1 U  | 9.1 | 1.1 | 1    | 09/17/21 17:59 | 9/15/21        |   |
| Indeno(1,2,3-cd)pyrene    | 1.8 U  | 9.1 | 1.8 | 1    | 09/17/21 17:59 | 9/15/21        |   |
| Isophorone                | 1.4 U  | 9.1 | 1.4 | 1    | 09/17/21 17:59 | 9/15/21        |   |
| N-Nitrosodi-n-propylamine | 1.2 U  | 9.1 | 1.2 | 1    | 09/17/21 17:59 | 9/15/21        |   |
| N-Nitrosodiphenylamine    | 2.7 U  | 9.1 | 2.7 | 1    | 09/17/21 17:59 | 9/15/21        |   |
| Naphthalene               | 1.2 U  | 9.1 | 1.2 | 1    | 09/17/21 17:59 | 9/15/21        |   |
| Nitrobenzene              | 1.5 U  | 9.1 | 1.5 | 1    | 09/17/21 17:59 | 9/15/21        |   |
| Pentachlorophenol (PCP)   | 9.7 U  | 45  | 9.7 | 1    | 09/17/21 17:59 | 9/15/21        |   |
| Phenanthrene              | 1.4 U  | 9.1 | 1.4 | 1    | 09/17/21 17:59 | 9/15/21        |   |
| Phenol                    | 1.0 U  | 9.1 | 1.0 | 1    | 09/17/21 17:59 | 9/15/21        |   |
| Pyrene                    | 1.5 U  | 9.1 | 1.5 | 1    | 09/17/21 17:59 | 9/15/21        |   |

| Surrogate Name       | % Rec | Control Limits | Date Analyzed  | Q |
|----------------------|-------|----------------|----------------|---|
| 2,4,6-Tribromophenol | 75    | 35 - 141       | 09/17/21 17:59 |   |
| 2-Fluorobiphenyl     | 75    | 31 - 118       | 09/17/21 17:59 |   |
| 2-Fluorophenol       | 41    | 10 - 105       | 09/17/21 17:59 |   |
| Nitrobenzene-d5      | 68    | 31 - 110       | 09/17/21 17:59 |   |
| Phenol-d6            | 32    | 10 - 107       | 09/17/21 17:59 |   |
| Terphenyl-d14        | 81    | 10 - 165       | 09/17/21 17:59 |   |



## Semivolatile Organic Compounds by GC

**ALS Environmental—Rochester Laboratory**

1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623

Phone (585) 288-5380 Fax (585) 288-8475

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**ALS Group USA, Corp.**  
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Analytical Report

**Client:** Inventum Engineering  
**Project:** RITC Tanks  
**Sample Matrix:** Water

**Service Request:** R2109410  
**Date Collected:** 09/10/21  
**Date Received:** 09/11/21 09:35

**Sample Name:** TK-LQ-ST22-09102021  
**Lab Code:** R2109410-001

**Units:** ug/L  
**Basis:** NA

**Organochlorine Pesticides by Gas Chromatography**

**Analysis Method:** 8081B  
**Prep Method:** EPA 3510C

| Analyte Name        | Result  | MRL   | MDL   | Dil. | Date Analyzed  | Date Extracted | Q |
|---------------------|---------|-------|-------|------|----------------|----------------|---|
| 4,4'-DDD            | 0.020 U | 0.045 | 0.020 | 1    | 09/20/21 15:44 | 9/16/21        |   |
| 4,4'-DDE            | 0.020 U | 0.045 | 0.020 | 1    | 09/20/21 15:44 | 9/16/21        |   |
| 4,4'-DDT            | 0.020 U | 0.045 | 0.020 | 1    | 09/20/21 15:44 | 9/16/21        |   |
| Aldrin              | 0.020 U | 0.045 | 0.020 | 1    | 09/20/21 15:44 | 9/16/21        |   |
| Dieldrin            | 0.020 U | 0.045 | 0.020 | 1    | 09/20/21 15:44 | 9/16/21        |   |
| Endosulfan I        | 0.020 U | 0.045 | 0.020 | 1    | 09/20/21 15:44 | 9/16/21        |   |
| Endosulfan II       | 0.020 U | 0.045 | 0.020 | 1    | 09/20/21 15:44 | 9/16/21        |   |
| Endosulfan Sulfate  | 0.020 U | 0.045 | 0.020 | 1    | 09/20/21 15:44 | 9/16/21        |   |
| Endrin              | 0.020 U | 0.045 | 0.020 | 1    | 09/20/21 15:44 | 9/16/21        |   |
| Endrin Aldehyde     | 0.020 U | 0.045 | 0.020 | 1    | 09/20/21 15:44 | 9/16/21        |   |
| Endrin Ketone       | 0.020 U | 0.045 | 0.020 | 1    | 09/20/21 15:44 | 9/16/21        |   |
| Heptachlor          | 0.020 U | 0.045 | 0.020 | 1    | 09/20/21 15:44 | 9/16/21        |   |
| Heptachlor Epoxide  | 0.020 U | 0.045 | 0.020 | 1    | 09/20/21 15:44 | 9/16/21        |   |
| Methoxychlor        | 0.020 U | 0.045 | 0.020 | 1    | 09/20/21 15:44 | 9/16/21        |   |
| Toxaphene           | 0.50 U  | 0.50  | 0.50  | 1    | 09/20/21 15:44 | 9/16/21        |   |
| alpha-BHC           | 0.020 U | 0.045 | 0.020 | 1    | 09/20/21 15:44 | 9/16/21        |   |
| alpha-Chlordane     | 0.020 U | 0.045 | 0.020 | 1    | 09/20/21 15:44 | 9/16/21        |   |
| beta-BHC            | 0.020 U | 0.045 | 0.020 | 1    | 09/20/21 15:44 | 9/16/21        |   |
| delta-BHC           | 0.020 U | 0.045 | 0.020 | 1    | 09/20/21 15:44 | 9/16/21        |   |
| gamma-BHC (Lindane) | 0.020 U | 0.045 | 0.020 | 1    | 09/20/21 15:44 | 9/16/21        |   |
| gamma-Chlordane     | 0.020 U | 0.045 | 0.020 | 1    | 09/20/21 15:44 | 9/16/21        |   |

| Surrogate Name       | % Rec | Control Limits | Date Analyzed  | Q |
|----------------------|-------|----------------|----------------|---|
| Decachlorobiphenyl   | 69    | 10 - 164       | 09/20/21 15:44 |   |
| Tetrachloro-m-xylene | 51    | 10 - 147       | 09/20/21 15:44 |   |

**ALS Group USA, Corp.**  
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Analytical Report

**Client:** Inventum Engineering  
**Project:** RITC Tanks  
**Sample Matrix:** Water

**Service Request:** R2109410  
**Date Collected:** 09/10/21  
**Date Received:** 09/11/21 09:35

**Sample Name:** TK-LQ-ST23-09102021  
**Lab Code:** R2109410-002

**Units:** ug/L  
**Basis:** NA

**Organochlorine Pesticides by Gas Chromatography**

**Analysis Method:** 8081B  
**Prep Method:** EPA 3510C

| Analyte Name        | Result | MRL  | MDL  | Dil. | Date Analyzed  | Date Extracted | Q |
|---------------------|--------|------|------|------|----------------|----------------|---|
| 4,4'-DDD            | 0.20 U | 0.45 | 0.20 | 10   | 09/20/21 16:03 | 9/16/21        |   |
| 4,4'-DDE            | 0.20 U | 0.45 | 0.20 | 10   | 09/20/21 16:03 | 9/16/21        |   |
| 4,4'-DDT            | 0.20 U | 0.45 | 0.20 | 10   | 09/20/21 16:03 | 9/16/21        |   |
| Aldrin              | 0.20 U | 0.45 | 0.20 | 10   | 09/20/21 16:03 | 9/16/21        |   |
| Dieldrin            | 0.20 U | 0.45 | 0.20 | 10   | 09/20/21 16:03 | 9/16/21        |   |
| Endosulfan I        | 0.20 U | 0.45 | 0.20 | 10   | 09/20/21 16:03 | 9/16/21        |   |
| Endosulfan II       | 0.20 U | 0.45 | 0.20 | 10   | 09/20/21 16:03 | 9/16/21        |   |
| Endosulfan Sulfate  | 0.20 U | 0.45 | 0.20 | 10   | 09/20/21 16:03 | 9/16/21        |   |
| Endrin              | 0.20 U | 0.45 | 0.20 | 10   | 09/20/21 16:03 | 9/16/21        |   |
| Endrin Aldehyde     | 0.20 U | 0.45 | 0.20 | 10   | 09/20/21 16:03 | 9/16/21        |   |
| Endrin Ketone       | 0.20 U | 0.45 | 0.20 | 10   | 09/20/21 16:03 | 9/16/21        |   |
| Heptachlor          | 0.20 U | 0.45 | 0.20 | 10   | 09/20/21 16:03 | 9/16/21        |   |
| Heptachlor Epoxide  | 0.20 U | 0.45 | 0.20 | 10   | 09/20/21 16:03 | 9/16/21        |   |
| Methoxychlor        | 0.20 U | 0.45 | 0.20 | 10   | 09/20/21 16:03 | 9/16/21        |   |
| Toxaphene           | 5.0 U  | 5.0  | 5.0  | 10   | 09/20/21 16:03 | 9/16/21        |   |
| alpha-BHC           | 0.20 U | 0.45 | 0.20 | 10   | 09/20/21 16:03 | 9/16/21        |   |
| alpha-Chlordane     | 0.20 U | 0.45 | 0.20 | 10   | 09/20/21 16:03 | 9/16/21        |   |
| beta-BHC            | 0.20 U | 0.45 | 0.20 | 10   | 09/20/21 16:03 | 9/16/21        |   |
| delta-BHC           | 0.20 U | 0.45 | 0.20 | 10   | 09/20/21 16:03 | 9/16/21        |   |
| gamma-BHC (Lindane) | 0.20 U | 0.45 | 0.20 | 10   | 09/20/21 16:03 | 9/16/21        |   |
| gamma-Chlordane     | 0.20 U | 0.45 | 0.20 | 10   | 09/20/21 16:03 | 9/16/21        |   |

| Surrogate Name       | % Rec | Control Limits | Date Analyzed  | Q |
|----------------------|-------|----------------|----------------|---|
| Decachlorobiphenyl   | 88    | 10 - 164       | 09/20/21 16:03 |   |
| Tetrachloro-m-xylene | 220 * | 10 - 147       | 09/20/21 16:03 | * |

**ALS Group USA, Corp.**  
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Analytical Report

**Client:** Inventum Engineering  
**Project:** RITC Tanks  
**Sample Matrix:** Water

**Service Request:** R2109410  
**Date Collected:** 09/10/21  
**Date Received:** 09/11/21 09:35

**Sample Name:** TK-LQ-ST24-09102021  
**Lab Code:** R2109410-003

**Units:** ug/L  
**Basis:** NA

**Organochlorine Pesticides by Gas Chromatography**

**Analysis Method:** 8081B  
**Prep Method:** EPA 3510C

| Analyte Name        | Result  | MRL   | MDL   | Dil. | Date Analyzed  | Date Extracted | Q |
|---------------------|---------|-------|-------|------|----------------|----------------|---|
| 4,4'-DDD            | 0.020 U | 0.045 | 0.020 | 1    | 09/20/21 16:23 | 9/16/21        |   |
| 4,4'-DDE            | 0.020 U | 0.045 | 0.020 | 1    | 09/20/21 16:23 | 9/16/21        |   |
| 4,4'-DDT            | 0.020 U | 0.045 | 0.020 | 1    | 09/20/21 16:23 | 9/16/21        |   |
| Aldrin              | 0.020 U | 0.045 | 0.020 | 1    | 09/20/21 16:23 | 9/16/21        |   |
| Dieldrin            | 0.020 U | 0.045 | 0.020 | 1    | 09/20/21 16:23 | 9/16/21        |   |
| Endosulfan I        | 0.020 U | 0.045 | 0.020 | 1    | 09/20/21 16:23 | 9/16/21        |   |
| Endosulfan II       | 0.020 U | 0.045 | 0.020 | 1    | 09/20/21 16:23 | 9/16/21        |   |
| Endosulfan Sulfate  | 0.020 U | 0.045 | 0.020 | 1    | 09/20/21 16:23 | 9/16/21        |   |
| Endrin              | 0.020 U | 0.045 | 0.020 | 1    | 09/20/21 16:23 | 9/16/21        |   |
| Endrin Aldehyde     | 0.020 U | 0.045 | 0.020 | 1    | 09/20/21 16:23 | 9/16/21        |   |
| Endrin Ketone       | 0.020 U | 0.045 | 0.020 | 1    | 09/20/21 16:23 | 9/16/21        |   |
| Heptachlor          | 0.020 U | 0.045 | 0.020 | 1    | 09/20/21 16:23 | 9/16/21        |   |
| Heptachlor Epoxide  | 0.020 U | 0.045 | 0.020 | 1    | 09/20/21 16:23 | 9/16/21        |   |
| Methoxychlor        | 0.020 U | 0.045 | 0.020 | 1    | 09/20/21 16:23 | 9/16/21        |   |
| Toxaphene           | 0.50 U  | 0.50  | 0.50  | 1    | 09/20/21 16:23 | 9/16/21        |   |
| alpha-BHC           | 0.020 U | 0.045 | 0.020 | 1    | 09/20/21 16:23 | 9/16/21        |   |
| alpha-Chlordane     | 0.020 U | 0.045 | 0.020 | 1    | 09/20/21 16:23 | 9/16/21        |   |
| beta-BHC            | 0.020 U | 0.045 | 0.020 | 1    | 09/20/21 16:23 | 9/16/21        |   |
| delta-BHC           | 0.020 U | 0.045 | 0.020 | 1    | 09/20/21 16:23 | 9/16/21        |   |
| gamma-BHC (Lindane) | 0.020 U | 0.045 | 0.020 | 1    | 09/20/21 16:23 | 9/16/21        |   |
| gamma-Chlordane     | 0.020 U | 0.045 | 0.020 | 1    | 09/20/21 16:23 | 9/16/21        |   |

| Surrogate Name       | % Rec | Control Limits | Date Analyzed  | Q |
|----------------------|-------|----------------|----------------|---|
| Decachlorobiphenyl   | 24    | 10 - 164       | 09/20/21 16:23 |   |
| Tetrachloro-m-xylene | 34    | 10 - 147       | 09/20/21 16:23 |   |

ALS Group USA, Corp.  
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Analytical Report

**Client:** Inventum Engineering  
**Project:** RITC Tanks  
**Sample Matrix:** Water

**Service Request:** R2109410  
**Date Collected:** 09/10/21  
**Date Received:** 09/11/21 09:35

**Sample Name:** TK-LQ-ST22-09102021  
**Lab Code:** R2109410-001

**Units:** ug/L  
**Basis:** NA

Polychlorinated Biphenyls (PCBs) by GC

**Analysis Method:** 8082A  
**Prep Method:** EPA 3510C

| Analyte Name | Result | MRL  | MDL  | Dil. | Date Analyzed  | Date Extracted | Q |
|--------------|--------|------|------|------|----------------|----------------|---|
| Aroclor 1016 | 0.50 U | 0.91 | 0.50 | 1    | 09/20/21 23:17 | 9/16/21        |   |
| Aroclor 1221 | 1.0 U  | 1.8  | 1.0  | 1    | 09/20/21 23:17 | 9/16/21        |   |
| Aroclor 1232 | 0.50 U | 0.91 | 0.50 | 1    | 09/20/21 23:17 | 9/16/21        |   |
| Aroclor 1242 | 0.50 U | 0.91 | 0.50 | 1    | 09/20/21 23:17 | 9/16/21        |   |
| Aroclor 1248 | 0.50 U | 0.91 | 0.50 | 1    | 09/20/21 23:17 | 9/16/21        |   |
| Aroclor 1254 | 0.50 U | 0.91 | 0.50 | 1    | 09/20/21 23:17 | 9/16/21        |   |
| Aroclor 1260 | 0.50 U | 0.91 | 0.50 | 1    | 09/20/21 23:17 | 9/16/21        |   |

| Surrogate Name       | % Rec | Control Limits | Date Analyzed  | Q |
|----------------------|-------|----------------|----------------|---|
| Decachlorobiphenyl   | 30    | 10 - 152       | 09/20/21 23:17 |   |
| Tetrachloro-m-xylene | 50    | 14 - 129       | 09/20/21 23:17 |   |

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Analytical Report

**Client:** Inventum Engineering  
**Project:** RITC Tanks  
**Sample Matrix:** Water

**Service Request:** R2109410  
**Date Collected:** 09/10/21  
**Date Received:** 09/11/21 09:35

**Sample Name:** TK-LQ-ST23-09102021  
**Lab Code:** R2109410-002

**Units:** ug/L  
**Basis:** NA

Polychlorinated Biphenyls (PCBs) by GC

**Analysis Method:** 8082A  
**Prep Method:** EPA 3510C

| Analyte Name | Result | MRL  | MDL  | Dil. | Date Analyzed  | Date Extracted | Q |
|--------------|--------|------|------|------|----------------|----------------|---|
| Aroclor 1016 | 0.50 U | 0.91 | 0.50 | 1    | 09/20/21 23:37 | 9/16/21        |   |
| Aroclor 1221 | 1.0 U  | 1.8  | 1.0  | 1    | 09/20/21 23:37 | 9/16/21        |   |
| Aroclor 1232 | 0.50 U | 0.91 | 0.50 | 1    | 09/20/21 23:37 | 9/16/21        |   |
| Aroclor 1242 | 0.50 U | 0.91 | 0.50 | 1    | 09/20/21 23:37 | 9/16/21        |   |
| Aroclor 1248 | 0.50 U | 0.91 | 0.50 | 1    | 09/20/21 23:37 | 9/16/21        |   |
| Aroclor 1254 | 0.50 U | 0.91 | 0.50 | 1    | 09/20/21 23:37 | 9/16/21        |   |
| Aroclor 1260 | 0.50 U | 0.91 | 0.50 | 1    | 09/20/21 23:37 | 9/16/21        |   |

| Surrogate Name       | % Rec | Control Limits | Date Analyzed  | Q |
|----------------------|-------|----------------|----------------|---|
| Decachlorobiphenyl   | 12    | 10 - 152       | 09/20/21 23:37 |   |
| Tetrachloro-m-xylene | 25    | 14 - 129       | 09/20/21 23:37 |   |

ALS Group USA, Corp.  
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Analytical Report

**Client:** Inventum Engineering  
**Project:** RITC Tanks  
**Sample Matrix:** Water

**Service Request:** R2109410  
**Date Collected:** 09/10/21  
**Date Received:** 09/11/21 09:35

**Sample Name:** TK-LQ-ST24-09102021  
**Lab Code:** R2109410-003

**Units:** ug/L  
**Basis:** NA

Polychlorinated Biphenyls (PCBs) by GC

**Analysis Method:** 8082A  
**Prep Method:** EPA 3510C

| Analyte Name | Result | MRL  | MDL  | Dil. | Date Analyzed  | Date Extracted | Q |
|--------------|--------|------|------|------|----------------|----------------|---|
| Aroclor 1016 | 0.50 U | 0.91 | 0.50 | 1    | 09/20/21 23:56 | 9/16/21        |   |
| Aroclor 1221 | 1.0 U  | 1.8  | 1.0  | 1    | 09/20/21 23:56 | 9/16/21        |   |
| Aroclor 1232 | 0.50 U | 0.91 | 0.50 | 1    | 09/20/21 23:56 | 9/16/21        |   |
| Aroclor 1242 | 0.50 U | 0.91 | 0.50 | 1    | 09/20/21 23:56 | 9/16/21        |   |
| Aroclor 1248 | 0.50 U | 0.91 | 0.50 | 1    | 09/20/21 23:56 | 9/16/21        |   |
| Aroclor 1254 | 0.50 U | 0.91 | 0.50 | 1    | 09/20/21 23:56 | 9/16/21        |   |
| Aroclor 1260 | 0.50 U | 0.91 | 0.50 | 1    | 09/20/21 23:56 | 9/16/21        |   |

| Surrogate Name       | % Rec | Control Limits | Date Analyzed  | Q |
|----------------------|-------|----------------|----------------|---|
| Decachlorobiphenyl   | 12    | 10 - 152       | 09/20/21 23:56 |   |
| Tetrachloro-m-xylene | 38    | 14 - 129       | 09/20/21 23:56 |   |

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Analytical Report

**Client:** Inventum Engineering  
**Project:** RITC Tanks  
**Sample Matrix:** Water

**Service Request:** R2109410  
**Date Collected:** 09/10/21  
**Date Received:** 09/11/21 09:35

**Sample Name:** TK-LQ-ST22-09102021  
**Lab Code:** R2109410-001

**Units:** ug/L  
**Basis:** NA

Chlorinated Herbicides by GC

**Analysis Method:** 8151A  
**Prep Method:** Method

| Analyte Name | Result | MRL  | MDL  | Dil. | Date Analyzed  | Date Extracted | Q |
|--------------|--------|------|------|------|----------------|----------------|---|
| 2,4,5-T      | 0.14 U | 0.45 | 0.14 | 1    | 09/17/21 09:26 | 9/15/21        |   |
| 2,4,5-TP     | 0.12 U | 0.45 | 0.12 | 1    | 09/17/21 09:26 | 9/15/21        |   |
| 2,4-D        | 0.35 U | 0.45 | 0.35 | 1    | 09/17/21 09:26 | 9/15/21        |   |
| Dicamba      | 0.12 U | 0.45 | 0.12 | 1    | 09/17/21 09:26 | 9/15/21        |   |

| Surrogate Name                | % Rec | Control Limits | Date Analyzed  | Q |
|-------------------------------|-------|----------------|----------------|---|
| 2,4-Dichlorophenylacetic Acid | 75    | 10 - 136       | 09/17/21 09:26 |   |

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Analytical Report

**Client:** Inventum Engineering  
**Project:** RITC Tanks  
**Sample Matrix:** Water  
  
**Sample Name:** TK-LQ-ST23-09102021  
**Lab Code:** R2109410-002

**Service Request:** R2109410  
**Date Collected:** 09/10/21  
**Date Received:** 09/11/21 09:35  
  
**Units:** ug/L  
**Basis:** NA

Chlorinated Herbicides by GC

**Analysis Method:** 8151A  
**Prep Method:** Method

| Analyte Name | Result | MRL | MDL | Dil. | Date Analyzed  | Date Extracted | Q |
|--------------|--------|-----|-----|------|----------------|----------------|---|
| 2,4,5-T      | 14 U   | 45  | 14  | 100  | 09/17/21 13:23 | 9/15/21        |   |
| 2,4,5-TP     | 12 U   | 45  | 12  | 100  | 09/17/21 13:23 | 9/15/21        |   |
| 2,4-D        | 310 P  | 45  | 35  | 100  | 09/17/21 13:23 | 9/15/21        |   |
| Dicamba      | 12 U   | 45  | 12  | 100  | 09/17/21 13:23 | 9/15/21        |   |

| Surrogate Name                | % Rec | Control Limits | Date Analyzed  | Q |
|-------------------------------|-------|----------------|----------------|---|
| 2,4-Dichlorophenylacetic Acid | 0 *   | 10 - 136       | 09/17/21 13:23 | D |

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Analytical Report

**Client:** Inventum Engineering  
**Project:** RITC Tanks  
**Sample Matrix:** Water

**Service Request:** R2109410  
**Date Collected:** 09/10/21  
**Date Received:** 09/11/21 09:35

**Sample Name:** TK-LQ-ST24-09102021  
**Lab Code:** R2109410-003

**Units:** ug/L  
**Basis:** NA

Chlorinated Herbicides by GC

**Analysis Method:** 8151A  
**Prep Method:** Method

| Analyte Name | Result | MRL  | MDL  | Dil. | Date Analyzed  | Date Extracted | Q |
|--------------|--------|------|------|------|----------------|----------------|---|
| 2,4,5-T      | 0.14 U | 0.45 | 0.14 | 1    | 09/17/21 10:06 | 9/15/21        |   |
| 2,4,5-TP     | 0.12 U | 0.45 | 0.12 | 1    | 09/17/21 10:06 | 9/15/21        |   |
| 2,4-D        | 0.35 U | 0.45 | 0.35 | 1    | 09/17/21 10:06 | 9/15/21        |   |
| Dicamba      | 0.12 U | 0.45 | 0.12 | 1    | 09/17/21 10:06 | 9/15/21        |   |

| Surrogate Name                | % Rec | Control Limits | Date Analyzed  | Q |
|-------------------------------|-------|----------------|----------------|---|
| 2,4-Dichlorophenylacetic Acid | 57    | 10 - 136       | 09/17/21 10:06 |   |



## Metals

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**METALS**  
- 1 -  
**INORGANIC ANALYSIS DATA PACKAGE**

|                              |                                      |
|------------------------------|--------------------------------------|
| Client: Inventum Engineering | Service Request: TK-LQ-ST22-09102021 |
| Project No.: R2109410        | Date Collected: 9/10/2021            |
| Project Name:                | Date Received: 9/11/2021             |
| Matrix: WATER                | Units: ug/L                          |
|                              | Basis:                               |

|                                  |                        |
|----------------------------------|------------------------|
| Sample Name: TK-LQ-ST22-09102021 | Lab Code: R2109410-001 |
|----------------------------------|------------------------|

| Analyte    | Analysis Method | PQL   | MDL   | Dil. Factor | Result | C | Q |
|------------|-----------------|-------|-------|-------------|--------|---|---|
| Aluminum   | 6010C           | 100   | 23.0  | 1.0         | 51.6   | J |   |
| Antimony   | 6010C           | 60.0  | 6.3   | 1.0         | 60.0   | U |   |
| Arsenic    | 6010C           | 10.0  | 5.5   | 1.0         | 10.0   | U |   |
| Barium     | 6010C           | 20.0  | 3.0   | 1.0         | 9.3    | J |   |
| Beryllium  | 6010C           | 3.0   | 0.130 | 1.0         | 3.0    | U |   |
| Boron      | 6010C           | 200   | 12.0  | 1.0         | 119    | J |   |
| Cadmium    | 6010C           | 5.0   | 0.350 | 1.0         | 5.0    | U |   |
| Mercury    | 7470A           | 0.200 | 0.077 | 1.0         | 0.861  |   |   |
| Calcium    | 6010C           | 1000  | 220   | 1.0         | 21000  |   |   |
| Chromium   | 6010C           | 10.0  | 1.4   | 1.0         | 10.0   | U |   |
| Cobalt     | 6010C           | 50.0  | 0.890 | 1.0         | 50.0   | U |   |
| Copper     | 6010C           | 20.0  | 3.9   | 1.0         | 7.1    | J |   |
| Iron       | 6010C           | 100   | 61.0  | 1.0         | 2330   |   |   |
| Uranium    | 6020A           | 5.0   | 0.17  | 5.0         | 5.0    | U |   |
| Lead       | 6010C           | 50.0  | 2.1   | 1.0         | 4.2    | J |   |
| Magnesium  | 6010C           | 1000  | 29.0  | 1.0         | 9990   |   |   |
| Manganese  | 6010C           | 10.0  | 3.7   | 1.0         | 185    |   |   |
| Molybdenum | 6010C           | 25.0  | 2.9   | 1.0         | 25.0   | U |   |
| Nickel     | 6010C           | 40.0  | 2.6   | 1.0         | 40.0   | U |   |
| Potassium  | 6010C           | 2000  | 380   | 1.0         | 1500   | J |   |
| Selenium   | 6010C           | 10.0  | 6.4   | 1.0         | 10.0   | U |   |
| Silver     | 6010C           | 10.0  | 0.570 | 1.0         | 10.0   | U |   |
| Sodium     | 6010C           | 10000 | 1300  | 10.0        | 239000 |   |   |
| Thallium   | 6010C           | 10.0  | 6.6   | 1.0         | 10.0   | U |   |
| Tin        | 6010C           | 500   | 8.0   | 1.0         | 500    | U |   |
| Vanadium   | 6010C           | 50.0  | 0.670 | 1.0         | 50.0   | U |   |
| Zinc       | 6010C           | 20.0  | 2.4   | 1.0         | 12.3   | J |   |

% Solids: 0.0

Comments:

**METALS**  
- 1 -  
**INORGANIC ANALYSIS DATA PACKAGE**

|                              |                                      |
|------------------------------|--------------------------------------|
| Client: Inventum Engineering | Service Request: TK-LQ-ST22-09102021 |
| Project No.: R2109410        | Date Collected: 9/10/2021            |
| Project Name:                | Date Received: 9/11/2021             |
| Matrix: WATER                | Units: ug/L                          |
|                              | Basis:                               |

|                                  |                        |
|----------------------------------|------------------------|
| Sample Name: TK-LQ-ST23-09102021 | Lab Code: R2109410-002 |
|----------------------------------|------------------------|

| Analyte    | Analysis Method | PQL   | MDL   | Dil. Factor | Result | C | Q |
|------------|-----------------|-------|-------|-------------|--------|---|---|
| Aluminum   | 6010C           | 100   | 23.0  | 1.0         | 2480   |   |   |
| Antimony   | 6010C           | 60.0  | 6.3   | 1.0         | 60.0   | U |   |
| Arsenic    | 6010C           | 10.0  | 5.5   | 1.0         | 17.3   |   |   |
| Barium     | 6010C           | 20.0  | 3.0   | 1.0         | 39.6   |   |   |
| Beryllium  | 6010C           | 3.0   | 0.130 | 1.0         | 0.200  | J |   |
| Boron      | 6010C           | 200   | 12.0  | 1.0         | 404    |   |   |
| Cadmium    | 6010C           | 5.0   | 0.350 | 1.0         | 1.8    | J |   |
| Mercury    | 7470A           | 0.200 | 0.077 | 1.0         | 0.241  |   |   |
| Calcium    | 6010C           | 1000  | 220   | 1.0         | 29000  |   |   |
| Chromium   | 6010C           | 10.0  | 1.4   | 1.0         | 40.3   |   |   |
| Cobalt     | 6010C           | 50.0  | 0.890 | 1.0         | 9.4    | J |   |
| Copper     | 6010C           | 20.0  | 3.9   | 1.0         | 34.3   |   |   |
| Iron       | 6010C           | 100   | 61.0  | 1.0         | 29400  |   |   |
| Uranium    | 6020A           | 5.0   | 0.17  | 5.0         | 5.0    | U |   |
| Lead       | 6010C           | 50.0  | 2.1   | 1.0         | 111    |   |   |
| Magnesium  | 6010C           | 1000  | 29.0  | 1.0         | 3900   |   |   |
| Manganese  | 6010C           | 10.0  | 3.7   | 1.0         | 1160   |   |   |
| Molybdenum | 6010C           | 25.0  | 2.9   | 1.0         | 25.0   | U |   |
| Nickel     | 6010C           | 40.0  | 2.6   | 1.0         | 10.0   | J |   |
| Potassium  | 6010C           | 2000  | 380   | 1.0         | 2800   |   |   |
| Selenium   | 6010C           | 10.0  | 6.4   | 1.0         | 45.3   |   |   |
| Silver     | 6010C           | 10.0  | 0.570 | 1.0         | 10.0   | U |   |
| Sodium     | 6010C           | 1000  | 130   | 1.0         | 104000 |   |   |
| Thallium   | 6010C           | 10.0  | 6.6   | 1.0         | 10.0   | U |   |
| Tin        | 6010C           | 500   | 8.0   | 1.0         | 500    | U |   |
| Vanadium   | 6010C           | 50.0  | 0.670 | 1.0         | 7.3    | J |   |
| Zinc       | 6010C           | 20.0  | 2.4   | 1.0         | 147    |   |   |

% Solids: 0.0

Comments:

**METALS**  
- 1 -  
**INORGANIC ANALYSIS DATA PACKAGE**

|                              |                                      |
|------------------------------|--------------------------------------|
| Client: Inventum Engineering | Service Request: TK-LQ-ST22-09102021 |
| Project No.: R2109410        | Date Collected: 9/10/2021            |
| Project Name:                | Date Received: 9/11/2021             |
| Matrix: WATER                | Units: ug/L                          |
|                              | Basis:                               |

|                                  |                        |
|----------------------------------|------------------------|
| Sample Name: TK-LQ-ST24-09102021 | Lab Code: R2109410-003 |
|----------------------------------|------------------------|

| Analyte    | Analysis Method | PQL   | MDL   | Dil. Factor | Result | C | Q |
|------------|-----------------|-------|-------|-------------|--------|---|---|
| Aluminum   | 6010C           | 100   | 23.0  | 1.0         | 5620   |   |   |
| Antimony   | 6010C           | 60.0  | 6.3   | 1.0         | 60.0   | U |   |
| Arsenic    | 6010C           | 10.0  | 5.5   | 1.0         | 10.0   | U |   |
| Barium     | 6010C           | 20.0  | 3.0   | 1.0         | 66.7   |   |   |
| Beryllium  | 6010C           | 3.0   | 0.130 | 1.0         | 0.200  | J |   |
| Boron      | 6010C           | 200   | 12.0  | 1.0         | 59.6   | J |   |
| Cadmium    | 6010C           | 5.0   | 0.350 | 1.0         | 5.0    | U |   |
| Mercury    | 7470A           | 0.200 | 0.077 | 1.0         | 0.313  |   |   |
| Calcium    | 6010C           | 1000  | 220   | 1.0         | 45100  |   |   |
| Chromium   | 6010C           | 10.0  | 1.4   | 1.0         | 12.0   |   |   |
| Cobalt     | 6010C           | 50.0  | 0.890 | 1.0         | 50.0   | U |   |
| Copper     | 6010C           | 20.0  | 3.9   | 1.0         | 22.8   |   |   |
| Iron       | 6010C           | 1000  | 610   | 10.0        | 61300  |   |   |
| Uranium    | 6020A           | 5.0   | 0.17  | 5.0         | 0.17   | J |   |
| Lead       | 6010C           | 50.0  | 2.1   | 1.0         | 261    |   |   |
| Magnesium  | 6010C           | 1000  | 29.0  | 1.0         | 10600  |   |   |
| Manganese  | 6010C           | 10.0  | 3.7   | 1.0         | 288    |   |   |
| Molybdenum | 6010C           | 25.0  | 2.9   | 1.0         | 25.0   | U |   |
| Nickel     | 6010C           | 40.0  | 2.6   | 1.0         | 2.7    | J |   |
| Potassium  | 6010C           | 2000  | 380   | 1.0         | 5650   |   |   |
| Selenium   | 6010C           | 10.0  | 6.4   | 1.0         | 10.0   | U |   |
| Silver     | 6010C           | 10.0  | 0.570 | 1.0         | 10.0   | U |   |
| Sodium     | 6010C           | 1000  | 130   | 1.0         | 2830   |   |   |
| Thallium   | 6010C           | 10.0  | 6.6   | 1.0         | 10.0   | U |   |
| Tin        | 6010C           | 500   | 8.0   | 1.0         | 500    | U |   |
| Vanadium   | 6010C           | 50.0  | 0.670 | 1.0         | 10.5   | J |   |
| Zinc       | 6010C           | 20.0  | 2.4   | 1.0         | 26.1   |   |   |

% Solids: 0.0

Comments:



## General Chemistry

**ALS Environmental—Rochester Laboratory**

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Analytical Report

**Client:** Inventum Engineering  
**Project:** RITC Tanks  
**Sample Matrix:** Water

**Service Request:** R2109410  
**Date Collected:** 09/10/21  
**Date Received:** 09/11/21 09:35

**Sample Name:** TK-LQ-ST22-09102021  
**Lab Code:** R2109410-001

**Basis:** NA

Inorganic Parameters

| Analyte Name                     | Analysis Method | Result  | Units    | MRL   | MDL   | Dil. | Date Analyzed  | Q |
|----------------------------------|-----------------|---------|----------|-------|-------|------|----------------|---|
| Ammonia as Nitrogen, undistilled | 350.1           | 0.026 U | mg/L     | 0.050 | 0.026 | 1    | 09/25/21 15:52 |   |
| Cyanide, Total                   | Kelada-01       | 0.40 U  | mg/L     | 0.50  | 0.40  | 100  | 09/22/21 14:05 |   |
| Fluoride, undistilled            | 300.0           | 2.65    | mg/L     | 0.10  | 0.010 | 1    | 09/13/21 08:46 |   |
| Nitrate+Nitrite as Nitrogen      | 353.2           | 0.2 U   | mg/L     | 5.0   | 0.2   | 100  | 09/29/21 21:20 |   |
| Nitrite as Nitrogen              | 353.2           | 0.007 U | mg/L     | 0.010 | 0.007 | 1    | 09/15/21 19:39 |   |
| pH                               | 9040C           | 7.63    | pH Units | -     | -     | 1    | 09/24/21 08:20 |   |

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Analytical Report

**Client:** Inventum Engineering  
**Project:** RITC Tanks  
**Sample Matrix:** Water

**Service Request:** R2109410  
**Date Collected:** 09/10/21  
**Date Received:** 09/11/21 09:35

**Sample Name:** TK-LQ-ST23-09102021  
**Lab Code:** R2109410-002

**Basis:** NA

Inorganic Parameters

| Analyte Name                     | Analysis Method | Result | Units    | MRL | MDL | Dil. | Date Analyzed  | Q |
|----------------------------------|-----------------|--------|----------|-----|-----|------|----------------|---|
| Ammonia as Nitrogen, undistilled | 350.1           | 765000 | mg/L     | 50  | 26  | 1000 | 09/30/21 13:53 |   |
| Cyanide, Total                   | Kelada-01       | 164    | mg/L     | 5.0 | 4.0 | 1000 | 09/22/21 15:49 |   |
| Fluoride, undistilled            | 300.0           | 18     | mg/L     | 10  | 1.0 | 100  | 09/13/21 09:21 |   |
| Nitrate+Nitrite as Nitrogen      | 353.2           | 2 U    | mg/L     | 50  | 2   | 1000 | 09/29/21 21:21 |   |
| Nitrite as Nitrogen              | 353.2           | 0.7 U  | mg/L     | 1.0 | 0.7 | 100  | 09/15/21 19:40 |   |
| pH                               | 9040C           | 7.51   | pH Units | -   | -   | 1    | 09/24/21 08:20 |   |

ALS Group USA, Corp.  
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Analytical Report

**Client:** Inventum Engineering  
**Project:** RITC Tanks  
**Sample Matrix:** Water

**Service Request:** R2109410  
**Date Collected:** 09/10/21  
**Date Received:** 09/11/21 09:35

**Sample Name:** TK-LQ-ST24-09102021  
**Lab Code:** R2109410-003

**Basis:** NA

Inorganic Parameters

| Analyte Name                     | Analysis Method | Result       | Units    | MRL   | MDL   | Dil. | Date Analyzed  | Q |
|----------------------------------|-----------------|--------------|----------|-------|-------|------|----------------|---|
| Ammonia as Nitrogen, undistilled | 350.1           | <b>0.086</b> | mg/L     | 0.050 | 0.026 | 1    | 09/30/21 14:25 |   |
| Cyanide, Total                   | Kelada-01       | 0.16 U       | mg/L     | 0.20  | 0.16  | 40   | 09/22/21 13:53 |   |
| Fluoride, undistilled            | 300.0           | <b>0.17</b>  | mg/L     | 0.10  | 0.010 | 1    | 09/13/21 09:35 |   |
| Nitrate+Nitrite as Nitrogen      | 353.2           | 0.2 U        | mg/L     | 5.0   | 0.2   | 100  | 09/29/21 21:28 |   |
| Nitrite as Nitrogen              | 353.2           | 0.007 U      | mg/L     | 0.010 | 0.007 | 1    | 09/15/21 19:40 |   |
| pH                               | 9040C           | <b>7.44</b>  | pH Units | -     | -     | 1    | 09/24/21 08:20 |   |



## QC Summary Forms

**ALS Environmental—Rochester Laboratory**

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## Volatile Organic Compounds by GC/MS

**ALS Environmental—Rochester Laboratory**

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ALS Group USA, Corp.  
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QA/QC Report

**Client:** Inventum Engineering  
**Project:** RITC Tanks  
**Sample Matrix:** Water

**Service Request:** R2109410

**SURROGATE RECOVERY SUMMARY**  
**Volatile Organic Compounds by GC/MS**

**Analysis Method:** 8260C  
**Extraction Method:** EPA 5030C

| Sample Name         | Lab Code     | 4-Bromofluorobenzene | Dibromofluoromethane | Toluene-d8 |
|---------------------|--------------|----------------------|----------------------|------------|
|                     |              | 85-122               | 80-116               | 87-121     |
| TK-LQ-ST22-09102021 | R2109410-001 | 105                  | 109                  | 110        |
| TK-LQ-ST23-09102021 | R2109410-002 | 107                  | 105                  | 109        |
| TK-LQ-ST24-09102021 | R2109410-003 | 105                  | 103                  | 111        |
| Method Blank        | RQ2111706-04 | 102                  | 105                  | 109        |
| Lab Control Sample  | RQ2111706-03 | 109                  | 109                  | 111        |

**ALS Group USA, Corp.**  
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Analytical Report

**Client:** Inventum Engineering  
**Project:** RITC Tanks  
**Sample Matrix:** Water

**Service Request:** R2109410  
**Date Collected:** NA  
**Date Received:** NA

**Sample Name:** Method Blank  
**Lab Code:** RQ2111706-04

**Units:** ug/L  
**Basis:** NA

**Volatile Organic Compounds by GC/MS**

**Analysis Method:** 8260C  
**Prep Method:** EPA 5030C

| Analyte Name                          | Result | MRL | MDL  | Dil. | Date Analyzed  | Q |
|---------------------------------------|--------|-----|------|------|----------------|---|
| 1,1,1-Trichloroethane (TCA)           | 0.20 U | 5.0 | 0.20 | 1    | 09/21/21 23:28 |   |
| 1,1,2,2-Tetrachloroethane             | 0.20 U | 5.0 | 0.20 | 1    | 09/21/21 23:28 |   |
| 1,1,2-Trichloroethane                 | 0.20 U | 5.0 | 0.20 | 1    | 09/21/21 23:28 |   |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.20 U | 5.0 | 0.20 | 1    | 09/21/21 23:28 |   |
| 1,1-Dichloroethane (1,1-DCA)          | 0.20 U | 5.0 | 0.20 | 1    | 09/21/21 23:28 |   |
| 1,1-Dichloroethene (1,1-DCE)          | 0.20 U | 5.0 | 0.20 | 1    | 09/21/21 23:28 |   |
| 1,2,3-Trichlorobenzene                | 0.25 U | 5.0 | 0.25 | 1    | 09/21/21 23:28 |   |
| 1,2,4-Trichlorobenzene                | 0.34 U | 5.0 | 0.34 | 1    | 09/21/21 23:28 |   |
| 1,2-Dibromo-3-chloropropane (DBCP)    | 0.45 U | 5.0 | 0.45 | 1    | 09/21/21 23:28 |   |
| 1,2-Dibromoethane                     | 0.20 U | 5.0 | 0.20 | 1    | 09/21/21 23:28 |   |
| 1,2-Dichlorobenzene                   | 0.20 U | 5.0 | 0.20 | 1    | 09/21/21 23:28 |   |
| 1,2-Dichloroethane                    | 0.20 U | 5.0 | 0.20 | 1    | 09/21/21 23:28 |   |
| 1,2-Dichloropropane                   | 0.20 U | 5.0 | 0.20 | 1    | 09/21/21 23:28 |   |
| 1,3-Dichlorobenzene                   | 0.20 U | 5.0 | 0.20 | 1    | 09/21/21 23:28 |   |
| 1,4-Dichlorobenzene                   | 0.20 U | 5.0 | 0.20 | 1    | 09/21/21 23:28 |   |
| 1,4-Dioxane                           | 13 U   | 100 | 13   | 1    | 09/21/21 23:28 |   |
| 2-Butanone (MEK)                      | 0.78 U | 10  | 0.78 | 1    | 09/21/21 23:28 |   |
| 2-Hexanone                            | 0.20 U | 10  | 0.20 | 1    | 09/21/21 23:28 |   |
| 4-Methyl-2-pentanone                  | 0.20 U | 10  | 0.20 | 1    | 09/21/21 23:28 |   |
| Acetone                               | 5.0 U  | 10  | 5.0  | 1    | 09/21/21 23:28 |   |
| Benzene                               | 0.20 U | 5.0 | 0.20 | 1    | 09/21/21 23:28 |   |
| Bromochloromethane                    | 0.20 U | 5.0 | 0.20 | 1    | 09/21/21 23:28 |   |
| Bromodichloromethane                  | 0.20 U | 5.0 | 0.20 | 1    | 09/21/21 23:28 |   |
| Bromoform                             | 0.25 U | 5.0 | 0.25 | 1    | 09/21/21 23:28 |   |
| Bromomethane                          | 0.70 U | 5.0 | 0.70 | 1    | 09/21/21 23:28 |   |
| Carbon Disulfide                      | 0.42 U | 10  | 0.42 | 1    | 09/21/21 23:28 |   |
| Carbon Tetrachloride                  | 0.34 U | 5.0 | 0.34 | 1    | 09/21/21 23:28 |   |
| Chlorobenzene                         | 0.20 U | 5.0 | 0.20 | 1    | 09/21/21 23:28 |   |
| Chloroethane                          | 0.23 U | 5.0 | 0.23 | 1    | 09/21/21 23:28 |   |
| Chloroform                            | 0.24 U | 5.0 | 0.24 | 1    | 09/21/21 23:28 |   |
| Chloromethane                         | 0.35 J | 5.0 | 0.28 | 1    | 09/21/21 23:28 |   |
| Cyclohexane                           | 0.26 U | 10  | 0.26 | 1    | 09/21/21 23:28 |   |
| Dibromochloromethane                  | 0.20 U | 5.0 | 0.20 | 1    | 09/21/21 23:28 |   |
| Dichlorodifluoromethane (CFC 12)      | 0.21 U | 5.0 | 0.21 | 1    | 09/21/21 23:28 |   |
| Dichloromethane                       | 0.65 U | 5.0 | 0.65 | 1    | 09/21/21 23:28 |   |
| Ethylbenzene                          | 0.20 U | 5.0 | 0.20 | 1    | 09/21/21 23:28 |   |
| Isopropylbenzene (Cumene)             | 0.20 U | 5.0 | 0.20 | 1    | 09/21/21 23:28 |   |
| Methyl Acetate                        | 0.33 U | 10  | 0.33 | 1    | 09/21/21 23:28 |   |
| Methyl tert-Butyl Ether               | 0.20 U | 5.0 | 0.20 | 1    | 09/21/21 23:28 |   |
| Methylcyclohexane                     | 0.20 U | 10  | 0.20 | 1    | 09/21/21 23:28 |   |
| Styrene                               | 0.20 U | 5.0 | 0.20 | 1    | 09/21/21 23:28 |   |
| Tetrachloroethene (PCE)               | 0.21 U | 5.0 | 0.21 | 1    | 09/21/21 23:28 |   |
| Toluene                               | 0.20 U | 5.0 | 0.20 | 1    | 09/21/21 23:28 |   |

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Analytical Report

**Client:** Inventum Engineering  
**Project:** RITC Tanks  
**Sample Matrix:** Water

**Service Request:** R2109410  
**Date Collected:** NA  
**Date Received:** NA

**Sample Name:** Method Blank  
**Lab Code:** RQ2111706-04

**Units:** ug/L  
**Basis:** NA

Volatile Organic Compounds by GC/MS

**Analysis Method:** 8260C  
**Prep Method:** EPA 5030C

| Analyte Name                    | Result | MRL | MDL  | Dil. | Date Analyzed  | Q |
|---------------------------------|--------|-----|------|------|----------------|---|
| Trichloroethene (TCE)           | 0.20 U | 5.0 | 0.20 | 1    | 09/21/21 23:28 |   |
| Trichlorofluoromethane (CFC 11) | 0.24 U | 5.0 | 0.24 | 1    | 09/21/21 23:28 |   |
| Vinyl Chloride                  | 0.20 U | 5.0 | 0.20 | 1    | 09/21/21 23:28 |   |
| cis-1,2-Dichloroethene          | 0.23 U | 5.0 | 0.23 | 1    | 09/21/21 23:28 |   |
| cis-1,3-Dichloropropene         | 0.20 U | 5.0 | 0.20 | 1    | 09/21/21 23:28 |   |
| m,p-Xylenes                     | 0.20 U | 5.0 | 0.20 | 1    | 09/21/21 23:28 |   |
| o-Xylene                        | 0.20 U | 5.0 | 0.20 | 1    | 09/21/21 23:28 |   |
| trans-1,2-Dichloroethene        | 0.20 U | 5.0 | 0.20 | 1    | 09/21/21 23:28 |   |
| trans-1,3-Dichloropropene       | 0.23 U | 5.0 | 0.23 | 1    | 09/21/21 23:28 |   |

| Surrogate Name       | % Rec | Control Limits | Date Analyzed  | Q |
|----------------------|-------|----------------|----------------|---|
| 4-Bromofluorobenzene | 102   | 85 - 122       | 09/21/21 23:28 |   |
| Dibromofluoromethane | 105   | 80 - 116       | 09/21/21 23:28 |   |
| Toluene-d8           | 109   | 87 - 121       | 09/21/21 23:28 |   |

**ALS Group USA, Corp.**  
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QA/QC Report

**Client:** Inventum Engineering  
**Project:** RITC Tanks  
**Sample Matrix:** Water

**Service Request:** R2109410  
**Date Analyzed:** 09/21/21

**Lab Control Sample Summary**  
**Volatile Organic Compounds by GC/MS**

**Units:**ug/L  
**Basis:**NA

**Lab Control Sample**  
RQ2111706-03

| Analyte Name                          | Analytical Method | Result | Spike Amount | % Rec | % Rec Limits |
|---------------------------------------|-------------------|--------|--------------|-------|--------------|
| 1,1,1-Trichloroethane (TCA)           | 8260C             | 22.0   | 20.0         | 110   | 75-125       |
| 1,1,2,2-Tetrachloroethane             | 8260C             | 23.5   | 20.0         | 117   | 78-126       |
| 1,1,2-Trichloroethane                 | 8260C             | 21.9   | 20.0         | 109   | 82-121       |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 8260C             | 21.4   | 20.0         | 107   | 67-124       |
| 1,1-Dichloroethane (1,1-DCA)          | 8260C             | 24.2   | 20.0         | 121   | 80-124       |
| 1,1-Dichloroethene (1,1-DCE)          | 8260C             | 23.6   | 20.0         | 118   | 71-118       |
| 1,2,3-Trichlorobenzene                | 8260C             | 23.3   | 20.0         | 116   | 67-136       |
| 1,2,4-Trichlorobenzene                | 8260C             | 23.0   | 20.0         | 115   | 75-132       |
| 1,2-Dibromo-3-chloropropane (DBCP)    | 8260C             | 22.3   | 20.0         | 111   | 55-136       |
| 1,2-Dibromoethane                     | 8260C             | 22.8   | 20.0         | 114   | 82-127       |
| 1,2-Dichlorobenzene                   | 8260C             | 22.3   | 20.0         | 111   | 80-119       |
| 1,2-Dichloroethane                    | 8260C             | 21.3   | 20.0         | 107   | 71-127       |
| 1,2-Dichloropropane                   | 8260C             | 22.3   | 20.0         | 112   | 80-119       |
| 1,3-Dichlorobenzene                   | 8260C             | 21.7   | 20.0         | 109   | 83-121       |
| 1,4-Dichlorobenzene                   | 8260C             | 21.2   | 20.0         | 106   | 79-119       |
| 1,4-Dioxane                           | 8260C             | 465    | 400          | 116   | 44-154       |
| 2-Butanone (MEK)                      | 8260C             | 22.7   | 20.0         | 114   | 61-137       |
| 2-Hexanone                            | 8260C             | 22.8   | 20.0         | 114   | 63-124       |
| 4-Methyl-2-pentanone                  | 8260C             | 22.7   | 20.0         | 114   | 66-124       |
| Acetone                               | 8260C             | 23.9   | 20.0         | 119   | 40-161       |
| Benzene                               | 8260C             | 22.4   | 20.0         | 112   | 79-119       |
| Bromochloromethane                    | 8260C             | 22.4   | 20.0         | 112   | 81-126       |
| Bromodichloromethane                  | 8260C             | 22.0   | 20.0         | 110   | 81-123       |
| Bromoform                             | 8260C             | 21.4   | 20.0         | 107   | 65-146       |
| Bromomethane                          | 8260C             | 24.0   | 20.0         | 120   | 42-166       |
| Carbon Disulfide                      | 8260C             | 25.7   | 20.0         | 129 * | 66-128       |
| Carbon Tetrachloride                  | 8260C             | 19.9   | 20.0         | 100   | 70-127       |
| Chlorobenzene                         | 8260C             | 22.2   | 20.0         | 111   | 80-121       |
| Chloroethane                          | 8260C             | 25.1   | 20.0         | 125   | 62-131       |
| Chloroform                            | 8260C             | 22.9   | 20.0         | 114   | 79-120       |
| Chloromethane                         | 8260C             | 30.0   | 20.0         | 150 * | 65-135       |
| Cyclohexane                           | 8260C             | 20.2   | 20.0         | 101   | 69-120       |
| Dibromochloromethane                  | 8260C             | 22.4   | 20.0         | 112   | 72-128       |

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Superset Reference:21-0000603479 rev 00

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QA/QC Report

**Client:** Inventum Engineering  
**Project:** RITC Tanks  
**Sample Matrix:** Water

**Service Request:** R2109410  
**Date Analyzed:** 09/21/21

**Lab Control Sample Summary**  
**Volatile Organic Compounds by GC/MS**

**Units:**ug/L  
**Basis:**NA

**Lab Control Sample**  
RQ2111706-03

| Analyte Name                     | Analytical Method | Result | Spike Amount | % Rec | % Rec Limits |
|----------------------------------|-------------------|--------|--------------|-------|--------------|
| Dichlorodifluoromethane (CFC 12) | 8260C             | 23.7   | 20.0         | 118   | 59-155       |
| Dichloromethane                  | 8260C             | 23.5   | 20.0         | 118   | 73-122       |
| Ethylbenzene                     | 8260C             | 21.9   | 20.0         | 109   | 76-120       |
| Isopropylbenzene (Cumene)        | 8260C             | 23.7   | 20.0         | 119   | 77-128       |
| Methyl Acetate                   | 8260C             | 27.2   | 20.0         | 136 * | 61-133       |
| Methyl tert-Butyl Ether          | 8260C             | 24.0   | 20.0         | 120 * | 75-118       |
| Methylcyclohexane                | 8260C             | 21.8   | 20.0         | 109   | 51-129       |
| Styrene                          | 8260C             | 22.6   | 20.0         | 113   | 80-124       |
| Tetrachloroethene (PCE)          | 8260C             | 20.5   | 20.0         | 103   | 72-125       |
| Toluene                          | 8260C             | 23.2   | 20.0         | 116   | 79-119       |
| Trichloroethene (TCE)            | 8260C             | 21.0   | 20.0         | 105   | 74-122       |
| Trichlorofluoromethane (CFC 11)  | 8260C             | 21.8   | 20.0         | 109   | 71-136       |
| Vinyl Chloride                   | 8260C             | 26.8   | 20.0         | 134   | 74-159       |
| cis-1,2-Dichloroethene           | 8260C             | 23.7   | 20.0         | 118   | 80-121       |
| cis-1,3-Dichloropropene          | 8260C             | 23.3   | 20.0         | 116   | 77-122       |
| m,p-Xylenes                      | 8260C             | 44.2   | 40.0         | 110   | 80-126       |
| o-Xylene                         | 8260C             | 22.6   | 20.0         | 113   | 79-123       |
| trans-1,2-Dichloroethene         | 8260C             | 23.4   | 20.0         | 117   | 73-118       |
| trans-1,3-Dichloropropene        | 8260C             | 23.1   | 20.0         | 115   | 71-133       |



## Semivolatile Organic Compounds by GC/MS

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QA/QC Report

**Client:** Inventum Engineering  
**Project:** RITC Tanks  
**Sample Matrix:** Water

**Service Request:** R2109410

**SURROGATE RECOVERY SUMMARY**  
**Semivolatile Organic Compounds by GC/MS**

**Analysis Method:** 8270D  
**Extraction Method:** EPA 3510C

| Sample Name                  | Lab Code     | 2,4,6-Tribromophenol | 2-Fluorobiphenyl | 2-Fluorophenol |
|------------------------------|--------------|----------------------|------------------|----------------|
|                              |              | 35-141               | 31-118           | 10-105         |
| TK-LQ-ST22-09102021          | R2109410-001 | 78                   | 75               | 41             |
| TK-LQ-ST23-09102021          | R2109410-002 | 0*                   | 0*               | 0*             |
| TK-LQ-ST24-09102021          | R2109410-003 | 75                   | 75               | 41             |
| Method Blank                 | RQ2111388-03 | 79                   | 62               | 39             |
| Lab Control Sample           | RQ2111388-04 | 75                   | 70               | 40             |
| Duplicate Lab Control Sample | RQ2111388-05 | 79                   | 70               | 30             |

