



2023 Land Treatment Site Management Plan

Spokane International Airport Spokane, Washington January 2023

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2023 Land Treatment Site Management Plan Spokane International Airport – Spokane, Washington

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1.0 INTRODUCTION

During the months when air temperatures are at freezing or near freezing conditions, the passenger airlines and air cargo operators at the Spokane International Airport (SIA) conduct deicing of aircraft as required by Federal Aviation Regulations and each Carrier's operations specifications. Aircraft deicing is accomplished by spraying propylene glycol (glycol)-based aircraft deicing fluids onto critical aircraft surfaces. Some of the aircraft deicing fluid is retained on the aircraft and the remainder drips off onto the ground. The aircraft deicing fluid that falls to the ground can mix with stormwater, which flows to the stormwater infiltration area. As a result, SIA has implemented best management practices (BMP) to recover as much glycol as feasible to minimize the potential for groundwater contamination. In addition, SIA utilizes pavement deicers containing sodium formate, sodium acetate, and potassium acetate to melt and limit ice accumulation on paved surfaces including aprons, taxiways, and runways. These pavement deicers are also contained in the recovered stormwater-containing glycol that is stored then treated by application to a designated land treatment area on the airport property. For details on the application, collection, and storage of the stormwater-containing glycol, refer to the 2022 Glycol Recovery Best Management Practices Plan (Valley Science and Engineering, 2022).

The collected stormwater-containing glycol, regulated under State Waste Discharge Permit by Rule Permit No. ST0045499 (Permit) (State of Washington Department of Ecology, 2020), is stored in tanks at SIA throughout the duration of the deicing season and is managed in an environmentally sound manner by controlled application to land for treatment by soil micro-organisms. The land treatment operations and application site are closely monitored in compliance with the Permit to document the continued effectiveness of this management approach.

The specific objective of this plan is to provide the actual and planned stormwater-containing glycol land treatment loads and BMP for the land treatment of the stormwater-containing glycol.

2.0 SITE DESCRIPTION

The land treatment site (Site) is an approximately 151-acre parcel containing approximately 131 farmable acres, excluding a gravel borrow area and rock outcrops (Figure 1). Historically, approximately 110 acres has been farmed with dryland crops. Based on the soils mapped at the Site and the rock outcrops, about 90 acres is available to land apply the stormwater-containing glycol. It is located in the south half of Section 30, Township 25 North, Range 42 East of the Willamette Meridian. The Site is generally bounded by Hayford Road on the west, McFarland Road on the south, and what would be West 21st Avenue on the north if it were developed. The east boundary is adjacent to the SIA Perimeter Ditch.

3.0 LAND TREATMENT

A thorough options analysis determined that the best option for treatment of the stormwatercontaining glycol is land treatment (Cascade Earth Sciences, 2013). Land treatment is an efficient, sustainable, and cost effective alternative to standard mechanical-biological treatment technologies.

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The benefits associated with land treatment include:

- system resiliency (e.g., land treatment systems can handle treatment upsets and short-term overloads compared to traditional mechanical-biological treatment systems), and
- zero discharge to surface water resources.

Land treatment is where the stormwater-containing glycol is treated in the soil profile by native microbes just as it would be treated in a biological treatment process. However, in this case, the stormwater-containing glycol is applied to an agricultural field at a rate that allows the soil profile to retain and treat it with little or no discharge to groundwater. Because the stormwater-containing glycol contains almost no appreciable concentrations of nutrients, such as nitrogen, the size of the land treatment system depends on the oxygen demand treatment capability of the soil.

3.1 Quality and Quantity

Operations and monitoring were conducted in compliance with the Permit. Sample analytical results and field notes for stormwater-containing glycol samples collected in 2022 are included in Appendix A and summarized in Table 1.

When stormwater-containing glycol is applied to the Site, the operator records the required information for each trip to the Site (e.g., volume, concentration, application rate, and soil type where the stormwater-containing glycol was applied). In 2022, stormwater-containing glycol was applied to soils 1, 2, and 3 as illustrated in Figure 2.

The same areas used in 2022 are planned to receive stormwater-containing glycol in 2023. The required information will be recorded and reported in the annual Land Treatment Site Management Plan, as required by the Permit. Appendix B contains the information logged by the operator during the 2022 land application activities. In 2022, 168,600 gallons of stormwater-containing glycol was applied to the Site (Table 2) from May 17 through August 9 (Appendix B).

3.2 Load

The stormwater-containing glycol must be applied at controlled rates within the capacity of the Site. In order to properly manage and document application rates, field analyses of the stormwater-containing glycol are used to calculate the load to the Site. The applications are documented by the operator (Appendix B). The laboratory analyses of the stormwater-containing glycol are used to compute the application rates for the required reporting.

Theoretical oxygen demand, chemical oxygen demand (COD), and total nitrogen loads are tabulated in Appendix B and summarized in Table 2. In 2022, 3,576,660 pounds of theoretical oxygen demand; 459,110 pounds of COD; and 31.5 pounds of total nitrogen, were applied.

No additional fertilizers were applied in 2022.

3.3 Soils

Soil sampling was conducted on April 28, 2022, prior to stormwater-containing glycol applications. Samples are collected for each of the soil types where application occurs (Soils 1, 2, and 3). The soil

Valley – Spokane Valley, WA Doc: 2018230022 SIA 2023 Land Treat Mgmt Plan.docx types were identified during the initial soil characterization for the 2013 engineering report (Cascade Earth Sciences, 2013). A hand-held global positioning system is used to obtain consistent sampling locations across sampling events (Figure 1). The analysis completed on the April 2022 soil samples was performed in compliance with the Permit. The laboratory results are included in Appendix C with the data summarized in Table 3.

The soil monitoring is for qualitative purposes related to maintaining soil chemistry and fertility within general soil quality guidelines to support the desired treatment processes. Trend graphs showing soil pH, electrical conductivity of saturation paste extract, nitrate-nitrogen, and exchangeable sodium percentage (ESP) by depth are provided in Charts 1 through 4, respectively. These graphs provide perspective on any changes to the soil chemistry by showing the original results before the first application and the results from the most recent 3 annual pre-application sampling and analysis events. There has been no formal statistical evaluation of the data on the charts. All interpretations have been made based on visual observations of values and trends. The soil quality parameters are varying within a normal, acceptable range for an agricultural soil as needed for the desired oxygen demand treatment and cover crop growth.

In 2022, the soil ESP was calculated using the 2021 cation exchange capacity analysis. The ESP values are reasonable. They appear to be increasing at depth for Soil 3, stable in Soil 1, and are fairly stable in Soil 2 (Chart 4). None are of particular concern, especially with ESP less than 3% in all soils (1, 2, and 3) in the upper 6 inches where the stormwater-containing glycol is applied.

In general, for the past 7 years, the trends and other results indicate no harmful degradation or accumulation of constituents that would harm the function of the soils and treatment appears to be successful and sustainable.

3.4 **Groundwater**

Monitoring wells MW-8 and MW-11 monitor background (upgradient) groundwater conditions, while the other monitoring wells (MW-9, MW-10, and MW-12) monitor downgradient groundwater characteristics potentially influenced by Site activities. Field notes and laboratory reports for sampling conducted in 2022 are included in Appendix D and summarized in Table 4 with basic intra-well statistics for each parameter with results that were detected above the method detection limit.

Groundwater trends for dissolved oxygen, oxidation reduction potential (ORP), COD, total metals (arsenic, iron, and manganese), and nitrate-nitrogen are shown in Charts 5 through 11, respectively. Decreasing or stable trends are visible for dissolved oxygen, total arsenic, and nitrate-nitrogen. The ORP steadily increased since mid-2016 until October 2022 when it declined then stabilized after peaking in April 2021. COD has been variable. Total arsenic, total iron, and more recently total manganese results have also shown some unusual variability. These observations are discussed below.

The ORP is an indication of oxidation-reduction potential, which indicates the probability of chemical reduction reactions that lead to solubilization of metals such as arsenic, iron, and

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¹ ESP = Sodium (milliequivalents of charge per 100 grams of soil) ÷ Cation Exchange Capacity × 100%

manganese into the groundwater. The decrease in groundwater ORP returned the values to a range higher but similar to the original values in 2012. If stormwater-containing glycol was reaching groundwater, we would expect to see ORP values less than where they began in downgradient well locations. In this case, all ORP values, upgradient and downgradient, are varying together. This behavior is an indicator that the stormwater-containing glycol is being retained in the soil and effectively treated. The significant decrease in ORP observed at all monitoring wells in the October 2021 results compared to April. This decrease is believed to be associated with replacing the ORP meter in May 2021 as a similar decrease was seen at another site using the same meter. Continued monitoring is needed to determine if the recent data are a significant trend or a sampling/analytical anomaly.

Based on intra-well statistics (Table 4), the COD has remained within the upper and lower tolerance intervals at all monitoring wells. All samples have been analyzed by the same laboratory (Eurofins Environment Testing [formerly Eurofins Testing America] in Spokane Valley, Washington). However, the method detection limit has changed a few times since monitoring began. These changes in detection limit are causing the appearance of changing concentrations because the COD results are often below the detection limit.

Analysis of the historical data and the intra-well statistics on the data shows that the total arsenic results at both downgradient MW-9 and MW-12 have consistently been greater than the results at upgradient MW-8 and MW-11. Whereas, results at downgradient MW-10 have consistently been less than the upgradient results. The sampling event on September 3, 2019, produced results from all monitoring wells, upgradient and downgradient, that were the highest valid, detectable total arsenic concentrations since monitoring began. The concentrations were greatest at MW-9 (0.0058 mg/L) followed by MW-12 (0.0049 mg/L). Since September 3, 2019, the total arsenic concentrations at all monitoring wells have been fluctuating in a higher range than prior analyses. At this time it is unknown what would cause the total arsenic results to increase in the groundwater at all upgradient and downgradient locations.

The results for total iron have varied somewhat beginning December 18, 2019, and have returned to similar concentrations in October 2022 in all except MW-12. However, only one of those results exceeded the maximum values experienced since the beginning of monitoring. Any analysis of statistical significance is limited by the fact that the results have rarely exceeded the method detection limits for total iron. Continued monitoring is needed to determine if the recent data are a significant trend or a sampling/analytical anomaly.

Overall, the groundwater quality trends at the background monitoring wells have followed patterns similar to the downgradient monitoring wells.

4.0 BEST MANAGEMENT PRACTICES

The following BMPs apply to the current operations at the Site. These BMPs may be modified or additional BMPs implemented, as needed or as appropriate, to improve stormwater-containing glycol treatment and management as more experience is gained.

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4.1 Application

Land treatment of all the stormwater-containing glycol was selected as the preferred treatment method for SIA in the Final Recovered Deicer Land Application Pilot Project Engineering Report (Cascade Earth Sciences, 2013). Land application occurs only on bare soils because the light application rates (300- to 1,000- gallons per acre per application) would be intercepted and dry on the plant leaves not reaching the soil for treatment. In addition, corrosion inhibitors in the stormwater-containing glycol may be present in high enough concentrations to damage the plant leaves although not concentrated enough in the soil after application to inhibit plant growth. This loading rate barely wets the soil surface creating an interface for aerobic microorganisms to digest any oxygen demanding materials. Well-established literature indicates that soil microbes have the potential to digest oxygen-demanding materials at a rate of 45 to 450 pounds per acre per day (lb/ac/day) (U.S. Environmental Protection Agency, 2006; Bausmith & Neufeld, 1999; Idaho Department of Environmental Quality, 2007). Valley Science and Engineering, calculated the sitespecific oxygen demand capacity to be 150 lb/ac/day or more from April through October based on soil properties and temperatures (2013). With this understanding, SIA prescribes a short land treatment season beginning in April or May and lasting for 8 to 12 weeks or until all of the stormwater-containing glycol is applied. After which, a grass or grain crop is established with stored soil moisture and late-spring rainfall. The crop is turned under the following fall to decompose and restore nutrient balance to the soil for the upcoming year's recovered deicer application.

SIA contracts with Inland Technologies for professional land application and farming operations. Inland Technologies owns all the current application and farming equipment, and leases the equipment to SIA. The application method includes a tractor, towable tanker, and spray boom. This equipment is ideally suited to perform the stormwater-containing glycol applications. The spray boom can be configured to operate at full spray width or at tractor width (8 feet wide) using shutoff valves on the spray bar. The operators are trained in applying herbicide/water mixtures at rates measured in gallons per acre and will calculate the application rate for each tank load depending on the glycol concentration in the stormwater-containing glycol (Table 5). The glycol concentration is measured using a hand-held refractometer, the application rate is determined, and the operator proceeds to apply the tanker volume at a specific field speed to accomplish the intended application rate.

Currently, SIA does not have access to an irrigation water supply and must rely on dryland farming and spraying techniques. The Site contains about 90 acres of suitable, arable land for land treatment.

4.2 Loading Rates

Because of the high oxygen demand and the lack of other limiting constituents, such as nitrogen, the application rate for the stormwater-containing glycol is determined based on the appropriate oxygen demand loading.

4.2.1 Chemical Oxygen Demand Loading Rate

Based on the oxygen demand capacity computed for the soils at the Site, the daily COD loading rate could be as high as 147 to 335 lb/ac/day depending on the month. This is in contrast to the average annual or seasonal oxygen demand loading rate of 50 lb/ac/day allowed for land treatment systems in Idaho (Idaho Department of Environmental Quality, 2007) but within the range cited by EPA

Valley – Spokane Valley, WA Doc: 2018230022 SIA 2023 Land Treat Mgmt Plan.docx (U.S. Environmental Protection Agency, 2006). Table 5 provides the dosage in gallons per acre for 5 example COD loading rates based on the range of concentrations expected for the stormwater-containing glycol that was developed in the 2013 engineering report (Cascade Earth Sciences, 2013). To control the application rate and loading to within the capacity of the application areas, the stormwater-containing glycol will be applied at the rate of 150 pounds per acre (lb/ac) to no more than 1,050 pounds chemical oxygen demand per acre (lb COD/ac) in any one application. The rest period between applications would be a minimum of one day for each 150 lb COD/ac in the previous application.

For example, if an application rate of 150 lb/ac was to be applied, this rate could be applied on a daily basis. At an application rate of 1,050 lb/ac, the required rest period would be 7 days before another application could begin. This will maintain a loading rate within the capacity of the soils to treat the COD.

4.2.2 Supplemental Nitrogen Loading Rate

Based on the stormwater-containing glycol analytical results (Table 1) the nitrogen load to the Site from stormwater-containing glycol application is less than 25 pounds (Table 2). In addition, the Site soil test results from April 28, 2022, indicate that there is not sufficient nitrogen in the soil to compensate for the lack of nitrogen in the stormwater-containing glycol (Table 3). As discussed above, in order to encourage microbial degradation of the recovered deicer following application, it may be necessary to apply nitrogen fertilizer.

It is well established that a carbon:nitrogen ratio of approximately 25:1 is necessary to decompose organic residues without immobilizing available soil nitrogen. Based on the analysis conducted for the 2013 engineering report, a soil nitrogen supply or fertilization is recommended to achieve a carbon:nitrogen ratio of 30:1 (Cascade Earth Sciences, 2013).

Table 6 provides a guide for the nitrogen requirements for a range of application rates, up to 15 applications. Actual nitrogen needs for any given area can be computed based on the COD load applied using the 0.009 pounds nitrogen per pound COD relationship.

N-Fertilizer Need (lb/ac) =
$$\sum$$
 (lb COD/ac) \times 0.009

The recommendations for actual fertilizer management are as follows. If the soil available nitrogen is less than 25 pounds nitrogen per acre in the surface 6 inches, fertilizer should be applied at the rate of 25 pounds nitrogen per acre for every 2,400 lb COD/ac (8 applications at 300 lb/ac; Table 5). For areas receiving less than 2,800 lb COD/ac, the soil will be assumed to have sufficient nitrogen reserves to allow deicer decomposition. Nitrogen fertilizer application may be provided in liquid form such as urea-ammonium nitrate (UAN 32) by the spray truck. An alternative would be to provide nitrogen in a dry granular form such as urea by an agricultural broadcast fertilizer spreader.

4.3 Cropping

As described above, the soil should be cultivated and fallow during the application period. This will allow the soil to be fully exposed to receive and treat the applied stormwater-containing glycol. Following stormwater-containing glycol application, the land will be planted to a grass crop such as

annual ryegrass (*Lolium multiflorum*), a grain crop such as barley, wheat, or oats could be substituted for the grass. The crop would be planted with a seed drill at least a week following the end of stormwater-containing glycol application but as soon as possible. The seed drill is needed to plant the seed into the moist soil beneath the surface for initial germination, growth, and establishment.

Once established, the crop will consume the water from the soil to retain nutrients such as nitrogen in the upper soil horizons. It will also provide a means to consume and breakdown corrosion inhibitors that may be present in the recovered deicer. The removal of water from the soil by the crop will provide capacity for winter and spring rainfall prior to the next deicer application season. If sufficient growth and moisture are possible, a harvest might be accomplished but that is not the primary function of the crop. In the fall (late September or early October), the crop would be disked into the soil to break down, leaving the nutrients taken up in the upper soil horizons for treatment processes the next spring.

5.0 MONITORING PLAN

Monitoring is required by the Permit and provides critical data necessary for monitoring the land application operations documenting stormwater-containing glycol treatment. This plan includes field logs kept by the operators, stormwater-containing glycol testing, soil testing, and groundwater testing.

The soil and groundwater sampling locations are shown on Figure 1. Qualified individuals and laboratories will conduct sample collection and analysis. All samples will be collected, stored, and transported according to regulatory and laboratory standard methods. The constituents to be analyzed, as required in the Permit (Table 7).

5.1 Operator Logs

Field logs kept by the operators (Appendix E) will provide a record of the date, time, glycol concentration, stormwater-containing glycol volume applied, application area, application rates, and conditions. The observations in the logs will be used to calculate loading rates reported on the monthly discharge monitoring reports (April through September) and summarized in the annual Land Treatment Site Management Plan.

5.2 Stormwater-Containing Glycol

Stormwater-containing glycol monitoring is necessary for managing land treatment and has a two-fold objective:

- 1) to monitor the constituent composition in the stormwater-containing glycol and,
- 2) to obtain the information needed to know the proper application rate.

Each tank of stormwater-containing glycol is tested for % glycol prior to application using a handheld refractometer to determine the application rate on the Site. Using the quantity of stormwatercontaining glycol in the tank and the % glycol, the operator uses Table 5 to determine the application rate. One sample is collected every 2 weeks, while land applying, and analyzed for the required constituents (Table 7). Field parameters and conditions are logged on a field sheet (Appendix F). Monitoring results will be reported on the monthly discharge monitoring reports (April through September) and summarized in the annual Land Treatment Site Management Plan.

5.3 Soil

Soils analysis is conducted to monitor for nitrogen, accumulation of salts, and to verify that treatment is occurring and can continue occurring, as expected. Samples will be collected and analyzed each spring prior to the start of land application of stormwater-containing glycol and submitted to a qualified laboratory for analysis of the required constituents listed in Table 7.

Composite soil samples representing the 0- to 6-inch, 6- to 12-inch, 12- to 18-inch, 18- to 36-inch, and 36- to 60-inch depths will be collected. The composite samples should be composed of a minimum of 4 sub-samples each and samples should represent soil areas 1, 2, and 3 (Figure 1). Monitoring results will be reported in the annual Land Treatment Management Plan.

5.4 Groundwater

The groundwater at monitoring wells (MW-8 through MW-12) at the Site will be monitored for the required constituents 2 times per year (Table 7). Prior to purging, static water elevations are measured with a measuring tape, accurate to 0.01 feet. Groundwater samples are collected using a peristaltic pump to maintain purging rates between 0.2 and 0.3 liters per minute (described as "low flow" on field sheets in Appendix G). Field parameters are measured and recorded at intervals of at least 5 minutes. Once the field parameters (pH and electrical conductivity) stabilized to within 10% of the previous reading, samples are collected and placed on ice. Samples are delivered to a qualified laboratory for analysis within the hold time requirements. Monitoring results will be reported on the bi-annual discharge monitoring reports and trends will be reported in the annual Land Treatment Management Plan.

6.0 SUMMARY

The specific objective of this plan is to address BMPs for stormwater-containing glycol application and treatment. The goal is to treat the stormwater-containing glycol recovered during aircraft deicing operations in a manner that does not negatively impact groundwater quality. This plan includes guidance for application rates and application management along with monitoring of the:

- Stormwater-Containing Glycol quantity, quality, application rates, and loads
- Land Treatment Site Soils
- Land Treatment Site Groundwater

Monitoring is required by the Permit and provides the critical information necessary for implementing and documenting the stormwater-containing glycol treatment and management strategy. These BMPs may be modified or additional BMPs implemented, as needed or as appropriate, to improve stormwater-containing glycol treatment and management.

REFERENCES

- Bausmith, D. S., & Neufeld, R. D. (1999). Soil biodegradation of propylene glycol based aircraft deicing fluids. *Water Environment Research*, 71(4), 459-464.
- Cascade Earth Sciences. (2013). Final recovered deicer land application pilot project engineering report Spokane International Airport, (2013230011). Spokane, WA: Author.
- Idaho Department of Environmental Quality. (2007). *Guidance for reclamation and reuse of municipal and industrial wastewater*. Boise, ID: Author.
- State of Washington Department of Ecology. (2020). State waste discharge permit by rule number ST0045499. Spokane, WA: Author.
- U.S. Environmental Protection Agency. (2006). *Process design manual for land treatment of municipal wastewater effluents*, (EPA/625/R-06/016). Cincinnati, OH: Author.
- Valley Science and Engineering. (2022). 2022 Glycol recovery best management practices plan, (2018230022). Spokane Valley, WA: Author.

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TABLES

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- **Table 2.** Application Summary 2022
- **Table 3.** Soil Monitoring Results 2022
- **Table 4.** Groundwater Monitoring Results 2022
- Table 5. Application Rate for Stormwater-Containing Glycol Land Application
- **Table 6.** Nitrogen Fertilizer Application Rate
- **Table 7.** Monitoring Requirements

Table 1. Stormwater-Containing Glycol Quality Data - 2022

Sample	pН	EC	Temp	Glycol	Total N	COD
Date	s.u.	μS/cm	°C	%	mş	g/L
5/16/2022	8.16	1,824	15.1	24.8	20.3	540,000
6/3/2022	8.03	2,280	19.0	23.5	39.6	410,000
6/14/2022	8.24	2,510	9.2	14.9	32.6	240,000
6/28/2022	8.00	2,070	15.2	22.7	13.4	380,000
7/12/2022	7.99	2,220	23.7	20.8	13.4	380,000
7/26/2022	8.32	1,822	28.2	16.0	15.1	260,000
Average	8.10	2,121	18.4	20.5	22.4	368,333

Samples were collected by Valley Science and Engineering from the application tank prior to land application and submitted to Eurofins TestAmerica in Spokane Valley, Washington for analysis. Abbreviations: COD = chemical oxygen demand, EC = electrical conductivity, mg/L = milligrams per liter, Total N = total nitrogen (total Kjeldahl nitrogen + nitrate-nitrogen + nitrite-nitrogen), Temp = temperature, s.u. = standard units, μ S/cm = microsiemens per centimeter.

Table 2. Application Summary - 2022

		Appli	ed	
Month	Stormwater- Containing Glycol	Total Nitrogen	Chemical Oxygen Demand	Theoretical Oxygen Demand
	gallons		pounds	
May	2,700	0.5	12,160	48,600
June	78,750	20.8	211,090	2,026,660
July	62,150	7.2	181,650	1,079,100
August	25,000	3.1	54,210	422,300
Total	168,600	31.5	459,110	3,576,660
Average Rate (90 acres)	0.35 lb/ac	5,101 lb/ac	

Abbreviation: lb/ac = pounds per acre.

Table 3. Soil Monitoring Results - 2022

Sample Date	Depth	pН	ОМ	H ₂ O	ECe	NO ₃ -N	NH ₄ -N	TKN	SO ₄ -S	Avail P	K	Ca	Mg	Na	ESP 1
Date	inches	inches s.u. %		6	mmhos/cm	milligrams per kilogram						I	%		
	Soil 1														
4/28/2022	0 to 6	6.0	2.55	18.50	0.31	3.4	3.3	790	16	22	478	4.62	0.73	0.16	0.9
4/28/2022	6 to 12	6.5	1.79	14.55	0.21	3.1	2.0	440	8	11	377	5.40	0.84	0.13	1.1
4/28/2022	12 to 18	6.6	1.77	14.10	0.20	4.0	1.7	220	8	10	297	5.19	0.89	0.11	0.6
4/28/2022	18 to 36	6.8	0.54	8.37	0.20	2.1	1.5	170	9	8	151	4.15	1.22	0.07	0.7
4/28/2022	36 to 60	6.8	0.36	6.84	0.23	2.2	1.3	230	6	9	115	3.42	0.93	0.04	0.7
	Soil 2														
4/28/2022	0 to 6	6.9	3.32	16.85	0.55	5.1	3.2	610	11	12	561	8.05	1.30	0.27	1.7
4/28/2022	6 to 12	7.3	2.79	18.58	0.58	4.8	2.5	370	8	10	367	10.34	1.80	0.35	2.2
4/28/2022	12 to 18	7.4	1.57	16.82	0.64	5.3	2.1	610	10	10	269	9.25	1.90	0.26	1.8
4/28/2022	18 to 36	7.5	0.90	15.17	0.49	2.2	1.7	100	9	9	188	7.04	1.94	0.16	1.3
4/28/2022	36 to 60	8.1	0.54	11.54	0.31	0.6	1.4	360	4	6	77	5.96	1.57	0.37	4.6
						S	oil 3								
4/28/2022	0 to 6	7.2	3.47	17.53	0.66	6.2	3.2	950	8	11	553	11.52	1.21	0.16	1.1
4/28/2022	6 to 12	7.5	2.57	20.13	0.62	6.3	2.1	710	10	10	474	10.63	1.54	0.26	2.3
4/28/2022	12 to 18	7.9	1.79	20.83	0.65	5.5	1.7	350	8	9	337	10.72	2.21	0.46	4.9
4/28/2022	18 to 36	8.3	1.01	16.95	0.81	2.6	1.7	310	6	8	143	8.77	1.92	0.64	7.8
4/28/2022	36 to 60	8.3	0.27	8.69	0.37	2.0	1.2	90	6	7	69	4.74	1.47	0.36	4.9

Soil samples were collected by Valley Science and Engineering and submitted to Kuo Testing Labs in Othello, Washington for analysis.

Abbreviations: Avail P = available phosphorus, CEC = cation exchange capacity, Ca = calcium, ECe = electrical conductivity of saturation paste extract, ESP = exchangeable sodium percentage, H_2O = moisture, K = potassium, meq/100g = milliequivalents of charge per 100 grams of soil, Mg = magnesium, mmhos/cm = millimhos per centimeter, Na = sodium, NH_4 -N = ammonium-nitrogen, NO_3 -N = nitrate-nitrogen, OM = organic matter, s.u. = standard units, SO_4 -S = sulfate-sulfur, TKN = total Kjeldahl nitrogen.

Soil samples were collected before the application of stormwater-containing glycol from the 2021-2022 winter season.

¹ Calculated using the current year soil sodium and the 2021 soil cation exchange capacity.

Table 4. Groundwater Monitoring Results - 2022

		Fie	eld Para	meters	1							Labora	atory Par	ameters									
	CAF					ODD	Arse	nic	Iro	on	Man	ganese			TIP C	4.11		3.5	N/	17	C	60.0	CCD
Sample Date	SWL	pН	EC	Temp	DO	ORP	Dissolved	Total	Dissolved	Total	Dissolved	Total	NO ₃ -N	NO ₂ -N	TDS	Alk	Ca	Mg	Na	K	Cl	SO ₄ -S	COD
	feet	s.u.	μS/cm	Co	mg/L	mV						milli	grams pe	r liter									
										MW-8	(Upgradient)												
4/5/2022	12.10	7.01	414	10.6	4.90	143	0.0015	0.0015	0.039 J	0.054 J	< 0.0005	< 0.00046	3.5	< 0.069	220	95 B	49	13.0	10 B	5.1	82	8.5	< 5.9
10/18/2022	13.53	7.15	339	14.5	3.60	98	0.0020	0.0020	0.046 J	0.058 J	0.00096 J	0.00051 J	3.3	< 0.069	210	95 B	43	12.0	10	4.8	62	8.1	< 5.0
										Sta	atistics 2												
Total # of Samples	35	34	35	31	35	35	35	35	35	35	35	35	35	32	35	4	4	4	4	4	4	4	32
# Samples > MDL	35	34	35	31	35	35	28	29	9	12	9	28	35	0	35	4	4	4	4	4	4	4	17
Maximum	14.09	7.61	414	16.6	12.90	243	0.0031	0.0071	0.064	0.130	0.0412	0.08110	4.7		310	95	49	13.0	13	6.0	82	8.5	19.0
Minimum	8.16	6.84	167	8.3	3.60	-13	0.0015	0.0015	0.019	0.011	0.0005	0.00051	0.6		118	75	28	7.7	9	4.1	28	5.1	4.0
Mean		7.17	278	12.0	8.13	114	0.0022	0.0024	0.035	0.055	0.0055	0.00972	2.0		185	89	40	10.4	10	5.0	56	6.9	9.4
Standard Deviation		0.16	57	2.1	2.03	62	0.0003	0.0010	0.015	0.037	0.0134	0.02511	1.0		39	9	9	2.5	2	0.8	22	1.7	3.4
Tolerance Upper		7.54	408	16.7	12.78	255	0.0029	0.0048	0.080	0.157	0.0461	0.06726	4.4		273	137	85	23.2	20	9.1	171	15.6	17.7
Interval ³ Lower ⁴		6.81	148	7.2	3.48	0.0	0.0014	0.0001	0.000	0.000	0.0000	0.00000	0.0		96	40	0	0.0	1	0.9	0	0.0	1.0
					1		T				downgradient)			1					ı				
4/5/2022	12.55	7.50	175	7.6	7.00	144	0.0040	0.0042	0.025 J	0.030 J	< 0.00046	0.0015 J	2.6	< 0.069	100	75 B		4.7	11 B	2.6	4	4.0	< 5.9
10/18/2022	12.48	7.52	150	13.2	4.90	123	0.0047	0.0046	0.018 J	0.039 J	< 0.00046	0.0011 J	4.6	< 0.069	97	80 B	15	4.4	10	2.4	4	5.9	< 5.0
	1				1						atistics 2			1		1		1				1	
Total # of Samples	35	34	35	31	34	34	35	35	35	35	35	35	35	32	35	4	4	4	4	4	4	4	32
# Samples > MDL	28	34	35	31	34	34	31	31	8	19	7	28	35	0	35	4	4	4	4	4	4	4	10
Maximum	12.55	7.94	444	15.9	13.72	212	0.0057	0.006	0.097	0.910	0.06640	0.0689	31.0		397	80	20	5.6	12	3.1	4	5.9	17.0
Minimum	4.83	7.00	141	6.8	4.80	-15	0.0023	0.002	0.010	0.010	0.00046	0.0008	0.7		90	75	14	4.4	10	2.4	2	3.1	4.3
Mean		7.35	256	10.8	8.80	107	0.0037	0.004	0.029	0.082	0.01085	0.0118	10.0		188	76	16	4.8	11	2.8	3	4.6	9.1
Standard Deviation		0.20	74	2.7	2.21	55	0.0008	0.001	0.028	0.202	0.02454	0.0215	9.0		69	3	3	0.6	1	0.3	1	1.3	4.4
Tolerance Upper		7.82	426	16.9	13.86	234	0.0056	0.006	0.120	0.572	0.09426	0.0610	30.6		347	89	30	7.7	15	4.3	9	11.1	21.9
Interval 3 Lower 4		6.88	86	4.6	3.74	0.0	0.0018	0.002	0.000	0.000	0.00000	0.0000	0.0		29	63	2	1.9	7	1.2	0	0.0	0.0
4/5/2022	10.55		200	0.5		10.	0.0012	0.0012	0.000 -1		downgradient)	0.0012 =	1		1.50	50 -	-		12 -	2.1	2.2	10.0	
4/5/2022	10.55	7.50	230	8.2	5.90	136	0.0013	0.0013	0.032 J	0.077 J	0.0006 J	0.0042 J	8.5	< 0.069	170	50 B	20	5.7	13 B	2.1	20	12.0	< 5.9
10/18/2022	12.40	7.38	183	12.2	4.50	76	0.0017	0.0017	0.020 J	0.043 J	< 0.0005	0.0007 J	5.6	< 0.069	160	60 B	17	5.3	12	2.4	20	5.9	< 5.0
Total # of Come1.	25	22	25	2.1	25	25	25	25	25		atistics 2	25	25	22	25	4		4		4	4	4	22
Total # of Samples	35	33	35	31	35	35	35	35	35	35	35	35	35	32	35	4	4	4	4	4	4	4	32
# Samples > MDL	28	33	35	31	35	35	24	23	6	29	10	28	35	0	35	4	4	4	4	4	4	4	7
Maximum	13.27	7.83	340	14.8	11.50	209	0.0021	0.0030	0.039	0.575	0.0910	0.1020	22.0		298	60	20	5.9	13	2.4	20	12.0	13.0
Minimum	8.88	6.94	166	8.2	4.50	-18	0.0008	0.0009	0.014	0.012	0.0006	0.0005	5.6		69	50	17	4.7	12	2.1	8	5.9	4.4
Mean Standard Daviation		7.32	259	11.0	8.36	100	0.0013	0.0014	0.027	0.103	0.0233	0.0143	14.5		193	56	19	5.4	13	2.3	15	8.1	7.0
Standard Deviation		0.22	42	1.7	1.70	54	0.0003	0.0005	0.011	0.130	0.0372	0.0297	4.3		38	5	2	0.5	15	0.2	6	2.7	3.2
Tolerance Upper Interval ³ Lower ⁴		7.82	354	14.9	12.26	224	0.0020	0.0024	0.066	0.400	0.1316	0.0823	24.5		280	81	26	8.1	15	3.1	46	22.2	17.9
Interval Lower		6.83	164	7.0	4.46	0.0	0.0006	0.0003	0.000	0.000	0.0000	0.0000	4.6		106	32	11	2.7	10	1.6	0	0.0	0.0

Table 4. Groundwater Monitoring Results - 2022

			Fie	eld Para	meters	1							Labora	ratory Parameters										
		SWL	рН	EC	Temp	DO	ORP	Arse	nic	Ir	on	Mar	iganese	NO ₃ -N	NO ₂ -N	TDS	Alk	Ca	М-	Na	K	Cl	SO ₄ -S	COD
Sample Da	ate	SWL	рп	EC	тетр	ЪО	OKP	Dissolved	Total	Dissolved	Total	Dissolved	Total	NO3-1N	1102-11	108	AIK	Ca	Mg	Na	K	CI	304-3	СОБ
		feet	s.u.	μS/cm	Co	mg/L	mV						millig	grams pe	r liter									
											MW-11	(upgradient)												
4/5/2022	2	11.75	7.13	153	8.2	5.30	167	0.0016	0.0017	0.020 J	0.026 J	0.0020	< 0.00046	6.2	< 0.069	170	50 B	13	4.2	5 B	3.2	7	4.4	< 5.9
10/18/202	22	12.52	6.92	178	13.9	3.90	120	0.0019	0.0019	0.023 J	0.029 J	< 0.00046	< 0.00046	4.8	< 0.069	160	50 B	19	6.4	6	3.7	13	5.7	< 5.0
	Statistics ²																							
Total # of Sar	mples	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	4	4	4	4	4	4	4	28
# Samples > 1	MDL	28	28	28	28	28	28	23	24	6	11	7	28	28	0	28	4	4	4	4	4	4	4	18
Maximun	n	12.93	7.47	211	16.0	10.90	252	0.0027	0.0035	0.054	0.105	0.0032	0.00556	6.2		180	60	20	6.4	7	4.1	13	6.3	27.0
Minimun	n	7.68	6.64	120	7.9	3.90	7	0.0013	0.0014	0.016	0.012	0.0005	0.00054	1.5		85	50	13	4.2	5	3.2	7	4.4	4.2
Mean			6.94	160	11.3	7.45	131	0.0018	0.0019	0.032	0.046	0.0017	0.00206	2.7		126	54	17	5.6	6	3.8	11	5.2	8.4
Standard Dev	riation		0.21	25	2.3	1.72	59	0.0003	0.0004	0.015	0.034	0.0010	0.00208	1.2		25	5	3	1.0	1	0.4	3	0.9	5.0
Tolerance	Upper		7.41	217	16.5	11.40	267	0.0025	0.0029	0.090	0.141	0.0051	0.00683	5.5		183	78	33	10.6	10	5.8	25	10.0	20.6
Interval ³	Lower 4		6.47	102	6.0	3.50	0.0	0.0012	0.0010	0.000	0.000	0.0000	0.00000	0.0		69	29	1	0.6	2	1.7	0	0.4	0.0
											MW-12	(downgradient)												
4/5/2022		13.30	7.24	372	6.1	7.20	124	0.0026	0.0028	0.032 J	0.036 J	< 0.0005	< 0.00046	2.4	< 0.069	210	110 B	37	11.0	17 B	3.0	47	14.0	6.6 J
10/18/202	22	14.57	7.29	346	13.5	4.40	109	0.0031	0.0030	0.041 J	0.170	< 0.00046	0.00300	2.4	< 0.069	200	120 B	40	12.0	19	3.1	4	15.0	< 5.0
_								1		1		tatistics 2	1		1							1		,
Total # of Sar	1	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	4	4	4	4	4	4	4	28
# Samples > 1		28	28	28	28	28	28	28	28	8	12	6	28	28	0	28	4	4	4	4	4	4	4	19
Maximun		14.61	7.76	441	16.2	13.30		0.0043	0.0049	0.064	0.318	0.0062	0.00833	13.0		300	130	41	12.0	20	3.5	47	15.0	20.0
Minimun	n	5.13	7.00	286	5.4	4.40	-4	0.0022	0.0021	0.020	0.017	0.0005	0.00066	0.5		152	110	37	11.0	17	3.0	4	13.0	4.1
Mean			7.24	378	10.6	8.32	112	0.0030	0.0031	0.040	0.106	0.0026	0.00363	5.1		237	118	39	11.5	19	3.2	32	14.3	9.8
Standard Dev			0.18	42	2.9	2.18	63	0.0004	0.0005	0.015	0.094	0.0021	0.00321	3.0		35	10	2	0.6	1	0.2	19	1.0	4.1
Tolerance	Upper		7.66	476	17.3	13.31	258	0.0040	0.0042	0.089	0.363	0.0104	0.01098	11.9		316	167	49	14.5	26	4.4	131	19.2	19.7
Interval 3	Lower 4		6.82	281	4.0	3.32	0.0	0.0021	0.0019	0.000	0.000	0.0000	0.00000	0.0		158	68	28	8.5	12	2.1	0	9.3	0.0

Summary of 2022 results intra-well statistics for data collected from December 2012 through October 2022 (MW-8, MW-9, and MW-10) and September 2014 through October 2022 (MW-11 and MW-12).

Shaded results are above the upper tolerance interval value.

Abbreviations: -- = not calculated, < = not detected above the method detection limit, Alk = alkalinity, B = compound was found in the blank and sample, Ca = calcium, Cl = chloride, COD = chemical oxygen demand, DO = dissolved oxygen, EC = electrical conductivity, J = result is less than the reporting limit but greater than or equal to the method detection limit and the concentration is an approximate value, K = potassium, mg/L = milligrams per liter, Mg = magnesium, mV = millivolts, Na = sodium, NH₁-N = ammonia-nitrogen, NO₂-N = nitrite-nitrogen, NO₃-N = nitrate-nitrogen, ORP = oxidation reduction potential, s.u. = standard units, SO₄-S = sulfate-sulfur, SWL = static water level, TDS = total dissolved solids, Temp = temperature, µS/cm = microsiemens per centimeter.

- 1 Field parameters were tested using hand-held instruments at the time of sampling.
- 2 Intra-well statistics run on results detected above the method detection limit.
- 3 Tolerance interval based on one-sided tolerance limits for normal distributions, at the 95% confidence level, minimum of 4 samples. These intervals are useful for understanding the typical range of results.
- 4 For all parameters except pH and ORP, calculated tolerance interval endpoints that are negative are set equal to zero.

Table 5. Application Rate for Stormwater-Containing Glycol Land Application

Glycol Concentration	Refraction	lb COD/gal		Applicat	ion Rate (gallons p	er acre) ¹	
% by Volume	at 20°C °Brix	ib COD/gai	150 lb COD/ac	300 lb COD/ac	500 lb COD/ac	750 lb COD/ac	1,050 lb COD/ac
1	0.4	0.14	1,071	2,141	3,569	5,353	7,495
2	1.2	0.28	535	1,071	1,784	2,677	3,747
3	1.9	0.42	357	714	1,190	1,784	2,498
4	2.6	0.56	268	535	892	1,338	1,874
5	3.4	0.70	214	428	714	1,071	1,499
6	4.1	0.84	178	357	595	892	1,249
7	4.8	1.0	153	306	510	765	1,071
8	5.5	1.1	134	268	446	669	937
9	6.2	1.3	119	238	397	595	833
10	6.9	1.4	107	214	357	535	749
11	7.6	1.5	97	195	324	487	681
12	8.3	1.7	89	178	297	446	625
13	9.0	1.8	82	165	275	412	577
14	9.7	2.0	76	153	255	382	535
15	10.4	2.1	71	143	238	357	500
16	11.0	2.2	67	134	223	335	468
17	11.7	2.4	63	126	210	315	441
18	12.4	2.5	59	119	198	297	416
19	13.0	2.7	56	113	188	282	394
20	13.7	2.8	54	107	178	268	375
21	14.4	2.9	51	102	170	255	357
22	15.0	3.1	49	97	162	243	341
23	15.6	3.2	47	93	155	233	326
24	16.3	3.4	45	89	149	223	312
25	16.9	3.5	43	86	143	214	300
26	17.6	3.6	41	82	137	206	288
27	18.2	3.8	40	79	132	198	278
28	18.8	3.9	38	76	127	191	268
29	19.4	4.1	37	74	123	185	258
30	20.0	4.2	36	71	119	178	250
31	20.6	4.3	35	69	115	173	242
32	21.3	4.5	33	67	112	167	234
33	21.9	4.6	32	65	108	162	227
34	22.5	4.8	31	63	105	157	220
35	23.0	4.9	31	61	102	153	214
36	23.6	5.0	30	59	99	149	208
37	24.2	5.2	29	58	96	145	203
38	24.8	5.3	28	56	94	141	197
39	25.4	5.5	27	55	92	137	192
40	25.9	5.6	27	54	89	134	187
41	26.5	5.7	26	52	87	131	183
42	27.1	5.9	25	51	85	127	178
43	27.6	6.0	25	50	83	124	174
44	28.2	6.2	24	49	81	122	170
45	28.7	6.3	24	48	79	119	167
46	29.3	6.4	23	47	78	116	163
47	29.8	6.6	23	46	76	114	159
48	30.3 30.9	6.7	22	45	74	112 109	156
49 50	30.9	6.9 7.0	22 21	44 43	73 71	109	153 150
30	J1. '1	7.0	41	T-3	/ 1	10/	130

This information in this table is from Table 12 of the Final Recovered Deicer Land Application Pilot Project Engineering Report (Cascade Earth Sciences, 2013). Shaded and bold section is in the range of glycol concentrations expected in recovered deicer.

Abbreviations: lb COD/ac = pounds of chemical oxygen demand per acre, lb COD/gal = pounds of chemical oxygen demand per gallon of stormwater-containing glycol theoretical oxygen demand of 14.01.

 $^{1 \ \} Application \ rate \ is \ computed \ by \ dividing \ desired \ application \ rate \ by \ lb \ COD/gal \ (i.e., Application \ Rate = lb \ COD/ac \div lb \ COD/gal).$

Table 6. Nitrogen Fertilizer Application Rate

Nhanaf	C:COD 1	Nit	trogen Needed to	Balance COD Lo	ad ²		
Number of Applications	С:СОБ	(COD Loading Rat	e (pounds per aci	re)		
11	lb C/lb COD	150 lb COD/ac	300 lb COD/ac	500 lb COD/ac	1,050 lb COD/ac		
1	0.29	1.5	2.9	4.8	10.2		
2	0.29	2.9	5.8	9.7	20.3		
3	0.29	4.4	8.7	14.5	30.5		
4	0.29	5.8	11.6	19.3	40.6		
5	0.29	7.3	14.5	24.2	50.8		
6	0.29	8.7	17.4	29.0	60.9		
7	0.29	10.2	20.3	33.8	71.1		
8	0.29	11.6	23.2	38.7	81.2		
9	0.29	13.1	26.1	43.5	91.4		
10	0.29	14.5	29.0	48.3	101.5		
11	0.29	16.0	31.9	53.2	111.7		
12	0.29	17.4	34.8	58.0	121.8		
13	0.29	18.9	37.7	62.8	132.0		
14	0.29	20.3	40.6	67.7	142.1		
15	0.29	21.8	43.5	72.5	152.3		

This information in this table is from Table 13 of the *Final Recovered Deicer Land Application Pilot Project Engineering Report* (Cascade Earth Sciences, 2013).

Abbreviations: C = Carbon, COD = chemical oxygen demand, lb = pounds, lb C/lb COD = pounds of carbon per pound of chemical oxygen demand, lb COD/ac = pounds of chemical oxygen demand per acre.

¹ Carbon: COD ratio is based on total organic carbon and COD laboratory analysis of stormwater-containing glycol.

² The nitrogen need assumes a carbon:nitrogen ratio of 30:1 is sufficient to promote microbial decomposition of the applied deicer. Shaded cells are less than 25 pounds nitrogen per acre which is the minimum assumed available from the soil. The ratio of COD applied to nitrogen required = 0.009 pounds nitrogen per pound of COD.

Table 7. Monitoring Requirements

Sample	Type	Frequency	Parameter	Reporting									
		Recovered Aircra	oft Deicing Fluid										
	Measured	Each Application	pplication Volume Applied, Application Areas										
Stormwater-	Calculated	(while applying) ¹	(while applying) ¹ Theoretical Oxygen Demand										
Containing Glycol	Field Measurement	Once Every 2 Weeks	pH, Conductivity	Monitoring									
	Grab	(while applying) ²	Total Nitrogen	Report									
	Groundwater												
	Field Measurement		Depth to Groundwater, pH, Conductivity, Dissolved Oxygen, Temperature, Oxygen Reduction Potential										
Groundwater	Grab	Twice per Year (April and October)	Bicarbonate Alkalinity, Chemical Oxygen Demand, Chloride, Sulfate, Total Dissolved Solids, Nitrate + Nitrite-Nitrogen, Total Calcium, Total Potassium, Total Magnesium, Total Sodium, Total Arsenic, Total Dissolved Arsenic, Total Iron, Total Dissolved Iron, Total Manganese, Total Dissolved Manganese	Monthly Discharge Monitoring Report									
		Soi	ils										
	Calculated		Exchangeable Sodium Percentage	A 1 T 1									
Soil 1 Soil 2 Soil 3	Composite (for each soil) ³	Annually (in the spring before stormwater-containing glycol application begins)	Organic Matter, Moisture Content, Total Kjeldahl Nitrogen, Nitrate + Nitrite-Nitrogen, Ammonium-Nitrogen, Available Phosphorus, Conductivity, Extractable Sodium, Extractable Calcium, Extractable Magnesium, Available Potassium, Sulfate, and pH	Annual Land Treatment Site Management Plan									

The monitoring requirements listed are required by State Waste Discharge Permit by Rule No. ST0045499 (State of Washington Department of Ecology, 2020).

¹ Each application means each trip out to the land treatment site to apply stormwater-containing glycol (typically late April through September).

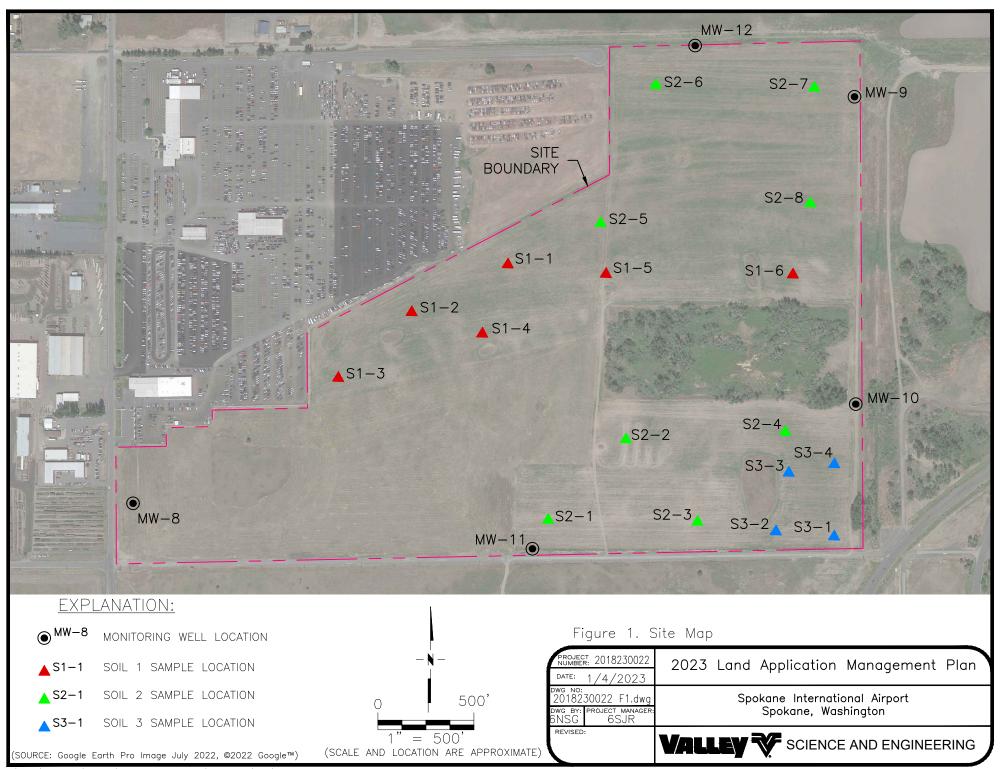
² While applying means when stormwater-containing glycol is being applied to the land treatment site (typically April through September).

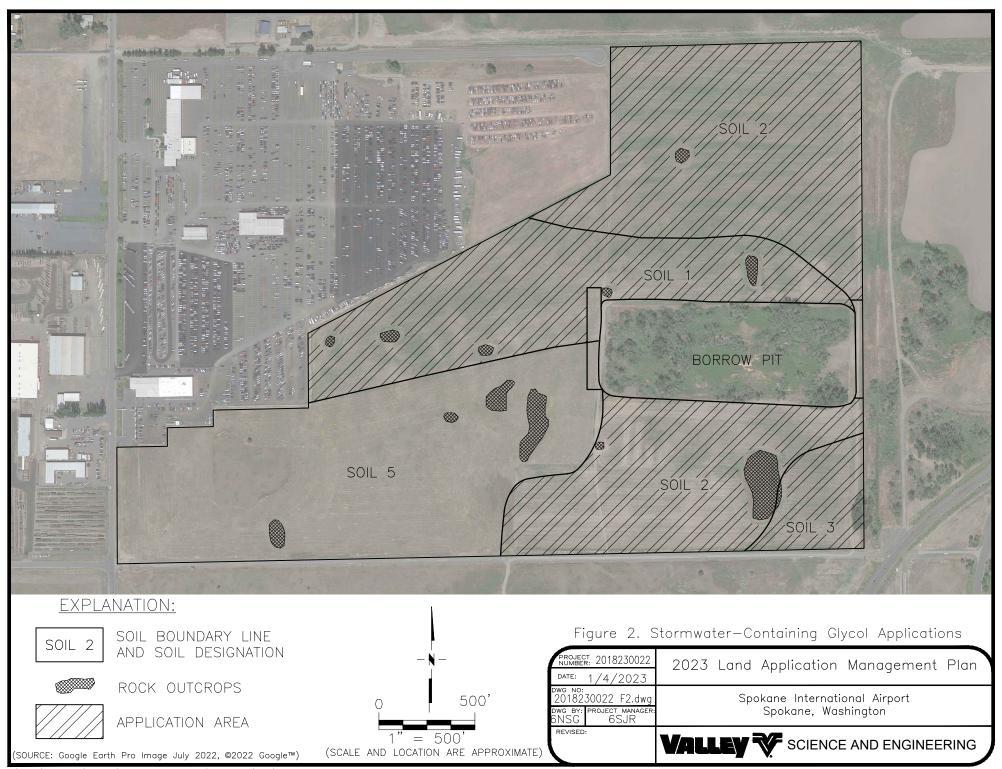
³ Composites for the following depths: 0 to 6 inches, 6 to 12 inches, 12 to 18 inches, 18 to 36 inches, and 36 to 60 inches, or until auger refusal.

FIGURES

Figure 1. Figure 2.

Site Map Stormwater-Containing Glycol Applications





CHARTS

- Chart 1. Soil Trends pH
- Chart 2. Soil Trends Electrical Conductivity
- **Chart 3.** Soil Trends Nitrate-Nitrogen
- **Chart 4.** Soil Trends Exchangeable Sodium Percentage
- Chart 5. Groundwater Trends Dissolved Oxygen
- **Chart 6.** Groundwater Trends Oxidation Reduction Potential
- Chart 7. Groundwater Trends Chemical Oxygen Demand
- **Chart 8.** Groundwater Trends Total Arsenic
- **Chart 9.** Groundwater Trends Total Iron
- **Chart 10.** Groundwater Trends Total Manganese
- Chart 11. Groundwater Trends Nitrate-Nitrogen

Chart 1. Soil Trends - pH

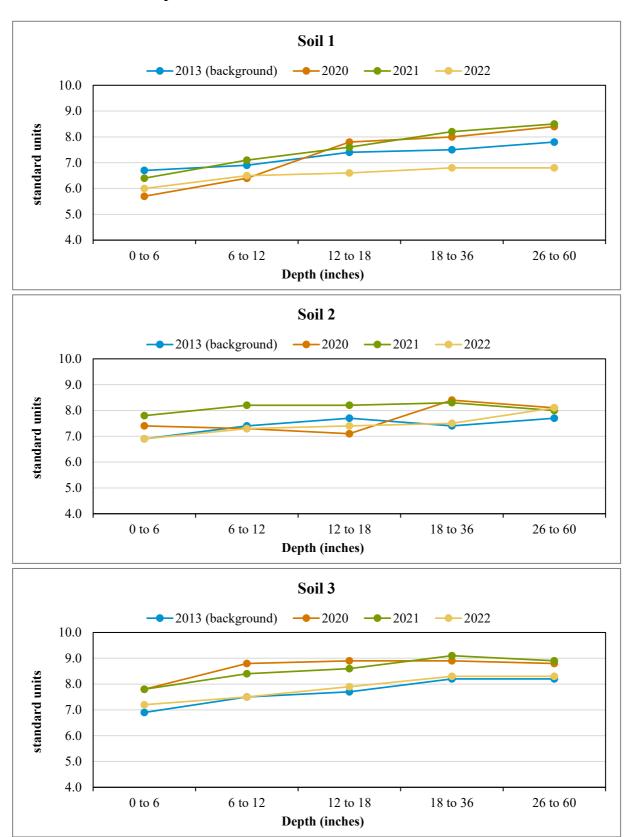


Chart 2. Soil Trends - Electrical Conductivity

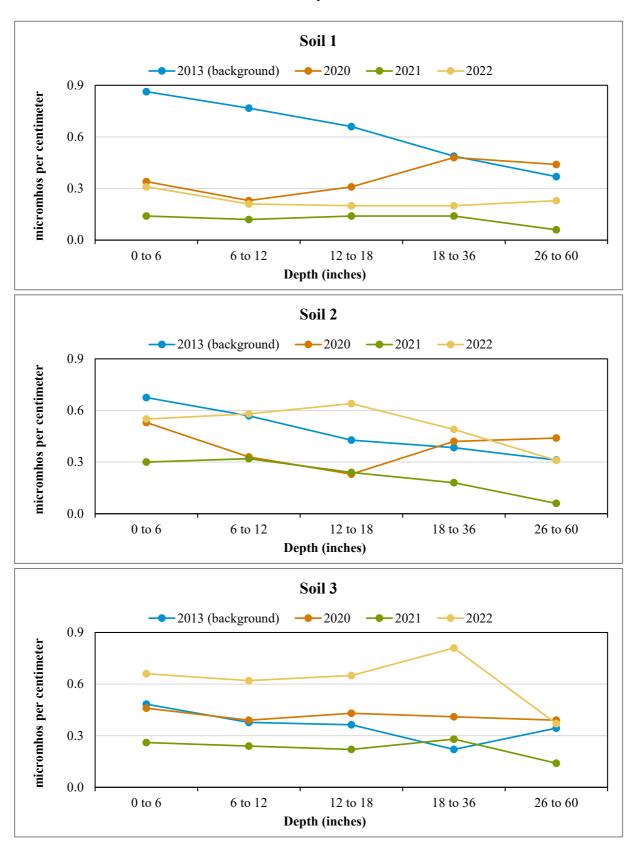


Chart 3. Soil Trends - Nitrate-Nitrogen

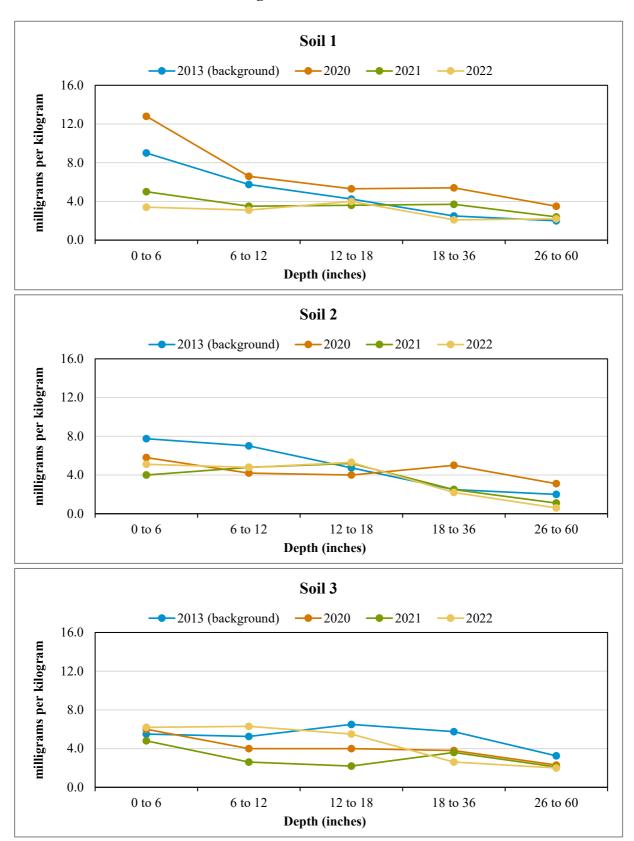


Chart 4. Soil Trends - Exchangeable Sodium Percentage

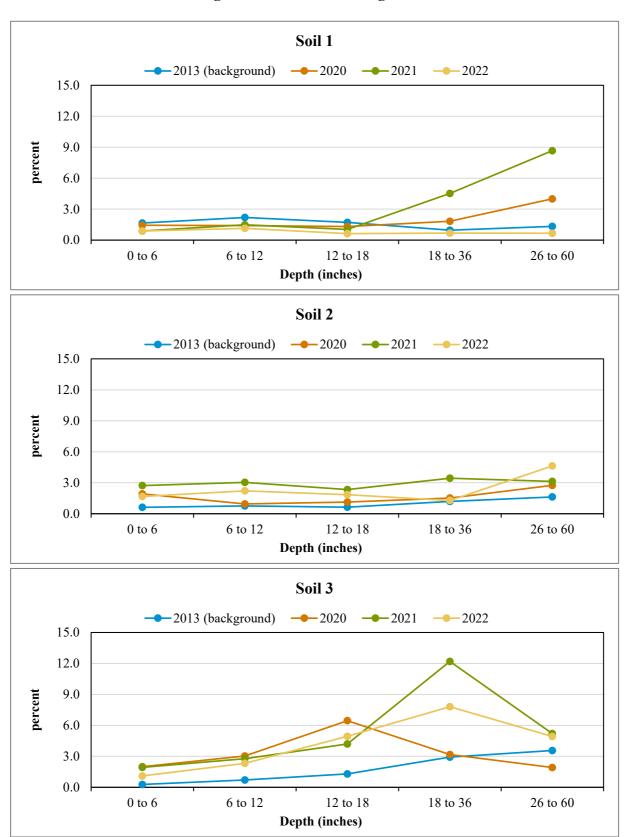
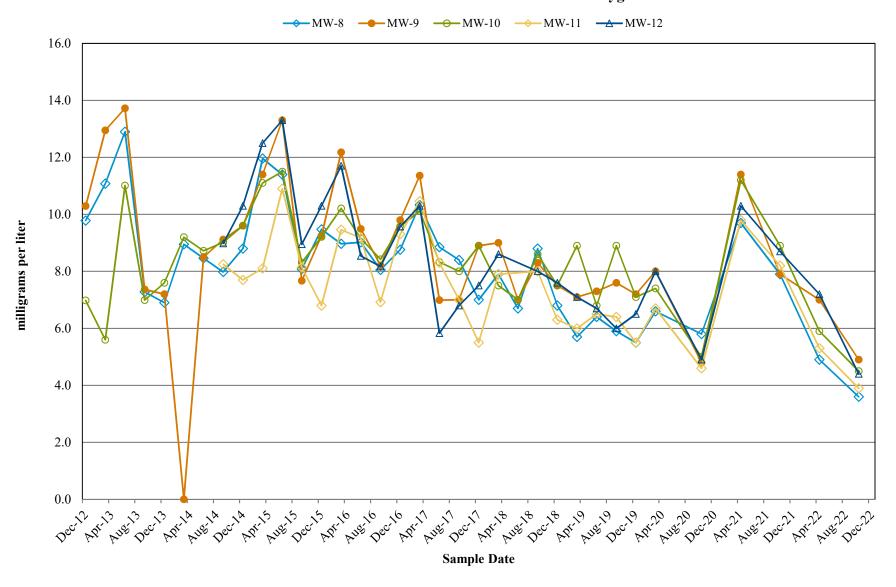


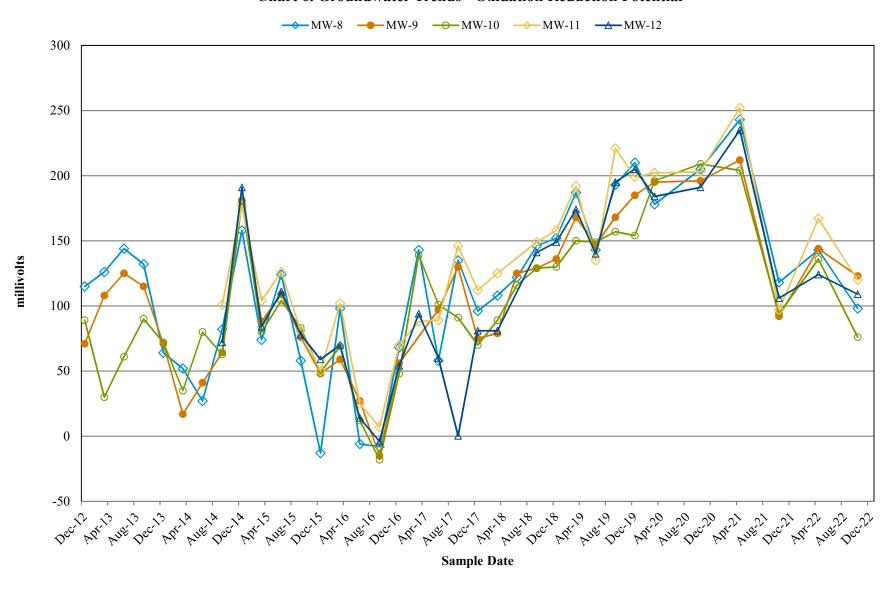
Chart 5. Groundwater Trends - Dissolved Oxygen



Valley - Spokane Valley, WA

Doc: 2018230022 SIA 2023 Land Treat Mgmt Plan Tbls.xlsx | Ch5 GW DO

Chart 6. Groundwater Trends - Oxidation Reduction Potential



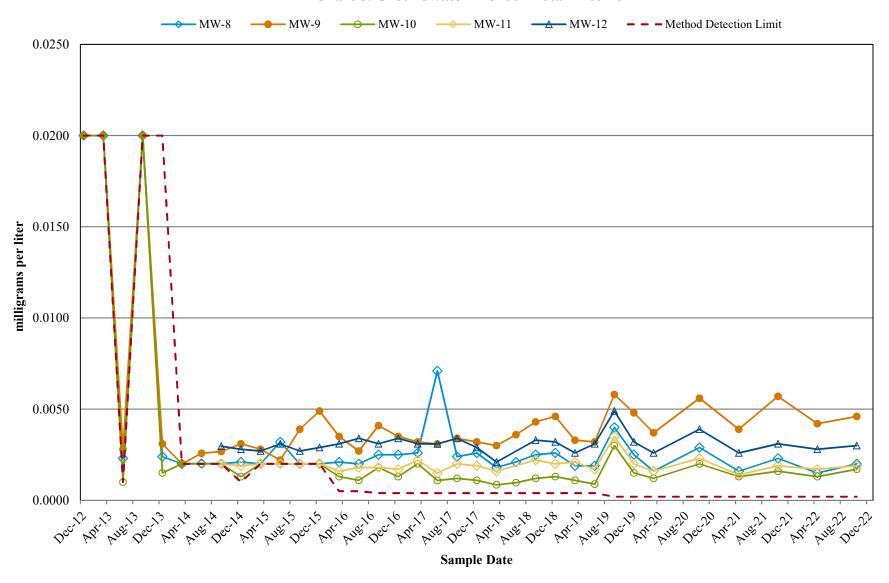
Valley - Spokane Valley, WA Doc: 2018230022 SIA 2023 Land Treat Mgmt Plan Tbls.xlsx | Ch6 GW ORP

── MW-11 __ MW-12 **- - Method Detection Limit** 30.0 25.0 20.0 milligrams per liter 15.0 10.0 5.0 Der kar king Der k **Sample Date**

Chart 7. Groundwater Trends - Chemical Oxygen Demand

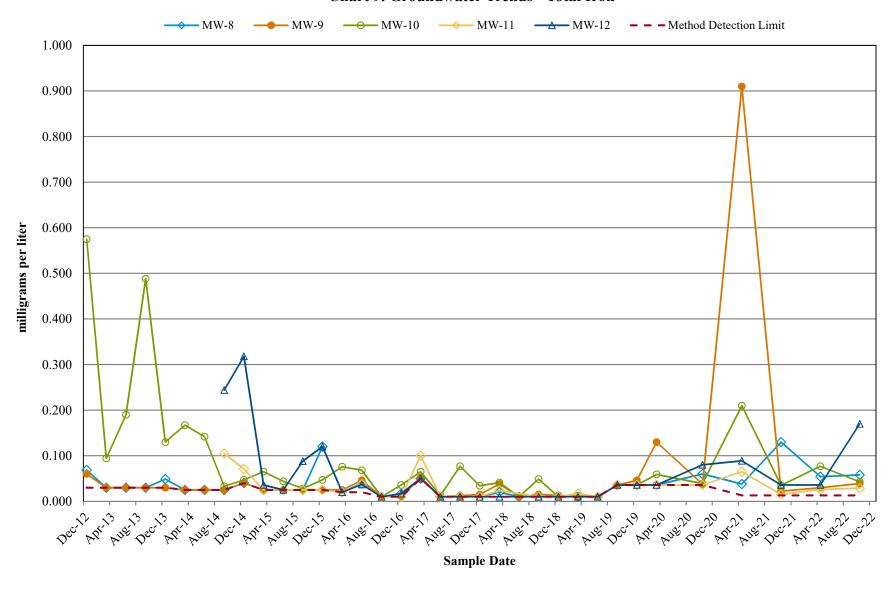
Valley - Spokane Valley, WA Doc: 2018230022 SIA 2023 Land Treat Mgmt Plan Tbls.xlsx | Ch7 GW COD

Chart 8. Groundwater Trends - Total Arsenic



Valley - Spokane Valley, WA Doc: 2018230022 SIA 2023 Land Treat Mgmt Plan Tbls.xlsx | Ch8 GW Total As

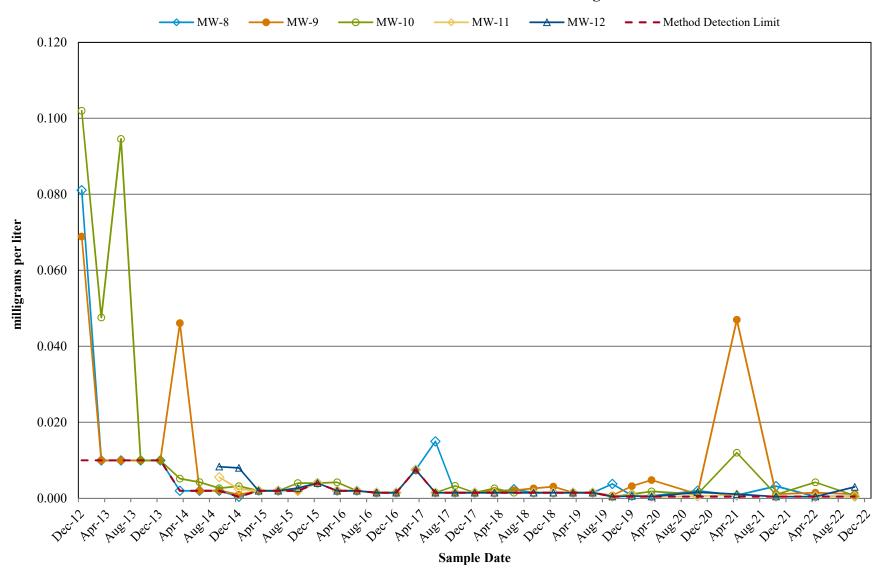
Chart 9. Groundwater Trends - Total Iron



Valley - Spokane Valley, WA

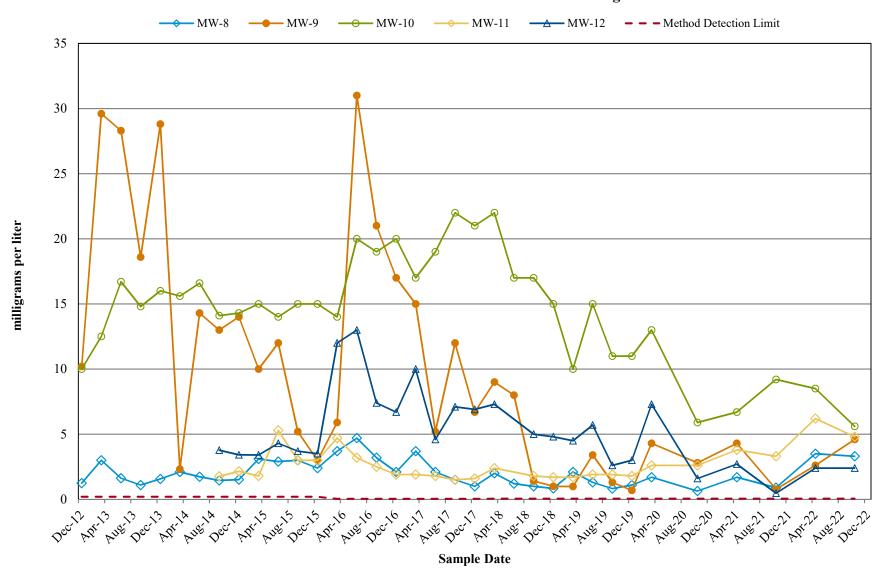
Doc: 2018230022 SIA 2023 Land Treat Mgmt Plan Tbls.xlsx | Ch9 GW Total Fe

Chart 10. Groundwater Trends - Total Manganese



Valley - Spokane Valley, WA Doc: 2018230022 SIA 2023 Land Treat Mgmt Plan Tbls.xlsx | Ch10 GW Total Mn

Chart 11. Groundwater Trends - Nitrate-Nitrogen



Valley - Spokane Valley, WA

Doc: 2018230022 SIA 2023 Land Treat Mgmt Plan Tbls.xlsx | Ch11 GW NO3-N

APPENDICES

- Appendix A. Stormwater-Containing Glycol Field Notes and Laboratory Reports 2022
- Appendix B. Stormwater-Containing Glycol Land Application Log 2022
- Appendix C. Soils Field Notes and Laboratory Report 2022
- Appendix D. Groundwater Field Notes and Laboratory Reports 2022
- Appendix E. Stormwater-Containing Glycol Land Application Reporting Form Daily Log
- Appendix F. Stormwater-Containing Glycol Sampling Field Sheet
- Appendix G. Land Treatment Site Groundwater Sampling Field Sheet

Appendix A.

Stormwater-Containing Glycol Field Notes and Laboratory Reports – 2022 SAMPLE COLLECTION DATA

Sample ID	Stormwater-Containing Glycol
Date	5/16/22
Time	11:56
Project	SIA Land Treatment Site Monitoring
Sample Matrix	Liquid
Collection Method	Grab
Sample Location	Land Application Tank
Weather	Cloudy
Sampling Personnel	264

FIELD INSTRUMENTS

рН	Oakton pH/Con 10
Conductivity	Oakton pH/Con 10
Temperature	Oakton pH/Con 10
Glycol	Misco Palm Abby 220 (SIA owned)

PARAMETERS

su	Conductivity uS/cm	Temp °C	Glycol %	Comments
8.16	1824	15.1	24.8/24.5	
			- 1	
	8.16			is a la dis

GENERAL NOTES

	GENERAL NOTES							
Sample	collected	11:59 an						

Valley Science and Engineering

12720 E Nora Avenue, Suite A | Spokane Valley, WA 99216 | (509) 921-0290 | FAX (509) 921-1788

Instrument Calibration Form								
Date:		Time: 8:32 am						
Personnel	TKH	Instrument Dayley PC 450						
Calibration Standards Used	Reading After Calibration	Commonte						
Standards Cocu		Comments						
	1414 1413							
E1413	11/0-11							
- ///	1920 1416							
		,						
PH 10	10.03							
ļ								
p# 7	6.99							
Date:		Time:						
Personnel		- Instrument						
	D - 12 - 1 4 54 -							
Calibration Standards Used	Reading After Calibration	Comments						
Standards Osed	Сапртанон	Comments						
Date:	<u> </u>	Time:						
Personnel		Instrument						
Calibration	Reading After							
Standards Used	Calibration	Comments						
-								
		·						

ANALYTICAL REPORT

Eurofins Spokane 11922 East 1st Ave Spokane, WA 99206 Tel: (509)924-9200

Laboratory Job ID: 590-17518-1

Client Project/Site: SIA/2018230022-002-201

For:

Valley Science and Engineering 12720 E Nora Ave Spokane, Washington 99216

Attn: Sara Rodriguez

Lancue trington

Authorized for release by: 5/26/2022 4:59:22 PM

Randee Arrington, Lab Director (509)924-9200

Randee.Arrington@et.eurofinsus.com

.. LINKS

Review your project results through

Have a Question?