ALS Group USA, Corp.  
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QA/QC Report

**Client:** Inventum Engineering  
**Project:** RITC Tanks  
**Sample Matrix:** Water

**Service Request:** R2109410

**SURROGATE RECOVERY SUMMARY**  
**Semivolatile Organic Compounds by GC/MS**

**Analysis Method:** 8270D  
**Extraction Method:** EPA 3510C

| Sample Name                  | Lab Code     | Nitrobenzene-d5 | Phenol-d6 | Terphenyl-d14 |
|------------------------------|--------------|-----------------|-----------|---------------|
|                              |              | 31-110          | 10-107    | 10-165        |
| TK-LQ-ST22-09102021          | R2109410-001 | 68              | 31        | 79            |
| TK-LQ-ST23-09102021          | R2109410-002 | 0*              | 0*        | 0*            |
| TK-LQ-ST24-09102021          | R2109410-003 | 68              | 32        | 81            |
| Method Blank                 | RQ2111388-03 | 56              | 29        | 106           |
| Lab Control Sample           | RQ2111388-04 | 59              | 36        | 93            |
| Duplicate Lab Control Sample | RQ2111388-05 | 53              | 31        | 99            |

**ALS Group USA, Corp.**  
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Analytical Report

**Client:** Inventum Engineering  
**Project:** RITC Tanks  
**Sample Matrix:** Water

**Service Request:** R2109410  
**Date Collected:** NA  
**Date Received:** NA

**Sample Name:** Method Blank  
**Lab Code:** RQ2111388-03

**Units:** ug/L  
**Basis:** NA

**Semivolatile Organic Compounds by GC/MS**

**Analysis Method:** 8270D  
**Prep Method:** Method

| Analyte Name                    | Result | MRL | MDL | Dil. | Date Analyzed  | Date Extracted | Q |
|---------------------------------|--------|-----|-----|------|----------------|----------------|---|
| 1,2,4,5-Tetrachlorobenzene      | 1.2 U  | 10  | 1.2 | 1    | 09/16/21 16:14 | 9/15/21        |   |
| 2,3,4,6-Tetrachlorophenol       | 1.2 U  | 10  | 1.2 | 1    | 09/16/21 16:14 | 9/15/21        |   |
| 2,4,5-Trichlorophenol           | 1.1 U  | 10  | 1.1 | 1    | 09/16/21 16:14 | 9/15/21        |   |
| 2,4,6-Trichlorophenol           | 1.4 U  | 10  | 1.4 | 1    | 09/16/21 16:14 | 9/15/21        |   |
| 2,4-Dichlorophenol              | 1.3 U  | 10  | 1.3 | 1    | 09/16/21 16:14 | 9/15/21        |   |
| 2,4-Dimethylphenol              | 1.4 U  | 10  | 1.4 | 1    | 09/16/21 16:14 | 9/15/21        |   |
| 2,4-Dinitrophenol               | 20 U   | 50  | 20  | 1    | 09/16/21 16:14 | 9/15/21        |   |
| 2,4-Dinitrotoluene              | 2.4 U  | 10  | 2.4 | 1    | 09/16/21 16:14 | 9/15/21        |   |
| 2,6-Dinitrotoluene              | 1.4 U  | 10  | 1.4 | 1    | 09/16/21 16:14 | 9/15/21        |   |
| 2-Chloronaphthalene             | 1.4 U  | 10  | 1.4 | 1    | 09/16/21 16:14 | 9/15/21        |   |
| 2-Chlorophenol                  | 1.1 U  | 10  | 1.1 | 1    | 09/16/21 16:14 | 9/15/21        |   |
| 2-Methylnaphthalene             | 1.3 U  | 10  | 1.3 | 1    | 09/16/21 16:14 | 9/15/21        |   |
| 2-Methylphenol                  | 1.0 U  | 10  | 1.0 | 1    | 09/16/21 16:14 | 9/15/21        |   |
| 2-Nitroaniline                  | 1.4 U  | 10  | 1.4 | 1    | 09/16/21 16:14 | 9/15/21        |   |
| 2-Nitrophenol                   | 1.5 U  | 10  | 1.5 | 1    | 09/16/21 16:14 | 9/15/21        |   |
| 3,3'-Dichlorobenzidine          | 1.2 U  | 10  | 1.2 | 1    | 09/16/21 16:14 | 9/15/21        |   |
| 3- and 4-Methylphenol Coelution | 1.2 U  | 10  | 1.2 | 1    | 09/16/21 16:14 | 9/15/21        |   |
| 3-Nitroaniline                  | 1.1 U  | 10  | 1.1 | 1    | 09/16/21 16:14 | 9/15/21        |   |
| 4,6-Dinitro-2-methylphenol      | 8.7 U  | 50  | 8.7 | 1    | 09/16/21 16:14 | 9/15/21        |   |
| 4-Bromophenyl Phenyl Ether      | 1.7 U  | 10  | 1.7 | 1    | 09/16/21 16:14 | 9/15/21        |   |
| 4-Chloro-3-methylphenol         | 1.1 U  | 10  | 1.1 | 1    | 09/16/21 16:14 | 9/15/21        |   |
| 4-Chloroaniline                 | 1.0 U  | 10  | 1.0 | 1    | 09/16/21 16:14 | 9/15/21        |   |
| 4-Chlorophenyl Phenyl Ether     | 1.5 U  | 10  | 1.5 | 1    | 09/16/21 16:14 | 9/15/21        |   |
| 4-Nitroaniline                  | 1.4 U  | 10  | 1.4 | 1    | 09/16/21 16:14 | 9/15/21        |   |
| 4-Nitrophenol                   | 6.4 U  | 50  | 6.4 | 1    | 09/16/21 16:14 | 9/15/21        |   |
| Acenaphthene                    | 1.4 U  | 10  | 1.4 | 1    | 09/16/21 16:14 | 9/15/21        |   |
| Acenaphthylene                  | 1.4 U  | 10  | 1.4 | 1    | 09/16/21 16:14 | 9/15/21        |   |
| Acetophenone                    | 1.3 U  | 10  | 1.3 | 1    | 09/16/21 16:14 | 9/15/21        |   |
| Anthracene                      | 1.3 U  | 10  | 1.3 | 1    | 09/16/21 16:14 | 9/15/21        |   |
| Atrazine                        | 2.1 U  | 10  | 2.1 | 1    | 09/16/21 16:14 | 9/15/21        |   |
| Benz(a)anthracene               | 1.6 U  | 10  | 1.6 | 1    | 09/16/21 16:14 | 9/15/21        |   |
| Benzaldehyde                    | 1.0 U  | 10  | 1.0 | 1    | 09/16/21 16:14 | 9/15/21        |   |
| Benzo(a)pyrene                  | 1.2 U  | 10  | 1.2 | 1    | 09/16/21 16:14 | 9/15/21        |   |
| Benzo(b)fluoranthene            | 1.2 U  | 10  | 1.2 | 1    | 09/16/21 16:14 | 9/15/21        |   |
| Benzo(g,h,i)perylene            | 1.0 U  | 10  | 1.0 | 1    | 09/16/21 16:14 | 9/15/21        |   |
| Benzo(k)fluoranthene            | 1.3 U  | 10  | 1.3 | 1    | 09/16/21 16:14 | 9/15/21        |   |
| Biphenyl                        | 1.4 U  | 10  | 1.4 | 1    | 09/16/21 16:14 | 9/15/21        |   |
| 2,2'-Oxybis(1-chloropropane)    | 1.4 U  | 10  | 1.4 | 1    | 09/16/21 16:14 | 9/15/21        |   |
| Bis(2-chloroethoxy)methane      | 1.9 U  | 10  | 1.9 | 1    | 09/16/21 16:14 | 9/15/21        |   |
| Bis(2-chloroethyl) Ether        | 1.3 U  | 10  | 1.3 | 1    | 09/16/21 16:14 | 9/15/21        |   |
| Bis(2-ethylhexyl) Phthalate     | 7.8 U  | 10  | 7.8 | 1    | 09/16/21 16:14 | 9/15/21        |   |
| Butyl Benzyl Phthalate          | 1.4 U  | 10  | 1.4 | 1    | 09/16/21 16:14 | 9/15/21        |   |
| Caprolactam                     | 1.0 U  | 10  | 1.0 | 1    | 09/16/21 16:14 | 9/15/21        |   |

**ALS Group USA, Corp.**  
dba ALS Environmental

Analytical Report

**Client:** Inventum Engineering  
**Project:** RITC Tanks  
**Sample Matrix:** Water

**Service Request:** R2109410  
**Date Collected:** NA  
**Date Received:** NA

**Sample Name:** Method Blank  
**Lab Code:** RQ2111388-03

**Units:** ug/L  
**Basis:** NA

**Semivolatile Organic Compounds by GC/MS**

**Analysis Method:** 8270D  
**Prep Method:** Method

| Analyte Name              | Result | MRL | MDL | Dil. | Date Analyzed  | Date Extracted | Q |
|---------------------------|--------|-----|-----|------|----------------|----------------|---|
| Carbazole                 | 1.6 U  | 10  | 1.6 | 1    | 09/16/21 16:14 | 9/15/21        |   |
| Chrysene                  | 1.2 U  | 10  | 1.2 | 1    | 09/16/21 16:14 | 9/15/21        |   |
| Di-n-butyl Phthalate      | 1.7 U  | 10  | 1.7 | 1    | 09/16/21 16:14 | 9/15/21        |   |
| Di-n-octyl Phthalate      | 3.3 U  | 10  | 3.3 | 1    | 09/16/21 16:14 | 9/15/21        |   |
| Dibenz(a,h)anthracene     | 1.1 U  | 10  | 1.1 | 1    | 09/16/21 16:14 | 9/15/21        |   |
| Dibenzofuran              | 1.4 U  | 10  | 1.4 | 1    | 09/16/21 16:14 | 9/15/21        |   |
| Diethyl Phthalate         | 1.1 U  | 10  | 1.1 | 1    | 09/16/21 16:14 | 9/15/21        |   |
| Dimethyl Phthalate        | 1.3 U  | 10  | 1.3 | 1    | 09/16/21 16:14 | 9/15/21        |   |
| Fluoranthene              | 1.5 U  | 10  | 1.5 | 1    | 09/16/21 16:14 | 9/15/21        |   |
| Fluorene                  | 1.3 U  | 10  | 1.3 | 1    | 09/16/21 16:14 | 9/15/21        |   |
| Hexachlorobenzene         | 1.6 U  | 10  | 1.6 | 1    | 09/16/21 16:14 | 9/15/21        |   |
| Hexachlorobutadiene       | 1.0 U  | 10  | 1.0 | 1    | 09/16/21 16:14 | 9/15/21        |   |
| Hexachlorocyclopentadiene | 2.2 U  | 10  | 2.2 | 1    | 09/16/21 16:14 | 9/15/21        |   |
| Hexachloroethane          | 1.1 U  | 10  | 1.1 | 1    | 09/16/21 16:14 | 9/15/21        |   |
| Indeno(1,2,3-cd)pyrene    | 1.8 U  | 10  | 1.8 | 1    | 09/16/21 16:14 | 9/15/21        |   |
| Isophorone                | 1.4 U  | 10  | 1.4 | 1    | 09/16/21 16:14 | 9/15/21        |   |
| N-Nitrosodi-n-propylamine | 1.2 U  | 10  | 1.2 | 1    | 09/16/21 16:14 | 9/15/21        |   |
| N-Nitrosodiphenylamine    | 2.7 U  | 10  | 2.7 | 1    | 09/16/21 16:14 | 9/15/21        |   |
| Naphthalene               | 1.2 U  | 10  | 1.2 | 1    | 09/16/21 16:14 | 9/15/21        |   |
| Nitrobenzene              | 1.5 U  | 10  | 1.5 | 1    | 09/16/21 16:14 | 9/15/21        |   |
| Pentachlorophenol (PCP)   | 9.7 U  | 50  | 9.7 | 1    | 09/16/21 16:14 | 9/15/21        |   |
| Phenanthrene              | 1.4 U  | 10  | 1.4 | 1    | 09/16/21 16:14 | 9/15/21        |   |
| Phenol                    | 1.0 U  | 10  | 1.0 | 1    | 09/16/21 16:14 | 9/15/21        |   |
| Pyrene                    | 1.5 U  | 10  | 1.5 | 1    | 09/16/21 16:14 | 9/15/21        |   |

| Surrogate Name       | % Rec | Control Limits | Date Analyzed  | Q |
|----------------------|-------|----------------|----------------|---|
| 2,4,6-Tribromophenol | 79    | 35 - 141       | 09/16/21 16:14 |   |
| 2-Fluorobiphenyl     | 62    | 31 - 118       | 09/16/21 16:14 |   |
| 2-Fluorophenol       | 39    | 10 - 105       | 09/16/21 16:14 |   |
| Nitrobenzene-d5      | 56    | 31 - 110       | 09/16/21 16:14 |   |
| Phenol-d6            | 29    | 10 - 107       | 09/16/21 16:14 |   |
| Terphenyl-d14        | 106   | 10 - 165       | 09/16/21 16:14 |   |

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QA/QC Report

**Client:** Inventum Engineering  
**Project:** RITC Tanks  
**Sample Matrix:** Water

**Service Request:** R2109410  
**Date Analyzed:** 09/16/21

**Duplicate Lab Control Sample Summary**  
**Semivolatile Organic Compounds by GC/MS**

**Units:**ug/L  
**Basis:**NA

| Lab Control Sample<br>RQ2111388-04 |                   |        |              |       | Duplicate Lab Control Sample<br>RQ2111388-05 |              |       |              |      |           |
|------------------------------------|-------------------|--------|--------------|-------|----------------------------------------------|--------------|-------|--------------|------|-----------|
| Analyte Name                       | Analytical Method | Result | Spike Amount | % Rec | Result                                       | Spike Amount | % Rec | % Rec Limits | RPD  | RPD Limit |
| 1,2,4,5-Tetrachlorobenzene         | 8270D             | 82.0   | 80.1         | 102   | 92.5                                         | 80.1         | 116   | 15-132       | 13   | 30        |
| 2,3,4,6-Tetrachlorophenol          | 8270D             | 66.0   | 80.0         | 83    | 69.8                                         | 80.0         | 87    | 42-136       | 5    | 30        |
| 2,4,5-Trichlorophenol              | 8270D             | 63.4   | 80.0         | 79    | 68.1                                         | 80.0         | 85    | 48-134       | 7    | 30        |
| 2,4,6-Trichlorophenol              | 8270D             | 56.5   | 80.0         | 71    | 59.3                                         | 80.0         | 74    | 44-135       | 4    | 30        |
| 2,4-Dichlorophenol                 | 8270D             | 49.6   | 80.0         | 62    | 50.4                                         | 80.0         | 63    | 48-127       | 2    | 30        |
| 2,4-Dimethylphenol                 | 8270D             | 53.5   | 80.0         | 67    | 55.1                                         | 80.0         | 69    | 35-99        | 3    | 30        |
| 2,4-Dinitrophenol                  | 8270D             | 29.5 J | 80.0         | 37    | 48.8 J                                       | 80.0         | 61    | 21-154       | 49*  | 30        |
| 2,4-Dinitrotoluene                 | 8270D             | 67.0   | 80.0         | 84    | 69.4                                         | 80.0         | 87    | 54-130       | 4    | 30        |
| 2,6-Dinitrotoluene                 | 8270D             | 73.3   | 80.0         | 92    | 72.6                                         | 80.0         | 91    | 51-127       | 1    | 30        |
| 2-Chloronaphthalene                | 8270D             | 57.6   | 80.0         | 72    | 58.3                                         | 80.0         | 73    | 40-108       | 1    | 30        |
| 2-Chlorophenol                     | 8270D             | 39.0   | 80.0         | 49    | 33.0                                         | 80.0         | 41 *  | 42-112       | 18   | 30        |
| 2-Methylnaphthalene                | 8270D             | 54.2   | 80.0         | 68    | 52.6                                         | 80.0         | 66    | 34-102       | 3    | 30        |
| 2-Methylphenol                     | 8270D             | 48.6   | 80.0         | 61    | 43.7                                         | 80.0         | 55    | 47-100       | 10   | 30        |
| 2-Nitroaniline                     | 8270D             | 72.5   | 80.0         | 91    | 72.9                                         | 80.0         | 91    | 52-133       | <1   | 30        |
| 2-Nitrophenol                      | 8270D             | 45.6   | 80.0         | 57    | 42.5                                         | 80.0         | 53    | 43-131       | 7    | 30        |
| 3,3'-Dichlorobenzidine             | 8270D             | 68.9   | 80.0         | 86    | 60.6                                         | 80.0         | 76    | 43-126       | 12   | 30        |
| 3- and 4-Methylphenol Coelution    | 8270D             | 48.3   | 80.0         | 60    | 46.3                                         | 80.0         | 58    | 40-92        | 3    | 30        |
| 3-Nitroaniline                     | 8270D             | 60.6   | 80.0         | 76    | 59.3                                         | 80.0         | 74    | 42-111       | 3    | 30        |
| 4,6-Dinitro-2-methylphenol         | 8270D             | 52.7   | 80.0         | 66    | 60.2                                         | 80.0         | 75    | 36-152       | 13   | 30        |
| 4-Bromophenyl Phenyl Ether         | 8270D             | 75.0   | 80.0         | 94    | 73.1                                         | 80.0         | 91    | 48-114       | 3    | 30        |
| 4-Chloro-3-methylphenol            | 8270D             | 59.6   | 80.0         | 75    | 61.6                                         | 80.0         | 77    | 52-113       | 3    | 30        |
| 4-Chloroaniline                    | 8270D             | 57.0   | 80.0         | 71    | 50.4                                         | 80.0         | 63    | 44-109       | 12   | 30        |
| 4-Chlorophenyl Phenyl Ether        | 8270D             | 68.7   | 80.0         | 86    | 70.5                                         | 80.0         | 88    | 51-107       | 2    | 30        |
| 4-Nitroaniline                     | 8270D             | 65.3   | 80.0         | 82    | 65.8                                         | 80.0         | 82    | 54-133       | <1   | 30        |
| 4-Nitrophenol                      | 8270D             | 29.7 J | 80.0         | 37    | 31.4 J                                       | 80.0         | 39    | 10-126       | 5    | 30        |
| Acenaphthene                       | 8270D             | 65.6   | 80.0         | 82    | 65.3                                         | 80.0         | 82    | 52-107       | <1   | 30        |
| Acenaphthylene                     | 8270D             | 69.9   | 80.0         | 87    | 69.4                                         | 80.0         | 87    | 55-109       | <1   | 30        |
| Acetophenone                       | 8270D             | 102    | 160          | 64    | 92.2                                         | 160          | 58    | 46-114       | 10   | 30        |
| Anthracene                         | 8270D             | 74.1   | 80.0         | 93    | 76.8                                         | 80.0         | 96    | 55-116       | 3    | 30        |
| Atrazine                           | 8270D             | 84.8   | 80.0         | 106   | 94.6                                         | 80.0         | 118   | 61-164       | 11   | 30        |
| Benz(a)anthracene                  | 8270D             | 69.7   | 80.0         | 87    | 70.1                                         | 80.0         | 88    | 61-121       | 1    | 30        |
| Benzaldehyde                       | 8270D             | 45.8   | 80.0         | 57    | 11.0                                         | 80.0         | 14 *  | 45-132       | 121* | 30        |
| Benzo(a)pyrene                     | 8270D             | 83.1   | 80.0         | 104   | 83.3                                         | 80.0         | 104   | 44-114       | <1   | 30        |

**ALS Group USA, Corp.**  
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QA/QC Report

**Client:** Inventum Engineering  
**Project:** RITC Tanks  
**Sample Matrix:** Water

**Service Request:** R2109410  
**Date Analyzed:** 09/16/21

**Duplicate Lab Control Sample Summary**  
**Semivolatile Organic Compounds by GC/MS**

**Units:**ug/L  
**Basis:**NA

| Lab Control Sample<br>RQ2111388-04 |                   |        |              |       | Duplicate Lab Control Sample<br>RQ2111388-05 |              |       |              |     |           |
|------------------------------------|-------------------|--------|--------------|-------|----------------------------------------------|--------------|-------|--------------|-----|-----------|
| Analyte Name                       | Analytical Method | Result | Spike Amount | % Rec | Result                                       | Spike Amount | % Rec | % Rec Limits | RPD | RPD Limit |
| Benzo(b)fluoranthene               | 8270D             | 71.0   | 80.0         | 89    | 71.2                                         | 80.0         | 89    | 62-115       | <1  | 30        |
| Benzo(g,h,i)perylene               | 8270D             | 75.9   | 80.0         | 95    | 76.9                                         | 80.0         | 96    | 63-136       | 1   | 30        |
| Benzo(k)fluoranthene               | 8270D             | 77.0   | 80.0         | 96    | 77.4                                         | 80.0         | 97    | 49-133       | 1   | 30        |
| Biphenyl                           | 8270D             | 53.0   | 80.0         | 66    | 55.3                                         | 80.0         | 69    | 39-106       | 4   | 30        |
| 2,2'-Oxybis(1-chloropropane)       | 8270D             | 48.2   | 80.0         | 60    | 41.7                                         | 80.0         | 52    | 32-122       | 14  | 30        |
| Bis(2-chloroethoxy)methane         | 8270D             | 68.4   | 80.0         | 86    | 64.7                                         | 80.0         | 81    | 55-110       | 6   | 30        |
| Bis(2-chloroethyl) Ether           | 8270D             | 43.6   | 80.0         | 55    | 36.1                                         | 80.0         | 45 *  | 46-102       | 20  | 30        |
| Bis(2-ethylhexyl) Phthalate        | 8270D             | 63.4   | 80.0         | 79    | 66.7                                         | 80.0         | 83    | 51-132       | 5   | 30        |
| Butyl Benzyl Phthalate             | 8270D             | 69.8   | 80.0         | 87    | 69.0                                         | 80.0         | 86    | 41-148       | 1   | 30        |
| Caprolactam                        | 8270D             | 25.3   | 80.0         | 32    | 28.0                                         | 80.0         | 35    | 10-41        | 9   | 30        |
| Carbazole                          | 8270D             | 82.5   | 80.0         | 103   | 83.1                                         | 80.0         | 104   | 56-139       | <1  | 30        |
| Chrysene                           | 8270D             | 74.8   | 80.0         | 94    | 75.5                                         | 80.0         | 94    | 57-118       | <1  | 30        |
| Di-n-butyl Phthalate               | 8270D             | 86.2   | 80.0         | 108   | 86.2                                         | 80.0         | 108   | 57-128       | <1  | 30        |
| Di-n-octyl Phthalate               | 8270D             | 68.6   | 80.0         | 86    | 69.9                                         | 80.0         | 87    | 62-124       | 1   | 30        |
| Dibenz(a,h)anthracene              | 8270D             | 78.1   | 80.0         | 98    | 77.0                                         | 80.0         | 96    | 54-135       | 2   | 30        |
| Dibenzofuran                       | 8270D             | 69.2   | 80.0         | 86    | 69.0                                         | 80.0         | 86    | 55-110       | <1  | 30        |
| Diethyl Phthalate                  | 8270D             | 66.0   | 80.0         | 83    | 66.2                                         | 80.0         | 83    | 53-113       | <1  | 30        |
| Dimethyl Phthalate                 | 8270D             | 71.7   | 80.0         | 90    | 73.5                                         | 80.0         | 92    | 51-112       | 2   | 30        |
| Fluoranthene                       | 8270D             | 77.0   | 80.0         | 96    | 78.9                                         | 80.0         | 99    | 66-127       | 3   | 30        |
| Fluorene                           | 8270D             | 70.3   | 80.0         | 88    | 71.4                                         | 80.0         | 89    | 54-106       | 1   | 30        |
| Hexachlorobenzene                  | 8270D             | 71.7   | 80.0         | 90    | 72.0                                         | 80.0         | 90    | 53-123       | <1  | 30        |
| Hexachlorobutadiene                | 8270D             | 40.4   | 80.0         | 50    | 36.3                                         | 80.0         | 45    | 16-95        | 11  | 30        |
| Hexachlorocyclopentadiene          | 8270D             | 17.0   | 80.0         | 21    | 16.5                                         | 80.0         | 21    | 10-99        | <1  | 30        |
| Hexachloroethane                   | 8270D             | 31.5   | 80.0         | 39    | 22.7                                         | 80.0         | 28    | 15-92        | 33* | 30        |
| Indeno(1,2,3-cd)pyrene             | 8270D             | 72.2   | 80.0         | 90    | 71.8                                         | 80.0         | 90    | 62-137       | <1  | 30        |
| Isophorone                         | 8270D             | 63.6   | 80.0         | 80    | 60.1                                         | 80.0         | 75    | 50-116       | 6   | 30        |
| N-Nitrosodi-n-propylamine          | 8270D             | 52.8   | 80.0         | 66    | 48.0                                         | 80.0         | 60    | 49-115       | 10  | 30        |
| N-Nitrosodiphenylamine             | 8270D             | 79.3   | 80.0         | 99    | 79.4                                         | 80.0         | 99    | 45-123       | <1  | 30        |
| Naphthalene                        | 8270D             | 45.9   | 80.0         | 57    | 44.0                                         | 80.0         | 55    | 38-99        | 4   | 30        |
| Nitrobenzene                       | 8270D             | 48.3   | 80.0         | 60    | 44.1                                         | 80.0         | 55    | 46-108       | 9   | 30        |
| Pentachlorophenol (PCP)            | 8270D             | 59.0   | 80.0         | 74    | 64.8                                         | 80.0         | 81    | 29-164       | 9   | 30        |
| Phenanthrene                       | 8270D             | 74.3   | 80.0         | 93    | 73.8                                         | 80.0         | 92    | 58-118       | 1   | 30        |
| Phenol                             | 8270D             | 28.4   | 80.0         | 36    | 24.9                                         | 80.0         | 31    | 10-113       | 15  | 30        |

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QA/QC Report

**Client:** Inventum Engineering**Project:** RITC Tanks**Sample Matrix:** Water**Service Request:** R2109410**Date Analyzed:** 09/16/21**Duplicate Lab Control Sample Summary  
Semivolatile Organic Compounds by GC/MS****Units:**ug/L**Basis:**NA

| Analyte Name | Analytical Method | Lab Control Sample |              |       | Duplicate Lab Control Sample |              |       |              |     |           |
|--------------|-------------------|--------------------|--------------|-------|------------------------------|--------------|-------|--------------|-----|-----------|
|              |                   | RQ2111388-04       |              |       | RQ2111388-05                 |              |       |              |     |           |
|              |                   | Result             | Spike Amount | % Rec | Result                       | Spike Amount | % Rec | % Rec Limits | RPD | RPD Limit |
| Pyrene       | 8270D             | 73.0               | 80.0         | 91    | 76.1                         | 80.0         | 95    | 61-122       | 4   | 30        |



## Semivolatile Organic Compounds by GC

**ALS Environmental—Rochester Laboratory**

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QA/QC Report

**Client:** Inventum Engineering  
**Project:** RITC Tanks  
**Sample Matrix:** Water

**Service Request:** R2109410

**SURROGATE RECOVERY SUMMARY**  
**Organochlorine Pesticides by Gas Chromatography**

**Analysis Method:** 8081B  
**Extraction Method:** EPA 3510C

| Sample Name                  | Lab Code     | Decachlorobiphenyl | Tetrachloro-m-xylene |
|------------------------------|--------------|--------------------|----------------------|
|                              |              | 10-164             | 10-147               |
| TK-LQ-ST22-09102021          | R2109410-001 | 69                 | 51                   |
| TK-LQ-ST23-09102021          | R2109410-002 | 88                 | 220*                 |
| TK-LQ-ST24-09102021          | R2109410-003 | 24                 | 34                   |
| Method Blank                 | RQ2111454-01 | 74                 | 50                   |
| Lab Control Sample           | RQ2111454-02 | 78                 | 54                   |
| Duplicate Lab Control Sample | RQ2111454-03 | 78                 | 54                   |

**ALS Group USA, Corp.**  
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Analytical Report

**Client:** Inventum Engineering  
**Project:** RITC Tanks  
**Sample Matrix:** Water

**Service Request:** R2109410  
**Date Collected:** NA  
**Date Received:** NA

**Sample Name:** Method Blank  
**Lab Code:** RQ2111454-01

**Units:** ug/L  
**Basis:** NA

**Organochlorine Pesticides by Gas Chromatography**

**Analysis Method:** 8081B  
**Prep Method:** EPA 3510C

| Analyte Name        | Result  | MRL   | MDL   | Dil. | Date Analyzed  | Date Extracted | Q |
|---------------------|---------|-------|-------|------|----------------|----------------|---|
| 4,4'-DDD            | 0.020 U | 0.050 | 0.020 | 1    | 09/20/21 12:13 | 9/16/21        |   |
| 4,4'-DDE            | 0.020 U | 0.050 | 0.020 | 1    | 09/20/21 12:13 | 9/16/21        |   |
| 4,4'-DDT            | 0.020 U | 0.050 | 0.020 | 1    | 09/20/21 12:13 | 9/16/21        |   |
| Aldrin              | 0.020 U | 0.050 | 0.020 | 1    | 09/20/21 12:13 | 9/16/21        |   |
| Dieldrin            | 0.020 U | 0.050 | 0.020 | 1    | 09/20/21 12:13 | 9/16/21        |   |
| Endosulfan I        | 0.020 U | 0.050 | 0.020 | 1    | 09/20/21 12:13 | 9/16/21        |   |
| Endosulfan II       | 0.020 U | 0.050 | 0.020 | 1    | 09/20/21 12:13 | 9/16/21        |   |
| Endosulfan Sulfate  | 0.020 U | 0.050 | 0.020 | 1    | 09/20/21 12:13 | 9/16/21        |   |
| Endrin              | 0.020 U | 0.050 | 0.020 | 1    | 09/20/21 12:13 | 9/16/21        |   |
| Endrin Aldehyde     | 0.020 U | 0.050 | 0.020 | 1    | 09/20/21 12:13 | 9/16/21        |   |
| Endrin Ketone       | 0.020 U | 0.050 | 0.020 | 1    | 09/20/21 12:13 | 9/16/21        |   |
| Heptachlor          | 0.020 U | 0.050 | 0.020 | 1    | 09/20/21 12:13 | 9/16/21        |   |
| Heptachlor Epoxide  | 0.020 U | 0.050 | 0.020 | 1    | 09/20/21 12:13 | 9/16/21        |   |
| Methoxychlor        | 0.020 U | 0.050 | 0.020 | 1    | 09/20/21 12:13 | 9/16/21        |   |
| Toxaphene           | 0.50 U  | 0.50  | 0.50  | 1    | 09/20/21 12:13 | 9/16/21        |   |
| alpha-BHC           | 0.020 U | 0.050 | 0.020 | 1    | 09/20/21 12:13 | 9/16/21        |   |
| alpha-Chlordane     | 0.020 U | 0.050 | 0.020 | 1    | 09/20/21 12:13 | 9/16/21        |   |
| beta-BHC            | 0.020 U | 0.050 | 0.020 | 1    | 09/20/21 12:13 | 9/16/21        |   |
| delta-BHC           | 0.020 U | 0.050 | 0.020 | 1    | 09/20/21 12:13 | 9/16/21        |   |
| gamma-BHC (Lindane) | 0.020 U | 0.050 | 0.020 | 1    | 09/20/21 12:13 | 9/16/21        |   |
| gamma-Chlordane     | 0.020 U | 0.050 | 0.020 | 1    | 09/20/21 12:13 | 9/16/21        |   |

| Surrogate Name       | % Rec | Control Limits | Date Analyzed  | Q |
|----------------------|-------|----------------|----------------|---|
| Decachlorobiphenyl   | 74    | 10 - 164       | 09/20/21 12:13 |   |
| Tetrachloro-m-xylene | 50    | 10 - 147       | 09/20/21 12:13 |   |

**ALS Group USA, Corp.**  
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QA/QC Report

**Client:** Inventum Engineering  
**Project:** RITC Tanks  
**Sample Matrix:** Water

**Service Request:** R2109410  
**Date Analyzed:** 09/20/21

**Duplicate Lab Control Sample Summary**  
**Organochlorine Pesticides by Gas Chromatography**

**Units:**ug/L  
**Basis:**NA

| Lab Control Sample<br>RQ2111454-02 |                   |        |              |       | Duplicate Lab Control Sample<br>RQ2111454-03 |              |       |              |     |           |
|------------------------------------|-------------------|--------|--------------|-------|----------------------------------------------|--------------|-------|--------------|-----|-----------|
| Analyte Name                       | Analytical Method | Result | Spike Amount | % Rec | Result                                       | Spike Amount | % Rec | % Rec Limits | RPD | RPD Limit |
| 4,4'-DDD                           | 8081B             | 0.355  | 0.400        | 89    | 0.348                                        | 0.400        | 87    | 42-159       | 2   | 30        |
| 4,4'-DDE                           | 8081B             | 0.326  | 0.400        | 81    | 0.327                                        | 0.400        | 82    | 47-147       | <1  | 30        |
| 4,4'-DDT                           | 8081B             | 0.410  | 0.400        | 102   | 0.399                                        | 0.400        | 100   | 41-149       | 3   | 30        |
| Aldrin                             | 8081B             | 0.231  | 0.400        | 58    | 0.230                                        | 0.400        | 58    | 22-137       | <1  | 30        |
| Dieldrin                           | 8081B             | 0.346  | 0.400        | 86    | 0.340                                        | 0.400        | 85    | 52-144       | 2   | 30        |
| Endosulfan I                       | 8081B             | 0.341  | 0.400        | 85    | 0.334                                        | 0.400        | 83    | 52-136       | 2   | 30        |
| Endosulfan II                      | 8081B             | 0.357  | 0.400        | 89    | 0.349                                        | 0.400        | 87    | 57-138       | 2   | 30        |
| Endosulfan Sulfate                 | 8081B             | 0.367  | 0.400        | 92    | 0.373                                        | 0.400        | 93    | 34-156       | 1   | 30        |
| Endrin                             | 8081B             | 0.371  | 0.400        | 93    | 0.363                                        | 0.400        | 91    | 56-143       | 2   | 30        |
| Endrin Aldehyde                    | 8081B             | 0.399  | 0.400        | 100   | 0.423                                        | 0.400        | 106   | 10-166       | 6   | 30        |
| Endrin Ketone                      | 8081B             | 0.384  | 0.400        | 96    | 0.383                                        | 0.400        | 96    | 59-143       | <1  | 30        |
| Heptachlor                         | 8081B             | 0.289  | 0.400        | 72    | 0.292                                        | 0.400        | 73    | 32-141       | <1  | 30        |
| Heptachlor Epoxide                 | 8081B             | 0.341  | 0.400        | 85    | 0.335                                        | 0.400        | 84    | 51-143       | 2   | 30        |
| Methoxychlor                       | 8081B             | 0.424  | 0.400        | 106   | 0.426                                        | 0.400        | 107   | 56-149       | <1  | 30        |
| alpha-BHC                          | 8081B             | 0.315  | 0.400        | 79    | 0.309                                        | 0.400        | 77    | 36-151       | 2   | 30        |
| alpha-Chlordane                    | 8081B             | 0.331  | 0.400        | 83    | 0.329                                        | 0.400        | 82    | 50-139       | <1  | 30        |
| beta-BHC                           | 8081B             | 0.327  | 0.400        | 82    | 0.320                                        | 0.400        | 80    | 55-149       | 2   | 30        |
| delta-BHC                          | 8081B             | 0.320  | 0.400        | 80    | 0.313                                        | 0.400        | 78    | 29-159       | 2   | 30        |
| gamma-BHC (Lindane)                | 8081B             | 0.317  | 0.400        | 79    | 0.312                                        | 0.400        | 78    | 41-149       | 2   | 30        |
| gamma-Chlordane                    | 8081B             | 0.325  | 0.400        | 81    | 0.330                                        | 0.400        | 82    | 50-140       | 1   | 30        |

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QA/QC Report

**Client:** Inventum Engineering  
**Project:** RITC Tanks  
**Sample Matrix:** Water

**Service Request:** R2109410

**SURROGATE RECOVERY SUMMARY**  
**Polychlorinated Biphenyls (PCBs) by GC**

**Analysis Method:** 8082A  
**Extraction Method:** EPA 3510C

| Sample Name                  | Lab Code     | Decachlorobiphenyl | Tetrachloro-m-xylene |
|------------------------------|--------------|--------------------|----------------------|
|                              |              | 10-152             | 14-129               |
| TK-LQ-ST22-09102021          | R2109410-001 | 30                 | 50                   |
| TK-LQ-ST23-09102021          | R2109410-002 | 12                 | 25                   |
| TK-LQ-ST24-09102021          | R2109410-003 | 12                 | 38                   |
| Method Blank                 | RQ2111454-01 | 63                 | 50                   |
| Lab Control Sample           | RQ2111454-02 | 66                 | 57                   |
| Duplicate Lab Control Sample | RQ2111454-03 | 72                 | 57                   |

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Analytical Report

**Client:** Inventum Engineering  
**Project:** RITC Tanks  
**Sample Matrix:** Water

**Service Request:** R2109410  
**Date Collected:** NA  
**Date Received:** NA

**Sample Name:** Method Blank  
**Lab Code:** RQ2111454-01

**Units:** ug/L  
**Basis:** NA

Polychlorinated Biphenyls (PCBs) by GC

**Analysis Method:** 8082A  
**Prep Method:** EPA 3510C

| Analyte Name | Result | MRL | MDL  | Dil. | Date Analyzed  | Date Extracted | Q |
|--------------|--------|-----|------|------|----------------|----------------|---|
| Aroclor 1016 | 0.50 U | 1.0 | 0.50 | 1    | 09/20/21 18:41 | 9/16/21        |   |
| Aroclor 1221 | 1.0 U  | 2.0 | 1.0  | 1    | 09/20/21 18:41 | 9/16/21        |   |
| Aroclor 1232 | 0.50 U | 1.0 | 0.50 | 1    | 09/20/21 18:41 | 9/16/21        |   |
| Aroclor 1242 | 0.50 U | 1.0 | 0.50 | 1    | 09/20/21 18:41 | 9/16/21        |   |
| Aroclor 1248 | 0.50 U | 1.0 | 0.50 | 1    | 09/20/21 18:41 | 9/16/21        |   |
| Aroclor 1254 | 0.50 U | 1.0 | 0.50 | 1    | 09/20/21 18:41 | 9/16/21        |   |
| Aroclor 1260 | 0.50 U | 1.0 | 0.50 | 1    | 09/20/21 18:41 | 9/16/21        |   |

| Surrogate Name       | % Rec | Control Limits | Date Analyzed  | Q |
|----------------------|-------|----------------|----------------|---|
| Decachlorobiphenyl   | 63    | 10 - 152       | 09/20/21 18:41 |   |
| Tetrachloro-m-xylene | 50    | 14 - 129       | 09/20/21 18:41 |   |

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QA/QC Report

**Client:** Inventum Engineering  
**Project:** RITC Tanks  
**Sample Matrix:** Water

**Service Request:** R2109410  
**Date Analyzed:** 09/20/21

**Duplicate Lab Control Sample Summary**  
**Polychlorinated Biphenyls (PCBs) by GC**

**Units:**ug/L  
**Basis:**NA

| Lab Control Sample<br>RQ2111454-02 |                   |        |              |       | Duplicate Lab Control Sample<br>RQ2111454-03 |              |       |              |     |           |
|------------------------------------|-------------------|--------|--------------|-------|----------------------------------------------|--------------|-------|--------------|-----|-----------|
| Analyte Name                       | Analytical Method | Result | Spike Amount | % Rec | Result                                       | Spike Amount | % Rec | % Rec Limits | RPD | RPD Limit |
| Aroclor 1016                       | 8082A             | 3.55   | 4.00         | 89    | 3.68                                         | 4.00         | 92    | 49-123       | 4   | 30        |
| Aroclor 1260                       | 8082A             | 3.74   | 4.00         | 94    | 3.99                                         | 4.00         | 100   | 30-120       | 7   | 30        |

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QA/QC Report

**Client:** Inventum Engineering  
**Project:** RITC Tanks  
**Sample Matrix:** Water

**Service Request:** R2109410

**SURROGATE RECOVERY SUMMARY**  
**Chlorinated Herbicides by GC**

**Analysis Method:** 8151A  
**Extraction Method:** Method

| Sample Name                  | Lab Code     | 2,4-Dichlorophenylacetic |
|------------------------------|--------------|--------------------------|
|                              |              | Acid<br>10-136           |
| TK-LQ-ST22-09102021          | R2109410-001 | 75                       |
| TK-LQ-ST23-09102021          | R2109410-002 | 0*                       |
| TK-LQ-ST24-09102021          | R2109410-003 | 57                       |
| Method Blank                 | RQ2111389-01 | 70                       |
| Lab Control Sample           | RQ2111389-02 | 75                       |
| Duplicate Lab Control Sample | RQ2111389-03 | 65                       |

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Analytical Report

**Client:** Inventum Engineering  
**Project:** RITC Tanks  
**Sample Matrix:** Water

**Service Request:** R2109410  
**Date Collected:** NA  
**Date Received:** NA

**Sample Name:** Method Blank  
**Lab Code:** RQ2111389-01

**Units:** ug/L  
**Basis:** NA

Chlorinated Herbicides by GC

**Analysis Method:** 8151A  
**Prep Method:** Method

| Analyte Name | Result | MRL  | MDL  | Dil. | Date Analyzed  | Date Extracted | Q |
|--------------|--------|------|------|------|----------------|----------------|---|
| 2,4,5-T      | 0.14 U | 0.50 | 0.14 | 1    | 09/17/21 10:26 | 9/15/21        |   |
| 2,4,5-TP     | 0.12 U | 0.50 | 0.12 | 1    | 09/17/21 10:26 | 9/15/21        |   |
| 2,4-D        | 0.35 U | 0.50 | 0.35 | 1    | 09/17/21 10:26 | 9/15/21        |   |
| Dicamba      | 0.12 U | 0.50 | 0.12 | 1    | 09/17/21 10:26 | 9/15/21        |   |

| Surrogate Name                | % Rec | Control Limits | Date Analyzed  | Q |
|-------------------------------|-------|----------------|----------------|---|
| 2,4-Dichlorophenylacetic Acid | 70    | 10 - 136       | 09/17/21 10:26 |   |

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QA/QC Report

**Client:** Inventum Engineering  
**Project:** RITC Tanks  
**Sample Matrix:** Water

**Service Request:** R2109410  
**Date Analyzed:** 09/17/21

**Duplicate Lab Control Sample Summary**  
**Chlorinated Herbicides by GC**

**Units:**ug/L  
**Basis:**NA

**Lab Control Sample**  
RQ2111389-02

**Duplicate Lab Control Sample**  
RQ2111389-03

| Analyte Name | Analytical Method | Result | Spike Amount | % Rec | Result | Spike Amount | % Rec | % Rec Limits | RPD | RPD Limit |
|--------------|-------------------|--------|--------------|-------|--------|--------------|-------|--------------|-----|-----------|
| 2,4,5-T      | 8151A             | 1.15   | 2.00         | 57    | 1.27   | 2.00         | 64    | 21-125       | 10  | 30        |
| 2,4,5-TP     | 8151A             | 1.07   | 2.00         | 54    | 1.13   | 2.00         | 56    | 21-120       | 5   | 30        |
| 2,4-D        | 8151A             | 1.39   | 2.00         | 70    | 1.36   | 2.00         | 68    | 26-154       | 2   | 30        |
| Dicamba      | 8151A             | 1.21   | 2.00         | 61    | 1.21   | 2.00         | 60    | 22-125       | <1  | 30        |



## Metals

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**METALS**

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**BLANKS**

Contract: R2109410

Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG NO.: TK-LQ-ST22-0

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L, ppt, or mg/kg): UG/L

| Analyte    | Initial<br>Calib.<br>Blank<br>ug/L | Continuing Calibration Blank ug/L |          |          |  |  |         | Preparation<br>Blank |  | M  |
|------------|------------------------------------|-----------------------------------|----------|----------|--|--|---------|----------------------|--|----|
|            |                                    | 1                                 | 2        | 3        |  |  |         |                      |  |    |
| Aluminum   | 23.00 U                            | 23.00 U                           | 23.00 U  | 23.00 U  |  |  | 23.000  | U                    |  | P  |
| Antimony   | 15.20 J                            | 9.50 J                            | 6.60 J   | 8.20 J   |  |  | 6.300   | U                    |  | P  |
| Arsenic    | 5.50 U                             | 5.50 U                            | 5.50 U   | 5.50 U   |  |  | 5.500   | U                    |  | P  |
| Barium     | 3.00 U                             | 3.00 U                            | 3.00 U   | 3.00 U   |  |  | 3.000   | U                    |  | P  |
| Beryllium  | 0.13 U                             | 0.13 U                            | 0.13 U   | 0.13 U   |  |  | 0.130   | U                    |  | P  |
| Boron      | 12.00 U                            | 12.00 U                           | 12.00 U  | 12.00 U  |  |  | 12.000  | U                    |  | P  |
| Cadmium    | 0.35 U                             | 0.35 U                            | 0.35 U   | 0.35 U   |  |  | 0.350   | U                    |  | P  |
| Mercury    | 0.077 U                            | 0.077 U                           | 0.077 U  | 0.077 U  |  |  | 0.077   | U                    |  | CV |
| Calcium    | 220.00 U                           | 220.00 U                          | 220.00 U | 220.00 U |  |  | 220.000 | U                    |  | P  |
| Chromium   | 1.40 U                             | 1.40 U                            | 1.40 U   | 1.40 U   |  |  | 1.400   | U                    |  | P  |
| Cobalt     | 0.89 U                             | 0.89 U                            | 0.89 U   | 0.89 U   |  |  | 0.890   | U                    |  | P  |
| Copper     | 3.90 U                             | 3.90 U                            | 3.90 U   | 3.90 U   |  |  | 3.900   | U                    |  | P  |
| Iron       | 61.00 U                            | 61.00 U                           | 61.00 U  | 61.00 U  |  |  | 61.000  | U                    |  | P  |
| Uranium    | 0.03 U                             | 0.03 U                            | 0.03 U   | 0.03 U   |  |  | 0.03    | U                    |  | MS |
| Lead       | 2.10 U                             | 2.10 U                            | 2.10 U   | 2.10 U   |  |  | 2.100   | U                    |  | P  |
| Magnesium  | 29.00 U                            | 29.00 U                           | 29.00 U  | 29.00 U  |  |  | 29.000  | U                    |  | P  |
| Manganese  | 3.70 U                             | 3.70 U                            | 3.70 U   | 3.70 U   |  |  | 3.700   | U                    |  | P  |
| Molybdenum | 11.10 J                            | 9.30 J                            | 8.60 J   | 8.70 J   |  |  | 2.900   | U                    |  | P  |
| Nickel     | 2.60 U                             | 2.60 U                            | 2.60 U   | 2.60 U   |  |  | 2.600   | U                    |  | P  |
| Potassium  | 380.00 U                           | 380.00 U                          | 380.00 U | 380.00 U |  |  | 380.000 | U                    |  | P  |
| Selenium   | 6.40 U                             | 6.40 U                            | 6.40 U   | 6.40 U   |  |  | 6.400   | U                    |  | P  |
| Silver     | 0.57 U                             | 0.57 U                            | 0.57 U   | 0.57 U   |  |  | 0.570   | U                    |  | P  |
| Sodium     | 130.00 U                           | 130.00 U                          | 130.00 U | 130.00 U |  |  | 130.000 | U                    |  | P  |
| Thallium   | 6.60 U                             | 6.60 U                            | 7.00 J   | 6.60 U   |  |  | 6.600   | U                    |  | P  |
| Tin        | 8.00 U                             | 8.00 U                            | 8.00 U   | 8.00 U   |  |  | 8.000   | U                    |  | P  |
| Vanadium   | 0.67 U                             | 0.67 U                            | 0.67 U   | 0.67 U   |  |  | 0.670   | U                    |  | P  |
| Zinc       | 2.40 U                             | 2.40 U                            | 2.40 U   | 2.40 U   |  |  | 2.400   | U                    |  | P  |

Comments:

METALS

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BLANKS

Contract: R2109410

Lab Code: Case No.: SAS No.: SDG NO.: TK-LQ-ST22-0

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L, ppt, or mg/kg): UG/L

| Analyte    | Initial<br>Calib.<br>Blank<br>ug/L | Continuing Calibration Blank ug/L |   |        |   |        |   | Preparation<br>Blank | C | M  |
|------------|------------------------------------|-----------------------------------|---|--------|---|--------|---|----------------------|---|----|
|            |                                    | 1                                 | C | 2      | C | 3      | C |                      |   |    |
| Aluminum   |                                    | 23.00                             | U | 23.00  | U | 23.00  | U |                      |   | P  |
| Antimony   |                                    | 6.30                              | U | 6.80   | J | 15.10  | J |                      |   | P  |
| Arsenic    |                                    | 5.50                              | U | 5.50   | U | 6.10   | J |                      |   | P  |
| Barium     |                                    | 3.00                              | U | 3.00   | U | 3.00   | U |                      |   | P  |
| Beryllium  |                                    | 0.13                              | U | 0.13   | U | 0.13   | U |                      |   | P  |
| Boron      |                                    | 12.00                             | U | 12.00  | U | 12.00  | U |                      |   | P  |
| Cadmium    |                                    | 0.35                              | U | 0.35   | U | 0.35   | U |                      |   | P  |
| Mercury    |                                    | 0.077                             | U | 0.077  | U |        |   |                      |   | CV |
| Calcium    |                                    | 220.00                            | U | 220.00 | U | 220.00 | U |                      |   | P  |
| Chromium   |                                    | 1.40                              | U | 1.40   | U | 1.40   | U |                      |   | P  |
| Cobalt     |                                    | 0.89                              | U | 0.89   | U | 0.89   | U |                      |   | P  |
| Copper     |                                    | 3.90                              | U | 3.90   | U | 3.90   | U |                      |   | P  |
| Iron       |                                    | 61.00                             | U | 61.00  | U | 61.00  | U |                      |   | P  |
| Uranium    |                                    | 0.03                              | U | 0.03   | U | 0.03   | U |                      |   | MS |
| Lead       |                                    | 2.10                              | U | 2.10   | U | 2.10   | U |                      |   | P  |
| Magnesium  |                                    | 29.00                             | U | 29.00  | U | 29.00  | U |                      |   | P  |
| Manganese  |                                    | 3.70                              | U | 3.70   | U | 3.70   | U |                      |   | P  |
| Molybdenum |                                    | 8.10                              | J | 8.20   | J | 11.20  | J |                      |   | P  |
| Nickel     |                                    | 2.60                              | U | 2.60   | U | 2.60   | U |                      |   | P  |
| Potassium  |                                    | 380.00                            | U | 380.00 | U | 380.00 | U |                      |   | P  |
| Selenium   |                                    | 6.40                              | U | 6.40   | U | 6.40   | U |                      |   | P  |
| Silver     |                                    | 0.57                              | U | 0.57   | U | 0.57   | U |                      |   | P  |
| Sodium     |                                    | 130.00                            | U | 130.00 | U | 130.00 | U |                      |   | P  |
| Thallium   |                                    | 6.60                              | U | 7.10   | J | 8.70   | J |                      |   | P  |
| Tin        |                                    | 8.00                              | U | 8.00   | U | 8.00   | U |                      |   | P  |
| Vanadium   |                                    | 0.67                              | U | 0.67   | U | 0.67   | U |                      |   | P  |
| Zinc       |                                    | 2.40                              | U | 2.40   | U | 2.40   | U |                      |   | P  |

Comments:

METALS

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BLANKS

Contract: R2109410

Lab Code: Case No.: SAS No.: SDG NO.: TK-LQ-ST22-0

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L, ppt, or mg/kg): UG/L

| Analyte | Initial Calib. Blank ug/L |   | Continuing Calibration Blank ug/L |   |        |   |        |   | Preparation Blank |  | M |
|---------|---------------------------|---|-----------------------------------|---|--------|---|--------|---|-------------------|--|---|
|         | C                         |   | 1                                 | C | 2      | C | 3      | C | C                 |  |   |
| Arsenic | 5.50                      | U | 5.50                              | U | 5.50   | U | 5.50   | U |                   |  | P |
| Iron    | 61.00                     | U | 61.00                             | U | 61.00  | U | 61.00  | U |                   |  | P |
| Sodium  | 130.00                    | U | 130.00                            | U | 130.00 | U | 130.00 | U |                   |  | P |

Comments:

METALS

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BLANKS

Contract: R2109410

Lab Code: Case No.: SAS No.: SDG NO.: TK-LQ-ST22-0

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L, ppt, or mg/kg): UG/L

| Analyte | Initial Calib. Blank ug/L |  | Continuing Calibration Blank ug/L |   |        |   |        |   |  |  |  | Preparation Blank |  | M |
|---------|---------------------------|--|-----------------------------------|---|--------|---|--------|---|--|--|--|-------------------|--|---|
|         | C                         |  | 1                                 | C | 2      | C | 3      | C |  |  |  | C                 |  |   |
| Arsenic |                           |  | 6.10                              | J | 5.50   | U | 5.50   | U |  |  |  |                   |  | P |
| Iron    |                           |  | 61.00                             | U | 61.00  | U | 61.00  | U |  |  |  |                   |  | P |
| Sodium  |                           |  | 130.00                            | U | 130.00 | U | 130.00 | U |  |  |  |                   |  | P |

Comments:

METALS

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LABORATORY CONTROL SAMPLE

Contract: R2109410

Lab Code: Case No.: SAS No.: SDG NO.: TK-LQ-ST22-0

Solid LCS Source:

Aqueous LCS Source: ACCUSTANDARD

| Analyte    | Aqueous (ug/L |       |     | Solid (mg/K |       |   |        |    |  |
|------------|---------------|-------|-----|-------------|-------|---|--------|----|--|
|            | True          | Found | %R  | True        | Found | C | Limits | %R |  |
| Aluminum   | 2000          | 1980  | 99  |             |       |   |        |    |  |
| Antimony   | 500           | 479   | 96  |             |       |   |        |    |  |
| Arsenic    | 40            | 41    | 102 |             |       |   |        |    |  |
| Barium     | 2000          | 2010  | 100 |             |       |   |        |    |  |
| Beryllium  | 50            | 50    | 100 |             |       |   |        |    |  |
| Boron      | 1000          | 977   | 98  |             |       |   |        |    |  |
| Cadmium    | 50            | 51    | 102 |             |       |   |        |    |  |
| Mercury    | 1.000         | 1.080 | 108 |             |       |   |        |    |  |
| Calcium    | 2000          | 2030  | 102 |             |       |   |        |    |  |
| Chromium   | 200           | 205   | 102 |             |       |   |        |    |  |
| Cobalt     | 500           | 511   | 102 |             |       |   |        |    |  |
| Copper     | 250           | 243   | 97  |             |       |   |        |    |  |
| Iron       | 1000          | 999   | 100 |             |       |   |        |    |  |
| Uranium    | 20.0          | 19.7  | 98  |             |       |   |        |    |  |
| Lead       | 500           | 496   | 99  |             |       |   |        |    |  |
| Magnesium  | 2000          | 1950  | 98  |             |       |   |        |    |  |
| Manganese  | 500           | 495   | 99  |             |       |   |        |    |  |
| Molybdenum | 500           | 493   | 99  |             |       |   |        |    |  |
| Nickel     | 500           | 507   | 101 |             |       |   |        |    |  |
| Potassium  | 20000         | 19400 | 97  |             |       |   |        |    |  |
| Selenium   | 1010          | 982   | 97  |             |       |   |        |    |  |
| Silver     | 50            | 48    | 96  |             |       |   |        |    |  |
| Sodium     | 20000         | 19800 | 99  |             |       |   |        |    |  |
| Thallium   | 2000          | 1870  | 94  |             |       |   |        |    |  |
| Tin        | 5000          | 4860  | 97  |             |       |   |        |    |  |
| Vanadium   | 500           | 494   | 99  |             |       |   |        |    |  |
| Zinc       | 500           | 496   | 99  |             |       |   |        |    |  |

Comments:



## General Chemistry

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Analytical Report

**Client:** Inventum Engineering  
**Project:** RITC Tanks  
**Sample Matrix:** Water  
  
**Sample Name:** Method Blank  
**Lab Code:** R2109410-MB1

**Service Request:** R2109410  
**Date Collected:** NA  
**Date Received:** NA  
  
**Basis:** NA

Inorganic Parameters

| Analyte Name                     | Analysis Method | Result   | Units | MRL    | MDL    | Dil. | Date Analyzed  | Q |
|----------------------------------|-----------------|----------|-------|--------|--------|------|----------------|---|
| Ammonia as Nitrogen, undistilled | 350.1           | 0.026 U  | mg/L  | 0.050  | 0.026  | 1    | 09/25/21 15:29 |   |
| Cyanide, Total                   | Kelada-01       | 0.0040 U | mg/L  | 0.0050 | 0.0040 | 1    | 09/22/21 13:25 |   |
| Fluoride, undistilled            | 300.0           | 0.010 U  | mg/L  | 0.10   | 0.010  | 1    | 09/13/21 08:33 |   |
| Nitrate+Nitrite as Nitrogen      | 353.2           | 0.002 U  | mg/L  | 0.050  | 0.002  | 1    | 09/29/21 20:45 |   |
| Nitrite as Nitrogen              | 353.2           | 0.007 U  | mg/L  | 0.010  | 0.007  | 1    | 09/15/21 19:38 |   |

ALS Group USA, Corp.  
dba ALS Environmental

Analytical Report

**Client:** Inventum Engineering  
**Project:** RITC Tanks  
**Sample Matrix:** Water  
  
**Sample Name:** Method Blank  
**Lab Code:** R2109410-MB2

**Service Request:** R2109410  
**Date Collected:** NA  
**Date Received:** NA  
  
**Basis:** NA

Inorganic Parameters

| Analyte Name                     | Analysis Method | Result  | Units | MRL   | MDL   | Dil. | Date Analyzed  | Q |
|----------------------------------|-----------------|---------|-------|-------|-------|------|----------------|---|
| Ammonia as Nitrogen, undistilled | 350.1           | 0.026 U | mg/L  | 0.050 | 0.026 | 1    | 09/30/21 13:50 |   |
| Nitrate+Nitrite as Nitrogen      | 353.2           | 0.002 U | mg/L  | 0.050 | 0.002 | 1    | 09/29/21 21:18 |   |

ALS Group USA, Corp.  
dba ALS Environmental

QA/QC Report

**Client:** Inventum Engineering  
**Project:** RITC Tanks  
**Sample Matrix:** Water

**Service Request:** R2109410  
**Date Analyzed:** 09/13/21 - 09/29/21

**Lab Control Sample Summary**  
**General Chemistry Parameters**

**Units:**mg/L  
**Basis:**NA

**Lab Control Sample**  
R2109410-LCS1

| Analyte Name                     | Analytical Method | Result | Spike Amount | % Rec | % Rec Limits |
|----------------------------------|-------------------|--------|--------------|-------|--------------|
| Ammonia as Nitrogen, undistilled | 350.1             | 0.500  | 0.500        | 100   | 90-110       |
| Cyanide, Total                   | Kelada-01         | 0.0999 | 0.100        | 100   | 90-110       |
| Fluoride, undistilled            | 300.0             | 0.940  | 1.00         | 94    | 90-110       |
| Nitrate+Nitrite as Nitrogen      | 353.2             | 0.520  | 0.500        | 104   | 90-110       |
| Nitrite as Nitrogen              | 353.2             | 0.241  | 0.250        | 97    | 90-110       |

**ALS Group USA, Corp.**

dba ALS Environmental

QA/QC Report

**Client:** Inventum Engineering  
**Project:** RITC Tanks  
**Sample Matrix:** Water

**Service Request:** R2109410  
**Date Analyzed:** 09/29/21 - 09/30/21

**Lab Control Sample Summary**  
**General Chemistry Parameters**

**Units:**mg/L**Basis:**NA**Lab Control Sample**

R2109410-LCS2

| <b>Analyte Name</b>              | <b>Analytical Method</b> | <b>Result</b> | <b>Spike Amount</b> | <b>% Rec</b> | <b>% Rec Limits</b> |
|----------------------------------|--------------------------|---------------|---------------------|--------------|---------------------|
| Ammonia as Nitrogen, undistilled | 350.1                    | 0.496         | 0.500               | 99           | 90-110              |
| Nitrate+Nitrite as Nitrogen      | 353.2                    | 0.516         | 0.500               | 103          | 90-110              |



## Subcontracted Analytical Parameters

**ALS Environmental—Rochester Laboratory**

1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623

Phone (585) 288-5380 Fax (585) 288-8475

[www.alsglobal.com](http://www.alsglobal.com)



**ALS Environmental**



301 Fulling Mill Road - Middletown, PA 17057 - Phone: 717-944-5541 - Fax: 717-944-1430 - [www.alsglobal.com](http://www.alsglobal.com)

NELAP Certifications: NJ PA010 , NY 11759 , PA 22-293 DoD ELAP: PJLA 74618  
State Certifications: FL E871113 , WA C999 , MD 128 , VA 460157 , WV DW 9961-C , WV 343

October 12, 2021

Reports and Invoices  
ALS Environmental  
1565 Jefferson Road  
Building 300, Suite 360  
Rochester, NY 14623

## Certificate of Analysis

Revised Report - 10/12/2021 2:43:25 PM - See workorder comment section for explanation

|                 |                                              |               |                        |
|-----------------|----------------------------------------------|---------------|------------------------|
| Project Name:   | <b>2021-TCLP BORON; TOTAL URANIUM,SULFUR</b> | Workorder:    | <b>3201053</b>         |
| Purchase Order: | <b>58-R2109410</b>                           | Workorder ID: | <b>AER635 R2109410</b> |

Dear Reports Invoices:

Enclosed are the analytical results for samples received by the laboratory on Wednesday, September 15, 2021.