Visit us at:

www.eurofinsus.com/Env

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Client: Valley Science and Engineering Project/Site: SIA/2018230022-002-201

Laboratory Job ID: 590-17518-1

Table of Contents

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Case Narrative	3
Sample Summary	4
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Client Sample Results	6
QC Sample Results	7
Chronicle	8
Certification Summary	9
Method Summary	10
Chain of Custody	11
Receipt Checklists	

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Case Narrative

Client: Valley Science and Engineering Project/Site: SIA/2018230022-002-201

Job ID: 590-17518-1

Job ID: 590-17518-1

Laboratory: Eurofins Spokane

Narrative

Receipt

The sample was received on 5/16/2022 12:54 PM. Unless otherwise noted below, the sample arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 19.3° C.

Receipt Exceptions

The following sample was received at the laboratory outside the required temperature criteria: Recovered Deicer (590-17518-1). The sample is considered acceptable since it was collected and submitted to the laboratory on the same day and there is evidence that the chilling process has begun.

GC Semi VOA

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

General Chemistry

Method 410.4: The following sample was diluted to bring the concentration of target analytes within the calibration range: Recovered Deicer (590-17518-1). Elevated reporting limits (RLs) are provided.

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

17518-1

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Sample Summary

Client: Valley Science and Engineering Project/Site: SIA/2018230022-002-201

Job ID: 590-17518-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
590-17518-1	Recovered Deicer	Water	05/16/22 11:59	05/16/22 12:54

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Definitions/Glossary

Client: Valley Science and Engineering Project/Site: SIA/2018230022-002-201

Method Detection Limit

Minimum Level (Dioxin)

Most Probable Number

Not Calculated

Negative / Absent

Positive / Present

Presumptive

Quality Control

Method Quantitation Limit

Practical Quantitation Limit

Relative Error Ratio (Radiochemistry)

Toxicity Equivalent Factor (Dioxin)

Too Numerous To Count

Toxicity Equivalent Quotient (Dioxin)

Not Detected at the reporting limit (or MDL or EDL if shown)

Reporting Limit or Requested Limit (Radiochemistry)

Relative Percent Difference, a measure of the relative difference between two points

Job ID: 590-17518-1

Glossary

MDL

ML

MPN

MQL

NC

ND

NEG POS

PQL

PRES

QC

RER

RPD TEF

TEQ

TNTC

RL

Olocoul y							
Abbreviation							
a	Listed under the "D" column to designate that the result is reported on a dry weight basis						
%R	Percent Recovery						
CFL	Contains Free Liquid						
CFU	Colony Forming Unit						
CNF	Contains No Free Liquid						
DER	Duplicate Error Ratio (normalized absolute difference)						
Dil Fac	Dilution Factor						
DL	Detection Limit (DoD/DOE)						
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample						
DLC	Decision Level Concentration (Radiochemistry)						
EDL	Estimated Detection Limit (Dioxin)						
LOD	Limit of Detection (DoD/DOE)						
LOQ	Limit of Quantitation (DoD/DOE)						
MCL	EPA recommended "Maximum Contaminant Level"						
MDA	Minimum Detectable Activity (Radiochemistry)						
MDC	Minimum Detectable Concentration (Radiochemistry)						

Client Sample Results

Client: Valley Science and Engineering Project/Site: SIA/2018230022-002-201

Lab Sample ID: 590-17518-1

Matrix: Mater

Matrix: Water

Job ID: 590-17518-1

Client Sample ID: Recovered Deicer Date Collected: 05/16/22 11:59

Date Received: 05/16/22 12:54

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	ND		2.0	0.57	mg/L			05/17/22 14:17	10
Nitrite as N	ND		2.0	0.69	mg/L			05/17/22 14:17	10
General Chemistry									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Kjeldahl	19		5.0	3.4	mg/L		05/18/22 15:32	05/19/22 17:56	1
Chemical Oxygen Demand	540000		80000	35000	ma/l			05/24/22 13:42	4000

5/26/2022

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Client: Valley Science and Engineering Project/Site: SIA/2018230022-002-201

Job ID: 590-17518-1

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 590-36145/1003 Client Sample ID: Method Blank

Matrix: Water

Analysis Batch: 36145

Prep Type: Total/NA

MB MB Analyte Result Qualifier RL **MDL** Unit D Prepared Analyzed Dil Fac Nitrate as N ND 0.20 0.057 mg/L 05/17/22 11:58 Nitrite as N ND 0.20 0.069 mg/L 05/17/22 11:58

Client Sample ID: Lab Control Sample Lab Sample ID: LCS 590-36145/1004 Prep Type: Total/NA

Matrix: Water

Analysis Batch: 36145

	Spike	LCS	LCS				%Rec
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits
Nitrate as N	5.00	4.78		mg/L		96	90 - 110
Nitrite as N	5.00	4.59		mg/L		92	90 - 110

Method: 351.2 - Nitrogen, Total Kjeldahl

Lab Sample ID: MB 280-575438/2-A **Client Sample ID: Method Blank Matrix: Water** Prep Type: Total/NA **Prep Batch: 575438**

Analysis Batch: 575603

	IVIB								
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Kjeldahl	ND		1.0	0.69	mg/L		05/18/22 15:32	05/19/22 17:47	1

Lab Sample ID: LCS 280-575438/1-A **Client Sample ID: Lab Control Sample Matrix: Water** Prep Type: Total/NA

Analysis Batch: 575603

LCS LCS %Rec Spike Added Limits Analyte Result Qualifier Unit D %Rec

MR MR

Nitrogen, Kjeldahl 6.00 6.21 mg/L 104 90 - 110

Method: 410.4 - COD

Lab Sample ID: MB 280-576001/32 **Client Sample ID: Method Blank**

Matrix: Water

Analysis Batch: 576001

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac	
Chemical Oxygen Demand	ND		20	8.7	mg/L			05/24/22 13:42	1	

Lab Sample ID: LCS 280-576001/30 **Client Sample ID: Lab Control Sample**

Matrix: Water

Analysis Batch: 576001

	Spike	LCS	LCS				%Rec	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Chemical Oxygen Demand	100	90.9		mg/L		91	90 - 110	

Lab Sample ID: LCSD 280-576001/31 Client Sample ID: Lab Control Sample Dup Prep Type: Total/NA

Matrix: Water

Analysis Batch: 576001

Allalysis Datcii. 370001									
	Spike	LCSD	LCSD				%Rec		RPD
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Chemical Oxygen Demand	100	92.2		mg/L		92	90 - 110	1	11

Eurofins Spokane

5/26/2022

Page 7 of 14

Prep Type: Total/NA

Prep Batch: 575438

Prep Type: Total/NA

Lab Chronicle

Client: Valley Science and Engineering Project/Site: SIA/2018230022-002-201

Client Sample ID: Recovered Deicer

Lab Sample ID: 590-17518-1

Matrix: Water

Job ID: 590-17518-1

Date Collected: 05/16/22 11:59 Date Received: 05/16/22 12:54

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		10			36145	05/17/22 14:17	NMI	TAL SPK
Total/NA	Prep	351.2			5 mL	25 mL	575438	05/18/22 15:32	SVC	TAL DEN
Total/NA	Analysis	351.2		1			575603	05/19/22 17:56	SVC	TAL DEN
Total/NA	Analysis	410.4		4000	2 mL	2 mL	576001	05/24/22 13:42	SJD	TAL DEN

Laboratory References:

TAL DEN = Eurofins Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100
TAL SPK = Eurofins Spokane, 11922 East 1st Ave, Spokane, WA 99206, TEL (509)924-9200

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Accreditation/Certification Summary

Client: Valley Science and Engineering Project/Site: SIA/2018230022-002-201

Job ID: 590-17518-1

Laboratory: Eurofins Spokane

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Washington	State	C569	01-06-23

Laboratory: Eurofins Denver

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Dat
A2LA	Dept. of Defense ELAP	2907.01	10-31-23
A2LA	ISO/IEC 17025	2907.01	10-31-23
Alabama	State Program	40730	09-30-12 *
Alaska (UST)	State	18-001	02-08-23
Arizona	State	AZ0713	12-20-22
Arkansas DEQ	State	19-047-0	06-01-22
California	State	2513	01-09-23
Connecticut	State	PH-0686	09-30-22
Florida	NELAP	E87667-57	06-30-22
Georgia	State	4025-011	01-08-23
Illinois	NELAP	2000172019-1	04-30-23
Iowa	State	IA#370	12-02-22
Kansas	NELAP	E-10166	05-31-22
Kentucky (WW)	State	KY98047	12-31-22
Louisiana	NELAP	30785	06-30-14 *
Louisiana	NELAP	30785	06-30-22
Minnesota	NELAP	1788752	12-31-22
Nevada	State	CO000262020-1	07-31-22
New Hampshire	NELAP	205319	04-28-20 *
New Jersey	NELAP	190002	06-30-22
New York	NELAP	59923	04-01-23
North Carolina (WW/SW)	State	358	12-31-22
North Dakota	State	R-034	01-08-23
Oklahoma	NELAP	8614	08-31-22
Oregon	NELAP	4025-011	01-09-23
Pennsylvania	NELAP	013	07-31-22
South Carolina	State	72002001	01-08-23
Texas	NELAP	TX104704183-08-TX	09-30-09 *
Texas	NELAP	T104704183-21-19	10-01-22
US Fish & Wildlife	US Federal Programs	058448	07-31-22
USDA	US Federal Programs	P330-20-00065	03-06-23
Utah	NELAP	QUAN5	06-30-13 *
Utah	NELAP	CO000262019-11	07-31-22
Virginia	NELAP	10490	06-14-22
Washington	State	C583-19	08-03-22
West Virginia DEP	State	354	11-30-22
Wisconsin	State	999615430	08-31-22
Wyoming (UST)	A2LA	2907.01	10-31-22

Eurofins Spokane

Page 9 of 14 5/26/2022

 $^{{}^{\}star}\operatorname{Accreditation/Certification\ renewal\ pending\ -\ accreditation/certification\ considered\ valid}.$

Method Summary

Client: Valley Science and Engineering Project/Site: SIA/2018230022-002-201

Job ID: 590-17518-1

Method	Method Description	Protocol	Laboratory
300.0	Anions, Ion Chromatography	MCAWW	TAL SPK
351.2	Nitrogen, Total Kjeldahl	MCAWW	TAL DEN
410.4	COD	MCAWW	TAL DEN
351.2	Nitrogen, Total Kjeldahl	MCAWW	TAL DEN

Protocol References:

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

Laboratory References:

TAL DEN = Eurofins Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100
TAL SPK = Eurofins Spokane, 11922 East 1st Ave, Spokane, WA 99206, TEL (509)924-9200

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TestAmerica Spokane

11922 E. 1st Ave.

Chain of Custody Record

<u>TestAmerica</u>

THE LEADER IN ENVIRONMENTAL TESTING

Spokane, WA 99206 phone 509.924.9200 fax	Regul	atory Pro	gram 🗌	DW [NPDES		RCR	RA.		Other:										TestAmerica Laboratories, In
Client Contact	Project Ma	nager Sa	ra Rodrigu	iez		Site	Cont	act:	Sara	Rodri	auez		Da	te:	5	16	100	12		COC No:
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Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=	laOH: 6= C	Other		<u> </u>								7		7			-	7073		
Possible Hazard Identification Are any samples from a listed EPA Hazardous Waste? Please L Comments Section if the lab is to dispose of the sample.		Waste Co	des for the		in the	9			•	,	A fee	·				sam				ed longer than 1 month)
Non-Hazard ☐ Rammable ☐ Skin Irritant		_					Ш	Kerun	n to C	TIENT			Dispos	al by L	ab			Archiv	e tor	Months
Special Instructions/QC Requirements & Comments -> C	OD is high	approxir	nately 200,	,000 mg	'L. <-															
Per quote 59001981-0 (exclude Total N we can do the math o	that with	the reque	sted analys	sis on th	nis CO	C)														
Custody Seals Intact: // 🖫 Yes 🔲 No	Custody S	eal No.						/	Cod	oler Te	emp.	(°C) C)bs'd	19	.7_	_ Co	rr'd:	C	1.5	Therm ID No
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Relinquished by:	Company [.]			Date/Ti	ne:	F	Recei	ived	by:						Com	pany.				Date/Time:
Relinquished by	Company:			Date/Ti	ne.	F	Recei	ived	in La	aborat	огу by	"			Com	pany.				Date/Time:

Chain of Custody Record

Eurofins Spokane

11022 Earl 14 Ave					🔆 eurofins
Spokane, WA 99206 Phone: 509-924-9200 Fax: 509-924-9290	Chain of C	n ot Custody Record	=		Environment Testing America
	Sampler:	Lab PM: Arrington,	Lab PM: Arrington, Randee E	Carrier Tracking No(s):	COC No: 590-6828.1
	Phone:	E-Mail:	E-Mail:	State of Origin:	Page:
Company: TestAmerica Laboratories. Inc.		Accre	Accreditations Required (See note): State Program - Washington		Job #: 500.17518.1
	Due Date Requested: 5/30/2022		Analysis Requested	equested	
City: Arvada State, Zio:	TAT Requested (days):				A - HCL N - None B - NaOH O - AsNaO2 C - Zn Acetate P - Na2O4S
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Prone: 303-736-0100(Tel) 303-431-7171(Fax)	#C#	(0			
'Email:	WO #:				I - Ice J - DI Water
set Name: //2015230006-001-203	Project #: 59000246			aouje, c	K - EDTA L - EDA
Site: CES - SIA	SSOW#:				Other:
Sample Identification - Client ID (Lab ID)	Sample Date Time Gerandle	Sample Matrix ed S/M Type System (W=weter, ETFE C/C=Comp., G=weter, ETFE C/C=Comp.) G=comp. BT=Tissue, A=Air.) ETFE C/M	P.Ofb	sadmill letoT	Total Instructions/Note:
	X	ation Code:			
Recovered Deicer (590-17518-1)	5/16/22 Pacific	Water	×		2
Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Northwest, LLC places the ownership of method, analyte & accreditation compliance upon out subcontract laboratory or other instructions will be provided. Any changes to accreditation for the Eurofins Environment Testing Northwest, LLC aboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Northwest, LLC attention imprediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Environment Testing Northwest, LLC.	It Testing Northwest, LLC places the owners alysis/fests/matrix being analyzed, the samp on immediately. If all requested accreditation	ship of method, analyte & accribles must be shipped back to to a sream as are current to date, return to	editation compliance upon out subcontr he Eurofins Environment Testing North- he signed Chain of Custody attesting to	act laboratories. This sample shipment is west, LLC laboratory or other instructions said complicance to Eurofins Environme	s forwarded under chain-of-custody. If the laboratory will be provided. Any changes to accreditation and Testing Northwest, LLC.
Possible Hazard Identification		S	ample Disposal (A fee may be	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)	tained longer than 1 month)
Deliverable Requested: I, II, III, IV, Other (specify)	Primary Deliverable Rank: 2	S	Special Instructions/QC Requirements:	and for more	
Empty Kit Relinquished by:	Date:	Time:	(Method of Shipment:	
Relinquished by: Millery W	Dalectine: 14:50	Company Spo	Received by:	5	ND 4200 ST6 17,18,
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Custody Seals Intact: Custody Seal No.: / 766/6/			Cooler Temperature(s) °C and Other Remarks:	Remarks: 0.7 1R12	CF +0.1
	_		1:	9	7 Aer: 06/08/2021
	_		1		

Login Sample Receipt Checklist

Client: Valley Science and Engineering

Job Number: 590-17518-1

Login Number: 17518 List Source: Eurofins Spokane

List Number: 1

Creator: Vaughan, Madison 1

Creator. Vaugilan, Mauison i		
Question	Answer	Comment
Radioactivity wasn't checked or is = background as measured by a survey meter.</td <td>N/A</td> <td></td>	N/A	
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	False	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

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Client: Valley Science and Engineering

Job Number: 590-17518-1

List Source: Eurofins Denver List Creation: 05/18/22 01:53 PM

List Number: 2 Creator: Lee, Jerry

Login Number: 17518

Creator: Lee, Jerry		
Question	Answer	Comment
Radioactivity wasn't checked or is = background as measured by a survey meter.</td <td>True</td> <td></td>	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
ls the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

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SAMPLE COLLECTION DATA

Sample ID	Stormwater-Containing Glycol
Date	05/31/22 06/03/22
Time	8040 am
Project	SIA Land Treatment Site Monitoring
Sample Matrix	Liquid
Collection Method	Grab
Sample Location	Land Application Tank
Weather	Sunny 700
Sampling Personnel	28H

FIELD INSTRUMENTS

рН	Oakton pH/Con 10	
Conductivity	Oakton pH/Con 10	
Тетрегатиге	Oakton pH/Con 10	
Glycol	Misco Palm Abby 220 (SIA owned)	

PARAMETERS

			I I HILL HITTER		
Time	pH su	Conductivity -uS/cm	Temp °C	Glycol %	Comments
08:41	8:03	2.28m/s	19.0	23.5	
					_
					<u> </u>

	GENERAL I	NOTES	
Sampled - 8:45 am			
,			

12720 E Nora Avenue, Suite A | Spokane Valley, WA 99216 | (509) 921-0290 | FAX (509) 921-1788

		rument Calibration Form
Date:	05/31/22	06/03/22 Time: 4:15am 8:30 am Instrument Oakton PC 450
Personnel	3KH	Instrument Oakton PC 450
Calibration	Reading After	
Standards Used	Calibration	Comments
		4
14/3	H13	
0110	10.01	
Pilio		
11_		
pH7	7.0	
Date:		Time:
Personnel		Instrument
Calibration	Reading After	
Standards Used	Calibration	Comments
	103	
Dia		Time:
Date: Personnel		Instrument
,	D - 1 - 16-	
Calibration Standards Used	Reading After Calibration	Comments
Standards Cscu	Calibration	Comments
/		
A		

ANALYTICAL REPORT

Eurofins Spokane 11922 East 1st Ave Spokane, WA 99206 Tel: (509)924-9200

Laboratory Job ID: 590-17677-1

Client Project/Site: SIA/2018230022-002-201

For:

Valley Science and Engineering 12720 E Nora Ave Spokane, Washington 99216

Attn: Sara Rodriguez

tancue trington

Authorized for release by: 6/30/2022 2:08:40 PM

Randee Arrington, Lab Director (509)924-9200

Randee.Arrington@et.eurofinsus.com

.. LINKS

Review your project results through

Have a Question?



Visit us at: www.eurofinsus.com/Env This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Client: Valley Science and Engineering Project/Site: SIA/2018230022-002-201

Laboratory Job ID: 590-17677-1

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Case Narrative

Client: Valley Science and Engineering Project/Site: SIA/2018230022-002-201

Job ID: 590-17677-1

Job ID: 590-17677-1

Laboratory: Eurofins Spokane

Narrative

Receipt

The sample was received on 6/3/2022 9:16 AM. Unless otherwise noted below, the sample arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 19.7° C.

Receipt Exceptions

The following sample was received at the laboratory outside the required temperature criteria: Recovered Deicer (590-17677-1). The sample is considered acceptable since it was collected and submitted to the laboratory on the same day and there is evidence that the chilling process has begun.

GC Semi VOA

Method 300.0: The following samples were diluted due to the nature of the sample matrix: Recovered Deicer (590-17677-1), (590-17684-C-1) and (590-17684-C-1 DU). Elevated reporting limits (RLs) are provided.

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

General Chemistry

Method 351.2: Due to the matrix, the initial volume(s) used for the following sample deviated from the standard procedure: Recovered Deicer (590-17677-1). The reporting limits (RLs) have been adjusted proportionately.

Method SM 5220D: Spike compounds were inadvertently omitted during the extraction process for the matrix spike(MS); therefore, matrix spike recoveries are unavailable for preparation batch 580-393947 and analytical batch 580-393978. The associated laboratory control sample (LCS) met acceptance criteria.

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

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Sample Summary

Client: Valley Science and Engineering Project/Site: SIA/2018230022-002-201

Job ID: 590-17677-1

Lab Sample ID		Matrix	Collected	Received
590-17677-1	Recovered Deicer	Water	06/03/22 08:45	06/03/22 09:16

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Definitions/Glossary

Client: Valley Science and Engineering Job ID: 590-17677-1 Project/Site: SIA/2018230022-002-201

Glossary

NC

ND

NEG

POS

PQL

QC RER

RL

RPD TEF

TEQ

TNTC

PRES

Not Calculated

Negative / Absent

Positive / Present

Presumptive **Quality Control**

Practical Quantitation Limit

Relative Error Ratio (Radiochemistry)

Toxicity Equivalent Factor (Dioxin)

Too Numerous To Count

Toxicity Equivalent Quotient (Dioxin)

Reporting Limit or Requested Limit (Radiochemistry)

Relative Percent Difference, a measure of the relative difference between two points

Not Detected at the reporting limit (or MDL or EDL if shown)

Abbreviation	These commonly used abbreviations may or may not be present in this report.
a	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit

Client Sample Results

Client: Valley Science and Engineering

Project/Site: SIA/2018230022-002-201

Client Sample ID: Recovered Deicer

Lab Sample ID: 590-17677-1 Date Collected: 06/03/22 08:45

Matrix: Water

Job ID: 590-17677-1

Date Received: 06/03/22 09:16

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	ND		20	5.7	mg/L			06/03/22 15:40	100
Nitrite as N	ND		20	6.9	mg/L			06/03/22 15:40	100
General Chemistry									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Kjeldahl Nitrogen	27		4.0	3.7	mg/L		06/29/22 08:05	06/30/22 06:36	1
Chemical Oxygen Demand	410000		40000	24000	ma/L		06/15/22 16:10	06/15/22 23:09	1

Client: Valley Science and Engineering Project/Site: SIA/2018230022-002-201

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 590-36387/1003

Matrix: Water

Analysis Batch: 36387

Client Sample ID: Method Blank

Prep Type: Total/NA

Job ID: 590-17677-1

MB MB Analyte Result Qualifier RLMDL Unit D Prepared Analyzed Dil Fac Nitrate as N ND 0.20 0.057 mg/L 06/03/22 13:20 Nitrite as N ND 0.20 0.069 mg/L 06/03/22 13:20

Lab Sample ID: LCS 590-36387/1004

Matrix: Water

Analysis Batch: 36387

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

	Spike	LCS	LCS				%Rec	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Nitrate as N	5.00	4.93		mg/L		99	90 - 110	
Nitrite as N	5.00	4.84		mg/L		97	90 - 110	

Method: 351.2 - Nitrogen, Total Kjeldahl

Lab Sample ID: MB 480-631965/1-A

Matrix: Water

Analysis Batch: 632208

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 631965

		МВ	MB							
	Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
ı	Total Kjeldahl Nitrogen	ND		0.20	0.19	mg/L		06/29/22 08:05	06/30/22 06:04	1

Lab Sample ID: LCS 480-631965/2-A

Matrix: Water

Analysis Batch: 632208

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 631965

	Spike	LCS	LCS				%Rec	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Total Kjeldahl Nitrogen	2.50	2.30		mg/L		92	90 - 110	

Method: SM 5220D - COD

Lab Sample ID: MB 580-393947/3-A Client Sample ID: Method Blank

Matrix: Water

Analysis Batch: 393978

Prep Type: Total/NA Prep Batch: 393947

MB MB Analyte Result Qualifier RL MDL Unit D Prepared Analyzed Dil Fac Chemical Oxygen Demand 10 06/15/22 16:10 06/15/22 23:09 ND 5.9 mg/L

Client Sample ID: Lab Control Sample Lab Sample ID: LCS 580-393947/4-A

Matrix: Water

Analysis Batch: 393978

Prep Type: Total/NA **Prep Batch: 393947**

LCS LCS Spike %Rec Analyte Added Result Qualifier Unit %Rec Limits Chemical Oxygen Demand 75.0 75.4 mg/L 101 80 - 120

Lab Sample ID: LCSD 580-393947/5-A

Matrix: Water

Analysis Batch: 393978

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

Prep Batch: 393947

LCSD LCSD Spike %Rec RPD Added Result Qualifier Unit %Rec Limits RPD Limit 75.0 75.4 101 80 - 120 n Chemical Oxygen Demand mg/L

Eurofins Spokane

6/30/2022

Page 7 of 16

Lab Chronicle

Client: Valley Science and Engineering Project/Site: SIA/2018230022-002-201

Client Sample ID: Recovered Deicer

Lab Sample ID: 590-17677-1 Date Collected: 06/03/22 08:45 Matrix: Water

Date Received: 06/03/22 09:16

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		100			36387	06/03/22 15:40	NMI	TAL SPK
Total/NA	Prep	351.2			1.25 mL	25 mL	631965	06/29/22 08:05	EAG	TAL BUF
Total/NA	Analysis	351.2		1			632208	06/30/22 06:36	CLT	TAL BUF
Total/NA	Prep	SM 5220			0.0005 mL	2 mL	393947	06/15/22 16:10	MLT	FGS SEA
Total/NA	Analysis	SM 5220D		1	0.0005 mL	2 mL	393978	06/15/22 23:09	MLT	FGS SEA

Laboratory References:

FGS SEA = Eurofins Seattle, 5755 8th Street East, Tacoma, WA 98424, TEL (253)922-2310

TAL BUF = Eurofins Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600

TAL SPK = Eurofins Spokane, 11922 East 1st Ave, Spokane, WA 99206, TEL (509)924-9200

Job ID: 590-17677-1

Accreditation/Certification Summary

Client: Valley Science and Engineering Project/Site: SIA/2018230022-002-201

Job ID: 590-17677-1

Laboratory: Eurofins Spokane

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Washington	State	C569	01-06-23

Laboratory: Eurofins Buffalo

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Washington	State	C784	02-10-23

Laboratory: Eurofins Seattle

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Washington	State	C788	07-13-22

Method Summary

Client: Valley Science and Engineering Project/Site: SIA/2018230022-002-201

Job ID: 590-17677-1

Method	Method Description	Protocol	Laboratory
300.0	Anions, Ion Chromatography	MCAWW	TAL SPK
351.2	Nitrogen, Total Kjeldahl	MCAWW	TAL BUF
SM 5220D	COD	SM	FGS SEA
351.2	Nitrogen, Total Kjeldahl	MCAWW	TAL BUF
SM 5220	COD	SM	FGS SEA

Protocol References:

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

Laboratory References:

FGS SEA = Eurofins Seattle, 5755 8th Street East, Tacoma, WA 98424, TEL (253)922-2310

TAL BUF = Eurofins Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600

TAL SPK = Eurofins Spokane, 11922 East 1st Ave, Spokane, WA 99206, TEL (509)924-9200

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TestAmerica Spokane

Chain of Custody Record

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103	17-61	110		U

11922 E 1st Ave. THE LEADER IN ENVIRONMENTAL TESTING Spokane, WA 99206 Regulatory Program TestAmerica Laboratories, Inc. phone 509 924,9200 fax DW NPDES RCRA Other COC No: Client Contact Project Manager: Sara Rodriguez Site Contact: Sara Rodriguez Date Tel/Fax: (509) 703-2679 Carrier COCs Valley Science and Engineering Lab Contact: of, 12720 E Nora Ave Ste A Analysis Turnaround Time Sampler For Lab Use Only WORKING DAYS Spokane, WA 99216 ☐ CALENDAR DAYS Walk-in Client: (509) 921-0290 Phone TAT if different from Below (509) 921 1788 FAX Nitrate & Nitrite Lab Sampling: 2 weeks Spokane Airport П i week Job / SDG No. Spokane Washington 2 days PN: 2018230022-002-201 П 1 day Туре Sample Sample (C=Comp, # of Sample Identification Date Time G≖Grab) Matrix Cont. Sample Specific Notes: G H₂O Х Х Recovered Deicer Preservation Used: 1= ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other Possible Hazard Identification: Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) Comments Section if the lab is to dispose of the sample. Unknown ☐ Archive for Months Skin Irritant Polson B Return to Client ☐ Disposal by Lab ☐ Non-Hazard Flammable -> COD is high approximately 200,000 mg/L. <-Special Instructions/QC Requirements & Comments Per quote 59001981-0 (exclude Total N. we can do the math on that with the requested analysis on this COC) Therm ID No. 1 Kon/ Custody Seals Intadt: Cooler Temp. ("C): Obs'd. 19 6 Corr'd. Yes ☐ No Custody Seal No. Date/Time: Relinquished by: Company Cascade Earth Date/Time: Received by: Company 6/3/22 9:13 Sciences Date/Time: Relinguished by Date/Time Received by Company: Company: Received in Laboratory by Date/Time: Relinguished by Date/Time:

Form No. CA-C-WI-002, Rev. 4.3, dated 12/05/2013

Company²

6/30/2022

Chain of Custody Record

Eurofins Spokane
11922 East 1st Ave
Spokane, WA 99206
Phone: 509-924-9200 Fax: 509-924-9290

Client Information (Sub Contract Lab)	Sampler:			Lab PM: Arringto	Lab PM: Arrington, Randee E	ee E		Carrier Tracking No(s):	g No(s):		COC No: 590-6870.1		_
Client Contact:	Phone:			E-Mail:				State of Origin:			Page:		_
Shipping/Receiving				Randee	.Arringto	Randee.Arrington@et.eurofinsus.com	nsus.com	Washington			Page 1 of 1		
Company: Eurofins Environment Testing Northeast,				St.	creditations ate - Wa	Accreditations Required (See note) State - Washington; State P	Accreditations Required (See note): State - Washington; State Program - Washington	Nashington			Job #: 590-17677-1		
Address: 10 Hazalwood Drive	Due Date Requested:						Analysis Requested	diested			Preservation Codes:	odes:	
Gity:	TAT Requested (days)	ä							L		A - HCL B - NaOH		_
NY 14228-2298	T										C - Zn Acetate D - Nitric Acid E - NaHSO4		
Phone: 716-691-2600(Tel) 716-691-7991(Fax)	PO #:										F - MeOH G - Amchlor H - Ascorbic Acid	S - H2SO4 T - TSP Dodecahydrate	_
Email:	:#OM			ON 10	(0)					s	I - Ice J - DI Water		
Project Name: SIA/2018230022-002-201	Project #: 59001988			S9Y) 8	A 10 25						K - EDTA L - EDA	Y - Trizma Z - other (specify)	_
Site:	SSOW#:			dmes	SD (Y					noo to	Other:		
Sample Identification - Client ID (Lab ID)	Sample Date	Sample	Sample Type (C=comp,	Matrix (Wawnier, Sapolid, Oawssie/oil, dd BT-Tissue, A-Ar)	M/SM miohaq			4.5		19dmuM latoT	Special	Special Instructions/Note:	
	X	1	1 03							X			
Recovered Deicer (590-17677-1)	6/3/22	08:45 Pacific		Water	×					-			
					+		+	+					
					+			+	+				
													T
Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Northwest, LLC places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/lests/maintx being analyzed, the samples must be shipped back to the Eurofins Environment Testing Northwest, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Northwest, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Environment Testing Northwest, LLC.	ironment Testing Northwest, LL e for analysis/tests/matrix being ; attention immediately. If all re	LC places the og analyzed, the squested accre	ownership of n samples mus ditations are o	nethod, analyte & st be shipped bac current to date, re	accreditation to the Eutrum the signature and th	ion compliance irofins Environ gned Chain of (upon out subconfr nent Testing North	act laboratories. " west, LLC laborate said complicance	This sample s ory or other in a to Eurofins I	thipment is structions w	forwarded under c vill be provided. A t Testing Northwee	hain-of-custody. If the labors ny changes to accreditation st, LLC.	lory
Possible Hazard Identification					Samp	le Disposal	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)	e assessed if	samples	are retain	ned longer tha	in 1 month)	T
Unconfirmed					4	Return To Client	Slient	Disposal By Lab	Lab	Arc	Archive For	Months	
Deliverable Requested: I, II, III, IV, Other (specify)	Primary Deliverat	ble Rank: 2			Speci	al Instructior	Special Instructions/QC Requirements	nents:					
Empty Kit Relinquished by		الغروب الإغراف			Time:			Method	Method of Shipment:				
Relinquished bj:	Daering 102	<u></u>	97:	EETS	S.	Received by:	3		Pate/Time:	-22	1 000	Company	
Relinquished by:	Date/Time:	l		Company	<u> </u>	Received by:			Date/Time	:0			
Relinquished by:	Date/Time:			Company	ă.	Received by:			Date/Time	:00		Company	
Custody Seals Intact: Custody Seal No.:					ŏ	ooler Temperat	Cooler Temperature(s) % and Other Bemarks.	Bemarks:					
1												Ver: 06/08/2021	

Eurofins Spokane

11922 East 1st Ave Spokane, WA 99206 Phone: 509-924-9200 Fax: 509-924-9290

Chain of Custody Record



🔅 eurofins

Environment Testing America

Filone: 509-924-9200 Fax: 509-924-9290																								
Client Information (Sub Contract Lab)	Sampler:			Lab F Arrir		n, R	lande	ee E					C	Carrier	Track	king N	lo(s):				COC No: 590-6866.1			
Client Contact: Shipping/Receiving	Phone:			E-Ma Ran		.Arri	ingto	n@e	t.euro	ofinat	ıs.con	n		State o Wash							Page: Page 1 of 1			
Company: Eurofins Environment Testing Northwest,								Requi			te): Progr	am	- Wa	shin	aton		*********				Job #: 590-17677-1			
Address:	Due Date Request	ed:		****	-		******	J9	(017, 0	Juic	1 Tog	Q111	***		gron					-	Preservation Cod	ies:		
5755 8th Street East, ,	6/16/2022				L					An	alysi	s F	(equ	rest	ed						A - HCL	M - H		
City: Tacoma	TAT Requested (d	ays):									ĺ								ĺ		B - NaOH C - Zn Acetate		cne sNaO2 a2O4S	
State, Zip: WA, 98424									ĺ												D - Nitric Acic E - NaHSO4	Q - Na	a2SO3 a2S2O3	
Phone: 253-922-2310(Tel)	PO#:												İ		İ	ĺ					F - MeOH G - Amchlor H - Assorbic Acid	S - H2		ahydrate
Email:	WO#:				or No	(O)			ĺ												l - Ice J - Di Water	U - Ac V - MC W - pl		
Project Name: SIA/2018230022-002-201	Project #: 59001988				(Ye	ss or		ı												containe	K - EDTA L - EDA	Y - Tri		fy)
Site:	SSOW#:				ample	λ) QS							ĺ	١	ĺ	ĺ				oj co	Other:			
Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (Woweler, Sasolid, Oswaste/oil, BT=Tissue, AsAir)	Field Filtered S	Perform MS/NSD (Yes or No)	410.2/410.2_Prep	77000				71100								Total Number o	Special In	struct	ions/No	ote:
	<i>></i> <<	><	Preserv	ation Code:	X	\mathbb{X}														\times			Estate de la constante de la c	
Recovered Deicer (590-17677-1)	6/3/22	08:45 Pacific		Water			х			-		ĺ				ĺ			200	1				
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Note: Since laboratory accreditations are subject to change, Eurofins Environment foes not currently maintain accreditation in the State of Origin listed above for anal status should be brought to Eurofins Environment Testing Northwest, LLC attention	vsis/tests/matrix bein	no analyzed, the	e samples mu	ist be shipped ba	ck to	the E	Eurofir	ns Eav	ironm	ent Te	sting N	orthy	vest I	LC lal	borato	יס עדו	other	instru	ctions	Hiw:	be provided. Any ch	annes to	dy. If the i	laboratory ation
Possible Hazard Identification					1	Sam	ple l	Dispo	sal ((A fe	e ma	y be	7				ples	are	reta	inec	d longer than 1	nonti	,)	
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Ver: 06/08/2021

Login Sample Receipt Checklist

Client: Valley Science and Engineering

Job Number: 590-17677-1

Login Number: 17677 List Source: Eurofins Spokane

List Number: 1

Creator: Vaughan, Madison 1

Greator: Vaugnan, Madison 1		
Question	Answer	Comment
Radioactivity wasn't checked or is = background as measured by a survey meter.</td <td>N/A</td> <td></td>	N/A	
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	False	Received same day of collection; chilling process has begun.
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is 6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

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Client: Valley Science and Engineering

Job Number: 590-17677-1

Login Number: 17677 List Number: 3 List Source: Eurofins Buffalo List Creation: 06/07/22 02:14 PM

Creator: Yeager, Brian A

Creator: Yeager, Brian A			
Question	Answer	Comment	
Radioactivity either was not measured or, if measured, is at or below background	True		
The cooler's custody seal, if present, is intact.	True		
The cooler or samples do not appear to have been compromised or tampered with.	True		
Samples were received on ice.	True		
Cooler Temperature is acceptable.	True		
Cooler Temperature is recorded.	True	2.7 ICE IR GUN #1	
COC is present.	True		
COC is filled out in ink and legible.	True		
COC is filled out with all pertinent information.	True		
Is the Field Sampler's name present on COC?	True		
There are no discrepancies between the sample IDs on the containers and the COC.	True		
Samples are received within Holding Time (Excluding tests with immediate HTs)	True		
Sample containers have legible labels.	True		
Containers are not broken or leaking.	True		
Sample collection date/times are provided.	True		
Appropriate sample containers are used.	True		
Sample bottles are completely filled.	True		
Sample Preservation Verified	True		
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True		
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True		
If necessary, staff have been informed of any short hold time or quick TAT needs	True		
Multiphasic samples are not present.	True		
Samples do not require splitting or compositing.	True		
Sampling Company provided.	True		
Samples received within 48 hours of sampling.	True		
Samples requiring field filtration have been filtered in the field.	True		
Chlorine Residual checked.	True		

Eurofins Spokane

Client: Valley Science and Engineering

Job Number: 590-17677-1

Login Number: 17677 List Number: 2 List Source: Eurofins Seattle List Creation: 06/04/22 02:38 PM

Creator: Vallelunga, Diana L

Creator: Vallelunga, Diana L	
Question	Answer Comment
Radioactivity wasn't checked or is = background as measured by a survey meter.</td <td>N/A</td>	N/A
The cooler's custody seal, if present, is intact.	True
Sample custody seals, if present, are intact.	False
The cooler or samples do not appear to have been compromised or tampered with.	True
Samples were received on ice.	True
Cooler Temperature is acceptable.	True
Cooler Temperature is recorded.	True
COC is present.	True
COC is filled out in ink and legible.	True
COC is filled out with all pertinent information.	True
Is the Field Sampler's name present on COC?	True
There are no discrepancies between the containers received and the COC.	True
Samples are received within Holding Time (excluding tests with immediate HTs)	True
Sample containers have legible labels.	True
Containers are not broken or leaking.	True
Sample collection date/times are provided.	True
Appropriate sample containers are used.	True
Sample bottles are completely filled.	True
Sample Preservation Verified.	True
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A
Multiphasic samples are not present.	True
Samples do not require splitting or compositing.	True
Residual Chlorine Checked.	N/A

SAMPLE COLLECTION DATA

Sample ID	Stormwater-Containing Glycol
Date	06/14/22
Time	9:00 am
Project	SIA Land Treatment Site Monitoring
Sample Matrix	Liquid
Collection Method	Grab
Sample Location	Land Application Tank
Weather	Rainy 55°F
Sampling Personnel	JBH

FIELD INSTRUMENTS

рН	Oakton pH/Con 10		
Conductivity	Oakton pH/Con 10		
Temperature	Oakton pH/Con 10		
Glycol	Misco Palm Abby 220 (SIA owned)		

PARAMETERS

Time	pH su	Conductivity uS/em-	Temp °C	Glycol %	Comments
9:08	8.24	2.5/ m/s	9.2	14.9	Sampled from tank
					1
			-		

GENERAL NOTES

Sampled: 9/5am	

Valley Science and Engineering

12720 E Nora Avenue, Suite A | Spokane Valley, WA 99216 | (509) 921-0290 | FAX (509) 921-1788

		rument Calibration Form
Date:		Time: 800 am
Personnel	<u> </u>	Instrument Oakton PC450
Calibration	Reading After	
Standards Used	Calibration	Comments
14/3	1413	
L	1110	
pH7	7.0	
<i>P</i>		
PH10	10.01	
	70.01	
Date:		Time:
Personnel		Instrument
Calibration	Reading After	
Standards Used	Calibration	Comments
_		-
Date:		Time:
Personnel		Instrument
Calibration	Reading After	
Standards Used	Calibration	Comments

ANALYTICAL REPORT

Eurofins Spokane 11922 East 1st Ave Spokane, WA 99206 Tel: (509)924-9200

Laboratory Job ID: 590-17755-1

Client Project/Site: SIA/2018230022-002-201

For:

Valley Science and Engineering 12720 E Nora Ave Spokane, Washington 99216

Attn: Sara Rodriguez

tancue trington

Authorized for release by: 6/30/2022 2:21:34 PM

Randee Arrington, Lab Director (509)924-9200

Randee.Arrington@et.eurofinsus.com

.. LINKS

Review your project results through

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www.eurofinsus.com/Env

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Client: Valley Science and Engineering Project/Site: SIA/2018230022-002-201

Laboratory Job ID: 590-17755-1

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Client Sample Results	6
QC Sample Results	7
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Receint Checklists	14

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Case Narrative

Client: Valley Science and Engineering Project/Site: SIA/2018230022-002-201

Job ID: 590-17755-1

Job ID: 590-17755-1

Laboratory: Eurofins Spokane

Narrative

Receipt

The sample was received on 6/14/2022 9:45 AM. Unless otherwise noted below, the sample arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 10.2° C.