The ALS Environmental laboratory in Middletown, Pennsylvania is a National Environmental Laboratory Accreditation Program (NELAP) accredited laboratory and as such, certifies that all applicable test results meet the requirements of NELAP.

If you have any questions regarding this certificate of analysis, please contact Ms. Sarah S Leung (Project Coordinator) at (717) 944-5541.

Analyses were performed according to our laboratory's NELAP-approved quality assurance program and any applicable state requirements. The test results meet requirements of the current NELAP standards or state requirements, where applicable. For a specific list of accredited analytes, refer to the certifications section of the ALS website at [www.alsglobal.com/en/Our-Services/Life-Sciences/Environmental/Downloads](http://www.alsglobal.com/en/Our-Services/Life-Sciences/Environmental/Downloads).

This laboratory report may not be reproduced, except in full, without the written approval of ALS Environmental.

ALS Spring City: 10 Riverside Drive, Spring City, PA 19475 610-948-4903

CC: Mr. Michael Chevalier , Ms. Meghan Pedro , Mr. Brady Kalkman ,  
Ms. Janice Jaeger

*This page is included as part of the Analytical Report and  
must be retained as a permanent record thereof.*

Ms. Sarah S Leung  
Project Coordinator

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**SAMPLE SUMMARY**

Workorder: 3201053 AER635|R2109410

| Lab ID     | Sample ID           | Matrix | Date Collected  | Date Received   | Collected By        |
|------------|---------------------|--------|-----------------|-----------------|---------------------|
| 3201053001 | TK-LQ-ST22-09102021 | Water  | 9/10/2021 00:00 | 9/15/2021 09:55 | Collected by Client |
| 3201053002 | TL-LQ-ST23-09102021 | Water  | 9/10/2021 00:00 | 9/15/2021 09:55 | Collected by Client |
| 3201053003 | TL-LQ-ST24-09102021 | Water  | 9/10/2021 00:00 | 9/15/2021 09:55 | Collected by Client |

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## SAMPLE SUMMARY

Workorder: 3201053 AER635|R2109410

### Notes

- Samples collected by ALS personnel are done so in accordance with the procedures set forth in the ALS Field Sampling Plan (20 - Field Services Sampling Plan).
- All Waste Water analyses comply with methodology requirements of 40 CFR Part 136.
- All Drinking Water analyses comply with methodology requirements of 40 CFR Part 141.
- Unless otherwise noted, all quantitative results for soils are reported on a dry weight basis.
- The Chain of Custody document is included as part of this report.
- All Library Search analytes should be regarded as tentative identifications based on the presumptive evidence of the mass spectra. Concentrations reported are estimated values.
- Parameters identified as "analyze immediately" require analysis within 15 minutes of collection. Any "analyze immediately" parameters not listed under the header "Field Parameters" are performed in the laboratory and are therefore analyzed out of hold time.
- Method references listed on this report beginning with the prefix "S" followed by a method number (such as S2310B-97) refer to methods from "Standard Methods for the Examination of Water and Wastewater".
- For microbiological analyses, the "Prepared" value is the date/time into the incubator and the "Analyzed" value is the date/time out the incubator.
- An Analysis-Prep Method Cross Reference Table is included after Analytical Results & Qualifiers section in this report.

### Standard Acronyms/Flags

|        |                                                                                                                                      |
|--------|--------------------------------------------------------------------------------------------------------------------------------------|
| C      | Please reference the Project Summary section of this Certificate of Analysis for case narrative comments.                            |
| J      | Indicates an estimated value between the Method Detection Limit (MDL) and the Practical Quantitation Limit (PQL) for the analyte     |
| U      | Indicates that the analyte was Not Detected (ND)                                                                                     |
| N      | Indicates presumptive evidence of the presence of a compound                                                                         |
| MDL    | Method Detection Limit                                                                                                               |
| PQL    | Practical Quantitation Limit                                                                                                         |
| RDL    | Reporting Detection Limit                                                                                                            |
| ND     | Not Detected - indicates that the analyte was Not Detected at the RDL                                                                |
| Cntr   | Analysis was performed using this container                                                                                          |
| RegLmt | Regulatory Limit                                                                                                                     |
| LCS    | Laboratory Control Sample                                                                                                            |
| MS     | Matrix Spike                                                                                                                         |
| MSD    | Matrix Spike Duplicate                                                                                                               |
| DUP    | Sample Duplicate                                                                                                                     |
| %Rec   | Percent Recovery                                                                                                                     |
| RPD    | Relative Percent Difference                                                                                                          |
| LOD    | DoD Limit of Detection                                                                                                               |
| LOQ    | DoD Limit of Quantitation                                                                                                            |
| DL     | DoD Detection Limit                                                                                                                  |
| I      | Indicates reported value is greater than or equal to the Method Detection Limit (MDL) but less than the Report Detection Limit (RDL) |
| (S)    | Surrogate Compound                                                                                                                   |
| NC     | Not Calculated                                                                                                                       |
| *      | Result outside of QC limits                                                                                                          |

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## PROJECT SUMMARY

Workorder: 3201053 AER635|R2109410

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### Workorder Comments

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Temperature of sample taken at time of sample receipt in the laboratory. See chain of custody for actual temperature.

This certificate of analysis was reissued to generate a level IV data package. SSL 10/11/21

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## ANALYTICAL RESULTS

Workorder: 3201053 AER635|R2109410

Lab ID: **3201053001**  
Sample ID: **TK-LQ-ST22-09102021**

Date Collected: 9/10/2021 00:00 Matrix: Water  
Date Received: 9/15/2021 09:55

| Parameters | Results | Flag | Units | RDL | MDL | Method | Prepared By | Analyzed | By | Cntr |
|------------|---------|------|-------|-----|-----|--------|-------------|----------|----|------|
|------------|---------|------|-------|-----|-----|--------|-------------|----------|----|------|

### METALS

|        |      |   |      |      |       |             |                   |               |     |    |
|--------|------|---|------|------|-------|-------------|-------------------|---------------|-----|----|
| Sulfur | 93.2 | C | mg/L | 0.11 | 0.036 | SW846 6010C | 9/23/21 20:00 SXC | 9/24/21 08:32 | SRT | A1 |
|--------|------|---|------|------|-------|-------------|-------------------|---------------|-----|----|

Ms. Sarah S Leung  
Project Coordinator

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**ANALYTICAL RESULTS**

Workorder: 3201053 AER635|R2109410

Lab ID: **3201053002**  
Sample ID: **TL-LQ-ST23-09102021**Date Collected: 9/10/2021 00:00 Matrix: Water  
Date Received: 9/15/2021 09:55

| Parameters | Results | Flag | Units | RDL | MDL | Method | Prepared By | Analyzed | By | Cntr |
|------------|---------|------|-------|-----|-----|--------|-------------|----------|----|------|
|------------|---------|------|-------|-----|-----|--------|-------------|----------|----|------|

**METALS**

|        |     |   |      |      |      |             |                   |               |     |    |
|--------|-----|---|------|------|------|-------------|-------------------|---------------|-----|----|
| Sulfur | 642 | C | mg/L | 0.55 | 0.18 | SW846 6010C | 9/23/21 20:00 SXC | 9/24/21 08:35 | SRT | A1 |
|--------|-----|---|------|------|------|-------------|-------------------|---------------|-----|----|

Ms. Sarah S Leung  
Project Coordinator**ALS Environmental Laboratory Locations Across North America**Canada: Burlington · Calgary · Centre of Excellence · Edmonton · Fort McMurray · Fort St. John · Grande Prairie · London · Mississauga · Richmond Hill · Saskatoon · Thunder Bay  
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## ANALYTICAL RESULTS

Workorder: 3201053 AER635|R2109410

Lab ID: **3201053003**  
Sample ID: **TL-LQ-ST24-09102021**

Date Collected: 9/10/2021 00:00 Matrix: Water  
Date Received: 9/15/2021 09:55

| Parameters | Results | Flag | Units | RDL | MDL | Method | Prepared By | Analyzed | By | Cntr |
|------------|---------|------|-------|-----|-----|--------|-------------|----------|----|------|
|------------|---------|------|-------|-----|-----|--------|-------------|----------|----|------|

### METALS

|        |      |   |      |      |       |             |                   |               |     |    |
|--------|------|---|------|------|-------|-------------|-------------------|---------------|-----|----|
| Sulfur | 35.7 | C | mg/L | 0.11 | 0.036 | SW846 6010C | 9/23/21 20:00 SXC | 9/24/21 08:39 | SRT | A1 |
|--------|------|---|------|------|-------|-------------|-------------------|---------------|-----|----|

Ms. Sarah S Leung  
Project Coordinator

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## ANALYSIS - PREP METHOD CROSS REFERENCE TABLE

Workorder: 3201053 AER635|R2109410

| Lab ID     | Sample ID           | Analysis Method | Prep Method | Leachate Method |
|------------|---------------------|-----------------|-------------|-----------------|
| 3201053001 | TK-LQ-ST22-09102021 | SW846 6010C     | SW846 3015  |                 |
| 3201053002 | TL-LQ-ST23-09102021 | SW846 6010C     | SW846 3015  |                 |
| 3201053003 | TL-LQ-ST24-09102021 | SW846 6010C     | SW846 3015  |                 |

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## QUALITY CONTROL DATA

Workorder: 3201053 AER635|R2109410

**QC Batch:** MDIG/91750 **Analysis Method:** SW846 6010C  
**QC Batch Method:** SW846 3015  
**Associated Lab Samples:** 3201053001, 3201053002, 3201053003

### METHOD BLANK: 3395483

| Parameter | Blank Result | Units | Reporting Limit |
|-----------|--------------|-------|-----------------|
| Sulfur    | ND           | mg/L  | 0.11            |

### LABORATORY CONTROL SAMPLE: 3395484

| Parameter | LCS % Rec | Units | Spike Conc. | LCS Result | % Rec Limit |
|-----------|-----------|-------|-------------|------------|-------------|
| Sulfur    | 107       | mg/L  | 11.1        | 11.9       | 80 - 120    |

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### QUALITY CONTROL DATA CROSS REFERENCE TABLE

Workorder: 3201053 AER635|R2109410

---

| Lab ID     | Sample ID           | Prep Method | Prep Batch | Analysis Method | Analysis Batch |
|------------|---------------------|-------------|------------|-----------------|----------------|
| 3201053001 | TK-LQ-ST22-09102021 | SW846 3015  | MDIG/91750 | SW846 6010C     | META/83223     |
| 3201053002 | TL-LQ-ST23-09102021 | SW846 3015  | MDIG/91750 | SW846 6010C     | META/83223     |
| 3201053003 | TL-LQ-ST24-09102021 | SW846 3015  | MDIG/91750 | SW846 6010C     | META/83223     |

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# ALS Environmental Chain of Custody

1565 Jefferson Rd, Building 300 • Rochester, NY 14623 • 585-288-5380 • FAX 585-288-8475

Project Number: R2109410  
Project Manager: Meghan Pedro  
QAP: LAB QAP



3201053

| Lab Code                | Sample ID           | # of Cont. | Matrix | Sample  |      | Lab ID         | Misc Out 1 |
|-------------------------|---------------------|------------|--------|---------|------|----------------|------------|
|                         |                     |            |        | Date    | Time |                |            |
| <del>R2109410-001</del> | TK-LQ-ST22-09102021 | /          | Water  | 9/10/21 |      | Middletown ALS | X          |
| <del>R2109410-002</del> | TK-LQ-ST23-09102021 | /          | Water  | 9/10/21 |      | Middletown ALS | X          |
| <del>R2109410-003</del> | TK-LQ-ST24-09102021 | /          | Water  | 9/10/21 |      | Middletown ALS | X          |

Test Comments  
Misc Out 1 - None

R2109410-001,2,3

TOTAL SULFUR

10 573

|                                                                                                  |                                                                                                                                                                          |                                                                                                                                                                                                                                  |                                                  |
|--------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------|
| Special Instructions/Comments<br><br>H - Test is On Hold<br>P - Test is Authorized for Prep Only | Turnaround Requirements<br>RUSH (Surcharges Apply)<br>PLEASE CIRCLE WORK DAYS<br>1 2 3 4 5<br>X STANDARD<br>Requested FAX Date: _____<br>Requested Report Date: 10/01/21 | Report Requirements<br>I. Results Only<br>X II. Results + QC Summaries<br>III. Results + QC and Calibration Summaries<br>X IV. Data Validation Report with Raw Data<br>PQL/MDL/J Y<br>EDD Y<br>NY 5022 89410 4<br>Eq 200 89410 4 | Invoice Information<br>PO# 58R2109410<br>Bill to |
|                                                                                                  |                                                                                                                                                                          |                                                                                                                                                                                                                                  |                                                  |

Relinquished By: Samuel L. 9/14/21 1600 Received By: Fed Ex Airbill Number: \_\_\_\_\_

R2109410

— Ship To: Middletown ALS  
ALS Environmental - Middletown  
301 Fulling Mill Rd.  
Middletown, PA 17057

PC 9/14/2011 Date WUP  
SMO \_\_\_\_\_ Date \_\_\_\_\_

Instructions: \_\_\_\_\_  
Ice \_\_\_\_\_  
Dry Ice \_\_\_\_\_  
No Ice \_\_\_\_\_  
Shipping: \_\_\_\_\_  
Overnight \_\_\_\_\_  
2nd Day \_\_\_\_\_  
Ground \_\_\_\_\_  
Bill to Client Account \_\_\_\_\_

Comments:

ALS Group USA, Corp.  
www.alsglobal.com  
An ALS Limited Company



301 Fulling Mill Road  
Middletown, PA 17057  
P: (717) 944-5541  
F: (717) 944-1430

**3201053**

ALS Environmental - Rochester

# of Sample Receipt Form

Client: \_\_\_\_\_ Work Ord \_\_\_\_\_

Initials: SHC Date: 9/15/21

1. Were airbills / tracking numbers present and recorded?..... NONE ☒ YES ☐ NO  
Tracking number: 9889 5096 0653
2. Are Custody Seals on shipping containers intact?..... NONE ☒ YES ☐ NO
3. Are Custody Seals on sample containers intact?..... ☒ NONE ☐ YES ☐ NO
4. Is there a COC (Chain-of-Custody) present?..... ☒ YES ☐ NO
5. Are the COC and bottle labels complete, legible and in agreement?..... YES ☒ NO ☐
  - 5a. Does the COC contain sample locations?..... ☒ YES ☐ NO
  - 5b. Does the COC contain date and time of sample collection for all samples?..... NO TIMES YES ☒ NO ☐
  - 5c. Does the COC contain sample collectors name?..... SHC 9/15/21 YES ☒ NO ☐
  - 5d. Does the COC note the type(s) of preservation for all bottles?..... None - LIMP YES ☒ NO ☐
  - 5e. Does the COC note the number of bottles submitted for each sample?..... ☒ YES ☐ NO
  - 5f. Does the COC note the type of sample, composite or grab?..... YES ☒ NO ☐
  - 5g. Does the COC note the matrix of the sample(s)?..... Water YES ☒ NO ☐
6. Are all aqueous samples requiring preservation preserved correctly?<sup>1</sup>..... ☒ N/A ☐ YES ☐ NO
7. Were all samples placed in the proper containers for the requested analyses, with sufficient volume?..... ☒ YES ☐ NO
8. Are all samples within holding times for the requested analyses?..... ☒ YES ☐ NO
9. Were all sample containers received intact and headspace free when required? (not broken, leaking, frozen, etc.)..... ☒ YES ☐ NO
10. Did we receive trip blanks ( applies only for methods EPA 504, EPA 524.2 and 1631E (LL Hg)?..... ☒ N/A ☐ YES ☐ NO
11. Were the samples received on ice?..... ☒ YES ☐ NO
12. Were sample temperatures measured at 0.0-6.0°C..... ☒ YES ☐ NO
13. Are the samples DW matrix ? If YES, fill out Reportable Drinking Water questions below..... YES ☒ NO ☐
  - 13a. Are the samples required for SDWA compliance reporting?..... N/A YES ☐ NO ☐
  - 13b. Did the client provide a SDWA PWS ID#?..... N/A YES ☐ NO ☐
  - 13c. Are all aqueous unpreserved SDWA samples pH 5-9?..... N/A YES ☐ NO ☐
  - 13d. Did the client provide the SDWA sample location ID/Description?..... N/A YES ☐ NO ☐
  - 13e. Did the client provide the SDWA sample type (D, E, R, C, P, S)?..... N/A YES ☐ NO ☐

Cooler #: \_\_\_\_\_

Temperature (°C): 70 \_\_\_\_\_

Thermometer ID: 573 \_\_\_\_\_

Radiological (µCi): (3) \_\_\_\_\_

COMMENTS (Required for all NO responses above and any sample non-conformance):

<sup>1</sup>Final determination of correct preservation for analysis such as volatiles, microbiology, and oil and grease is made in the analytical department at the time of or following the analysis



September 30, 2021

Client: Inventum Engineering  
481 Carlisle Drive  
Herndon, VA 20170

Attn: John Black

Project: RITC Tanks

ALS : R2109410

Date Received: September 11, 2021

### Certificate of Analysis

| Sample ID:          | Sample Date and Time: | Lab #:       | Heating Value                  |
|---------------------|-----------------------|--------------|--------------------------------|
|                     |                       |              | D4809<br>As Received<br>BTU/lb |
| TK-LQ-ST22-09102021 | 9/10/21 n/a           | R2109410-001 | <100                           |
| TK-LQ-ST23-09102021 | 9/10/21 n/a           | R2109410-002 | 585                            |
| TK-LQ-ST24-09102021 | 9/10/21 n/a           | R2109410-003 | <100                           |

Wendy Hyatt, Laboratory Director



September 30, 2021

Client: Inventum Engineering  
481 Carlisle Drive  
Herndon, VA 20170

Attn: John Black

Project: RITC Tanks

ALS : R2109410

Date Received: September 11, 2021

### Quality Control

| Sample ID: | Sample Date and Time: | Lab #: | Heating Value                  |
|------------|-----------------------|--------|--------------------------------|
|            |                       |        | D4809<br>As Received<br>BTU/lb |

Analysis Date

9/28/21

Prep Blank

n/a

LCS

AR 100

CN

6068

Observed Value

18,584

True Value

18,408

%R

101.0

Duplicate

K2110323-001

Observed Value

7,159

Duplicate Value

7,119

%RPD

0.6



October 25, 2021

Service Request No:R2109414

Mr. John Black  
Inventum Engineering  
481 Carlisle Drive  
Herndon, VA 20170

### Laboratory Results for: RITC Tanks

Dear Mr.Black,

Enclosed are the results of the sample(s) submitted to our laboratory September 11, 2021  
For your reference, these analyses have been assigned our service request number **R2109414**.

All testing was performed according to our laboratory's quality assurance program and met the requirements of the TNI standards except as noted in the case narrative report. Any testing not included in the lab's accreditation is identified on a Non-Certified Analytes report. All results are intended to be considered in their entirety. ALS Environmental is not responsible for use of less than the complete report. Results apply only to the individual samples submitted to the lab for analysis, as listed in the report. The measurement uncertainty of the results included in this report is within that expected when using the prescribed method(s), and represented by Laboratory Control Sample control limits. Any events, such as QC failures or Holding Time exceedances, which may add to the uncertainty are explained in the report narrative or are flagged with qualifiers. The flags are explained in the Report Qualifiers and Definitions page of this report.

Please contact me if you have any questions. My extension is 7475. You may also contact me via email at [Meghan.Pedro@alsglobal.com](mailto:Meghan.Pedro@alsglobal.com).

Respectfully submitted,

**ALS Group USA, Corp. dba ALS Environmental**

Meghan Pedro  
Project Manager

**ADDRESS**

1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623

**PHONE** +1 585 288 5380 | **FAX** +1 585 288 8475

ALS Group USA, Corp.  
dba ALS Environmental



## Narrative Documents

**ALS Environmental—Rochester Laboratory**

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**Client:** Inventum Engineering  
**Project:** RITC Tanks  
**Sample Matrix:** Soil

**Service Request:** R2109414  
**Date Received:** 09/11/2021

### CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of ALS Environmental. This report contains analytical results for samples for the Tier level IV requested by the client.

#### Sample Receipt:

One soil sample was received for analysis at ALS Environmental on 09/11/2021. Any discrepancies upon initial sample inspection are annotated on the sample receipt and preservation form included within this report. The samples were stored at minimum in accordance with the analytical method requirements.

#### Semivolatiles by GC/MS:

Method 8270D, 09/17/2021, 09/20/2021: The lower control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). Since there were no detections of the analyte(s) above the MRL in the associated field samples, the quantitation is not affected. The data quality was not significantly affected and no further corrective action was taken.

Method 8270D, 09/17/2021: The lower control limit for the spike recovery of the Laboratory Control Sample (LCS) was exceeded for one or more analyte. There were no detections of the analyte(s) in the associated field samples. The LCSD was within limits for all analytes. The analytes affected are flagged in the LCS Summary.

Method 8270D: The upper control limit was exceeded for one or more surrogates in the Method Blank. The elevated recovery equates to a high bias. Since no target analytes were detected in the sample(s), the quality of the sample data is not significantly affected. No further corrective action was appropriate.

Method 8270D, 09/29/2021: The upper control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). The field samples analyzed in this sequence did not contain the analyte(s) in question above the Method Reporting Limit (MRL). Since the exceedance equates to a potential high bias, the data quality was not significantly affected and no further corrective action was taken.

Method 8270D, 09/29/2021: The RPD between the LCS and the LCSD was greater than the RPD limit. The percent recovery limit was met for both the LCS and the LCSD.

#### Semivolatile GC:

Method 8081B, 09/23/2021: The upper control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). The field samples analyzed in this sequence did not contain the analyte(s) in question above the Method Reporting Limit (MRL). Since the exceedance equates to a potential high bias, the data quality was not significantly affected and no further corrective action was taken.

Method 8081B, 739758: The reporting limit is elevated for one or more analytes. The sample extract was diluted prior to instrumental analysis due to relatively high levels of non-target background components. The extract was highly colored and viscous, which indicated the need to perform a dilution prior to injection into the instrument. Clean-up of the extract was performed within the scope of the method, but did not eliminate enough of the background components to prevent dilution. The result(s) are flagged to indicate the matrix interference.

Method 8151A, 09/23/2021: The upper control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). The field samples analyzed in this sequence did not contain the analyte(s) in question above the Method Reporting Limit (MRL). Since the exceedance equates to a potential high bias, the data quality was not significantly affected and no further corrective action was taken.

#### Metals:

No significant anomalies were noted with this analysis.

Approved by \_\_\_\_\_

Date 10/25/2021

**General Chemistry:**

No significant anomalies were noted with this analysis.

**Subcontracted Analytical Parameters:**

One or more samples were subcontracted to another laboratory for testing. The certified analytical report from the subcontractor has been included in its entirety at the end of this report and includes the name and address of the subcontracted laboratory.

**Volatiles by GC/MS:**

Method 8260C, 09/15/2021: The upper control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). The field samples analyzed in this sequence did not contain the analyte(s) in question above the Method Reporting Limit (MRL). Since the exceedance equates to a potential high bias, the data quality was not significantly affected and no further corrective action was taken.

Method 8260C, 09/15/2021, R2109414-001: The recovery of one or more internal standards was outside control limits because of suspected matrix interference. The sample was re-extracted and reanalyzed, but produced similar results. No further corrective action was appropriate.

Method 8260C, 09/15/2021: The upper control criterion was exceeded for one or more analytes in the Laboratory Control Sample (LCS). There were no detections of the analyte(s) above the MRL in the associated field samples. The error associated with elevated recovery equates to a high bias. The sample data is not significantly affected. No further corrective action was appropriate.

Approved by



Date

10/25/2021

# SAMPLE DETECTION SUMMARY

| CLIENT ID: TK-SD-ST24-09102021   |         |      | Lab ID: R2109414-001 |      |          |         |
|----------------------------------|---------|------|----------------------|------|----------|---------|
| Analyte                          | Results | Flag | MDL                  | MRL  | Units    | Method  |
| Ammonia as Nitrogen, undistilled | 13      |      | 7                    | 11   | mg/Kg    | 350.1M  |
| Cyanide, Total                   | 0.89    |      | 0.37                 | 0.65 | mg/Kg    | 9012B   |
| Fluoride                         | 6       | J    | 5                    | 43   | mg/Kg    | 9056A   |
| pH                               | 6.61    |      |                      |      | pH Units | 9045D   |
| Total Solids                     | 46.3    |      |                      |      | Percent  | ALS SOP |
| 2-Butanone (MEK)                 | 240     |      | 22                   | 54   | ug/Kg    | 8260C   |
| 2-Hexanone                       | 83      |      | 3.9                  | 54   | ug/Kg    | 8260C   |
| 4-Methyl-2-pentanone             | 19      | J    | 2.5                  | 54   | ug/Kg    | 8260C   |
| Acetone                          | 1700    |      | 51                   | 54   | ug/Kg    | 8260C   |
| Benzene                          | 1500    |      | 2.2                  | 54   | ug/Kg    | 8260C   |
| Carbon Disulfide                 | 120     |      | 3.2                  | 54   | ug/Kg    | 8260C   |
| Ethylbenzene                     | 15      | J    | 2.2                  | 54   | ug/Kg    | 8260C   |
| Methyl Acetate                   | 15      | J    | 9.1                  | 54   | ug/Kg    | 8260C   |
| Toluene                          | 74      |      | 2.2                  | 54   | ug/Kg    | 8260C   |
| m,p-Xylenes                      | 61      | J    | 4.0                  | 110  | ug/Kg    | 8260C   |
| o-Xylene                         | 18      | J    | 2.2                  | 54   | ug/Kg    | 8260C   |
| 2-Butanone (MEK)                 | 150     |      | 22                   | 54   | ug/Kg    | 8260C   |
| 2-Hexanone                       | 96      |      | 3.9                  | 54   | ug/Kg    | 8260C   |
| 4-Methyl-2-pentanone             | 17      | J    | 2.5                  | 54   | ug/Kg    | 8260C   |
| Acetone                          | 1100    |      | 51                   | 54   | ug/Kg    | 8260C   |
| Benzene                          | 1100    |      | 2.2                  | 54   | ug/Kg    | 8260C   |
| Carbon Disulfide                 | 130     |      | 3.2                  | 54   | ug/Kg    | 8260C   |
| Ethylbenzene                     | 16      | J    | 2.2                  | 54   | ug/Kg    | 8260C   |
| Toluene                          | 64      |      | 2.2                  | 54   | ug/Kg    | 8260C   |
| m,p-Xylenes                      | 53      | J    | 4.0                  | 110  | ug/Kg    | 8260C   |
| o-Xylene                         | 16      | J    | 2.2                  | 54   | ug/Kg    | 8260C   |
| 2-Methylnaphthalene              | 250     | J    | 200                  | 1200 | ug/Kg    | 8270D   |
| Acenaphthene                     | 240     | J    | 230                  | 1200 | ug/Kg    | 8270D   |
| Benz(a)anthracene                | 590     | J    | 180                  | 1200 | ug/Kg    | 8270D   |
| Benzo(a)pyrene                   | 980     | J    | 320                  | 1200 | ug/Kg    | 8270D   |
| Benzo(b)fluoranthene             | 990     | J    | 200                  | 1200 | ug/Kg    | 8270D   |
| Benzo(g,h,i)perylene             | 610     | J    | 280                  | 1200 | ug/Kg    | 8270D   |
| Benzo(k)fluoranthene             | 370     | J    | 200                  | 1200 | ug/Kg    | 8270D   |
| Chrysene                         | 680     | J    | 180                  | 1200 | ug/Kg    | 8270D   |
| Fluoranthene                     | 1000    | J    | 300                  | 1200 | ug/Kg    | 8270D   |
| Indeno(1,2,3-cd)pyrene           | 540     | J    | 380                  | 1200 | ug/Kg    | 8270D   |
| Naphthalene                      | 450     | J    | 230                  | 1200 | ug/Kg    | 8270D   |
| Phenanthrene                     | 810     | J    | 170                  | 1200 | ug/Kg    | 8270D   |
| Pyrene                           | 1000    | J    | 200                  | 1200 | ug/Kg    | 8270D   |
| Benz(a)anthracene                | 2600    | J    | 720                  | 4800 | ug/Kg    | 8270D   |
| Benzo(a)pyrene                   | 5200    |      | 1300                 | 4800 | ug/Kg    | 8270D   |

# SAMPLE DETECTION SUMMARY

**CLIENT ID: TK-SD-ST24-09102021**
**Lab ID: R2109414-001**

| Analyte                | Results | Flag | MDL  | MRL  | Units | Method |
|------------------------|---------|------|------|------|-------|--------|
| Benzo(b)fluoranthene   | 4900    |      | 810  | 4800 | ug/Kg | 8270D  |
| Benzo(g,h,i)perylene   | 4000    | J    | 1200 | 4800 | ug/Kg | 8270D  |
| Benzo(k)fluoranthene   | 1800    | J    | 780  | 4800 | ug/Kg | 8270D  |
| Chrysene               | 2900    | J    | 710  | 4800 | ug/Kg | 8270D  |
| Fluoranthene           | 4200    | J    | 1300 | 4800 | ug/Kg | 8270D  |
| Indeno(1,2,3-cd)pyrene | 4000    | J    | 1600 | 4800 | ug/Kg | 8270D  |
| Phenanthrene           | 2400    | J    | 690  | 4800 | ug/Kg | 8270D  |
| Pyrene                 | 4100    | J    | 810  | 4800 | ug/Kg | 8270D  |



## Sample Receipt Information

**ALS Environmental—Rochester Laboratory**

1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623

Phone (585) 288-5380 Fax (585) 288-8475

[www.alsglobal.com](http://www.alsglobal.com)

**Client:** Inventum Engineering  
**Project:** RITC Tanks

**Service Request:**R2109414

**SAMPLE CROSS-REFERENCE**

| <u>SAMPLE #</u> | <u>CLIENT SAMPLE ID</u> | <u>DATE</u> | <u>TIME</u> |
|-----------------|-------------------------|-------------|-------------|
| R2109414-001    | TK-SD-ST24-09102021     | 9/10/2021   |             |



# CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM

060028

1565 Jefferson Road, Building 300, Suite 360 • Rochester, NY 14623 | +1 585 288 5380 +1 585 288 8475 (fax) PAGE 1 OF 1

|                                                                                |  |                                   |  |                                                                       |  |                                        |  |                                               |  |                                                                                                                                                                     |  |                                |  |                           |  |                           |  |                          |  |                                                                                                                                                                                                                                                 |  |                                               |  |                                                   |  |               |  |                 |  |                                         |  |                 |  |                  |  |                 |  |                         |  |                    |  |                     |  |                   |  |                                                                                                                                                                                      |  |
|--------------------------------------------------------------------------------|--|-----------------------------------|--|-----------------------------------------------------------------------|--|----------------------------------------|--|-----------------------------------------------|--|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--------------------------------|--|---------------------------|--|---------------------------|--|--------------------------|--|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-----------------------------------------------|--|---------------------------------------------------|--|---------------|--|-----------------|--|-----------------------------------------|--|-----------------|--|------------------|--|-----------------|--|-------------------------|--|--------------------|--|---------------------|--|-------------------|--|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| Project Name<br><b>RITC</b>                                                    |  | Project Number<br><b>TANKS</b>    |  | ANALYSIS REQUESTED (Include Method Number and Container Preservative) |  |                                        |  |                                               |  |                                                                                                                                                                     |  |                                |  |                           |  |                           |  |                          |  |                                                                                                                                                                                                                                                 |  |                                               |  |                                                   |  |               |  |                 |  |                                         |  |                 |  |                  |  |                 |  |                         |  |                    |  |                     |  |                   |  |                                                                                                                                                                                      |  |
| Project Manager<br><b>JOHN BLACK</b>                                           |  | Report CC                         |  | PRESERVATIVE                                                          |  |                                        |  |                                               |  |                                                                                                                                                                     |  |                                |  |                           |  |                           |  |                          |  |                                                                                                                                                                                                                                                 |  |                                               |  |                                                   |  |               |  |                 |  |                                         |  |                 |  |                  |  |                 |  |                         |  |                    |  |                     |  |                   |  |                                                                                                                                                                                      |  |
| Company/Address<br><b>481 CARLISLE DR SUITE 202<br/>1111 HERNDON, VA 20170</b> |  | Phone #<br><b>585-734-5255</b>    |  | Email<br><b>john.black@ " "</b>                                       |  | Sample Signature<br><b>[Signature]</b> |  | Sampler's Printed Name<br><b>ROXANNE BIRX</b> |  | NUMBER OF CONTAINERS                                                                                                                                                |  | GC/MS VOAs<br>8260 • 824 • CLP |  | GC/MS SVOCs<br>8270 • 825 |  | GC VOAs<br>8021 • 801/802 |  | PESTICIDES<br>8081 • 808 |  | PCEs<br>8082 • 808                                                                                                                                                                                                                              |  | METALS TOTAL 2 Hg<br>(List in comments below) |  | METALS DISSOLVED 1 Hg<br>(List in comments below) |  | TOTAL CYANIDE |  | AMMONIA         |  | CORROSIVITY, REACTIVITY                 |  | IGNITEABILITY   |  | BTU • FLASHPOINT |  | TOTAL SULFUR    |  | FULL TCLP • [TCLP 6000] |  | CYANIDES, NITRATES |  | NITRATES • NITRATES |  | FLUORIDE, URANIUM |  | Preservative Key<br>0. NONE<br>1. HCL<br>2. HNO <sub>3</sub><br>3. H <sub>2</sub> SO <sub>4</sub><br>4. NaOH<br>5. Zn. Acetate<br>6. MeOH<br>7. NaHSO <sub>4</sub><br>8. Other _____ |  |
| CLIENT SAMPLE ID                                                               |  | FOR OFFICE USE ONLY LAB ID        |  | DATE                                                                  |  | TIME                                   |  | MATRIX                                        |  |                                                                                                                                                                     |  |                                |  |                           |  |                           |  |                          |  |                                                                                                                                                                                                                                                 |  |                                               |  |                                                   |  |               |  |                 |  |                                         |  |                 |  |                  |  |                 |  |                         |  |                    |  |                     |  |                   |  |                                                                                                                                                                                      |  |
| TK-LQ-ST22-09102021                                                            |  |                                   |  | 9/10                                                                  |  |                                        |  |                                               |  |                                                                                                                                                                     |  |                                |  |                           |  |                           |  |                          |  |                                                                                                                                                                                                                                                 |  |                                               |  |                                                   |  |               |  |                 |  |                                         |  |                 |  |                  |  |                 |  |                         |  |                    |  |                     |  |                   |  |                                                                                                                                                                                      |  |
| TK-SD-ST22-09102021                                                            |  |                                   |  | 9/10                                                                  |  |                                        |  |                                               |  |                                                                                                                                                                     |  |                                |  |                           |  |                           |  |                          |  |                                                                                                                                                                                                                                                 |  |                                               |  |                                                   |  |               |  |                 |  |                                         |  |                 |  |                  |  |                 |  |                         |  |                    |  |                     |  |                   |  |                                                                                                                                                                                      |  |
| TK-LQ-ST23-09102021                                                            |  |                                   |  | 9/10                                                                  |  |                                        |  |                                               |  |                                                                                                                                                                     |  |                                |  |                           |  |                           |  |                          |  |                                                                                                                                                                                                                                                 |  |                                               |  |                                                   |  |               |  |                 |  |                                         |  |                 |  |                  |  |                 |  |                         |  |                    |  |                     |  |                   |  |                                                                                                                                                                                      |  |
| TK-SD-ST23-09102021                                                            |  |                                   |  | 9/10                                                                  |  |                                        |  |                                               |  |                                                                                                                                                                     |  |                                |  |                           |  |                           |  |                          |  |                                                                                                                                                                                                                                                 |  |                                               |  |                                                   |  |               |  |                 |  |                                         |  |                 |  |                  |  |                 |  |                         |  |                    |  |                     |  |                   |  |                                                                                                                                                                                      |  |
| TK-LQ-ST24-09102021                                                            |  |                                   |  | 9/10                                                                  |  |                                        |  |                                               |  |                                                                                                                                                                     |  |                                |  |                           |  |                           |  |                          |  |                                                                                                                                                                                                                                                 |  |                                               |  |                                                   |  |               |  |                 |  |                                         |  |                 |  |                  |  |                 |  |                         |  |                    |  |                     |  |                   |  |                                                                                                                                                                                      |  |
| TK-SD-ST24-09102021                                                            |  |                                   |  | 9/10                                                                  |  |                                        |  |                                               |  |                                                                                                                                                                     |  |                                |  |                           |  |                           |  |                          |  |                                                                                                                                                                                                                                                 |  |                                               |  |                                                   |  |               |  |                 |  |                                         |  |                 |  |                  |  |                 |  |                         |  |                    |  |                     |  |                   |  |                                                                                                                                                                                      |  |
| SPECIAL INSTRUCTIONS/COMMENTS<br>Metals                                        |  |                                   |  |                                                                       |  |                                        |  |                                               |  | TURNAROUND REQUIREMENTS<br>RUSH (SURCHARGES APPLY)<br>1 day 2 day 3 day<br>4 day 5 day<br>X Standard (10 business days-No Surcharge)<br>REQUESTED REPORT DATE _____ |  |                                |  |                           |  |                           |  |                          |  | REPORT REQUIREMENTS<br>I. Results Only<br>II. Results + OC Summaries (LCS, DUP, MS/MSD as required)<br>III. Results + OC and Calibration Summaries<br>X IV. Data Validation Report with Raw Data<br>MYS DEC, HONEYWELL<br>EDD<br>Edata X Yes No |  |                                               |  |                                                   |  |               |  |                 |  | INVOICE INFORMATION<br>PO #<br>BILL TO: |  |                 |  |                  |  |                 |  |                         |  |                    |  |                     |  |                   |  |                                                                                                                                                                                      |  |
| STATE WHERE SAMPLES WERE COLLECTED NY                                          |  |                                   |  |                                                                       |  |                                        |  |                                               |  |                                                                                                                                                                     |  |                                |  |                           |  |                           |  |                          |  |                                                                                                                                                                                                                                                 |  |                                               |  |                                                   |  |               |  |                 |  |                                         |  |                 |  |                  |  |                 |  |                         |  |                    |  |                     |  |                   |  |                                                                                                                                                                                      |  |
| RELINQUISHED BY                                                                |  | RECEIVED BY                       |  | RELINQUISHED BY                                                       |  | RECEIVED BY                            |  | RELINQUISHED BY                               |  | RECEIVED BY                                                                                                                                                         |  | RELINQUISHED BY                |  | RECEIVED BY               |  | RELINQUISHED BY           |  | RECEIVED BY              |  | RELINQUISHED BY                                                                                                                                                                                                                                 |  | RECEIVED BY                                   |  | RELINQUISHED BY                                   |  | RECEIVED BY   |  | RELINQUISHED BY |  | RECEIVED BY                             |  | RELINQUISHED BY |  | RECEIVED BY      |  | RELINQUISHED BY |  | RECEIVED BY             |  |                    |  |                     |  |                   |  |                                                                                                                                                                                      |  |
| Signature <b>Keith Adderley</b>                                                |  | Signature <b>Mathew Mackey</b>    |  | Signature                                                             |  | Signature                              |  | Signature                                     |  | Signature                                                                                                                                                           |  | Signature                      |  | Signature                 |  | Signature                 |  | Signature                |  | Signature                                                                                                                                                                                                                                       |  | Signature                                     |  | Signature                                         |  | Signature     |  | Signature       |  | Signature                               |  | Signature       |  | Signature        |  | Signature       |  | Signature               |  |                    |  |                     |  |                   |  |                                                                                                                                                                                      |  |
| Printed Name <b>Keith Adderley</b>                                             |  | Printed Name <b>Mathew Mackey</b> |  | Printed Name                                                          |  | Printed Name                           |  | Printed Name                                  |  | Printed Name                                                                                                                                                        |  | Printed Name                   |  | Printed Name              |  | Printed Name              |  | Printed Name             |  | Printed Name                                                                                                                                                                                                                                    |  | Printed Name                                  |  | Printed Name                                      |  | Printed Name  |  | Printed Name    |  | Printed Name                            |  | Printed Name    |  | Printed Name     |  | Printed Name    |  |                         |  |                    |  |                     |  |                   |  |                                                                                                                                                                                      |  |
| Firm <b>Inventum Eng.</b>                                                      |  | Firm <b>ALS</b>                   |  | Firm                                                                  |  | Firm                                   |  | Firm                                          |  | Firm                                                                                                                                                                |  | Firm                           |  | Firm                      |  | Firm                      |  | Firm                     |  | Firm                                                                                                                                                                                                                                            |  | Firm                                          |  | Firm                                              |  | Firm          |  | Firm            |  | Firm                                    |  | Firm            |  | Firm             |  | Firm            |  |                         |  |                    |  |                     |  |                   |  |                                                                                                                                                                                      |  |
| Date/Time <b>9/10/21</b>                                                       |  | Date/Time <b>9/11/21 9:35</b>     |  | Date/Time                                                             |  | Date/Time                              |  | Date/Time                                     |  | Date/Time                                                                                                                                                           |  | Date/Time                      |  | Date/Time                 |  | Date/Time                 |  | Date/Time                |  | Date/Time                                                                                                                                                                                                                                       |  | Date/Time                                     |  | Date/Time                                         |  | Date/Time     |  | Date/Time       |  | Date/Time                               |  | Date/Time       |  | Date/Time        |  | Date/Time       |  |                         |  |                    |  |                     |  |                   |  |                                                                                                                                                                                      |  |

R2109414

Inventum Engineering  
RITC Tanks



5



## Cooler Receipt and Preservation Check Form

R2109414

5

Inventum Engineering  
RITC TanksProject/Client RITC

Folder Number \_\_\_\_\_

Cooler received on 9/11/21by: MMCOURIER: ALS UPS FEDEX VELOCITY CLIENT

|   |                                                      |              |
|---|------------------------------------------------------|--------------|
| 1 | Were Custody seals on outside of cooler?             | Y <u>(N)</u> |
| 2 | Custody papers properly completed (ink, signed)?     | Y <u>(N)</u> |
| 3 | Did all bottles arrive in good condition (unbroken)? | Y <u>(N)</u> |
| 4 | Circle: <u>Wet Ice</u> Dry Ice Gel packs present?    | <u>(Y)</u> N |

|    |                                                   |                       |
|----|---------------------------------------------------|-----------------------|
| 5a | Perchlorate samples have required headspace?      | Y N <u>(NA)</u>       |
| 5b | Did VOA vials, Alk, or Sulfide have sig* bubbles? | Y <u>(N)</u> NA       |
| 6  | Where did the bottles originate?                  | <u>ALS/ROC</u> CLIENT |
| 7  | Soil VOA received as: Bulk Encore 5035set         | <u>(NA)</u>           |

8. Temperature Readings Date: 9/11/21 Time: 9:45 ID: IR#7 (IR#11) From: Temp Blank Sample Bottle

| Observed Temp (°C)            | <u>9.7</u>   | <u>13.4</u>  | <u>10.6</u>  |     |     |     |     |
|-------------------------------|--------------|--------------|--------------|-----|-----|-----|-----|
| Within 0-6°C?                 | Y <u>(N)</u> | Y <u>(N)</u> | Y <u>(N)</u> | Y N | Y N | Y N | Y N |
| If <0°C, were samples frozen? | Y N          | Y N          | Y N          | Y N | Y N | Y N | Y N |

If out of Temperature, note packing/ice condition: Ice melted Poorly Packed (described below) Same Day Rule

&amp; Client Approval to Run Samples: Standing Approval Client aware at drop-off Client notified by: \_\_\_\_\_

All samples held in storage location: R1002 by MM on 9/11/21 at 10:15  
5035 samples placed in storage location: \_\_\_\_\_ by \_\_\_\_\_ on \_\_\_\_\_ at \_\_\_\_\_ within 48 hours of sampling? Y NCooler Breakdown/Preservation Check\*\*: Date: 9/14/21 Time: 1329 by: P

9. Were all bottle labels complete (i.e. analysis, preservation, etc.)? YES NO
10. Did all bottle labels and tags agree with custody papers? YES NO
11. Were correct containers used for the tests indicated? YES NO
12. Were 5035 vials acceptable (no extra labels, not leaking)? YES NO
13. Air Samples: Cassettes / Tubes Intact Y / N with MS Y / N Canisters Pressurized Tedlar® Bags Inflated (N/A)

| pH                    | Lot of test paper | Reagent                                       | Preserved? |    | Lot Received                                                                                             | Exp | Sample ID Adjusted | Vol. Added | Lot Added | Final pH |
|-----------------------|-------------------|-----------------------------------------------|------------|----|----------------------------------------------------------------------------------------------------------|-----|--------------------|------------|-----------|----------|
| ≥12                   |                   | NaOH                                          |            |    |                                                                                                          |     |                    |            |           |          |
| ≤2                    |                   | HNO <sub>3</sub>                              |            |    |                                                                                                          |     |                    |            |           |          |
| <2                    |                   | H <sub>2</sub> SO <sub>4</sub>                |            |    |                                                                                                          |     |                    |            |           |          |
| <4                    |                   | NaHSO <sub>4</sub>                            |            |    |                                                                                                          |     |                    |            |           |          |
| 5-9                   |                   | For 608pest                                   |            |    | No=Notify for 3day                                                                                       |     |                    |            |           |          |
| Residual Chlorine (-) |                   | For CN, Phenol, 625, 608pest, 522             |            |    | If +, contact PM to add Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> (625, 608, CN), ascorbic (phenol). |     |                    |            |           |          |
|                       |                   | Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> |            |    |                                                                                                          |     |                    |            |           |          |
|                       |                   | ZnAcetate                                     | -          | -  |                                                                                                          |     |                    |            |           |          |
|                       |                   | HCl                                           | **         | ** |                                                                                                          |     |                    |            |           |          |

\*\*VOAs and 1664 Not to be tested before analysis. Otherwise, all bottles of all samples with chemical preservatives are checked (not just representatives).

Bottle lot numbers: 071320-172

Explain all Discrepancies/ Other Comments:

\* TK-LQ-ST23-09102021 reactivity has broken cap,  
TK-LQ-ST22-09102021 8260 TLLP 1 vial shattered  
& Missing 1 NO<sub>2</sub> bottle

|            |        |
|------------|--------|
| HPROD      | BULK   |
| HTR        | FLDT   |
| <u>SUB</u> | HGFB   |
| ALS        | LL3541 |

Labels secondary reviewed by: P

PC Secondary Review: \_\_\_\_\_

\*significant air bubbles: VOA &gt; 5-6 mm : WC &gt; 1 in. diameter

## Internal Chain of Custody Report

Service Request: R2109414

| Bottle ID       | Methods                                                                                                                                         | Date      | Time | Sample Location / User | Disposed On |
|-----------------|-------------------------------------------------------------------------------------------------------------------------------------------------|-----------|------|------------------------|-------------|
| R2109414-001.04 | 6010C,6010C,6010C,6010C,6010C,6010C,6010C,6010C,6010C,6010C,6010C,6010C,6010C,6010C,7471B,6010C,6010C,6010C,6010C,6010C,6010C,6010C,6010C,6010C | 9/14/2021 | 1339 | SMO / GESMERIAN        |             |
|                 |                                                                                                                                                 | 9/14/2021 | 1346 | R-002 / GESMERIAN      |             |
|                 |                                                                                                                                                 | 9/15/2021 | 1132 | In Lab / BDIAMOND      |             |
| R2109414-001.10 | 8260C,8260C                                                                                                                                     | 9/14/2021 | 1339 | SMO / GESMERIAN        |             |
|                 |                                                                                                                                                 | 9/14/2021 | 1346 | R-010 / GESMERIAN      |             |
|                 |                                                                                                                                                 | 9/15/2021 | 1129 | In Lab / FNAEGLER      |             |
|                 |                                                                                                                                                 | 9/15/2021 | 1135 | R-010 / FNAEGLER       |             |
| R2109414-001.14 | 8270D,8081B,8082A,8270D,8151A                                                                                                                   | 9/14/2021 | 1344 | SMO / GESMERIAN        |             |
|                 |                                                                                                                                                 | 9/14/2021 | 1346 | R-002 / GESMERIAN      |             |
|                 |                                                                                                                                                 | 9/21/2021 | 0951 | In Lab / KSERCU        |             |
|                 |                                                                                                                                                 | 9/21/2021 | 1026 | R-002 / KSERCU         |             |
|                 |                                                                                                                                                 | 9/28/2021 | 0822 | In Lab / KSERCU        |             |
|                 |                                                                                                                                                 | 9/28/2021 | 1021 | R-002 / KSERCU         |             |
| R2109414-001.15 |                                                                                                                                                 | 9/14/2021 | 1345 | SMO / GESMERIAN        |             |
|                 |                                                                                                                                                 | 9/14/2021 | 1346 | R-002 / GESMERIAN      |             |
| R2109414-001.16 | 9056A,ASTM D5865-02                                                                                                                             | 9/14/2021 | 1345 | SMO / GESMERIAN        |             |
|                 |                                                                                                                                                 | 9/14/2021 | 1346 | R-002 / GESMERIAN      |             |
| R2109414-001.17 | 9056A,9056A,9012B,350.1M,ALS SOP                                                                                                                | 9/14/2021 | 1345 | SMO / GESMERIAN        |             |
|                 |                                                                                                                                                 | 9/14/2021 | 1346 | R-002 / GESMERIAN      |             |
|                 |                                                                                                                                                 | 9/15/2021 | 0922 | In Lab / KSERCU        |             |
|                 |                                                                                                                                                 | 9/15/2021 | 0951 | R-002 / KSERCU         |             |
|                 |                                                                                                                                                 | 9/21/2021 | 0825 | In Lab / VSTAUFFER     |             |
|                 |                                                                                                                                                 | 9/21/2021 | 1659 | R-002 / BALLGEIER      |             |
| R2109414-001.18 | 9045D                                                                                                                                           | 9/14/2021 | 1346 | SMO / GESMERIAN        |             |
|                 |                                                                                                                                                 | 9/14/2021 | 1346 | R-002 / GESMERIAN      |             |

**ALS Group USA, Corp.**  
dba ALS Environmental  
**Internal Chain of Custody Report**

**Client:** Inventum Engineering  
**Project:** RITC Tanks

**Service Request:** R2109414

| Bottle ID       | Methods       | Date      | Time | Sample Location / User | Disposed On |
|-----------------|---------------|-----------|------|------------------------|-------------|
| R2109414-001.19 | ASTM D3173-11 | 9/15/2021 | 1622 | SMO / MPEDRO           |             |
| R2109414-001.20 |               | 9/15/2021 | 1622 | SMO / MPEDRO           |             |



## Miscellaneous Forms

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## REPORT QUALIFIERS AND DEFINITIONS

|   |                                                                                                                                                                                                                                                                                                        |     |                                                                                                                                                                                                                      |
|---|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| U | Analyte was analyzed for but not detected. The sample quantitation limit has been corrected for dilution and for percent moisture, unless otherwise noted in the case narrative.                                                                                                                       | +   | Correlation coefficient for MSA is <0.995.                                                                                                                                                                           |
| J | Estimated value due to either being a Tentatively Identified Compound (TIC) or that the concentration is between the MRL and the MDL. Concentrations are not verified within the linear range of the calibration. For DoD: concentration >40% difference between two GC columns (pesticides/Aroclors). | N   | Inorganics- Matrix spike recovery was outside laboratory limits.                                                                                                                                                     |
| B | Analyte was also detected in the associated method blank at a concentration that may have contributed to the sample result.                                                                                                                                                                            | N   | Organics- Presumptive evidence of a compound (reported as a TIC) based on the MS library search.                                                                                                                     |
| E | Inorganics- Concentration is estimated due to the serial dilution was outside control limits.                                                                                                                                                                                                          | S   | Concentration has been determined using Method of Standard Additions (MSA).                                                                                                                                          |
| E | Organics- Concentration has exceeded the calibration range for that specific analysis.                                                                                                                                                                                                                 | W   | Post-Digestion Spike recovery is outside control limits and the sample absorbance is <50% of the spike absorbance.                                                                                                   |
| D | Concentration is a result of a dilution, typically a secondary analysis of the sample due to exceeding the calibration range or that a surrogate has been diluted out of the sample and cannot be assessed.                                                                                            | P   | Concentration >40% difference between the two GC columns.                                                                                                                                                            |
| * | Indicates that a quality control parameter has exceeded laboratory limits. Under the "Notes" column of the Form I, this qualifier denotes analysis was performed out of Holding Time.                                                                                                                  | C   | Confirmed by GC/MS                                                                                                                                                                                                   |
| H | Analysis was performed out of hold time for tests that have an "immediate" hold time criteria.                                                                                                                                                                                                         | Q   | DoD reports: indicates a pesticide/Aroclor is not confirmed ( $\geq 100\%$ Difference between two GC columns).                                                                                                       |
| # | Spike was diluted out.                                                                                                                                                                                                                                                                                 | X   | See Case Narrative for discussion.                                                                                                                                                                                   |
|   |                                                                                                                                                                                                                                                                                                        | MRL | Method Reporting Limit. Also known as:                                                                                                                                                                               |
|   |                                                                                                                                                                                                                                                                                                        | LOQ | Limit of Quantitation (LOQ)<br>The lowest concentration at which the method analyte may be reliably quantified under the method conditions.                                                                          |
|   |                                                                                                                                                                                                                                                                                                        | MDL | Method Detection Limit. A statistical value derived from a study designed to provide the lowest concentration that will be detected 99% of the time. Values between the MDL and MRL are estimated (see J qualifier). |
|   |                                                                                                                                                                                                                                                                                                        | LOD | Limit of Detection. A value at or above the MDL which has been verified to be detectable.                                                                                                                            |
|   |                                                                                                                                                                                                                                                                                                        | ND  | Non-Detect. Analyte was not detected at the concentration listed. Same as U qualifier.                                                                                                                               |

### Rochester Lab ID # for State Accreditations<sup>1</sup>



| NELAP States            |
|-------------------------|
| Florida ID # E87674     |
| New Hampshire ID # 2941 |
| New York ID # 10145     |
| Pennsylvania ID# 68-786 |
| Virginia #460167        |

| Non-NELAP States       |
|------------------------|
| Connecticut ID #PH0556 |
| Delaware Approved      |
| Maine ID #NY01587      |
| North Carolina #36701  |
| North Carolina #676    |
| Rhode Island LAO00333  |

<sup>1</sup> Analyses were performed according to our laboratory's NELAP-approved quality assurance program and any applicable state or agency requirements. The test results meet requirements of the current NELAP/TNI standards or state or agency requirements, where applicable, except as noted in the case narrative. Since not all analyte/method/matrix combinations are offered for state/NELAC accreditation, this report may contain results which are not accredited. For a specific list of accredited analytes, contact the laboratory or go to <https://www.alsglobal.com/locations/americas/north-america/usa/new-york/rochester-environmental>

# ALS Laboratory Group

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## Acronyms

|            |                                                                                                                                          |
|------------|------------------------------------------------------------------------------------------------------------------------------------------|
| ASTM       | American Society for Testing and Materials                                                                                               |
| A2LA       | American Association for Laboratory Accreditation                                                                                        |
| CARB       | California Air Resources Board                                                                                                           |
| CAS Number | Chemical Abstract Service registry Number                                                                                                |
| CFC        | Chlorofluorocarbon                                                                                                                       |
| CFU        | Colony-Forming Unit                                                                                                                      |
| DEC        | Department of Environmental Conservation                                                                                                 |
| DEQ        | Department of Environmental Quality                                                                                                      |
| DHS        | Department of Health Services                                                                                                            |
| DOE        | Department of Ecology                                                                                                                    |
| DOH        | Department of Health                                                                                                                     |
| EPA        | U. S. Environmental Protection Agency                                                                                                    |
| ELAP       | Environmental Laboratory Accreditation Program                                                                                           |
| GC         | Gas Chromatography                                                                                                                       |
| GC/MS      | Gas Chromatography/Mass Spectrometry                                                                                                     |
| LUFT       | Leaking Underground Fuel Tank                                                                                                            |
| M          | Modified                                                                                                                                 |
| MCL        | Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA. |
| MDL        | Method Detection Limit                                                                                                                   |
| MPN        | Most Probable Number                                                                                                                     |
| MRL        | Method Reporting Limit                                                                                                                   |
| NA         | Not Applicable                                                                                                                           |
| NC         | Not Calculated                                                                                                                           |
| NCASI      | National Council of the Paper Industry for Air and Stream Improvement                                                                    |
| ND         | Not Detected                                                                                                                             |
| NIOSH      | National Institute for Occupational Safety and Health                                                                                    |
| PQL        | Practical Quantitation Limit                                                                                                             |
| RCRA       | Resource Conservation and Recovery Act                                                                                                   |
| SIM        | Selected Ion Monitoring                                                                                                                  |
| TPH        | Total Petroleum Hydrocarbons                                                                                                             |
| tr         | Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.                           |

**Client:** Inventum Engineering  
**Project:** RITC Tanks

**Service Request:** R2109414

**Non-Certified Analytes**

**Certifying Agency:** New York Department of Health

| Method  | Matrix | Analyte                          |
|---------|--------|----------------------------------|
| 350.1M  | Soil   | Ammonia as Nitrogen, undistilled |
| ALS SOP | Soil   | Total Solids                     |

ALS Group USA, Corp.  
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Analyst Summary report

**Client:** Inventum Engineering  
**Project:** RITC Tanks/

**Service Request:** R2109414

**Sample Name:** TK-SD-ST24-09102021  
**Lab Code:** R2109414-001  
**Sample Matrix:** Soil

**Date Collected:** 09/10/21  
**Date Received:** 09/11/21

| Analysis Method | Extracted/Digested By | Analyzed By  |
|-----------------|-----------------------|--------------|
| 350.1M          | MROGERSON             | MROGERSON    |
| 6010C           | BDIAMOND              | KMCLAEN      |
| 7471B           | NMANSEN               | NMANSEN      |
| 8081B           | KSERCU                | AMOSSES      |
| 8082A           | KSERCU                | AMOSSES      |
| 8151A           | KSERCU                | AMOSSES      |
| 8260C           |                       | FNAEGLER     |
| 8270D           | AMOSSES               | JMISIUREWICZ |
| 9012B           | MROGERSON             | MROGERSON    |
| 9045D           |                       | KAWONG       |
| 9056A           | SMORGAN               | SMORGAN      |
| ALS SOP         |                       | KAWONG       |
| ASTM D3173-11   |                       | KSATTERLEE   |
| ASTM D5865-02   |                       | KSATTERLEE   |

**Sample Name:** TK-SD-ST24-09102021  
**Lab Code:** R2109414-001.R01  
**Sample Matrix:** Soil

**Date Collected:** 09/10/21  
**Date Received:** 09/11/21

| Analysis Method | Extracted/Digested By | Analyzed By  |
|-----------------|-----------------------|--------------|
| 8260C           |                       | FNAEGLER     |
| 8270D           | KSERCU                | JMISIUREWICZ |



## INORGANIC PREPARATION METHODS

The preparation methods associated with this report are found in these tables unless discussed in the case narrative.

### Water/Liquid Matrix

| Analytical Method             | Preparation Method |
|-------------------------------|--------------------|
| 200.7                         | 200.2              |
| 200.8                         | 200.2              |
| 6010C                         | 3005A/3010A        |
| 6020A                         | ILM05.3            |
| 9034 Sulfide Acid Soluble     | 9030B              |
| SM 4500-CN-E Residual Cyanide | SM 4500-CN-G       |
| SM 4500-CN-E WAD Cyanide      | SM 4500-CN-I       |

### Solid/Soil/Non-Aqueous Matrix

| Analytical Method                                                                                         | Preparation Method |
|-----------------------------------------------------------------------------------------------------------|--------------------|
| 6010C                                                                                                     | 3050B              |
| 6020A                                                                                                     | 3050B              |
| 6010C TCLP (1311) extract                                                                                 | 3005A/3010A        |
| 6010 SPLP (1312) extract                                                                                  | 3005A/3010A        |
| 7199                                                                                                      | 3060A              |
| 300.0 Anions/ 350.1/ 353.2/ SM 2320B/ SM 5210B/ 9056A Anions                                              | DI extraction      |
| For analytical methods not listed, the preparation method is the same as the analytical method reference. |                    |



## Sample Results

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## Volatile Organic Compounds by GC/MS

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**ALS Group USA, Corp.**  
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Analytical Report

**Client:** Inventum Engineering  
**Project:** RITC Tanks  
**Sample Matrix:** Soil

**Service Request:** R2109414  
**Date Collected:** 09/10/21  
**Date Received:** 09/11/21 09:35

**Sample Name:** TK-SD-ST24-09102021  
**Lab Code:** R2109414-001

**Units:** ug/Kg  
**Basis:** Dry

**Volatile Organic Compounds by GC/MS, Unp**

**Analysis Method:** 8260C  
**Prep Method:** EPA 5030C

| Analyte Name                          | Result | MRL  | MDL | Dil. | Date Analyzed  | Q |
|---------------------------------------|--------|------|-----|------|----------------|---|
| 1,1,1-Trichloroethane (TCA)           | 2.2 U  | 54   | 2.2 | 5    | 09/15/21 14:52 |   |
| 1,1,2,2-Tetrachloroethane             | 4.8 U  | 54   | 4.8 | 5    | 09/15/21 14:52 |   |
| 1,1,2-Trichloroethane                 | 2.2 U  | 54   | 2.2 | 5    | 09/15/21 14:52 |   |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 2.2 U  | 54   | 2.2 | 5    | 09/15/21 14:52 |   |
| 1,1-Dichloroethane (1,1-DCA)          | 2.2 U  | 54   | 2.2 | 5    | 09/15/21 14:52 |   |
| 1,1-Dichloroethene (1,1-DCE)          | 3.2 U  | 54   | 3.2 | 5    | 09/15/21 14:52 |   |
| 1,2,3-Trichlorobenzene                | 5.7 U  | 54   | 5.7 | 5    | 09/15/21 14:52 |   |
| 1,2,4-Trichlorobenzene                | 4.6 U  | 54   | 4.6 | 5    | 09/15/21 14:52 |   |
| 1,2-Dibromo-3-chloropropane (DBCP)    | 8.1 U  | 54   | 8.1 | 5    | 09/15/21 14:52 |   |
| 1,2-Dibromoethane                     | 2.2 U  | 54   | 2.2 | 5    | 09/15/21 14:52 |   |
| 1,2-Dichlorobenzene                   | 2.2 U  | 54   | 2.2 | 5    | 09/15/21 14:52 |   |
| 1,2-Dichloroethane                    | 2.2 U  | 54   | 2.2 | 5    | 09/15/21 14:52 |   |
| 1,2-Dichloropropane                   | 2.2 U  | 54   | 2.2 | 5    | 09/15/21 14:52 |   |
| 1,3-Dichlorobenzene                   | 2.2 U  | 54   | 2.2 | 5    | 09/15/21 14:52 |   |
| 1,4-Dichlorobenzene                   | 2.4 U  | 54   | 2.4 | 5    | 09/15/21 14:52 |   |
| 1,4-Dioxane                           | 220 U  | 1100 | 220 | 5    | 09/15/21 14:52 |   |
| 2-Butanone (MEK)                      | 240    | 54   | 22  | 5    | 09/15/21 14:52 |   |
| 2-Hexanone                            | 83     | 54   | 3.9 | 5    | 09/15/21 14:52 |   |
| 4-Methyl-2-pentanone                  | 19 J   | 54   | 2.5 | 5    | 09/15/21 14:52 |   |
| Acetone                               | 1700   | 54   | 51  | 5    | 09/15/21 14:52 |   |
| Benzene                               | 1500   | 54   | 2.2 | 5    | 09/15/21 14:52 |   |
| Bromochloromethane                    | 2.2 U  | 54   | 2.2 | 5    | 09/15/21 14:52 |   |
| Bromodichloromethane                  | 2.2 U  | 54   | 2.2 | 5    | 09/15/21 14:52 |   |
| Bromoform                             | 5.4 U  | 54   | 5.4 | 5    | 09/15/21 14:52 |   |
| Bromomethane                          | 23 U   | 54   | 23  | 5    | 09/15/21 14:52 |   |
| Carbon Disulfide                      | 120    | 54   | 3.2 | 5    | 09/15/21 14:52 |   |
| Carbon Tetrachloride                  | 2.9 U  | 54   | 2.9 | 5    | 09/15/21 14:52 |   |
| Chlorobenzene                         | 2.2 U  | 54   | 2.2 | 5    | 09/15/21 14:52 |   |
| Chloroethane                          | 4.5 U  | 54   | 4.5 | 5    | 09/15/21 14:52 |   |
| Chloroform                            | 2.2 U  | 54   | 2.2 | 5    | 09/15/21 14:52 |   |
| Chloromethane                         | 16 U   | 54   | 16  | 5    | 09/15/21 14:52 |   |
| Cyclohexane                           | 2.9 U  | 54   | 2.9 | 5    | 09/15/21 14:52 |   |
| Dibromochloromethane                  | 2.2 U  | 54   | 2.2 | 5    | 09/15/21 14:52 |   |
| Dichlorodifluoromethane (CFC 12)      | 3.6 U  | 54   | 3.6 | 5    | 09/15/21 14:52 |   |
| Dichloromethane                       | 31 U   | 54   | 31  | 5    | 09/15/21 14:52 |   |
| Ethylbenzene                          | 15 J   | 54   | 2.2 | 5    | 09/15/21 14:52 |   |
| Isopropylbenzene (Cumene)             | 2.2 U  | 54   | 2.2 | 5    | 09/15/21 14:52 |   |
| Methyl Acetate                        | 15 J   | 54   | 9.1 | 5    | 09/15/21 14:52 |   |
| Methyl tert-Butyl Ether               | 2.2 U  | 54   | 2.2 | 5    | 09/15/21 14:52 |   |
| Methylcyclohexane                     | 3.4 U  | 54   | 3.4 | 5    | 09/15/21 14:52 |   |
| Styrene                               | 2.2 U  | 54   | 2.2 | 5    | 09/15/21 14:52 |   |
| Tetrachloroethene (PCE)               | 2.5 U  | 54   | 2.5 | 5    | 09/15/21 14:52 |   |
| Toluene                               | 74     | 54   | 2.2 | 5    | 09/15/21 14:52 |   |

ALS Group USA, Corp.  
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Analytical Report

**Client:** Inventum Engineering  
**Project:** RITC Tanks  
**Sample Matrix:** Soil

**Service Request:** R2109414  
**Date Collected:** 09/10/21  
**Date Received:** 09/11/21 09:35

**Sample Name:** TK-SD-ST24-09102021  
**Lab Code:** R2109414-001

**Units:** ug/Kg  
**Basis:** Dry

Volatile Organic Compounds by GC/MS, Unp

**Analysis Method:** 8260C  
**Prep Method:** EPA 5030C

| Analyte Name                    | Result      | MRL | MDL | Dil. | Date Analyzed  | Q |
|---------------------------------|-------------|-----|-----|------|----------------|---|
| Trichloroethene (TCE)           | 2.4 U       | 54  | 2.4 | 5    | 09/15/21 14:52 |   |
| Trichlorofluoromethane (CFC 11) | 2.9 U       | 54  | 2.9 | 5    | 09/15/21 14:52 |   |
| Vinyl Chloride                  | 5.0 U       | 54  | 5.0 | 5    | 09/15/21 14:52 |   |
| cis-1,2-Dichloroethene          | 2.2 U       | 54  | 2.2 | 5    | 09/15/21 14:52 |   |
| cis-1,3-Dichloropropene         | 2.2 U       | 54  | 2.2 | 5    | 09/15/21 14:52 |   |
| m,p-Xylenes                     | <b>61 J</b> | 110 | 4.0 | 5    | 09/15/21 14:52 |   |
| o-Xylene                        | <b>18 J</b> | 54  | 2.2 | 5    | 09/15/21 14:52 |   |
| trans-1,2-Dichloroethene        | 2.2 U       | 54  | 2.2 | 5    | 09/15/21 14:52 |   |
| trans-1,3-Dichloropropene       | 2.2 U       | 54  | 2.2 | 5    | 09/15/21 14:52 |   |

| Surrogate Name       | % Rec | Control Limits | Date Analyzed  | Q |
|----------------------|-------|----------------|----------------|---|
| 4-Bromofluorobenzene | 111   | 31 - 154       | 09/15/21 14:52 |   |
| Dibromofluoromethane | 109   | 63 - 138       | 09/15/21 14:52 |   |
| Toluene-d8           | 98    | 66 - 138       | 09/15/21 14:52 |   |

**ALS Group USA, Corp.**  
dba ALS Environmental

Analytical Report

**Client:** Inventum Engineering  
**Project:** RITC Tanks  
**Sample Matrix:** Soil

**Service Request:** R2109414  
**Date Collected:** 09/10/21  
**Date Received:** 09/11/21 09:35

**Sample Name:** TK-SD-ST24-09102021  
**Lab Code:** R2109414-001

**Units:** ug/Kg  
**Basis:** Dry

**Volatile Organic Compounds by GC/MS, Unp**

**Analysis Method:** 8260C  
**Prep Method:** EPA 5030C

| Analyte Name                          | Result | MRL  | MDL | Dil. | Date Analyzed  | Q |
|---------------------------------------|--------|------|-----|------|----------------|---|
| 1,1,1-Trichloroethane (TCA)           | 2.2 U  | 54   | 2.2 | 5    | 09/15/21 15:26 |   |
| 1,1,2,2-Tetrachloroethane             | 4.8 U  | 54   | 4.8 | 5    | 09/15/21 15:26 |   |
| 1,1,2-Trichloroethane                 | 2.2 U  | 54   | 2.2 | 5    | 09/15/21 15:26 |   |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 2.2 U  | 54   | 2.2 | 5    | 09/15/21 15:26 |   |
| 1,1-Dichloroethane (1,1-DCA)          | 2.2 U  | 54   | 2.2 | 5    | 09/15/21 15:26 |   |
| 1,1-Dichloroethene (1,1-DCE)          | 3.2 U  | 54   | 3.2 | 5    | 09/15/21 15:26 |   |
| 1,2,3-Trichlorobenzene                | 5.7 U  | 54   | 5.7 | 5    | 09/15/21 15:26 |   |
| 1,2,4-Trichlorobenzene                | 4.6 U  | 54   | 4.6 | 5    | 09/15/21 15:26 |   |
| 1,2-Dibromo-3-chloropropane (DBCP)    | 8.1 U  | 54   | 8.1 | 5    | 09/15/21 15:26 |   |
| 1,2-Dibromoethane                     | 2.2 U  | 54   | 2.2 | 5    | 09/15/21 15:26 |   |
| 1,2-Dichlorobenzene                   | 2.2 U  | 54   | 2.2 | 5    | 09/15/21 15:26 |   |
| 1,2-Dichloroethane                    | 2.2 U  | 54   | 2.2 | 5    | 09/15/21 15:26 |   |
| 1,2-Dichloropropane                   | 2.2 U  | 54   | 2.2 | 5    | 09/15/21 15:26 |   |
| 1,3-Dichlorobenzene                   | 2.2 U  | 54   | 2.2 | 5    | 09/15/21 15:26 |   |
| 1,4-Dichlorobenzene                   | 2.4 U  | 54   | 2.4 | 5    | 09/15/21 15:26 |   |
| 1,4-Dioxane                           | 220 U  | 1100 | 220 | 5    | 09/15/21 15:26 |   |
| 2-Butanone (MEK)                      | 150    | 54   | 22  | 5    | 09/15/21 15:26 |   |
| 2-Hexanone                            | 96     | 54   | 3.9 | 5    | 09/15/21 15:26 |   |
| 4-Methyl-2-pentanone                  | 17 J   | 54   | 2.5 | 5    | 09/15/21 15:26 |   |
| Acetone                               | 1100   | 54   | 51  | 5    | 09/15/21 15:26 |   |
| Benzene                               | 1100   | 54   | 2.2 | 5    | 09/15/21 15:26 |   |
| Bromochloromethane                    | 2.2 U  | 54   | 2.2 | 5    | 09/15/21 15:26 |   |
| Bromodichloromethane                  | 2.2 U  | 54   | 2.2 | 5    | 09/15/21 15:26 |   |
| Bromoform                             | 5.4 U  | 54   | 5.4 | 5    | 09/15/21 15:26 |   |
| Bromomethane                          | 23 U   | 54   | 23  | 5    | 09/15/21 15:26 |   |
| Carbon Disulfide                      | 130    | 54   | 3.2 | 5    | 09/15/21 15:26 |   |
| Carbon Tetrachloride                  | 2.9 U  | 54   | 2.9 | 5    | 09/15/21 15:26 |   |
| Chlorobenzene                         | 2.2 U  | 54   | 2.2 | 5    | 09/15/21 15:26 |   |
| Chloroethane                          | 4.5 U  | 54   | 4.5 | 5    | 09/15/21 15:26 |   |
| Chloroform                            | 2.2 U  | 54   | 2.2 | 5    | 09/15/21 15:26 |   |
| Chloromethane                         | 16 U   | 54   | 16  | 5    | 09/15/21 15:26 |   |
| Cyclohexane                           | 2.9 U  | 54   | 2.9 | 5    | 09/15/21 15:26 |   |
| Dibromochloromethane                  | 2.2 U  | 54   | 2.2 | 5    | 09/15/21 15:26 |   |
| Dichlorodifluoromethane (CFC 12)      | 3.6 U  | 54   | 3.6 | 5    | 09/15/21 15:26 |   |
| Dichloromethane                       | 31 U   | 54   | 31  | 5    | 09/15/21 15:26 |   |
| Ethylbenzene                          | 16 J   | 54   | 2.2 | 5    | 09/15/21 15:26 |   |
| Isopropylbenzene (Cumene)             | 2.2 U  | 54   | 2.2 | 5    | 09/15/21 15:26 |   |
| Methyl Acetate                        | 9.1 U  | 54   | 9.1 | 5    | 09/15/21 15:26 |   |
| Methyl tert-Butyl Ether               | 2.2 U  | 54   | 2.2 | 5    | 09/15/21 15:26 |   |
| Methylcyclohexane                     | 3.4 U  | 54   | 3.4 | 5    | 09/15/21 15:26 |   |
| Styrene                               | 2.2 U  | 54   | 2.2 | 5    | 09/15/21 15:26 |   |
| Tetrachloroethene (PCE)               | 2.5 U  | 54   | 2.5 | 5    | 09/15/21 15:26 |   |
| Toluene                               | 64     | 54   | 2.2 | 5    | 09/15/21 15:26 |   |

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Analytical Report

**Client:** Inventum Engineering  
**Project:** RITC Tanks  
**Sample Matrix:** Soil

**Service Request:** R2109414  
**Date Collected:** 09/10/21  
**Date Received:** 09/11/21 09:35

**Sample Name:** TK-SD-ST24-09102021  
**Lab Code:** R2109414-001

**Units:** ug/Kg  
**Basis:** Dry

Volatile Organic Compounds by GC/MS, Unp

**Analysis Method:** 8260C  
**Prep Method:** EPA 5030C

| Analyte Name                    | Result      | MRL | MDL | Dil. | Date Analyzed  | Q |
|---------------------------------|-------------|-----|-----|------|----------------|---|
| Trichloroethene (TCE)           | 2.4 U       | 54  | 2.4 | 5    | 09/15/21 15:26 |   |
| Trichlorofluoromethane (CFC 11) | 2.9 U       | 54  | 2.9 | 5    | 09/15/21 15:26 |   |
| Vinyl Chloride                  | 5.0 U       | 54  | 5.0 | 5    | 09/15/21 15:26 |   |
| cis-1,2-Dichloroethene          | 2.2 U       | 54  | 2.2 | 5    | 09/15/21 15:26 |   |
| cis-1,3-Dichloropropene         | 2.2 U       | 54  | 2.2 | 5    | 09/15/21 15:26 |   |
| m,p-Xylenes                     | <b>53 J</b> | 110 | 4.0 | 5    | 09/15/21 15:26 |   |
| o-Xylene                        | <b>16 J</b> | 54  | 2.2 | 5    | 09/15/21 15:26 |   |
| trans-1,2-Dichloroethene        | 2.2 U       | 54  | 2.2 | 5    | 09/15/21 15:26 |   |
| trans-1,3-Dichloropropene       | 2.2 U       | 54  | 2.2 | 5    | 09/15/21 15:26 |   |

| Surrogate Name       | % Rec | Control Limits | Date Analyzed  | Q |
|----------------------|-------|----------------|----------------|---|
| 4-Bromofluorobenzene | 91    | 31 - 154       | 09/15/21 15:26 |   |
| Dibromofluoromethane | 112   | 63 - 138       | 09/15/21 15:26 |   |
| Toluene-d8           | 100   | 66 - 138       | 09/15/21 15:26 |   |



## Semivolatile Organic Compounds by GC/MS

**ALS Environmental—Rochester Laboratory**

1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623

Phone (585) 288-5380 Fax (585) 288-8475

[www.alsglobal.com](http://www.alsglobal.com)

**ALS Group USA, Corp.**  
dba ALS Environmental

Analytical Report

**Client:** Inventum Engineering  
**Project:** RITC Tanks  
**Sample Matrix:** Soil

**Service Request:** R2109414  
**Date Collected:** 09/10/21  
**Date Received:** 09/11/21 09:35

**Sample Name:** TK-SD-ST24-09102021  
**Lab Code:** R2109414-001

**Units:** ug/Kg  
**Basis:** Dry

**Semivolatile Organic Compounds by GC/MS using Microwave Digestion**

**Analysis Method:** 8270D  
**Prep Method:** EPA 3546

| Analyte Name                    | Result       | MRL  | MDL  | Dil. | Date Analyzed  | Date Extracted | Q |
|---------------------------------|--------------|------|------|------|----------------|----------------|---|
| 1,2,4,5-Tetrachlorobenzene      | 270 U        | 1200 | 270  | 1    | 09/20/21 21:48 | 9/15/21        |   |
| 2,3,4,6-Tetrachlorophenol       | 410 U        | 1200 | 410  | 1    | 09/20/21 21:48 | 9/15/21        |   |
| 2,4,5-Trichlorophenol           | 300 U        | 1200 | 300  | 1    | 09/20/21 21:48 | 9/15/21        |   |
| 2,4,6-Trichlorophenol           | 270 U        | 1200 | 270  | 1    | 09/20/21 21:48 | 9/15/21        |   |
| 2,4-Dichlorophenol              | 230 U        | 1200 | 230  | 1    | 09/20/21 21:48 | 9/15/21        |   |
| 2,4-Dimethylphenol              | 220 U        | 1200 | 220  | 1    | 09/20/21 21:48 | 9/15/21        |   |
| 2,4-Dinitrophenol               | 2000 U       | 6100 | 2000 | 1    | 09/20/21 21:48 | 9/15/21        |   |
| 2,4-Dinitrotoluene              | 460 U        | 1200 | 460  | 1    | 09/20/21 21:48 | 9/15/21        |   |
| 2,6-Dinitrotoluene              | 260 U        | 1200 | 260  | 1    | 09/20/21 21:48 | 9/15/21        |   |
| 2-Chloronaphthalene             | 240 U        | 1200 | 240  | 1    | 09/20/21 21:48 | 9/15/21        |   |
| 2-Chlorophenol                  | 200 U        | 1200 | 200  | 1    | 09/20/21 21:48 | 9/15/21        |   |
| 2-Methylnaphthalene             | <b>250 J</b> | 1200 | 200  | 1    | 09/20/21 21:48 | 9/15/21        |   |
| 2-Methylphenol                  | 250 U        | 1200 | 250  | 1    | 09/20/21 21:48 | 9/15/21        |   |
| 2-Nitroaniline                  | 280 U        | 6100 | 280  | 1    | 09/20/21 21:48 | 9/15/21        |   |
| 2-Nitrophenol                   | 280 U        | 1200 | 280  | 1    | 09/20/21 21:48 | 9/15/21        |   |
| 3,3'-Dichlorobenzidine          | 140 U        | 1200 | 140  | 1    | 09/20/21 21:48 | 9/15/21        |   |
| 3- and 4-Methylphenol Coelution | 230 U        | 1200 | 230  | 1    | 09/20/21 21:48 | 9/15/21        |   |
| 3-Nitroaniline                  | 240 U        | 6100 | 240  | 1    | 09/20/21 21:48 | 9/15/21        |   |
| 4,6-Dinitro-2-methylphenol      | 670 U        | 6100 | 670  | 1    | 09/20/21 21:48 | 9/15/21        |   |
| 4-Bromophenyl Phenyl Ether      | 310 U        | 1200 | 310  | 1    | 09/20/21 21:48 | 9/15/21        |   |
| 4-Chloro-3-methylphenol         | 240 U        | 1200 | 240  | 1    | 09/20/21 21:48 | 9/15/21        |   |
| 4-Chloroaniline                 | 200 U        | 1200 | 200  | 1    | 09/20/21 21:48 | 9/15/21        |   |
| 4-Chlorophenyl Phenyl Ether     | 260 U        | 1200 | 260  | 1    | 09/20/21 21:48 | 9/15/21        |   |
| 4-Nitroaniline                  | 120 U        | 6100 | 120  | 1    | 09/20/21 21:48 | 9/15/21        |   |
| 4-Nitrophenol                   | 240 U        | 6100 | 240  | 1    | 09/20/21 21:48 | 9/15/21        |   |
| Acenaphthene                    | <b>240 J</b> | 1200 | 230  | 1    | 09/20/21 21:48 | 9/15/21        |   |
| Acenaphthylene                  | 240 U        | 1200 | 240  | 1    | 09/20/21 21:48 | 9/15/21        |   |
| Acetophenone                    | 340 U        | 1200 | 340  | 1    | 09/20/21 21:48 | 9/15/21        |   |
| Anthracene                      | 200 U        | 1200 | 200  | 1    | 09/20/21 21:48 | 9/15/21        |   |
| Atrazine                        | 170 U        | 1200 | 170  | 1    | 09/20/21 21:48 | 9/15/21        |   |
| Benz(a)anthracene               | <b>590 J</b> | 1200 | 180  | 1    | 09/20/21 21:48 | 9/15/21        |   |
| Benzaldehyde                    | 290 U        | 6100 | 290  | 1    | 09/20/21 21:48 | 9/15/21        |   |
| Benzo(a)pyrene                  | <b>980 J</b> | 1200 | 320  | 1    | 09/20/21 21:48 | 9/15/21        |   |
| Benzo(b)fluoranthene            | <b>990 J</b> | 1200 | 200  | 1    | 09/20/21 21:48 | 9/15/21        |   |
| Benzo(g,h,i)perylene            | <b>610 J</b> | 1200 | 280  | 1    | 09/20/21 21:48 | 9/15/21        |   |
| Benzo(k)fluoranthene            | <b>370 J</b> | 1200 | 200  | 1    | 09/20/21 21:48 | 9/15/21        |   |
| Biphenyl                        | 350 U        | 1200 | 350  | 1    | 09/20/21 21:48 | 9/15/21        |   |
| 2,2'-Oxybis(1-chloropropane)    | 250 U        | 1200 | 250  | 1    | 09/20/21 21:48 | 9/15/21        |   |
| Bis(2-chloroethoxy)methane      | 290 U        | 1200 | 290  | 1    | 09/20/21 21:48 | 9/15/21        |   |
| Bis(2-chloroethyl) Ether        | 240 U        | 1200 | 240  | 1    | 09/20/21 21:48 | 9/15/21        |   |
| Bis(2-ethylhexyl) Phthalate     | 220 U        | 1800 | 220  | 1    | 09/20/21 21:48 | 9/15/21        |   |
| Butyl Benzyl Phthalate          | 150 U        | 1200 | 150  | 1    | 09/20/21 21:48 | 9/15/21        |   |
| Caprolactam                     | 260 U        | 1200 | 260  | 1    | 09/20/21 21:48 | 9/15/21        |   |

**ALS Group USA, Corp.**  
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Analytical Report

**Client:** Inventum Engineering  
**Project:** RITC Tanks  
**Sample Matrix:** Soil

**Service Request:** R2109414  
**Date Collected:** 09/10/21  
**Date Received:** 09/11/21 09:35

**Sample Name:** TK-SD-ST24-09102021  
**Lab Code:** R2109414-001

**Units:** ug/Kg  
**Basis:** Dry

**Semivolatile Organic Compounds by GC/MS using Microwave Digestion**

**Analysis Method:** 8270D  
**Prep Method:** EPA 3546

| Analyte Name              | Result        | MRL  | MDL  | Dil. | Date Analyzed  | Date Extracted | Q |
|---------------------------|---------------|------|------|------|----------------|----------------|---|
| Carbazole                 | 200 U         | 1200 | 200  | 1    | 09/20/21 21:48 | 9/15/21        |   |
| Chrysene                  | <b>680 J</b>  | 1200 | 180  | 1    | 09/20/21 21:48 | 9/15/21        |   |
| Di-n-butyl Phthalate      | 200 U         | 1200 | 200  | 1    | 09/20/21 21:48 | 9/15/21        |   |
| Di-n-octyl Phthalate      | 420 U         | 1200 | 420  | 1    | 09/20/21 21:48 | 9/15/21        |   |
| Dibenz(a,h)anthracene     | 260 U         | 1200 | 260  | 1    | 09/20/21 21:48 | 9/15/21        |   |
| Dibenzofuran              | 220 U         | 1200 | 220  | 1    | 09/20/21 21:48 | 9/15/21        |   |
| Diethyl Phthalate         | 210 U         | 1200 | 210  | 1    | 09/20/21 21:48 | 9/15/21        |   |
| Dimethyl Phthalate        | 230 U         | 1200 | 230  | 1    | 09/20/21 21:48 | 9/15/21        |   |
| Fluoranthene              | <b>1000 J</b> | 1200 | 300  | 1    | 09/20/21 21:48 | 9/15/21        |   |
| Fluorene                  | 230 U         | 1200 | 230  | 1    | 09/20/21 21:48 | 9/15/21        |   |
| Hexachlorobenzene         | 290 U         | 1200 | 290  | 1    | 09/20/21 21:48 | 9/15/21        |   |
| Hexachlorobutadiene       | 210 U         | 1200 | 210  | 1    | 09/20/21 21:48 | 9/15/21        |   |
| Hexachlorocyclopentadiene | 380 U         | 1200 | 380  | 1    | 09/20/21 21:48 | 9/15/21        |   |
| Hexachloroethane          | 230 U         | 1200 | 230  | 1    | 09/20/21 21:48 | 9/15/21        |   |
| Indeno(1,2,3-cd)pyrene    | <b>540 J</b>  | 1200 | 380  | 1    | 09/20/21 21:48 | 9/15/21        |   |
| Isophorone                | 250 U         | 1200 | 250  | 1    | 09/20/21 21:48 | 9/15/21        |   |
| N-Nitrosodi-n-propylamine | 370 U         | 1200 | 370  | 1    | 09/20/21 21:48 | 9/15/21        |   |
| N-Nitrosodiphenylamine    | 740 U         | 1200 | 740  | 1    | 09/20/21 21:48 | 9/15/21        |   |
| Naphthalene               | <b>450 J</b>  | 1200 | 230  | 1    | 09/20/21 21:48 | 9/15/21        |   |
| Nitrobenzene              | 210 U         | 1200 | 210  | 1    | 09/20/21 21:48 | 9/15/21        |   |
| Pentachlorophenol (PCP)   | 1200 U        | 6100 | 1200 | 1    | 09/20/21 21:48 | 9/15/21        |   |
| Phenanthrene              | <b>810 J</b>  | 1200 | 170  | 1    | 09/20/21 21:48 | 9/15/21        |   |
| Phenol                    | 240 U         | 1200 | 240  | 1    | 09/20/21 21:48 | 9/15/21        |   |
| Pyrene                    | <b>1000 J</b> | 1200 | 200  | 1    | 09/20/21 21:48 | 9/15/21        |   |

| Surrogate Name       | % Rec | Control Limits | Date Analyzed  | Q |
|----------------------|-------|----------------|----------------|---|
| 2,4,6-Tribromophenol | 29    | 15 - 142       | 09/20/21 21:48 |   |
| 2-Fluorobiphenyl     | 46    | 25 - 114       | 09/20/21 21:48 |   |
| 2-Fluorophenol       | 42    | 18 - 98        | 09/20/21 21:48 |   |
| Nitrobenzene-d5      | 2 *   | 14 - 104       | 09/20/21 21:48 | * |
| Phenol-d6            | 37    | 18 - 103       | 09/20/21 21:48 |   |
| Terphenyl-d14        | 43    | 38 - 141       | 09/20/21 21:48 |   |

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Analytical Report

**Client:** Inventum Engineering  
**Project:** RITC Tanks  
**Sample Matrix:** Soil

**Service Request:** R2109414  
**Date Collected:** 09/10/21  
**Date Received:** 09/11/21 09:35

**Sample Name:** TK-SD-ST24-09102021  
**Lab Code:** R2109414-001

**Units:** ug/Kg  
**Basis:** Dry

**Semivolatile Organic Compounds by GC/MS using Microwave Digestion**

**Analysis Method:** 8270D  
**Prep Method:** EPA 3546

| Analyte Name                    | Result | MRL   | MDL  | Dil. | Date Analyzed  | Date Extracted | Q |
|---------------------------------|--------|-------|------|------|----------------|----------------|---|
| 1,2,4,5-Tetrachlorobenzene      | 1100 U | 4800  | 1100 | 1    | 09/29/21 17:56 | 9/28/21        | * |
| 2,3,4,6-Tetrachlorophenol       | 1700 U | 4800  | 1700 | 1    | 09/29/21 17:56 | 9/28/21        | * |
| 2,4,5-Trichlorophenol           | 1200 U | 4800  | 1200 | 1    | 09/29/21 17:56 | 9/28/21        | * |
| 2,4,6-Trichlorophenol           | 1100 U | 4800  | 1100 | 1    | 09/29/21 17:56 | 9/28/21        | * |
| 2,4-Dichlorophenol              | 930 U  | 4800  | 930  | 1    | 09/29/21 17:56 | 9/28/21        | * |
| 2,4-Dimethylphenol              | 870 U  | 4800  | 870  | 1    | 09/29/21 17:56 | 9/28/21        | * |
| 2,4-Dinitrophenol               | 8200 U | 25000 | 8200 | 1    | 09/29/21 17:56 | 9/28/21        | * |
| 2,4-Dinitrotoluene              | 1900 U | 4800  | 1900 | 1    | 09/29/21 17:56 | 9/28/21        | * |
| 2,6-Dinitrotoluene              | 1100 U | 4800  | 1100 | 1    | 09/29/21 17:56 | 9/28/21        | * |
| 2-Chloronaphthalene             | 970 U  | 4800  | 970  | 1    | 09/29/21 17:56 | 9/28/21        | * |
| 2-Chlorophenol                  | 810 U  | 4800  | 810  | 1    | 09/29/21 17:56 | 9/28/21        | * |
| 2-Methylnaphthalene             | 800 U  | 4800  | 800  | 1    | 09/29/21 17:56 | 9/28/21        | * |
| 2-Methylphenol                  | 1000 U | 4800  | 1000 | 1    | 09/29/21 17:56 | 9/28/21        | * |
| 2-Nitroaniline                  | 1200 U | 25000 | 1200 | 1    | 09/29/21 17:56 | 9/28/21        | * |
| 2-Nitrophenol                   | 1200 U | 4800  | 1200 | 1    | 09/29/21 17:56 | 9/28/21        | * |
| 3,3'-Dichlorobenzidine          | 550 U  | 4800  | 550  | 1    | 09/29/21 17:56 | 9/28/21        | * |
| 3- and 4-Methylphenol Coelution | 930 U  | 4800  | 930  | 1    | 09/29/21 17:56 | 9/28/21        | * |
| 3-Nitroaniline                  | 970 U  | 25000 | 970  | 1    | 09/29/21 17:56 | 9/28/21        | * |
| 4,6-Dinitro-2-methylphenol      | 2800 U | 25000 | 2800 | 1    | 09/29/21 17:56 | 9/28/21        | * |
| 4-Bromophenyl Phenyl Ether      | 1300 U | 4800  | 1300 | 1    | 09/29/21 17:56 | 9/28/21        | * |
| 4-Chloro-3-methylphenol         | 980 U  | 4800  | 980  | 1    | 09/29/21 17:56 | 9/28/21        | * |
| 4-Chloroaniline                 | 820 U  | 4800  | 820  | 1    | 09/29/21 17:56 | 9/28/21        | * |
| 4-Chlorophenyl Phenyl Ether     | 1100 U | 4800  | 1100 | 1    | 09/29/21 17:56 | 9/28/21        | * |
| 4-Nitroaniline                  | 490 U  | 25000 | 490  | 1    | 09/29/21 17:56 | 9/28/21        | * |
| 4-Nitrophenol                   | 970 U  | 25000 | 970  | 1    | 09/29/21 17:56 | 9/28/21        | * |
| Acenaphthene                    | 920 U  | 4800  | 920  | 1    | 09/29/21 17:56 | 9/28/21        | * |
| Acenaphthylene                  | 980 U  | 4800  | 980  | 1    | 09/29/21 17:56 | 9/28/21        | * |
| Acetophenone                    | 1400 U | 4800  | 1400 | 1    | 09/29/21 17:56 | 9/28/21        | * |
| Anthracene                      | 810 U  | 4800  | 810  | 1    | 09/29/21 17:56 | 9/28/21        | * |
| Atrazine                        | 680 U  | 4800  | 680  | 1    | 09/29/21 17:56 | 9/28/21        | * |
| Benz(a)anthracene               | 2600 J | 4800  | 720  | 1    | 09/29/21 17:56 | 9/28/21        | * |
| Benzaldehyde                    | 1200 U | 25000 | 1200 | 1    | 09/29/21 17:56 | 9/28/21        | * |
| Benzo(a)pyrene                  | 5200   | 4800  | 1300 | 1    | 09/29/21 17:56 | 9/28/21        | * |
| Benzo(b)fluoranthene            | 4900   | 4800  | 810  | 1    | 09/29/21 17:56 | 9/28/21        | * |
| Benzo(g,h,i)perylene            | 4000 J | 4800  | 1200 | 1    | 09/29/21 17:56 | 9/28/21        | * |
| Benzo(k)fluoranthene            | 1800 J | 4800  | 780  | 1    | 09/29/21 17:56 | 9/28/21        | * |
| Biphenyl                        | 1500 U | 4800  | 1500 | 1    | 09/29/21 17:56 | 9/28/21        | * |
| 2,2'-Oxybis(1-chloropropane)    | 990 U  | 4800  | 990  | 1    | 09/29/21 17:56 | 9/28/21        | * |
| Bis(2-chloroethoxy)methane      | 1200 U | 4800  | 1200 | 1    | 09/29/21 17:56 | 9/28/21        | * |
| Bis(2-chloroethyl) Ether        | 960 U  | 4800  | 960  | 1    | 09/29/21 17:56 | 9/28/21        | * |
| Bis(2-ethylhexyl) Phthalate     | 880 U  | 7300  | 880  | 1    | 09/29/21 17:56 | 9/28/21        | * |
| Butyl Benzyl Phthalate          | 590 U  | 4800  | 590  | 1    | 09/29/21 17:56 | 9/28/21        | * |
| Caprolactam                     | 1100 U | 4800  | 1100 | 1    | 09/29/21 17:56 | 9/28/21        | * |

**ALS Group USA, Corp.**  
dba ALS Environmental

Analytical Report

**Client:** Inventum Engineering  
**Project:** RITC Tanks  
**Sample Matrix:** Soil

**Service Request:** R2109414  
**Date Collected:** 09/10/21  
**Date Received:** 09/11/21 09:35

**Sample Name:** TK-SD-ST24-09102021  
**Lab Code:** R2109414-001

**Units:** ug/Kg  
**Basis:** Dry

**Semivolatile Organic Compounds by GC/MS using Microwave Digestion**

**Analysis Method:** 8270D  
**Prep Method:** EPA 3546

| Analyte Name              | Result        | MRL   | MDL  | Dil. | Date Analyzed  | Date Extracted | Q |
|---------------------------|---------------|-------|------|------|----------------|----------------|---|
| Carbazole                 | 790 U         | 4800  | 790  | 1    | 09/29/21 17:56 | 9/28/21        | * |
| Chrysene                  | <b>2900 J</b> | 4800  | 710  | 1    | 09/29/21 17:56 | 9/28/21        | * |
| Di-n-butyl Phthalate      | 780 U         | 4800  | 780  | 1    | 09/29/21 17:56 | 9/28/21        | * |
| Di-n-octyl Phthalate      | 1700 U        | 4800  | 1700 | 1    | 09/29/21 17:56 | 9/28/21        | * |
| Dibenz(a,h)anthracene     | 1100 U        | 4800  | 1100 | 1    | 09/29/21 17:56 | 9/28/21        | * |
| Dibenzofuran              | 880 U         | 4800  | 880  | 1    | 09/29/21 17:56 | 9/28/21        | * |
| Diethyl Phthalate         | 860 U         | 4800  | 860  | 1    | 09/29/21 17:56 | 9/28/21        | * |
| Dimethyl Phthalate        | 920 U         | 4800  | 920  | 1    | 09/29/21 17:56 | 9/28/21        | * |
| Fluoranthene              | <b>4200 J</b> | 4800  | 1300 | 1    | 09/29/21 17:56 | 9/28/21        | * |
| Fluorene                  | 910 U         | 4800  | 910  | 1    | 09/29/21 17:56 | 9/28/21        | * |
| Hexachlorobenzene         | 1200 U        | 4800  | 1200 | 1    | 09/29/21 17:56 | 9/28/21        | * |
| Hexachlorobutadiene       | 830 U         | 4800  | 830  | 1    | 09/29/21 17:56 | 9/28/21        | * |
| Hexachlorocyclopentadiene | 1600 U        | 4800  | 1600 | 1    | 09/29/21 17:56 | 9/28/21        | * |
| Hexachloroethane          | 910 U         | 4800  | 910  | 1    | 09/29/21 17:56 | 9/28/21        | * |
| Indeno(1,2,3-cd)pyrene    | <b>4000 J</b> | 4800  | 1600 | 1    | 09/29/21 17:56 | 9/28/21        | * |
| Isophorone                | 1100 U        | 4800  | 1100 | 1    | 09/29/21 17:56 | 9/28/21        | * |
| N-Nitrosodi-n-propylamine | 1500 U        | 4800  | 1500 | 1    | 09/29/21 17:56 | 9/28/21        | * |
| N-Nitrosodiphenylamine    | 3100 U        | 4800  | 3100 | 1    | 09/29/21 17:56 | 9/28/21        | * |
| Naphthalene               | 910 U         | 4800  | 910  | 1    | 09/29/21 17:56 | 9/28/21        | * |
| Nitrobenzene              | 870 U         | 4800  | 870  | 1    | 09/29/21 17:56 | 9/28/21        | * |
| Pentachlorophenol (PCP)   | 4800 U        | 25000 | 4800 | 1    | 09/29/21 17:56 | 9/28/21        | * |
| Phenanthrene              | <b>2400 J</b> | 4800  | 690  | 1    | 09/29/21 17:56 | 9/28/21        | * |
| Phenol                    | 980 U         | 4800  | 980  | 1    | 09/29/21 17:56 | 9/28/21        | * |
| Pyrene                    | <b>4100 J</b> | 4800  | 810  | 1    | 09/29/21 17:56 | 9/28/21        | * |

| Surrogate Name       | % Rec | Control Limits | Date Analyzed  | Q |
|----------------------|-------|----------------|----------------|---|
| 2,4,6-Tribromophenol | 106   | 15 - 142       | 09/29/21 17:56 |   |
| 2-Fluorobiphenyl     | 92    | 25 - 114       | 09/29/21 17:56 |   |
| 2-Fluorophenol       | 84    | 18 - 98        | 09/29/21 17:56 |   |
| Nitrobenzene-d5      | 87    | 14 - 104       | 09/29/21 17:56 |   |
| Phenol-d6            | 85    | 18 - 103       | 09/29/21 17:56 |   |
| Terphenyl-d14        | 99    | 38 - 141       | 09/29/21 17:56 |   |



## Semivolatile Organic Compounds by GC

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Analytical Report

**Client:** Inventum Engineering  
**Project:** RITC Tanks  
**Sample Matrix:** Soil

**Service Request:** R2109414  
**Date Collected:** 09/10/21  
**Date Received:** 09/11/21 09:35

**Sample Name:** TK-SD-ST24-09102021  
**Lab Code:** R2109414-001

**Units:** ug/Kg  
**Basis:** Dry

**Organochlorine Pesticides by Gas Chromatography using Microwave Extraction**

**Analysis Method:** 8081B  
**Prep Method:** EPA 3546

| Analyte Name        | Result | MRL  | MDL  | Dil. | Date Analyzed  | Date Extracted | Q |
|---------------------|--------|------|------|------|----------------|----------------|---|
| 4,4'-DDD            | 180 U  | 350  | 180  | 10   | 09/23/21 00:45 | 9/21/21        |   |
| 4,4'-DDE            | 180 U  | 350  | 180  | 10   | 09/23/21 00:45 | 9/21/21        |   |
| 4,4'-DDT            | 180 U  | 350  | 180  | 10   | 09/23/21 00:45 | 9/21/21        |   |
| Aldrin              | 180 U  | 350  | 180  | 10   | 09/23/21 00:45 | 9/21/21        |   |
| Dieldrin            | 180 U  | 350  | 180  | 10   | 09/23/21 00:45 | 9/21/21        |   |
| Endosulfan I        | 180 U  | 350  | 180  | 10   | 09/23/21 00:45 | 9/21/21        |   |
| Endosulfan II       | 180 U  | 350  | 180  | 10   | 09/23/21 00:45 | 9/21/21        |   |
| Endosulfan Sulfate  | 180 U  | 350  | 180  | 10   | 09/23/21 00:45 | 9/21/21        |   |
| Endrin              | 180 U  | 350  | 180  | 10   | 09/23/21 00:45 | 9/21/21        |   |
| Endrin Aldehyde     | 180 U  | 350  | 180  | 10   | 09/23/21 00:45 | 9/21/21        |   |
| Endrin Ketone       | 180 U  | 350  | 180  | 10   | 09/23/21 00:45 | 9/21/21        |   |
| Heptachlor          | 180 U  | 350  | 180  | 10   | 09/23/21 00:45 | 9/21/21        |   |
| Heptachlor Epoxide  | 180 U  | 350  | 180  | 10   | 09/23/21 00:45 | 9/21/21        |   |
| Methoxychlor        | 180 U  | 350  | 180  | 10   | 09/23/21 00:45 | 9/21/21        |   |
| Toxaphene           | 4000 U | 6900 | 4000 | 10   | 09/23/21 00:45 | 9/21/21        |   |
| alpha-BHC           | 180 U  | 350  | 180  | 10   | 09/23/21 00:45 | 9/21/21        |   |
| alpha-Chlordane     | 180 U  | 350  | 180  | 10   | 09/23/21 00:45 | 9/21/21        |   |
| beta-BHC            | 180 U  | 350  | 180  | 10   | 09/23/21 00:45 | 9/21/21        |   |
| delta-BHC           | 180 U  | 350  | 180  | 10   | 09/23/21 00:45 | 9/21/21        |   |
| gamma-BHC (Lindane) | 180 U  | 350  | 180  | 10   | 09/23/21 00:45 | 9/21/21        |   |
| gamma-Chlordane     | 180 U  | 350  | 180  | 10   | 09/23/21 00:45 | 9/21/21        |   |

| Surrogate Name       | % Rec | Control Limits | Date Analyzed  | Q |
|----------------------|-------|----------------|----------------|---|
| Decachlorobiphenyl   | 72    | 10 - 145       | 09/23/21 00:45 |   |
| Tetrachloro-m-xylene | 62    | 10 - 123       | 09/23/21 00:45 |   |

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Analytical Report

**Client:** Inventum Engineering  
**Project:** RITC Tanks  
**Sample Matrix:** Soil

**Service Request:** R2109414  
**Date Collected:** 09/10/21  
**Date Received:** 09/11/21 09:35

**Sample Name:** TK-SD-ST24-09102021  
**Lab Code:** R2109414-001

**Units:** ug/Kg  
**Basis:** Dry

Polychlorinated Biphenyls (PCBs) by GC using Microwave Extraction

**Analysis Method:** 8082A  
**Prep Method:** EPA 3546

| Analyte Name | Result | MRL  | MDL | Dil. | Date Analyzed  | Date Extracted | Q |
|--------------|--------|------|-----|------|----------------|----------------|---|
| Aroclor 1016 | 360 U  | 690  | 360 | 1    | 09/23/21 00:37 | 9/21/21        |   |
| Aroclor 1221 | 540 U  | 1400 | 540 | 1    | 09/23/21 00:37 | 9/21/21        |   |
| Aroclor 1232 | 400 U  | 690  | 400 | 1    | 09/23/21 00:37 | 9/21/21        |   |
| Aroclor 1242 | 360 U  | 690  | 360 | 1    | 09/23/21 00:37 | 9/21/21        |   |
| Aroclor 1248 | 380 U  | 690  | 380 | 1    | 09/23/21 00:37 | 9/21/21        |   |
| Aroclor 1254 | 360 U  | 690  | 360 | 1    | 09/23/21 00:37 | 9/21/21        |   |
| Aroclor 1260 | 360 U  | 690  | 360 | 1    | 09/23/21 00:37 | 9/21/21        |   |

| Surrogate Name       | % Rec | Control Limits | Date Analyzed  | Q |
|----------------------|-------|----------------|----------------|---|
| Decachlorobiphenyl   | 60    | 22 - 128       | 09/23/21 00:37 |   |
| Tetrachloro-m-xylene | 62    | 14 - 119       | 09/23/21 00:37 |   |

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Analytical Report

**Client:** Inventum Engineering  
**Project:** RITC Tanks  
**Sample Matrix:** Soil  
  
**Sample Name:** TK-SD-ST24-09102021  
**Lab Code:** R2109414-001

**Service Request:** R2109414  
**Date Collected:** 09/10/21  
**Date Received:** 09/11/21 09:35  
  
**Units:** ug/Kg  
**Basis:** Dry

Chlorinated Herbicides by GC

**Analysis Method:** 8151A  
**Prep Method:** Method

| Analyte Name | Result | MRL | MDL | Dil. | Date Analyzed  | Date Extracted | Q |
|--------------|--------|-----|-----|------|----------------|----------------|---|
| 2,4,5-T      | 15 U   | 30  | 15  | 1    | 09/23/21 02:37 | 9/21/21        |   |
| 2,4,5-TP     | 14 U   | 30  | 14  | 1    | 09/23/21 02:37 | 9/21/21        |   |
| 2,4-D        | 20 U   | 30  | 20  | 1    | 09/23/21 02:37 | 9/21/21        |   |
| Dicamba      | 9.3 U  | 30  | 9.3 | 1    | 09/23/21 02:37 | 9/21/21        |   |

| Surrogate Name                | % Rec | Control Limits | Date Analyzed  | Q |
|-------------------------------|-------|----------------|----------------|---|
| 2,4-Dichlorophenylacetic Acid | 45    | 10 - 151       | 09/23/21 02:37 |   |