Receipt Exceptions

The following sample was received at the laboratory outside the required temperature criteria: Recovered Deicer (590-17755-1). The sample(s) is considered acceptable since it was collected and submitted to the laboratory on the same day and there is evidence that the chilling process has begun.

GC Semi VOA

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

General Chemistry

Method 351.2: Due to the matrix, the initial volume used for the following sample deviated from the standard procedure: Recovered Deicer (590-17755-1). The reporting limits (RLs) have been adjusted proportionately.

Method SM 5220D: The sample duplicate (DUP) precision for preparation batch 580-394633 and analytical batch 580-394832 was outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory control sample duplicate (LCS/LCSD) precision was within acceptance limits.

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

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Sample Summary

Client: Valley Science and Engineering Project/Site: SIA/2018230022-002-201

Job ID: 590-17755-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
590-17755-1	Recovered Deicer	Water	06/14/22 09:15	06/14/22 09:45

Definitions/Glossary

Client: Valley Science and Engineering Project/Site: SIA/2018230022-002-201

Job ID: 590-17755-1

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
1	Listed under the "D" column to designate that the result is reported on a dry weight basis
6R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Oil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
DL	Estimated Detection Limit (Dioxin)
.OD	Limit of Detection (DoD/DOE)
.OQ	Limit of Quantitation (DoD/DOE)
ICL	EPA recommended "Maximum Contaminant Level"
/IDA	Minimum Detectable Activity (Radiochemistry)
/IDC	Minimum Detectable Concentration (Radiochemistry)

MDL Method Detection Limit
ML Minimum Level (Dioxin)
MPN Most Probable Number
MQL Method Quantitation Limit

NC Not Calculated

ND Not Detected at the reporting limit (or MDL or EDL if shown)

NEG Negative / Absent POS Positive / Present

PQL Practical Quantitation Limit

PRES Presumptive
QC Quality Control

RER Relative Error Ratio (Radiochemistry)

RL Reporting Limit or Requested Limit (Radiochemistry)

RPD Relative Percent Difference, a measure of the relative difference between two points

TEF Toxicity Equivalent Factor (Dioxin)
TEQ Toxicity Equivalent Quotient (Dioxin)

TNTC Too Numerous To Count

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Client Sample Results

Client: Valley Science and Engineering Project/Site: SIA/2018230022-002-201

Lab Sample ID: 590-17755-1

Matrix: Water

Job ID: 590-17755-1

Client Sample ID: Recovered Deicer

Date Collected: 06/14/22 09:15 Date Received: 06/14/22 09:45

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	ND		20	5.7	mg/L			06/15/22 19:47	100
Nitrite as N	ND		20	6.9	mg/L			06/15/22 19:47	100
General Chemistry									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Kjeldahl Nitrogen	20		4.0	3.7	mg/L		06/29/22 08:05	06/30/22 06:36	1
Chemical Oxygen Demand	240000		20000	12000	mg/L		06/22/22 16:30	06/23/22 22:07	1
Nitrogen, Total	20		1.5	1.0	mg/L			06/30/22 14:14	1

Client: Valley Science and Engineering Project/Site: SIA/2018230022-002-201

Job ID: 590-17755-1

Prep Batch: 631965

Prep Batch: 394633

Prep Batch: 394633

Prep Type: Total/NA

Method: 300.0 - Anions, Ion Chromatography

MD MD

Lab Sample ID: MB 590-36533/1003 Client Sample ID: Method Blank

Matrix: Water

Analysis Batch: 36533

Prep Type: Total/NA

		11.10							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	ND		0.20	0.057	mg/L			06/15/22 09:42	1
Nitrite as N	ND		0.20	0.069	mg/L			06/15/22 09:42	1

Client Sample ID: Lab Control Sample Lab Sample ID: LCS 590-36533/1004 Prep Type: Total/NA

Matrix: Water

Analysis Batch: 36533

Spike LCS LCS %Rec Analyte Added Result Qualifier Unit %Rec Limits Nitrate as N 5.00 4.73 95 90 - 110 mg/L Nitrite as N 5.00 4.72 mg/L 94 90 - 110

Method: 351.2 - Nitrogen, Total Kjeldahl

Lab Sample ID: MB 480-631965/1-A **Client Sample ID: Method Blank Matrix: Water** Prep Type: Total/NA

Analysis Batch: 632208

MB MB

Result Qualifier RL **MDL** Unit Dil Fac Prepared Analyzed Total Kjeldahl Nitrogen 0.20 0.19 mg/L 06/29/22 08:05 06/30/22 06:04 ND

Lab Sample ID: LCS 480-631965/2-A **Client Sample ID: Lab Control Sample** Prep Type: Total/NA

Matrix: Water

Analysis Batch: 632208

Prep Batch: 631965 LCS LCS %Rec Spike

Limits Analyte Added Result Qualifier Unit D %Rec Total Kjeldahl Nitrogen 2.50 2.30 mg/L 92 90 - 110

Method: SM 5220D - COD

Lab Sample ID: MB 580-394633/3-A Client Sample ID: Method Blank Prep Type: Total/NA

Matrix: Water

Analysis Batch: 394832

MB MB Analyte Result Qualifier RL **MDL** Unit Prepared Analyzed Dil Fac

Chemical Oxygen Demand 10 5.9 06/22/22 16:27 06/23/22 22:07 ND mg/L

Lab Sample ID: LCS 580-394633/4-A **Client Sample ID: Lab Control Sample Matrix: Water** Prep Type: Total/NA

Analysis Batch: 394832

Spike LCS LCS %Rec Added Analyte Result Qualifier Unit %Rec Limits Chemical Oxygen Demand 75.0 80 - 120

Lab Sample ID: LCSD 580-394633/5-A Client Sample ID: Lab Control Sample Dup

Matrix: Water

Analysis Batch: 394832 Prep Batch: 394633

%Rec LCSD LCSD **RPD** Spike Added Result Qualifier Unit D %Rec Limits RPD Limit 75.0 73.7 98 80 - 120 Chemical Oxygen Demand mg/L 6

69.3

mg/L

92

Eurofins Spokane

6/30/2022

Page 7 of 16

Lab Chronicle

Client: Valley Science and Engineering Project/Site: SIA/2018230022-002-201

Lab Sample ID: 590-17755-1

Matrix Mater

Matrix: Water

Job ID: 590-17755-1

Client Sample ID: Recovered Deicer

Date Collected: 06/14/22 09:15 Date Received: 06/14/22 09:45

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		100			36533	06/15/22 19:47	NMI	TAL SPK
Total/NA	Prep	351.2			1.25 mL	25 mL	631965	06/29/22 08:05	EAG	TAL BUF
Total/NA	Analysis	351.2		1			632208	06/30/22 06:36	CLT	TAL BUF
Total/NA	Prep	SM 5220			0.001 mL	2 mL	394633	06/22/22 16:30	MLT	FGS SEA
Total/NA	Analysis	SM 5220D		1	0.001 mL	2 mL	394832	06/23/22 22:07	MLT	FGS SEA
Total/NA	Analysis	Total Nitrogen		1			36830	06/30/22 14:14	REA	TAL SPK

Laboratory References:

FGS SEA = Eurofins Seattle, 5755 8th Street East, Tacoma, WA 98424, TEL (253)922-2310
TAL BUF = Eurofins Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600
TAL SPK = Eurofins Spokane, 11922 East 1st Ave, Spokane, WA 99206, TEL (509)924-9200

6/30/2022

Accreditation/Certification Summary

Client: Valley Science and Engineering Project/Site: SIA/2018230022-002-201

Job ID: 590-17755-1

Laboratory: Eurofins Spokane

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Washington	State	C569	01-06-23
The following analytes are in the agency does not offer co		s not certified by the governing authority.	This list may include analytes for which

Analysis Method Prep Method Matrix Analyte

Total Nitrogen Water Nitrogen, Total

Laboratory: Eurofins Buffalo

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Washington	State	C784	02-10-23

Laboratory: Eurofins Seattle

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Washington	State	C788	07-13-22

Method Summary

Client: Valley Science and Engineering Project/Site: SIA/2018230022-002-201

Job ID: 590-17755-1

Method	Method Description	Protocol	Laboratory	
300.0	Anions, Ion Chromatography	MCAWW	TAL SPK	
351.2	Nitrogen, Total Kjeldahl	MCAWW	TAL BUF	
SM 5220D	COD	SM	FGS SEA	
Total Nitrogen	Nitrogen, Total	EPA	TAL SPK	
351.2	Nitrogen, Total Kjeldahl	MCAWW	TAL BUF	
SM 5220	COD	SM	FGS SEA	

Protocol References:

EPA = US Environmental Protection Agency

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

SM = "Standard Methods For The Examination Of Water And Wastewater"

Laboratory References:

FGS SEA = Eurofins Seattle, 5755 8th Street East, Tacoma, WA 98424, TEL (253)922-2310

TAL BUF = Eurofins Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600

TAL SPK = Eurofins Spokane, 11922 East 1st Ave, Spokane, WA 99206, TEL (509)924-9200

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TestAmerica Spokane 11922 E. 1st Ave.

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

~																						THE LEADER IN ENVIRONMEN	TAL TESTING
Spokane, WA 99206 phone 509.924.9200 fax	Regul	atory Pro	gram	DW (NPDES	í	RCR	A	110	Other												TestAmerica Laborat	orles, inc.
Client Contact			ra Rodrige			_				_	rigue	Z		Date	1							COC No:	
Valley Science and Engineering		509) 703-2					Con		******		_ 			Carr	191'							1 of1 C	OCs
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(509) 921-0290 Phone	TA:	T if different fr	om Below			2	=														1	Walk-In Client:	
(509) 921-1788 FAX		2	weeks			2 2			<u>&</u>	Ιİ		ı										Lab Sampling	
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Spokane Washington	()	2	days			윒	1 B	F	18													Job / SDG No.	
PN. 2018230022-002-201	[]	i	day			Filtered Sample (Y/N	2		₫		-			-									
		1	Sample Type			Ϋ́I			1														
	Sample	Sample	(C=Comp.		#of	į	5		1														
Sample identification	Date	Time	G#Grab)	Matrix	Cont	드			ļ											4		Sample Specific N	otes.
Recovered Delcar	6/14/22	9:15m	G	H₂O	3		×	X	x														
	' '					П										T							
						П	T		1	П							\top		Τ	T	Т		
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Preservation Used: 1= ice, 2= HCl; 3= H28O4; 4=HNO3; 5=	NaOH; 6= I	Other						71, 222,000	İ														
Possible Hazard Identification	let on CD/	\ \\\\n C-	dan fan ika		in ilea		amp	ole C	Olspi	osal	(Afe	99 Mi	ay be	888	0886	ed II	881	nple	s ar	e re	talne	d longer than 1 month)	
Are any samples from a listed EPA Hazardous Waste? Please L Comments Section if the lab is to dispose of the sample	list any EPA	4 AASBIG CO	odes for füe	sampie	រព មា																		
Non-Hazard Flammable Skin Irritant	Poison	В	Unkno	own		\dashv		Retur	rn to (Cllent			☐ Dis	posal	by La	ıb		ľ	Ard	hive	for	Months	
Special Instructions/QC Requirements & Comments -> C	OD is high	approxi	mately 200	,000 mg	J/L <					-				•									
Per quote 59001981-0 (exclude Total N. we can do the math c	n that with	the reque	sted analy	sis on f	his CO	C)																	
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Custody Seals Intact: Yes / No / Relinguished by:	Custody S		Carib	Data	lean:	T.	2000		E		10111	,, (U	,, Q D			1			4	َعَ ﴿	(-;	Therm ID No	
Sosh Hudgins - Ch	Sciences	Cascade	Eann	Date/T	100 12 942	ا برو	Rece	n #	, by	// /	1-						pany		-8	M)	Date/Time:	45
Relinquished by:	Company	•		Date/T			₹ece	ved	by:		,.,				7	Com	pany	<i>y</i>		_		Date/Time:	
Relinquished by:	Company			Dale/T	ime:	-	Rece	ived	in L	abor	atory	by.			-	Com	pany	ý"				Date/Time:	

Chain of Custody Record

Phone: 509-924-9200 Fax: 509-924-9290

Spokane, WA 99206

11922 East 1st Ave

Eurofins Spokane

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Northwest, LLC places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample subject to change to analysistests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Northwest, LLC laboratory or other instructions will be provided. Any changes to accreditation analyzed, the samples must be shipped back to the Eurofins Environment Testing Northwest, LLC attention immediately. If all requested accreditations are current to date, return to Castody attesting to said complicance to Eurofins Environment Testing Northwest, LLC. N - None
O - AsNaO2
P - Na2O4S
Q - Na2S2O3
R - Na2S2O3
S - H2SO4
T - TSP Dodecahydrate Ver: 06/08/2021 Special Instructions/Note: Z - other (specify) Company 3 U - Acetone V - MCAA W - pH 4-5 Months Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

Return To Client

Disposal By Lab

Archive For Mont Preservation Codes: A - HCL
B - NaOH
C - Zn Acetate
D - Nitric Acid
F - NanSO4
F - MeOH
G - Amchlor
H - Ascorbic Acid COC No: 590-6891.1 Page: Page 1 of 1 590-17755-1 I - Ice J - Di Water K - EDTA L - EDA 4 Total Number of containers 0-16 Method of Shipment: Carrier Tracking No(s) State of Origin: Washington Accreditations Required (See note): State - Washington; State Program - Washington **Analysis Requested** Cooler Temperature(s) °C and Other Remarks: Special Instructions/QC Requirements E-Mail: Randee. Arrington@et. eurofinsus. com Return To Client eceived by: Received by: Received by: Lab PM: Arrington, Randee E 351.2/351.2_Prep Mitrogen, Total Kjeldahi Time: (oN 10 seY) QSM/SM m101199 Field Filtered Sample (Yes or No) BT=Tissue, A=Air Preservation Code: (W=water, S=solid, O=waste/oll, Water 是 Matrix Company Type (C=comp, G=grab) Sample 13:30 Primary Deliverable Rank: 2 Sample 09:15 Pacific Due Date Requested: 6/27/2022 TAT Requested (days): Sample Date 6/14/22 Project #: 59001988 Date/Time: hone: Deliverable Requested: I, II, III, IV, Other (specify) Client Information (Sub Contract Lab) Custody Seal No. Sample Identification - Client ID (Lab ID) Eurofins Environment Testing Northeast 716-691-7991(Fax) Recovered Deicer (590-17755-1) Possible Hazard Identification Empty Kit Relinguished by Custody Seals Intact: SIA/2018230022-002-201 10 Hazelwood Drive 716-691-2600(Tel) Shipping/Receiving State, Zip: NY, 14228-2298 inquished by: Unconfirmed nquishec by: inquishec by Client Contact Amherst

Eurofins Spokane

11922 East 1st Ave Spokane, WA 99206

Chain of Custody Record



🔅 eurofins

Environment Testing America

Phone: 509-924-9200 Fax: 509-924-9290																								
Client Information (Sub Contract Lab)	Sampler:			Lab Arri		ion, Randee E								ier Tra	cking	No(s):				COC No: 590-6888.1				
Client Contact: Shipping/Receiving	Phone:			E-Ma Ran		State of Orig ee.Arrington@et.eurofinsus.com Washingto													age: age 1 of 1					
Company: Eurofins Environment Testing Northwest,						Accreditations Required (See note): State - Washington; State Program - Washington											Job #: 590·17755-1							
Address: 5755 8th Street East, ,	Due Date Reques 6/27/2022	ue Date Requested: /27/2022			Γ	Analysis Requested														reservation	ı Cod	es: M - Hexar	e	
City: Tacoma State, Zip: WA, 98424	TAT Requested (days):																	В С D	- HCL - NaOH - Zn Acetate - Nitric Acid - NaHSO4		N - None O - AsNa0 P - Na2O4 Q - Na2S0	3 13	
Phone: 253-922-2310(Tel) Email:	PO #: WO #:				(0)														G H	- MeOH - Amohlor - Ascorbic A	cid	R - Na2S2 S - H2SO4 T - TSP D U - Acetor	4 odecahyd	rate
Project Name:	Project #:				es or ?	r No												e,e	"J.	lce - DI Water - EDTA		V - MCAA W - pH 4-9 Y - Trizma	5	
SIA/2018230022-002-201	59001988				ole (Y	MS/MSD (Yes or No)	8	Ì										Containa	L L	- EDA		Z - other (
Site:	SSOW#:				Samı) asy	yep C											2	5	her:				
Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (w=water, S=solid, O=wasle/oli, B1=11saue, A=Air)	Field Filtered	Perform MS/A	5220D/5220C_prep COD			1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1							0.0000	Total Number	10tat munit	Speci	al Ins	truction	s/Note:	
		$\geq \leq$	Preserva	tion Code:	\bowtie	${\mathsf X}$												\triangleright	$\langle oxedsymbol{oxedsymbol{eta}}$					
Recovered Deicer (590-17755-1)	6/14/22	09:15 Pacific		Water			х								ĺ		ĺ							
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Note: Since laboratory accreditations are subject to change, Eurofins Environment does not currently maintain accreditation in the State of Origin listed above for ana status should be brought to Eurofins Environment Testing Northwest, LLC attention	vsis/tests/matrix be	ing analyzed, th	e samples musi	t be shipped ba	ack to	o the E	turating	s Envir	ronmer	nt Testi	ina Var	thwest	LLC	labora!	any ar	other i	nstruct	ions u	will he	A habiyota	av cha	nage to acc	If the labo	ratory
Possible Hazard Identification		***************************************			1	Sam	ple D	ispo	sal (A fee	may	be as	ses	sed il	san	ples	are r	etain	red I	onger tha	n 1 n	nonth)		
Unconfirmed	D				_				o Clie		L			al By	Lab		لسسا	Arci	hive	For		_ Months	5	
Deliverable Requested: I, II, III, IV, Other (specify)	Primary Deliver	able Rank: 2			ľ	Spec	iai ins	struct	lions/	QC R	equire	ement	s:											
Empty Kit Refinquished by:		Date:			Tim	ie:								Method	of Sh	ipment								
Relinquistica by Nay	6/19/21	1520)		Company		R	eceive	d by:		-5	1	f 				ate/Tin	110	5/2	12	99	50	Сопрану	TN	
Relinquished by:	Date/Time!		C	отрану		R	eceive	d by:		- €	nie -				0	ate/Tin	9:				(Company		
Relinquished by:	Date/Time:		C	ompany		R	eceive	d by:						<u></u>	D	ate/Tin	e;				-	Company		ᅦ
Custody Seals Intact: Custody Seal No.: Δ Yes Δ No	, , , , , , , , , , , , , , , , , , ,		*	Dogo 1	_	C	ooler T	emper	rature(s	s) °C a	nd Othe	Rem	arks.			٠.								C/2C

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Ver: 06/08/2021 6/30/2022

Client: Valley Science and Engineering

Job Number: 590-17755-1

Login Number: 17755 List Source: Eurofins Spokane

List Number: 1

Creator: Vaughan, Madison 1

Creator: Vaugnan, Madison 1		
Question	Answer	Comment
Radioactivity wasn't checked or is = background as measured by a survey meter.</td <td>N/A</td> <td></td>	N/A	
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	N/A	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

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Client: Valley Science and Engineering

Job Number: 590-17755-1

Login Number: 17755

List Source: Eurofins Buffalo
List Number: 3

List Creation: 06/16/22 04:43 PM

Creator: Yeager, Brian A

Creator: Yeager, Brian A		
Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background	True	
Γhe cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or ampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	2.5 ICE IR GUN #1
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
s the Field Sampler's name present on COC?	True	
There are no discrepancies between the sample IDs on the containers and he COC.	True	
Samples are received within Holding Time (Excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
/OA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
f necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Sampling Company provided.	True	
Samples received within 48 hours of sampling.	True	
Samples requiring field filtration have been filtered in the field.	True	
Chlorine Residual checked.	True	

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Client: Valley Science and Engineering

Job Number: 590-17755-1

Login Number: 17755
List Source: Eurofins Seattle
List Number: 2
List Creation: 06/15/22 06:06 PM

Creator: Vallelunga, Diana L

Question	Answer	Comment
Radioactivity wasn't checked or is = background as measured by a survey meter.</td <td>N/A</td> <td></td>	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

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SAMPLE COLLECTION DATA

Sample ID	Stormwater-Containing Glycol
Date	06/28/22
Time	9:20
Project	SIA Land Treatment Site Monitoring
Sample Matrix	Liquid
Collection Method	Grab
Sample Location	Land Application Tank
Weather	75°
Sampling Personnel	JAH

FIELD INSTRUMENTS

pH	Oakton pH/Con 10
Conductivity	Oakton pH/Con 10
Temperature	Oakton pH/Con 10
Glycol	Misco Palm Abby 220 (SIA owned)

PARAMETERS

TOTAL STREET	рН	Conductivity -uS/em	Temp °C	Glycol	
Time	su	-us/cm		%	Comments
9:20	8.00	2.07m/s	15.2	22.7	
					•
				1	

GENERAL NOTES

	GENERAL NOTES	
Sampled: 9:25 am		

Valley Science and Engineering

12720 E Nora Avenue, Suite A | Spokane Valley, WA 99216 | (509) 921-0290 | FAX (509) 921-1788

	Ins	trument Calibration Fo	orm	
Date:	06/28/20	Time:	8:30	
Personnel	JAH	Instrument _	Oak ton	FC45
Calibration	Reading After			
Standards Used	Calibration		Comments	
		'	Comments	<u> </u>
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PH7	7.1			
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p H 10				
11 15	10.02			
PHIO	10.00			
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14/2	1413			
Date:		Time:		
Personnel		- Instrument		
Calibration	D 4t 4 64	-		<u> </u>
Standards Used	Reading After Calibration			
Standarus Useu	Campration	<u></u>	Comments	
		,		
		 		
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Date:		Time:		
Personnel		Instrument		
Calibration	Reading After		-	
Standards Used	Calibration		Comments	
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		}		

Chain of Custody Record

TestAmerica Spokane 11922 E. 1st Ave.

TestAmerica	TestAmerica Laboratories, Inc.
Chain of Custody Record	Regulatory Program: Dw C NPOES CRORA COther:
TestAmerica Spokane 11922 E. 1st Ave.	Spokane, WA 99206 phone 509,924,9200 fax

phone 509.924.9200 fax	Regulatory Program: Dw C NPDES	ES 🗆 RCRA 🖸 Other:		TestAmerica Laboratories, Inc.
Client Contact	Project Manager: Sara Rodriguez	Site Contact: Sara Rodriguez	Date:	COC No:
Valley Science and Engineering	TebFax: (509) 703-2679	Lab Contact:	Carrier:	1 of1 COCs
12720 E Nora Ave Ste A	Analysis Turnaround Time			Sampler:
Spokane, WA 99216	☐ CALENDAR DAYS ☐ WORKING DAYS			For Lab Use Only:
(509) 921-0290 Phone	TAT if different from Below			Walk-in Client:
	Z weeks	/ X		Lab Sampling:
Spokane Airport	1 week	N 0:		
Spokane Washington		CO TK		Job / SDG No.:
PN: 2018230022-002-201				
Sample Identification	Sample Sample Type # of Cacomp. Date Time 6=Grab Matrix Cont.	S bertered S: M msohe9		Sample Specific Notes:
Recovered Deicer	6/28/29 9:25cm G H20 3	X X X		
		-		
Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other	5=NaOH; 6= Other	THE R. P. LEWIS CO., LANSING MICH. 401, 1879, 18	THE REAL PROPERTY AND PARTY to extraordistration and a second second	
Possible Hazard Identification: Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Comments Section if the lab is to dispose of the sample.	ise List any EPA Waste Codes for the sample in the	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) e	assessed if samples are retain	ed longer than 1 month)
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant	☐ Poison B ☐ Unknown	Return to Clent	☐ Disposal by Lab ☐ Archive for_	Months
Special Instructions/QC Requirements & Comments:	> COD is high - approximately 200,000 mg/L. <			
Per guote 59001381-0 (exclude Total N, we can do the math on that with the req	ith on that with the requested analysis on this COC)			
Custody Seals Infact:		Cooler Temp. (°C): Obs'd	Н	Therm ID No. T. E. S. C.
Relinguished by	Sciences Cascade Earth Date/Time:		Company:	Date/Time: 6/21/12 035
ed by:	Company: Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company: Date/Time:	Received in Laboratory by:	Company:	Date/Time:
				400000000000000000000000000000000000000

ANALYTICAL REPORT

Eurofins Spokane 11922 East 1st Ave Spokane, WA 99206 Tel: (509)924-9200

Laboratory Job ID: 590-17887-1

Client Project/Site: SIA/2018230022-002-201

For:

Valley Science and Engineering 12720 E Nora Ave Spokane, Washington 99216

Attn: Sara Rodriguez

dance trington

Authorized for release by: 7/21/2022 4:32:32 PM

Randee Arrington, Lab Director (509)924-9200

Randee.Arrington@et.eurofinsus.com

· LINKS ·····

Review your project results through

Have a Question?



Visit us at:

www.eurofinsus.com/Env

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Client: Valley Science and Engineering Project/Site: SIA/2018230022-002-201

Laboratory Job ID: 590-17887-1

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Case Narrative

Client: Valley Science and Engineering Project/Site: SIA/2018230022-002-201

Job ID: 590-17887-1

Job ID: 590-17887-1

Laboratory: Eurofins Spokane

Narrative

Receipt

The sample was received on 6/28/2022 10:35 AM. Unless otherwise noted below, the sample arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 17.9° C.

Receipt Exceptions

The following sample was received at the laboratory outside the required temperature criteria: Recovered Deicer (590-17887-1). The sample is considered acceptable since it was collected and submitted to the laboratory on the same day and there is evidence that the chilling process has begun.

GC Semi VOA

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

General Chemistry

Method 351.2: The method blank for preparation batch 280-581268 and analytical batch 280-581424 contained Kjedahl Nitrogen above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-digestion of samples was not performed.

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

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Sample Summary

Client: Valley Science and Engineering Project/Site: SIA/2018230022-002-201

Job ID: 590-17887-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
590-17887-1	Recovered Deicer	Water	06/28/22 09:25	06/28/22 10:35

-

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Definitions/Glossary

Client: Valley Science and Engineering Project/Site: SIA/2018230022-002-201

Job ID: 590-17887-1

Qualifiers

General Chemistry

Qualifier	Qualifier Description
B	Compound was found in the blank and sam

Compound was found in the blank and sample.

Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossarv

Glossary		
Abbreviation	These commonly used abbreviations may or may not be present in this report.	
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis	
%R	Percent Recovery	
CFL	Contains Free Liquid	
CFU	Colony Forming Unit	
CNF	Contains No Free Liquid	
DER	Duplicate Error Ratio (normalized absolute difference)	
Dil Fac	Dilution Factor	
DL	Detection Limit (DoD/DOE)	
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample	

DLC Decision Level Concentration (Radiochemistry) EDL Estimated Detection Limit (Dioxin)

LOD Limit of Detection (DoD/DOE) LOQ Limit of Quantitation (DoD/DOE) MCL EPA recommended "Maximum Contaminant Level"

MDA Minimum Detectable Activity (Radiochemistry) MDC Minimum Detectable Concentration (Radiochemistry)

MDL Method Detection Limit Minimum Level (Dioxin) ML Most Probable Number MPN MQL Method Quantitation Limit

NC Not Calculated

ND Not Detected at the reporting limit (or MDL or EDL if shown)

NEG Negative / Absent POS Positive / Present

Practical Quantitation Limit PQL

PRES Presumptive **Quality Control** QC

Relative Error Ratio (Radiochemistry) RER

RL Reporting Limit or Requested Limit (Radiochemistry)

RPD Relative Percent Difference, a measure of the relative difference between two points

TEF Toxicity Equivalent Factor (Dioxin) Toxicity Equivalent Quotient (Dioxin) **TEQ**

TNTC Too Numerous To Count

Page 5 of 15

Client Sample Results

Client: Valley Science and Engineering Project/Site: SIA/2018230022-002-201

Lab Sample ID: 590-17887-1

Matrix: Water

Job ID: 590-17887-1

Client Sample ID: Recovered Deicer

Date Collected: 06/28/22 09:25 Date Received: 06/28/22 10:35

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	ND		20	5.7	mg/L			06/28/22 15:23	100
Nitrite as N	ND		20	6.9	mg/L			06/28/22 15:23	100
General Chemistry									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Kjeldahl	0.78	JB	1.0	0.69	mg/L		07/19/22 13:49	07/20/22 16:47	1
Chemical Oxygen Demand	380000		80000	35000	mg/L			07/02/22 12:28	4000
Nitrogen, Total	ND		1.5	1.0	mg/L			07/15/22 14:46	1

Client: Valley Science and Engineering Project/Site: SIA/2018230022-002-201

Job ID: 590-17887-1

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 590-36750/1003 Client Sample ID: Method Blank

Matrix: Water

Analysis Batch: 36750

Prep Type: Total/NA

Analyte Result Qualifier RL **MDL** Unit D Analyzed Dil Fac Prepared Nitrate as N ND 0.20 0.057 mg/L 06/28/22 12:04 Nitrite as N ND 0.20 0.069 mg/L 06/28/22 12:04

Lab Sample ID: LCS 590-36750/1004 **Client Sample ID: Lab Control Sample** Prep Type: Total/NA

Matrix: Water

Analysis Batch: 36750

Spike LCS LCS %Rec Analyte Added Result Qualifier Unit %Rec Limits Nitrate as N 5.00 4.96 99 90 - 110 mg/L Nitrite as N 5.00 4.88 mg/L 98 90 - 110

Method: 351.2 - Nitrogen, Total Kjeldahl

Lab Sample ID: MB 280-581268/3-A Client Sample ID: Method Blank **Matrix: Water** Prep Type: Total/NA

Analysis Batch: 581424

MB MB

MB MB

Result Qualifier RL**MDL** Unit Dil Fac Analyte Prepared Analyzed 1.0 0.69 mg/L 07/19/22 13:49 07/20/22 16:44 Nitrogen, Kjeldahl 0.829 J

Lab Sample ID: LCS 280-581268/1-A **Client Sample ID: Lab Control Sample** Prep Type: Total/NA

Matrix: Water

Analysis Batch: 581424

Prep Batch: 581268

Prep Batch: 581268

LCS LCS %Rec Spike Added Analyte Result Qualifier Unit %Rec Limits Nitrogen, Kjeldahl 6.00 6.52 mg/L 109 90 - 110

Lab Sample ID: LCSD 280-581268/2-A Client Sample ID: Lab Control Sample Dup

Matrix: Water

Analysis Batch: 581424

Prep Type: Total/NA **Prep Batch: 581268** %Rec **RPD**

Client Sample ID: Lab Control Sample

Spike LCSD LCSD **Analyte** Added Result Qualifier Unit D %Rec Limits **RPD** Limit Nitrogen, Kjeldahl 6.00 6.52 mg/L 109 90 - 110 25

Method: 410.4 - COD

Lab Sample ID: MB 280-579848/5 **Client Sample ID: Method Blank** Prep Type: Total/NA

Matrix: Water

Analysis Batch: 579848

MB MB

Analyte Result Qualifier RL MDL Unit D Prepared Analyzed Dil Fac Chemical Oxygen Demand 20 07/02/22 12:28 8.7 mg/L

Lab Sample ID: LCS 280-579848/3

Matrix: Water

Analysis Batch: 579848

Eurofins Spokane

7/21/2022

Prep Type: Total/NA

Page 7 of 15

QC Sample Results

Client: Valley Science and Engineering Job ID: 590-17887-1 Project/Site: SIA/2018230022-002-201

Method: 410.4 - COD (Continued)

Lab Sample ID: LCSD 280-579848/4 **Client Sample ID: Lab Control Sample Dup** Prep Type: Total/NA

Matrix: Water

Analysis Batch: 579848

	Spike	LCSD	LCSD				%Rec		RPD	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit	
Chemical Oxygen Demand	100	98.2		mg/L		98	90 - 110	2	11	

Lab Chronicle

Client: Valley Science and Engineering Project/Site: SIA/2018230022-002-201

Date Received: 06/28/22 10:35

Lab Sample ID: 590-17887-1

Job ID: 590-17887-1

Matrix: Water

07/15/22 14:46 REA

37090

Client Sample ID: Recovered Deicer Date Collected: 06/28/22 09:25

Analysis

Batch Batch Dil Initial Final Batch Prepared **Prep Type** Method **Amount** or Analyzed Type Run **Factor Amount** Number Analyst Lab Total/NA 300.0 36750 06/28/22 15:23 NMI TAL SPK Analysis 100 Total/NA 351.2 25 mL Prep 25 mL 581268 07/19/22 13:49 BCR TAL DEN Total/NA Analysis 351.2 1 581424 07/20/22 16:47 LRB TAL DEN 2 mL 579848 07/02/22 12:28 BCR Total/NA Analysis 410.4 4000 2 mL TAL DEN

1

Laboratory References:

Total/NA

TAL DEN = Eurofins Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100 TAL SPK = Eurofins Spokane, 11922 East 1st Ave, Spokane, WA 99206, TEL (509)924-9200

Total Nitrogen

TAL SPK

Accreditation/Certification Summary

Client: Valley Science and Engineering Project/Site: SIA/2018230022-002-201

Job ID: 590-17887-1

Laboratory: Eurofins Spokane

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Pi	ogram	Identification Number	Expiration Date
Washington	St	ate	C569	01-06-23
The following analytes the agency does not o	•	ort, but the laboratory is r	not certified by the governing authority.	This list may include analytes for which
	•	ort, but the laboratory is r Matrix	not certified by the governing authority. Analyte	This list may include analytes for whic

Laboratory: Eurofins Denver

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Dat
A2LA	Dept. of Defense ELAP	2907.01	10-31-23
A2LA	ISO/IEC 17025	2907.01	10-31-23
Alabama	State Program	40730	09-30-12 *
Alaska (UST)	State	18-001	02-08-23
Arizona	State	AZ0713	12-20-22
Arkansas DEQ	State	19-047-0	06-01-22 *
California	State	2513	01-08-23
Connecticut	State	PH-0686	09-30-22
Florida	NELAP	E87667-57	06-30-23
Georgia	State	4025-011	01-08-23
Illinois	NELAP	2000172019-1	04-30-23
Iowa	State	IA#370	12-02-22
Kansas	NELAP	E-10166	05-31-22 *
Kentucky (WW)	State	KY98047	12-31-22
Louisiana	NELAP	30785	06-30-14 *
Louisiana	NELAP	30785	06-30-23
Minnesota	NELAP	1788752	12-31-22
Nevada	State	CO000262020-1	07-31-22
New Hampshire	NELAP	205319	04-28-23
New Jersey	NELAP	190002	06-30-23
New York	NELAP	59923	04-01-23
North Carolina (WW/SW)	State	358	12-31-22
North Dakota	State	R-034	01-08-23
Oklahoma	NELAP	8614	08-31-22
Oregon	NELAP	4025-011	01-09-23
Pennsylvania	NELAP	013	07-31-22
South Carolina	State	72002001	01-08-23
Texas	NELAP	TX104704183-08-TX	09-30-09 *
Texas	NELAP	T104704183-21-19	10-01-22
US Fish & Wildlife	US Federal Programs	058448	07-31-22
USDA	US Federal Programs	P330-20-00065	03-06-23
Utah	NELAP	QUAN5	06-30-13 *
Utah	NELAP	CO000262019-11	07-31-22
Virginia	NELAP	10490	06-14-23
Washington	State	C583-19	08-03-22
West Virginia DEP	State	354	11-30-22
Wisconsin	State	999615430	08-31-22
Wyoming (UST)	A2LA	2907.01	10-31-22

^{*} Accreditation/Certification renewal pending - accreditation/certification considered valid.

Eurofins Spokane

7/21/2022

Page 10 of 15

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4.0

Method Summary

Client: Valley Science and Engineering Project/Site: SIA/2018230022-002-201

Job ID: 590-17887-1

Method	Method Description	Protocol	Laboratory
300.0	Anions, Ion Chromatography	MCAWW	TAL SPK
351.2	Nitrogen, Total Kjeldahl	MCAWW	TAL DEN
410.4	COD	MCAWW	TAL DEN
Total Nitrogen	Nitrogen, Total	EPA	TAL SPK
351.2	Nitrogen, Total Kjeldahl	MCAWW	TAL DEN

Protocol References:

EPA = US Environmental Protection Agency

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

Laboratory References:

TAL DEN = Eurofins Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100 TAL SPK = Eurofins Spokane, 11922 East 1st Ave, Spokane, WA 99206, TEL (509)924-9200

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TestAmerica Spokane

11922 E, 1st Ave.

Chain of Custody Record

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Spokane, WA 99206 phone 509.924.9200 fax	Regul	atory Pro	gram 🗆	nw Γ	- NPDES	г] RCR	4)ther•										Tes	tAmeric	a Labc	oratorie	s. Inc.
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Form No. CA-C-WI-002, Rev. 4.3, dated 12/05/2013

Page 12 of 15 7/21/2022

Chain of Custody Record

Eurofins Spokane

11922 East 1st Ave Spokane, WA 99206 Phone: 500-094-0900 Eav: 500-094-0900	Chain of Custody Record	stody Rec	ord			carolins :	Environment Testing America
000 011 0100 000 000 000 000 000 000 00	Sampler:	Lab PM:		Carrie	Carrier Tracking No(s):	COC No:	
Client Information (Sub Contract Lab)		Arrington	Arrington, Randee E			590-6929.1	
Client Contact: Shipping/Receiving	Phone:	E-Mail: Randee.,	Arrington@et.	E-Mail: State of State of State of State of Wash	State of Origin: Washington	Page: Page 1 of 1	
Company: TestAmerica Laboratories. Inc.		Accr	Accreditations Required (See note) State - Washington; State P	- w	gton	Job #: 590-17887-1	
Address: 4955 Yarrow Street.	Due Date Requested: 7/12/2022			Analysis Requested	pa	Preservation Codes	
City: Arvada	TAT Requested (days):					A - HCL B - NaOH C - Zn Acetate	N - None O - AsNaO2
State, Zip: CO, 80002						D - Nitric Acid E - NaHSO4	
Phone: 303-736-0100(Tel) 303-431-7171(Fax)	PO#:	(c				G - Amchlor H - Ascorbic Acid	
Email:	WO #:		(ON				V - MCAA W - pH 4-5
Project Name: SIA/2018230022-002-201	Project #: 59001988		Se or				Y - Trizma Z - other (specify)
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	Sample	Matrix (W=water, S=solid, O=waste/oil,	M/SM mnoha 919_2.135\2.13 9.0			rədmu l l isjo	:
Sample Identification - Client ID (Lab ID)	Sample Date Time G=grab)	BT=Tissue, A=Air) IT ation Code:	38		-		Special Instructions/Note:
Recovered Deicer (590-17887-1)	+	Water	×			2	
	Pacific		+			1	
Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Northwast, does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix bel status should be brought to Eurofins Environment Testing Northwest, LLC attention immediately. If all	nent Testing Northwest, LLC places the ownership or analysis/lests/matrix being analyzed, the samples r intion immediately. If all requested accreditations a	of method, analyte & ac must be shipped back to re current to date, retur	creditation compli the Eurofins Env the signed Chai	LLC places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory ing analyzed, the samples must be shipped back to the Eurofins Environment Testing Northwest, LLC laboratory or other instructions will be provided. Any changes to accreditation requested accreditations are current to date, return the signed Chain of Oustody attesting to said complicance to Eurofins Environment Testing Northwest, LLC.	tories. This sample ship laboratory or other instri plicance to Eurofins Env	ment is forwarded under ch Jotions will be provided. An Ironment Testing Northwes	ain-of-custody. If the laboratory y changes to accreditation ; LLC.
Possible Hazard Identification			Sample Disp	ee may be	sed if samples are	retained longer than	1 month)
Unconfirmed Deliverable Requested: I, II, III, IV, Other (specify)	Primary Deliverable Rank: 2		Special Instru	Special Instructions/QC Requirements:	Disposal by Lab ants:	Arcnive For	Months
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							1. Sec. (36/136) 23.2.5

Client: Valley Science and Engineering

Job Number: 590-17887-1

Login Number: 17887 List Source: Eurofins Spokane

List Number: 1

Creator: Vaughan, Madison 1

Creator: vaugnan, Madison 1		
Question	Answer	Comment
Radioactivity wasn't checked or is = background as measured by a survey meter.</td <td>N/A</td> <td></td>	N/A	
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	False	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

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Login Sample Receipt Checklist

Client: Valley Science and Engineering

Job Number: 590-17887-1

Login Number: 17887 List Source: Eurofins Denver
List Number: 2 List Creation: 06/30/22 01:08 PM

Creator: Kazenga, Oliver M

Question	Answer	Comment
Radioactivity wasn't checked or is = background as measured by a survey meter.</td <td>True</td> <td></td>	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

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SAMPLE COLLECTION DATA

Sample ID	Stormwater-Containing Glycol
Date	7-12-22
Time	9:30 am
Project	SIA Land Treatment Site Monitoring
Sample Matrix	Liquid
Collection Method	Grab
Sample Location	Land Application Tank
Weather	Sunny 85°
Sampling Personnel	JRH

FIELD INSTRUMENTS

pH	Oakton pH/Con 10
Conductivity	Oakton pH/Con 10
Temperature	Oakton pH/Con 10
Glycol	Misco Palm Abby 220 (SIA owned)

PARAMETERS

-	pН	Conductivity	Temp	Glycol	
Time	su	-uS/cm	°C	0/0	Comments
9:36	7.99	2,22 m/s	23.7	8.06	
		1			
			-		
				-	

GENERAL NOTES

Sampled: 9:49 am		

Valley Science and Engineering

12720 E Nora Avenue, Suite A | Spokane Valley, WA 99216 | (509) 921-0290 | FAX (509) 921-1788

Date:	7.12.28	ment Calibration Form Time: 8:/5 am	
Personnel	JAH	Instrument Oakton	
Calibration Standards Used	Reading After Calibration	Comments	
1413	14/3		
PH 10	10.01		
pH7	7.0		
Date:		Time:	
Personnel		Instrument	
Calibration Standards Used	Reading After Calibration	Comments	
Date:		Time:	
Personnel		Instrument	
Calibration Standards Used	Reading After Calibration	Comments	

ANALYTICAL REPORT

Eurofins Spokane 11922 East 1st Ave Spokane, WA 99206 Tel: (509)924-9200

Laboratory Job ID: 590-17887-1

Client Project/Site: SIA/2018230022-002-201

For:

Valley Science and Engineering 12720 E Nora Ave Spokane, Washington 99216

Attn: Sara Rodriguez

tanduit trington

Authorized for release by: 7/21/2022 4:32:32 PM

Randee Arrington, Lab Director (509)924-9200

Randee.Arrington@et.eurofinsus.com

.. LINKS

Review your project results through

Have a Question?



Visit us at: www.eurofinsus.com/Env This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Client: Valley Science and Engineering Project/Site: SIA/2018230022-002-201

Laboratory Job ID: 590-17887-1

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Case Narrative

Client: Valley Science and Engineering Project/Site: SIA/2018230022-002-201

Job ID: 590-17887-1

Job ID: 590-17887-1

Laboratory: Eurofins Spokane

Narrative

Receipt

The sample was received on 6/28/2022 10:35 AM. Unless otherwise noted below, the sample arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 17.9° C.

Receipt Exceptions

The following sample was received at the laboratory outside the required temperature criteria: Recovered Deicer (590-17887-1). The sample is considered acceptable since it was collected and submitted to the laboratory on the same day and there is evidence that the chilling process has begun.

GC Semi VOA

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

General Chemistry

Method 351.2: The method blank for preparation batch 280-581268 and analytical batch 280-581424 contained Kjedahl Nitrogen above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-digestion of samples was not performed.

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

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Sample Summary

Client: Valley Science and Engineering Project/Site: SIA/2018230022-002-201

Job ID: 590-17887-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
590-17887-1	Recovered Deicer	Water	06/28/22 09:25	06/28/22 10:35

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Definitions/Glossary

Client: Valley Science and Engineering Project/Site: SIA/2018230022-002-201

Job ID: 590-17887-1

Qualifiers

General Chemistry

Qualifier **Qualifier Description**

Compound was found in the blank and sample.

Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value. J

Glossary	
Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DI C	Decision Level Concentration (Radiochemistry)

EDL Estimated Detection Limit (Dioxin) Limit of Detection (DoD/DOE) LOD LOQ Limit of Quantitation (DoD/DOE)

MCL EPA recommended "Maximum Contaminant Level" MDA Minimum Detectable Activity (Radiochemistry) MDC Minimum Detectable Concentration (Radiochemistry)

MDL Method Detection Limit Minimum Level (Dioxin) ML Most Probable Number MPN MQL Method Quantitation Limit

NC Not Calculated

ND Not Detected at the reporting limit (or MDL or EDL if shown)

NEG Negative / Absent POS Positive / Present

PQL **Practical Quantitation Limit**

PRES Presumptive **Quality Control** QC

Relative Error Ratio (Radiochemistry) RER

RL Reporting Limit or Requested Limit (Radiochemistry)

RPD Relative Percent Difference, a measure of the relative difference between two points

TEF Toxicity Equivalent Factor (Dioxin) Toxicity Equivalent Quotient (Dioxin) **TEQ**

TNTC Too Numerous To Count

Client Sample Results

Client: Valley Science and Engineering Project/Site: SIA/2018230022-002-201

Lab Sample ID: 590-17887-1

Matrix: Water

Job ID: 590-17887-1

Client Sample ID: Recovered Deicer

Date Collected: 06/28/22 09:25 Date Received: 06/28/22 10:35

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	ND		20	5.7	mg/L			06/28/22 15:23	100
Nitrite as N	ND		20	6.9	mg/L			06/28/22 15:23	100
General Chemistry									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Kjeldahl	0.78	JB	1.0	0.69	mg/L		07/19/22 13:49	07/20/22 16:47	1
Chemical Oxygen Demand	380000		80000	35000	mg/L			07/02/22 12:28	4000
Nitrogen, Total	ND		1.5	1.0	mg/L			07/15/22 14:46	1

Client: Valley Science and Engineering Project/Site: SIA/2018230022-002-201

Job ID: 590-17887-1

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 590-36750/1003 Client Sample ID: Method Blank

Matrix: Water

Analysis Batch: 36750

Prep Type: Total/NA

Analyte Result Qualifier RL **MDL** Unit D Analyzed Dil Fac Prepared Nitrate as N ND 0.20 0.057 mg/L 06/28/22 12:04 Nitrite as N ND 0.20 0.069 mg/L 06/28/22 12:04

Lab Sample ID: LCS 590-36750/1004 **Client Sample ID: Lab Control Sample** Prep Type: Total/NA

Matrix: Water

Analysis Batch: 36750

Spike LCS LCS %Rec Analyte Added Result Qualifier Unit %Rec Limits Nitrate as N 5.00 4.96 99 90 - 110 mg/L Nitrite as N 5.00 4.88 mg/L 98 90 - 110

Method: 351.2 - Nitrogen, Total Kjeldahl

Lab Sample ID: MB 280-581268/3-A Client Sample ID: Method Blank **Matrix: Water** Prep Type: Total/NA

Analysis Batch: 581424

MB MB

MB MB

Result Qualifier RL**MDL** Unit Dil Fac Analyte Prepared Analyzed 1.0 0.69 mg/L 07/19/22 13:49 07/20/22 16:44 Nitrogen, Kjeldahl 0.829 J

Lab Sample ID: LCS 280-581268/1-A **Client Sample ID: Lab Control Sample** Prep Type: Total/NA

Matrix: Water

Analysis Batch: 581424

Prep Batch: 581268

Prep Batch: 581268

LCS LCS %Rec Spike Added Analyte Result Qualifier Unit %Rec Limits Nitrogen, Kjeldahl 6.00 6.52 mg/L 109 90 - 110

Lab Sample ID: LCSD 280-581268/2-A Client Sample ID: Lab Control Sample Dup

Matrix: Water

Analysis Batch: 581424

Prep Type: Total/NA **Prep Batch: 581268** %Rec **RPD**

Client Sample ID: Lab Control Sample

Spike LCSD LCSD **Analyte** Added Result Qualifier Unit D %Rec Limits **RPD** Limit Nitrogen, Kjeldahl 6.00 6.52 mg/L 109 90 - 110 25

Method: 410.4 - COD

Lab Sample ID: MB 280-579848/5 **Client Sample ID: Method Blank** Prep Type: Total/NA

Matrix: Water

Analysis Batch: 579848

MB MB

Analyte Result Qualifier RL MDL Unit D Prepared Analyzed Dil Fac Chemical Oxygen Demand 20 07/02/22 12:28 8.7 mg/L

Lab Sample ID: LCS 280-579848/3

Matrix: Water

Analysis Batch: 579848

,	Spike	LCS	LCS				%Rec
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits
Chemical Oxygen Demand	100	96.0		mg/L		96	90 - 110

Eurofins Spokane

Prep Type: Total/NA

Page 7 of 15

7/21/2022

QC Sample Results

Client: Valley Science and Engineering Job ID: 590-17887-1 Project/Site: SIA/2018230022-002-201

Method: 410.4 - COD (Continued)

Lab Sample ID: LCSD 280-579848/4 **Client Sample ID: Lab Control Sample Dup** Prep Type: Total/NA

Matrix: Water

Analysis Batch: 579848

	Spike	LCSD	LCSD				%Rec		RPD	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit	
Chemical Oxygen Demand	100	98.2		mg/L		98	90 - 110	2	11	

Lab Chronicle

Client: Valley Science and Engineering Project/Site: SIA/2018230022-002-201

Date Received: 06/28/22 10:35

Lab Sample ID: 590-17887-1

Job ID: 590-17887-1

Matrix: Water

07/15/22 14:46 REA

37090

Client Sample ID: Recovered Deicer Date Collected: 06/28/22 09:25

Analysis

Batch Batch Dil Initial Final Batch Prepared **Prep Type** Method **Amount** or Analyzed Type Run **Factor Amount** Number Analyst Lab Total/NA 300.0 36750 06/28/22 15:23 NMI TAL SPK Analysis 100 Total/NA 351.2 25 mL Prep 25 mL 581268 07/19/22 13:49 BCR TAL DEN Total/NA Analysis 351.2 1 581424 07/20/22 16:47 LRB TAL DEN 2 mL 579848 07/02/22 12:28 BCR Total/NA Analysis 410.4 4000 2 mL TAL DEN

1

Laboratory References:

Total/NA

TAL DEN = Eurofins Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100 TAL SPK = Eurofins Spokane, 11922 East 1st Ave, Spokane, WA 99206, TEL (509)924-9200

Total Nitrogen

TAL SPK

Accreditation/Certification Summary

Client: Valley Science and Engineering Project/Site: SIA/2018230022-002-201

Job ID: 590-17887-1

Laboratory: Eurofins Spokane

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	P	rogram	Identification Number	Expiration Date
Washington	S	ate	C569	01-06-23
The following analyte the agency does not o	•	ort, but the laboratory is r	not certified by the governing authority.	This list may include analytes for which
	•	ort, but the laboratory is r Matrix	not certified by the governing authority. Analyte	This list may include analytes for whic

Laboratory: Eurofins Denver

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Dat
A2LA	Dept. of Defense ELAP	2907.01	10-31-23
A2LA	ISO/IEC 17025	2907.01	10-31-23
Alabama	State Program	40730	09-30-12 *
Alaska (UST)	State	18-001	02-08-23
Arizona	State	AZ0713	12-20-22
Arkansas DEQ	State	19-047-0	06-01-22 *
California	State	2513	01-08-23
Connecticut	State	PH-0686	09-30-22
Florida	NELAP	E87667-57	06-30-23
Georgia	State	4025-011	01-08-23
Illinois	NELAP	2000172019-1	04-30-23
Iowa	State	IA#370	12-02-22
Kansas	NELAP	E-10166	05-31-22 *
Kentucky (WW)	State	KY98047	12-31-22
Louisiana	NELAP	30785	06-30-14 *
Louisiana	NELAP	30785	06-30-23
Minnesota	NELAP	1788752	12-31-22
Nevada	State	CO000262020-1	07-31-22
New Hampshire	NELAP	205319	04-28-23
New Jersey	NELAP	190002	06-30-23
New York	NELAP	59923	04-01-23
North Carolina (WW/SW)	State	358	12-31-22
North Dakota	State	R-034	01-08-23
Oklahoma	NELAP	8614	08-31-22
Oregon	NELAP	4025-011	01-09-23
Pennsylvania	NELAP	013	07-31-22
South Carolina	State	72002001	01-08-23
Texas	NELAP	TX104704183-08-TX	09-30-09 *
Texas	NELAP	T104704183-21-19	10-01-22
US Fish & Wildlife	US Federal Programs	058448	07-31-22
USDA	US Federal Programs	P330-20-00065	03-06-23
Utah	NELAP	QUAN5	06-30-13 *
Utah	NELAP	CO000262019-11	07-31-22
Virginia	NELAP	10490	06-14-23
Washington	State	C583-19	08-03-22
West Virginia DEP	State	354	11-30-22
Wisconsin	State	999615430	08-31-22
Wyoming (UST)	A2LA	2907.01	10-31-22

^{*} Accreditation/Certification renewal pending - accreditation/certification considered valid.

Eurofins Spokane

7/21/2022

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Method Summary

Client: Valley Science and Engineering Project/Site: SIA/2018230022-002-201

Job ID: 590-17887-1

Method	Method Description	Protocol	Laboratory
300.0	Anions, Ion Chromatography	MCAWW	TAL SPK
351.2	Nitrogen, Total Kjeldahl	MCAWW	TAL DEN
410.4	COD	MCAWW	TAL DEN
Total Nitrogen	Nitrogen, Total	EPA	TAL SPK
351.2	Nitrogen, Total Kjeldahl	MCAWW	TAL DEN

Protocol References:

EPA = US Environmental Protection Agency

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

Laboratory References:

TAL DEN = Eurofins Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100 TAL SPK = Eurofins Spokane, 11922 East 1st Ave, Spokane, WA 99206, TEL (509)924-9200

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TestAmerica Spokane

11922 E, 1st Ave.

Chain of Custody Record

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Spokane, WA 99206 phone 509.924.9200 fax	Regul	atory Pro	gram 🗆	nw Γ	- NPDES	г] RCR	4)ther•											TestAmerica L	aborato	ries. Inc.
			ıra Rodrigu							Rodri	ausz		ľ	ate:							OC No:		
Valley Science and Engineering	Tel/Fax: (5			162		_	Con			Noui	Aner		_	arrie						╌	1 of	1 CC)Cs
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(509) 921-0290 Phone		if different fr					Z	l												- 1	Valk-in Client:	1	
(509) 921-1788 FAX	γ α		weeks			23		1	2			1				į			11	- 11	.ab Sampling:	-	
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Spokane Washington			days			Sample (Y		X	ø5 40							- 1			11	_ h	lob / SDG No.	***	
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11 23.3250022 002 20.			Sample			Sa	ž	1	Z							- 1			11	F			
	Sample	Sample	Type		# of	ared.	٤																
Sample Identification	Date	Time	(C=Comp, G=Grab)	Matrix	Cont.	II C	Perto														Sample Sp	ecific No	les:
Recovered Deicer	6 /28ka	925cm	G	H₂O	3		х	х	х														
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						Ш																	
Preservation Used. 1= ice, 2= HCI; 3= H2SO4; 4=HNO3; 5=1	NaOH; 6= 0	Other									900 000000									mpomes, no	erre en menument ultrains (mit transferier (internation		and the state of t
Possible Hazard Identification Are any samples from a listed EPA Hazardous Waste? Please Li Comments Section if the lab is to dispose of the sample.	st any EPA	Waste Co	des for the	sample	in the	\$	Samp	ole D	ispo	osal (A fee	may	be a	18606	sed i	if sar	nple	s are	e retai	ined	longer than 1 m	onth)	
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant	☐ Poisan	В	Unkno	מא				Retил	n to C	Jient () Disp	osal by	Lab		C	Arch	ive for_		Months		
Special Instructions/QC Requirements & Comments -> C	OD is high	approxi	mately 200,	000 mg	/L, <-																		
Per quote 59001981-0 (exclude Total N. we can do the math o	n that with	the reque	sted analys	sis on tl	nis CO	C)																	
Custody Seals Intact:	Custody S	eal No.							Cod	oler T	emp. ((°C):	Obs'	d:	7.0	C	ou, q	1	7. ና		Therm ID No. 12	806	
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Form No. CA-C-WI-002, Rev. 4.3, dated 12/05/2013

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Chain of Custody Record

Eurofins Spokane

11922 East 1st Ave Spokane, WA 99206 Phone: 500-094-0900 Eav: 500-094-0900	Chain of Custody Record	stody Rec	ord			carolins :	Environment Testing America
000 011 0100 000 000 000 000 000 000 00	Sampler:	Lab PM:		Carrie	Carrier Tracking No(s):	COC No:	
Client Information (Sub Contract Lab)		Arrington	Arrington, Randee E			590-6929.1	
Client Contact: Shipping/Receiving	Phone:	E-Mail: Randee.,	Arrington@et.	E-Mail: State of State of State of State of Wash	State of Origin: Washington	Page: Page 1 of 1	
Company: TestAmerica Laboratories. Inc.		Accr	Accreditations Required (See note) State - Washington; State P	- w	gton	Job #: 590-17887-1	
Address: 4955 Yarrow Street.	Due Date Requested: 7/12/2022			Analysis Requested	pa	Preservation Codes	
City: Arvada	TAT Requested (days):					A - HCL B - NaOH C - Zn Acetate	N - None O - AsNaO2
State, Zip: CO, 80002						D - Nitric Acid E - NaHSO4	
Phone: 303-736-0100(Tel) 303-431-7171(Fax)	PO#:	(c				G - Amchlor H - Ascorbic Acid	
Email:	WO #:		(ON				V - MCAA W - pH 4-5
Project Name: SIA/2018230022-002-201	Project #: 59001988		JO Se				Y - Trizma Z - other (specify)
Site:	SSOW#:					of cor	
	Sample	Matrix (W=water, S=solid, O=waste/oil,	M/SM mnoha 919_2.135/2.13			rədmu l l isjo	:
Sample Identification - Client ID (Lab ID)	Sample Date Time G=grab)	BT=Tissue, A=Air) IT ation Code:	38		-		Special Instructions/Note:
Recovered Deicer (590-17887-1)	+	Water	×			2	
	Pacific		+			1	
Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Northwast, does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix bel status should be brought to Eurofins Environment Testing Northwest, LLC attention immediately. If all	nent Testing Northwest, LLC places the ownership or analysis/lests/matrix being analyzed, the samples r intion immediately. If all requested accreditations a	of method, analyte & ac must be shipped back to re current to date, retur	creditation compli the Eurofins Env the signed Chair	LLC places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory ing analyzed, the samples must be shipped back to the Eurofins Environment Testing Northwest, LLC laboratory or other instructions will be provided. Any changes to accreditation requested accreditations are current to date, return the signed Chain of Oustody attesting to said complicance to Eurofins Environment Testing Northwest, LLC.	tories. This sample ship laboratory or other instri plicance to Eurofins Env	ment is forwarded under ch Jotions will be provided. An Ironment Testing Northwes	ain-of-custody. If the laboratory y changes to accreditation ; LLC.
Possible Hazard Identification			Sample Dispe	ee may be	sed if samples are	retained longer than	1 month)
Unconfirmed Deliverable Requested: I, II, III, IV, Other (specify)	Primary Deliverable Rank: 2		Special Instru	Special Instructions/QC Requirements:	Disposal by Lab ants:	Arcnive For	Months
Empty Kit Reformished by:	Date	- Line	١		Method of Shipment:		
Relinquishedby		\Box	Received by:	-	Date/Time:		Сотрапу
Polinquished by:	Date/Time:	Company		1/4Z.	Date/Time:	202 002	Company Den
Reinquished by:	Date/Time:	Сотрапу	Received by:		Date/Time:		Company
Custody Seals Intact: Custody Seal No.:			Cooler Temp	Cooler Temperature(s) °C and Other Remarks:	2.1 CF +0-1	10-1 12412	
							1. Sec. (36/136) 23.2.5

Login Sample Receipt Checklist

Client: Valley Science and Engineering

Job Number: 590-17887-1

Login Number: 17887 List Source: Eurofins Spokane

List Number: 1

Creator: Vaughan, Madison 1

Answer	Comment
N/A	
N/A	
N/A	
True	
True	
True	
True	
True	
True	
True	
False	
True	
True	
True	
True	
True	
True	
True	
N/A	
True	
True	
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True	
N/A	
	N/A N/A N/A N/A True True True True True True True True

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Login Sample Receipt Checklist

Client: Valley Science and Engineering

Job Number: 590-17887-1

Login Number: 17887 List Source: Eurofins Denver
List Number: 2 List Creation: 06/30/22 01:08 PM

Creator: Kazenga, Oliver M

Question	Answer	Comment
Radioactivity wasn't checked or is = background as measured by a survey meter.</td <td>True</td> <td></td>	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

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Environment Testing America

ANALYTICAL REPORT

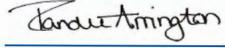
Eurofins Spokane 11922 East 1st Ave Spokane, WA 99206 Tel: (509)924-9200

Laboratory Job ID: 590-18000-1

Client Project/Site: SIA/2018230022-002-201

Valley Science and Engineering 12720 E Nora Ave Spokane, Washington 99216

Attn: Sara Rodriguez



Authorized for release by: 7/26/2022 10:35:38 AM

Randee Arrington, Lab Director (509)924-9200

Randee.Arrington@et.eurofinsus.com

.. LINKS

Review your project results through EOL

Have a Question?



Visit us at: www.eurofinsus.com/Env This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten

Client: Valley Science and Engineering Project/Site: SIA/2018230022-002-201

Laboratory Job ID: 590-18000-1

Table of Contents

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Case Narrative

Client: Valley Science and Engineering Project/Site: SIA/2018230022-002-201

Job ID: 590-18000-1

Job ID: 590-18000-1

Laboratory: Eurofins Spokane

Narrative

Receipt

The sample was received on 7/12/2022 10:41 AM. Unless otherwise noted below, the sample arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 17.5° C.

Receipt Exceptions

The following sample was received at the laboratory outside the required temperature criteria: Recovered Deicer (590-18000-1). The sample is considered acceptable since it was collected and submitted to the laboratory on the same day and there is evidence that the chilling process has begun.

GC Semi VOA

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

General Chemistry

Method 351.2: Due to the matrix, the initial volume used for the following sample deviated from the standard procedure: Recovered Deicer (590-18000-1). The reporting limits (RLs) have been adjusted proportionately.

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

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Sample Summary

Client: Valley Science and Engineering Project/Site: SIA/2018230022-002-201

Job ID: 590-18000-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
590-18000-1	Recovered Deicer	Water	07/12/22 09:49	07/12/22 10:41

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Definitions/Glossary

Client: Valley Science and Engineering

Project/Site: SIA/2018230022-002-201

Job ID: 590-18000-1

Glossary

These commonly used abbreviations may or may not be present in this report.
Listed under the "D" column to designate that the result is reported on a dry weight basis
Percent Recovery
Contains Free Liquid
Colony Forming Unit
Contains No Free Liquid
Duplicate Error Ratio (normalized absolute difference)
Dilution Factor
Detection Limit (DoD/DOE)
Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
Decision Level Concentration (Radiochemistry)
Estimated Detection Limit (Dioxin)
Limit of Detection (DoD/DOE)
Limit of Quantitation (DoD/DOE)
EPA recommended "Maximum Contaminant Level"
Minimum Detectable Activity (Radiochemistry)
Minimum Detectable Concentration (Radiochemistry)
Method Detection Limit
Minimum Level (Dioxin)

Minimum Level (Dioxin)

Most Probable Number

MPN Most Probable Number
MQL Method Quantitation Limit
NC Not Calculated

...

ND Not Detected at the reporting limit (or MDL or EDL if shown)

 NEG
 Negative / Absent

 POS
 Positive / Present

 PQL
 Practical Quantitation Limit

PRES Presumptive
QC Quality Control

RER Relative Error Ratio (Radiochemistry)

RL Reporting Limit or Requested Limit (Radiochemistry)

RPD Relative Percent Difference, a measure of the relative difference between two points

TEF Toxicity Equivalent Factor (Dioxin)
TEQ Toxicity Equivalent Quotient (Dioxin)

TNTC Too Numerous To Count

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Client Sample Results

Client: Valley Science and Engineering Job ID: 590-18000-1

Project/Site: SIA/2018230022-002-201

Client Sample ID: Recovered Deicer

Lab Sample ID: 590-18000-1

Date Collected: 07/12/22 09:49 Matrix: Water Date Received: 07/12/22 10:41

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	ND		20	5.7	mg/L			07/12/22 11:59	100
Nitrite as N	ND		20	6.9	mg/L			07/12/22 11:59	100
General Chemistry									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Kjeldahl Nitrogen	22		2.0	1.9	mg/L		07/17/22 10:23	07/18/22 08:35	1
Chemical Oxygen Demand	340000		40000	24000	ma/l		07/21/22 17:04	07/21/22 21:42	1

Client: Valley Science and Engineering Project/Site: SIA/2018230022-002-201

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 590-37001/1003

Matrix: Water

Analysis Batch: 37001

Client Sample ID: Method Blank

Prep Type: Total/NA

Job ID: 590-18000-1

MB MB MDL Unit Analyte Result Qualifier RLD Prepared Analyzed Dil Fac Nitrate as N ND 0.20 0.057 mg/L 07/12/22 10:16 Nitrite as N ND 0.20 0.069 mg/L 07/12/22 10:16

Lab Sample ID: LCS 590-37001/1004

Matrix: Water

Analysis Batch: 37001

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

	Spike	LCS	LCS				%Rec
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits
Nitrate as N	5.00	5.08		mg/L		102	90 - 110
Nitrite as N	5.00	4.75		mg/L		95	90 - 110

Method: 351.2 - Nitrogen, Total Kjeldahl

Lab Sample ID: MB 480-633825/1-A

Matrix: Water

Analysis Batch: 633900

Client Sample ID: Method Blank

Prep Type: Total/NA **Prep Batch: 633825**

мв мв RL MDL Unit Analyte Result Qualifier Prepared Analyzed Dil Fac Total Kjeldahl Nitrogen ND 0.20 0.19 mg/L 07/17/22 10:23 07/18/22 06:58

Lab Sample ID: LCS 480-633825/2-A

Matrix: Water

Analysis Batch: 633900

Client Sample ID: Lab Control Sample

Prep Type: Total/NA **Prep Batch: 633825**

%Rec

Spike LCS LCS Analyte Added Result Qualifier Unit %Rec Limits Total Kjeldahl Nitrogen 2.50 2.28 mg/L 91 90 - 110

Method: SM 5220D - COD

Lab Sample ID: MB 580-397843/3-A

MR MR

Matrix: Water

Analysis Batch: 397880

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

Prep Batch: 397843

Analyte Result Qualifier RL MDL Unit D Prepared Analyzed Chemical Oxygen Demand 10 07/21/22 17:04 07/21/22 21:42 ND 5.9 mg/L

Lab Sample ID: LCS 580-397843/4-A

Matrix: Water

Analysis Batch: 397880

Client Sample ID: Lab Control Sample

Prep Batch: 397843

LCS LCS Spike %Rec Analyte Added Result Qualifier Unit %Rec Limits Chemical Oxygen Demand 75.0 79.1 mg/L 105 80 - 120

Lab Sample ID: LCSD 580-397843/5-A

Matrix: Water

Analysis Batch: 397880

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA **Prep Batch: 397843**

LCSD LCSD Spike %Rec Added Result Qualifier Unit %Rec Limits RPD Limit 75.0 78.1 104 80 - 120 20 Chemical Oxygen Demand mg/L

Eurofins Spokane

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Dil Fac

Prep Type: Total/NA

RPD

7/26/2022

Lab Chronicle

Client: Valley Science and Engineering Job ID: 590-18000-1 Project/Site: SIA/2018230022-002-201

Client Sample ID: Recovered Deicer

Lab Sample ID: 590-18000-1 Date Collected: 07/12/22 09:49 Matrix: Water

Date Received: 07/12/22 10:41

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		100			37001	07/12/22 11:59	NMI	TAL SPK
Total/NA	Prep	351.2			2.5 mL	25 mL	633825	07/17/22 10:23	EAG	TAL BUF
Total/NA	Analysis	351.2		1			633900	07/18/22 08:35	CLT	TAL BUF
Total/NA	Prep	SM 5220			0.0005 mL	2 mL	397843	07/21/22 17:04	MLT	FGS SEA
Total/NA	Analysis	SM 5220D		1	0.0005 mL	2 mL	397880	07/21/22 21:42	MLT	FGS SEA

Laboratory References:

FGS SEA = Eurofins Seattle, 5755 8th Street East, Tacoma, WA 98424, TEL (253)922-2310

TAL BUF = Eurofins Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600

TAL SPK = Eurofins Spokane, 11922 East 1st Ave, Spokane, WA 99206, TEL (509)924-9200

7/26/2022

Accreditation/Certification Summary

Client: Valley Science and Engineering

Job ID: 590-18000-1

Project/Site: SIA/2018230022-002-201

Laboratory: Eurofins Spokane

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Washington	State	C569	01-06-23

Laboratory: Eurofins Buffalo

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date	
Washington	State	C784	02-10-23	

Laboratory: Eurofins Seattle

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Washington	State	C788	07-13-22 *

Eurofins Spokane

7/26/2022

Page 9 of 16

2

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3

4 4

 $^{^{\}star}\, \text{Accreditation/Certification renewal pending - accreditation/certification considered valid}.$

Method Summary

Client: Valley Science and Engineering Project/Site: SIA/2018230022-002-201

Job ID: 590-18000-1

Method	Method Description	Protocol	Laboratory
300.0	Anions, Ion Chromatography	MCAWW	TAL SPK
351.2	Nitrogen, Total Kjeldahl	MCAWW	TAL BUF
SM 5220D	COD	SM	FGS SEA
351.2	Nitrogen, Total Kjeldahl	MCAWW	TAL BUF
SM 5220	COD	SM	FGS SEA

Protocol References:

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

Laboratory References:

FGS SEA = Eurofins Seattle, 5755 8th Street East, Tacoma, WA 98424, TEL (253)922-2310

TAL BUF = Eurofins Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600

TAL SPK = Eurofins Spokane, 11922 East 1st Ave, Spokane, WA 99206, TEL (509)924-9200

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TestAmerica Spokane

11922 E. 1st Ave.

Chain of Custody Record

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THE LEADER IN ENVIRONMENTAL TESTING