## Metals

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**METALS**  
- 1 -  
**INORGANIC ANALYSIS DATA PACKAGE**

|                                     |                                             |
|-------------------------------------|---------------------------------------------|
| <b>Client:</b> Inventum Engineering | <b>Service Request:</b> TK-SD-ST24-09102021 |
| <b>Project No.:</b> R2109414        | <b>Date Collected:</b> 9/10/2021            |
| <b>Project Name:</b>                | <b>Date Received:</b> 9/11/2021             |
| <b>Matrix:</b> SOIL                 | <b>Units:</b> mg/Kg                         |
|                                     | <b>Basis:</b>                               |

|                                         |                               |
|-----------------------------------------|-------------------------------|
| <b>Sample Name:</b> TK-SD-ST24-09102021 | <b>Lab Code:</b> R2109414-001 |
|-----------------------------------------|-------------------------------|

| Analyte    | Analysis Method | PQL   | MDL   | Dil. Factor | Result | C | Q |
|------------|-----------------|-------|-------|-------------|--------|---|---|
| Aluminum   | 6010C           | 42.3  | 25.4  | 1.0         | 4000   |   |   |
| Antimony   | 6010C           | 12.7  | 1.1   | 1.0         | 12.7   | U |   |
| Arsenic    | 6010C           | 2.1   | 1.5   | 1.0         | 31.5   |   |   |
| Barium     | 6010C           | 4.2   | 3.2   | 1.0         | 57.7   |   |   |
| Beryllium  | 6010C           | 0.635 | 0.127 | 1.0         | 0.169  | J |   |
| Boron      | 6010C           | 42.3  | 3.2   | 1.0         | 158    |   |   |
| Cadmium    | 6010C           | 1.1   | 0.182 | 1.0         | 4.2    |   |   |
| Mercury    | 7471B           | 0.043 | 0.017 | 1.0         | 0.038  | J |   |
| Calcium    | 6010C           | 212   | 67.8  | 1.0         | 2410   |   |   |
| Chromium   | 6010C           | 2.1   | 0.741 | 1.0         | 63.4   |   |   |
| Cobalt     | 6010C           | 10.6  | 0.176 | 1.0         | 4.0    | J |   |
| Copper     | 6010C           | 4.2   | 0.275 | 1.0         | 101    |   |   |
| Iron       | 6010C           | 4230  | 2750  | 100.0       | 338000 |   |   |
| Lead       | 6010C           | 10.6  | 0.847 | 1.0         | 668    |   |   |
| Magnesium  | 6010C           | 212   | 27.5  | 1.0         | 1160   |   |   |
| Manganese  | 6010C           | 4.2   | 0.339 | 1.0         | 1190   |   |   |
| Molybdenum | 6010C           | 5.3   | 0.826 | 1.0         | 12.0   |   |   |
| Nickel     | 6010C           | 8.5   | 1.4   | 1.0         | 37.2   |   |   |
| Potassium  | 6010C           | 423   | 106   | 1.0         | 846    |   |   |
| Selenium   | 6010C           | 2.1   | 1.1   | 1.0         | 6.2    |   |   |
| Silver     | 6010C           | 2.1   | 0.191 | 1.0         | 0.233  | J |   |
| Sodium     | 6010C           | 212   | 40.2  | 1.0         | 47.4   | J |   |
| Thallium   | 6010C           | 21.2  | 13.8  | 10.0        | 21.2   | U |   |
| Tin        | 6010C           | 106   | 4.0   | 1.0         | 15.1   | J |   |
| Vanadium   | 6010C           | 10.6  | 0.146 | 1.0         | 18.1   |   |   |
| Zinc       | 6010C           | 4.2   | 3.0   | 1.0         | 64.1   |   |   |

% Solids: 46.3

Comments:



## General Chemistry

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Analytical Report

**Client:** Inventum Engineering

**Project:** RITC Tanks

**Sample Matrix:** Soil

**Sample Name:** TK-SD-ST24-09102021

**Lab Code:** R2109414-001

**Service Request:** R2109414

**Date Collected:** 09/10/21

**Date Received:** 09/11/21 09:35

**Basis:** Dry

**Inorganic Parameters**

| <b>Analyte Name</b>              | <b>Analysis Method</b> | <b>Result</b> | <b>Units</b> | <b>MRL</b> | <b>MDL</b> | <b>Dil.</b> | <b>Date Analyzed</b> | <b>Date Extracted</b> | <b>Q</b> |
|----------------------------------|------------------------|---------------|--------------|------------|------------|-------------|----------------------|-----------------------|----------|
| Ammonia as Nitrogen, undistilled | 350.1M                 | <b>13</b>     | mg/Kg        | 11         | 7          | 1           | 10/01/21 22:37       | 10/01/21              |          |
| Cyanide, Total                   | 9012B                  | <b>0.89</b>   | mg/Kg        | 0.65       | 0.37       | 1           | 09/15/21 22:30       | 09/15/21              |          |
| Fluoride                         | 9056A                  | <b>6 J</b>    | mg/Kg        | 43         | 5          | 1           | 09/16/21 18:07       | 09/16/21              |          |
| Nitrate as Nitrogen              | 9056A                  | 7 U           | mg/Kg        | 22         | 7          | 1           | 09/16/21 18:07       | 09/16/21              |          |
| Nitrite as Nitrogen              | 9056A                  | 9 U           | mg/Kg        | 22         | 9          | 1           | 09/16/21 18:07       | 09/16/21              |          |

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Analytical Report

**Client:** Inventum Engineering  
**Project:** RITC Tanks  
**Sample Matrix:** Soil  
  
**Sample Name:** TK-SD-ST24-09102021  
**Lab Code:** R2109414-001

**Service Request:** R2109414  
**Date Collected:** 09/10/21  
**Date Received:** 09/11/21 09:35  
  
**Basis:** As Received

Inorganic Parameters

| Analyte Name | Analysis Method | Result | Units    | MRL | MDL | Dil. | Date Analyzed  | Date Extracted | Q |
|--------------|-----------------|--------|----------|-----|-----|------|----------------|----------------|---|
| pH           | 9045D           | 6.61   | pH Units | -   | -   | 1    | 09/15/21 13:15 | NA             |   |
| Total Solids | ALS SOP         | 46.3   | Percent  | -   | -   | 1    | 09/16/21 07:20 | NA             |   |



## QC Summary Forms

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## Volatile Organic Compounds by GC/MS

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QA/QC Report

**Client:** Inventum Engineering  
**Project:** RITC Tanks  
**Sample Matrix:** Soil

**Service Request:** R2109414

**SURROGATE RECOVERY SUMMARY**  
**Volatile Organic Compounds by GC/MS, Unp**

**Analysis Method:** 8260C  
**Extraction Method:** EPA 5030C

| Sample Name            | Lab Code     | 4-Bromofluorobenzene | Dibromofluoromethane | Toluene-d8 |
|------------------------|--------------|----------------------|----------------------|------------|
|                        |              | 31-154               | 63-138               | 66-138     |
| TK-SD-ST24-09102021    | R2109414-001 | 111                  | 109                  | 98         |
| TK-SD-ST24-09102021 RE | R2109414-001 | 91                   | 112                  | 100        |
| Method Blank           | RQ2111406-04 | 98                   | 105                  | 103        |
| Lab Control Sample     | RQ2111406-03 | 103                  | 109                  | 102        |

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Analytical Report

**Client:** Inventum Engineering  
**Project:** RITC Tanks  
**Sample Matrix:** Soil

**Service Request:** R2109414  
**Date Collected:** NA  
**Date Received:** NA

**Sample Name:** Method Blank  
**Lab Code:** RQ2111406-04

**Units:** ug/Kg  
**Basis:** Dry

**Volatile Organic Compounds by GC/MS, Unp**

**Analysis Method:** 8260C  
**Prep Method:** EPA 5030C

| Analyte Name                          | Result | MRL | MDL  | Dil. | Date Analyzed  | Q |
|---------------------------------------|--------|-----|------|------|----------------|---|
| 1,1,1-Trichloroethane (TCA)           | 0.20 U | 5.0 | 0.20 | 1    | 09/15/21 12:22 |   |
| 1,1,2,2-Tetrachloroethane             | 0.44 U | 5.0 | 0.44 | 1    | 09/15/21 12:22 |   |
| 1,1,2-Trichloroethane                 | 0.20 U | 5.0 | 0.20 | 1    | 09/15/21 12:22 |   |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.20 U | 5.0 | 0.20 | 1    | 09/15/21 12:22 |   |
| 1,1-Dichloroethane (1,1-DCA)          | 0.20 U | 5.0 | 0.20 | 1    | 09/15/21 12:22 |   |
| 1,1-Dichloroethene (1,1-DCE)          | 0.29 U | 5.0 | 0.29 | 1    | 09/15/21 12:22 |   |
| 1,2,3-Trichlorobenzene                | 0.52 U | 5.0 | 0.52 | 1    | 09/15/21 12:22 |   |
| 1,2,4-Trichlorobenzene                | 0.42 U | 5.0 | 0.42 | 1    | 09/15/21 12:22 |   |
| 1,2-Dibromo-3-chloropropane (DBCP)    | 0.75 U | 5.0 | 0.75 | 1    | 09/15/21 12:22 |   |
| 1,2-Dibromoethane                     | 0.20 U | 5.0 | 0.20 | 1    | 09/15/21 12:22 |   |
| 1,2-Dichlorobenzene                   | 0.20 U | 5.0 | 0.20 | 1    | 09/15/21 12:22 |   |
| 1,2-Dichloroethane                    | 0.20 U | 5.0 | 0.20 | 1    | 09/15/21 12:22 |   |
| 1,2-Dichloropropane                   | 0.20 U | 5.0 | 0.20 | 1    | 09/15/21 12:22 |   |
| 1,3-Dichlorobenzene                   | 0.20 U | 5.0 | 0.20 | 1    | 09/15/21 12:22 |   |
| 1,4-Dichlorobenzene                   | 0.22 U | 5.0 | 0.22 | 1    | 09/15/21 12:22 |   |
| 1,4-Dioxane                           | 20 U   | 100 | 20   | 1    | 09/15/21 12:22 |   |
| 2-Butanone (MEK)                      | 2.0 U  | 5.0 | 2.0  | 1    | 09/15/21 12:22 |   |
| 2-Hexanone                            | 0.36 U | 5.0 | 0.36 | 1    | 09/15/21 12:22 |   |
| 4-Methyl-2-pentanone                  | 0.23 U | 5.0 | 0.23 | 1    | 09/15/21 12:22 |   |
| Acetone                               | 4.7 U  | 5.0 | 4.7  | 1    | 09/15/21 12:22 |   |
| Benzene                               | 0.20 U | 5.0 | 0.20 | 1    | 09/15/21 12:22 |   |
| Bromochloromethane                    | 0.20 U | 5.0 | 0.20 | 1    | 09/15/21 12:22 |   |
| Bromodichloromethane                  | 0.20 U | 5.0 | 0.20 | 1    | 09/15/21 12:22 |   |
| Bromoform                             | 0.50 U | 5.0 | 0.50 | 1    | 09/15/21 12:22 |   |
| Bromomethane                          | 2.1 U  | 5.0 | 2.1  | 1    | 09/15/21 12:22 |   |
| Carbon Disulfide                      | 0.29 U | 5.0 | 0.29 | 1    | 09/15/21 12:22 |   |
| Carbon Tetrachloride                  | 0.26 U | 5.0 | 0.26 | 1    | 09/15/21 12:22 |   |
| Chlorobenzene                         | 0.20 U | 5.0 | 0.20 | 1    | 09/15/21 12:22 |   |
| Chloroethane                          | 0.41 U | 5.0 | 0.41 | 1    | 09/15/21 12:22 |   |
| Chloroform                            | 0.20 U | 5.0 | 0.20 | 1    | 09/15/21 12:22 |   |
| Chloromethane                         | 1.4 U  | 5.0 | 1.4  | 1    | 09/15/21 12:22 |   |
| Cyclohexane                           | 0.26 U | 5.0 | 0.26 | 1    | 09/15/21 12:22 |   |
| Dibromochloromethane                  | 0.20 U | 5.0 | 0.20 | 1    | 09/15/21 12:22 |   |
| Dichlorodifluoromethane (CFC 12)      | 0.33 U | 5.0 | 0.33 | 1    | 09/15/21 12:22 |   |
| Dichloromethane                       | 2.8 U  | 5.0 | 2.8  | 1    | 09/15/21 12:22 |   |
| Ethylbenzene                          | 0.20 U | 5.0 | 0.20 | 1    | 09/15/21 12:22 |   |
| Isopropylbenzene (Cumene)             | 0.20 U | 5.0 | 0.20 | 1    | 09/15/21 12:22 |   |
| Methyl Acetate                        | 0.84 U | 5.0 | 0.84 | 1    | 09/15/21 12:22 |   |
| Methyl tert-Butyl Ether               | 0.20 U | 5.0 | 0.20 | 1    | 09/15/21 12:22 |   |
| Methylcyclohexane                     | 0.31 U | 5.0 | 0.31 | 1    | 09/15/21 12:22 |   |
| Styrene                               | 0.20 U | 5.0 | 0.20 | 1    | 09/15/21 12:22 |   |
| Tetrachloroethene (PCE)               | 0.23 U | 5.0 | 0.23 | 1    | 09/15/21 12:22 |   |
| Toluene                               | 0.20 U | 5.0 | 0.20 | 1    | 09/15/21 12:22 |   |

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Analytical Report

**Client:** Inventum Engineering  
**Project:** RITC Tanks  
**Sample Matrix:** Soil

**Service Request:** R2109414  
**Date Collected:** NA  
**Date Received:** NA

**Sample Name:** Method Blank  
**Lab Code:** RQ2111406-04

**Units:** ug/Kg  
**Basis:** Dry

Volatile Organic Compounds by GC/MS, Unp

**Analysis Method:** 8260C  
**Prep Method:** EPA 5030C

| Analyte Name                    | Result | MRL | MDL  | Dil. | Date Analyzed  | Q |
|---------------------------------|--------|-----|------|------|----------------|---|
| Trichloroethene (TCE)           | 0.22 U | 5.0 | 0.22 | 1    | 09/15/21 12:22 |   |
| Trichlorofluoromethane (CFC 11) | 0.26 U | 5.0 | 0.26 | 1    | 09/15/21 12:22 |   |
| Vinyl Chloride                  | 0.46 U | 5.0 | 0.46 | 1    | 09/15/21 12:22 |   |
| cis-1,2-Dichloroethene          | 0.20 U | 5.0 | 0.20 | 1    | 09/15/21 12:22 |   |
| cis-1,3-Dichloropropene         | 0.20 U | 5.0 | 0.20 | 1    | 09/15/21 12:22 |   |
| m,p-Xylenes                     | 0.37 U | 10  | 0.37 | 1    | 09/15/21 12:22 |   |
| o-Xylene                        | 0.20 U | 5.0 | 0.20 | 1    | 09/15/21 12:22 |   |
| trans-1,2-Dichloroethene        | 0.20 U | 5.0 | 0.20 | 1    | 09/15/21 12:22 |   |
| trans-1,3-Dichloropropene       | 0.20 U | 5.0 | 0.20 | 1    | 09/15/21 12:22 |   |

| Surrogate Name       | % Rec | Control Limits | Date Analyzed  | Q |
|----------------------|-------|----------------|----------------|---|
| 4-Bromofluorobenzene | 98    | 31 - 154       | 09/15/21 12:22 |   |
| Dibromofluoromethane | 105   | 63 - 138       | 09/15/21 12:22 |   |
| Toluene-d8           | 103   | 66 - 138       | 09/15/21 12:22 |   |

**ALS Group USA, Corp.**  
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QA/QC Report

**Client:** Inventum Engineering  
**Project:** RITC Tanks  
**Sample Matrix:** Soil

**Service Request:** R2109414  
**Date Analyzed:** 09/15/21

**Lab Control Sample Summary**  
**Volatile Organic Compounds by GC/MS, Unp**

**Units:**ug/Kg  
**Basis:**Dry

**Lab Control Sample**  
RQ2111406-03

| Analyte Name                          | Analytical Method | Result | Spike Amount | % Rec | % Rec Limits |
|---------------------------------------|-------------------|--------|--------------|-------|--------------|
| 1,1,1-Trichloroethane (TCA)           | 8260C             | 23.6   | 20.0         | 118   | 68-123       |
| 1,1,2,2-Tetrachloroethane             | 8260C             | 19.5   | 20.0         | 98    | 78-121       |
| 1,1,2-Trichloroethane                 | 8260C             | 19.2   | 20.0         | 96    | 84-117       |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 8260C             | 24.0   | 20.0         | 120   | 54-121       |
| 1,1-Dichloroethane (1,1-DCA)          | 8260C             | 22.4   | 20.0         | 112   | 76-123       |
| 1,1-Dichloroethene (1,1-DCE)          | 8260C             | 22.4   | 20.0         | 112   | 65-115       |
| 1,2,3-Trichlorobenzene                | 8260C             | 19.6   | 20.0         | 98    | 60-128       |
| 1,2,4-Trichlorobenzene                | 8260C             | 20.8   | 20.0         | 104   | 62-130       |
| 1,2-Dibromo-3-chloropropane (DBCP)    | 8260C             | 20.6   | 20.0         | 103   | 54-135       |
| 1,2-Dibromoethane                     | 8260C             | 19.6   | 20.0         | 98    | 77-117       |
| 1,2-Dichlorobenzene                   | 8260C             | 19.3   | 20.0         | 97    | 75-116       |
| 1,2-Dichloroethane                    | 8260C             | 22.3   | 20.0         | 111   | 74-116       |
| 1,2-Dichloropropane                   | 8260C             | 20.4   | 20.0         | 102   | 79-112       |
| 1,3-Dichlorobenzene                   | 8260C             | 19.8   | 20.0         | 99    | 72-118       |
| 1,4-Dichlorobenzene                   | 8260C             | 18.7   | 20.0         | 94    | 72-117       |
| 1,4-Dioxane                           | 8260C             | 393    | 400          | 98    | 59-147       |
| 2-Butanone (MEK)                      | 8260C             | 22.4   | 20.0         | 112   | 67-129       |
| 2-Hexanone                            | 8260C             | 21.7   | 20.0         | 108   | 68-118       |
| 4-Methyl-2-pentanone                  | 8260C             | 22.1   | 20.0         | 110   | 64-123       |
| Acetone                               | 8260C             | 23.4   | 20.0         | 117   | 32-154       |
| Benzene                               | 8260C             | 20.4   | 20.0         | 102   | 77-114       |
| Bromochloromethane                    | 8260C             | 19.0   | 20.0         | 95    | 78-117       |
| Bromodichloromethane                  | 8260C             | 21.6   | 20.0         | 108   | 72-118       |
| Bromoform                             | 8260C             | 21.0   | 20.0         | 105   | 55-134       |
| Bromomethane                          | 8260C             | 16.3   | 20.0         | 82    | 10-150       |
| Carbon Disulfide                      | 8260C             | 23.6   | 20.0         | 118   | 44-139       |
| Carbon Tetrachloride                  | 8260C             | 25.5   | 20.0         | 128 * | 51-123       |
| Chlorobenzene                         | 8260C             | 19.6   | 20.0         | 98    | 79-115       |
| Chloroethane                          | 8260C             | 22.1   | 20.0         | 110   | 10-140       |
| Chloroform                            | 8260C             | 21.0   | 20.0         | 105   | 76-115       |
| Chloromethane                         | 8260C             | 28.6   | 20.0         | 143 * | 10-131       |
| Cyclohexane                           | 8260C             | 23.8   | 20.0         | 119   | 67-122       |
| Dibromochloromethane                  | 8260C             | 21.1   | 20.0         | 105   | 68-121       |

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QA/QC Report

**Client:** Inventum Engineering  
**Project:** RITC Tanks  
**Sample Matrix:** Soil

**Service Request:** R2109414  
**Date Analyzed:** 09/15/21

**Lab Control Sample Summary**  
**Volatile Organic Compounds by GC/MS, Unp**

**Units:**ug/Kg  
**Basis:**Dry

**Lab Control Sample**  
RQ2111406-03

| Analyte Name                     | Analytical Method | Result | Spike Amount | % Rec | % Rec Limits |
|----------------------------------|-------------------|--------|--------------|-------|--------------|
| Dichlorodifluoromethane (CFC 12) | 8260C             | 27.0   | 20.0         | 135   | 51-144       |
| Dichloromethane                  | 8260C             | 18.9   | 20.0         | 94    | 72-118       |
| Ethylbenzene                     | 8260C             | 20.7   | 20.0         | 104   | 64-118       |
| Isopropylbenzene (Cumene)        | 8260C             | 21.8   | 20.0         | 109   | 60-123       |
| Methyl Acetate                   | 8260C             | 27.6   | 20.0         | 138 * | 31-122       |
| Methyl tert-Butyl Ether          | 8260C             | 19.2   | 20.0         | 96    | 76-118       |
| Methylcyclohexane                | 8260C             | 22.5   | 20.0         | 112   | 70-124       |
| Styrene                          | 8260C             | 19.1   | 20.0         | 96    | 74-117       |
| Tetrachloroethene (PCE)          | 8260C             | 21.5   | 20.0         | 107   | 58-124       |
| Toluene                          | 8260C             | 20.4   | 20.0         | 102   | 72-116       |
| Trichloroethene (TCE)            | 8260C             | 20.7   | 20.0         | 103   | 69-118       |
| Trichlorofluoromethane (CFC 11)  | 8260C             | 23.6   | 20.0         | 118   | 52-127       |
| Vinyl Chloride                   | 8260C             | 26.2   | 20.0         | 131   | 59-153       |
| cis-1,2-Dichloroethene           | 8260C             | 20.4   | 20.0         | 102   | 79-113       |
| cis-1,3-Dichloropropene          | 8260C             | 21.8   | 20.0         | 109   | 66-117       |
| m,p-Xylenes                      | 8260C             | 40.8   | 40.0         | 102   | 68-118       |
| o-Xylene                         | 8260C             | 19.6   | 20.0         | 98    | 71-116       |
| trans-1,2-Dichloroethene         | 8260C             | 21.3   | 20.0         | 106   | 73-114       |
| trans-1,3-Dichloropropene        | 8260C             | 22.2   | 20.0         | 111   | 57-135       |



## Semivolatile Organic Compounds by GC/MS

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QA/QC Report

**Client:** Inventum Engineering  
**Project:** RITC Tanks  
**Sample Matrix:** Soil

**Service Request:** R2109414

**SURROGATE RECOVERY SUMMARY**

**Semivolatile Organic Compounds by GC/MS using Microwave Digestion**

**Analysis Method:** 8270D  
**Extraction Method:** EPA 3546

| Sample Name                  | Lab Code     | 2,4,6-Tribromophenol | 2-Fluorobiphenyl | 2-Fluorophenol |
|------------------------------|--------------|----------------------|------------------|----------------|
|                              |              | 15-142               | 25-114           | 18-98          |
| TK-SD-ST24-09102021          | R2109414-001 | 29                   | 46               | 42             |
| TK-SD-ST24-09102021 RE       | R2109414-001 | 106                  | 92               | 84             |
| Method Blank                 | RQ2111391-01 | 68                   | 70               | 64             |
| Method Blank                 | RQ2112066-01 | 99                   | 70               | 54             |
| Method Blank                 | RQ2112066-01 | 70                   | 65               | 48             |
| Lab Control Sample           | RQ2111391-02 | 61                   | 61               | 52             |
| Duplicate Lab Control Sample | RQ2111391-03 | 61                   | 60               | 53             |
| Lab Control Sample           | RQ2112066-02 | 108                  | 86               | 63             |
| Duplicate Lab Control Sample | RQ2112066-03 | 111                  | 90               | 64             |

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QA/QC Report

**Client:** Inventum Engineering  
**Project:** RITC Tanks  
**Sample Matrix:** Soil

**Service Request:** R2109414

**SURROGATE RECOVERY SUMMARY**

**Semivolatile Organic Compounds by GC/MS using Microwave Digestion**

**Analysis Method:** 8270D  
**Extraction Method:** EPA 3546

| Sample Name                  | Lab Code     | Nitrobenzene-d5 | Phenol-d6 | Terphenyl-d14 |
|------------------------------|--------------|-----------------|-----------|---------------|
|                              |              | 14-104          | 18-103    | 38-141        |
| TK-SD-ST24-09102021          | R2109414-001 | 2*              | 37        | 43            |
| TK-SD-ST24-09102021 RE       | R2109414-001 | 87              | 85        | 99            |
| Method Blank                 | RQ2111391-01 | 67              | 63        | 109           |
| Method Blank                 | RQ2112066-01 | 56              | 57        | 101           |
| Method Blank                 | RQ2112066-01 | 52              | 49        | 99            |
| Lab Control Sample           | RQ2111391-02 | 49              | 53        | 87            |
| Duplicate Lab Control Sample | RQ2111391-03 | 51              | 54        | 93            |
| Lab Control Sample           | RQ2112066-02 | 72              | 73        | 97            |
| Duplicate Lab Control Sample | RQ2112066-03 | 75              | 79        | 98            |

**ALS Group USA, Corp.**  
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Analytical Report

**Client:** Inventum Engineering  
**Project:** RITC Tanks  
**Sample Matrix:** Soil

**Service Request:** R2109414  
**Date Collected:** NA  
**Date Received:** NA

**Sample Name:** Method Blank  
**Lab Code:** RQ2111391-01

**Units:** ug/Kg  
**Basis:** Dry

**Semivolatile Organic Compounds by GC/MS using Microwave Digestion**

**Analysis Method:** 8270D  
**Prep Method:** EPA 3546

| Analyte Name                    | Result | MRL  | MDL | Dil. | Date Analyzed  | Date Extracted | Q |
|---------------------------------|--------|------|-----|------|----------------|----------------|---|
| 1,2,4,5-Tetrachlorobenzene      | 74 U   | 330  | 74  | 1    | 09/17/21 15:38 | 9/15/21        |   |
| 2,3,4,6-Tetrachlorophenol       | 120 U  | 330  | 120 | 1    | 09/17/21 15:38 | 9/15/21        |   |
| 2,4,5-Trichlorophenol           | 82 U   | 330  | 82  | 1    | 09/17/21 15:38 | 9/15/21        |   |
| 2,4,6-Trichlorophenol           | 74 U   | 330  | 74  | 1    | 09/17/21 15:38 | 9/15/21        |   |
| 2,4-Dichlorophenol              | 64 U   | 330  | 64  | 1    | 09/17/21 15:38 | 9/15/21        |   |
| 2,4-Dimethylphenol              | 60 U   | 330  | 60  | 1    | 09/17/21 15:38 | 9/15/21        |   |
| 2,4-Dinitrophenol               | 570 U  | 1700 | 570 | 1    | 09/17/21 15:38 | 9/15/21        |   |
| 2,4-Dinitrotoluene              | 130 U  | 330  | 130 | 1    | 09/17/21 15:38 | 9/15/21        |   |
| 2,6-Dinitrotoluene              | 73 U   | 330  | 73  | 1    | 09/17/21 15:38 | 9/15/21        |   |
| 2-Chloronaphthalene             | 67 U   | 330  | 67  | 1    | 09/17/21 15:38 | 9/15/21        |   |
| 2-Chlorophenol                  | 56 U   | 330  | 56  | 1    | 09/17/21 15:38 | 9/15/21        |   |
| 2-Methylnaphthalene             | 55 U   | 330  | 55  | 1    | 09/17/21 15:38 | 9/15/21        |   |
| 2-Methylphenol                  | 69 U   | 330  | 69  | 1    | 09/17/21 15:38 | 9/15/21        |   |
| 2-Nitroaniline                  | 79 U   | 1700 | 79  | 1    | 09/17/21 15:38 | 9/15/21        |   |
| 2-Nitrophenol                   | 77 U   | 330  | 77  | 1    | 09/17/21 15:38 | 9/15/21        |   |
| 3,3'-Dichlorobenzidine          | 38 U   | 330  | 38  | 1    | 09/17/21 15:38 | 9/15/21        |   |
| 3- and 4-Methylphenol Coelution | 64 U   | 330  | 64  | 1    | 09/17/21 15:38 | 9/15/21        |   |
| 3-Nitroaniline                  | 67 U   | 1700 | 67  | 1    | 09/17/21 15:38 | 9/15/21        |   |
| 4,6-Dinitro-2-methylphenol      | 190 U  | 1700 | 190 | 1    | 09/17/21 15:38 | 9/15/21        |   |
| 4-Bromophenyl Phenyl Ether      | 88 U   | 330  | 88  | 1    | 09/17/21 15:38 | 9/15/21        |   |
| 4-Chloro-3-methylphenol         | 67 U   | 330  | 67  | 1    | 09/17/21 15:38 | 9/15/21        |   |
| 4-Chloroaniline                 | 56 U   | 330  | 56  | 1    | 09/17/21 15:38 | 9/15/21        |   |
| 4-Chlorophenyl Phenyl Ether     | 71 U   | 330  | 71  | 1    | 09/17/21 15:38 | 9/15/21        |   |
| 4-Nitroaniline                  | 34 U   | 1700 | 34  | 1    | 09/17/21 15:38 | 9/15/21        |   |
| 4-Nitrophenol                   | 67 U   | 1700 | 67  | 1    | 09/17/21 15:38 | 9/15/21        |   |
| Acenaphthene                    | 63 U   | 330  | 63  | 1    | 09/17/21 15:38 | 9/15/21        |   |
| Acenaphthylene                  | 67 U   | 330  | 67  | 1    | 09/17/21 15:38 | 9/15/21        |   |
| Acetophenone                    | 96 U   | 330  | 96  | 1    | 09/17/21 15:38 | 9/15/21        |   |
| Anthracene                      | 56 U   | 330  | 56  | 1    | 09/17/21 15:38 | 9/15/21        |   |
| Atrazine                        | 47 U   | 330  | 47  | 1    | 09/17/21 15:38 | 9/15/21        |   |
| Benz(a)anthracene               | 50 U   | 330  | 50  | 1    | 09/17/21 15:38 | 9/15/21        |   |
| Benzaldehyde                    | 80 U   | 1700 | 80  | 1    | 09/17/21 15:38 | 9/15/21        |   |
| Benzo(a)pyrene                  | 89 U   | 330  | 89  | 1    | 09/17/21 15:38 | 9/15/21        |   |
| Benzo(b)fluoranthene            | 56 U   | 330  | 56  | 1    | 09/17/21 15:38 | 9/15/21        |   |
| Benzo(g,h,i)perylene            | 77 U   | 330  | 77  | 1    | 09/17/21 15:38 | 9/15/21        |   |
| Benzo(k)fluoranthene            | 54 U   | 330  | 54  | 1    | 09/17/21 15:38 | 9/15/21        |   |
| Biphenyl                        | 98 U   | 330  | 98  | 1    | 09/17/21 15:38 | 9/15/21        |   |
| 2,2'-Oxybis(1-chloropropane)    | 68 U   | 330  | 68  | 1    | 09/17/21 15:38 | 9/15/21        |   |
| Bis(2-chloroethoxy)methane      | 81 U   | 330  | 81  | 1    | 09/17/21 15:38 | 9/15/21        |   |
| Bis(2-chloroethyl) Ether        | 66 U   | 330  | 66  | 1    | 09/17/21 15:38 | 9/15/21        |   |
| Bis(2-ethylhexyl) Phthalate     | 61 U   | 500  | 61  | 1    | 09/17/21 15:38 | 9/15/21        |   |
| Butyl Benzyl Phthalate          | 40 U   | 330  | 40  | 1    | 09/17/21 15:38 | 9/15/21        |   |
| Caprolactam                     | 73 U   | 330  | 73  | 1    | 09/17/21 15:38 | 9/15/21        |   |

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Analytical Report

**Client:** Inventum Engineering  
**Project:** RITC Tanks  
**Sample Matrix:** Soil

**Service Request:** R2109414  
**Date Collected:** NA  
**Date Received:** NA

**Sample Name:** Method Blank  
**Lab Code:** RQ2111391-01

**Units:** ug/Kg  
**Basis:** Dry

**Semivolatile Organic Compounds by GC/MS using Microwave Digestion**

**Analysis Method:** 8270D  
**Prep Method:** EPA 3546

| Analyte Name              | Result | MRL  | MDL | Dil. | Date Analyzed  | Date Extracted | Q |
|---------------------------|--------|------|-----|------|----------------|----------------|---|
| Carbazole                 | 54 U   | 330  | 54  | 1    | 09/17/21 15:38 | 9/15/21        |   |
| Chrysene                  | 49 U   | 330  | 49  | 1    | 09/17/21 15:38 | 9/15/21        |   |
| Di-n-butyl Phthalate      | 54 U   | 330  | 54  | 1    | 09/17/21 15:38 | 9/15/21        |   |
| Di-n-octyl Phthalate      | 120 U  | 330  | 120 | 1    | 09/17/21 15:38 | 9/15/21        |   |
| Dibenz(a,h)anthracene     | 72 U   | 330  | 72  | 1    | 09/17/21 15:38 | 9/15/21        |   |
| Dibenzofuran              | 61 U   | 330  | 61  | 1    | 09/17/21 15:38 | 9/15/21        |   |
| Diethyl Phthalate         | 59 U   | 330  | 59  | 1    | 09/17/21 15:38 | 9/15/21        |   |
| Dimethyl Phthalate        | 63 U   | 330  | 63  | 1    | 09/17/21 15:38 | 9/15/21        |   |
| Fluoranthene              | 84 U   | 330  | 84  | 1    | 09/17/21 15:38 | 9/15/21        |   |
| Fluorene                  | 62 U   | 330  | 62  | 1    | 09/17/21 15:38 | 9/15/21        |   |
| Hexachlorobenzene         | 80 U   | 330  | 80  | 1    | 09/17/21 15:38 | 9/15/21        |   |
| Hexachlorobutadiene       | 57 U   | 330  | 57  | 1    | 09/17/21 15:38 | 9/15/21        |   |
| Hexachlorocyclopentadiene | 110 U  | 330  | 110 | 1    | 09/17/21 15:38 | 9/15/21        |   |
| Hexachloroethane          | 62 U   | 330  | 62  | 1    | 09/17/21 15:38 | 9/15/21        |   |
| Indeno(1,2,3-cd)pyrene    | 110 U  | 330  | 110 | 1    | 09/17/21 15:38 | 9/15/21        |   |
| Isophorone                | 70 U   | 330  | 70  | 1    | 09/17/21 15:38 | 9/15/21        |   |
| N-Nitrosodi-n-propylamine | 110 U  | 330  | 110 | 1    | 09/17/21 15:38 | 9/15/21        |   |
| N-Nitrosodiphenylamine    | 210 U  | 330  | 210 | 1    | 09/17/21 15:38 | 9/15/21        |   |
| Naphthalene               | 62 U   | 330  | 62  | 1    | 09/17/21 15:38 | 9/15/21        |   |
| Nitrobenzene              | 60 U   | 330  | 60  | 1    | 09/17/21 15:38 | 9/15/21        |   |
| Pentachlorophenol (PCP)   | 330 U  | 1700 | 330 | 1    | 09/17/21 15:38 | 9/15/21        |   |
| Phenanthrene              | 47 U   | 330  | 47  | 1    | 09/17/21 15:38 | 9/15/21        |   |
| Phenol                    | 67 U   | 330  | 67  | 1    | 09/17/21 15:38 | 9/15/21        |   |
| Pyrene                    | 56 U   | 330  | 56  | 1    | 09/17/21 15:38 | 9/15/21        |   |

| Surrogate Name       | % Rec | Control Limits | Date Analyzed  | Q |
|----------------------|-------|----------------|----------------|---|
| 2,4,6-Tribromophenol | 68    | 15 - 142       | 09/17/21 15:38 |   |
| 2-Fluorobiphenyl     | 70    | 25 - 114       | 09/17/21 15:38 |   |
| 2-Fluorophenol       | 64    | 18 - 98        | 09/17/21 15:38 |   |
| Nitrobenzene-d5      | 67    | 14 - 104       | 09/17/21 15:38 |   |
| Phenol-d6            | 63    | 18 - 103       | 09/17/21 15:38 |   |
| Terphenyl-d14        | 109   | 38 - 141       | 09/17/21 15:38 |   |

**ALS Group USA, Corp.**  
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Analytical Report

**Client:** Inventum Engineering  
**Project:** RITC Tanks  
**Sample Matrix:** Soil

**Service Request:** R2109414  
**Date Collected:** NA  
**Date Received:** NA

**Sample Name:** Method Blank  
**Lab Code:** RQ2112066-01

**Units:** ug/Kg  
**Basis:** Dry

**Semivolatile Organic Compounds by GC/MS using Microwave Digestion**

**Analysis Method:** 8270D  
**Prep Method:** EPA 3546

| Analyte Name                    | Result | MRL  | MDL | Dil. | Date Analyzed  | Date Extracted | Q |
|---------------------------------|--------|------|-----|------|----------------|----------------|---|
| 1,2,4,5-Tetrachlorobenzene      | 74 U   | 320  | 74  | 1    | 09/29/21 16:40 | 9/28/21        |   |
| 2,3,4,6-Tetrachlorophenol       | 120 U  | 320  | 120 | 1    | 09/29/21 16:40 | 9/28/21        |   |
| 2,4,5-Trichlorophenol           | 82 U   | 320  | 82  | 1    | 09/29/21 16:40 | 9/28/21        |   |
| 2,4,6-Trichlorophenol           | 74 U   | 320  | 74  | 1    | 09/29/21 16:40 | 9/28/21        |   |
| 2,4-Dichlorophenol              | 64 U   | 320  | 64  | 1    | 09/29/21 16:40 | 9/28/21        |   |
| 2,4-Dimethylphenol              | 59 U   | 320  | 59  | 1    | 09/29/21 16:40 | 9/28/21        |   |
| 2,4-Dinitrophenol               | 560 U  | 1700 | 560 | 1    | 09/29/21 16:40 | 9/28/21        |   |
| 2,4-Dinitrotoluene              | 130 U  | 320  | 130 | 1    | 09/29/21 16:40 | 9/28/21        |   |
| 2,6-Dinitrotoluene              | 72 U   | 320  | 72  | 1    | 09/29/21 16:40 | 9/28/21        |   |
| 2-Chloronaphthalene             | 66 U   | 320  | 66  | 1    | 09/29/21 16:40 | 9/28/21        |   |
| 2-Chlorophenol                  | 55 U   | 320  | 55  | 1    | 09/29/21 16:40 | 9/28/21        |   |
| 2-Methylnaphthalene             | 55 U   | 320  | 55  | 1    | 09/29/21 16:40 | 9/28/21        |   |
| 2-Methylphenol                  | 69 U   | 320  | 69  | 1    | 09/29/21 16:40 | 9/28/21        |   |
| 2-Nitroaniline                  | 78 U   | 1700 | 78  | 1    | 09/29/21 16:40 | 9/28/21        |   |
| 2-Nitrophenol                   | 77 U   | 320  | 77  | 1    | 09/29/21 16:40 | 9/28/21        |   |
| 3,3'-Dichlorobenzidine          | 37 U   | 320  | 37  | 1    | 09/29/21 16:40 | 9/28/21        |   |
| 3- and 4-Methylphenol Coelution | 63 U   | 320  | 63  | 1    | 09/29/21 16:40 | 9/28/21        |   |
| 3-Nitroaniline                  | 67 U   | 1700 | 67  | 1    | 09/29/21 16:40 | 9/28/21        |   |
| 4,6-Dinitro-2-methylphenol      | 190 U  | 1700 | 190 | 1    | 09/29/21 16:40 | 9/28/21        |   |
| 4-Bromophenyl Phenyl Ether      | 87 U   | 320  | 87  | 1    | 09/29/21 16:40 | 9/28/21        |   |
| 4-Chloro-3-methylphenol         | 67 U   | 320  | 67  | 1    | 09/29/21 16:40 | 9/28/21        |   |
| 4-Chloroaniline                 | 56 U   | 320  | 56  | 1    | 09/29/21 16:40 | 9/28/21        |   |
| 4-Chlorophenyl Phenyl Ether     | 71 U   | 320  | 71  | 1    | 09/29/21 16:40 | 9/28/21        |   |
| 4-Nitroaniline                  | 34 U   | 1700 | 34  | 1    | 09/29/21 16:40 | 9/28/21        |   |
| 4-Nitrophenol                   | 67 U   | 1700 | 67  | 1    | 09/29/21 16:40 | 9/28/21        |   |
| Acenaphthene                    | 63 U   | 320  | 63  | 1    | 09/29/21 16:40 | 9/28/21        |   |
| Acenaphthylene                  | 67 U   | 320  | 67  | 1    | 09/29/21 16:40 | 9/28/21        |   |
| Acetophenone                    | 95 U   | 320  | 95  | 1    | 09/29/21 16:40 | 9/28/21        |   |
| Anthracene                      | 55 U   | 320  | 55  | 1    | 09/29/21 16:40 | 9/28/21        |   |
| Atrazine                        | 46 U   | 320  | 46  | 1    | 09/29/21 16:40 | 9/28/21        |   |
| Benz(a)anthracene               | 49 U   | 320  | 49  | 1    | 09/29/21 16:40 | 9/28/21        |   |
| Benzaldehyde                    | 80 U   | 1700 | 80  | 1    | 09/29/21 16:40 | 9/28/21        |   |
| Benzo(a)pyrene                  | 88 U   | 320  | 88  | 1    | 09/29/21 16:40 | 9/28/21        |   |
| Benzo(b)fluoranthene            | 55 U   | 320  | 55  | 1    | 09/29/21 16:40 | 9/28/21        |   |
| Benzo(g,h,i)perylene            | 76 U   | 320  | 76  | 1    | 09/29/21 16:40 | 9/28/21        |   |
| Benzo(k)fluoranthene            | 54 U   | 320  | 54  | 1    | 09/29/21 16:40 | 9/28/21        |   |
| Biphenyl                        | 98 U   | 320  | 98  | 1    | 09/29/21 16:40 | 9/28/21        |   |
| 2,2'-Oxybis(1-chloropropane)    | 68 U   | 320  | 68  | 1    | 09/29/21 16:40 | 9/28/21        |   |
| Bis(2-chloroethoxy)methane      | 81 U   | 320  | 81  | 1    | 09/29/21 16:40 | 9/28/21        |   |
| Bis(2-chloroethyl) Ether        | 65 U   | 320  | 65  | 1    | 09/29/21 16:40 | 9/28/21        |   |
| Bis(2-ethylhexyl) Phthalate     | 61 U   | 490  | 61  | 1    | 09/29/21 16:40 | 9/28/21        |   |
| Butyl Benzyl Phthalate          | 40 U   | 320  | 40  | 1    | 09/29/21 16:40 | 9/28/21        |   |
| Caprolactam                     | 73 U   | 320  | 73  | 1    | 09/29/21 16:40 | 9/28/21        |   |

**ALS Group USA, Corp.**  
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Analytical Report

**Client:** Inventum Engineering  
**Project:** RITC Tanks  
**Sample Matrix:** Soil

**Service Request:** R2109414  
**Date Collected:** NA  
**Date Received:** NA

**Sample Name:** Method Blank  
**Lab Code:** RQ2112066-01

**Units:** ug/Kg  
**Basis:** Dry

**Semivolatile Organic Compounds by GC/MS using Microwave Digestion**

**Analysis Method:** 8270D  
**Prep Method:** EPA 3546

| Analyte Name              | Result | MRL  | MDL | Dil. | Date Analyzed  | Date Extracted | Q |
|---------------------------|--------|------|-----|------|----------------|----------------|---|
| Carbazole                 | 54 U   | 320  | 54  | 1    | 09/29/21 16:40 | 9/28/21        |   |
| Chrysene                  | 49 U   | 320  | 49  | 1    | 09/29/21 16:40 | 9/28/21        |   |
| Di-n-butyl Phthalate      | 54 U   | 320  | 54  | 1    | 09/29/21 16:40 | 9/28/21        |   |
| Di-n-octyl Phthalate      | 120 U  | 320  | 120 | 1    | 09/29/21 16:40 | 9/28/21        |   |
| Dibenz(a,h)anthracene     | 72 U   | 320  | 72  | 1    | 09/29/21 16:40 | 9/28/21        |   |
| Dibenzofuran              | 60 U   | 320  | 60  | 1    | 09/29/21 16:40 | 9/28/21        |   |
| Diethyl Phthalate         | 59 U   | 320  | 59  | 1    | 09/29/21 16:40 | 9/28/21        |   |
| Dimethyl Phthalate        | 63 U   | 320  | 63  | 1    | 09/29/21 16:40 | 9/28/21        |   |
| Fluoranthene              | 83 U   | 320  | 83  | 1    | 09/29/21 16:40 | 9/28/21        |   |
| Fluorene                  | 62 U   | 320  | 62  | 1    | 09/29/21 16:40 | 9/28/21        |   |
| Hexachlorobenzene         | 79 U   | 320  | 79  | 1    | 09/29/21 16:40 | 9/28/21        |   |
| Hexachlorobutadiene       | 57 U   | 320  | 57  | 1    | 09/29/21 16:40 | 9/28/21        |   |
| Hexachlorocyclopentadiene | 110 U  | 320  | 110 | 1    | 09/29/21 16:40 | 9/28/21        |   |
| Hexachloroethane          | 62 U   | 320  | 62  | 1    | 09/29/21 16:40 | 9/28/21        |   |
| Indeno(1,2,3-cd)pyrene    | 110 U  | 320  | 110 | 1    | 09/29/21 16:40 | 9/28/21        |   |
| Isophorone                | 69 U   | 320  | 69  | 1    | 09/29/21 16:40 | 9/28/21        |   |
| N-Nitrosodi-n-propylamine | 110 U  | 320  | 110 | 1    | 09/29/21 16:40 | 9/28/21        |   |
| N-Nitrosodiphenylamine    | 210 U  | 320  | 210 | 1    | 09/29/21 16:40 | 9/28/21        |   |
| Naphthalene               | 62 U   | 320  | 62  | 1    | 09/29/21 16:40 | 9/28/21        |   |
| Nitrobenzene              | 59 U   | 320  | 59  | 1    | 09/29/21 16:40 | 9/28/21        |   |
| Pentachlorophenol (PCP)   | 330 U  | 1700 | 330 | 1    | 09/29/21 16:40 | 9/28/21        |   |
| Phenanthrene              | 47 U   | 320  | 47  | 1    | 09/29/21 16:40 | 9/28/21        |   |
| Phenol                    | 67 U   | 320  | 67  | 1    | 09/29/21 16:40 | 9/28/21        |   |
| Pyrene                    | 55 U   | 320  | 55  | 1    | 09/29/21 16:40 | 9/28/21        |   |

| Surrogate Name       | % Rec | Control Limits | Date Analyzed  | Q |
|----------------------|-------|----------------|----------------|---|
| 2,4,6-Tribromophenol | 99    | 15 - 142       | 09/29/21 16:40 |   |
| 2-Fluorobiphenyl     | 70    | 25 - 114       | 09/29/21 16:40 |   |
| 2-Fluorophenol       | 54    | 18 - 98        | 09/29/21 16:40 |   |
| Nitrobenzene-d5      | 56    | 14 - 104       | 09/29/21 16:40 |   |
| Phenol-d6            | 57    | 18 - 103       | 09/29/21 16:40 |   |
| Terphenyl-d14        | 101   | 38 - 141       | 09/29/21 16:40 |   |

**ALS Group USA, Corp.**  
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Analytical Report

**Client:** Inventum Engineering  
**Project:** RITC Tanks  
**Sample Matrix:** Soil

**Service Request:** R2109414  
**Date Collected:** NA  
**Date Received:** NA

**Sample Name:** Method Blank  
**Lab Code:** RQ2112066-01

**Units:** ug/Kg  
**Basis:** Dry

**Semivolatile Organic Compounds by GC/MS using Microwave Digestion**

**Analysis Method:** 8270D  
**Prep Method:** EPA 3546

| Analyte Name                    | Result | MRL  | MDL | Dil. | Date Analyzed  | Date Extracted | Q |
|---------------------------------|--------|------|-----|------|----------------|----------------|---|
| 1,2,4,5-Tetrachlorobenzene      | 74 U   | 320  | 74  | 1    | 10/13/21 23:23 | 9/28/21        |   |
| 2,3,4,6-Tetrachlorophenol       | 120 U  | 320  | 120 | 1    | 10/13/21 23:23 | 9/28/21        |   |
| 2,4,5-Trichlorophenol           | 82 U   | 320  | 82  | 1    | 10/13/21 23:23 | 9/28/21        |   |
| 2,4,6-Trichlorophenol           | 74 U   | 320  | 74  | 1    | 10/13/21 23:23 | 9/28/21        |   |
| 2,4-Dichlorophenol              | 64 U   | 320  | 64  | 1    | 10/13/21 23:23 | 9/28/21        |   |
| 2,4-Dimethylphenol              | 59 U   | 320  | 59  | 1    | 10/13/21 23:23 | 9/28/21        |   |
| 2,4-Dinitrophenol               | 560 U  | 1700 | 560 | 1    | 10/13/21 23:23 | 9/28/21        |   |
| 2,4-Dinitrotoluene              | 130 U  | 320  | 130 | 1    | 10/13/21 23:23 | 9/28/21        |   |
| 2,6-Dinitrotoluene              | 72 U   | 320  | 72  | 1    | 10/13/21 23:23 | 9/28/21        |   |
| 2-Chloronaphthalene             | 66 U   | 320  | 66  | 1    | 10/13/21 23:23 | 9/28/21        |   |
| 2-Chlorophenol                  | 55 U   | 320  | 55  | 1    | 10/13/21 23:23 | 9/28/21        |   |
| 2-Methylnaphthalene             | 55 U   | 320  | 55  | 1    | 10/13/21 23:23 | 9/28/21        |   |
| 2-Methylphenol                  | 69 U   | 320  | 69  | 1    | 10/13/21 23:23 | 9/28/21        |   |
| 2-Nitroaniline                  | 78 U   | 1700 | 78  | 1    | 10/13/21 23:23 | 9/28/21        |   |
| 2-Nitrophenol                   | 77 U   | 320  | 77  | 1    | 10/13/21 23:23 | 9/28/21        |   |
| 3,3'-Dichlorobenzidine          | 37 U   | 320  | 37  | 1    | 10/13/21 23:23 | 9/28/21        |   |
| 3- and 4-Methylphenol Coelution | 63 U   | 320  | 63  | 1    | 10/13/21 23:23 | 9/28/21        |   |
| 3-Nitroaniline                  | 67 U   | 1700 | 67  | 1    | 10/13/21 23:23 | 9/28/21        |   |
| 4,6-Dinitro-2-methylphenol      | 190 U  | 1700 | 190 | 1    | 10/13/21 23:23 | 9/28/21        |   |
| 4-Bromophenyl Phenyl Ether      | 87 U   | 320  | 87  | 1    | 10/13/21 23:23 | 9/28/21        |   |
| 4-Chloro-3-methylphenol         | 67 U   | 320  | 67  | 1    | 10/13/21 23:23 | 9/28/21        |   |
| 4-Chloroaniline                 | 56 U   | 320  | 56  | 1    | 10/13/21 23:23 | 9/28/21        |   |
| 4-Chlorophenyl Phenyl Ether     | 71 U   | 320  | 71  | 1    | 10/13/21 23:23 | 9/28/21        |   |
| 4-Nitroaniline                  | 34 U   | 1700 | 34  | 1    | 10/13/21 23:23 | 9/28/21        |   |
| 4-Nitrophenol                   | 67 U   | 1700 | 67  | 1    | 10/13/21 23:23 | 9/28/21        |   |
| Acenaphthene                    | 63 U   | 320  | 63  | 1    | 10/13/21 23:23 | 9/28/21        |   |
| Acenaphthylene                  | 67 U   | 320  | 67  | 1    | 10/13/21 23:23 | 9/28/21        |   |
| Acetophenone                    | 95 U   | 320  | 95  | 1    | 10/13/21 23:23 | 9/28/21        |   |
| Anthracene                      | 55 U   | 320  | 55  | 1    | 10/13/21 23:23 | 9/28/21        |   |
| Atrazine                        | 46 U   | 320  | 46  | 1    | 10/13/21 23:23 | 9/28/21        |   |
| Benz(a)anthracene               | 49 U   | 320  | 49  | 1    | 10/13/21 23:23 | 9/28/21        |   |
| Benzaldehyde                    | 80 U   | 1700 | 80  | 1    | 10/13/21 23:23 | 9/28/21        |   |
| Benzo(a)pyrene                  | 88 U   | 320  | 88  | 1    | 10/13/21 23:23 | 9/28/21        |   |
| Benzo(b)fluoranthene            | 55 U   | 320  | 55  | 1    | 10/13/21 23:23 | 9/28/21        |   |
| Benzo(g,h,i)perylene            | 76 U   | 320  | 76  | 1    | 10/13/21 23:23 | 9/28/21        |   |
| Benzo(k)fluoranthene            | 54 U   | 320  | 54  | 1    | 10/13/21 23:23 | 9/28/21        |   |
| Biphenyl                        | 98 U   | 320  | 98  | 1    | 10/13/21 23:23 | 9/28/21        |   |
| 2,2'-Oxybis(1-chloropropane)    | 68 U   | 320  | 68  | 1    | 10/13/21 23:23 | 9/28/21        |   |
| Bis(2-chloroethoxy)methane      | 81 U   | 320  | 81  | 1    | 10/13/21 23:23 | 9/28/21        |   |
| Bis(2-chloroethyl) Ether        | 65 U   | 320  | 65  | 1    | 10/13/21 23:23 | 9/28/21        |   |
| Bis(2-ethylhexyl) Phthalate     | 61 U   | 490  | 61  | 1    | 10/13/21 23:23 | 9/28/21        |   |
| Butyl Benzyl Phthalate          | 40 U   | 320  | 40  | 1    | 10/13/21 23:23 | 9/28/21        |   |
| Caprolactam                     | 73 U   | 320  | 73  | 1    | 10/13/21 23:23 | 9/28/21        |   |

**ALS Group USA, Corp.**  
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Analytical Report

**Client:** Inventum Engineering  
**Project:** RITC Tanks  
**Sample Matrix:** Soil

**Service Request:** R2109414  
**Date Collected:** NA  
**Date Received:** NA

**Sample Name:** Method Blank  
**Lab Code:** RQ2112066-01

**Units:** ug/Kg  
**Basis:** Dry

**Semivolatile Organic Compounds by GC/MS using Microwave Digestion**

**Analysis Method:** 8270D  
**Prep Method:** EPA 3546

| Analyte Name              | Result | MRL  | MDL | Dil. | Date Analyzed  | Date Extracted | Q |
|---------------------------|--------|------|-----|------|----------------|----------------|---|
| Carbazole                 | 54 U   | 320  | 54  | 1    | 10/13/21 23:23 | 9/28/21        |   |
| Chrysene                  | 49 U   | 320  | 49  | 1    | 10/13/21 23:23 | 9/28/21        |   |
| Di-n-butyl Phthalate      | 54 U   | 320  | 54  | 1    | 10/13/21 23:23 | 9/28/21        |   |
| Di-n-octyl Phthalate      | 120 U  | 320  | 120 | 1    | 10/13/21 23:23 | 9/28/21        |   |
| Dibenz(a,h)anthracene     | 72 U   | 320  | 72  | 1    | 10/13/21 23:23 | 9/28/21        |   |
| Dibenzofuran              | 60 U   | 320  | 60  | 1    | 10/13/21 23:23 | 9/28/21        |   |
| Diethyl Phthalate         | 59 U   | 320  | 59  | 1    | 10/13/21 23:23 | 9/28/21        |   |
| Dimethyl Phthalate        | 63 U   | 320  | 63  | 1    | 10/13/21 23:23 | 9/28/21        |   |
| Fluoranthene              | 83 U   | 320  | 83  | 1    | 10/13/21 23:23 | 9/28/21        |   |
| Fluorene                  | 62 U   | 320  | 62  | 1    | 10/13/21 23:23 | 9/28/21        |   |
| Hexachlorobenzene         | 79 U   | 320  | 79  | 1    | 10/13/21 23:23 | 9/28/21        |   |
| Hexachlorobutadiene       | 57 U   | 320  | 57  | 1    | 10/13/21 23:23 | 9/28/21        |   |
| Hexachlorocyclopentadiene | 110 U  | 320  | 110 | 1    | 10/13/21 23:23 | 9/28/21        |   |
| Hexachloroethane          | 62 U   | 320  | 62  | 1    | 10/13/21 23:23 | 9/28/21        |   |
| Indeno(1,2,3-cd)pyrene    | 110 U  | 320  | 110 | 1    | 10/13/21 23:23 | 9/28/21        |   |
| Isophorone                | 69 U   | 320  | 69  | 1    | 10/13/21 23:23 | 9/28/21        |   |
| N-Nitrosodi-n-propylamine | 110 U  | 320  | 110 | 1    | 10/13/21 23:23 | 9/28/21        |   |
| N-Nitrosodiphenylamine    | 210 U  | 320  | 210 | 1    | 10/13/21 23:23 | 9/28/21        |   |
| Naphthalene               | 62 U   | 320  | 62  | 1    | 10/13/21 23:23 | 9/28/21        |   |
| Nitrobenzene              | 59 U   | 320  | 59  | 1    | 10/13/21 23:23 | 9/28/21        |   |
| Pentachlorophenol (PCP)   | 330 U  | 1700 | 330 | 1    | 10/13/21 23:23 | 9/28/21        |   |
| Phenanthrene              | 47 U   | 320  | 47  | 1    | 10/13/21 23:23 | 9/28/21        |   |
| Phenol                    | 67 U   | 320  | 67  | 1    | 10/13/21 23:23 | 9/28/21        |   |
| Pyrene                    | 55 U   | 320  | 55  | 1    | 10/13/21 23:23 | 9/28/21        |   |

| Surrogate Name       | % Rec | Control Limits | Date Analyzed  | Q |
|----------------------|-------|----------------|----------------|---|
| 2,4,6-Tribromophenol | 70    | 15 - 142       | 10/13/21 23:23 |   |
| 2-Fluorobiphenyl     | 65    | 25 - 114       | 10/13/21 23:23 |   |
| 2-Fluorophenol       | 48    | 18 - 98        | 10/13/21 23:23 |   |
| Nitrobenzene-d5      | 52    | 14 - 104       | 10/13/21 23:23 |   |
| Phenol-d6            | 49    | 18 - 103       | 10/13/21 23:23 |   |
| Terphenyl-d14        | 99    | 38 - 141       | 10/13/21 23:23 |   |

**ALS Group USA, Corp.**  
dba ALS Environmental

QA/QC Report

**Client:** Inventum Engineering  
**Project:** RITC Tanks  
**Sample Matrix:** Soil

**Service Request:** R2109414  
**Date Analyzed:** 09/17/21

**Duplicate Lab Control Sample Summary**  
**Semivolatile Organic Compounds by GC/MS using Microwave Digestion**

**Units:**ug/Kg  
**Basis:**Dry

| Lab Control Sample<br>RQ2111391-02 |                   |        |              |       | Duplicate Lab Control Sample<br>RQ2111391-03 |              |       |              |     |           |
|------------------------------------|-------------------|--------|--------------|-------|----------------------------------------------|--------------|-------|--------------|-----|-----------|
| Analyte Name                       | Analytical Method | Result | Spike Amount | % Rec | Result                                       | Spike Amount | % Rec | % Rec Limits | RPD | RPD Limit |
| 1,2,4,5-Tetrachlorobenzene         | 8270D             | 3910   | 3250         | 120   | 4040                                         | 3300         | 123   | 10-174       | 3   | 30        |
| 2,3,4,6-Tetrachlorophenol          | 8270D             | 2070   | 3250         | 64    | 2200                                         | 3290         | 67    | 42-127       | 6   | 30        |
| 2,4,5-Trichlorophenol              | 8270D             | 2100   | 3250         | 65    | 2170                                         | 3290         | 66    | 33-134       | 3   | 30        |
| 2,4,6-Trichlorophenol              | 8270D             | 1860   | 3250         | 57    | 1930                                         | 3290         | 59    | 24-131       | 4   | 30        |
| 2,4-Dichlorophenol                 | 8270D             | 1700   | 3250         | 52    | 1750                                         | 3290         | 53    | 17-125       | 2   | 30        |
| 2,4-Dimethylphenol                 | 8270D             | 1720   | 3250         | 53    | 1750                                         | 3290         | 53    | 21-116       | 2   | 30        |
| 2,4-Dinitrophenol                  | 8270D             | 1030 J | 3250         | 32    | 1100 J                                       | 3290         | 33    | 10-80        | 7   | 30        |
| 2,4-Dinitrotoluene                 | 8270D             | 2460   | 3250         | 76    | 2600                                         | 3290         | 79    | 55-118       | 5   | 30        |
| 2,6-Dinitrotoluene                 | 8270D             | 2230   | 3250         | 69    | 2240                                         | 3290         | 68    | 38-136       | <1  | 30        |
| 2-Chloronaphthalene                | 8270D             | 1930   | 3250         | 59    | 1950                                         | 3290         | 59    | 27-121       | <1  | 30        |
| 2-Chlorophenol                     | 8270D             | 1600   | 3250         | 49    | 1710                                         | 3290         | 52    | 20-97        | 7   | 30        |
| 2-Methylnaphthalene                | 8270D             | 1760   | 3250         | 54    | 1780                                         | 3290         | 54    | 23-111       | 1   | 30        |
| 2-Methylphenol                     | 8270D             | 1770   | 3250         | 54    | 1830                                         | 3290         | 55    | 28-105       | 3   | 30        |
| 2-Nitroaniline                     | 8270D             | 2290   | 3250         | 71    | 2310                                         | 3290         | 70    | 40-124       | <1  | 30        |
| 2-Nitrophenol                      | 8270D             | 1470   | 3250         | 45    | 1580                                         | 3290         | 48    | 15-107       | 8   | 30        |
| 3- and 4-Methylphenol Coelution    | 8270D             | 1800   | 3250         | 55    | 1870                                         | 3290         | 57    | 25-112       | 4   | 30        |
| 3-Nitroaniline                     | 8270D             | 2030   | 3250         | 63    | 2090                                         | 3290         | 63    | 36-112       | 3   | 30        |
| 4,6-Dinitro-2-methylphenol         | 8270D             | 1790   | 3250         | 55    | 1780                                         | 3290         | 54    | 23-107       | <1  | 30        |
| 4-Bromophenyl Phenyl Ether         | 8270D             | 2120   | 3250         | 65    | 2110                                         | 3290         | 64    | 38-138       | <1  | 30        |
| 4-Chloro-3-methylphenol            | 8270D             | 1880   | 3250         | 58    | 1920                                         | 3290         | 58    | 25-123       | 2   | 30        |
| 4-Chloroaniline                    | 8270D             | 1770   | 3250         | 54    | 1800                                         | 3290         | 55    | 30-87        | 2   | 30        |
| 4-Chlorophenyl Phenyl Ether        | 8270D             | 2150   | 3250         | 66    | 2240                                         | 3290         | 68    | 41-130       | 4   | 30        |
| 4-Nitroaniline                     | 8270D             | 2220   | 3250         | 68    | 2390                                         | 3290         | 72    | 49-119       | 7   | 30        |
| 4-Nitrophenol                      | 8270D             | 2010   | 3250         | 62    | 2110                                         | 3290         | 64    | 33-124       | 5   | 30        |
| Acenaphthene                       | 8270D             | 2100   | 3250         | 65    | 2170                                         | 3290         | 66    | 34-121       | 3   | 30        |
| Acenaphthylene                     | 8270D             | 2240   | 3250         | 69    | 2270                                         | 3290         | 69    | 39-124       | 1   | 30        |
| Acetophenone                       | 8270D             | 3180   | 6490         | 49    | 3350                                         | 6590         | 51    | 20-89        | 5   | 30        |
| Anthracene                         | 8270D             | 2480   | 3250         | 76    | 2580                                         | 3290         | 78    | 58-119       | 4   | 30        |
| Benz(a)anthracene                  | 8270D             | 2390   | 3250         | 74    | 2590                                         | 3290         | 79    | 60-114       | 8   | 30        |
| Benzo(a)pyrene                     | 8270D             | 3080   | 3250         | 95    | 3330                                         | 3290         | 101   | 72-128       | 8   | 30        |
| Benzo(b)fluoranthene               | 8270D             | 2500   | 3250         | 77    | 2720                                         | 3290         | 83    | 64-109       | 8   | 30        |
| Benzo(g,h,i)perylene               | 8270D             | 2600   | 3250         | 80    | 2780                                         | 3290         | 84    | 59-129       | 7   | 30        |
| Benzo(k)fluoranthene               | 8270D             | 2680   | 3250         | 82    | 2940                                         | 3290         | 89    | 70-110       | 9   | 30        |

**ALS Group USA, Corp.**  
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QA/QC Report

**Client:** Inventum Engineering  
**Project:** RITC Tanks  
**Sample Matrix:** Soil

**Service Request:** R2109414  
**Date Analyzed:** 09/17/21

**Duplicate Lab Control Sample Summary**  
**Semivolatile Organic Compounds by GC/MS using Microwave Digestion**

**Units:**ug/Kg  
**Basis:**Dry

**Lab Control Sample**  
RQ2111391-02

**Duplicate Lab Control Sample**  
RQ2111391-03

| Analyte Name                 | Analytical Method | Result | Spike Amount | % Rec | Result | Spike Amount | % Rec | % Rec Limits | RPD | RPD Limit |
|------------------------------|-------------------|--------|--------------|-------|--------|--------------|-------|--------------|-----|-----------|
| Biphenyl                     | 8270D             | 1980   | 3250         | 61    | 2030   | 3290         | 62    | 17-123       | 3   | 30        |
| 2,2'-Oxybis(1-chloropropane) | 8270D             | 1740   | 3250         | 54    | 1810   | 3290         | 55    | 22-80        | 4   | 30        |
| Bis(2-chloroethoxy)methane   | 8270D             | 2010   | 3250         | 62    | 2080   | 3290         | 63    | 31-112       | 4   | 30        |
| Bis(2-chloroethyl) Ether     | 8270D             | 1600   | 3250         | 49    | 1690   | 3290         | 51    | 21-83        | 5   | 30        |
| Bis(2-ethylhexyl) Phthalate  | 8270D             | 2380   | 3250         | 73    | 2580   | 3290         | 78    | 57-117       | 8   | 30        |
| Butyl Benzyl Phthalate       | 8270D             | 2490   | 3250         | 77    | 2690   | 3290         | 82    | 60-116       | 8   | 30        |
| Caprolactam                  | 8270D             | 1920   | 3250         | 59    | 1990   | 3290         | 60    | 10-150       | 3   | 30        |
| Carbazole                    | 8270D             | 2670   | 3250         | 82    | 2820   | 3290         | 86    | 63-129       | 6   | 30        |
| Chrysene                     | 8270D             | 2540   | 3250         | 78    | 2760   | 3290         | 84    | 65-114       | 8   | 30        |
| Di-n-butyl Phthalate         | 8270D             | 2790   | 3250         | 86    | 2980   | 3290         | 91    | 71-126       | 7   | 30        |
| Di-n-octyl Phthalate         | 8270D             | 2500   | 3250         | 77    | 2720   | 3290         | 83    | 60-115       | 9   | 30        |
| Dibenz(a,h)anthracene        | 8270D             | 2630   | 3250         | 81    | 2850   | 3290         | 86    | 60-128       | 8   | 30        |
| Dibenzofuran                 | 8270D             | 2160   | 3250         | 67    | 2180   | 3290         | 66    | 38-124       | <1  | 30        |
| Diethyl Phthalate            | 8270D             | 2270   | 3250         | 70    | 2400   | 3290         | 73    | 51-113       | 5   | 30        |
| Dimethyl Phthalate           | 8270D             | 2090   | 3250         | 64    | 2180   | 3290         | 66    | 40-127       | 4   | 30        |
| Fluoranthene                 | 8270D             | 2590   | 3250         | 80    | 2720   | 3290         | 83    | 61-131       | 5   | 30        |
| Fluorene                     | 8270D             | 2180   | 3250         | 67    | 2210   | 3290         | 67    | 39-128       | 1   | 30        |
| Hexachlorobenzene            | 8270D             | 2070   | 3250         | 64    | 2160   | 3290         | 66    | 42-135       | 5   | 30        |
| Hexachlorobutadiene          | 8270D             | 1530   | 3250         | 47    | 1650   | 3290         | 50    | 19-96        | 8   | 30        |
| Hexachlorocyclopentadiene    | 8270D             | 1190   | 3250         | 37    | 1290   | 3290         | 39    | 10-112       | 8   | 30        |
| Hexachloroethane             | 8270D             | 1430   | 3250         | 44    | 1550   | 3290         | 47    | 15-75        | 8   | 30        |
| Indeno(1,2,3-cd)pyrene       | 8270D             | 2520   | 3250         | 77    | 2750   | 3290         | 83    | 60-123       | 9   | 30        |
| Isophorone                   | 8270D             | 1800   | 3250         | 56    | 1840   | 3290         | 56    | 27-106       | 2   | 30        |
| N-Nitrosodi-n-propylamine    | 8270D             | 1680   | 3250         | 52    | 1740   | 3290         | 53    | 22-99        | 3   | 30        |
| N-Nitrosodiphenylamine       | 8270D             | 2390   | 3250         | 73    | 2440   | 3290         | 74    | 51-127       | 2   | 30        |
| Naphthalene                  | 8270D             | 1640   | 3250         | 51    | 1730   | 3290         | 53    | 21-101       | 5   | 30        |
| Nitrobenzene                 | 8270D             | 1690   | 3250         | 52    | 1760   | 3290         | 53    | 22-98        | 4   | 30        |
| Pentachlorophenol (PCP)      | 8270D             | 2340   | 3250         | 72    | 2440   | 3290         | 74    | 46-124       | 4   | 30        |
| Phenanthrene                 | 8270D             | 2410   | 3250         | 74    | 2520   | 3290         | 77    | 56-117       | 5   | 30        |
| Phenol                       | 8270D             | 1680   | 3250         | 52    | 1770   | 3290         | 54    | 24-102       | 5   | 30        |
| Pyrene                       | 8270D             | 2710   | 3250         | 84    | 2920   | 3290         | 89    | 67-118       | 7   | 30        |

**ALS Group USA, Corp.**  
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QA/QC Report

**Client:** Inventum Engineering  
**Project:** RITC Tanks  
**Sample Matrix:** Soil

**Service Request:** R2109414  
**Date Analyzed:** 09/29/21

**Duplicate Lab Control Sample Summary**  
**Semivolatile Organic Compounds by GC/MS using Microwave Digestion**

**Units:**ug/Kg  
**Basis:**Dry

| Lab Control Sample<br>RQ2112066-02 |                   |        |              |       | Duplicate Lab Control Sample<br>RQ2112066-03 |              |       |              |     |           |
|------------------------------------|-------------------|--------|--------------|-------|----------------------------------------------|--------------|-------|--------------|-----|-----------|
| Analyte Name                       | Analytical Method | Result | Spike Amount | % Rec | Result                                       | Spike Amount | % Rec | % Rec Limits | RPD | RPD Limit |
| 1,2,4,5-Tetrachlorobenzene         | 8270D             | 1710   | 3460         | 49    | 1840                                         | 3430         | 53    | 10-174       | 7   | 30        |
| 2,3,4,6-Tetrachlorophenol          | 8270D             | 3580   | 3460         | 103   | 3670                                         | 3430         | 107   | 42-127       | 3   | 30        |
| 2,4,5-Trichlorophenol              | 8270D             | 3300   | 3460         | 95    | 3470                                         | 3430         | 101   | 33-134       | 5   | 30        |
| 2,4,6-Trichlorophenol              | 8270D             | 2980   | 3460         | 86    | 3130                                         | 3430         | 91    | 24-131       | 5   | 30        |
| 2,4-Dichlorophenol                 | 8270D             | 2790   | 3460         | 81    | 2990                                         | 3430         | 87    | 17-125       | 7   | 30        |
| 2,4-Dimethylphenol                 | 8270D             | 2750   | 3460         | 80    | 2930                                         | 3430         | 85    | 21-116       | 6   | 30        |
| 2,4-Dinitrophenol                  | 8270D             | 1540 J | 3460         | 44    | 2240                                         | 3430         | 65    | 10-80        | 37* | 30        |
| 2,4-Dinitrotoluene                 | 8270D             | 3420   | 3460         | 99    | 3580                                         | 3430         | 104   | 55-118       | 4   | 30        |
| 2,6-Dinitrotoluene                 | 8270D             | 3780   | 3460         | 109   | 3870                                         | 3430         | 113   | 38-136       | 2   | 30        |
| 2-Chloronaphthalene                | 8270D             | 2730   | 3460         | 79    | 2920                                         | 3430         | 85    | 27-121       | 7   | 30        |
| 2-Chlorophenol                     | 8270D             | 2110   | 3460         | 61    | 2250                                         | 3430         | 66    | 20-97        | 6   | 30        |
| 2-Methylnaphthalene                | 8270D             | 2680   | 3460         | 77    | 2850                                         | 3430         | 83    | 23-111       | 6   | 30        |
| 2-Methylphenol                     | 8270D             | 2680   | 3460         | 77    | 2890                                         | 3430         | 84    | 28-105       | 8   | 30        |
| 2-Nitroaniline                     | 8270D             | 3620   | 3460         | 105   | 3820                                         | 3430         | 111   | 40-124       | 5   | 30        |
| 2-Nitrophenol                      | 8270D             | 2590   | 3460         | 75    | 2790                                         | 3430         | 81    | 15-107       | 8   | 30        |
| 3- and 4-Methylphenol Coelution    | 8270D             | 2770   | 3460         | 80    | 3000                                         | 3430         | 87    | 25-112       | 8   | 30        |
| 3-Nitroaniline                     | 8270D             | 3120   | 3460         | 90    | 2960                                         | 3430         | 86    | 36-112       | 5   | 30        |
| 4,6-Dinitro-2-methylphenol         | 8270D             | 2520   | 3460         | 73    | 2810                                         | 3430         | 82    | 23-107       | 11  | 30        |
| 4-Bromophenyl Phenyl Ether         | 8270D             | 3260   | 3460         | 94    | 3430                                         | 3430         | 100   | 38-138       | 5   | 30        |
| 4-Chloro-3-methylphenol            | 8270D             | 3050   | 3460         | 88    | 3220                                         | 3430         | 94    | 25-123       | 5   | 30        |
| 4-Chloroaniline                    | 8270D             | 2600   | 3460         | 75    | 2600                                         | 3430         | 76    | 30-87        | <1  | 30        |
| 4-Chlorophenyl Phenyl Ether        | 8270D             | 3080   | 3460         | 89    | 3230                                         | 3430         | 94    | 41-130       | 5   | 30        |
| 4-Nitroaniline                     | 8270D             | 3540   | 3460         | 102   | 3580                                         | 3430         | 104   | 49-119       | 1   | 30        |
| 4-Nitrophenol                      | 8270D             | 2920   | 3460         | 84    | 3070                                         | 3430         | 89    | 33-124       | 5   | 30        |
| Acenaphthene                       | 8270D             | 2920   | 3460         | 84    | 3070                                         | 3430         | 90    | 34-121       | 5   | 30        |
| Acenaphthylene                     | 8270D             | 3350   | 3460         | 97    | 3560                                         | 3430         | 104   | 39-124       | 6   | 30        |
| Acetophenone                       | 8270D             | 3420   | 6920         | 49    | 3630                                         | 6860         | 53    | 20-89        | 6   | 30        |
| Anthracene                         | 8270D             | 3200   | 3460         | 93    | 3360                                         | 3430         | 98    | 58-119       | 5   | 30        |
| Benz(a)anthracene                  | 8270D             | 3050   | 3460         | 88    | 3170                                         | 3430         | 92    | 60-114       | 4   | 30        |
| Benzo(a)pyrene                     | 8270D             | 3990   | 3460         | 115   | 4140                                         | 3430         | 121   | 72-128       | 4   | 30        |
| Benzo(b)fluoranthene               | 8270D             | 3280   | 3460         | 95    | 3360                                         | 3430         | 98    | 64-109       | 2   | 30        |
| Benzo(g,h,i)perylene               | 8270D             | 3280   | 3460         | 95    | 3380                                         | 3430         | 98    | 59-129       | 3   | 30        |
| Benzo(k)fluoranthene               | 8270D             | 3180   | 3460         | 92    | 3310                                         | 3430         | 96    | 70-110       | 4   | 30        |

**ALS Group USA, Corp.**  
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QA/QC Report

**Client:** Inventum Engineering  
**Project:** RITC Tanks  
**Sample Matrix:** Soil

**Service Request:** R2109414  
**Date Analyzed:** 09/29/21

**Duplicate Lab Control Sample Summary**  
**Semivolatile Organic Compounds by GC/MS using Microwave Digestion**

**Units:**ug/Kg  
**Basis:**Dry

| Analyte Name                 | Lab Control Sample |        |              |       | Duplicate Lab Control Sample |              |       |              | RPD | RPD Limit |
|------------------------------|--------------------|--------|--------------|-------|------------------------------|--------------|-------|--------------|-----|-----------|
|                              | Analytical Method  | Result | Spike Amount | % Rec | Result                       | Spike Amount | % Rec | % Rec Limits |     |           |
| Biphenyl                     | 8270D              | 1550   | 3460         | 45    | 1650                         | 3430         | 48    | 17-123       | 6   | 30        |
| 2,2'-Oxybis(1-chloropropane) | 8270D              | 2060   | 3460         | 60    | 2160                         | 3430         | 63    | 22-80        | 4   | 30        |
| Bis(2-chloroethoxy)methane   | 8270D              | 3120   | 3460         | 90    | 3330                         | 3430         | 97    | 31-112       | 7   | 30        |
| Bis(2-chloroethyl) Ether     | 8270D              | 1980   | 3460         | 57    | 2040                         | 3430         | 59    | 21-83        | 3   | 30        |
| Bis(2-ethylhexyl) Phthalate  | 8270D              | 3430   | 3460         | 99    | 3660                         | 3430         | 107   | 57-117       | 6   | 30        |
| Butyl Benzyl Phthalate       | 8270D              | 3240   | 3460         | 94    | 3450                         | 3430         | 101   | 60-116       | 6   | 30        |
| Caprolactam                  | 8270D              | 1820   | 3460         | 53    | 1910                         | 3430         | 56    | 10-150       | 5   | 30        |
| Carbazole                    | 8270D              | 3570   | 3460         | 103   | 3700                         | 3430         | 108   | 63-129       | 4   | 30        |
| Chrysene                     | 8270D              | 3080   | 3460         | 89    | 3210                         | 3430         | 94    | 65-114       | 4   | 30        |
| Di-n-butyl Phthalate         | 8270D              | 3590   | 3460         | 104   | 3760                         | 3430         | 110   | 71-126       | 5   | 30        |
| Di-n-octyl Phthalate         | 8270D              | 3340   | 3460         | 97    | 3500                         | 3430         | 102   | 60-115       | 5   | 30        |
| Dibenz(a,h)anthracene        | 8270D              | 3420   | 3460         | 99    | 3530                         | 3430         | 103   | 60-128       | 3   | 30        |
| Dibenzofuran                 | 8270D              | 3020   | 3460         | 87    | 3190                         | 3430         | 93    | 38-124       | 6   | 30        |
| Diethyl Phthalate            | 8270D              | 3040   | 3460         | 88    | 3180                         | 3430         | 93    | 51-113       | 4   | 30        |
| Dimethyl Phthalate           | 8270D              | 3160   | 3460         | 91    | 3310                         | 3430         | 96    | 40-127       | 5   | 30        |
| Fluoranthene                 | 8270D              | 3340   | 3460         | 96    | 3450                         | 3430         | 101   | 61-131       | 3   | 30        |
| Fluorene                     | 8270D              | 3100   | 3460         | 90    | 3230                         | 3430         | 94    | 39-128       | 4   | 30        |
| Hexachlorobenzene            | 8270D              | 3070   | 3460         | 89    | 3230                         | 3430         | 94    | 42-135       | 5   | 30        |
| Hexachlorobutadiene          | 8270D              | 2040   | 3460         | 59    | 2130                         | 3430         | 62    | 19-96        | 5   | 30        |
| Hexachlorocyclopentadiene    | 8270D              | 2500   | 3460         | 72    | 2850                         | 3430         | 83    | 10-112       | 13  | 30        |
| Hexachloroethane             | 8270D              | 1630   | 3460         | 47    | 1680                         | 3430         | 49    | 15-75        | 3   | 30        |
| Indeno(1,2,3-cd)pyrene       | 8270D              | 3350   | 3460         | 97    | 3540                         | 3430         | 103   | 60-123       | 5   | 30        |
| Isophorone                   | 8270D              | 2780   | 3460         | 80    | 2930                         | 3430         | 85    | 27-106       | 5   | 30        |
| N-Nitrosodi-n-propylamine    | 8270D              | 2470   | 3460         | 71    | 2650                         | 3430         | 77    | 22-99        | 7   | 30        |
| N-Nitrosodiphenylamine       | 8270D              | 3630   | 3460         | 105   | 3810                         | 3430         | 111   | 51-127       | 5   | 30        |
| Naphthalene                  | 8270D              | 2240   | 3460         | 65    | 2360                         | 3430         | 69    | 21-101       | 5   | 30        |
| Nitrobenzene                 | 8270D              | 2380   | 3460         | 69    | 2520                         | 3430         | 74    | 22-98        | 6   | 30        |
| Pentachlorophenol (PCP)      | 8270D              | 3660   | 3460         | 106   | 3890                         | 3430         | 113   | 46-124       | 6   | 30        |
| Phenanthrene                 | 8270D              | 3100   | 3460         | 90    | 3230                         | 3430         | 94    | 56-117       | 4   | 30        |
| Phenol                       | 8270D              | 2360   | 3460         | 68    | 2560                         | 3430         | 74    | 24-102       | 8   | 30        |
| Pyrene                       | 8270D              | 3190   | 3460         | 92    | 3310                         | 3430         | 96    | 67-118       | 4   | 30        |



## Semivolatile Organic Compounds by GC

**ALS Environmental—Rochester Laboratory**

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QA/QC Report

**Client:** Inventum Engineering  
**Project:** RITC Tanks  
**Sample Matrix:** Soil

**Service Request:** R2109414

**SURROGATE RECOVERY SUMMARY**

**Organochlorine Pesticides by Gas Chromatography using Microwave Extraction**

**Analysis Method:** 8081B  
**Extraction Method:** EPA 3546

| Sample Name                  | Lab Code     | Decachlorobiphenyl | Tetrachloro-m-xylene |
|------------------------------|--------------|--------------------|----------------------|
|                              |              | 10-145             | 10-123               |
| TK-SD-ST24-09102021          | R2109414-001 | 72                 | 62                   |
| Method Blank                 | RQ2111626-01 | 78                 | 66                   |
| Lab Control Sample           | RQ2111626-02 | 80                 | 65                   |
| Duplicate Lab Control Sample | RQ2111626-03 | 81                 | 71                   |

**ALS Group USA, Corp.**  
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Analytical Report

**Client:** Inventum Engineering  
**Project:** RITC Tanks  
**Sample Matrix:** Soil

**Service Request:** R2109414  
**Date Collected:** NA  
**Date Received:** NA

**Sample Name:** Method Blank  
**Lab Code:** RQ2111626-01

**Units:** ug/Kg  
**Basis:** Dry

**Organochlorine Pesticides by Gas Chromatography using Microwave Extraction**

**Analysis Method:** 8081B  
**Prep Method:** EPA 3546

| Analyte Name        | Result | MRL | MDL  | Dil. | Date Analyzed  | Date Extracted | Q |
|---------------------|--------|-----|------|------|----------------|----------------|---|
| 4,4'-DDD            | 0.87 U | 1.8 | 0.87 | 1    | 09/22/21 22:44 | 9/21/21        |   |
| 4,4'-DDE            | 0.87 U | 1.8 | 0.87 | 1    | 09/22/21 22:44 | 9/21/21        |   |
| 4,4'-DDT            | 0.87 U | 1.8 | 0.87 | 1    | 09/22/21 22:44 | 9/21/21        |   |
| Aldrin              | 0.87 U | 1.8 | 0.87 | 1    | 09/22/21 22:44 | 9/21/21        |   |
| Dieldrin            | 0.87 U | 1.8 | 0.87 | 1    | 09/22/21 22:44 | 9/21/21        |   |
| Endosulfan I        | 0.87 U | 1.8 | 0.87 | 1    | 09/22/21 22:44 | 9/21/21        |   |
| Endosulfan II       | 0.87 U | 1.8 | 0.87 | 1    | 09/22/21 22:44 | 9/21/21        |   |
| Endosulfan Sulfate  | 0.87 U | 1.8 | 0.87 | 1    | 09/22/21 22:44 | 9/21/21        |   |
| Endrin              | 0.87 U | 1.8 | 0.87 | 1    | 09/22/21 22:44 | 9/21/21        |   |
| Endrin Aldehyde     | 0.87 U | 1.8 | 0.87 | 1    | 09/22/21 22:44 | 9/21/21        |   |
| Endrin Ketone       | 0.87 U | 1.8 | 0.87 | 1    | 09/22/21 22:44 | 9/21/21        |   |
| Heptachlor          | 0.87 U | 1.8 | 0.87 | 1    | 09/22/21 22:44 | 9/21/21        |   |
| Heptachlor Epoxide  | 0.87 U | 1.8 | 0.87 | 1    | 09/22/21 22:44 | 9/21/21        |   |
| Methoxychlor        | 0.87 U | 1.8 | 0.87 | 1    | 09/22/21 22:44 | 9/21/21        |   |
| Toxaphene           | 20 U   | 34  | 20   | 1    | 09/22/21 22:44 | 9/21/21        |   |
| alpha-BHC           | 0.87 U | 1.8 | 0.87 | 1    | 09/22/21 22:44 | 9/21/21        |   |
| alpha-Chlordane     | 0.87 U | 1.8 | 0.87 | 1    | 09/22/21 22:44 | 9/21/21        |   |
| beta-BHC            | 0.87 U | 1.8 | 0.87 | 1    | 09/22/21 22:44 | 9/21/21        |   |
| delta-BHC           | 0.87 U | 1.8 | 0.87 | 1    | 09/22/21 22:44 | 9/21/21        |   |
| gamma-BHC (Lindane) | 0.87 U | 1.8 | 0.87 | 1    | 09/22/21 22:44 | 9/21/21        |   |
| gamma-Chlordane     | 0.87 U | 1.8 | 0.87 | 1    | 09/22/21 22:44 | 9/21/21        |   |

| Surrogate Name       | % Rec | Control Limits | Date Analyzed  | Q |
|----------------------|-------|----------------|----------------|---|
| Decachlorobiphenyl   | 78    | 10 - 145       | 09/22/21 22:44 |   |
| Tetrachloro-m-xylene | 66    | 10 - 123       | 09/22/21 22:44 |   |

**ALS Group USA, Corp.**  
dba ALS Environmental

QA/QC Report

**Client:** Inventum Engineering  
**Project:** RITC Tanks  
**Sample Matrix:** Soil

**Service Request:** R2109414  
**Date Analyzed:** 09/22/21

**Duplicate Lab Control Sample Summary**  
**Organochlorine Pesticides by Gas Chromatography using Microwave Extraction**

**Units:**ug/Kg  
**Basis:**Dry

| Lab Control Sample<br>RQ2111626-02 |                   |        |              |       | Duplicate Lab Control Sample<br>RQ2111626-03 |              |       |              |     |           |
|------------------------------------|-------------------|--------|--------------|-------|----------------------------------------------|--------------|-------|--------------|-----|-----------|
| Analyte Name                       | Analytical Method | Result | Spike Amount | % Rec | Result                                       | Spike Amount | % Rec | % Rec Limits | RPD | RPD Limit |
| 4,4'-DDD                           | 8081B             | 6.42   | 6.82         | 94    | 6.58                                         | 7.00         | 94    | 33-149       | 2   | 30        |
| 4,4'-DDE                           | 8081B             | 6.21   | 6.82         | 91    | 7.13                                         | 7.00         | 102   | 38-147       | 14  | 30        |
| 4,4'-DDT                           | 8081B             | 6.37   | 6.82         | 93    | 6.65                                         | 7.00         | 95    | 37-146       | 4   | 30        |
| Aldrin                             | 8081B             | 5.26   | 6.82         | 77    | 5.80                                         | 7.00         | 83    | 25-146       | 10  | 30        |
| Dieldrin                           | 8081B             | 5.92   | 6.82         | 87    | 6.32                                         | 7.00         | 90    | 40-140       | 7   | 30        |
| Endosulfan I                       | 8081B             | 5.40   | 6.82         | 79    | 5.80                                         | 7.00         | 83    | 35-116       | 7   | 30        |
| Endosulfan II                      | 8081B             | 5.86   | 6.82         | 86    | 6.17                                         | 7.00         | 88    | 39-122       | 5   | 30        |
| Endosulfan Sulfate                 | 8081B             | 6.23   | 6.82         | 91    | 6.45                                         | 7.00         | 92    | 31-132       | 4   | 30        |
| Endrin                             | 8081B             | 6.23   | 6.82         | 91    | 6.58                                         | 7.00         | 94    | 40-144       | 5   | 30        |
| Endrin Aldehyde                    | 8081B             | 6.28   | 6.82         | 92    | 6.35                                         | 7.00         | 91    | 10-109       | 1   | 30        |
| Endrin Ketone                      | 8081B             | 6.39   | 6.82         | 94    | 6.67                                         | 7.00         | 95    | 38-122       | 4   | 30        |
| Heptachlor                         | 8081B             | 5.01   | 6.82         | 73    | 5.64                                         | 7.00         | 81    | 34-142       | 12  | 30        |
| Heptachlor Epoxide                 | 8081B             | 5.88   | 6.82         | 86    | 6.34                                         | 7.00         | 91    | 37-113       | 8   | 30        |
| Methoxychlor                       | 8081B             | 6.83   | 6.82         | 100   | 7.14                                         | 7.00         | 102   | 41-152       | 4   | 30        |
| alpha-BHC                          | 8081B             | 4.95   | 6.82         | 73    | 5.48                                         | 7.00         | 78    | 28-145       | 10  | 30        |
| alpha-Chlordane                    | 8081B             | 5.89   | 6.82         | 86    | 6.30                                         | 7.00         | 90    | 37-114       | 7   | 30        |
| beta-BHC                           | 8081B             | 4.97   | 6.82         | 73    | 6.08                                         | 7.00         | 87    | 38-144       | 20  | 30        |
| delta-BHC                          | 8081B             | 5.64   | 6.82         | 83    | 5.99                                         | 7.00         | 86    | 30-153       | 6   | 30        |
| gamma-BHC (Lindane)                | 8081B             | 5.12   | 6.82         | 75    | 5.64                                         | 7.00         | 81    | 32-145       | 10  | 30        |
| gamma-Chlordane                    | 8081B             | 5.95   | 6.82         | 87    | 6.48                                         | 7.00         | 93    | 34-123       | 9   | 30        |

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QA/QC Report

**Client:** Inventum Engineering  
**Project:** RITC Tanks  
**Sample Matrix:** Soil

**Service Request:** R2109414

**SURROGATE RECOVERY SUMMARY**  
**Polychlorinated Biphenyls (PCBs) by GC using Microwave Extraction**

**Analysis Method:** 8082A  
**Extraction Method:** EPA 3546

| Sample Name                  | Lab Code     | Decachlorobiphenyl | Tetrachloro-m-xylene |
|------------------------------|--------------|--------------------|----------------------|
|                              |              | 22-128             | 14-119               |
| TK-SD-ST24-09102021          | R2109414-001 | 60                 | 62                   |
| Method Blank                 | RQ2111626-01 | 78                 | 63                   |
| Lab Control Sample           | RQ2111626-04 | 82                 | 65                   |
| Duplicate Lab Control Sample | RQ2111626-05 | 78                 | 23                   |

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Analytical Report

**Client:** Inventum Engineering  
**Project:** RITC Tanks  
**Sample Matrix:** Soil

**Service Request:** R2109414  
**Date Collected:** NA  
**Date Received:** NA

**Sample Name:** Method Blank  
**Lab Code:** RQ2111626-01

**Units:** ug/Kg  
**Basis:** Dry

Polychlorinated Biphenyls (PCBs) by GC using Microwave Extraction

**Analysis Method:** 8082A  
**Prep Method:** EPA 3546

| Analyte Name | Result | MRL | MDL | Dil. | Date Analyzed  | Date Extracted | Q |
|--------------|--------|-----|-----|------|----------------|----------------|---|
| Aroclor 1016 | 18 U   | 34  | 18  | 1    | 09/22/21 23:38 | 9/21/21        |   |
| Aroclor 1221 | 27 U   | 69  | 27  | 1    | 09/22/21 23:38 | 9/21/21        |   |
| Aroclor 1232 | 20 U   | 34  | 20  | 1    | 09/22/21 23:38 | 9/21/21        |   |
| Aroclor 1242 | 18 U   | 34  | 18  | 1    | 09/22/21 23:38 | 9/21/21        |   |
| Aroclor 1248 | 19 U   | 34  | 19  | 1    | 09/22/21 23:38 | 9/21/21        |   |
| Aroclor 1254 | 18 U   | 34  | 18  | 1    | 09/22/21 23:38 | 9/21/21        |   |
| Aroclor 1260 | 18 U   | 34  | 18  | 1    | 09/22/21 23:38 | 9/21/21        |   |

| Surrogate Name       | % Rec | Control Limits | Date Analyzed  | Q |
|----------------------|-------|----------------|----------------|---|
| Decachlorobiphenyl   | 78    | 22 - 128       | 09/22/21 23:38 |   |
| Tetrachloro-m-xylene | 63    | 14 - 119       | 09/22/21 23:38 |   |

**ALS Group USA, Corp.**

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QA/QC Report

**Client:** Inventum Engineering  
**Project:** RITC Tanks  
**Sample Matrix:** Soil

**Service Request:** R2109414  
**Date Analyzed:** 09/22/21

**Duplicate Lab Control Sample Summary**  
**Polychlorinated Biphenyls (PCBs) by GC using Microwave Extraction**

**Units:**ug/Kg**Basis:**Dry

| Analyte Name | Analytical Method | Result | Lab Control Sample |       |        | Duplicate Lab Control Sample |       |        | % Rec Limits | RPD | RPD Limit |
|--------------|-------------------|--------|--------------------|-------|--------|------------------------------|-------|--------|--------------|-----|-----------|
|              |                   |        | Spike Amount       | % Rec | Result | Spike Amount                 | % Rec |        |              |     |           |
| Aroclor 1016 | 8082A             | 137    | 167                | 82    | 72.4   | 170                          | 43    | 41-127 | 62*          |     | 30        |
| Aroclor 1260 | 8082A             | 157    | 167                | 94    | 140    | 170                          | 82    | 49-135 | 11           |     | 30        |

ALS Group USA, Corp.  
dba ALS Environmental

QA/QC Report

**Client:** Inventum Engineering  
**Project:** RITC Tanks  
**Sample Matrix:** Soil

**Service Request:** R2109414

**SURROGATE RECOVERY SUMMARY**  
**Chlorinated Herbicides by GC**

**Analysis Method:** 8151A  
**Extraction Method:** Method

| Sample Name                  | Lab Code     | 2,4-Dichlorophenylacetic |
|------------------------------|--------------|--------------------------|
|                              |              | Acid<br>10-151           |
| TK-SD-ST24-09102021          | R2109414-001 | 45                       |
| Method Blank                 | RQ2111612-01 | 75                       |
| Lab Control Sample           | RQ2111612-02 | 81                       |
| Duplicate Lab Control Sample | RQ2111612-03 | 80                       |

ALS Group USA, Corp.  
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Analytical Report

**Client:** Inventum Engineering  
**Project:** RITC Tanks  
**Sample Matrix:** Soil

**Service Request:** R2109414  
**Date Collected:** NA  
**Date Received:** NA

**Sample Name:** Method Blank  
**Lab Code:** RQ2111612-01

**Units:** ug/Kg  
**Basis:** Dry

Chlorinated Herbicides by GC

**Analysis Method:** 8151A  
**Prep Method:** Method

| Analyte Name | Result | MRL | MDL | Dil. | Date Analyzed  | Date Extracted | Q |
|--------------|--------|-----|-----|------|----------------|----------------|---|
| 2,4,5-T      | 5.1 U  | 10  | 5.1 | 1    | 09/22/21 23:57 | 9/21/21        |   |
| 2,4,5-TP     | 4.6 U  | 10  | 4.6 | 1    | 09/22/21 23:57 | 9/21/21        |   |
| 2,4-D        | 6.6 U  | 10  | 6.6 | 1    | 09/22/21 23:57 | 9/21/21        |   |
| Dicamba      | 3.2 U  | 10  | 3.2 | 1    | 09/22/21 23:57 | 9/21/21        |   |

| Surrogate Name                | % Rec | Control Limits | Date Analyzed  | Q |
|-------------------------------|-------|----------------|----------------|---|
| 2,4-Dichlorophenylacetic Acid | 75    | 10 - 151       | 09/22/21 23:57 |   |

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QA/QC Report

**Client:** Inventum Engineering  
**Project:** RITC Tanks  
**Sample Matrix:** Soil

**Service Request:** R2109414  
**Date Analyzed:** 09/23/21

**Duplicate Lab Control Sample Summary**  
**Chlorinated Herbicides by GC**

**Units:**ug/Kg  
**Basis:**Dry

**Lab Control Sample**  
RQ2111612-02

**Duplicate Lab Control Sample**  
RQ2111612-03

| <b>Analyte Name</b> | <b>Analytical Method</b> | <b>Result</b> | <b>Spike Amount</b> | <b>% Rec</b> | <b>Result</b> | <b>Spike Amount</b> | <b>% Rec</b> | <b>% Rec Limits</b> | <b>RPD</b> | <b>RPD Limit</b> |
|---------------------|--------------------------|---------------|---------------------|--------------|---------------|---------------------|--------------|---------------------|------------|------------------|
| 2,4,5-T             | 8151A                    | 36.3          | 50.0                | 73           | 37.0          | 50.2                | 74           | 19-127              | 2          | 30               |
| 2,4,5-TP            | 8151A                    | 31.1          | 50.0                | 62           | 32.4          | 50.2                | 65           | 18-122              | 4          | 30               |
| 2,4-D               | 8151A                    | 41.6          | 50.0                | 83           | 43.7          | 50.2                | 87           | 24-165              | 5          | 30               |
| Dicamba             | 8151A                    | 36.8          | 50.0                | 74           | 35.2          | 50.2                | 70           | 26-128              | 5          | 30               |



## Metals

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**METALS**

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**BLANKS**

Contract: R2109414

Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG NO.: TK-SD-ST24-0

Preparation Blank Matrix (soil/water): SOIL

Preparation Blank Concentration Units (ug/L, ppt, or mg/kg): MG/KG

| Analyte    | Initial<br>Calib.<br>Blank<br>ug/L | C | Continuing Calibration Blank ug/L |   |        |   |        |   | Preparation<br>Blank |   | M  |
|------------|------------------------------------|---|-----------------------------------|---|--------|---|--------|---|----------------------|---|----|
|            |                                    |   | 1                                 | C | 2      | C | 3      | C |                      |   |    |
| Aluminum   | 120.00                             | U | 120.00                            | U | 120.00 | U | 120.00 | U | 12.000               | U | P  |
| Antimony   | 9.40                               | J | 5.60                              | J | 12.00  | J | 8.30   | J | 0.540                | U | P  |
| Arsenic    | 7.00                               | U | 7.00                              | U | 7.00   | U | 7.00   | U | 0.700                | U | P  |
| Barium     | 15.00                              | U | 15.00                             | U | 15.00  | U | 15.00  | U | 1.500                | U | P  |
| Beryllium  | 0.60                               | U | 0.60                              | U | 0.60   | U | 0.60   | U | 0.060                | U | P  |
| Boron      | 15.00                              | U | 15.00                             | U | 15.00  | U | 15.00  | U | 1.540                | J | P  |
| Cadmium    | 0.86                               | U | 0.86                              | U | 0.86   | U | 0.86   | U | 0.086                | U | P  |
| Mercury    | 0.078                              | U | 0.078                             | U | 0.078  | U | 0.078  | U | 0.008                | U | CV |
| Calcium    | 320.00                             | U | 320.00                            | U | 320.00 | U | 320.00 | U | 32.000               | U | P  |
| Chromium   | 3.50                               | U | 3.50                              | U | 3.50   | U | 3.50   | U | 0.350                | U | P  |
| Cobalt     | 0.83                               | U | 0.83                              | U | 0.83   | U | 0.83   | U | 0.083                | U | P  |
| Copper     | 1.30                               | U | 1.30                              | U | 1.30   | U | 1.30   | U | 0.130                | U | P  |
| Iron       | 130.00                             | U | 130.00                            | U | 130.00 | U | 130.00 | U | 13.000               | U | P  |
| Lead       | 4.00                               | U | 4.00                              | U | 4.00   | U | 4.00   | U | 0.400                | U | P  |
| Magnesium  | 130.00                             | U | 130.00                            | U | 130.00 | U | 130.00 | U | 13.000               | U | P  |
| Manganese  | 1.60                               | U | 1.60                              | U | 1.60   | U | 1.60   | U | 0.170                | J | P  |
| Molybdenum | 8.60                               | J | 6.40                              | J | 8.90   | J | 7.20   | J | 0.390                | U | P  |
| Nickel     | 6.60                               | U | 6.60                              | U | 6.60   | U | 6.60   | U | 0.660                | U | P  |
| Potassium  | 500.00                             | U | 500.00                            | U | 500.00 | U | 500.00 | U | 50.000               | U | P  |
| Selenium   | 5.40                               | U | 5.40                              | U | 5.40   | U | 5.40   | U | 0.540                | U | P  |
| Silver     | 0.90                               | U | 0.90                              | U | 0.90   | U | 0.90   | U | 0.090                | U | P  |
| Sodium     | 190.00                             | U | 190.00                            | U | 190.00 | U | 190.00 | U | 19.000               | U | P  |
| Thallium   | 6.50                               | U | 6.50                              | U | 6.50   | U | 6.50   | U | 0.650                | U | P  |
| Tin        | 19.00                              | U | 19.00                             | U | 19.00  | U | 19.00  | U | 1.900                | U | P  |
| Vanadium   | 0.69                               | U | 0.69                              | U | 0.69   | U | 0.69   | U | 0.069                | U | P  |
| Zinc       | 14.00                              | U | 14.00                             | U | 14.00  | U | 14.00  | U | 1.400                | U | P  |

Comments:

**METALS**

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**BLANKS**

Contract: R2109414

Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG NO.: TK-SD-ST24-0

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L, ppt, or mg/kg): UG/L

| Analyte    | Initial<br>Calib.<br>Blank<br>ug/L | Continuing Calibration Blank ug/L |   |        |   |        |   | Preparation<br>Blank | C | M  |
|------------|------------------------------------|-----------------------------------|---|--------|---|--------|---|----------------------|---|----|
|            |                                    | 1                                 | C | 2      | C | 3      | C |                      |   |    |
| Aluminum   |                                    | 120.00                            | U | 120.00 | U | 120.00 | U |                      |   | P  |
| Antimony   |                                    | 6.60                              | J | 5.70   | J | 6.50   | J |                      |   | P  |
| Arsenic    |                                    | 7.00                              | U | 7.00   | U | 7.00   | U |                      |   | P  |
| Barium     |                                    | 15.00                             | U | 15.00  | U | 15.00  | U |                      |   | P  |
| Beryllium  |                                    | 0.60                              | U | 0.60   | U | 0.60   | U |                      |   | P  |
| Boron      |                                    | 15.00                             | U | 15.00  | U | 15.00  | U |                      |   | P  |
| Cadmium    |                                    | 0.86                              | U | 0.86   | U | 0.86   | U |                      |   | P  |
| Mercury    |                                    | 0.078                             | U |        |   |        |   |                      |   | CV |
| Calcium    |                                    | 320.00                            | U | 320.00 | U | 320.00 | U |                      |   | P  |
| Chromium   |                                    | 3.50                              | U | 3.50   | U | 3.50   | U |                      |   | P  |
| Cobalt     |                                    | 0.83                              | U | 0.83   | U | 0.83   | U |                      |   | P  |
| Copper     |                                    | 1.30                              | U | 1.30   | U | 1.30   | U |                      |   | P  |
| Lead       |                                    | 4.00                              | U | 4.00   | U | 4.00   | U |                      |   | P  |
| Magnesium  |                                    | 130.00                            | U | 130.00 | U | 130.00 | U |                      |   | P  |
| Manganese  |                                    | 1.60                              | U | 1.60   | U | 1.60   | U |                      |   | P  |
| Molybdenum |                                    | 7.10                              | J | 7.30   | J | 7.50   | J |                      |   | P  |
| Nickel     |                                    | 6.60                              | U | 6.60   | U | 6.60   | U |                      |   | P  |
| Potassium  |                                    | 500.00                            | U | 500.00 | U | 500.00 | U |                      |   | P  |
| Selenium   |                                    | 5.40                              | U | 5.40   | U | 5.40   | U |                      |   | P  |
| Silver     |                                    | 0.90                              | U | 0.90   | U | 0.90   | U |                      |   | P  |
| Sodium     |                                    | 190.00                            | U | 190.00 | U | 190.00 | U |                      |   | P  |
| Thallium   |                                    | 6.50                              | U | 6.50   | U | 6.50   | U |                      |   | P  |
| Tin        |                                    | 19.00                             | U | 19.00  | U | 19.00  | U |                      |   | P  |
| Vanadium   |                                    | 0.69                              | U | 0.69   | U | 0.69   | U |                      |   | P  |
| Zinc       |                                    | 14.00                             | U | 14.00  | U | 14.00  | U |                      |   | P  |

Comments:

**METALS**

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**BLANKS**

Contract: R2109414

Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG NO.: TK-SD-ST24-0

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L, ppt, or mg/kg): UG/L

| Analyte    | Initial<br>Calib.<br>Blank<br>ug/L | Continuing Calibration Blank ug/L |   |   |   |   |   | Preparation<br>Blank | C | M |
|------------|------------------------------------|-----------------------------------|---|---|---|---|---|----------------------|---|---|
|            |                                    | 1                                 | C | 2 | C | 3 | C |                      |   |   |
| Aluminum   |                                    | 120.00                            | U |   |   |   |   |                      |   | P |
| Antimony   |                                    | 5.70                              | J |   |   |   |   |                      |   | P |
| Arsenic    |                                    | 7.00                              | U |   |   |   |   |                      |   | P |
| Barium     |                                    | 15.00                             | U |   |   |   |   |                      |   | P |
| Beryllium  |                                    | 0.60                              | U |   |   |   |   |                      |   | P |
| Boron      |                                    | 15.00                             | U |   |   |   |   |                      |   | P |
| Cadmium    |                                    | 0.86                              | U |   |   |   |   |                      |   | P |
| Calcium    |                                    | 320.00                            | U |   |   |   |   |                      |   | P |
| Chromium   |                                    | 3.50                              | U |   |   |   |   |                      |   | P |
| Cobalt     |                                    | 0.83                              | U |   |   |   |   |                      |   | P |
| Copper     |                                    | 1.30                              | U |   |   |   |   |                      |   | P |
| Lead       |                                    | 4.00                              | U |   |   |   |   |                      |   | P |
| Magnesium  |                                    | 130.00                            | U |   |   |   |   |                      |   | P |
| Manganese  |                                    | 1.60                              | U |   |   |   |   |                      |   | P |
| Molybdenum |                                    | 7.80                              | J |   |   |   |   |                      |   | P |
| Nickel     |                                    | 6.60                              | U |   |   |   |   |                      |   | P |
| Potassium  |                                    | 500.00                            | U |   |   |   |   |                      |   | P |
| Selenium   |                                    | 5.40                              | U |   |   |   |   |                      |   | P |
| Silver     |                                    | 0.90                              | U |   |   |   |   |                      |   | P |
| Sodium     |                                    | 190.00                            | U |   |   |   |   |                      |   | P |
| Thallium   |                                    | 6.50                              | U |   |   |   |   |                      |   | P |
| Tin        |                                    | 19.00                             | U |   |   |   |   |                      |   | P |
| Vanadium   |                                    | 0.69                              | U |   |   |   |   |                      |   | P |
| Zinc       |                                    | 14.00                             | U |   |   |   |   |                      |   | P |

Comments:

**METALS**

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**LABORATORY CONTROL SAMPLE**

Contract: R2109414

Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG NO.: TK-SD-ST24-0

Solid LCS Source: CPI

Aqueous LCS Source: \_\_\_\_\_

| Analyte    | Aqueous (ug/L |       |    | Solid (mg/K |         |   |               |     |
|------------|---------------|-------|----|-------------|---------|---|---------------|-----|
|            | True          | Found | %R | True        | Found   | C | Limits        | %R  |
| Aluminum   |               |       |    | 200         | 196.15  |   | 160   240     | 98  |
| Antimony   |               |       |    | 50          | 46.23   |   | 40   60       | 92  |
| Arsenic    |               |       |    | 4           | 3.86    |   | 3.2   4.8     | 96  |
| Barium     |               |       |    | 200         | 199.81  |   | 160   240     | 100 |
| Beryllium  |               |       |    | 5           | 4.83    |   | 4   6         | 97  |
| Boron      |               |       |    | 100         | 93.87   |   | 160   240     | 94  |
| Cadmium    |               |       |    | 5           | 4.89    |   | 4   6         | 98  |
| Mercury    |               |       |    | 0.10        | 0.097   |   | 0.077   0.133 | 97  |
| Calcium    |               |       |    | 200         | 204.66  |   | 160   240     | 102 |
| Chromium   |               |       |    | 20          | 20.13   |   | 16   24       | 101 |
| Cobalt     |               |       |    | 50          | 49.88   |   | 40   60       | 100 |
| Copper     |               |       |    | 25          | 24.68   |   | 20   30       | 99  |
| Iron       |               |       |    | 100         | 98.56   |   | 80   120      | 99  |
| Lead       |               |       |    | 50          | 47.94   |   | 40   60       | 96  |
| Magnesium  |               |       |    | 200         | 188.41  |   | 160   240     | 94  |
| Manganese  |               |       |    | 50          | 48.85   |   | 40   60       | 98  |
| Molybdenum |               |       |    | 50          | 49.11   |   | 40   60       | 98  |
| Nickel     |               |       |    | 50          | 48.91   |   | 40   60       | 98  |
| Potassium  |               |       |    | 2000        | 1931.14 |   | 1600   2400   | 97  |
| Selenium   |               |       |    | 101         | 84.13   |   | 80.8   121    | 83  |
| Silver     |               |       |    | 5           | 4.68    |   | 4   6         | 94  |
| Sodium     |               |       |    | 2000        | 1966.67 |   | 1600   2400   | 98  |
| Thallium   |               |       |    | 200         | 179.95  |   | 160   240     | 90  |
| Tin        |               |       |    | 500         | 479.16  |   | 400   600     | 96  |
| Vanadium   |               |       |    | 50          | 49.05   |   | 40   60       | 98  |
| Zinc       |               |       |    | 50          | 47.06   |   | 40   60       | 94  |

Comments: \_\_\_\_\_



## General Chemistry

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Analytical Report

**Client:** Inventum Engineering  
**Project:** RITC Tanks  
**Sample Matrix:** Soil  
  
**Sample Name:** Method Blank  
**Lab Code:** R2109414-MB

**Service Request:** R2109414  
**Date Collected:** NA  
**Date Received:** NA  
  
**Basis:** Dry

Inorganic Parameters

| Analyte Name        | Analysis Method | Result | Units | MRL  | MDL  | Dil. | Date Analyzed  | Date Extracted | Q |
|---------------------|-----------------|--------|-------|------|------|------|----------------|----------------|---|
| Cyanide, Total      | 9012B           | 0.17 U | mg/Kg | 0.30 | 0.17 | 1    | 09/15/21 22:16 | 09/15/21       |   |
| Fluoride            | 9056A           | 2 U    | mg/Kg | 20   | 2    | 1    | 09/16/21 16:29 | 09/16/21       |   |
| Nitrate as Nitrogen | 9056A           | 3 U    | mg/Kg | 10   | 3    | 1    | 09/16/21 16:29 | 09/16/21       |   |
| Nitrite as Nitrogen | 9056A           | 4 U    | mg/Kg | 10   | 4    | 1    | 09/16/21 16:29 | 09/16/21       |   |

**ALS Group USA, Corp.**

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QA/QC Report

**Client:** Inventum Engineering  
**Project:** RITC Tanks  
**Sample Matrix:** Soil

**Service Request:** R2109414  
**Date Analyzed:** 09/15/21

**Lab Control Sample Summary**  
**General Chemistry Parameters**

**Units:**mg/Kg**Basis:**Dry**Lab Control Sample**

R2109414-LCS2

| <b>Analyte Name</b> | <b>Analytical Method</b> | <b>Result</b> | <b>Spike Amount</b> | <b>% Rec</b> | <b>% Rec Limits</b> |
|---------------------|--------------------------|---------------|---------------------|--------------|---------------------|
| Cyanide, Total      | 9012B                    | 3.00          | 3.00                | 100          | 85-115              |

**ALS Group USA, Corp.**

dba ALS Environmental

QA/QC Report

**Client:** Inventum Engineering  
**Project:** RITC Tanks  
**Sample Matrix:** Soil

**Service Request:** R2109414  
**Date Analyzed:** 09/15/21

**Lab Control Sample Summary**  
**General Chemistry Parameters**

**Units:**mg/Kg**Basis:**Dry**Lab Control Sample**

R2109414-LCS3

| <b>Analyte Name</b> | <b>Analytical Method</b> | <b>Result</b> | <b>Spike Amount</b> | <b>% Rec</b> | <b>% Rec Limits</b> |
|---------------------|--------------------------|---------------|---------------------|--------------|---------------------|
| Cyanide, Total      | 9012B                    | 17.8          | 18.0                | 99           | 85-115              |

ALS Group USA, Corp.  
dba ALS Environmental

QA/QC Report

**Client:** Inventum Engineering  
**Project:** RITC Tanks  
**Sample Matrix:** Soil

**Service Request:** R2109414  
**Date Analyzed:** 09/16/21

**Duplicate Lab Control Sample Summary**  
**General Chemistry Parameters**

**Units:**mg/Kg  
**Basis:**Dry

| Lab Control Sample  |                   |        |              |       | Duplicate Lab Control Sample |              |       |              |     |           |
|---------------------|-------------------|--------|--------------|-------|------------------------------|--------------|-------|--------------|-----|-----------|
| R2109414-LCS1       |                   |        |              |       | R2109414-DLCS1               |              |       |              |     |           |
| Analyte Name        | Analytical Method | Result | Spike Amount | % Rec | Result                       | Spike Amount | % Rec | % Rec Limits | RPD | RPD Limit |
| Fluoride            | 9056A             | 95.1   | 100          | 95    | 95.3                         | 100          | 95    | 80-120       | <1  | 15        |
| Nitrate as Nitrogen | 9056A             | 94.9   | 100          | 95    | 95.0                         | 100          | 95    | 80-120       | <1  | 15        |
| Nitrite as Nitrogen | 9056A             | 92     | 100          | 92    | 92                           | 100          | 92    | 80-120       | <1  | 15        |



## Subcontracted Analytical Parameters

**ALS Environmental—Rochester Laboratory**

1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623

Phone (585) 288-5380 Fax (585) 288-8475

[www.alsglobal.com](http://www.alsglobal.com)

October 22, 2021

Reports and Invoices  
ALS Environmental  
1565 Jefferson Road  
Building 300, Suite 360  
Rochester, NY 14623

## Certificate of Analysis

|                 |                                              |               |                 |
|-----------------|----------------------------------------------|---------------|-----------------|
| Project Name:   | <b>2021-TCLP BORON; TOTAL URANIUM,SULFUR</b> | Workorder:    | <b>3201050</b>  |
| Purchase Order: | <b>58-R2109414</b>                           | Workorder ID: | <b>R2109414</b> |

Dear Reports Invoices:

Enclosed are the analytical results for samples received by the laboratory on Wednesday, September 15, 2021.