Spokane, WA 99206 phone 509,924 9200 fax	Regu	latory Pro	gram ⊑	lbw F	- NPDES		⊒ RCR			Other:											TestAm	erica l	abor	atorie	s. Inc.
Client Contact			ra Rodrigi			_			_		rlguez	,	Ir	Date							OC No:		au bor	010/10	0, 1110,
Valley Science and Engineering		509) 703-2		167		-	Con			ROG	ıı Brazı	•	_	Carrie						+	1	of	1	COCs	
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Preservation Used: 1=1ce, 2= HCl; 3=H2SO4; 4=HNO3; 5=	VaOH; 6≕ (Other			Carrier and the				100		green group	*										Street Section Section 1			Accessorous and a second
Possible Hazard Identification: Are any samples from a listed EPA Hazardous Waste? Please L Comments Section if the lab is to dispose of the sample.					in the	9	Samp	ile D	lispo	osal ((A fe	e may	be a	asse:	ssed	if sa	mple	es are	retai	ined	longer ti	han 1 m	nonth)		
☐ Non-Hazard ☐ Flammable ☐ Skin Irrilant	☐ Poison	8	Unkno	₩Ŋ				Retun	n to C	Dient		C] Disp	osal by	/ Lab			Arch	ive for		Mo	anths			
Special Instructions/QC Requirements & Comments -> C	OD is high	approxi	nately 200	,000 mg	/L, <-																				
Per quote 59001981-0 (exclude Total N we can do the math o	n that with	the reque	sted analy	sis on t	his CO	C)								j	71	1		ļ,	1	<u> </u>		1	00	6	:
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** eurofins | Environment Testing | America

Chain of Custody Record

11922 East 1st Åve Spokane, WA 99206 Phone: 509-924-9200 Fax: 509-924-9290

Eurofins Spokane

Client Information (Sub Contract Lab)	Sampler		Arrington, Randee E	andee E	Carrier Hacking NO(s).	0(%).	590-6971.1	
Dient Contact:	Phone:		E-Mail:	E-Mail:			Page:	
Shipping/Receiving			Randee.Arr	ington@et.eurofinsus.con	Washington		Page 1 of 1	
Company: Eurofins Environment Testing Northeast,			Accredit	Accreditations Required (See note): State - Washington; State Program - Washington	am - Washington		Job #: 590-18000-1	
Address: 10 Hazelwood Drive.	Due Date Requested: 7/25/2022			Analysi	Analysis Requested		유	S: M - Haxana
Grit: Amherst	TAT Requested (days):							N - None O - AsNaO2
State, Zip: NY, 14228-2298							D - Nitric Acid E - NaHSO4	P - Na2O4S Q - Na2SO3 R - Na2S2O3
Phone: 716-691-2600(Tel) 716-691-7991(Fax)	PO #:		(0	irisbie				S - H2SO4 T - TSP Dodecahydrate
Email:	.# OM					S.	I - Ice J - Di Water	V - MCAA W - DH 4-5
Project Name: SIA/2018230022-002-201	Project #: 59001988					tenistr	K - EDTA L - EDA	Y - Trizma Z - other (specify)
Site:	SSOW#:			_		01 001	Other:	
Sample Identification - Client ID (Lab ID)	Sample Date Time	Sample Type (C=comp, G=grab)	Matrix (w=water, S=solid, O=wasteioli, BT-Tissue, A=Air) H. Perform	enq_2,126\2,128		redmuM lstoT		Special Instructions/Note:
		Preserva	Preservation Code:			X		
Recovered Deicer (590-18000-1)	7/12/22 09:49	61	Water	×				
Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Northwest, LLC places the ownership of method, analyse & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratories not currently maintain accreditation in the State of Origin listed above for analysis/Rests/martx being analyzed, the samples must be shipped back to the Eurofins Environment Testing Northwest, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Environment Testing Northwest, LLC.	nent Testing Northwest, LLC plac analysis/tests/matrix being analy ention immediately. If all requeste	es the ownership of r zed, the samples mu od accreditations are	nethod, analyte & accr st be shipped back to t current to date, return t	editation compliance upon out st he Eurofins Environment Testing he signed Chain of Custody atte	bcontract laboratories. This Northwest, LLC laboratory sting to said complicance to	s sample shipment is or other instructions Eurofins Environme	forwarded under chain-c will be provided. Any ch: nt Testing Northwest, LL	of-custody. If the laborato anges to accreditation
Possible Hazard identification			S	Sample Disposal (A fee may be assessed if sampies are retained longer than 1 month)	nay be assessed if sa	impies are retai	ned longer than 1	nonth)
Unconfirmed				Return To Client	Disposal By Lab	ib An	Archive For	Months
Deliverable Requested: I, II, III, IV, Other (specify)	Primary Deliverable Rank: 2	ank: 2	S	Special Instructions/QC Requirements:	quirements:			
Empty Kit Relinquished by:	Date:		// / /me:		Method of	Method of Shipment:		
Relinquished by: 71/8/12 15:00	Date/Time:	7/13/22 ,	Man Carlo	Received by: UMULU	(Woll	Date/Time:	2/14/22 1000	Company
Relinquished by:	Date/Time:		Company	Received by:		Date/Time:		Сотрапу
Relinquished by:	Date/Time:		Company	Received by:		Date/Time:		Company
Custody Seals Intact: Custody Seal No.:				Cooler Temperature(s) °C and Other Remarks:	d Other Remarks:	井大	(Les	
								1,000/00/90

Eurofins Spokane

11922 East 1st Ave Spokane, WA 99206

Chain of Custody Record



🔆 eurofins

Environment Testing America

Phone: 509-924-9200 Fax: 509-924-9290																					
Client Information (Sub Contract Lab)	Sampler:				PM: ingtor	n, Ra	ındee	E					Carrie	r Trac	king	No(s):				COC No: 590-6968.1	
Client Information (Sub Contract Lab) Client Contact: Shipping/Receiving	Phone:			E-Mar Rar		Arrin	gton@	et.e	urofin	sus.c	om			of Original						Page: Page 1 of 1	
Company:		**************************************	<u> </u>		Acci	reditat	ions Re Nashii	quired	d (See r	note):				·····						Job #: 590-18000-1	
Eurofins Environment Testing Northwest, Address:	Due Date Request	eų.			Jia	116 - 1	r asııı	igioi	i, Ola		gran	1 440	231111	gron					-	Preservation Cod	P6'
5755 8th Street East, ,	7/25/2022								Α	naly	sis	Req	ues	ted		,		,		A - HCL	M - Hexane
City: Tacoma	TAT Requested (da	ays):								***										B - NaOH C - Zn Acetate	N - None O - AsNaO2
State, Zip:												İ								D - Nitric Acid E - NaHSO4	P - Na2O4S Q - Na2SO3 R - Na2S2O3
WA, 98424 Phone:	PO #:				1															F - MeOH G - Amchlor	S - H2SO4 T - TSP Dodecahydrate
253-922-2310(Tel) Email:	WO#:				-[2]															H - Ascorbic Acid I - Ice	U - Acetone V - MCAA
	Outlines #					(NS)						ļ	İ						ers	J - DI Water K - ECTA	W - pH 4-5 Y - Trizma
Project Name. SIA/2018230022-002-201	Project #. 59001988				[ڈِ[es or	000						ļ						containers	L - EDA	Z - other (specify)
Site:	S\$OW#:				amb.	Social	e												oj o	Other:	
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06/08/2021 **7/26**/2022

Login Sample Receipt Checklist

Client: Valley Science and Engineering Job Number: 590-18000-1

Login Number: 18000 List Source: Eurofins Spokane

List Number: 1

Creator: Vaughan, Madison 1

Creator: vaugnan, madison 1		
Question	Answer	Comment
Radioactivity wasn't checked or is = background as measured by a survey meter.</td <td>N/A</td> <td></td>	N/A	
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
s the Field Sampler's name present on COC?	False	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

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Login Sample Receipt Checklist

Client: Valley Science and Engineering Job Number: 590-18000-1

List Source: Eurofins Buffalo
List Number: 2
List Creation: 07/14/22 02:21 PM

Creator: Kolb, Chris M

uestion	Answer	Comment
adioactivity either was not measured or, if measured, is at or below ackground	True	
ne cooler's custody seal, if present, is intact.	True	
ne cooler or samples do not appear to have been compromised or mpered with.	True	
amples were received on ice.	True	
ooler Temperature is acceptable.	True	
ooler Temperature is recorded.	True	3.7 ir gun #1 ice
OC is present.	True	
OC is filled out in ink and legible.	True	
OC is filled out with all pertinent information.	True	
the Field Sampler's name present on COC?	True	
nere are no discrepancies between the sample IDs on the containers and e COC.	True	
amples are received within Holding Time (Excluding tests with immediate Ts)	True	
ample containers have legible labels.	True	
ontainers are not broken or leaking.	True	
ample collection date/times are provided.	True	
opropriate sample containers are used.	True	
ample bottles are completely filled.	True	
ample Preservation Verified	True	
nere is sufficient vol. for all requested analyses, incl. any requested S/MSDs	True	
OA sample vials do not have headspace or bubble is <6mm (1/4") in ameter.	True	
necessary, staff have been informed of any short hold time or quick TAT eeds	True	
ultiphasic samples are not present.	True	
amples do not require splitting or compositing.	True	
ampling Company provided.	True	
amples received within 48 hours of sampling.	True	
amples requiring field filtration have been filtered in the field.	True	

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Chlorine Residual checked.

True

Client: Valley Science and Engineering

Job Number: 590-18000-1

Login Number: 18000 List Source: Eurofins Seattle List Number: 3

List Creation: 07/14/22 04:53 PM

Creator: Presley, Kim A

oreator. I resiey, Milit A		
Question	Answer	Comment
Radioactivity wasn't checked or is = background as measured by a survey meter.</td <td>True</td> <td></td>	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	IR9 0.8/0.4
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Eurofins Spokane

SAMPLE COLLECTION DATA

Sample ID	Stormwater-Containing Glycol
Date	9 7/26/2022
Time	0913
Project	SIA Land Treatment Site Monitoring
Sample Matrix	Liquid
Collection Method	Grab
Sample Location	Land Application Tank
Weather	SUNNY
Sampling Personuel	DMS

FIELD INSTRUMENTS

рН	Oakton pH/Con 10	
Conductivity	Oakton pH/Con 10	
Temperature	Oakton pH/Con 10	
Glycol	Misco Palm Abby 220 (SIA owned)	

PARAMETERS

A THE WIFE I DAY					
Time	pH su	Conductivity uS/cm	Temp °C	Glycol %	Comments
915	8.32	1822	28.2	16%BRIA	

GENERAL NOTES 16% BRIX

recovered deicer

Valley Science and Engineering

12720 E Nora Avenue, Suitc A | Spokane Valley, WA 99216 | (509) 921-0290 | FAX (509) 921-1788

/ / Instrument Calibration Form					
Date:			BIOL AM		
Personnel	DNS	Instrument	DAKTON	PC450	
i ersonner		Instrument _	041-1010	10/30	
Calibration	Reading After				
Standards Used	Calibration		Comments		
					
100					
7.0	7.00				
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	<u> </u>				
1001	10.04				
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1413					
11717					
Date:		Time:		- -	
		·	·		
Personnel		Instrument			
Calibration	Reading After				
Standards Used	Calibration		Comments		
Standards Used	Cambration		Comments		
Date:		Time:			
Personnel		Instrument			
				<u> </u>	
Calibration	Reading After				
Standards Used	Calibration		Comments		
	•				
-					

ANALYTICAL REPORT

Eurofins Spokane 11922 East 1st Ave Spokane, WA 99206 Tel: (509)924-9200

Laboratory Job ID: 590-18156-1

Client Project/Site: SIA/2018230022-002-201

For:

Valley Science and Engineering 12720 E Nora Ave Spokane, Washington 99216

Attn: Sara Rodriguez

tanduit trington

Authorized for release by: 8/7/2022 8:42:11 AM

Randee Arrington, Lab Director (509)924-9200

Randee.Arrington@et.eurofinsus.com

LINKS

Review your project results through

Have a Question?



Visit us at: www.eurofinsus.com/Env This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Client: Valley Science and Engineering Project/Site: SIA/2018230022-002-201

Laboratory Job ID: 590-18156-1

Table of Contents

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Case Narrative	3
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Definitions	5
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QC Sample Results	7
Chronicle	8
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Method Summary	10
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Receint Checklists	13

Case Narrative

Client: Valley Science and Engineering Project/Site: SIA/2018230022-002-201

Job ID: 590-18156-1

Job ID: 590-18156-1

Laboratory: Eurofins Spokane

Narrative

Receipt

The sample was received on 7/26/2022 10:00 AM. Unless otherwise noted below, the sample arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 23.9° C.

Receipt Exceptions

The following sample was received at the laboratory outside the required temperature criteria: Recovered Deicer (590-18156-1). The sample is considered acceptable since it was collected and submitted to the laboratory on the same day and there is evidence that the chilling process has begun.

GC Semi VOA

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

General Chemistry

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

Sample Summary

Client: Valley Science and Engineering Project/Site: SIA/2018230022-002-201

Job ID: 590-18156-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
590-18156-1	Recovered Deicer	Water	07/26/22 09:15	07/26/22 10:00

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Definitions/Glossary

Client: Valley Science and Engineering Project/Site: SIA/2018230022-002-201 Job ID: 590-18156-1

Glossary

Glossary	
Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)

MCL EPA recommended "Maximum Contaminant Level" MDA Minimum Detectable Activity (Radiochemistry) MDC Minimum Detectable Concentration (Radiochemistry) MDL Method Detection Limit

MLMinimum Level (Dioxin) Most Probable Number MPN MQL Method Quantitation Limit

NC Not Calculated

ND Not Detected at the reporting limit (or MDL or EDL if shown)

Negative / Absent NEG POS Positive / Present

PQL **Practical Quantitation Limit**

PRES Presumptive QC **Quality Control**

Relative Error Ratio (Radiochemistry) RER

RL Reporting Limit or Requested Limit (Radiochemistry)

RPD Relative Percent Difference, a measure of the relative difference between two points

TEF Toxicity Equivalent Factor (Dioxin) Toxicity Equivalent Quotient (Dioxin) TEQ

TNTC Too Numerous To Count

Client Sample Results

Client: Valley Science and Engineering Project/Site: SIA/2018230022-002-201

Lab Sample ID: 590-18156-1

Matrix: Water

Job ID: 590-18156-1

Client Sample ID: Recovered Deicer Date Collected: 07/26/22 09:15

Date Received: 07/26/22 10:00

Method: 300.0 - Anions, Ion (_	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	ND		20	5.7	mg/L			07/27/22 15:19	100
Nitrite as N	ND		20	6.9	mg/L			07/27/22 15:19	100
General Chemistry									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Kjeldahl Nitrogen	2.5		0.20	0.19	mg/L		08/01/22 11:58	08/02/22 17:03	1
Chemical Oxygen Demand	260000		20000	12000	mg/L		08/03/22 16:57	08/03/22 21:53	1

8/7/2022

Client: Valley Science and Engineering Project/Site: SIA/2018230022-002-201

Job ID: 590-18156-1

Method: 300.0 - Anions, Ion Chromatography

MB MB

Lab Sample ID: MB 590-37251/1003 Client Sample ID: Method Blank

Matrix: Water

Analysis Batch: 37251

Prep Type: Total/NA

Analyte Result Qualifier RL **MDL** Unit D Prepared Analyzed Dil Fac Nitrate as N ND 0.20 0.057 mg/L 07/27/22 13:25 Nitrite as N ND 0.20 0.069 mg/L 07/27/22 13:25

Client Sample ID: Lab Control Sample Lab Sample ID: LCS 590-37251/1004 Prep Type: Total/NA

Matrix: Water

Analysis Batch: 37251

	Spike	LCS	LCS				%Rec
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits
Nitrate as N	5.00	5.00		mg/L		100	90 - 110
Nitrite as N	5.00	5.06		mg/L		101	90 - 110

Method: 351.2 - Nitrogen, Total Kjeldahl

Lab Sample ID: MB 480-635681/1-A **Client Sample ID: Method Blank Matrix: Water** Prep Type: Total/NA

Analysis Batch: 635940

Prep Batch: 635681 MB MB

Result Qualifier RL **MDL** Unit Dil Fac Prepared Analyzed Total Kjeldahl Nitrogen 0.20 0.19 mg/L 08/01/22 11:58 08/02/22 13:06 ND

Lab Sample ID: LCS 480-635681/2-A **Client Sample ID: Lab Control Sample** Prep Type: Total/NA

Matrix: Water

Analysis Batch: 635940

Prep Batch: 635681

	Spike	LCS LCS				%Rec
Analyte	Added	Result Qualifie	r Unit	D	%Rec	Limits
Total Kjeldahl Nitrogen	2.50	2.64	mg/L		106	90 - 110

Method: SM 5220D - COD

Lab Sample ID: MB 580-399315/3-A **Client Sample ID: Method Blank** Prep Type: Total/NA

Matrix: Water

Analysis Batch: 399332

Prep Batch: 399315 MB MB

Analyte Result Qualifier RL **MDL** Unit Prepared Analyzed Dil Fac Chemical Oxygen Demand 10 5.9 08/03/22 16:57 08/03/22 21:53 ND mg/L

Lab Sample ID: LCS 580-399315/4-A **Client Sample ID: Lab Control Sample Matrix: Water**

Analysis Batch: 399332

Prep Type: Total/NA **Prep Batch: 399315**

Spike LCS LCS %Rec Added Analyte Result Qualifier Unit %Rec Limits Chemical Oxygen Demand 75.0 80 - 120 77.7 mg/L 104

Lab Sample ID: LCSD 580-399315/5-A Client Sample ID: Lab Control Sample Dup

Matrix: Water

Prep Type: Total/NA **Analysis Batch: 399332 Prep Batch: 399315** %Rec LCSD LCSD **RPD** Spike Added Result Qualifier Unit D %Rec Limits RPD Limit

75.0 72.7 80 - 120 Chemical Oxygen Demand mg/L 97

Lab Chronicle

Client: Valley Science and Engineering Project/Site: SIA/2018230022-002-201

Lab Sample ID: 590-18156-1

ab Sample ID. 330-10130-1

Matrix: Water

Job ID: 590-18156-1

Client Sample ID: Recovered Deicer

Date Collected: 07/26/22 09:15 Date Received: 07/26/22 10:00

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		100			37251	07/27/22 15:19	NMI	EETNW SP
Total/NA	Prep	351.2			25 mL	25 mL	635681	08/01/22 11:58	KM	EETNE BI
Total/NA	Analysis	351.2		1			635940	08/02/22 17:03	CLT	EETNE BI
Total/NA	Prep	SM 5220			0.001 mL	2 mL	399315	08/03/22 16:57	MLT	EETNW S
Total/NA	Analysis	SM 5220D		1	0.001 mL	2 mL	399332	08/03/22 21:53	MLT	EETNW S

Laboratory References:

EETNE BUF = Eurofins Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600

EETNW SEA = Eurofins Seattle, 5755 8th Street East, Tacoma, WA 98424, TEL (253)922-2310

EETNW SPK = Eurofins Spokane, 11922 East 1st Ave, Spokane, WA 99206, TEL (509)924-9200

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Accreditation/Certification Summary

Client: Valley Science and Engineering Project/Site: SIA/2018230022-002-201

Job ID: 590-18156-1

Laboratory: Eurofins Spokane

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date	
Washington	State	C569	01-06-23	

Laboratory: Eurofins Buffalo

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Washington	State	C784	02-10-23

Laboratory: Eurofins Seattle

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Washington	State	C788	07-13-22 *

Eurofins Spokane

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 $^{{}^{\}star}\operatorname{Accreditation/Certification\ renewal\ pending\ -\ accreditation/certification\ considered\ valid}.$

Method Summary

Client: Valley Science and Engineering Project/Site: SIA/2018230022-002-201

Job ID: 590-18156-1

Method	Method Description	Protocol	Laboratory
300.0	Anions, Ion Chromatography	MCAWW	EETNW SPK
351.2	Nitrogen, Total Kjeldahl	MCAWW	EETNE BUF
SM 5220D	COD	SM	EETNW SEA
351.2	Nitrogen, Total Kjeldahl	MCAWW	EETNE BUF
SM 5220	COD	SM	EETNW SEA

Protocol References:

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

Laboratory References:

EETNE BUF = Eurofins Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600 EETNW SEA = Eurofins Seattle, 5755 8th Street East, Tacoma, WA 98424, TEL (253)922-2310 EETNW SPK = Eurofins Spokane, 11922 East 1st Ave, Spokane, WA 99206, TEL (509)924-9200

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TestAmerica Spokane

11922 E 1st Ave.

Spokane, WA 99206

Chain of Custody Record

TestAm	nerica

THE	LEADER	EN E	ENVIR	DNMFN	TAl	TESTING	

phone 509.924.9200 fax Regulatory Program []DW NPDES RCRA ✓ Other TestAmerica Laboratories, Inc. Client Contact Project Manager Sara Rodriquez 7-26 COC No: Site Contact: Sara Rodriguez Date: 2022 Valley Science and Engineering Tel/Fax: (509) 703-2679 Lab Contact: RANDY Carrler COCs 12720 E Nora Ave Ste A **Analysis Turnaround Time** Sampler Spokane, WA 99216 CALENDAR DAYS WORKING DAYS For Lab Use Only (509) 921-0290 Phone TAT if different from Below 5+andoro Walk-in Client: (509) 921 1788 FAX 2 weeks Lab Sampling: Spokane Airport i week 圣 Spokane Washington 2 days Job / SDG No. PN 2018230022-002-201 1 day Sample Туре Sample Sample # of (C≃Comp, Sample Identification Date Tlme G=Grab) Matrix Cont. Sample Specific Notes: Х G H₂O Х X Recovered Deicer 3 590-18156 Chain of Custody Preservation Used: 1= Ice, 2= HCl, 3= H2SO4, 4=HNO3, 5=NaOH, 6= Other Possible Hazard Identification Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample. Non-Hazard Flammable Skin Irritant Polson B Unknown Return to Client Disposal by Lab Archive for___ Months Special instructions/QC Requirements & Comments -> COD is high approximately 200,000 mg/L. <-Per quote 59001981-0 (exclude Total N we can do the math on that with the requested analysis on this COC) Custody Seals Intact: Cooler Temp. (°C): Obs'd: 73.4 Custody Seal No. Corr'd. 23/3 Yes Mo No Therm ID No. 72006 Company Gastado Farth Date/Time: Received by Company Date/Time: 9/26/22 EXA Spoked 7126124 1000 Relinguished by Company^{*} Date/Time: Received by Company Date/Time: Relinquished by Company Date/Time: Received in Laboratory by: Date/Time: Company²

Eurofins Spokane

11922 East 1st Ave Spokane, WA 99206

Chain of Custody Record



🕸 eurofins

Environment Testing America

Phone: 509-924-9200 Fax: 509-924-9290																						
Client Information (Sub Contract Lab)	Sampler:				ab PN Arring		Rand	iee E					Ca	rrier Tr	acking	No(s)				COC No: 590-7013.1		
Client Contact: Shipping/Receiving	Prione:										us.com	1		te of O						Page: Page 1 of 1		
Company: Eurofins Environment Testing Northwest,									uired (5 gton;		te): Progr	am -	Wast	ningto	n					Job #: 590-18156-1		
Address:	Due Date Request	ed:					**********			Α		- D		-4						Preservation Cod		
5755 8th Street East, , City:	8/8/2022 TAT Requested (d	ave).			-	W 160		T		A	alysi	SK	eque	Stec	1				150500	A - HCL	M - Hexane N - None	
Tacoma	Transcribe (a	~,·,·											ļ				.			B - NaOH C - Zn Acetate	O - AsNaO2	
State, Zip: WA, 98424																				D - Nitric Acid E - NaHSO4 F - MeOH	P - Na2O4S Q - Na2SO3 R - Na2S2O3	
Phone: 253-922-2310(Tel)	P0 #:																			G - Amichlor H - Ascorbic Acid	S - H2SO4 T - TSP Dodecahy	ydrale
Email:	WO #:					No)												711	300	1 - Ice J - Di Water	U - Acetone V - MCAA W - pH 4-5	
Project Name:	Project # 59001988				78	ةِ إِذَ												-	containers	K · EDTA L - EDA	Y - Trizma Z - other (specify)	
SIA/2018230022-002-201 Site:	SSOW#:					عُ اعْ عُ اعْ	8	ļ										The state of	ii o	Other:	Z - b(ner (specify)	
unut						SD	de				İ								5	Striet.		
Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C≃comp, G≃grab)			Perform MS/MSD (Yes or No)	5220D/5220C_prep												Total Number	Special Ins	structions/Note	e:
	_><	\sim	Preserva	tion Code) <u> </u>	Ψ													X			nt response
Recovered Deicer (590-18156-1)	7/26/22	09:15 Pacific	ĺ	Water			Х					İ						1709	1			
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Note: Since laboratory accreditations are subject to change, Eurofins Environment does not currently maintain accreditation in the State of Origin listed above for analysis.																						
status should be brought to Eurofins Environment Testing Northwest, LLC attention	immediately. If all r	equested accr	editations are o	current to da	te, reti	urn the	e signe	ed Cha	in of C	ustody	attestin	g to s	aid con	nplican	ce to l	Eurofin	s Envir	ronme	ent T	esting Northwest, LLC	ž.	
Possible Hazard Identification						Sa	mple	Disp	osal	(Afe	e may	/ be	asses	sed	f sai	mples	are	reta	inec	d longer than 1 n	nonth)	
Unconfirmed						10	\square_{Ri}	eturn	To C	lient			Dispo	sal B	y Lat	ь		\supseteq_{Ar}	rchiv	ve For	Months	
Deliverable Requested: I, II, III, IV, Other (specify)	Primary Delivera	ble Rank: 2				Spe	ecial I	İnstru	ictions	s/QC	Requi	reme	nts:									
Empty/Kit/Relinquished by:		Date:			Ti	ime:								Metho	d of S	hipme	nt:					
Relinguisfied by:	000000000000000000000000000000000000000	2 13:	<u>ာ</u> မ	Company	5 PA	K	Recei	vedby	1		^					Date/T	me:	<u> </u>	-		Company	
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Relinquished by:	Date/Time:			Company			Recei	ved by	·:							Date/T	πe:				Company	
Custody Seals Intact: Custody Seal No.:							Coole	r Temp	peratur	e(s) ² (and Ot	her Re	marks 7 (1	3.0	,						

Login Sample Receipt Checklist

Client: Valley Science and Engineering

Job Number: 590-18156-1

Login Number: 18156 List Source: Eurofins Spokane

List Number: 1

Creator: Vaughan, Madison 1

Creator: Vaugnan, Madison 1		
Question	Answer	Comment
Radioactivity wasn't checked or is = background as measured by a survey meter.</td <td>N/A</td> <td></td>	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	False	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

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Login Sample Receipt Checklist

Client: Valley Science and Engineering

Job Number: 590-18156-1

List Source: Eurofins Buffalo
List Number: 2
List Creation: 07/29/22 02:18 PM

Creator: Yeager, Brian A

Creator. reager, Briair A		
Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background	True	
Γhe cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or ampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	2.5 ICE
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
s the Field Sampler's name present on COC?	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time (Excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
f necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Sampling Company provided.	True	
Samples received within 48 hours of sampling.	True	
Samples requiring field filtration have been filtered in the field.	True	
Chlorine Residual checked.	True	

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Client: Valley Science and Engineering

Job Number: 590-18156-1

List Source: Eurofins Seattle
List Number: 3
List Creation: 07/29/22 05:07 PM

Creator: Smith, Darla J

oreator. Omitin, Baria o		
Question	Answer	Comment
Radioactivity wasn't checked or is = background as measured by a survey meter.</td <td>N/A</td> <td></td>	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	A3 3.5/3.4c
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Eurofins Spokane

Appendix B.

Stormwater-Containing Glycol Land Application Log – 2022

Appendix B1. Stormwater-Containing Glycol Land Application Log - 2022

				Glycol	Volume	Δnn	olication			Appli	ed ²	Theoretical Oxygen
Date	Tiı	ne	Driver Initials	Conc	Applied		Rate	Areas 1	Notes	Total	COD	Demand Applied ³
	Start	Stop	Illitials	%	gallons	gal/ac	lb COD/ac	Soil(s)		Nitrogen poun	l ıds	pounds
5/17/2022	0945	1005	DK	17.0	900	8	461	2A		0.15	4,053	15,300
5/17/2022	1200	1215	DK	19.0	900		394	2A		0.15	4,053	17,100
5/17/2022	1300	1325	DK	18.0	900		416	2A		0.15	4,053	16,200
6/1/2022	1300	1310	DK	18.0	200		416	2A		0.03	901	3,600
6/2/2022	0711	0726	DK	20.0	900		375	2B		0.15	4,053	18,000
6/2/2022	0811	0826	DK	22.0	900		341	1		0.15	4,053	19,800
6/2/2022	0911	0925	DK	20.0	900		375	2A		0.15	4,053	18,000
6/2/2022	1009	1024	DK	20.0	900		375	2A		0.15	4,053	18,000
6/2/2022	1232	1247	DK	22.0	900		341	1		0.15	4,053	19,800
6/3/2022	0614	0632	DK	22.0	900		341	2B		0.30	3,077	19,800
6/3/2022	0730	0735	DK	23.0	900		326	2B		0.30	3,077	20,700
6/3/2022	0816	0827	DK	25.0	900		300	2,3		0.30	3,077	22,500
6/3/2022	0942	0950	DK	23.0	900		326	2,3		0.30	3,077	20,700
6/3/2022	1027	1042	DK	22.0	900		341	2,3		0.30	3,077	19,800
6/3/2022	1145	1200	DK	23.0	900		326	2,3		0.30	3,077	20,700
6/6/2022	0650	0715	DK	22.0	400		341	2,3		0.13	1,368	8,800
6/6/2022	0832	0846	DK	18.0	900		416	2,3		0.30	3,077	16,200
6/6/2022	0942	0957	DK	18.0	900		416	1		0.30	3,077	16,200
6/6/2022	1039	1055	DK	17.0	900		461	1		0.30	3,077	15,300
6/7/2022	0555	0611	DK	19.0	900		394	1		0.30	3,077	17,100
6/7/2022	0815	0830	DK	18.0	900		416	1		0.30	3,077	16,200
6/7/2022	0940	0955	DK	18.0	900		416	1		0.30	3,077	16,200
6/7/2022	1111	1127	DK	18.0	900		416	1		0.30	3,077	16,200
6/8/2022	0800	0822	TR	12.2	900		625	2A		0.30	3,077	10,980
6/8/2022	0920	0942	TR	13.1	900		450	2A	Empty tank	0.30	3,077	11,790
6/8/2022	1125	1246	TR	18.0	900		416	2A	new tank	0.30	3,077	16,200
6/8/2022	1255	1320	TR	17.6	900			2A	windy	0.30	3,077	15,840
6/9/2022	0632	0646	DK	18.0	900		416	1		0.30	3,077	16,200
6/9/2022	0722	0740	DK	19.0	900		394	2B		0.30	3,077	17,100
6/9/2022	0824	0745	DK	17.0	900		461	2B		0.30	3,077	15,300
6/9/2022	1055	1111	DK	18.0	900		416	2B		0.30	3,077	16,200
6/9/2022	1155	1210	DK	16.0	900		468	2B		0.30	3,077	14,400

Appendix B1. Stormwater-Containing Glycol Land Application Log - 2022

				Glycol	Volume	Δnn	lication			Appli	ed ²	Theoretical Oxygen
Date	Tiı	me	Driver Initials	Conc	Applied		Rate	Areas 1	Notes	Total Nitrogen	COD	Demand Applied ³
	Start	Stop	22202025	%	gallons	gal/ac	lb COD/ac	Soil(s)		poun	ds	pounds
6/10/2022	0645	0700	DK	16.0	900		468	1		0.30	3,077	14,400
6/10/2022	0800	0818	DK	16.0	900		468	2B		0.30	3,077	14,400
6/14/2022	1132	1142	DK	15.0	900		500	2A-,1	rain/wind	0.24	1,801	13,500
6/15/2022	0709	0722	DK	14.0	900		535	1		0.24	1,801	12,600
6/15/2022	0810	0822	DK	15.0	900		500	1		0.24	1,801	13,500
6/15/2022	0911	0924	DK	15.0	900		500	1		0.24	1,801	13,500
6/15/2022	1057	1111	DK	15.0	900		500	1		0.24	1,801	13,500
6/15/2022	1155	1204	DK	15.0	900		500	1		0.24	1,801	13,500
6/15/2022	1305	1316	DK	17.0	900		441	1	bak to front tank	0.24	1,801	15,300
6/16/2022	0706	0719	DK	17.0	900		441	2B		0.24	1,801	15,300
6/16/2022	0804	0816	DK	17.0	900		441	2B		0.24	1,801	15,300
6/16/2022	0857	0911	DK	16.0	900		468	2B		0.24	1,801	14,400
6/16/2022	1032	1044	DK	17.0	750		441	2B	end of fuel tank	0.20	1,501	12,750
6/16/2022	1158	1211	DK	25.0	900		300	2B,3	start of mod tank	0.24	1,801	22,500
6/17/2022	0617	0632	DK	23.0	900		623	2A		0.24	1,801	20,700
6/17/2022	0716	0742	DK	24.0	900		612	2A	clogged pump	0.24	1,801	21,600
6/17/2022	0825	0900	DK	252.0	900		300	2A	clogged pump	0.24	1,801	226,800
6/17/2022	1011	1032	DK	252.0	900		300	2A	clogged pump	0.24	1,801	226,800
6/20/2022	0609	0630	DK	25.0	900		300	2A	clogged pump	0.24	1,801	22,500
6/20/2022	0720	0745	DK	25.0	900		300	3,2B	clogged pump	0.24	1,801	22,500
6/20/2022	0825	0850	DK	25.0	900		300	3,2B	clogged pump	0.24	1,801	22,500
6/20/2022	0932	0950	DK	25.0	900		300	3,2B	clogged pump	0.24	1,801	22,500
6/20/2022	1050	1111	DK	24.0	900		312	2B		0.24	1,801	21,600
6/21/2022	0700	0722	DK	25.0	900		300	3	clogged pump	0.24	1,801	22,500
6/21/2022	0807	0830	DK	23.0	900		326	3	clogged pump	0.24	1,801	20,700
6/21/2022	0911	0932	DK	23.0	900		326	3,2B	clogged pump	0.24	1,801	20,700
6/21/2022	1019	1040	DK	25.0	900		300	2A	clogged pump	0.24	1,801	22,500
6/21/2022	1210	1232	DK	25.0	900		300	2A	clogged pump	0.24	1,801	22,500
6/22/2022	0745	0801	DK	24.0	900		312	2A		0.24	1,801	21,600
6/22/2022	0845	0900	DK	22.0	900		341	2A		0.24	1,801	19,800
6/22/2022	0955	1009	DK	22.0	900		341	2A		0.24	1,801	19,800
6/22/2022	1132	1146	DK	22.0	900		341	2A		0.24	1,801	19,800

Appendix B1. Stormwater-Containing Glycol Land Application Log - 2022

				Glycol	Volume	Δnn	olication	_		Appli	ed ²	Theoretical Oxygen
Date	Tiı	me	Driver	Conc	Applied		Rate	Areas 1	Notes	Total	COD	Demand Applied ³
	C4 4	C4	Initials	0/		1/	II. COD/	C-3(-)		Nitrogen		
6/02/2022	Start	Stop	DII	%	gallons	gai/ac	lb COD/ac	Soil(s)		poun		pounds
6/23/2022	0635	0650	DK	22.0	900		341	2A		0.24	1,801	19,800
6/23/2022	0732	0746	DK	23.0	900		326	1,2		0.24	1,801	20,700
6/23/2022	0825	0839	DK	23.0	900		326	1,2A		0.24	1,801	20,700
6/23/2022	0922	0935	DK	22.0	900		341	1		0.24	1,801	19,800
6/23/2022	1015	1027	DK	25.0	900		300	1		0.24	1,801	22,500
6/23/2022	1111	1124	DK	23.0	900		326	1		0.24	1,801	20,700
6/24/2022	0642	0655	DK	22.0	900		341	1		0.24	1,801	19,800
6/24/2022	0745	0800	DK	22.0	900		341	2B		0.24	1,801	19,800
6/24/2022	0840	0852	DK	23.0	900		326	2B		0.24	1,801	20,700
6/24/2022	1032	1045	DK	23.0	900		326	2B		0.24	1,801	20,700
6/24/2022	1111	1122	DK	22.0	900		341	2B		0.24	1,801	19,800
6/24/2022	1204	1215	DK	22.0	900		341	2B,3		0.24	1,801	19,800
6/27/2022	0642	0655	DK	21.0	900		357	2B		0.24	1,801	18,900
6/27/2022	0740	0753	DK	19.0	900		394	2B		0.24	1,801	17,100
6/27/2022	0235	0846	DK	20.0	900		375	2A		0.24	1,801	18,000
6/27/2022	0932	0943	DK	22.0	900		341	2A		0.24	1,801	19,800
6/27/2022	1059	1111	DK	22.0	900		341	2B		0.24	1,801	19,800
6/27/2022	1152	1203	DK	20.0	900		375	3		0.24	1,801	18,000
6/28/2022	0745	0756	DK	20.0	900		375	1,2		0.10	2,852	18,000
6/28/2022	0845	0857	DK	22.0	900		341	1		0.10	2,852	19,800
6/28/2022	1038	1050	DK	22.0	900		341	1		0.10	2,852	19,800
6/28/2022	1135	1146	DK	24.0	900		312	3,1,2A,2B		0.10	2,852	21,600
6/29/2022	0632	0645	DK	21.0	900		357	2B,1		0.10	2,852	18,900
6/29/2022	0725	0737	DK	20.0	900		375	1		0.10	2,852	18,000
6/29/2022	0825	0836	DK	19.0	900		394	1		0.10	2,852	17,100
6/29/2022	1111	1122	DK	19.0	900		394	1,2B		0.10	2,852	17,100
6/29/2022	0106	1219	DK	24.0	900		312	2B		0.10	2,852	21,600
6/30/2022	0632	0645	DK	21.0	900		357	2B		0.10	2,852	18,900
7/11/2022	0711	0722	DK	18.0	950	416		2A		0.11	3,011	17,100
7/11/2022	0809	0821	DK	18.0	900	416		2A		0.10	2,852	16,200
7/11/2022	0945	0957	DK	18.0	900	416		2A		0.10	2,852	16,200
7/11/2022	1044	1055	DK	18.0	900	416		2A		0.10	2,852	16,200
7/11/2022	1145	1157	DK	20.0	900	375		2A		0.10	2,852	18,000