The ALS Environmental laboratory in Middletown, Pennsylvania is a National Environmental Laboratory Accreditation Program (NELAP) accredited laboratory and as such, certifies that all applicable test results meet the requirements of NELAP.

If you have any questions regarding this certificate of analysis, please contact Ms. Sarah S Leung (Project Coordinator) at (717) 944-5541.

Analyses were performed according to our laboratory's NELAP-approved quality assurance program and any applicable state requirements. The test results meet requirements of the current NELAP standards or state requirements, where applicable. For a specific list of accredited analytes, refer to the certifications section of the ALS website at [www.alsglobal.com/en/Our-Services/Life-Sciences/Environmental/Downloads](http://www.alsglobal.com/en/Our-Services/Life-Sciences/Environmental/Downloads).

This laboratory report may not be reproduced, except in full, without the written approval of ALS Environmental.

ALS Spring City: 10 Riverside Drive, Spring City, PA 19475 610-948-4903

CC: Mr. Michael Chevalier , Ms. Meghan Pedro , Mr. Brady Kalkman ,  
Ms. Janice Jaeger

*This page is included as part of the Analytical Report and  
must be retained as a permanent record thereof.*



Ms. Sarah S Leung  
Project Coordinator

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**SAMPLE SUMMARY**

Workorder: 3201050 R2109414

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| Lab ID     | Sample ID           | Matrix | Date Collected  | Date Received   | Collected By        |
|------------|---------------------|--------|-----------------|-----------------|---------------------|
| 3201050001 | TK-SD-ST24-09102021 | Solid  | 9/10/2021 00:00 | 9/15/2021 09:55 | Collected by Client |

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## SAMPLE SUMMARY

Workorder: 3201050 R2109414

### Notes

- Samples collected by ALS personnel are done so in accordance with the procedures set forth in the ALS Field Sampling Plan (20 - Field Services Sampling Plan).
- All Waste Water analyses comply with methodology requirements of 40 CFR Part 136.
- All Drinking Water analyses comply with methodology requirements of 40 CFR Part 141.
- Unless otherwise noted, all quantitative results for soils are reported on a dry weight basis.
- The Chain of Custody document is included as part of this report.
- All Library Search analytes should be regarded as tentative identifications based on the presumptive evidence of the mass spectra. Concentrations reported are estimated values.
- Parameters identified as "analyze immediately" require analysis within 15 minutes of collection. Any "analyze immediately" parameters not listed under the header "Field Parameters" are performed in the laboratory and are therefore analyzed out of hold time.
- Method references listed on this report beginning with the prefix "S" followed by a method number (such as S2310B-97) refer to methods from "Standard Methods for the Examination of Water and Wastewater".
- For microbiological analyses, the "Prepared" value is the date/time into the incubator and the "Analyzed" value is the date/time out the incubator.
- An Analysis-Prep Method Cross Reference Table is included after Analytical Results & Qualifiers section in this report.

### Standard Acronyms/Flags

|        |                                                                                                                                      |
|--------|--------------------------------------------------------------------------------------------------------------------------------------|
| C      | Please reference the Project Summary section of this Certificate of Analysis for case narrative comments.                            |
| J      | Indicates an estimated value between the Method Detection Limit (MDL) and the Practical Quantitation Limit (PQL) for the analyte     |
| U      | Indicates that the analyte was Not Detected (ND)                                                                                     |
| N      | Indicates presumptive evidence of the presence of a compound                                                                         |
| MDL    | Method Detection Limit                                                                                                               |
| PQL    | Practical Quantitation Limit                                                                                                         |
| RDL    | Reporting Detection Limit                                                                                                            |
| ND     | Not Detected - indicates that the analyte was Not Detected at the RDL                                                                |
| Cntr   | Analysis was performed using this container                                                                                          |
| RegLmt | Regulatory Limit                                                                                                                     |
| LCS    | Laboratory Control Sample                                                                                                            |
| MS     | Matrix Spike                                                                                                                         |
| MSD    | Matrix Spike Duplicate                                                                                                               |
| DUP    | Sample Duplicate                                                                                                                     |
| %Rec   | Percent Recovery                                                                                                                     |
| RPD    | Relative Percent Difference                                                                                                          |
| LOD    | DoD Limit of Detection                                                                                                               |
| LOQ    | DoD Limit of Quantitation                                                                                                            |
| DL     | DoD Detection Limit                                                                                                                  |
| I      | Indicates reported value is greater than or equal to the Method Detection Limit (MDL) but less than the Report Detection Limit (RDL) |
| (S)    | Surrogate Compound                                                                                                                   |
| NC     | Not Calculated                                                                                                                       |
| *      | Result outside of QC limits                                                                                                          |

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**ALS Environmental**



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301 Fulling Mill Road - Middletown, PA 17057 - Phone: 717-944-5541 - Fax: 717-944-1430 - [www.alsglobal.com](http://www.alsglobal.com)

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NELAP Certifications: NJ PA010 , NY 11759 , PA 22-293 DoD ELAP: PJLA 74618  
State Certifications: FL E871113 , WA C999 , MD 128 , VA 460157 , WV DW 9961-C , WV 343

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## PROJECT SUMMARY

Workorder: 3201050 R2109414

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### Workorder Comments

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Temperature of sample taken at time of sample receipt in the laboratory. See chain of custody for actual temperature.

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## ANALYTICAL RESULTS

Workorder: 3201050 R2109414

Lab ID: **3201050001**  
Sample ID: **TK-SD-ST24-09102021**

Date Collected: 9/10/2021 00:00 Matrix: Solid  
Date Received: 9/15/2021 09:55

| Parameters           | Results | Flag | Units | RDL  | MDL  | Method      | Prepared By       | Analyzed       | By  | Cntr |
|----------------------|---------|------|-------|------|------|-------------|-------------------|----------------|-----|------|
| <b>WET CHEMISTRY</b> |         |      |       |      |      |             |                   |                |     |      |
| Moisture             | 47.6    | C    | %     | 0.1  | 0.01 | S2540G-11   |                   | 9/17/21 11:50  | IXK | A    |
| Total Solids         | 52.4    | C    | %     | 0.1  | 0.01 | S2540G-11   |                   | 9/17/21 11:50  | IXK | A    |
| <b>METALS</b>        |         |      |       |      |      |             |                   |                |     |      |
| Sulfur               | 6870    | C    | mg/kg | 85.2 | 28.4 | SW846 6010C | 9/21/21 22:13 SXC | 9/22/21 10:05  | SRT | A1   |
| Uranium, Total       | ND      | C    | mg/kg | 4.3  | 1.4  | SW846 6020A | 9/21/21 22:13 SXC | 10/22/21 08:43 | MSA | A1   |

Ms. Sarah S Leung  
Project Coordinator

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## ANALYSIS - PREP METHOD CROSS REFERENCE TABLE

Workorder: 3201050 R2109414

| Lab ID     | Sample ID           | Analysis Method | Prep Method | Leachate Method |
|------------|---------------------|-----------------|-------------|-----------------|
| 3201050001 | TK-SD-ST24-09102021 | S2540G-11       |             |                 |
| 3201050001 | TK-SD-ST24-09102021 | SW846 6010C     | SW846 3051  |                 |
| 3201050001 | TK-SD-ST24-09102021 | SW846 6020A     | SW846 3051  |                 |

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### QUALITY CONTROL DATA

Workorder: 3201050 R2109414

**QC Batch:** MDIG/91728      **Analysis Method:** SW846 6010C  
**QC Batch Method:** SW846 3051  
**Associated Lab Samples:** 3201050001

#### METHOD BLANK: 3394616

| Parameter      | Blank Result | Units | Reporting Limit |
|----------------|--------------|-------|-----------------|
| Sulfur         | ND           | mg/kg | 10.0            |
| Uranium, Total | ND           | mg/kg | 2.5             |

#### LABORATORY CONTROL SAMPLE: 3394617

| Parameter | LCS % Rec | Units | Spike Conc. | LCS Result | % Rec Limit |
|-----------|-----------|-------|-------------|------------|-------------|
| Sulfur    | 105       | mg/kg | 1000        | 1050       | 80 - 120    |

#### LABORATORY CONTROL SAMPLE: 3394618

| Parameter      | LCS % Rec | Units | Spike Conc. | LCS Result | % Rec Limit |
|----------------|-----------|-------|-------------|------------|-------------|
| Uranium, Total | 96.9      | mg/kg | 10          | 9.7        |             |

#### MATRIX SPIKE: 3394621 DUPLICATE: 3394622 ORIGINAL: 3199919001

\*\*\*\*NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

| Parameter | Original Result | Units | Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limit | RPD | Max RPD |
|-----------|-----------------|-------|-------------|-----------|------------|----------|-----------|-------------|-----|---------|
| Sulfur    | 2780.1047       | mg/kg | 921         | 3682.320  | 3381.944   | 98       | 60.7*     | 75 - 125    | 8.5 | 20      |

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### QUALITY CONTROL DATA

Workorder: 3201050 R2109414

**QC Batch:** WETC/260327      **Analysis Method:** S2540G-11  
**QC Batch Method:** S2540G-11  
**Associated Lab Samples:** 3201050001

SAMPLE DUPLICATE: 3392715 ORIGINAL: 3200420001

| Parameter    | Original Result | Units | DUP Result | RPD  | Max RPD |
|--------------|-----------------|-------|------------|------|---------|
| Moisture     | .0994           | %     | .4016      | 121* | 10      |
| Total Solids | 99.9005         | %     | 99.5983    | .3   | 5       |

SAMPLE DUPLICATE: 3392716 ORIGINAL: 3200420011

| Parameter    | Original Result | Units | DUP Result | RPD   | Max RPD |
|--------------|-----------------|-------|------------|-------|---------|
| Moisture     | 1.8348          | %     | 2.1621     | 16.4* | 10      |
| Total Solids | 98.1651         | %     | 97.8378    | .33   | 5       |

SAMPLE DUPLICATE: 3392717 ORIGINAL: 3200798001

| Parameter    | Original Result | Units | DUP Result | RPD   | Max RPD |
|--------------|-----------------|-------|------------|-------|---------|
| Moisture     | 99.734          | %     | 99.7916    | .06   | 10      |
| Total Solids | .2659           | %     | .2083      | 24.3* | 5       |

SAMPLE DUPLICATE: 3392718 ORIGINAL: 3200905001

| Parameter    | Original Result | Units | DUP Result | RPD  | Max RPD |
|--------------|-----------------|-------|------------|------|---------|
| Moisture     | 23.6566         | %     | 24.5622    | 3.76 | 10      |
| Total Solids | 76.3433         | %     | 75.4377    | 1.19 | 5       |

SAMPLE DUPLICATE: 3392719 ORIGINAL: 3200938001

| Parameter    | Original Result | Units | DUP Result | RPD  | Max RPD |
|--------------|-----------------|-------|------------|------|---------|
| Moisture     | 11.4811         | %     | 11.8103    | 2.83 | 10      |
| Total Solids | 88.5188         | %     | 88.1896    | .37  | 5       |

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**QUALITY CONTROL DATA**

Workorder: 3201050 R2109414

SAMPLE DUPLICATE: 3392720 ORIGINAL: 3201050001

| Parameter    | Original Result | Units | DUP Result | RPD | Max RPD |
|--------------|-----------------|-------|------------|-----|---------|
| Moisture     | 47.5777         | %     | 47.7219    | .3  | 10      |
| Total Solids | 52.4222         | %     | 52.278     | .28 | 5       |

SAMPLE DUPLICATE: 3392721 ORIGINAL: 3201063002

| Parameter    | Original Result | Units | DUP Result | RPD  | Max RPD |
|--------------|-----------------|-------|------------|------|---------|
| Moisture     | 6.8027          | %     | 6.8716     | 1.01 | 10      |
| Total Solids | 93.1972         | %     | 93.1283    | .07  | 5       |

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### QUALITY CONTROL DATA CROSS REFERENCE TABLE

Workorder: 3201050 R2109414

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| Lab ID     | Sample ID           | Prep Method | Prep Batch | Analysis Method | Analysis Batch |
|------------|---------------------|-------------|------------|-----------------|----------------|
| 3201050001 | TK-SD-ST24-09102021 |             |            | S2540G-11       | WETC/260327    |
| 3201050001 | TK-SD-ST24-09102021 | SW846 3051  | MDIG/91728 | SW846 6010C     | META/83191     |
| 3201050001 | TK-SD-ST24-09102021 | SW846 3051  | MDIG/91728 | SW846 6020A     | META/83714     |

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# ALS Environmental Chain of Custody

1565 Jefferson Rd, Building 300 • Rochester, NY 14623 • 585-288-5380 • FAX 585-288-8475

ALS Contact: Meghan Pedro

Project Number: R2109414  
Project Manager: Meghan Pedro  
QAP: LAB QAP



| Lab Code     | Sample ID           | # of Cont. | Matrix | Sample  |      | Lab ID         | Misc Out 1<br>None | Misc Out 2<br>None |
|--------------|---------------------|------------|--------|---------|------|----------------|--------------------|--------------------|
|              |                     |            |        | Date    | Time |                |                    |                    |
| R2109414-001 | TK-SD-ST24-09102021 | /          | Soil   | 9/10/21 |      | Middletown ALS | X                  | X                  |

Test Comments  
Misc Out 1 - None R2109414-001 TOTAL URANIUM  
Misc Out 2 - None R2109414-001 TOTAL SULFUR

2° 573

|                                                                                                  |                                                                                                                                                                          |                                                                                                                                                                                                              |                                                  |
|--------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------|
| Special Instructions/Comments<br><br>H - Test is On Hold<br>P - Test is Authorized for Prep Only | Turnaround Requirements<br>RUSH (Surcharges Apply)<br>PLEASE CIRCLE WORK DAYS<br>1 2 3 4 5<br>X STANDARD<br>Requested FAX Date: _____<br>Requested Report Date: 10/01/21 | Report Requirements<br>I. Results Only<br>X II. Results + QC Summaries<br>III. Results + QC and Calibration Summaries<br>X IV. Data Validation Report with Raw Data<br>PQL/MDL/J Y<br>EDD Y<br>NYSOL Equus 4 | Invoice Information<br>PO# 58R2109414<br>Bill to |
|                                                                                                  | Relinquished By: <u>Shayla</u> 9/14/21 1600<br>Received By: <u>Fed Ex</u> 9/15/21 0955<br>Airbill Number: <u>Equus Express Honeywell</u>                                 |                                                                                                                                                                                                              |                                                  |

ALS

R2109414

— Ship To: Middletown ALS  
ALS Environmental - Middletown  
301 Fulling Mill Rd.  
Middletown, PA 17057

PC \_\_\_\_\_ Date \_\_\_\_\_  
SMO \_\_\_\_\_ Date \_\_\_\_\_

| Instructions:                | Shipping:       |
|------------------------------|-----------------|
| Ice _____                    | Overnight _____ |
| Dry Ice _____                | 2nd Day _____   |
| No Ice _____                 | Ground _____    |
| Bill to Client Account _____ |                 |

Comments:

ALS Group USA, Corp.  
[www.alsglobal.com](http://www.alsglobal.com)  
An ALS Limited Company

ALS



301 Fulling Mill Road  
Middletown, PA 17057  
P: (717) 944-5541  
F: (717) 944-1430

**3201050**

# on of Sample Receipt Form

Client: \_\_\_\_\_ Work: \_\_\_\_\_

ALS Environmental - Rochester

Initials: \_\_\_\_\_

Date: \_\_\_\_\_

SHC

9/15/21

1. Were airbills / tracking numbers present and recorded?..... NONE ☒ YES ☐ NO  
Tracking number: 9889 5096 0653
2. Are Custody Seals on shipping containers intact?..... NONE ☒ YES ☐ NO
3. Are Custody Seals on sample containers intact?..... ☒ NONE ☐ YES ☐ NO
4. Is there a COC (Chain-of-Custody) present?..... ☒ YES ☐ NO
5. Are the COC and bottle labels complete, legible and in agreement?..... YES ☒ NO ☐
  - 5a. Does the COC contain sample locations?..... YES ☒ NO ☐
  - 5b. Does the COC contain date and time of sample collection for all samples?..... No time ☒ YES ☐ NO ☐
  - 5c. Does the COC contain sample collectors name?..... YES ☒ NO ☐
  - 5d. Does the COC note the type(s) of preservation for all bottles?..... G/UNP YES ☒ NO ☐
  - 5e. Does the COC note the number of bottles submitted for each sample?..... YES ☒ NO ☐
  - 5f. Does the COC note the type of sample, composite or grab?..... YES ☒ NO ☐
  - 5g. Does the COC note the matrix of the sample(s)?..... SO YES ☒ NO ☐
6. Are all aqueous samples requiring preservation preserved correctly?<sup>1</sup>..... ☒ N/A ☐ YES ☐ NO
7. Were all samples placed in the proper containers for the requested analyses, with sufficient volume?..... ☒ YES ☐ NO
8. Are all samples within holding times for the requested analyses?..... ☒ YES ☐ NO
9. Were all sample containers received intact and headspace free when required? (not broken, leaking, frozen, etc.)..... ☒ YES ☐ NO
10. Did we receive trip blanks ( applies only for methods EPA 504, EPA 524.2 and 1631E (LL Hg)?..... ☒ N/A ☐ YES ☐ NO
11. Were the samples received on ice?..... ☒ YES ☐ NO
12. Were sample temperatures measured at 0.0-6.0°C..... ☒ YES ☐ NO
13. Are the samples DW matrix ? If YES, fill out Reportable Drinking Water questions below..... YES ☒ NO ☐
  - 13a. Are the samples required for SDWA compliance reporting?..... N/A YES ☐ NO ☐
  - 13b. Did the client provide a SDWA PWS ID#?..... N/A YES ☐ NO ☐
  - 13c. Are all aqueous unpreserved SDWA samples pH 5-9?..... N/A YES ☐ NO ☐
  - 13d. Did the client provide the SDWA sample location ID/Description?..... N/A YES ☐ NO ☐
  - 13e. Did the client provide the SDWA sample type (D, E, R, C, P, S)?..... N/A YES ☐ NO ☐

SHC  
9/15/21

Cooler #: \_\_\_\_\_

Temperature (°C): 2°

Thermometer ID: 573

Radiological (µCi): (3)

COMMENTS (Required for all NO responses above and any sample non-conformance):

<sup>1</sup>Final determination of correct preservation for analysis such as volatiles, microbiology, and oil and grease is made in the analytical department at the time of or following the analysis



October 1, 2021

Client: Inventum Engineering  
481 Carlisle Drive  
Herndon, VA 20170

Attn: John Black

Project: RITC Tanks

ALS : R2109414

Date Received: September 11, 2021

### Certificate of Analysis

| Sample ID:          | Sample Date<br>and Time: | Lab #:       | Moisture     | Heating Value                  |                       |
|---------------------|--------------------------|--------------|--------------|--------------------------------|-----------------------|
|                     |                          |              | D3173<br>wt% | D5865<br>As Received<br>BTU/lb | Moist. Free<br>BTU/lb |
| TK-SD-ST24-09102021 | 9/10/21 n/a              | R2109414-001 | 51.42        | 1,607                          | 3,309                 |

Wendy Hyatt, Laboratory Director



October 1, 2021

Client: Inventum Engineering  
481 Carlisle Drive  
Herndon, VA 20170

Attn: John Black

Project: RITC Tanks

ALS : R2109414

Date Received: September 11, 2021

### Quality Control

| Sample ID:    | Sample Date and Time: | Lab #: | Moisture<br>D3173<br>wt% | Heating Value<br>D5865<br>As Received<br>BTU/lb |  |
|---------------|-----------------------|--------|--------------------------|-------------------------------------------------|--|
| Analysis Date |                       |        | 9/30/21                  | 10/1/21                                         |  |
| Prep Blank    |                       |        | 0.13                     | n/a                                             |  |
| LCS           |                       |        | Sand + Water             | AR100                                           |  |
| CN            |                       |        |                          |                                                 |  |
|               | Observed Value        |        | 21.54                    | 18,609                                          |  |
|               | True Value            |        | 21.58                    | 18,408                                          |  |
|               | %R                    |        | 99.8                     | 101.1                                           |  |
| Duplicate     |                       |        | R2101527-001             | R2109754-001                                    |  |
|               | Observed Value        |        | 6.78                     | 12,740                                          |  |
|               | Duplicate Value       |        | 6.95                     | 11,956                                          |  |
|               | %RPD                  |        | 2.5                      | 6.3                                             |  |



October 18, 2021

Service Request No:R2109415

Mr. John Black  
Inventum Engineering  
481 Carlisle Drive  
Herndon, VA 20170

### Laboratory Results for: RITC Tanks

Dear Mr.Black,

Enclosed are the results of the sample(s) submitted to our laboratory September 11, 2021  
For your reference, these analyses have been assigned our service request number **R2109415**.

All testing was performed according to our laboratory's quality assurance program and met the requirements of the TNI standards except as noted in the case narrative report. Any testing not included in the lab's accreditation is identified on a Non-Certified Analytes report. All results are intended to be considered in their entirety. ALS Environmental is not responsible for use of less than the complete report. Results apply only to the individual samples submitted to the lab for analysis, as listed in the report. The measurement uncertainty of the results included in this report is within that expected when using the prescribed method(s), and represented by Laboratory Control Sample control limits. Any events, such as QC failures or Holding Time exceedances, which may add to the uncertainty are explained in the report narrative or are flagged with qualifiers. The flags are explained in the Report Qualifiers and Definitions page of this report.

Please contact me if you have any questions. My extension is 7475. You may also contact me via email at [Meghan.Pedro@alsglobal.com](mailto:Meghan.Pedro@alsglobal.com).

Respectfully submitted,

**ALS Group USA, Corp. dba ALS Environmental**

Meghan Pedro  
Project Manager

**ADDRESS**

1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623

**PHONE** +1 585 288 5380 | **FAX** +1 585 288 8475

ALS Group USA, Corp.  
dba ALS Environmental



## Narrative Documents

**ALS Environmental—Rochester Laboratory**

1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623

Phone (585) 288-5380 Fax (585) 288-8475

[www.alsglobal.com](http://www.alsglobal.com)

**Client:** Inventum Engineering  
**Project:** RITC Tanks  
**Sample Matrix:** Soil

**Service Request:** R2109415  
**Date Received:** 09/11/2021

### CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of ALS Environmental. This report contains analytical results for samples for the Tier level IV requested by the client.

#### Sample Receipt:

One soil sample was received for analysis at ALS Environmental on 09/11/2021. Any discrepancies upon initial sample inspection are annotated on the sample receipt and preservation form included within this report. The samples were stored at minimum in accordance with the analytical method requirements.

#### Semivolatiles by GC/MS:

No significant anomalies were noted with this analysis.

#### Semivolatile GC:

Method 8081B, 09/23/2021: The upper control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). The field samples analyzed in this sequence did not contain the analyte(s) in question above the Method Reporting Limit (MRL). Since the exceedance equates to a potential high bias, the data quality was not significantly affected and no further corrective action was taken.

Method 8151A, 09/22/2021: The upper control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). The field samples analyzed in this sequence did not contain the analyte(s) in question above the Method Reporting Limit (MRL). Since the exceedance equates to a potential high bias, the data quality was not significantly affected and no further corrective action was taken.

#### Metals:

Method 6010C, 09/21/2021: The upper control limit was exceeded for Selenium in the Contract Required Detection Limit Standard (CRDL). The field samples analyzed in this sequence did not contain the analyte(s) in question above the Method Reporting Limit (MRL). Since the exceedance equates to a potential high bias, the data quality was not significantly affected and no further corrective action was taken.

#### Subcontracted Analytical Parameters:

No significant anomalies were noted with this analysis.

#### Volatiles by GC/MS:

Method 8260C, 09/16/2021: The lower control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). Since there were no detections of the analyte(s) above the MRL in the associated field samples, the quantitation is not affected. The data quality was not significantly affected and no further corrective action was taken.

Approved by Meghan Pedro

Date 10/18/2021



## Sample Receipt Information

**ALS Environmental—Rochester Laboratory**

1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623

Phone (585) 288-5380 Fax (585) 288-8475

[www.alsglobal.com](http://www.alsglobal.com)

**Client:** Inventum Engineering  
**Project:** RITC Tanks

**Service Request:**R2109415

**SAMPLE CROSS-REFERENCE**

| <u>SAMPLE #</u> | <u>CLIENT SAMPLE ID</u> | <u>DATE</u> | <u>TIME</u> |
|-----------------|-------------------------|-------------|-------------|
| R2109415-001    | TK-SD-ST24-09102021     | 9/10/2021   |             |

|                                                                           |  |                                               |  |                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |              |  |                                                                                                                                                                                                                                          |  |              |  |                                         |  |  |  |  |  |  |  |
|---------------------------------------------------------------------------|--|-----------------------------------------------|--|---------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|--|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--------------|--|-----------------------------------------|--|--|--|--|--|--|--|
| Project Name<br><b>RITC</b>                                               |  | Project Number<br><b>TANKS</b>                |  | ANALYSIS REQUESTED (Include Method Number and Container Preservative)                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |              |  |                                                                                                                                                                                                                                          |  |              |  |                                         |  |  |  |  |  |  |  |
| Project Manager<br><b>JOHN BLACK</b>                                      |  | Report CC                                     |  | PRESERVATIVE                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |              |  |                                                                                                                                                                                                                                          |  |              |  |                                         |  |  |  |  |  |  |  |
| Company/Address<br><b>481 CARLISLE DR SUITE 202<br/>HERNDON, VA 20170</b> |  |                                               |  | NUMBER OF CONTAINERS                                                                                                                                          | <div style="display: flex; justify-content: space-between;"> <div style="writing-mode: vertical-rl; transform: rotate(180deg);"> GC/MS VOAs<br/>8280 &amp; 824 &amp; CLP<br/>GC/MS SVOAs<br/>8270 &amp; 825<br/>GC VOAs<br/>8021 &amp; 801/802<br/>PESTICIDES<br/>8081 &amp; 808<br/>PCBs<br/>8082 &amp; 808<br/>METALS, TOTAL &amp; Hg<br/>(List in comments below)<br/>METALS, DISSOLVED<br/>(List in comments below)<br/>TOTAL CYANIDE<br/>AMMONIA, Hg<br/>CORROSION, SOLIDS<br/>IGNITEABILITY<br/>BTU &amp; FLASHPOINT<br/>TOTAL SULFUR<br/>FULL TCLP &amp; TCLP<br/>CYANIDES, NITRATES<br/>NITRATES &amp; NITRATES<br/>FLUORIDE, URANIUM </div> <div> Preservative Key<br/> 0. NONE<br/> 1. HCL<br/> 2. HNO<sub>3</sub><br/> 3. H<sub>2</sub>SO<sub>4</sub><br/> 4. NaOH<br/> 5. Zn. Acetate<br/> 6. MeOH<br/> 7. NaHSO<sub>4</sub><br/> 8. Other _____ </div> </div> |              |  |                                                                                                                                                                                                                                          |  |              |  |                                         |  |  |  |  |  |  |  |
| Phone #<br><b>585-734-5255</b>                                            |  | Email<br><b>john.black@ " "</b>               |  |                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |              |  |                                                                                                                                                                                                                                          |  |              |  |                                         |  |  |  |  |  |  |  |
| Sampler's Signature<br><i>[Signature]</i>                                 |  | Sampler's Printed Name<br><b>ROXANNE BIRX</b> |  |                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |              |  |                                                                                                                                                                                                                                          |  |              |  |                                         |  |  |  |  |  |  |  |
| FOR OFFICE USE ONLY LAB ID                                                |  | SAMPLING DATE                                 |  | TIME                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | MATRIX       |  | REMARKS/<br>ALTERNATE DESCRIPTION                                                                                                                                                                                                        |  |              |  |                                         |  |  |  |  |  |  |  |
| CLIENT SAMPLE ID                                                          |  | DATE                                          |  | TIME                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | MATRIX       |  | SEE ATTACHED<br>PSI PARAMETERS                                                                                                                                                                                                           |  |              |  |                                         |  |  |  |  |  |  |  |
| TK-LQ-ST22-09102021                                                       |  | 9/10                                          |  |                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |              |  |                                                                                                                                                                                                                                          |  |              |  |                                         |  |  |  |  |  |  |  |
| TK-SD-ST22-09102021                                                       |  | 9/10                                          |  |                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |              |  |                                                                                                                                                                                                                                          |  |              |  |                                         |  |  |  |  |  |  |  |
| TK-LQ-ST23-09102021                                                       |  | 9/10                                          |  |                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |              |  |                                                                                                                                                                                                                                          |  |              |  |                                         |  |  |  |  |  |  |  |
| TK-SD-ST23-09102021                                                       |  | 9/10                                          |  |                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |              |  |                                                                                                                                                                                                                                          |  |              |  |                                         |  |  |  |  |  |  |  |
| TK-LQ-ST24-09102021                                                       |  | 9/10                                          |  |                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |              |  |                                                                                                                                                                                                                                          |  |              |  |                                         |  |  |  |  |  |  |  |
| TK-SD-ST24-09102021                                                       |  | 9/10                                          |  |                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |              |  |                                                                                                                                                                                                                                          |  |              |  |                                         |  |  |  |  |  |  |  |
| SPECIAL INSTRUCTIONS/COMMENTS<br>Metals                                   |  |                                               |  | TURNAROUND REQUIREMENTS<br>RUSH (SURCHARGES APPLY)<br>1 day 2 day 3 day<br>4 day 5 day<br>X Standard (10 business days-No Surcharge)<br>REQUESTED REPORT DATE |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |              |  | REPORT REQUIREMENTS<br>I. Results Only<br>II. Results + QC Summaries (LCS, DUP, MS/MSD as required)<br>III. Results + QC and Calibration Summaries<br>X IV. Data Validation Report with Raw Data<br>NYS DEC, HONEYWELL<br>Edata X Yes No |  |              |  | INVOICE INFORMATION<br>PO #<br>BILL TO: |  |  |  |  |  |  |  |
| STATE WHERE SAMPLES WERE COLLECTED NY                                     |  |                                               |  | RECEIVED BY                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |              |  | RECEIVED BY                                                                                                                                                                                                                              |  |              |  | RECEIVED BY                             |  |  |  |  |  |  |  |
| RELINQUISHED BY                                                           |  | RECEIVED BY                                   |  | RELINQUISHED BY                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | RECEIVED BY  |  | RELINQUISHED BY                                                                                                                                                                                                                          |  | RECEIVED BY  |  | RECEIVED BY                             |  |  |  |  |  |  |  |
| Signature <i>[Signature]</i>                                              |  | Signature <i>[Signature]</i>                  |  | Signature                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Signature    |  | Signature                                                                                                                                                                                                                                |  | Signature    |  | Signature                               |  |  |  |  |  |  |  |
| Printed Name <i>[Name]</i>                                                |  | Printed Name <i>[Name]</i>                    |  | Printed Name                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Printed Name |  | Printed Name                                                                                                                                                                                                                             |  | Printed Name |  | Printed Name                            |  |  |  |  |  |  |  |
| Firm <i>[Firm]</i>                                                        |  | Firm <i>[Firm]</i>                            |  | Firm                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Firm         |  | Firm                                                                                                                                                                                                                                     |  | Firm         |  | Firm                                    |  |  |  |  |  |  |  |
| Date/Time <i>[Date/Time]</i>                                              |  | Date/Time <i>[Date/Time]</i>                  |  | Date/Time                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Date/Time    |  | Date/Time                                                                                                                                                                                                                                |  | Date/Time    |  | Date/Time                               |  |  |  |  |  |  |  |



# Cooler Receipt and Preservation Check Form

R2109415

Inventum Engineering  
RITC Tanks

5



Project/Client RITC Folder Number \_\_\_\_\_

Cooler received on 9/11/21 by: MM COURIER: ALS UPS FEDEX VELOCITY CLIENT

|   |                                                      |              |    |                                                   |                               |
|---|------------------------------------------------------|--------------|----|---------------------------------------------------|-------------------------------|
| 1 | Were Custody seals on outside of cooler?             | Y <u>(N)</u> | 5a | Perchlorate samples have required headspace?      | Y N <u>NA</u>                 |
| 2 | Custody papers properly completed (ink, signed)?     | Y <u>(N)</u> | 5b | Did VOA vials, Alk, or Sulfide have sig* bubbles? | Y <u>(N)</u> NA               |
| 3 | Did all bottles arrive in good condition (unbroken)? | Y <u>(N)</u> | 6  | Where did the bottles originate?                  | <u>ALS/ROC</u> CLIENT         |
| 4 | Circle: <u>Wet Ice</u> Dry Ice Gel packs present?    | <u>(X)</u> N | 7  | Soil VOA received as:                             | Bulk Encore 5035set <u>NA</u> |

8. Temperature Readings Date: 9/11/21 Time: 9:45 ID: IR#7 IR#11 From: Temp Blank Sample Bottle

|                               |              |              |              |     |     |     |     |
|-------------------------------|--------------|--------------|--------------|-----|-----|-----|-----|
| Observed Temp (°C)            | <u>9.7</u>   | <u>13.4</u>  | <u>10.6</u>  |     |     |     |     |
| Within 0-6°C?                 | Y <u>(N)</u> | Y <u>(N)</u> | Y <u>(N)</u> | Y N | Y N | Y N | Y N |
| If <0°C, were samples frozen? | Y N          | Y N          | Y N          | Y N | Y N | Y N | Y N |

If out of Temperature, note packing/ice condition: Ice melted Poorly Packed (described below) Same Day Rule  
& Client Approval to Run Samples: \_\_\_\_\_ Standing Approval Client aware at drop-off Client notified by: \_\_\_\_\_

All samples held in storage location: R1002 by MM on 9/11/21 at 10:15  
5035 samples placed in storage location: \_\_\_\_\_ by \_\_\_\_\_ on \_\_\_\_\_ at \_\_\_\_\_ within 48 hours of sampling? Y N

Cooler Breakdown/Preservation Check\*\*: Date: 9/14/21 Time: 1328 by: W

9. Were all bottle labels complete (i.e. analysis, preservation, etc.)? YES NO  
10. Did all bottle labels and tags agree with custody papers? YES NO  
11. Were correct containers used for the tests indicated? YES NO  
12. Were 5035 vials acceptable (no extra labels, not leaking)? YES NO  
13. Air Samples: Cassettes / Tubes Intact Y / N with MS Y / N Canisters Pressurized Tedlar® Bags Inflated N/A

| pH                    | Lot of test paper | Reagent                                       | Preserved? | Lot Received                                                                                             | Exp | Sample ID Adjusted | Vol. Added | Lot Added | Final pH |
|-----------------------|-------------------|-----------------------------------------------|------------|----------------------------------------------------------------------------------------------------------|-----|--------------------|------------|-----------|----------|
| ≥12                   |                   | NaOH                                          | Yes No     |                                                                                                          |     |                    |            |           |          |
| ≤2                    |                   | HNO <sub>3</sub>                              |            |                                                                                                          |     |                    |            |           |          |
| ≤2                    |                   | H <sub>2</sub> SO <sub>4</sub>                |            |                                                                                                          |     |                    |            |           |          |
| <4                    |                   | NaHSO <sub>4</sub>                            |            |                                                                                                          |     |                    |            |           |          |
| 5-9                   |                   | For 608pest                                   |            | No=Notify for 3day                                                                                       |     |                    |            |           |          |
| Residual Chlorine (-) |                   | For CN, Phenol, 625, 608pest, 522             |            | If +, contact PM to add Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> (625, 608, CN), ascorbic (phenol). |     |                    |            |           |          |
|                       |                   | Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> |            |                                                                                                          |     |                    |            |           |          |
|                       |                   | ZnAcetate                                     | - -        |                                                                                                          |     |                    |            |           |          |
|                       |                   | HCl                                           | ** **      |                                                                                                          |     |                    |            |           |          |

\*\*VOAs and 1664 Not to be tested before analysis. Otherwise, all bottles of all samples with chemical preservatives are checked (not just representatives).

Bottle lot numbers: 071381-172  
Explain all Discrepancies/ Other Comments:

\* TK-LQ-ST23-09102021 reactivity has broken cap,  
TK-LQ-ST22-09102021 8260 TCLP 1 vial shattered  
& Missing 1 NO<sub>2</sub> bottle

|            |        |
|------------|--------|
| HPROD      | BULK   |
| HTR        | FLDT   |
| <u>SUB</u> | HGFB   |
| ALS        | LL3541 |

Labels secondary reviewed by: W  
PC Secondary Review: \_\_\_\_\_

\*significant air bubbles: VOA > 5-6 mm : WC > 1 in. diameter

**ALS Group USA, Corp.**  
dba ALS Environmental  
**Internal Chain of Custody Report**

**Client:** Inventum Engineering  
**Project:** RITC Tanks

**Service Request:** R2109415

| Bottle ID       | Methods                                   | Date      | Time | Sample Location / User | Disposed On |
|-----------------|-------------------------------------------|-----------|------|------------------------|-------------|
| R2109415-001.01 | EPA 1311                                  | 9/14/2021 | 1347 | SMO / GESMERIAN        |             |
|                 |                                           | 9/14/2021 | 1348 | R-002-A / GESMERIAN    |             |
|                 |                                           |           |      |                        |             |
| R2109415-001.02 |                                           | 9/14/2021 | 1347 | SMO / GESMERIAN        |             |
|                 |                                           | 9/14/2021 | 1348 | SUBBED / GESMERIAN     |             |
|                 |                                           |           |      |                        |             |
| R2109415-001.03 | EPA 1311                                  | 9/14/2021 | 1348 | SMO / GESMERIAN        |             |
|                 |                                           | 9/14/2021 | 1348 | R-002-A / GESMERIAN    |             |
|                 |                                           | 9/15/2021 | 1359 | In Lab / AMOSES        |             |
|                 |                                           |           |      |                        |             |
| R2109415-001.04 | 8260C                                     | 9/16/2021 | 0954 | In Lab / JMISIUREWICZ  |             |
|                 |                                           | 9/16/2021 | 0954 | R-001 / JMISIUREWICZ   |             |
|                 |                                           | 9/16/2021 | 1040 | In Lab / FNAEGLER      |             |
|                 |                                           | 9/16/2021 | 1041 | R-001-S10 / FNAEGLER   |             |
| R2109415-001.05 |                                           | 9/16/2021 | 0954 | In Lab / JMISIUREWICZ  |             |
|                 |                                           | 9/16/2021 | 0954 | R-001 / JMISIUREWICZ   |             |
|                 |                                           |           |      |                        |             |
| R2109415-001.06 | 7470A,6010C,6010C,6010C,6010C,6010C,6010C | 9/16/2021 | 1102 | In Lab / MMCMAHON      |             |
|                 |                                           | 9/17/2021 | 1244 | In Lab / BDIAMOND      |             |
|                 |                                           | 9/20/2021 | 1209 | In Lab / BDIAMOND      |             |
|                 |                                           | 9/21/2021 | 0852 | R-A01 / BDIAMOND       |             |
|                 |                                           |           |      |                        |             |
| R2109415-001.07 | 8151A,8081B,8270D                         | 9/16/2021 | 1102 | In Lab / MMCMAHON      |             |
|                 |                                           |           |      |                        |             |



## Miscellaneous Forms

**ALS Environmental—Rochester Laboratory**

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## REPORT QUALIFIERS AND DEFINITIONS

|   |                                                                                                                                                                                                                                                                                                        |     |                                                                                                                                                                                                                      |
|---|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| U | Analyte was analyzed for but not detected. The sample quantitation limit has been corrected for dilution and for percent moisture, unless otherwise noted in the case narrative.                                                                                                                       | +   | Correlation coefficient for MSA is <0.995.                                                                                                                                                                           |
| J | Estimated value due to either being a Tentatively Identified Compound (TIC) or that the concentration is between the MRL and the MDL. Concentrations are not verified within the linear range of the calibration. For DoD: concentration >40% difference between two GC columns (pesticides/Aroclors). | N   | Inorganics- Matrix spike recovery was outside laboratory limits.                                                                                                                                                     |
| B | Analyte was also detected in the associated method blank at a concentration that may have contributed to the sample result.                                                                                                                                                                            | N   | Organics- Presumptive evidence of a compound (reported as a TIC) based on the MS library search.                                                                                                                     |
| E | Inorganics- Concentration is estimated due to the serial dilution was outside control limits.                                                                                                                                                                                                          | S   | Concentration has been determined using Method of Standard Additions (MSA).                                                                                                                                          |
| E | Organics- Concentration has exceeded the calibration range for that specific analysis.                                                                                                                                                                                                                 | W   | Post-Digestion Spike recovery is outside control limits and the sample absorbance is <50% of the spike absorbance.                                                                                                   |
| D | Concentration is a result of a dilution, typically a secondary analysis of the sample due to exceeding the calibration range or that a surrogate has been diluted out of the sample and cannot be assessed.                                                                                            | P   | Concentration >40% difference between the two GC columns.                                                                                                                                                            |
| * | Indicates that a quality control parameter has exceeded laboratory limits. Under the "Notes" column of the Form I, this qualifier denotes analysis was performed out of Holding Time.                                                                                                                  | C   | Confirmed by GC/MS                                                                                                                                                                                                   |
| H | Analysis was performed out of hold time for tests that have an "immediate" hold time criteria.                                                                                                                                                                                                         | Q   | DoD reports: indicates a pesticide/Aroclor is not confirmed ( $\geq 100\%$ Difference between two GC columns).                                                                                                       |
| # | Spike was diluted out.                                                                                                                                                                                                                                                                                 | X   | See Case Narrative for discussion.                                                                                                                                                                                   |
|   |                                                                                                                                                                                                                                                                                                        | MRL | Method Reporting Limit. Also known as:                                                                                                                                                                               |
|   |                                                                                                                                                                                                                                                                                                        | LOQ | Limit of Quantitation (LOQ)<br>The lowest concentration at which the method analyte may be reliably quantified under the method conditions.                                                                          |
|   |                                                                                                                                                                                                                                                                                                        | MDL | Method Detection Limit. A statistical value derived from a study designed to provide the lowest concentration that will be detected 99% of the time. Values between the MDL and MRL are estimated (see J qualifier). |
|   |                                                                                                                                                                                                                                                                                                        | LOD | Limit of Detection. A value at or above the MDL which has been verified to be detectable.                                                                                                                            |
|   |                                                                                                                                                                                                                                                                                                        | ND  | Non-Detect. Analyte was not detected at the concentration listed. Same as U qualifier.                                                                                                                               |

### Rochester Lab ID # for State Accreditations<sup>1</sup>



| NELAP States            |
|-------------------------|
| Florida ID # E87674     |
| New Hampshire ID # 2941 |
| New York ID # 10145     |
| Pennsylvania ID# 68-786 |
| Virginia #460167        |

| Non-NELAP States       |
|------------------------|
| Connecticut ID #PH0556 |
| Delaware Approved      |
| Maine ID #NY01587      |
| North Carolina #36701  |
| North Carolina #676    |
| Rhode Island LAO00333  |

<sup>1</sup> Analyses were performed according to our laboratory's NELAP-approved quality assurance program and any applicable state or agency requirements. The test results meet requirements of the current NELAP/TNI standards or state or agency requirements, where applicable, except as noted in the case narrative. Since not all analyte/method/matrix combinations are offered for state/NELAC accreditation, this report may contain results which are not accredited. For a specific list of accredited analytes, contact the laboratory or go to <https://www.alsglobal.com/locations/americas/north-america/usa/new-york/rochester-environmental>

# ALS Laboratory Group

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## Acronyms

|            |                                                                                                                                          |
|------------|------------------------------------------------------------------------------------------------------------------------------------------|
| ASTM       | American Society for Testing and Materials                                                                                               |
| A2LA       | American Association for Laboratory Accreditation                                                                                        |
| CARB       | California Air Resources Board                                                                                                           |
| CAS Number | Chemical Abstract Service registry Number                                                                                                |
| CFC        | Chlorofluorocarbon                                                                                                                       |
| CFU        | Colony-Forming Unit                                                                                                                      |
| DEC        | Department of Environmental Conservation                                                                                                 |
| DEQ        | Department of Environmental Quality                                                                                                      |
| DHS        | Department of Health Services                                                                                                            |
| DOE        | Department of Ecology                                                                                                                    |
| DOH        | Department of Health                                                                                                                     |
| EPA        | U. S. Environmental Protection Agency                                                                                                    |
| ELAP       | Environmental Laboratory Accreditation Program                                                                                           |
| GC         | Gas Chromatography                                                                                                                       |
| GC/MS      | Gas Chromatography/Mass Spectrometry                                                                                                     |
| LUFT       | Leaking Underground Fuel Tank                                                                                                            |
| M          | Modified                                                                                                                                 |
| MCL        | Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA. |
| MDL        | Method Detection Limit                                                                                                                   |
| MPN        | Most Probable Number                                                                                                                     |
| MRL        | Method Reporting Limit                                                                                                                   |
| NA         | Not Applicable                                                                                                                           |
| NC         | Not Calculated                                                                                                                           |
| NCASI      | National Council of the Paper Industry for Air and Stream Improvement                                                                    |
| ND         | Not Detected                                                                                                                             |
| NIOSH      | National Institute for Occupational Safety and Health                                                                                    |
| PQL        | Practical Quantitation Limit                                                                                                             |
| RCRA       | Resource Conservation and Recovery Act                                                                                                   |
| SIM        | Selected Ion Monitoring                                                                                                                  |
| TPH        | Total Petroleum Hydrocarbons                                                                                                             |
| tr         | Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.                           |

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Analyst Summary report

**Client:** Inventum Engineering  
**Project:** RITC Tanks/

**Service Request:** R2109415

**Sample Name:** TK-SD-ST24-09102021  
**Lab Code:** R2109415-001  
**Sample Matrix:** Soil

**Date Collected:** 09/10/21  
**Date Received:** 09/11/21

| Analysis Method | Extracted/Digested By | Analyzed By  |
|-----------------|-----------------------|--------------|
| 6010C           | CKUTZER               | KMCLAEN      |
| 7470A           | BDIAMOND              | NMANSEN      |
| 8081B           | KSERCU                | AMOSSES      |
| 8151A           | KSERCU                | AMOSSES      |
| 8260C           |                       | FNAEGLER     |
| 8270D           | JMISIUREWICZ          | JMISIUREWICZ |



## INORGANIC PREPARATION METHODS

The preparation methods associated with this report are found in these tables unless discussed in the case narrative.

### Water/Liquid Matrix

| Analytical Method             | Preparation Method |
|-------------------------------|--------------------|
| 200.7                         | 200.2              |
| 200.8                         | 200.2              |
| 6010C                         | 3005A/3010A        |
| 6020A                         | ILM05.3            |
| 9034 Sulfide Acid Soluble     | 9030B              |
| SM 4500-CN-E Residual Cyanide | SM 4500-CN-G       |
| SM 4500-CN-E WAD Cyanide      | SM 4500-CN-I       |

### Solid/Soil/Non-Aqueous Matrix

| Analytical Method                                                                                         | Preparation Method |
|-----------------------------------------------------------------------------------------------------------|--------------------|
| 6010C                                                                                                     | 3050B              |
| 6020A                                                                                                     | 3050B              |
| 6010C TCLP (1311) extract                                                                                 | 3005A/3010A        |
| 6010 SPLP (1312) extract                                                                                  | 3005A/3010A        |
| 7199                                                                                                      | 3060A              |
| 300.0 Anions/ 350.1/ 353.2/ SM 2320B/ SM 5210B/ 9056A Anions                                              | DI extraction      |
| For analytical methods not listed, the preparation method is the same as the analytical method reference. |                    |



# Sample Results

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## Volatile Organic Compounds by GC/MS

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Analytical Report

**Client:** Inventum Engineering  
**Project:** RITC Tanks  
**Sample Matrix:** Soil  
  
**Sample Name:** TK-SD-ST24-09102021  
**Lab Code:** R2109415-001

**Service Request:** R2109415  
**Date Collected:** 09/10/21  
**Date Received:** 09/11/21 09:35  
  
**Units:** ug/L  
**Basis:** As Received

TCLP Volatile Organics by GC/MS

**Analysis Method:** 8260C  
**Prep Method:** EPA 5030C

**Pre-Prep Method:** EPA 1311  
**Pre-Prep Date:** 9/15/21

| Analyte Name                 | Result | MRL | Dil. | Date Analyzed  | Q |
|------------------------------|--------|-----|------|----------------|---|
| 1,1-Dichloroethene (1,1-DCE) | 50 U   | 50  | 10   | 09/16/21 17:47 |   |
| 1,2-Dichloroethane           | 50 U   | 50  | 10   | 09/16/21 17:47 |   |
| 2-Butanone (MEK)             | 100 U  | 100 | 10   | 09/16/21 17:47 |   |
| Benzene                      | 50 U   | 50  | 10   | 09/16/21 17:47 |   |
| Carbon Tetrachloride         | 50 U   | 50  | 10   | 09/16/21 17:47 |   |
| Chlorobenzene                | 50 U   | 50  | 10   | 09/16/21 17:47 |   |
| Chloroform                   | 50 U   | 50  | 10   | 09/16/21 17:47 |   |
| Tetrachloroethene (PCE)      | 50 U   | 50  | 10   | 09/16/21 17:47 |   |
| Trichloroethene (TCE)        | 50 U   | 50  | 10   | 09/16/21 17:47 |   |
| Vinyl Chloride               | 50 U   | 50  | 10   | 09/16/21 17:47 |   |

| Surrogate Name       | % Rec | Control Limits | Date Analyzed  | Q |
|----------------------|-------|----------------|----------------|---|
| 4-Bromofluorobenzene | 90    | 85 - 122       | 09/16/21 17:47 |   |
| Dibromofluoromethane | 95    | 80 - 116       | 09/16/21 17:47 |   |
| Toluene-d8           | 95    | 87 - 121       | 09/16/21 17:47 |   |



## Semivolatile Organic Compounds by GC/MS

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Analytical Report

**Client:** Inventum Engineering  
**Project:** RITC Tanks  
**Sample Matrix:** Soil

**Service Request:** R2109415  
**Date Collected:** 09/10/21  
**Date Received:** 09/11/21 09:35

**Sample Name:** TK-SD-ST24-09102021  
**Lab Code:** R2109415-001

**Units:** ug/L  
**Basis:** As Received

**TCLP Semivolatile Organic Compounds by GC/MS**

**Analysis Method:** 8270D  
**Prep Method:** EPA 3510C

**Pre-Prep Method:** EPA 1311  
**Pre-Prep Date:** 9/15/21

| Analyte Name                    | Result | MRL | Dil. | Date Analyzed  | Date Extracted | Q |
|---------------------------------|--------|-----|------|----------------|----------------|---|
| 1,4-Dichlorobenzene             | 100 U  | 100 | 1    | 09/27/21 18:02 | 9/22/21        |   |
| 2,4,5-Trichlorophenol           | 100 U  | 100 | 1    | 09/27/21 18:02 | 9/22/21        |   |
| 2,4,6-Trichlorophenol           | 100 U  | 100 | 1    | 09/27/21 18:02 | 9/22/21        |   |
| 2,4-Dinitrotoluene              | 100 U  | 100 | 1    | 09/27/21 18:02 | 9/22/21        |   |
| 2-Methylphenol                  | 100 U  | 100 | 1    | 09/27/21 18:02 | 9/22/21        |   |
| 3- and 4-Methylphenol Coelution | 100 U  | 100 | 1    | 09/27/21 18:02 | 9/22/21        |   |
| Hexachlorobenzene               | 100 U  | 100 | 1    | 09/27/21 18:02 | 9/22/21        |   |
| Hexachlorobutadiene             | 100 U  | 100 | 1    | 09/27/21 18:02 | 9/22/21        |   |
| Hexachloroethane                | 100 U  | 100 | 1    | 09/27/21 18:02 | 9/22/21        |   |
| Nitrobenzene                    | 100 U  | 100 | 1    | 09/27/21 18:02 | 9/22/21        |   |
| Pentachlorophenol (PCP)         | 500 U  | 500 | 1    | 09/27/21 18:02 | 9/22/21        |   |
| Pyridine                        | 500 U  | 500 | 1    | 09/27/21 18:02 | 9/22/21        |   |

| Surrogate Name       | % Rec | Control Limits | Date Analyzed  | Q |
|----------------------|-------|----------------|----------------|---|
| 2,4,6-Tribromophenol | 88    | 35 - 141       | 09/27/21 18:02 |   |
| 2-Fluorobiphenyl     | 64    | 31 - 118       | 09/27/21 18:02 |   |
| 2-Fluorophenol       | 49    | 10 - 105       | 09/27/21 18:02 |   |
| Nitrobenzene-d5      | 60    | 31 - 110       | 09/27/21 18:02 |   |
| Phenol-d6            | 40    | 10 - 107       | 09/27/21 18:02 |   |
| p-Terphenyl-d14      | 94    | 10 - 165       | 09/27/21 18:02 |   |



## Semivolatile Organic Compounds by GC

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Analytical Report

**Client:** Inventum Engineering  
**Project:** RITC Tanks  
**Sample Matrix:** Soil

**Service Request:** R2109415  
**Date Collected:** 09/10/21  
**Date Received:** 09/11/21 09:35

**Sample Name:** TK-SD-ST24-09102021  
**Lab Code:** R2109415-001

**Units:** ug/L  
**Basis:** As Received

TCLP Organochlorine Pesticides by Gas Chromatography

**Analysis Method:** 8081B  
**Prep Method:** EPA 3510C

**Pre-Prep Method:** EPA 1311  
**Pre-Prep Date:** 9/15/21

| Analyte Name        | Result | MRL  | Dil. | Date Analyzed  | Date Extracted | Q |
|---------------------|--------|------|------|----------------|----------------|---|
| Chlordane           | 2.5 U  | 2.5  | 1    | 09/23/21 22:31 | 9/22/21        |   |
| Endrin              | 0.50 U | 0.50 | 1    | 09/23/21 22:31 | 9/22/21        |   |
| gamma-BHC (Lindane) | 0.50 U | 0.50 | 1    | 09/23/21 22:31 | 9/22/21        |   |
| Heptachlor          | 0.50 U | 0.50 | 1    | 09/23/21 22:31 | 9/22/21        |   |
| Heptachlor Epoxide  | 0.50 U | 0.50 | 1    | 09/23/21 22:31 | 9/22/21        |   |
| Methoxychlor        | 0.50 U | 0.50 | 1    | 09/23/21 22:31 | 9/22/21        |   |
| Toxaphene           | 5.0 U  | 5.0  | 1    | 09/23/21 22:31 | 9/22/21        |   |

| Surrogate Name       | % Rec | Control Limits | Date Analyzed  | Q |
|----------------------|-------|----------------|----------------|---|
| Decachlorobiphenyl   | 29    | 10 - 164       | 09/23/21 22:31 |   |
| Tetrachloro-m-xylene | 65    | 10 - 147       | 09/23/21 22:31 |   |

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Analytical Report

**Client:** Inventum Engineering  
**Project:** RITC Tanks  
**Sample Matrix:** Soil

**Service Request:** R2109415  
**Date Collected:** 09/10/21  
**Date Received:** 09/11/21 09:35

**Sample Name:** TK-SD-ST24-09102021  
**Lab Code:** R2109415-001

**Units:** ug/L  
**Basis:** As Received

TCLP Chlorinated Herbicides by GC

**Analysis Method:** 8151A  
**Prep Method:** Method

**Pre-Prep Method:** EPA 1311  
**Pre-Prep Date:** 9/15/21

| Analyte Name      | Result | MRL | Dil. | Date Analyzed  | Date Extracted | Q |
|-------------------|--------|-----|------|----------------|----------------|---|
| 2,4-D             | 5.0 U  | 5.0 | 1    | 09/22/21 22:37 | 9/20/21        |   |
| 2,4,5-TP (Silvex) | 5.0 U  | 5.0 | 1    | 09/22/21 22:37 | 9/20/21        |   |

| Surrogate Name | % Rec | Control Limits | Date Analyzed  | Q |
|----------------|-------|----------------|----------------|---|
| DCAA           | 85    | 12 - 131       | 09/22/21 22:37 |   |



## Metals

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**METALS****-1-****INORGANIC ANALYSIS DATA SHEET**

SAMPLE NO.

TK-SD-ST24-09102021

Contract: R2109415

Lab Code: \_\_\_\_\_

Case No.: \_\_\_\_\_

SAS No.: \_\_\_\_\_

SDG NO.: TK-SD-ST24-0Matrix (soil/water): WATERLab Sample ID: R2109415-001Level (low/med): LOWDate Received: 9/11/2021

Concentration Units (ug/L or mg/kg dry weight): UG/L

| CAS No.   | Analyte  | Concentration | C | Q | M  |
|-----------|----------|---------------|---|---|----|
| 7440-38-2 | Arsenic  | 500           | U |   | P  |
| 7440-39-3 | Barium   | 1000          | U |   | P  |
| 7440-43-9 | Cadmium  | 100           | U |   | P  |
| 7439-97-6 | Mercury  | 0.200         | U |   | CV |
| 7440-47-3 | Chromium | 100           | U |   | P  |
| 7439-92-1 | Lead     | 100           | U |   | P  |
| 7782-49-2 | Selenium | 500           | U |   | P  |
| 7440-22-4 | Silver   | 100           | U |   | P  |

Color Before: OrangeClarity Before: Clear

Texture: \_\_\_\_\_

Color After: YellowClarity After: Clear

Artifacts: \_\_\_\_\_

Comments: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_



## QC Summary Forms

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## Volatile Organic Compounds by GC/MS

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QA/QC Report

**Client:** Inventum Engineering  
**Project:** RITC Tanks  
**Sample Matrix:** Soil

**Service Request:** R2109415

**SURROGATE RECOVERY SUMMARY**  
**TCLP Volatile Organics by GC/MS**

**Analysis Method:** 8260C  
**Extraction Method:** EPA 5030C

| Sample Name         | Lab Code     | 4-Bromofluorobenzene | Dibromofluoromethane | Toluene-d8 |
|---------------------|--------------|----------------------|----------------------|------------|
|                     |              | 85-122               | 80-116               | 87-121     |
| TK-SD-ST24-09102021 | R2109415-001 | 90                   | 95                   | 95         |
| Method Blank        | RQ2111426-01 | 89                   | 95                   | 98         |
| Method Blank        | RQ2111477-04 | 90                   | 94                   | 98         |
| Lab Control Sample  | RQ2111477-03 | 98                   | 104                  | 100        |

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Analytical Report

**Client:** Inventum Engineering  
**Project:** RITC Tanks  
**Sample Matrix:** Soil

**Service Request:** R2109415  
**Date Collected:** NA  
**Date Received:** NA

**Sample Name:** Method Blank  
**Lab Code:** RQ2111426-01

**Units:** ug/L  
**Basis:** As Received

TCLP Volatile Organics by GC/MS

**Analysis Method:** 8260C  
**Prep Method:** EPA 5030C

**Pre-Prep Method:** EPA 1311  
**Pre-Prep Date:** 9/15/21

| Analyte Name                 | Result | MRL | Dil. | Date Analyzed  | Q |
|------------------------------|--------|-----|------|----------------|---|
| 1,1-Dichloroethene (1,1-DCE) | 5.0 U  | 5.0 | 1    | 09/16/21 16:20 |   |
| 1,2-Dichloroethane           | 5.0 U  | 5.0 | 1    | 09/16/21 16:20 |   |
| 2-Butanone (MEK)             | 10 U   | 10  | 1    | 09/16/21 16:20 |   |
| Benzene                      | 5.0 U  | 5.0 | 1    | 09/16/21 16:20 |   |
| Carbon Tetrachloride         | 5.0 U  | 5.0 | 1    | 09/16/21 16:20 |   |
| Chlorobenzene                | 5.0 U  | 5.0 | 1    | 09/16/21 16:20 |   |
| Chloroform                   | 5.0 U  | 5.0 | 1    | 09/16/21 16:20 |   |
| Tetrachloroethene (PCE)      | 5.0 U  | 5.0 | 1    | 09/16/21 16:20 |   |
| Trichloroethene (TCE)        | 5.0 U  | 5.0 | 1    | 09/16/21 16:20 |   |
| Vinyl Chloride               | 5.0 U  | 5.0 | 1    | 09/16/21 16:20 |   |

| Surrogate Name       | % Rec | Control Limits | Date Analyzed  | Q |
|----------------------|-------|----------------|----------------|---|
| 4-Bromofluorobenzene | 89    | 85 - 122       | 09/16/21 16:20 |   |
| Dibromofluoromethane | 95    | 80 - 116       | 09/16/21 16:20 |   |
| Toluene-d8           | 98    | 87 - 121       | 09/16/21 16:20 |   |

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Analytical Report

**Client:** Inventum Engineering  
**Project:** RITC Tanks  
**Sample Matrix:** Soil

**Service Request:** R2109415  
**Date Collected:** NA  
**Date Received:** NA

**Sample Name:** Method Blank  
**Lab Code:** RQ2111477-04

**Units:** ug/L  
**Basis:** As Received

TCLP Volatile Organics by GC/MS

**Analysis Method:** 8260C  
**Prep Method:** EPA 5030C

| Analyte Name                 | Result | MRL | Dil. | Date Analyzed  | Q |
|------------------------------|--------|-----|------|----------------|---|
| 1,1-Dichloroethene (1,1-DCE) | 5.0 U  | 5.0 | 1    | 09/16/21 12:33 |   |
| 1,2-Dichloroethane           | 5.0 U  | 5.0 | 1    | 09/16/21 12:33 |   |
| 2-Butanone (MEK)             | 10 U   | 10  | 1    | 09/16/21 12:33 |   |
| Benzene                      | 5.0 U  | 5.0 | 1    | 09/16/21 12:33 |   |
| Carbon Tetrachloride         | 5.0 U  | 5.0 | 1    | 09/16/21 12:33 |   |
| Chlorobenzene                | 5.0 U  | 5.0 | 1    | 09/16/21 12:33 |   |
| Chloroform                   | 5.0 U  | 5.0 | 1    | 09/16/21 12:33 |   |
| Tetrachloroethene (PCE)      | 5.0 U  | 5.0 | 1    | 09/16/21 12:33 |   |
| Trichloroethene (TCE)        | 5.0 U  | 5.0 | 1    | 09/16/21 12:33 |   |
| Vinyl Chloride               | 5.0 U  | 5.0 | 1    | 09/16/21 12:33 |   |

| Surrogate Name       | % Rec | Control Limits | Date Analyzed  | Q |
|----------------------|-------|----------------|----------------|---|
| 4-Bromofluorobenzene | 90    | 85 - 122       | 09/16/21 12:33 |   |
| Dibromofluoromethane | 94    | 80 - 116       | 09/16/21 12:33 |   |
| Toluene-d8           | 98    | 87 - 121       | 09/16/21 12:33 |   |

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QA/QC Report

**Client:** Inventum Engineering  
**Project:** RITC Tanks  
**Sample Matrix:** Soil

**Service Request:** R2109415  
**Date Analyzed:** 09/16/21

**Lab Control Sample Summary**  
**TCLP Volatile Organics by GC/MS**

**Units:**ug/L  
**Basis:**As Received

**Lab Control Sample**  
RQ2111477-03

| Analyte Name                 | Analytical Method | Result | Spike Amount | % Rec | % Rec Limits |
|------------------------------|-------------------|--------|--------------|-------|--------------|
| 1,1-Dichloroethene (1,1-DCE) | 8260C             | 21.8   | 20.0         | 109   | 71-118       |
| 1,2-Dichloroethane           | 8260C             | 19.0   | 20.0         | 95    | 71-127       |
| 2-Butanone (MEK)             | 8260C             | 18.0   | 20.0         | 90    | 61-137       |
| Benzene                      | 8260C             | 20.1   | 20.0         | 100   | 79-119       |
| Carbon Tetrachloride         | 8260C             | 16.2   | 20.0         | 81    | 70-127       |
| Chlorobenzene                | 8260C             | 19.9   | 20.0         | 99    | 80-121       |
| Chloroform                   | 8260C             | 20.8   | 20.0         | 104   | 79-120       |
| Tetrachloroethene (PCE)      | 8260C             | 21.7   | 20.0         | 109   | 72-125       |
| Trichloroethene (TCE)        | 8260C             | 20.1   | 20.0         | 100   | 74-122       |
| Vinyl Chloride               | 8260C             | 24.4   | 20.0         | 122   | 74-159       |



## Semivolatile Organic Compounds by GC/MS

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QA/QC Report

**Client:** Inventum Engineering  
**Project:** RITC Tanks  
**Sample Matrix:** Soil

**Service Request:** R2109415

**SURROGATE RECOVERY SUMMARY**  
**TCLP Semivolatile Organic Compounds by GC/MS**

**Analysis Method:** 8270D  
**Extraction Method:** EPA 3510C

| Sample Name                  | Lab Code     | 2,4,6-Tribromophenol | 2-Fluorobiphenyl | 2-Fluorophenol |
|------------------------------|--------------|----------------------|------------------|----------------|
|                              |              | 35-141               | 31-118           | 10-105         |
| TK-SD-ST24-09102021          | R2109415-001 | 88                   | 64               | 49             |
| Method Blank                 | RQ2111415-01 | 86                   | 70               | 47             |
| Method Blank                 | RQ2111722-01 | 83                   | 69               | 53             |
| Lab Control Sample           | RQ2111722-02 | 107                  | 79               | 53             |
| Duplicate Lab Control Sample | RQ2111722-03 | 101                  | 78               | 44             |

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QA/QC Report

**Client:** Inventum Engineering  
**Project:** RITC Tanks  
**Sample Matrix:** Soil

**Service Request:** R2109415

**SURROGATE RECOVERY SUMMARY**  
**TCLP Semivolatile Organic Compounds by GC/MS**

**Analysis Method:** 8270D  
**Extraction Method:** EPA 3510C

| Sample Name                  | Lab Code     | Nitrobenzene-d5 | Phenol-d6 | p-Terphenyl-d14 |
|------------------------------|--------------|-----------------|-----------|-----------------|
|                              |              | 31-110          | 10-107    | 10-165          |
| TK-SD-ST24-09102021          | R2109415-001 | 60              | 40        | 94              |
| Method Blank                 | RQ2111415-01 | 64              | 34        | 112             |
| Method Blank                 | RQ2111722-01 | 69              | 37        | 110             |
| Lab Control Sample           | RQ2111722-02 | 70              | 43        | 112             |
| Duplicate Lab Control Sample | RQ2111722-03 | 70              | 40        | 115             |

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Analytical Report

**Client:** Inventum Engineering  
**Project:** RITC Tanks  
**Sample Matrix:** Soil

**Service Request:** R2109415  
**Date Collected:** NA  
**Date Received:** NA

**Sample Name:** Method Blank  
**Lab Code:** RQ2111415-01

**Units:** ug/L  
**Basis:** As Received

**TCLP Semivolatile Organic Compounds by GC/MS**

**Analysis Method:** 8270D  
**Prep Method:** EPA 3510C

**Pre-Prep Method:** EPA 1311  
**Pre-Prep Date:** 9/15/21

| Analyte Name                    | Result | MRL | Dil. | Date Analyzed  | Date Extracted | Q |
|---------------------------------|--------|-----|------|----------------|----------------|---|
| 1,4-Dichlorobenzene             | 100 U  | 100 | 1    | 09/27/21 18:31 | 9/22/21        |   |
| 2,4,5-Trichlorophenol           | 100 U  | 100 | 1    | 09/27/21 18:31 | 9/22/21        |   |
| 2,4,6-Trichlorophenol           | 100 U  | 100 | 1    | 09/27/21 18:31 | 9/22/21        |   |
| 2,4-Dinitrotoluene              | 100 U  | 100 | 1    | 09/27/21 18:31 | 9/22/21        |   |
| 2-Methylphenol                  | 100 U  | 100 | 1    | 09/27/21 18:31 | 9/22/21        |   |
| 3- and 4-Methylphenol Coelution | 100 U  | 100 | 1    | 09/27/21 18:31 | 9/22/21        |   |
| Hexachlorobenzene               | 100 U  | 100 | 1    | 09/27/21 18:31 | 9/22/21        |   |
| Hexachlorobutadiene             | 100 U  | 100 | 1    | 09/27/21 18:31 | 9/22/21        |   |
| Hexachloroethane                | 100 U  | 100 | 1    | 09/27/21 18:31 | 9/22/21        |   |
| Nitrobenzene                    | 100 U  | 100 | 1    | 09/27/21 18:31 | 9/22/21        |   |
| Pentachlorophenol (PCP)         | 500 U  | 500 | 1    | 09/27/21 18:31 | 9/22/21        |   |
| Pyridine                        | 500 U  | 500 | 1    | 09/27/21 18:31 | 9/22/21        |   |

| Surrogate Name       | % Rec | Control Limits | Date Analyzed  | Q |
|----------------------|-------|----------------|----------------|---|
| 2,4,6-Tribromophenol | 86    | 35 - 141       | 09/27/21 18:31 |   |
| 2-Fluorobiphenyl     | 70    | 31 - 118       | 09/27/21 18:31 |   |
| 2-Fluorophenol       | 47    | 10 - 105       | 09/27/21 18:31 |   |
| Nitrobenzene-d5      | 64    | 31 - 110       | 09/27/21 18:31 |   |
| Phenol-d6            | 34    | 10 - 107       | 09/27/21 18:31 |   |
| p-Terphenyl-d14      | 112   | 10 - 165       | 09/27/21 18:31 |   |

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Analytical Report

**Client:** Inventum Engineering  
**Project:** RITC Tanks  
**Sample Matrix:** Soil

**Service Request:** R2109415  
**Date Collected:** NA  
**Date Received:** NA

**Sample Name:** Method Blank  
**Lab Code:** RQ2111722-01

**Units:** ug/L  
**Basis:** As Received

**TCLP Semivolatile Organic Compounds by GC/MS**

**Analysis Method:** 8270D  
**Prep Method:** EPA 3510C

| Analyte Name                    | Result | MRL | Dil. | Date Analyzed  | Date Extracted | Q |
|---------------------------------|--------|-----|------|----------------|----------------|---|
| 1,4-Dichlorobenzene             | 100 U  | 100 | 1    | 09/27/21 13:18 | 9/22/21        |   |
| 2,4,5-Trichlorophenol           | 100 U  | 100 | 1    | 09/27/21 13:18 | 9/22/21        |   |
| 2,4,6-Trichlorophenol           | 100 U  | 100 | 1    | 09/27/21 13:18 | 9/22/21        |   |
| 2,4-Dinitrotoluene              | 100 U  | 100 | 1    | 09/27/21 13:18 | 9/22/21        |   |
| 2-Methylphenol                  | 100 U  | 100 | 1    | 09/27/21 13:18 | 9/22/21        |   |
| 3- and 4-Methylphenol Coelution | 100 U  | 100 | 1    | 09/27/21 13:18 | 9/22/21        |   |
| Hexachlorobenzene               | 100 U  | 100 | 1    | 09/27/21 13:18 | 9/22/21        |   |
| Hexachlorobutadiene             | 100 U  | 100 | 1    | 09/27/21 13:18 | 9/22/21        |   |
| Hexachloroethane                | 100 U  | 100 | 1    | 09/27/21 13:18 | 9/22/21        |   |
| Nitrobenzene                    | 100 U  | 100 | 1    | 09/27/21 13:18 | 9/22/21        |   |
| Pentachlorophenol (PCP)         | 500 U  | 500 | 1    | 09/27/21 13:18 | 9/22/21        |   |
| Pyridine                        | 500 U  | 500 | 1    | 09/27/21 13:18 | 9/22/21        |   |

| Surrogate Name       | % Rec | Control Limits | Date Analyzed  | Q |
|----------------------|-------|----------------|----------------|---|
| 2,4,6-Tribromophenol | 83    | 35 - 141       | 09/27/21 13:18 |   |
| 2-Fluorobiphenyl     | 69    | 31 - 118       | 09/27/21 13:18 |   |
| 2-Fluorophenol       | 53    | 10 - 105       | 09/27/21 13:18 |   |
| Nitrobenzene-d5      | 69    | 31 - 110       | 09/27/21 13:18 |   |
| Phenol-d6            | 37    | 10 - 107       | 09/27/21 13:18 |   |
| p-Terphenyl-d14      | 110   | 10 - 165       | 09/27/21 13:18 |   |

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QA/QC Report

**Client:** Inventum Engineering  
**Project:** RITC Tanks  
**Sample Matrix:** Soil

**Service Request:** R2109415  
**Date Analyzed:** 09/27/21

**Duplicate Lab Control Sample Summary**  
**TCLP Semivolatile Organic Compounds by GC/MS**

**Units:**ug/L

**Basis:**As Received

| Analyte Name                    | Lab Control Sample<br>RQ2111722-02 |        |              |       | Duplicate Lab Control Sample<br>RQ2111722-03 |              |       |              |     |           |
|---------------------------------|------------------------------------|--------|--------------|-------|----------------------------------------------|--------------|-------|--------------|-----|-----------|
|                                 | Analytical Method                  | Result | Spike Amount | % Rec | Result                                       | Spike Amount | % Rec | % Rec Limits | RPD | RPD Limit |
| 1,4-Dichlorobenzene             | 8270D                              | 471    | 800          | 59    | 383                                          | 800          | 48    | 10-124       | 20  | 30        |
| 2,4,5-Trichlorophenol           | 8270D                              | 761    | 800          | 95    | 728                                          | 800          | 91    | 48-134       | 4   | 30        |
| 2,4,6-Trichlorophenol           | 8270D                              | 677    | 800          | 85    | 647                                          | 800          | 81    | 44-135       | 5   | 30        |
| 2,4-Dinitrotoluene              | 8270D                              | 730    | 800          | 91    | 714                                          | 800          | 89    | 54-130       | 2   | 30        |
| 2-Methylphenol                  | 8270D                              | 575    | 800          | 72    | 579                                          | 800          | 72    | 47-100       | <1  | 30        |
| 3- and 4-Methylphenol Coelution | 8270D                              | 598    | 800          | 75    | 585                                          | 800          | 73    | 40-92        | 2   | 30        |
| Hexachlorobenzene               | 8270D                              | 801    | 800          | 100   | 793                                          | 800          | 99    | 53-123       | 1   | 30        |
| Hexachlorobutadiene             | 8270D                              | 508    | 800          | 64    | 499                                          | 800          | 62    | 16-95        | 2   | 30        |
| Hexachloroethane                | 8270D                              | 422    | 800          | 53    | 375                                          | 800          | 47    | 15-92        | 12  | 30        |
| Nitrobenzene                    | 8270D                              | 594    | 800          | 74    | 594                                          | 800          | 74    | 46-108       | <1  | 30        |
| Pentachlorophenol (PCP)         | 8270D                              | 817    | 800          | 102   | 785                                          | 800          | 98    | 29-164       | 4   | 30        |
| Pyridine                        | 8270D                              | 352 J  | 800          | 44    | 298 J                                        | 800          | 37    | 10-123       | 17  | 30        |



## Semivolatile Organic Compounds by GC

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QA/QC Report

**Client:** Inventum Engineering  
**Project:** RITC Tanks  
**Sample Matrix:** Soil

**Service Request:** R2109415

**SURROGATE RECOVERY SUMMARY**  
**TCLP Organochlorine Pesticides by Gas Chromatography**

**Analysis Method:** 8081B  
**Extraction Method:** EPA 3510C

| Sample Name                  | Lab Code     | Decachlorobiphenyl | Tetrachloro-m-xylene |
|------------------------------|--------------|--------------------|----------------------|
|                              |              | 10-164             | 10-147               |
| TK-SD-ST24-09102021          | R2109415-001 | 29                 | 65                   |
| Method Blank                 | RQ2111415-01 | 78                 | 56                   |
| Method Blank                 | RQ2111721-03 | 72                 | 52                   |
| Lab Control Sample           | RQ2111721-04 | 71                 | 52                   |
| Duplicate Lab Control Sample | RQ2111721-05 | 76                 | 55                   |
| TK-SD-ST24-09102021 MS       | RQ2111721-01 | 36                 | 65                   |
| TK-SD-ST24-09102021 DMS      | RQ2111721-02 | 39                 | 60                   |

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QA/QC Report

**Client:** Inventum Engineering  
**Project:** RITC Tanks  
**Sample Matrix:** Soil

**Service Request:** R2109415  
**Date Collected:** 09/10/21  
**Date Received:** 09/11/21  
**Date Analyzed:** 09/23/21  
**Date Extracted:** 09/22/21

**Duplicate Matrix Spike Summary**  
**TCLP Organochlorine Pesticides by Gas Chromatography**

**Sample Name:** TK-SD-ST24-09102021  
**Lab Code:** R2109415-001  
**Analysis Method:** 8081B  
**Prep Method:** EPA 3510C

**Units:** ug/L  
**Basis:** As Received

| Analyte Name        | Sample Result | Result | Matrix Spike |       | Duplicate Matrix Spike |              | % Rec | Limits | RPD | RPD Limit |
|---------------------|---------------|--------|--------------|-------|------------------------|--------------|-------|--------|-----|-----------|
|                     |               |        | Spike Amount | % Rec | Result                 | Spike Amount |       |        |     |           |
|                     |               |        | RQ2111721-01 |       |                        | RQ2111721-02 |       |        |     |           |
| Endrin              | 0.020 U       | 3.87   | 4.00         | 97    | 3.45                   | 4.00         | 86    | 48-165 | 12  | 30        |
| gamma-BHC (Lindane) | 0.020 U       | 3.48   | 4.00         | 87    | 3.15                   | 4.00         | 79    | 43-164 | 10  | 30        |
| Heptachlor          | 0.020 U       | 3.66   | 4.00         | 92    | 3.21                   | 4.00         | 80    | 29-168 | 13  | 30        |
| Heptachlor Epoxide  | 0.020 U       | 3.67   | 4.00         | 92    | 3.27                   | 4.00         | 82    | 29-180 | 12  | 30        |
| Methoxychlor        | 0.020 U       | 4.29   | 4.00         | 107   | 3.88                   | 4.00         | 97    | 38-162 | 10  | 30        |

Results flagged with an asterisk (\*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Matrix Spike and Matrix Spike Duplicate Data is presented for information purposes only. The matrix may or may not be relevant to samples reported in this report. The laboratory evaluates system performance based on the LCS and LCSD control limits.

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Analytical Report

**Client:** Inventum Engineering  
**Project:** RITC Tanks  
**Sample Matrix:** Soil

**Service Request:** R2109415  
**Date Collected:** NA  
**Date Received:** NA

**Sample Name:** Method Blank  
**Lab Code:** RQ2111415-01

**Units:** ug/L  
**Basis:** As Received

TCLP Organochlorine Pesticides by Gas Chromatography

**Analysis Method:** 8081B  
**Prep Method:** EPA 3510C

**Pre-Prep Method:** EPA 1311  
**Pre-Prep Date:** 9/15/21

| Analyte Name        | Result | MRL  | Dil. | Date Analyzed  | Date Extracted | Q |
|---------------------|--------|------|------|----------------|----------------|---|
| Chlordane           | 2.5 U  | 2.5  | 1    | 09/23/21 23:28 | 9/22/21        |   |
| Endrin              | 0.50 U | 0.50 | 1    | 09/23/21 23:28 | 9/22/21        |   |
| gamma-BHC (Lindane) | 0.50 U | 0.50 | 1    | 09/23/21 23:28 | 9/22/21        |   |
| Heptachlor          | 0.50 U | 0.50 | 1    | 09/23/21 23:28 | 9/22/21        |   |
| Heptachlor Epoxide  | 0.50 U | 0.50 | 1    | 09/23/21 23:28 | 9/22/21        |   |
| Methoxychlor        | 0.50 U | 0.50 | 1    | 09/23/21 23:28 | 9/22/21        |   |
| Toxaphene           | 5.0 U  | 5.0  | 1    | 09/23/21 23:28 | 9/22/21        |   |

| Surrogate Name       | % Rec | Control Limits | Date Analyzed  | Q |
|----------------------|-------|----------------|----------------|---|
| Decachlorobiphenyl   | 78    | 10 - 164       | 09/23/21 23:28 |   |
| Tetrachloro-m-xylene | 56    | 10 - 147       | 09/23/21 23:28 |   |

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Analytical Report

**Client:** Inventum Engineering  
**Project:** RITC Tanks  
**Sample Matrix:** Soil

**Service Request:** R2109415  
**Date Collected:** NA  
**Date Received:** NA

**Sample Name:** Method Blank  
**Lab Code:** RQ2111721-03

**Units:** ug/L  
**Basis:** As Received

TCLP Organochlorine Pesticides by Gas Chromatography

**Analysis Method:** 8081B  
**Prep Method:** EPA 3510C

| Analyte Name        | Result | MRL  | Dil. | Date Analyzed  | Date Extracted | Q |
|---------------------|--------|------|------|----------------|----------------|---|
| Chlordane           | 2.5 U  | 2.5  | 1    | 09/23/21 18:21 | 9/22/21        |   |
| Endrin              | 0.50 U | 0.50 | 1    | 09/23/21 18:21 | 9/22/21        |   |
| gamma-BHC (Lindane) | 0.50 U | 0.50 | 1    | 09/23/21 18:21 | 9/22/21        |   |
| Heptachlor          | 0.50 U | 0.50 | 1    | 09/23/21 18:21 | 9/22/21        |   |
| Heptachlor Epoxide  | 0.50 U | 0.50 | 1    | 09/23/21 18:21 | 9/22/21        |   |
| Methoxychlor        | 0.50 U | 0.50 | 1    | 09/23/21 18:21 | 9/22/21        |   |
| Toxaphene           | 5.0 U  | 5.0  | 1    | 09/23/21 18:21 | 9/22/21        |   |

| Surrogate Name       | % Rec | Control Limits | Date Analyzed  | Q |
|----------------------|-------|----------------|----------------|---|
| Decachlorobiphenyl   | 72    | 10 - 164       | 09/23/21 18:21 |   |
| Tetrachloro-m-xylene | 52    | 10 - 147       | 09/23/21 18:21 |   |

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QA/QC Report

**Client:** Inventum Engineering  
**Project:** RITC Tanks  
**Sample Matrix:** Soil

**Service Request:** R2109415  
**Date Analyzed:** 09/23/21

**Duplicate Lab Control Sample Summary**  
**TCLP Organochlorine Pesticides by Gas Chromatography**

**Units:**ug/L  
**Basis:**As Received

| Lab Control Sample  |                   |        |              |       | Duplicate Lab Control Sample |              |       |              |     |           |
|---------------------|-------------------|--------|--------------|-------|------------------------------|--------------|-------|--------------|-----|-----------|
| RQ2111721-04        |                   |        |              |       | RQ2111721-05                 |              |       |              |     |           |
| Analyte Name        | Analytical Method | Result | Spike Amount | % Rec | Result                       | Spike Amount | % Rec | % Rec Limits | RPD | RPD Limit |
| Endrin              | 8081B             | 3.30   | 4.00         | 83    | 3.47                         | 4.00         | 87    | 56-143       | 5   | 30        |
| gamma-BHC (Lindane) | 8081B             | 2.74   | 4.00         | 69    | 2.97                         | 4.00         | 74    | 41-149       | 8   | 30        |
| Heptachlor          | 8081B             | 2.75   | 4.00         | 69    | 3.02                         | 4.00         | 76    | 32-141       | 9   | 30        |
| Heptachlor Epoxide  | 8081B             | 3.08   | 4.00         | 77    | 3.30                         | 4.00         | 83    | 51-143       | 7   | 30        |
| Methoxychlor        | 8081B             | 3.91   | 4.00         | 98    | 3.90                         | 4.00         | 98    | 56-149       | <1  | 30        |

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QA/QC Report

**Client:** Inventum Engineering  
**Project:** RITC Tanks  
**Sample Matrix:** Soil

**Service Request:** R2109415

**SURROGATE RECOVERY SUMMARY**  
**TCLP Chlorinated Herbicides by GC**

**Analysis Method:** 8151A  
**Extraction Method:** Method

| Sample Name                  | Lab Code     | DCAA   |
|------------------------------|--------------|--------|
|                              |              | 12-131 |
| TK-SD-ST24-09102021          | R2109415-001 | 85     |
| Method Blank                 | RQ2111415-01 | 79     |
| Method Blank                 | RQ2111565-01 | 51     |
| Lab Control Sample           | RQ2111565-02 | 68     |
| Duplicate Lab Control Sample | RQ2111565-03 | 73     |

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Analytical Report

**Client:** Inventum Engineering  
**Project:** RITC Tanks  
**Sample Matrix:** Soil

**Service Request:** R2109415  
**Date Collected:** NA  
**Date Received:** NA

**Sample Name:** Method Blank  
**Lab Code:** RQ2111415-01

**Units:** ug/L  
**Basis:** As Received

TCLP Chlorinated Herbicides by GC

**Analysis Method:** 8151A  
**Prep Method:** Method

**Pre-Prep Method:** EPA 1311  
**Pre-Prep Date:** 9/15/21

| Analyte Name      | Result | MRL | Dil. | Date Analyzed  | Date Extracted | Q |
|-------------------|--------|-----|------|----------------|----------------|---|
| 2,4-D             | 5.0 U  | 5.0 | 1    | 09/22/21 22:57 | 9/20/21        |   |
| 2,4,5-TP (Silvex) | 5.0 U  | 5.0 | 1    | 09/22/21 22:57 | 9/20/21        |   |

| Surrogate Name | % Rec | Control Limits | Date Analyzed  | Q |
|----------------|-------|----------------|----------------|---|
| DCAA           | 79    | 12 - 131       | 09/22/21 22:57 |   |

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Analytical Report

**Client:** Inventum Engineering  
**Project:** RITC Tanks  
**Sample Matrix:** Soil

**Service Request:** R2109415  
**Date Collected:** NA  
**Date Received:** NA

**Sample Name:** Method Blank  
**Lab Code:** RQ2111565-01

**Units:** ug/L  
**Basis:** As Received

TCLP Chlorinated Herbicides by GC

**Analysis Method:** 8151A  
**Prep Method:** Method

| Analyte Name      | Result | MRL | Dil. | Date Analyzed  | Date Extracted | Q |
|-------------------|--------|-----|------|----------------|----------------|---|
| 2,4-D             | 5.0 U  | 5.0 | 1    | 09/22/21 17:37 | 9/20/21        |   |
| 2,4,5-TP (Silvex) | 5.0 U  | 5.0 | 1    | 09/22/21 17:37 | 9/20/21        |   |

| Surrogate Name | % Rec | Control Limits | Date Analyzed  | Q |
|----------------|-------|----------------|----------------|---|
| DCAA           | 51    | 12 - 131       | 09/22/21 17:37 |   |

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QA/QC Report

**Client:** Inventum Engineering  
**Project:** RITC Tanks  
**Sample Matrix:** Soil

**Service Request:** R2109415  
**Date Analyzed:** 09/22/21

**Duplicate Lab Control Sample Summary**  
**TCLP Chlorinated Herbicides by GC**

**Units:**ug/L  
**Basis:**As Received

| Lab Control Sample |                   |        |              |       | Duplicate Lab Control Sample |              |       |              |     |           |
|--------------------|-------------------|--------|--------------|-------|------------------------------|--------------|-------|--------------|-----|-----------|
| RQ2111565-02       |                   |        |              |       | RQ2111565-03                 |              |       |              |     |           |
| Analyte Name       | Analytical Method | Result | Spike Amount | % Rec | Result                       | Spike Amount | % Rec | % Rec Limits | RPD | RPD Limit |
| 2,4-D              | 8151A             | 15.9   | 20.0         | 80    | 19.6                         | 20.0         | 98    | 26-154       | 21  | 30        |
| 2,4,5-TP (Silvex)  | 8151A             | 13.0   | 20.0         | 65    | 15.9                         | 20.0         | 79    | 21-120       | 20  | 30        |



## Metals

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**METALS**

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**BLANKS**

Contract: R2109415

Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG NO.: TK-SD-ST24-0

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L, ppt, or mg/kg): UG/L

| Analyte  | Initial Calib. Blank ug/L |   | Continuing Calibration Blank ug/L |   |         |   |         |   | Preparation Blank |   | M  |
|----------|---------------------------|---|-----------------------------------|---|---------|---|---------|---|-------------------|---|----|
|          | C                         |   | 1                                 | C | 2       | C | 3       | C | C                 |   |    |
| Arsenic  | 500.00                    | U | 500.00                            | U | 500.00  | U | 500.00  | U | 500.000           | U | P  |
| Barium   | 1000.00                   | U | 1000.00                           | U | 1000.00 | U | 1000.00 | U | 1000.000          | U | P  |
| Cadmium  | 100.00                    | U | 100.00                            | U | 100.00  | U | 100.00  | U | 100.000           | U | P  |
| Mercury  | 0.200                     | U | 0.200                             | U | 0.200   | U | 0.200   | U | 0.200             | U | CV |
| Chromium | 100.00                    | U | 100.00                            | U | 100.00  | U | 100.00  | U | 100.000           | U | P  |
| Lead     | 100.00                    | U | 100.00                            | U | 100.00  | U | 100.00  | U | 100.000           | U | P  |
| Selenium | 500.00                    | U | 500.00                            | U | 500.00  | U | 500.00  | U | 500.000           | U | P  |
| Silver   | 100.00                    | U | 100.00                            | U | 100.00  | U | 100.00  | U | 100.000           | U | P  |

Comments:

**METALS**

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**BLANKS**

Contract: R2109415

Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG NO.: TK-SD-ST24-0

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L, ppt, or mg/kg): UG/L

| Analyte  | Initial<br>Calib.<br>Blank<br>ug/L | Continuing Calibration Blank ug/L |   |         |   |         |   | Preparation<br>Blank |  |    |
|----------|------------------------------------|-----------------------------------|---|---------|---|---------|---|----------------------|--|----|
|          |                                    | 1                                 | C | 2       | C | 3       | C |                      |  |    |
| Arsenic  |                                    | 500.00                            | U | 500.00  | U | 500.00  | U |                      |  | P  |
| Barium   |                                    | 1000.00                           | U | 1000.00 | U | 1000.00 | U |                      |  | P  |
| Cadmium  |                                    | 100.00                            | U | 100.00  | U | 100.00  | U |                      |  | P  |
| Mercury  |                                    | 0.200                             | U |         |   |         |   |                      |  | CV |
| Chromium |                                    | 100.00                            | U | 100.00  | U | 100.00  | U |                      |  | P  |
| Lead     |                                    | 100.00                            | U | 100.00  | U | 100.00  | U |                      |  | P  |
| Selenium |                                    | 500.00                            | U | 500.00  | U | 500.00  | U |                      |  | P  |
| Silver   |                                    | 100.00                            | U | 100.00  | U | 100.00  | U |                      |  | P  |

Comments:

**METALS**

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**LABORATORY CONTROL SAMPLE**

Contract: R2109415

Lab Code: \_\_\_\_\_ Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG NO.: TK-SD-ST24-0

Solid LCS Source: \_\_\_\_\_

Aqueous LCS Source: CPI

| Analyte  | Aqueous (ug/L |       |     | Solid (mg/K |       |   |        |    |  |
|----------|---------------|-------|-----|-------------|-------|---|--------|----|--|
|          | True          | Found | %R  | True        | Found | C | Limits | %R |  |
| Arsenic  | 1000          | 1010  | 101 |             |       |   |        |    |  |
| Barium   | 2000          | 2070  | 104 |             |       |   |        |    |  |
| Cadmium  | 500           | 526   | 105 |             |       |   |        |    |  |
| Mercury  | 1.000         | 1.050 | 105 |             |       |   |        |    |  |
| Chromium | 500           | 523   | 105 |             |       |   |        |    |  |
| Lead     | 500           | 515   | 103 |             |       |   |        |    |  |
| Selenium | 1000          | 999   | 100 |             |       |   |        |    |  |
| Silver   | 250           | 251   | 100 |             |       |   |        |    |  |

Comments: \_\_\_\_\_



## Subcontracted Analytical Parameters

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September 29, 2021

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## Certificate of Analysis

|                 |                            |               |                        |
|-----------------|----------------------------|---------------|------------------------|
| Project Name:   | <b>Custom EDD, MDL, QC</b> | Workorder:    | <b>3201617</b>         |
| Purchase Order: | <b>58-R2109415</b>         | Workorder ID: | <b>AER629 R2109415</b> |

Dear Reports Invoices:

Enclosed are the analytical results for samples received by the laboratory on Friday, September 17, 2021.

The ALS Environmental laboratory in Middletown, Pennsylvania is a National Environmental Laboratory Accreditation Program (NELAP) accredited laboratory and as such, certifies that all applicable test results meet the requirements of NELAP.

If you have any questions regarding this certificate of analysis, please contact Ms. Sarah S Leung (Project Coordinator) at (717) 944-5541.

Analyses were performed according to our laboratory's NELAP-approved quality assurance program and any applicable state requirements. The test results meet requirements of the current NELAP standards or state requirements, where applicable. For a specific list of accredited analytes, refer to the certifications section of the ALS website at [www.alsglobal.com/en/Our-Services/Life-Sciences/Environmental/Downloads](http://www.alsglobal.com/en/Our-Services/Life-Sciences/Environmental/Downloads).

This laboratory report may not be reproduced, except in full, without the written approval of ALS Environmental.

ALS Spring City: 10 Riverside Drive, Spring City, PA 19475 610-948-4903

CC: Mr. Michael Chevalier , Mr. Brady Kalkman , Ms. Janice Jaeger

*This page is included as part of the Analytical Report and must be retained as a permanent record thereof.*



Ms. Sarah S Leung  
Project Coordinator

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### **SAMPLE SUMMARY**

Workorder: 3201617 AER629|R2109415

| Lab ID     | Sample ID           | Matrix | Date Collected  | Date Received   | Collected By        |
|------------|---------------------|--------|-----------------|-----------------|---------------------|
| 3201617001 | TK-SD-ST24-09102021 | Solid  | 9/10/2021 00:00 | 9/17/2021 09:31 | Collected by Client |

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## SAMPLE SUMMARY

Workorder: 3201617 AER629|R2109415

### Notes

- Samples collected by ALS personnel are done so in accordance with the procedures set forth in the ALS Field Sampling Plan (20 - Field Services Sampling Plan).
- All Waste Water analyses comply with methodology requirements of 40 CFR Part 136.
- All Drinking Water analyses comply with methodology requirements of 40 CFR Part 141.
- Unless otherwise noted, all quantitative results for soils are reported on a dry weight basis.
- The Chain of Custody document is included as part of this report.
- All Library Search analytes should be regarded as tentative identifications based on the presumptive evidence of the mass spectra. Concentrations reported are estimated values.
- Parameters identified as "analyze immediately" require analysis within 15 minutes of collection. Any "analyze immediately" parameters not listed under the header "Field Parameters" are performed in the laboratory and are therefore analyzed out of hold time.
- Method references listed on this report beginning with the prefix "S" followed by a method number (such as S2310B-97) refer to methods from "Standard Methods for the Examination of Water and Wastewater".
- For microbiological analyses, the "Prepared" value is the date/time into the incubator and the "Analyzed" value is the date/time out the incubator.
- An Analysis-Prep Method Cross Reference Table is included after Analytical Results & Qualifiers section in this report.

### Standard Acronyms/Flags

|        |                                                                                                                                      |
|--------|--------------------------------------------------------------------------------------------------------------------------------------|
| C      | Please reference the Project Summary section of this Certificate of Analysis for case narrative comments.                            |
| J      | Indicates an estimated value between the Method Detection Limit (MDL) and the Practical Quantitation Limit (PQL) for the analyte     |
| U      | Indicates that the analyte was Not Detected (ND)                                                                                     |
| N      | Indicates presumptive evidence of the presence of a compound                                                                         |
| MDL    | Method Detection Limit                                                                                                               |
| PQL    | Practical Quantitation Limit                                                                                                         |
| RDL    | Reporting Detection Limit                                                                                                            |
| ND     | Not Detected - indicates that the analyte was Not Detected at the RDL                                                                |
| Cntr   | Analysis was performed using this container                                                                                          |
| RegLmt | Regulatory Limit                                                                                                                     |
| LCS    | Laboratory Control Sample                                                                                                            |
| MS     | Matrix Spike                                                                                                                         |
| MSD    | Matrix Spike Duplicate                                                                                                               |
| DUP    | Sample Duplicate                                                                                                                     |
| %Rec   | Percent Recovery                                                                                                                     |
| RPD    | Relative Percent Difference                                                                                                          |
| LOD    | DoD Limit of Detection                                                                                                               |
| LOQ    | DoD Limit of Quantitation                                                                                                            |
| DL     | DoD Detection Limit                                                                                                                  |
| I      | Indicates reported value is greater than or equal to the Method Detection Limit (MDL) but less than the Report Detection Limit (RDL) |
| (S)    | Surrogate Compound                                                                                                                   |
| NC     | Not Calculated                                                                                                                       |
| *      | Result outside of QC limits                                                                                                          |

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## PROJECT SUMMARY

Workorder: 3201617 AER629|R2109415

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### Workorder Comments

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Temperature of sample taken at time of sample receipt in the laboratory. See chain of custody for actual temperature.

### Sample Comments

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Lab ID: 3201617001

Sample ID: TK-SD-ST24-  
09102021

Sample Type: SAMPLE

The analysis for ignitability is performed using a modified method 1010A that provides a flashpoint temperature for a solid sample.

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## ANALYTICAL RESULTS

Workorder: 3201617 AER629|R2109415

Lab ID: **3201617001**  
Sample ID: **TK-SD-ST24-09102021**

Date Collected: 9/10/2021 00:00 Matrix: Solid  
Date Received: 9/17/2021 09:31

| Parameters           | Results          | Flag | Units  | RDL | MDL   | Method        | Prepared By       | Analyzed      | By  | Cntr |
|----------------------|------------------|------|--------|-----|-------|---------------|-------------------|---------------|-----|------|
| <b>WET CHEMISTRY</b> |                  |      |        |     |       |               |                   |               |     |      |
| Cyanide, Reactive    | ND               | C    | mg/kg  | 10  | 0.011 | SW-846 7.3CN  | 9/26/21 13:20 VXF | 9/27/21 13:28 | MXF | A    |
| Ignitability         | See<br>Comment 2 | C,1, | Deg. F |     |       | SW-846 1010AM |                   | 9/20/21 14:30 | JXK | A    |
| Moisture             | 55.6             | C    | %      | 0.1 | 0.01  | S2540G-11     |                   | 9/20/21 13:00 | IXK |      |
| Sulfide, Reactive    | 8.4              | C    | mg/kg  | 6.2 | 1.4   | SW846 7.3     | 9/26/21 13:20 VXF | 9/26/21 21:25 | VXF | A    |
| Total Solids         | 44.4             | C,3  | %      | 0.1 | 0.01  | S2540G-11     |                   | 9/20/21 13:00 | IXK |      |

Ms. Sarah S Leung  
Project Coordinator

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## ANALYTICAL RESULTS

Workorder: 3201617 AER629|R2109415

### PARAMETER QUALIFIERS

| Lab ID                                                                                                | # | Sample ID           | Analytical Method | Analyte      |
|-------------------------------------------------------------------------------------------------------|---|---------------------|-------------------|--------------|
| 3201617001                                                                                            | 1 | TK-SD-ST24-09102021 | SW-846 1010AM     | Ignitability |
| According to Pa/USEPA regulations, this sample is not considered to be ignitable. (Ref 40 CFR 261.21) |   |                     |                   |              |
| 3201617001                                                                                            | 2 | TK-SD-ST24-09102021 | SW-846 1010AM     | Ignitability |
| The sample did not flash up to 200°F.                                                                 |   |                     |                   |              |
| 3201617001                                                                                            | 3 | TK-SD-ST24-09102021 | S2540G-11         | Total Solids |
| The sample was analyzed outside of the holding time.                                                  |   |                     |                   |              |

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**ANALYSIS - PREP METHOD CROSS REFERENCE TABLE**

Workorder: 3201617 AER629|R2109415

| Lab ID     | Sample ID           | Analysis Method | Prep Method  | Leachate Method |
|------------|---------------------|-----------------|--------------|-----------------|
| 3201617001 | TK-SD-ST24-09102021 | S2540G-11       |              |                 |
| 3201617001 | TK-SD-ST24-09102021 | SW-846 1010AM   |              |                 |
| 3201617001 | TK-SD-ST24-09102021 | SW-846 7.3CN    | SW-846 7.3CN |                 |
| 3201617001 | TK-SD-ST24-09102021 | SW846 7.3       | SW846 7.3    |                 |

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### QUALITY CONTROL DATA

Workorder: 3201617 AER629|R2109415

**QC Batch:** WCPR/55885      **Analysis Method:** SW-846 7.3CN  
**QC Batch Method:** SW-846 7.3CN  
**Associated Lab Samples:** 3201617001

#### METHOD BLANK: 3396921

| Parameter         | Blank Result | Units | Reporting Limit |
|-------------------|--------------|-------|-----------------|
| Cyanide, Reactive | ND           | mg/kg | 10              |

#### LABORATORY CONTROL SAMPLE: 3396922

| Parameter         | LCS % Rec | Units | Spike Conc. | LCS Result | % Rec Limit |
|-------------------|-----------|-------|-------------|------------|-------------|
| Cyanide, Reactive | 9.25      | mg/kg | 10          | 0.92J      | 0 - 92      |

#### SAMPLE DUPLICATE: 3396923 ORIGINAL: 3202835001

| Parameter         | Original Result | Units | DUP Result | RPD   | Max RPD |
|-------------------|-----------------|-------|------------|-------|---------|
| Cyanide, Reactive | .00499          | mg/kg | .00999     | 66.8* | 20      |

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### QUALITY CONTROL DATA

Workorder: 3201617 AER629|R2109415

QC Batch: WCPR/55886 Analysis Method: SW846 7.3

QC Batch Method: SW846 7.3

Associated Lab Samples: 3201617001

#### METHOD BLANK: 3396924

| Parameter         | Blank Result | Units | Reporting Limit |
|-------------------|--------------|-------|-----------------|
| Sulfide, Reactive | 3.2J         | mg/kg | 6.2             |

#### LABORATORY CONTROL SAMPLE: 3396925

| Parameter         | LCS % Rec | Units | Spike Conc. | LCS Result | % Rec Limit |
|-------------------|-----------|-------|-------------|------------|-------------|
| Sulfide, Reactive | 67.4      | mg/kg | 567         | 382        | 49 - 148    |

#### SAMPLE DUPLICATE: 3396926 ORIGINAL: 3202835001

| Parameter         | Original Result | Units | DUP Result | RPD   | Max RPD |
|-------------------|-----------------|-------|------------|-------|---------|
| Sulfide, Reactive | 2.39282         | mg/kg | 3.1968     | 28.8* | 20      |

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### QUALITY CONTROL DATA

Workorder: 3201617 AER629|R2109415

**QC Batch:** WETC/260398      **Analysis Method:** S2540G-11  
**QC Batch Method:** S2540G-11  
**Associated Lab Samples:** 3201617001

SAMPLE DUPLICATE: 3393579 ORIGINAL: 3201451004

| Parameter    | Original Result | Units | DUP Result | RPD  | Max RPD |
|--------------|-----------------|-------|------------|------|---------|
| Moisture     | 92.2341         | %     | 92.3375    | .11  | 10      |
| Total Solids | 7.7658          | %     | 7.6624     | 1.34 | 5       |

SAMPLE DUPLICATE: 3393580 ORIGINAL: 3201489002

| Parameter    | Original Result | Units | DUP Result | RPD  | Max RPD |
|--------------|-----------------|-------|------------|------|---------|
| Moisture     | 15.1603         | %     | 13.9722    | 8.16 | 10      |
| Total Solids | 84.8396         | %     | 86.0277    | 1.39 | 5       |

SAMPLE DUPLICATE: 3393582 ORIGINAL: 3201575005

| Parameter    | Original Result | Units | DUP Result | RPD   | Max RPD |
|--------------|-----------------|-------|------------|-------|---------|
| Moisture     | 97.5609         | %     | 96.9306    | .65   | 10      |
| Total Solids | 2.439           | %     | 3.0693     | 22.9* | 5       |

SAMPLE DUPLICATE: 3393583 ORIGINAL: 3201604001

| Parameter    | Original Result | Units | DUP Result | RPD  | Max RPD |
|--------------|-----------------|-------|------------|------|---------|
| Moisture     | 76.2008         | %     | 75.9278    | .36  | 10      |
| Total Solids | 23.7991         | %     | 24.0721    | 1.14 | 5       |

SAMPLE DUPLICATE: 3393584 ORIGINAL: 3201616001

| Parameter    | Original Result | Units | DUP Result | RPD   | Max RPD |
|--------------|-----------------|-------|------------|-------|---------|
| Moisture     | 8.728           | %     | 9.7107     | 10.7* | 10      |
| Total Solids | 91.2719         | %     | 90.2892    | 1.08  | 5       |

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**QUALITY CONTROL DATA**

Workorder: 3201617 AER629|R2109415

QC Batch: WETC/260701

Analysis Method: SW846 7.3

QC Batch Method: SW846 7.3

Associated Lab Samples:

METHOD BLANK: 3396993

| Parameter         | Blank Result | Units | Reporting Limit |
|-------------------|--------------|-------|-----------------|
| Sulfide, Reactive | ND           | mg/kg | 6.3             |

METHOD BLANK: 3396995

| Parameter         | Blank Result | Units | Reporting Limit |
|-------------------|--------------|-------|-----------------|
| Sulfide, Reactive | ND           | mg/kg | 6.3             |

METHOD BLANK: 3396997

| Parameter         | Blank Result | Units | Reporting Limit |
|-------------------|--------------|-------|-----------------|
| Sulfide, Reactive | ND           | mg/kg | 6.3             |

METHOD BLANK: 3396999

| Parameter         | Blank Result | Units | Reporting Limit |
|-------------------|--------------|-------|-----------------|
| Sulfide, Reactive | ND           | mg/kg | 6.3             |

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**QUALITY CONTROL DATA CROSS REFERENCE TABLE**Workorder: 3201617 AER629|R2109415

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| Lab ID     | Sample ID           | Prep Method  | Prep Batch | Analysis Method | Analysis Batch |
|------------|---------------------|--------------|------------|-----------------|----------------|
| 3201617001 | TK-SD-ST24-09102021 |              |            | S2540G-11       | WETC/260398    |
| 3201617001 | TK-SD-ST24-09102021 | SW-846 7.3CN | WCPR/55885 | SW-846 7.3CN    | WETC/260719    |
| 3201617001 | TK-SD-ST24-09102021 | SW846 7.3    | WCPR/55886 | SW846 7.3       | WETC/260701    |

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# ALS Environmental Chain of Custody

1565 Jefferson Rd, Building 300 • Rochester, NY 14623 • 585-288-5380 • FAX 585-288-8475

ALS Contact: Meghan Pedro

Project Number: R2109415  
Project Manager: Meghan Pedro  
QAP: LAB QAP



| Lab Code     | Sample ID           | # of Cont. | Matrix | Sample  |      |                | Flash<br>1010A Modified | Sulfide React<br>9034 Modified |
|--------------|---------------------|------------|--------|---------|------|----------------|-------------------------|--------------------------------|
|              |                     |            |        | Date    | Time | Lab ID         |                         |                                |
| R2109415-001 | TK-SD-ST24-09102021 |            | Soil   | 9/10/21 |      | Middletown ALS | X                       | X                              |

1X 4 oz ag unfl  
AUG 9/17/21

WCSH

|                                                                                                  |                                                                                                        |                                                                                                                                                                                                        |                                                  |
|--------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------|
| Special Instructions/Comments<br><br>H - Test is On Hold<br>P - Test is Authorized for Prep Only | Turnaround Requirements<br>RUSH (Surcharges Apply)<br>PLEASE CIRCLE WORK DAYS<br>1 2 3 4 5<br>STANDARD | Report Requirements<br>I. Results Only<br>II. Results + QC Summaries<br>III. Results + QC and Calibration Summaries<br>IV. Data Validation Report with Raw Data<br>PQL/MDL/1<br>EDD<br>NYS DEC Equis 4 | Invoice Information<br>PO# 58R2109415<br>Bill to |
|                                                                                                  | Requested FAX Date: 10/01/21<br>Requested Report Date: 10/01/21                                        |                                                                                                                                                                                                        |                                                  |

Relinquished By: Alex Monay 9/16/21 Received By: AUG/MS Airbill Number: SEP 17 2021 0931

R2109415

— Ship To: Middletown ALS  
ALS Environmental - Middletown  
301 Fulling Mill Rd.  
Middletown, PA 17057

PC WFO Date 9/16/21  
SMO \_\_\_\_\_ Date \_\_\_\_\_

Instructions:

Ice \_\_\_\_\_  
Dry Ice \_\_\_\_\_  
No Ice \_\_\_\_\_

Bill to Client Account \_\_\_\_\_

Shipping:

Overnight \_\_\_\_\_  
2nd Day \_\_\_\_\_  
Ground \_\_\_\_\_

Comments:

ALS Group USA, Corp.  
[www.alsglobal.com](http://www.alsglobal.com)  
An ALS Limited Company

ALS



301 Fulling Mill Road  
Middletown, PA 17057  
P: (717) 944-5541  
F: (717) 944-1430

3201617

ALS Environmental - Rochester

# Chain of Sample Receipt Form

Client: \_\_\_\_\_ Work: \_\_\_\_\_

Initials: ALB

Date: 9/17/2021

1. Were airbills / tracking numbers present and recorded?..... NONE YES NO  
Tracking number: 9889 5096 1010 FedEx
2. Are Custody Seals on shipping containers intact?..... NONE YES NO
3. Are Custody Seals on sample containers intact?..... NONE YES NO
4. Is there a COC (Chain-of-Custody) present?..... YES YES NO
5. Are the COC and bottle labels complete, legible and in agreement?..... SBV YES NO
- 5a. Does the COC contain sample locations?..... YES YES NO
- 5b. Does the COC contain date and time of sample collection for all samples?..... not time YES NO
- 5c. Does the COC contain sample collectors name?..... client added YES NO
- 5d. Does the COC note the type(s) of preservation for all bottles?..... added YES NO
- 5e. Does the COC note the number of bottles submitted for each sample?..... added YES NO
- 5f. Does the COC note the type of sample, composite or grab?..... no C/C YES NO
- 5g. Does the COC note the matrix of the sample(s)?..... YES YES NO
6. Are all aqueous samples requiring preservation preserved correctly?..... N/A YES NO
7. Were all samples placed in the proper containers for the requested analyses, with sufficient volume?..... YES YES NO
8. Are all samples within holding times for the requested analyses?..... YES YES NO
9. Were all sample containers received intact and headspace free when required? (not broken, leaking, frozen, etc.)..... YES YES NO
10. Did we receive trip blanks ( applies only for methods EPA 504, EPA 524.2 and 1631E (LL Hg)?..... N/A YES NO
11. Were the samples received on ice?..... YES YES NO
12. Were sample temperatures measured at 0.0-6.0°C..... YES YES NO
13. Are the samples DW matrix? If YES, fill out Reportable Drinking Water questions below..... YES NO
- 13a. Are the samples required for SDWA compliance reporting?..... N/A YES NO
- 13b. Did the client provide a SDWA PWS ID#?..... N/A YES NO
- 13c. Are all aqueous unpreserved SDWA samples pH 5-9?..... N/A YES NO
- 13d. Did the client provide the SDWA sample location ID/Description?..... N/A YES NO
- 13e. Did the client provide the SDWA sample type (D, E, R, C, P, S)?..... N/A YES NO

Cooler #: \_\_\_\_\_

Temperature (°C): 6 \_\_\_\_\_

Thermometer ID: 574 \_\_\_\_\_

Radiological (µCi): \_\_\_\_\_

COMMENTS (Required for all NO responses above and any sample non-conformance):

<sup>1</sup>Final determination of correct preservation for analysis such as volatiles, microbiology, and oil and grease is made in the analytical department at the time of or following the analysis