Appendix B1. Stormwater-Containing Glycol Land Application Log - 2022

				Glycol	Volume	Δnn	lication			Appli	ed ²	Theoretical Oxygen
Date	Tiı	me	Driver Initials	Conc	Applied		Rate	Areas 1	Notes	Total	COD	Demand Applied ³
	Start	Stop	initials	%	gallons	gal/ac	lb COD/ac	Soil(s)		Nitrogen poun	ds	pounds
7/12/2022	0632	0644	DK	19.0	900	394	IN CODINC	2A		0.10	2,852	17,100
7/12/2022	0732	0742	DK	19.0	900	394		2A		0.10	2,852	17,100
7/12/2022	0824	0835	DK	18.0	900	416		2A		0.10	2,852	16,200
7/12/2022	1044	1055	DK	18.0	900	416		2A		0.10	2,852	16,200
7/12/2022	1140	1151	DK	19.0	900	394		2A		0.10	2,852	17,100
7/13/2022	0632	0642	DK	20.0	900	375		2A,1		0.10	2,852	18,000
7/13/2022	0750	0801	DK	19.0	900	394		2A,1		0.10	2,852	17,100
7/13/2022	1111	1122	DK	18.0	900	416		2A,1		0.10	2,852	16,200
7/14/2022	0648	0720	DK	17.0	900	441		2A,1		0.10	2,852	15,300
7/14/2022	0742	0754	DK	17.0	900	441		2A,1		0.10	2,852	15,300
7/14/2022	1045	1056	DK	17.0	900	441		2A,1		0.10	2,852	15,300
7/14/2022	1145	1156	DK	17.0	900	441		2A,1		0.10	2,852	15,300
7/15/2022	0627	0639	DK	19.0	900	394		2A,1		0.10	2,852	17,100
7/15/2022	0724	0755	DK	17.0	900	441		2A,1	Lightening CLOSE!	0.10	2,852	15,300
7/15/2022	0911	0922	DK	17.0	900	441		1		0.10	2,852	15,300
7/15/2022	1011	1024	DK	18.0	900	416		1		0.10	2,852	16,200
7/15/2022	1111	1127	DK	17.0	900	441		1		0.10	2,852	15,300
7/18/2022	0709	0721	DK	18.0	900	416		1		0.10	2,852	16,200
7/18/2022	0805	0816	DK	18.0	900	416		1		0.10	2,852	16,200
7/18/2022	0900	0911	DK	18.0	900	416		1		0.10	2,852	16,200
7/18/2022	0955	1007	DK	17.0	900	441		1		0.10	2,852	15,300
7/18/2022	1132	1144	DK	19.0	900	394		1		0.10	2,852	17,100
7/18/2022	1229	1235	DK	18.0	900	416		1		0.10	2,852	16,200
7/19/2022	0700	0711	DK	17.0	900	441		2B		0.10	2,852	15,300
7/19/2022	0755	0807	DK	17.0	900	441		2B		0.10	2,852	15,300
7/19/2022	0911	0924	DK	17.0	900	441		2B		0.10	2,852	15,300
7/19/2022	1000	1011	DK	17.0	900	441		2B,3		0.10	2,852	15,300
7/19/2022	1221	1232	DK	17.0	900	441		3		0.10	2,852	15,300
7/20/2022	0732	0742	DK	16.0	900	468		3		0.10	2,852	14,400
7/20/2022	0900	0911	DK	17.0	900	441		3		0.10	2,852	15,300
7/20/2022	0958	1010	DK	18.0	900	416		3		0.10	2,852	16,200
7/20/2022	1132	1143	DK	17.0	900	441		3		0.10	2,852	15,300

Appendix B1. Stormwater-Containing Glycol Land Application Log - 2022

				Glycol	Volume	Ann	olication			Appli	ed ²	Theoretical Oxygen
Date	Tiı	me	Driver	Conc	Applied		Rate	Areas 1	Notes	Total	COD	Demand Applied ³
	Start	Stop	Initials	%	gallons	gal/ac	lb COD/ac	Soil(s)		Nitrogen poun	ds	pounds
7/21/2022	0642	0653	DK	18.0	900	416	IN CODINE	3		0.10	2,852	16,200
7/21/2022	0721	0732	DK	17.0	900	441		3		0.10	2,852	15,300
7/21/2022	0809	0821	DK	17.0	900	441		3		0.10	2,852	15,300
7/21/2022	0900	0911	DK	17.0	900	441		2A		0.10	2,852	15,300
7/21/2022	1100	1111	DK	17.0	900	441		2A		0.10	2,852	15,300
7/21/2022	1157	1208	DK	19.0	900	394		2A		0.10	2,852	17,100
7/22/2022	0722	0732	DK	17.0	900	441		2A		0.10	2,852	15,300
7/22/2022	0817	0827	DK	16.0	900	468		2A		0.10	2,852	14,400
7/22/2022	0911	0922	DK	17.0	900	441		2A		0.10	2,852	15,300
7/25/2022	0632	0644	DK	16.0	900	468		1		0.10	2,852	14,400
7/25/2022	0732	0743	DK	16.0	900	468		1		0.10	2,852	14,400
7/25/2022	0822	0832	DK	17.0	900	441		1		0.10	2,852	15,300
7/25/2022	0911	0922	DK	17.0	900	441		1		0.10	2,852	15,300
7/25/2022	1111	1122	DK	16.0	900	468		1		0.10	2,852	14,400
7/25/2022	1209	1220	DK	15.0	900	500		2A,1		0.10	2,852	13,500
7/26/2022	0632	0643	DK	16.0	900	468		1		0.11	1,952	14,400
7/26/2022	0725	0732	DK	18.0	900	416		1		0.11	1,952	16,200
7/26/2022	0816	0827	DK	17.0	900	441		1		0.11	1,952	15,300
7/26/2022	1024	1035	DK	17.0	900	441		1		0.11	1,952	15,300
7/26/2022	1111	1122	DK	17.0	900	441		1		0.11	1,952	15,300
7/26/2022	1210	1221	DK	17.0	900	441		1		0.11	1,952	15,300
7/27/2022	0711	0722	DK	18.0	900	416		2B		0.11	1,952	16,200
7/27/2022	0810	0821	DK	16.0	900	468		2B		0.11	1,952	14,400
7/27/2022	0900	0911	DK	17.0	900	441		2B		0.11	1,952	15,300
7/27/2022	1059	1111	DK	17.0	900	441		3		0.11	1,952	15,300
7/27/2022	1155	1206	DK	17.0	900	441		3		0.11	1,952	15,300
7/28/2022	0642	0653	DK	16.0	900	468		2B,3		0.11	1,952	14,400
7/28/2022	0732	0743	DK	16.0	900	468		2B		0.11	1,952	14,400
7/28/2022	0822	0823	DK	16.0	900	468		2B		0.11	1,952	14,400
7/28/2022	0819	0930	DK	17.0	900	441		2B,3		0.11	1,952	15,300
7/28/2022	1100	1111	DK	18.0	900	416		2B,3		0.11	1,952	16,200
7/28/2022	1155	1206	DK	17.0	900	441		2B,3		0.11	1,952	15,300

Appendix B1. Stormwater-Containing Glycol Land Application Log - 2022

				Glycol	Volume	Δnn	olication			Applie	ed ²	Theoretical Oxygen
Date	Tiı	me	Driver Initials	Conc	Applied		Rate	Areas 1	Notes	Total	COD	Demand Applied ³
	Start	Stop	Initials	%	gallons	gal/ac	lb COD/ac	Soil(s)		Nitrogen poun	ds	pounds
8/3/2022	0632	0643	DK	16.0	900	468		2B,3		0.11	1,952	14,400
8/3/2022	0721	0732	DK	17.0	900	441		1		0.11	1,952	15,300
8/3/2022	0816	0827	DK	17.0	900	441		1		0.11	1,952	15,300
8/3/2022	0911	0922	DK	17.0	900	441		1		0.11	1,952	15,300
8/3/2022	1111	1122	DK	17.0	900	441		1		0.11	1,952	15,300
8/3/2022	1226	1237	DK	17.0	900	441		1		0.11	1,952	15,300
8/4/2022	0732	0744	DK	16.0	900	468		1		0.11	1,952	14,400
8/4/2022	0827	0838	DK	17.0	900	441		1,2A		0.11	1,952	15,300
8/4/2022	1154	1205	DK	17.0	900	441		2A		0.11	1,952	15,300
8/5/2022	0700	0711	DK	16.0	900	468		2A		0.11	1,952	14,400
8/5/2022	0754	0805	DK	16.0	900	468		2A		0.11	1,952	14,400
8/5/2022	0900	0911	DK	16.0	900	468		2A		0.11	1,952	14,400
8/5/2022	0930	1001	DK	18.0	900	416		2A		0.11	1,952	16,200
8/5/2022	1111	1122	DK	18.0	900	416		2A		0.11	1,952	16,200
8/5/2022	1204	1215	DK	18.0	900	416		2A		0.11	1,952	16,200
8/8/2022	0711	0723	DK	16.0	900	468		2B,3		0.11	1,952	14,400
8/8/2022	0807	0818	DK	16.0	900	468		2B,3		0.11	1,952	14,400
8/8/2022	0900	0911	DK	17.0	900	441		2B,3		0.11	1,952	15,300
8/8/2022	0953	1005	DK	17.0	900	441		2B,3		0.11	1,952	15,300
8/8/2022	1111	1122	DK	17.0	900	441		2B,3		0.11	1,952	15,300
8/8/2022	1206	1216	DK	19.0	900	394		2B,3		0.11	1,952	17,100
8/9/2022	0642	0654	DK	17.0	900	441		2B		0.11	1,952	15,300
8/9/2022	0732	0742	DK	16.0	900	468		2B,3		0.11	1,952	14,400
8/9/2022	0822	0833	DK	17.0	900	441		2B		0.11	1,952	15,300
8/9/2022	0922	0933	DK	17.0	900	441		2B		0.11	1,952	15,300
8/9/2022	1100	1111	DK	17.0	900	441		2B		0.11	1,952	15,300
8/9/2022	1156	1206	DK	17.0	900	441		2B,3		0.11	1,952	15,300
8/9/2022	1423	1422	DK	17.0	700	441		2B		0.09	1,518	11,900

NOTES:

Abbreviations: COD = chemical oxygen demand, Conc = concentration, gal/ac = gallons per acre, lb COD/ac = pounds chemical oxygen demand per acre.

Valley - Spokane Valley, WA

¹ Area 2 is identified as 2A (north section) and 2B (south section).

² Calculated as most recent concentration (milligrams per liter) × million gallons stormwater-containing glycol applied × 8.34 pounds per million gallons.

³ Calculated as volume applied \times glycol concentration.

- Instructions: 1. Measure and record the glycol concentration, total volume applied, application rates.
 - 2. Report total acreage covered, date, and time.
 - 3. Record conditions, any problems, solutions, observations
 - 4. Complete this form and return to the airport each week, even if no operation occurred.
 - 5. Email the completed form to mattb@spokaneairports.net

Date	Time Started	Time Stopped	Driver	Glycol Concentration	Volume Applied	Applica	tion Rate	Area		Conditions/Notes 1	
1.55		типо эторром	Initials	%	gallons	gal/acre	lb COD/acre	acres		Conditions/Autes	A STATE OF THE PARTY OF THE PAR
7 may	9145	10108	Ac	17	900	4/ //	441	AS			
1	12:00	12:15	1	19	900	7-1 71	394	2A			
1	13	13:25	V	18	900			8Å			
JUN	13	13:10	XXXXXX	18	300	12.	416	QA			
JUN	7311	7726	THE .	20	G-0 0	,	375	aB			
1-	RIM	8:26	OFF.	22	900	702/	341				
	7'11	10:24	X	20	900		375	24			
		10.24	×	20	900		375	27			
1	12:32	12:47	×	22	900		341	1.			
JUN 8	6:14	6:32	XXXXX	22	900		376 341 326 326 326 341 341 416	23			
1	6:14	7:35	1 NK	2000 2000 2000 2000 2000 2000 2000 200	900		326	23			
	8516	8127	THE	25	900		300	5-3			
	9:42	9:56	De	2.3	900		326	2-3			
	10:27	10:40	SEX	33	900		341	2.3			
1	M:45	12:00	THE .	23	400		376	2.3			
MULO	6:50	13:15	K	33	400		341	2.3			
1	8:32	8146	X	18	900		416	2.3			
	91167	9:57	XX	18	900		416	1			
L	0:39 5:55 8:15	10:55	Dec.	17	900		461)			
MULT	5:55	6:11	×	19	900		394	1			
	8115	8130	×	18	900		tic	1			
	9:40	9:55	XX	18	900		416			-	
-10	MEM	11021	X		900	416					
02m	6 600	9:55	***	122	9.00	1.798		SIA		,	
-	0920	0942	25	13-1	900	650		2 (A	Emptos	Tank	
	1125	12406	th	196	900	LIL		2 A	New To	shk	
	1255		11	17.6	9.00			24	windy	1	
JSUN	12.55	6:46	X	18	900	416		1-	1		
1 0 2 1	6.33	7:40	X	19	900	394		23			
	8:24	7545	8X	1 1 /	900	461		23		Automorphic Control of the Control o	
	10:55	11'-11	X	18	900	416		2B 2B			
Total			1	TWY STUD	0	lavi e		S. Y			1

^{1.} Description of weather, site conditions, problems, results of application, runoff, or other observations related to the sites, water quality, and deicer land application.

Table 14. Recovered Deicer Land Application Reporting Form - Daily Log

Instructions: 1. Measure and record the glycol concentration, total volume applied, application rates.

2. Report total acreage covered, date, and time.

3. Record conditions, any problems, solutions, observations

4. Complete this form and return to the airport each week, even if no operation occurred.

5. Email the completed form to mattb@spokaneairports.net

Date	Time Started	Time Stopped	Driver	Glycol Concentration	Volume Applied	Applica	tion Rate	Area	Conditions/Notes
			Initials	%	gallons	gal/acre	lb COD/acre	acres	Conditions/Artics
SUN	11:55	12:10	X	16.	901		468	23	
0 JUN	6:45	7:00	X	16	900		468	1	The state of the s
	9:00	8:18	×	16	900		468	28	V
13 Del 1	< "				900				RAMED : SM
- Jun	11/32	11:42	*XXXX	15	000		500	2A-7	RAIN DUND
15 JUN	7:09	7:22	XX	14	900		535	.1	The state of the s
	8:10	8:32	X	16	900		500		
,	9-11	9:24	XX	15	900		500		1
	10:57	11:11	DR	15	900		500		79
	11-55	12:04		15	900		500		
	1:05	1:16	X	17	900		441		BACK TO FRONT TANK
6 200	7.0	7:19	YK.	. 17	900		441	28 28 28	
	8:57	8:16	XK	17	900		441	DB.	
	8:57	9:11	SK		900		468	28	
	16533	1-044	XX	167	750		441	28	END OF FUEL TANK
	11:58	12:11	SK	25	900		300	28-3	START OF MOD TANK
7 JUN	6:17	6:32	×	23	900		326	3A 3A 2A	
	8:25	7:42	1	24	900		313	2A	CLOGGED PUMP
	8:25	9:00	X	75	900		200	AG	N ,
	10:11	105.33	X	25	900		300	2A	1.
OSUN	6-09	6:30	DK.	25	900		300	2A	
	7:20	7545	SIE	7.5	900		300	3-28	
	2-25	8:50	15K	25	900		300	3-28	11
	9:32	9.40	786	25	900		330	3-50	11
	10:50	4-17	XXXXX	24	900		312	_3B _	ν.
MULIC	7:00	7:22		25	388	W15.77.79.4	300	3	CLOGGED PUMP
	8:09	8:30	X	33			3.26		
	9-11	9:32	12	23	900		3345	3-2B	11
	IDCIT	10:40	A	25	706 900	7000	300	THE	<i>,</i> ,
	12:18	8:30 9:32 10:40 12:32	X	7802	900		300	2A 2A	11
WISE	7 - 45	8:01	X	24	900		312	2A	
Total			, K.	1,330	0			A TAN	

^{1.} Description of weather, site conditions, problems, results of application, runoff, or other observations related to the sites, water quality, and deicer land application.

Cascade Earth Sciences - Spokane, WA
PN: 2013230011-001
Doc: 13-36 Deicer Land App Log_Year_ 2020, #1 (T14 Log)

Spokane International Airport Final Recovered Deicer Land Application Engineering Report April 30,22013

2. Report total acreage covered, date, and time.

3. Record conditions, any problems, solutions, observations

4. Complete this form and return to the airport each week, even if no operation occurred.

5. Email the completed form to mattb@spokaneairports.net

Date	Time Started	Time Stopped	Driver	Glycol Concentration	Volume Applied	Applica	ition Rate	Area		Conditions/Notes	
			Initials	%	gallons	gal/acre	lb COD/acre	acres		Conditions/Notes	
12 JUN	\$145	9:00	×	22	900		341	8A			Magnett day
	81.)0	11209	X	23 23 33	900		341	2A 2A		-	
	11:32	11:46	X	22	900		347	DA			
233011	6.35	6:50	X	22	900		34n 326 336 341	1-29			-
	7:37	7-46	XXX	23	900		326	1-29	1		
	8:25	8:39)X	23	900		326	1-2A			
	9:22	9:35	5%	22	980		341	1			
	10=15	10:37	THE STATE OF THE S	36	900		300 336 341 341	1			. ,
	1):(1	11-24	KKKK	23 23 23	900		326	1			. 7
4 JUN	6:42	8130	×	23	900		341	1			•
	7345	8:00	X	25	900		341	3B			
	8540	8:52	- PX	23	900		296	ar			
	10:32	10:45	X	23	900		326	AB AB			
	11:11	11:22	×	25	900		341	DR I			
	12:04	12:15	X	25	900		341	28-3			
MULTS	6:42 7:40 8:35	6:55	XXXX	2(900		341 357 394 375	28 22 24 22 23 24 23 23 24 23 23 24 23 23 24 23 23 24 23 24 24 24 24 24 24 24 24 24 24 24 24 24			
	7:40	7153	X	19	900		394	28			
	8:35	8:46	X	20	900		375	JA		×	
4/47.573	9:32	9:43	XXXX	35	900	V MARY	341	2A		.7	
	10359	11:11	J.	22	700		341 375 375	28		(
	7:52	12:03	K.	20	900		375	3		The state of the s	T
2824	2:45	7:56	NO.		900		375	51-2			
0.77	X . 114	8.27	DE	27	900		341	1.			
	10:38	10:50	fx tx	73	900		341	1			
	11:35	11:46	K	24	900		312	3-1-DAB		party states participants and	
19 SU	6:35	6245	DK	21	900		357	2B-1		T.	
	7:25	1:15/	- CX	20	900		375	1			
	8:25	8136	X	19	900		394	1 0		,	
	11.11	11:53	JK.	19	900		341 341 257 357 375 394 394	1-28			
	12:06	12:19	KNRKK	19 84	900		312	1-28			
30 70	6.30	(p: 45	DK	21	900		357			AT A T A T T T T T T T T T T T T T T T	
Total		20, Rain all day			0				T. 18 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		(). "

1. Description of weather, site conditions, problems, results of application, runoff, or other observations related to the sites, water quality, and deicer land application.

Cascade Earth Sciences - Spokane, WA PN: 2013230011-001 Doc: 13-36 Deicer Land App Log_Year_ 2020, #1 (T14 Log)

- Instructions: 1. Measure and record the glycol concentration, total volume applied, application rates.
 - 2. Report total acreage covered, date, and time.
 - 3. Record conditions, any problems, solutions, observations
 - 4. Complete this form and return to the airport each week, even if no operation occurred.
 - 5. Email the completed form to mattb@spokaneairports.net

Date	Time Started	Time Stopped	Driver	Glycol Concentration	Volume Applied	Applica	tion Rate	Area	Conditions/Notes 1
			Initials	%	gallons	gal/acre	lb COD/acre	acres	Conditions/Notes
JUL	7:11	7:22	X	18	950	416		24	
	8:09	8:21	X	18	900	416		DA	
14	9:45	9:57	X	18	700	4/6		24	
- 1	10:44	10:55	X	18	700	375		2A	
	11-45	11:57	X	20	900	375		2A	1
7007	6:32	6:144	35	19	900	394		2A	
- 3	7:32	7:42	X	19	900	394		20	
	8:24,	8:35	X	8	900	416	1	2A 2A	-
	1P:44	10-55	X	18	700	416		2A	J. F.V. A
		11.51	146	19	900	394	1.4	RA,	
705	6:35	6:42	TH	19	701	375		2A-1	74
	750	8:01	X		100	394		2A-1	
FJUL		11:39	13	18	900	416		2A-1	
1001-	6:48	7:00	N.	1	900	441		2A-1	
-	75.42	7:54	X	16	900	441		24-1	
	10:45	10:56	X	1	900	441	- A	24-1	
	11:45	11:5/	- UT	16		741		2A-	
مال	2.31	7:55	For	17	900	394		2A-1	SURFACE TO GROWN LIGHTONING CLC
1145		0.70	0	14	700	441	-	2671	TOPLACE IN CHOMB ELGUIDAR OF CER
		10-51	47	16	700	416	-	+	
200	(6:1)	10:37	**	18	900	441		1	
SUL	709	7-21		8	-900			1,	
COL	8:05		M	7 700	900	416		1	18 Th.
	8:05	8-16	*	18	900	416		1	
	DEXX	16-107		19	900	441			
-		11:44	EV.	19	900	3 94		, 1	
	(3.39	12:35	XX	14	900	394		1	
9500	7:00	7711	W	17	900	441		2-B	
1 mil A mon	7:55	8:07	X	17	900				
	4:11	9.24	XX	15	900	441		3.B	
Total					0				
mmontes	No spray on 6 May	20 Rain all day							

^{1.} Description of weather, site conditions, problems, results of application, runoff, or other observations related to the sites, water quality, and deicer land application.

Cascade Earth Sciences - Spokane, WA

Table 14. Recovered Deicer Land Application Reporting Form - Daily Log

Instructions: 1. Measure and record the glycol concentration, total volume applied, application rates.

2. Report total acreage covered, date, and time.

3. Record conditions, any problems, solutions, observations

4. Complete this form and return to the airport each week, even if no operation occurred.

5. Email the completed form to mattb@spokaneairports.net

Date	Time Started	Time Stopped	Driver	Glycol Concentration	Volume Applied	Applica	ation Rate	Area	Conditions/Notes 1
			Initials	%	gallons	gal/acre	Ib COD/acre	acres	Conditions/ Notes
1705b	12:21	10:11	X	17	900	441		28-3	
1	12:21	12:32	X	17	900	441			
20 806	7:32	7:42	X	16	900	468		3	
	9:00	9:11	XXX	17	900	441		33	
	9:58	10:10	X	18	900	441		3	
	11:32	11:4)		13	900	441		3	
1 JUL	6:42	6:53	X	1 60	900	416		3	
1 30	7:21	7.32	X	17"	980	Lyng 1		2	7 10 0 0
	7:21	8:21	X	15	100	441		3	
	9000	9:11	X	17	900			SA	The state of the s
	11:00	(1:14	1	15	900	441		ŽĂ Ā	
		12:08	XXX	19	900	294		ZA	
2 mr	11:57	7:32	SK	17	900	394		AG	
000	8:17	8:27	1	16	900	468		200	
	9:11	9:35	2	17	900	441		32	
5 304	6:32	6:44	**	14	900	468		oc.	
2 304	2.37	9:43	The state of the s	16	900	468			
	8:32	8:33	*	17	900	441		1	
	9:11	9:22	1	17	900	26.61		1	
	11:11	11:05		1//	900	441			
			XXXX	16	900	468		2A-1	
2/ 5.1	12:39	6:43	DE	150	200	500		Ø7T	
16 JUL	7. 25	6.43	1	18	900	468		4	
		3:32	R	18	900	416	-	-	
	0:10	8:37	PX	17	900	441	-	1,	***
	10:94	10:35	35	17	900	441		1	
	13:10		W	116	200	441			
-13.11	12:10	1221	8	17	900	441		00	
37 WL	7:11	7:20		18		468		2B	
	9510	8:21	AL	16	900	468		013	
	4:00	9:11	X	17	900	The		3 B	
	0:59	11:11	X	17	900	441		3	
Total		20, Rain all day			0				

^{1.} Description of weather, site conditions, problems, results of application, runoff, or other observations related to the sites, water quality, and deicer land application.

- Instructions:

 1. Measure and record the glycol concentration, total volume applied, application rates.

 2. Report total acreage covered, date, and time.

 3. Record conditions, any problems, solutions, observations

 4. Complete this form and return to the airport each week, even if no operation occurred.

 5. Email the completed form to mattb@spokareairports.net

Date	Time Started	Time Stopped	Driver Initials	Glycol Concentration	Volume Applied	Applica	tion Rate	Aren	Conditions/Notes 1
× 17 1	111	2000	- Initials	%	gallons	gal/acre	lb COD/acre	acres	Tions/Notes
27 JUL 28 JUL	6:42	6153	DE.	17	900	441	The state of the s	3	
28304	6:42	6:53	×	16	900	468		28-3	
	7:32	7343	X	+6	900	468	1	OB	
	8:33	8:23	K	16	900	uha	1	28-3	
1	9:19	9:30	X	17	200	468	130	28-3	
	11:00	1/:11	A.	18	900		300	28-3	
1	11.25	12:06	2	17	900	249	and the second	00 3	
3AVG	6:32	6:43	1×	16	900	416		28-3	
Juna	5.21	7:32		17	780	468		25.3	
	8:16	9:37	W	17	900	int			100
	8:11	9:22	7	17	900	441		1	
-	4211	11:22	2		700	441	1		
	H-1	12:37	XXXX		900	441		1	
	14.70	7-13	-	17		441	Dette in	1	
AUG	7:33	7:44	×	16	900	468		14	
1	6 2	8138		8 17	900	441		1-2A	
+11	1334	12:05	SV	17	900	441			
AUG -	100	7:11	1X	16	900	468		2 A	
1	7-54	8:05		16	900	- 468		of the	
0	200	9-11	X	16	900	468		3A	
- (TO TOUR	10:01	A	18	000	416	S (9)	74	
1	117 2	11:22		19	900	416	1 2 2 2	NA	The same of the sa
1	TAIL	12:15	1	18	900	1117	1	DA DA	1
+ 4	410	7:23	XXX	10	doo	468			
05	. 20	6:18	8	16	900	798		33.3	
7	101		K	16	700	400	-	28-3	
19	100	8:11	X	17	900	441		3B-3	
9	:53	10705	X	17	900	441		28-3	
117	:11	1:20	X	.17	900	441	1	DB-3	
1	1:05	2:16	X	19	900	294		28-33 28-33	A SAME STATE OF THE SAME STATE
9/5		: 54		17	900	Rubi	74	20	
19.	.95		1		900	468	C MARCON CO.	1003	1 300 1 1
10.	30	1:42	AX	10	700	108		189-7	
- X	00	3:33	OK		900	441_	The Marie	28	
5	The state of the s				0		State Contract		THE RESERVE TO THE RE
: No spray	on 6 May 20, R	Rain all day		- 110-	100	1	-	-	and the second
BL -	- ^	133	11	W. Santon	-	10001		01	With the same of t
6	200 9	:00	pk.	17	900	771	-	ND	
					The second second	THE RESERVE OF THE PARTY OF THE		· ·	

1. Description of weather, site conditions, problems, results of application, runoff, or other observations related to the sites, water quality, and deicer land application.

Spokane International

Appendix C.

Soils Field Notes and Laboratory Report – 2022

Report Date: May 9, 2022

Report No: 86746

Client: Valley Science and Engineering-Spokane

Sampler: Sara Rodriguez

Project: AECOM-SIA

Field: Soil 1

P.N.: 2018230022-002-201

Sampled: 4/28/2022



A Matrix Sciences Company

SOIL ANALYSIS REPORT																								
Lab #		Dep Inch		Field ID	Sample ID	NO3 -N	NO3 -N	NH4 -N	NH4 -N	P Bicarb	K Am. Acet.	SO4-S	ОМ	pН	ECE	Ca Meq/	Mg Meq/	Na Meq/	Efferve -scence	H2O	Total Soilds	Total Bases	TKN	Total Nitrogen
	S	Start	End			#/A	ppm	#/A	ppm	ppm	ppm	ppm	%		mmho/cm	100g	100g	100g		%	%	Meq/100g	%	%
921		0	6	Soil 1		7	3.4	7	3.3	22	478	16	2.55	6.0	0.31	4.6	0.7	0.16	None	18.50	81.50	6.74	0.079	0.079
922		6	12	Soil 1		6	3.1	4	2.0	11	377	8	1.79	6.5	0.21	5.4	8.0	0.13	None	14.55	85.45	7.34	0.044	0.044
923		12	18	Soil 1		8	4.0	3	1.7	10	297	8	1.77	6.6	0.20	5.2	0.9	0.11	None	14.10	85.90	6.95	0.022	0.022
924		18	36	Soil 1		13	2.1	9	1.5	8	151	9	0.54	6.8	0.20	4.2	1.2	0.07	None	8.37	91.63	5.83	0.017	0.017
925	;	36	60	Soil 1		18	2.2	10	1.3	9	115	6	0.36	6.8	0.23	3.4	0.9	0.04	None	6.84	93.16	4.68	0.023	0.023

Main Office: 119 E Main St., Othello, WA 99344

Oregon Office: 1300 Sixth St., Suite J, Umatilla, OR 97882

Pasco Office: 1320 E Spokane St., Pasco, WA 99301

↓ (509) 488-0112 ☑ info@kuotestinglabs.com

Report Date: May 9, 2022

Report No: 86746

Client: Valley Science and Engineering-Spokane

Sampler: Sara Rodriguez

Project: AECOM-SIA

Field: Soil 2

P.N.: 2018230022-002-201

Sampled: 4/28/2022



A Matrix Sciences Company

	SOIL ANALYSIS REPORT																						
Lab #		epth ches	Field ID	Sample ID	NO3 -N	NO3 -N	NH4 -N	NH4 -N	P Bicarb	K Am. Acet.	SO4-S	ОМ	pН	ECE	Ca Meq/	Mg Meq/	Na Meq/	Efferve -scence	H2O	Total Soilds	Total Bases	TKN	Total Nitrogen
	Start	End			#/A	ppm	#/A	ppm	ppm	ppm	ppm	%		mmho/cm	100g	100g	100g		%	%	Meq/100g	%	%
926	0	6	Soil 2		10	5.1	6	3.2	12	561	11	3.32	6.9	0.55	8.1	1.3	0.27	None	16.85	83.15	11.06	0.061	0.062
927	6	12	Soil 2		10	4.8	5	2.5	10	367	8	2.79	7.3	0.58	10.3	1.8	0.35	Medium	18.58	81.42	13.43	0.037	0.037
928	12	18	Soil 2		11	5.3	4	2.1	10	269	10	1.57	7.4	0.64	9.3	1.9	0.26	Medium	16.82	83.18	12.10	0.061	0.062
929	18	36	Soil 2		13	2.2	10	1.7	9	188	9	0.90	7.5	0.49	7.0	1.9	0.16	Slight	15.17	84.83	9.62	0.010	0.010
930	36	60	Soil 2		5	0.6	11	1.4	6	77	4	0.54	8.1	0.31	6.0	1.6	0.37	Slight	11.54	88.46	8.10	0.036	0.036

Report Date: May 9, 2022

Report No: 86746

Client: Valley Science and Engineering-Spokane

Sampler: Sara Rodriguez

Project: AECOM-SIA

Field: Soil 3

P.N.: 2018230022-002-201

Sampled: 4/28/2022



A Matrix Sciences Company

	SOIL ANALYSIS REPORT																							
Lab #		Dept		Field ID	Sample ID	NO3 -N	NO3 -N	NH4 -N	NH4 -N	P Bicarb	K Am. Acet.	S04-S	ОМ	pН	ECE	Ca Meq/	Mg Meq/	Na Meq/	Efferve -scence	H2O	Total Soilds	Total Bases	TKN	Total Nitrogen
	Sta	tart	End			#/A	ppm	#/A	ppm	ppm	ppm	ppm	%		mmho/cm	100g	100g	100g		%	%	Meq/100g	%	%
931	C	0	6	Soil 3		12	6.2	6	3.2	11	553	8	3.47	7.2	0.66	11.5	1.2	0.16	Medium	17.53	82.47	14.31	0.095	0.096
932	6	6	12	Soil 3		13	6.3	4	2.1	10	474	10	2.57	7.5	0.62	10.6	1.5	0.26	Medium	20.13	79.87	13.65	0.071	0.072
933	1:	2	18	Soil 3		11	5.5	3	1.7	9	337	8	1.79	7.9	0.65	10.7	2.2	0.46	Medium	20.83	79.17	14.25	0.035	0.036
934	1	8	36	Soil 3		16	2.6	10	1.7	8	143	6	1.01	8.3	0.81	8.8	1.9	0.64	Slight	16.95	83.05	11.70	0.031	0.031
935	3	36	60	Soil 3		16	2.0	10	1.2	7	69	6	0.27	8.3	0.37	4.7	1.5	0.36	None	8.69	91.31	6.75	0.009	0.009

Appendix D.

Groundwater Field Notes and Laboratory Reports – 2022

SAMPLE COLLECTION DATA

Sample ID	MW-8	
Date	45-22	
Time	1245	
Project	SIA Land Treatment Site GW Monitoring	
Sample Matrix	water	
Collection Method	low flow (0.2 - 0.3 L/min)	_
Sample Location	dedicated tube	
Weather		
Sampling Personnel	1H DVR	

FIELD INSTRUMENTS

рН	Oakton pH/Con 10	
Conductivity	Oakton pH/Con 10	
Temperature	Oakton pH/Con 10	
Oxidation Reduction Potential	Oakton ORPTestr 10	
Dissolved Oxygen	YSI 550A (El. 2350')	

PARAMETERS

Time	рН	Conductivity	Temperature	Oxidation Reduction Potential	Dissolved Oxygen	Comments
2,000	su	uS/cm	°C	mV	mg/L	
2.500m	6.70	404.8	10.2	174.0	6.0	
12:57 pm	6.98	415.3	10.5	158.0	4.9	
1:05 pm	6.98	4184	10.7	140.0	5./	
1 18	7.01	414.4	10.6	143.0	4.9	

GENERAL NOTES

Static Water Level: 12/		
Sampletine: 1:18 pm	NECESTIVE	
,	4 GARTIVE	
	Vac	

Valley - Spokane Valley, WA Doc: SIA GW Field Sheets.xlsx | MW-8

SAMPLE COLLECTION DATA

Sample ID	MW o
Date	45/22 MW-9
Time	19:33am
Project	SIA I and Treatment (St.
Sample Matrix	SIA Land Treatment Site GW Monitoring
Collection Method	water
Sample Location	low flow (0.2 - 0.3 L/min)
Weather	dedicated tube
Sampling Personnel	

FIELD INSTRUMENTS

pH	
Conductivity	Oakton pH/Con 10
	Oakton pH/Con 10
Temperature	Oakton pH/Con 10
Oxidation Reduction Potential	
Dissolved Oxygen	Oakton ORPTestr 10
OAY SCH	YSI 550A

PARAMETERS

Time	рН	Conductivity	Temperature	Oxidation Reduction Potential	Dissolved Oxygen	Comments
42 . 10	su	uS/cm	°C	mV	mg/L	Comments
1.48 am	756	177.8	6.5	170,0	7.3	
4:56 am	7.47	176,9	6.6	140.0	6,3	
10:08 am	7.50	175.3	7.6	144.0	7.3	
					7.0	
	-					

GENERAL NOTES

	GF
Static Water Level: 12,55	
- Sample time	:10:20am
- Wagativa Cc, a	

SAMPLE COLLECTION DATA

Sample ID	MW-10
Date	4/5/22
Time	10.30am
Project	SIA Land Treatment Site GW Monitoring
Sample Matrix	
Collection Method	low flow (0.2 a. 0.2 k / 1.
Sample Location	low flow (0.2 - 0.3 L/min)
Weather	dedicated tube
Sampling Personnel	

FIELD INSTRUMENTS

Hq	
	Oakton pH/Con 10
Conductivity	Oakton pH/Con 10
Temperature	Oakton pH/Con 10
Oxidation Reduction Potential	
	Oakton ORPTestr 10
Dissolved Oxygen	YSI 550A

PARAMETERS

Time	рН	Conductivity	Temperature	Oxidation Reduction Potential	Dissolved Oxygen	Comments
61961	su	uS/cm	°C	mV	mg/L	
1:39 am	7.54	231,5	7.6	174.0	6.2	
0:46 am	7.56	8320	8,3	153.0	5.7	
120/ am	7.5/	230.0	4,9	132.0	5.9	
and and	7.00	230.0	8.2	1360	5.9	

GENERAL NOTES

Static Water Level: Dep +h - 10.55 (4	
Sample time: 11:12 am	
Static Water Level: Depth. 10.55 ft Simple time: 11:12 am NEURIUR al-9	
L. Company	

Sample ID	MW-11	
Date	4/5/77	
Time	1113	
Project	SIA Land Treatment Site GW Monitoring	
Sample Matrix	water	
Collection Method	low flow (0.2 - 0.3 L/min)	
Sample Location	dedicated tube	
Weather		
Sampling Personnel	JH OVR	

FIELD INSTRUMENTS

рН	Oakton pH/Con 10	
Conductivity	Oakton pH/Con 10	
Temperature	Oakton pH/Con 10	
Oxidation Reduction Potential	Oakton ORPTestr 10	
Dissolved Oxygen	YSI 550A	

PARAMETERS

Time	рН	Conductivity	Temperature	Oxidation Reduction Potential	Dissolved Oxygen	Comments
11	su	uS/cm	°C	mV	mg/L	
11.35	711	154.6	8.0	167	5.4	
11:45	7.20	15/./	8.5	166	5.5	
11.51	7.15	149,7	85	162	5.3	
11 58	7.13	152.9	8,2	167	5.3	
					- 19-13-1	

GENERAL NOTES

Static Water Level:	Well depth: 11. 75 ft SIAMPLE TATERY	1206	MESPOYR	at a	
1			À		

Sample ID	MW-12
Date	4/5./22
Time	8:44 am
Project	SIA Land Treatment Site GW Monitoring
Sample Matrix	water
Collection Method	low flow (0.2 - 0.3 L/min)
Sample Location	dedicated tube
Weather	
Sampling Personnel	JRH + OJR

FIELD INSTRUMENTS

pH	Oakton pH/Con 10	
Conductivity	Oakton pH/Con 10	
Temperature	Oakton pH/Con 10	
Oxidation Reduction Potential	Oakton ORPTestr 10	
Dissolved Oxygen	YSI 550A	

PARAMETERS

Time	рН	Conductivity	Temperature	Oxidation Reduction Potential	Dissolved Oxygen	Comments
	su	uS/cm	°C	mV	mg/L	
8:53 am	7.20	376.4	5.6	207.0	8-0	
5:54 am	7,31	3680	6.2	172.0	7.8	
7:09 am	7.15	3679	6.3	141.0	7.2	
7:10 am	724	3720	6.1	124.0	7.8	
		.,				
	-					

GENERAL NOTES

Static Water Level: 3.3 f4	
Static Water Level: 3.3 f4	
NEGATIVE PIP	

12720 E Nora Avenue, Suite A | Spokane Valley, WA 99216 | (509) 921-0290 | FAX (509) 921-1788

9		rument Calibration Form	_
Date:	4-5-22	Time: 718 Hu	
Personnel	- NC	Instrument OUNTON PCAS	
Calibration Standards Used	Reading After Calibration	Comments	
7,00	7,01	PIT NUT HOLDING BOTH CHCIBERTIONS	
10,01	9,80	PIT NUT HOLDING BOTH LICIBLATIONS HELD TO 7,00 BELIAUSE IT IS CLOSEST EXPECTED FIELD IN	BENE
1413	1414		
Date:		Time:	
Personnel		Instrument	s a
Calibration	Reading After		1
Standards Used	Calibration	Comments	
Date:		Time:	l.
Personnel		Instrument	2
Calibration Standards Used	Reading After Calibration	Comments	



Environment Testing America

ANALYTICAL REPORT

Eurofins Spokane 11922 East 1st Ave Spokane, WA 99206 Tel: (509)924-9200

Laboratory Job ID: 590-17237-1

Client Project/Site: SIA/2018230022-002-201

Valley Science and Engineering 12720 E Nora Ave Spokane, Washington 99216

Attn: Sara Rodriguez

Langue trington

Authorized for release by: 4/19/2022 4:25:50 PM

Randee Arrington, Lab Director (509)924-9200

Randee.Arrington@et.eurofinsus.com

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This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Client: Valley Science and Engineering Project/Site: SIA/2018230022-002-201

Laboratory Job ID: 590-17237-1

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Case Narrative

Client: Valley Science and Engineering Project/Site: SIA/2018230022-002-201

Job ID: 590-17237-1

Job ID: 590-17237-1

Laboratory: Eurofins Spokane

Narrative

Receipt

The samples were received on 4/5/2022 2:00 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 9.9° C.

Receipt Exceptions

The following samples were received at the laboratory outside the required temperature criteria: MW-8 (590-17237-1), MW-9 (590-17237-2), MW-10 (590-17237-3), MW-11 (590-17237-4) and MW-12 (590-17237-5). The samples are considered acceptable since they were collected and submitted to the laboratory on the same day and there is evidence that the chilling process has begun.

GC Semi VOA

Method 300.0: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 590-35626 were outside control limits. Sample matrix interference is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method 300.0: The native sample, matrix spike, and matrix spike duplicate (MS/MSD) associated with analytical batch 590-35627 were performed at the same dilution. Due to the additional level of analyte present in the spiked samples, the concentration of Chloride in the MS/MSD was above the instrument calibration range. The data have been reported and qualified.

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

Metals

Method 200.7 Rev 4.4: The method blank for preparation batch 590-35695 and analytical batch 590-35726 contained Sodium above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

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

General Chemistry

Method SM 2320B: The method blank for analytical batch 590-35741 contained Bicarbonate Alkalinity as CaCO3 at the method detection limit (MDL) but below the reporting limit (RL). Associated sample(s) were not re-extracted and/or re-analyzed because results were greater than 10X the value found in the method blank.

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

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Sample Summary

Client: Valley Science and Engineering Project/Site: SIA/2018230022-002-201

Job ID: 590-17237-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
590-17237-1	MW-8	Water	04/05/22 13:18	04/05/22 14:00
590-17237-2	MW-9	Water	04/05/22 12:55	04/05/22 14:00
590-17237-3	MW-10	Water	04/05/22 10:55	04/05/22 14:00
590-17237-4	MW-11	Water	04/05/22 12:06	04/05/22 14:00
590-17237-5	MW-12	Water	04/05/22 09:19	04/05/22 14:00

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Definitions/Glossary

Client: Valley Science and Engineering

Job ID: 590-17237-1

Project/Site: SIA/2018230022-002-201

Qualifiers

		•	→ 1	\sim
н	_		ار	н.

Qualifier Qualifier Description

4 MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not

applicable.

E Result exceeded calibration range.

MS and/or MSD recovery exceeds control limits.

Metals

Qualifier Description

B Compound was found in the blank and sample.

J Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

General Chemistry

B Compound was found in the blank and sample.

J Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation These commonly used abbreviations may or may not be present in this report.

Eisted under the "D" column to designate that the result is reported on a dry weight basis

%R Percent Recovery
CFL Contains Free Liquid
CFU Colony Forming Unit
CNF Contains No Free Liquid

DER Duplicate Error Ratio (normalized absolute difference)

Dil Fac Dilution Factor

DL Detection Limit (DoD/DOE)

DL, RA, RE, IN Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample

DLC Decision Level Concentration (Radiochemistry)

EDL Estimated Detection Limit (Dioxin)

LOD Limit of Detection (DoD/DOE)

LOQ Limit of Quantitation (DoD/DOE)

MCL EPA recommended "Maximum Contaminant Level"

MDA Minimum Detectable Activity (Radiochemistry)

MDC Minimum Detectable Concentration (Radiochemistry)

MDL Method Detection Limit
ML Minimum Level (Dioxin)
MPN Most Probable Number
MQL Method Quantitation Limit

NC Not Calculated

ND Not Detected at the reporting limit (or MDL or EDL if shown)

NEG Negative / Absent
POS Positive / Present
PQL Practical Quantitation Limit

PRES Presumptive
QC Quality Control

RER Relative Error Ratio (Radiochemistry)

RL Reporting Limit or Requested Limit (Radiochemistry)

RPD Relative Percent Difference, a measure of the relative difference between two points

TEF Toxicity Equivalent Factor (Dioxin)
TEQ Toxicity Equivalent Quotient (Dioxin)

TNTC Too Numerous To Count

Client: Valley Science and Engineering Project/Site: SIA/2018230022-002-201

Client Sample ID: MW-8

Date Collected: 04/05/22 13:18

Lab Sample ID: 590-17237-1

Matrix: Water

Job ID: 590-17237-1

Date Received: 04/05/22	2 14:00							
Method: 300.0 - Anions	s, Ion Chromatogra	aphy						
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Ana
Chloride	82		8.0	4.2	mg/L			04/07
Nitrate as N	3.5		0.20	0.057	mg/L			04/06
Nitrite as N	ND	F1	0.20	0.069	ma/L			04/06/

Analyte	Result Qualifier	KL	MDL	Unit	ט	Prepared	Analyzed	Dil Fac
Chloride	82	8.0	4.2	mg/L			04/07/22 12:51	10
Nitrate as N	3.5	0.20	0.057	mg/L			04/06/22 10:13	1
Nitrite as N	ND F1	0.20	0.069	mg/L			04/06/22 10:13	1
Sulfate	8.5	0.50	0.13	mg/L			04/06/22 10:13	1

Method: 200.7 Rev 4.4 Analyte	• •	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	49		1.0	0.20	mg/L		04/12/22 15:47	04/14/22 11:07	1
Magnesium	13		0.50	0.13	mg/L		04/12/22 15:47	04/14/22 11:07	1
Potassium	5.1		1.0	0.29	mg/L		04/12/22 15:47	04/14/22 11:07	1
Sodium	10	В	0.50	0.20	mg/L		04/12/22 15:47	04/14/22 11:07	1

	Method: 200.8 - Metals (ICP/MS)									
	Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Arsenic	0.0015		0.0010	0.00020	mg/L		04/13/22 18:29	04/14/22 14:00	1
	Iron	0.054	J	0.10	0.013	mg/L		04/13/22 18:29	04/14/22 14:00	1
l	Manganese	ND		0.0020	0.00046	mg/L		04/13/22 18:29	04/14/22 14:00	1

Method: 200.8 - Metals (ICP/MS) - Dissolved											
Analyte	Result Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac			
Arsenic	0.0015	0.0010	0.00020	mg/L		04/13/22 18:58	04/14/22 15:29	1			
Iron	0.039 J	0.10	0.013	mg/L		04/13/22 18:58	04/14/22 15:29	1			
Manganese	ND	0.0020	0.00046	mg/L		04/13/22 18:58	04/14/22 15:29	1			
_											

General Chemistry									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bicarbonate Alkalinity as CaCO3	95	В	20	5.0	mg/L			04/18/22 08:56	1
Total Dissolved Solids	220		25	13	mg/L			04/11/22 11:54	1
Chemical Oxygen Demand	ND		10	5.9	mg/L	(04/08/22 16:45	04/08/22 20:56	1

Lab Sample ID: 590-17237-2 **Client Sample ID: MW-9** Date Collected: 04/05/22 12:55 **Matrix: Water** Date Received: 04/05/22 14:00

Analyte	Result Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	3.7	0.80	0.42	mg/L			04/06/22 11:16	1
Nitrate as N	2.6	0.20	0.057	mg/L			04/06/22 11:16	1
Nitrite as N	ND	0.20	0.069	mg/L			04/06/22 11:16	1
Sulfate	4.0	0.50	0.13	mg/L			04/06/22 11:16	1

	4.0	0.00	0.10	mg/L			0 1/00/22 11:10	•
Method: 200.7 Rev 4.4 Analyte	- Metals (ICP) Result Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	15	1.0		mg/L	— <u> </u>	04/12/22 15:47		1
Magnesium	4.7	0.50	0.13	mg/L		04/12/22 15:47	04/14/22 11:11	1
Potassium	2.6	1.0	0.29	mg/L		04/12/22 15:47	04/14/22 11:11	1
Sodium	11 B	0.50	0.20	mg/L		04/12/22 15:47	04/14/22 11:11	1
Entertain and a second								

Method: 200.8 - Metals (ICP/MS)								
Analyte	Result Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0042	0.0010	0.00020	mg/L		04/13/22 18:29	04/14/22 14:23	1

Eurofins Spokane

Page 6 of 24 4/19/2022

Client: Valley Science and Engineering Project/Site: SIA/2018230022-002-201

Client Sample ID: MW-9

Date Collected: 04/05/22 12:55

Date Received: 04/05/22 14:00

Lab Sample ID: 590-17237-2

Motrice Water

Matrix: Water

Job ID: 590-17237-1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	0.030	J	0.10	0.013	mg/L		04/13/22 18:29	04/14/22 14:23	1
Manganese	0.0015	J	0.0020	0.00046	mg/L		04/13/22 18:29	04/14/22 14:23	1
Method: 200.8 - Metals (ICP/MS)) - Dissolv	ed							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0040		0.0010	0.00020	mg/L		04/13/22 18:58	04/14/22 15:25	1
Iron	0.025	J	0.10	0.013	mg/L		04/13/22 18:58	04/14/22 15:25	1
Manganese	ND		0.0020	0.00046	mg/L		04/13/22 18:58	04/14/22 15:25	1
General Chemistry									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bicarbonate Alkalinity as CaCO3	75	В	20	5.0	mg/L			04/18/22 08:56	1
Total Dissolved Solids	100		25	13	mg/L			04/11/22 11:54	1
Chemical Oxygen Demand	ND		10	5.9	mg/L		04/08/22 16:45	04/08/22 20:56	1

Client Sample ID: MW-10 Lab Sample ID: 590-17237-3

Date Collected: 04/05/22 10:55 Matrix: Water Date Received: 04/05/22 14:00

Method: 300.0 - Anions, Ion Chromatography								
Analyte	Result Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	20	0.80	0.42	mg/L			04/06/22 11:31	1
Nitrate as N	8.5	0.20	0.057	mg/L			04/06/22 11:31	1
Nitrite as N	ND	0.20	0.069	mg/L			04/06/22 11:31	1
Sulfate	12	0.50	0.13	mg/L			04/06/22 11:31	1

Wethou: 200.7 Rev 4.4 - W	etais (ICP)								
Analyte	Result C	Qualifier I	RL M	DL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	20		.0 0	.20	mg/L		04/12/22 15:47	04/14/22 11:15	1
Magnesium	5.7	0.	50 0	.13	mg/L		04/12/22 15:47	04/14/22 11:15	1
Potassium	2.1	1	.0 0	.29	mg/L		04/12/22 15:47	04/14/22 11:15	1
Sodium	13 E	3 0.	50 0	.20	mg/L		04/12/22 15:47	04/14/22 11:15	1

Method: 200.8 - Metals (ICP/MS	S)							
Analyte	Result Qualifie	er RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0013	0.0010	0.00020	mg/L		04/13/22 18:29	04/14/22 14:27	1
Iron	0.077 J	0.10	0.013	mg/L		04/13/22 18:29	04/14/22 14:27	1
Manganese	0.0042	0.0020	0.00046	mg/L		04/13/22 18:29	04/14/22 14:27	1

Method: 200.8 - Metals (ICP/MS) - Dissolved											
	Analyte	Result Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac		
	Arsenic	0.0013	0.0010	0.00020	mg/L		04/13/22 18:58	04/14/22 16:12	1		
	Iron	0.032 J	0.10	0.013	mg/L		04/13/22 18:58	04/14/22 16:12	1		
	Manganese	0.00059 J	0.0020	0.00046	mg/L		04/13/22 18:58	04/14/22 16:12	1		

General Chemistry										
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac	
Bicarbonate Alkalinity as CaCO3	50	В	20	5.0	mg/L			04/18/22 08:56	1	
Total Dissolved Solids	170		25	13	mg/L			04/11/22 11:54	1	
Chemical Oxygen Demand	ND		10	5.9	mg/L		04/08/22 16:45	04/08/22 20:56	1	

Eurofins Spokane

4/19/2022

Client: Valley Science and Engineering Project/Site: SIA/2018230022-002-201

Client Sample ID: MW-11 Lab Sample ID: 590-17237-4

Date Collected: 04/05/22 12:06 Matrix: Water

Date Received: 04/05/22 14:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	7.2		0.80	0.42	mg/L			04/06/22 11:47	1
Nitrate as N	6.2		0.20	0.057	mg/L			04/06/22 11:47	1
Nitrite as N	ND		0.20	0.069	mg/L			04/06/22 11:47	1
Sulfate	4.4		0.50	0.13	mg/L			04/06/22 11:47	1
Method: 200.7 Rev 4.4 - Metals	(ICP)								
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	13		1.0	0.20	mg/L		04/12/22 15:47	04/14/22 11:31	1
Magnesium	4.2		0.50	0.13	mg/L		04/12/22 15:47	04/14/22 11:31	1
Potassium	3.2		1.0	0.29	mg/L		04/12/22 15:47	04/14/22 11:31	1
Sodium	5.4	В	0.50	0.20	mg/L		04/12/22 15:47	04/14/22 11:31	1
Method: 200.8 - Metals (ICP/MS	3)								
Analyte	•	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0017		0.0010	0.00020	mg/L		04/13/22 18:29	04/14/22 14:31	1
					/1		0.4/4.0/00.40.00		
Iron	0.026	J	0.10	0.013	mg/L		04/13/22 18:29	04/14/22 14:31	1
Iron Manganese	0.026 ND	J	0.10 0.0020	0.013 0.00046	•			04/14/22 14:31 04/14/22 14:31	1 1
Manganese	ND				•				1 1
Manganese Method: 200.8 - Metals (ICP/MS)	ND 6) - Dissolv				mg/L	D			1 1 Dil Fac
Manganese Method: 200.8 - Metals (ICP/MS Analyte	ND 6) - Dissolv	ed	0.0020	0.00046	mg/L Unit	<u>D</u>	04/13/22 18:29	04/14/22 14:31	
Manganese Method: 200.8 - Metals (ICP/MS Analyte Arsenic	ND 6) - Dissolv Result	ed Qualifier	0.0020 RL	0.00046 MDL	mg/L Unit mg/L	<u>D</u>	04/13/22 18:29 Prepared 04/13/22 18:58	04/14/22 14:31 Analyzed	
Manganese Method: 200.8 - Metals (ICP/MS Analyte Arsenic Iron	ND S) - Dissolv Result 0.0016	ed Qualifier	0.0020 RL 0.0010	0.00046 MDL 0.00020	mg/L Unit mg/L mg/L	<u>D</u>	04/13/22 18:29 Prepared 04/13/22 18:58 04/13/22 18:58	04/14/22 14:31 Analyzed 04/14/22 16:16	
	ND S) - Dissolv Result 0.0016 0.020	ed Qualifier	0.0020 RL 0.0010 0.10	0.00046 MDL 0.00020 0.013	mg/L Unit mg/L mg/L	<u>D</u>	04/13/22 18:29 Prepared 04/13/22 18:58 04/13/22 18:58	04/14/22 14:31 Analyzed 04/14/22 16:16 04/14/22 16:16	
Manganese Method: 200.8 - Metals (ICP/MS Analyte Arsenic Iron Manganese	ND S) - Dissolv Result 0.0016 0.020 0.0020	ed Qualifier	0.0020 RL 0.0010 0.10	0.00046 MDL 0.00020 0.013	mg/L mg/L mg/L mg/L	<u>D</u>	04/13/22 18:29 Prepared 04/13/22 18:58 04/13/22 18:58	04/14/22 14:31 Analyzed 04/14/22 16:16 04/14/22 16:16	
Manganese Method: 200.8 - Metals (ICP/MS Analyte Arsenic Iron Manganese General Chemistry	ND S) - Dissolv Result 0.0016 0.020 0.0020	ed Qualifier	0.0020 RL 0.0010 0.10 0.0020	0.00046 MDL 0.00020 0.013 0.00046	mg/L mg/L mg/L mg/L		04/13/22 18:29 Prepared 04/13/22 18:58 04/13/22 18:58 04/13/22 18:58	Analyzed 04/14/22 16:16 04/14/22 16:16 04/14/22 16:16	Dil Fac 1 1

Client Sample ID: MW-12
Date Collected: 04/05/22 09:19

Lab Sample ID: 590-17237-5
Matrix: Water

10

5.9 mg/L

ND

Date Collected: 04/05/22 09:19 Date Received: 04/05/22 14:00

Chemical Oxygen Demand

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	47		0.80	0.42	mg/L			04/06/22 12:02	1
Nitrate as N	2.4		0.20	0.057	mg/L			04/06/22 12:02	1
Nitrite as N	ND		0.20	0.069	mg/L			04/06/22 12:02	1
Sulfate	14		0.50	0.13	mg/L			04/06/22 12:02	1
Method: 200.7 Rev 4.4	- Metals (ICP)								
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	37		1.0	0.20	mg/L		04/12/22 15:47	04/14/22 11:35	1
Managaires	44		0.50	0.40	/I		04/40/00 45:47	04/44/00 44:05	

Calcium	37	1.0	0.20 mg/L	04/12/22 15:47	04/14/22 11:35	1
Magnesium	11	0.50	0.13 mg/L	04/12/22 15:47	04/14/22 11:35	1
Potassium	3.0	1.0	0.29 mg/L	04/12/22 15:47	04/14/22 11:35	1
Sodium	17 B	0.50	0.20 mg/L	04/12/22 15:47	04/14/22 11:35	1

Method: 200.8 - Metals (ICP/MS)	i e							
Analyte	Result Qualifier	RL	MDL U	Jnit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0028	0.0010	0.00020 m	ng/L	_	04/13/22 18:29	04/14/22 14:35	1

Eurofins Spokane

04/08/22 16:45 04/08/22 20:56

Job ID: 590-17237-1

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Client: Valley Science and Engineering Project/Site: SIA/2018230022-002-201

Lab Sample ID: 590-17237-5

04/18/22 08:56

04/11/22 11:54

04/08/22 16:45 04/08/22 20:56

Job ID: 590-17237-1

Matrix: Water

Client Sample ID: MW-12 Date Collected: 04/05/22 09:19 Date Received: 04/05/22 14:00

Bicarbonate Alkalinity as CaCO3

Total Dissolved Solids

Chemical Oxygen Demand

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	0.036	J	0.10	0.013	mg/L		04/13/22 18:29	04/14/22 14:35	1
Manganese	ND		0.0020	0.00046	mg/L		04/13/22 18:29	04/14/22 14:35	1
Method: 200.8 - Metals (ICI	P/MS) - Dissolv	ed							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0026		0.0010	0.00020	mg/L		04/13/22 18:58	04/14/22 16:20	1
Iron	0.032	J	0.10	0.013	mg/L		04/13/22 18:58	04/14/22 16:20	1
Manganese	ND		0.0020	0.00046	mg/L		04/13/22 18:58	04/14/22 16:20	1
General Chemistry									
Analyte	Pocult	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac

20

25

10

110 B

6.6 J

210

5.0 mg/L

13 mg/L

5.9 mg/L

4/19/2022

Client: Valley Science and Engineering Project/Site: SIA/2018230022-002-201

Job ID: 590-17237-1

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 590-35626/1003

Matrix: Water

Analysis Batch: 35626

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

MB MB Analyte Result Qualifier RL **MDL** Unit Analyzed Dil Fac D **Prepared** Nitrate as N 0.20 04/06/22 09:42 ND 0.057 mg/L Nitrite as N ND 0.20 0.069 mg/L 04/06/22 09:42

Lab Sample ID: LCS 590-35626/1004

Matrix: Water

Analysis Batch: 35626

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

Spike LCS LCS %Rec Added Analyte Result Qualifier Unit %Rec Limits Nitrate as N 2.50 2.40 mg/L 96 90 - 110 2.50 Nitrite as N 2.40 96 90 - 110 mg/L

Lab Sample ID: 590-17237-1 MS

Matrix: Water

Analysis Batch: 35626

Client Sample ID: MW-8 Prep Type: Total/NA

Client Sample ID: MW-8

Prep Type: Total/NA

	Sample	Sample	Spike	MS	MS				%Rec	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Nitrate as N	3.5		4.55	7.56		mg/L		88	80 - 120	
Nitrite as N	ND	F1	4.55	3.22	F1	mg/L		71	80 - 120	

Lab Sample ID: 590-17237-1 MSD

Matrix: Water

Analysis Batch: 35626

		Sample	Sample	Spike	MSD	MSD				%Rec		RPD
Ana	ilyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Nitr	ate as N	3.5		4.55	7.50		mg/L		87	80 - 120	1	12.1
Nitr	ite as N	ND	F1	4.55	3.24	F1	mg/L		71	80 - 120	1	10

Analysis Batch: 35626

=		3	
Lab Sample ID: 590-17237-1 DU			Client Sample ID: MW-8
Matrix: Water			Prep Type: Total/NA

DU DU **RPD** Sample Sample Analyte Result Qualifier Result Qualifier Unit **RPD** Limit Nitrate as N 3.5 3.52 mg/L 0.5 13.1 Nitrite as N ND F1 ND mg/L NC 10

Lab Sample ID: MB 590-35627/1003

Matrix: Water

Analysis Batch: 35627

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

Client Sample ID: Lab Control Sample

	IVID	IVID							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		0.80	0.42	mg/L			04/06/22 09:42	1
Sulfate	ND		0.50	0.13	mg/L			04/06/22 09:42	1

MD MD

Lab Sample ID: LCS 590-35627/1004

Matrix: Water

Analysis Batch: 35627

•	Spike	LCS	LCS				%Rec	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Chloride	6.25	5.98		mg/L		96	90 - 110	
Sulfate	6.25	6.22		mg/L		100	90 - 110	

Eurofins Spokane

Prep Type: Total/NA

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Client Sample ID: MW-8 Prep Type: Total/NA

Client Sample ID: MW-8

Client Sample ID: Method Blank

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Type: Total/NA

Prep Type: Total/NA

Client: Valley Science and Engineering Project/Site: SIA/2018230022-002-201

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: 590-17237-1 MS

Matrix: Water

Analysis Batch: 35627

Client Sample ID: MW-8 Prep Type: Total/NA

Sample Sample Spike MS MS %Rec Analyte Result Qualifier Added Result Qualifier Unit D %Rec Limits Chloride 80 E 11.4 77.9 E 4 mg/L -16 80 - 120 Sulfate 8.5 11.4 18.8 mg/L 91 80 - 120

Lab Sample ID: 590-17237-1 MSD

Matrix: Water

Analysis Batch: 35627

Sample Sample Spike MSD MSD %Rec **RPD** Analyte Result Qualifier Added Result Qualifier Unit D %Rec Limits RPD Limit Chloride 80 E 11.4 77.1 E 4 mg/L -23 80 - 120 10 Sulfate 8.5 18.3 86 80 - 120 11.4 mg/L 3 10

Lab Sample ID: 590-17237-1 DU

Matrix: Water

Analysis Batch: 35627

Analysis Batom soci								
	Sample	Sample	DU	DU				RPD
Analyte	Result	Qualifier	Result	Qualifier	Unit	D	RPD	Limit
Chloride	80	E	78.9	E	mg/L		 1	18.8
Sulfate	8.5		8.82		mg/L		4	15.7

Lab Sample ID: MB 590-35651/1003

Matrix: Water

Analysis Batch: 35651

	MB	MB							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		0.80	0.42	mg/L			04/07/22 10:00	1
Sulfate	ND		0.50	0.13	mg/L			04/07/22 10:00	1

Lab Sample ID: LCS 590-35651/1004

Matrix: Water

Analysis Batch: 35651

Alialysis Datcil. 33031									
	Spike	LCS	LCS				%Rec		
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits		
Chloride	12.5	12.3		mg/L		98	90 - 110		
Sulfate	12.5	12.3		mg/L		99	90 - 110		

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: MB 590-35695/2-A	Client Sample ID: Method Blank
Matrix: Water	Prep Type: Total/NA
Analysis Batch: 35726	Prep Batch: 35695
MB MB	

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac	
Calcium	ND		1.0	0.20	mg/L		04/12/22 15:47	04/13/22 19:05	1	
Magnesium	ND		0.50	0.13	mg/L		04/12/22 15:47	04/13/22 19:05	1	
Potassium	ND		1.0	0.29	mg/L		04/12/22 15:47	04/13/22 19:05	1	
Sodium	0.252	J	0.50	0.20	ma/L		04/12/22 15:47	04/13/22 19:05	1	

Eurofins Spokane

Client: Valley Science and Engineering Project/Site: SIA/2018230022-002-201

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: LCS 590-35695/1-A

Matrix: Water

Analysis Batch: 35726

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 35695

7 maryolo Batom 00720							op Be	
-	Spike	LCS	LCS				%Rec	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Calcium	50.0	51.2		mg/L		102	85 - 115	
Magnesium	50.0	50.6		mg/L		101	85 - 115	
Potassium	50.0	50.8		mg/L		102	85 - 115	
Sodium	50.0	50.8		mg/L		102	85 - 115	

Method: 200.8 - Metals (ICP/MS)

Lab Sample ID: MB 580-387395/26-A

Matrix: Water

Analysis Batch: 387559

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 387395

MB MB Analyte Result Qualifier RL MDL Unit Prepared Analyzed Dil Fac Arsenic ND 0.0010 0.00020 mg/L 04/13/22 18:37 04/14/22 12:30 ND 0.10 0.013 mg/L 04/13/22 18:37 04/14/22 12:30 Iron Manganese ND 0.0020 0.00046 mg/L 04/13/22 18:37 04/14/22 12:30

Lab Sample ID: LCS 580-387395/27-A

Matrix: Water

Analysis Batch: 387559

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 387395

	Spike	LCS	LCS				%Rec	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Arsenic	1.00	0.989		mg/L		99	85 - 115	
Iron	20.0	20.9		mg/L		105	85 - 115	
Manganese	1.00	1.03		mg/L		103	85 - 115	

Spike

Added

1.00

20.0

1.00

MR MR

Lab Sample ID: LCSD 580-387395/28-A

Matrix: Water

Analyte

Arsenic

Manganese

Iron

Analysis Batch: 387559

Client Sample ID: Lab Control Sample Dup

103

Prep Type: Total/NA **Prep Batch: 387395**

%Rec **RPD** D %Rec Limits RPD Limit 99 85 - 115 0 20 104 20 85 - 115

Lab Sample ID: MB 580-387401/14-A

Matrix: Water

Analysis Batch: 387559

Client Sample ID: Method Blank

85 - 115

Prep Type: Total/NA

20

Prep Batch: 387401

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.0010	0.00020	mg/L		04/13/22 18:58	04/14/22 15:21	1
Iron	ND		0.10	0.013	mg/L		04/13/22 18:58	04/14/22 15:21	1
Manganese	ND		0.0020	0.00046	mg/L		04/13/22 18:58	04/14/22 15:21	1

LCSD LCSD

0.990

20.8

1.03

Result Qualifier

Unit

mg/L

mg/L

mg/L

Lab Sample ID: LCS 580-387401/15-A

Matrix: Water

Analysis Batch: 387559

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 387401

	Spike	LCS	LCS			%Rec	
Analyte	Added	Result	Qualifier	Unit D	%Rec	Limits	
Arsenic	1.00	0.983		mg/L	98	85 - 115	
Iron	20.0	20.5		ma/l	102	85 - 115	

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Client: Valley Science and Engineering Project/Site: SIA/2018230022-002-201

Method: 200.8 - Metals (ICP/MS) (Continued)

Lab Sample ID: LCS 580-387401/15-A **Client Sample ID: Lab Control Sample Matrix: Water** Prep Type: Total/NA **Analysis Batch: 387559 Prep Batch: 387401** LCS LCS Spike %Rec

Analyte Added Result Qualifier Unit %Rec Limits Manganese 1 00 1 03 mg/L 103 85 - 115

Lab Sample ID: LCSD 580-387401/16-A Client Sample ID: Lab Control Sample Dup **Matrix: Water** Prep Type: Total/NA Analysis Batch: 387559 **Prep Batch: 387401** Spike LCSD LCSD %Rec **RPD** Analyte Added Result Qualifier Unit D %Rec Limits RPD Limit 1.00 0.990 85 - 115 20 Arsenic mg/L 99 20.0 107 85 - 115 20 Iron 21.3 mg/L 1.00

Lab Sample ID: 590-17237-1 MS Client Sample ID: MW-8 **Matrix: Water Prep Type: Dissolved**

1.05

mg/L

mg/L

105

107

85 - 115

Analysis Batch: 387559

Manganese

Sample Sample Spike MS MS %Rec Analyte Result Qualifier Added Result Qualifier Unit D %Rec Limits

0.0015 1.00 0.987 70 - 130 Arsenic mg/L 99 0.039 J 20.0 Iron 20.9 mg/L 104 70 - 130 ND 1.00 105 70 - 130 Manganese 1.05 mg/L

Lab Sample ID: 590-17237-1 MSD Client Sample ID: MW-8 **Matrix: Water Prep Type: Dissolved**

Analysis Batch: 387559

Prep Batch: 387401 Sample Sample Spike MSD MSD %Rec **RPD** Added Limits RPD Limit Analyte Result Qualifier Result Qualifier Unit D %Rec Arsenic 0.0015 1.00 1.00 mg/L 100 70 - 13020 Iron 0.039 J 20.0 21.3 mg/L 106 70 - 1302 20

Lab Sample ID: 590-17237-1 DU Client Sample ID: MW-8

1.07

1.00

Matrix: Water

Manganese

Analysis Batch: 387559 Prep Batch: 387401 Sample Sample DU DU **RPD** Result Qualifier RPD Limit Analyte Result Qualifier Unit D Arsenic 0.0015 0.00145 mg/L 5 20 Iron 0.039 0.0365 J mg/L 8 20 Manganese ND ND mg/L NC 20

Method: SM 2320B - Alkalinity

ND

Lab Sample ID: MB 590-35741/1 Client Sample ID: Method Blank Prep Type: Total/NA

Matrix: Water

Analysis Batch: 35741

	MB	MB								
Analyte	Result	Qualifier	RL	MDL	Unit	D	F	Prepared	Analyzed	Dil Fac
Bicarbonate Alkalinity as CaCO3	5.00	J	20	5.0	mg/L				04/18/22 08:56	1

Eurofins Spokane

20

2

Prep Batch: 387401

70 - 130 20

Prep Type: Dissolved

Prep Type: Total/NA

Prep Type: Total/NA

Prep Batch: 386918

Prep Batch: 386918

Prep Type: Total/NA

Project/Site: SIA/2018230022-002-201

Client: Valley Science and Engineering

Method: SM 2320B - Alkalinity (Continued)

Lab Sample ID: LCS 590-35741/2 Client Sample ID: Lab Control Sample

Matrix: Water

Analysis Batch: 35741

Spike LCS LCS %Rec Added Result Qualifier %Rec Limits Analyte Unit Bicarbonate Alkalinity as CaCO3 501 500 mg/L 100 90 - 110

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 590-35674/1 **Client Sample ID: Method Blank** Prep Type: Total/NA

Matrix: Water

Analysis Batch: 35674

MB MB

Result Qualifier RL **MDL** Unit Analyzed Dil Fac Prepared 25 Total Dissolved Solids $\overline{\mathsf{ND}}$ 13 mg/L 04/11/22 11:53

Lab Sample ID: LCS 590-35674/2 **Client Sample ID: Lab Control Sample** Prep Type: Total/NA

Matrix: Water

Analysis Batch: 35674

LCS LCS %Rec Spike Added Result Qualifier Limits Analyte Unit %Rec **Total Dissolved Solids** 504 499 mg/L 99 80 - 120

Method: SM 5220D - COD

Lab Sample ID: MB 580-386918/3-A Client Sample ID: Method Blank

Matrix: Water

Analysis Batch: 386954

MB MB

RL Result Qualifier **MDL** Unit Analyzed Dil Fac **Analyte** Prepared 10 04/08/22 16:44 04/08/22 20:56 Chemical Oxygen Demand ND 5.9 mg/L

Lab Sample ID: LCS 580-386918/4-A **Client Sample ID: Lab Control Sample Matrix: Water** Prep Type: Total/NA

Analysis Batch: 386954

LCS LCS Spike %Rec Analyte Added Result Qualifier Unit %Rec Limits

Chemical Oxygen Demand 75.0 71.7 mg/L 96 80 - 120

Lab Sample ID: LCSD 580-386918/5-A Client Sample ID: Lab Control Sample Dup

Matrix: Water

Analysis Batch: 386954 **Prep Batch: 386918** Spike LCSD LCSD %Rec RPD Added Result Qualifier Unit %Rec RPD Limit **Chemical Oxygen Demand** 75.0 72.1 mg/L

Client Sample ID: MW-12 Lab Sample ID: 590-17237-5 MS Prep Type: Total/NA

Matrix: Water

Analysis Batch: 386954 **Prep Batch: 386918** Sample Sample Spike MS MS %Rec Result Qualifier Added Limits Result Qualifier Unit %Rec 6 6 J 25.0 28.7 88 Chemical Oxygen Demand 75 - 125 mg/L

Eurofins Spokane

QC Sample Results

Client: Valley Science and Engineering Job ID: 590-17237-1 Project/Site: SIA/2018230022-002-201

Method: SM 5220D - COD (Continued)

Lab Sample ID: 590-17237-5 DU

Matrix: Water Analysis Batch: 386954

Chemical Oxygen Demand

Analyte

Sample Sample Result Qualifier

6.6 J

DU DU

Result Qualifier Unit 6.95 J

mg/L

RPD Limit D 5

Client Sample ID: MW-12 **Prep Type: Total/NA**

Prep Batch: 386918

RPD

Client: Valley Science and Engineering Project/Site: SIA/2018230022-002-201

Client Sample ID: MW-8 Lab Sample ID: 590-17237-1 Date Collected: 04/05/22 13:18

Matrix: Water

Date Received: 04/05/22 14:00

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1			35626	04/06/22 10:13	NMI	TAL SPK
Total/NA	Analysis	300.0		1			35627	04/06/22 10:13	NMI	TAL SPK
Total/NA	Analysis	300.0		10			35651	04/07/22 12:51	NMI	TAL SPK
Total/NA	Prep	200.7			50 mL	50 mL	35695	04/12/22 15:47	AMB	TAL SPK
Total/NA	Analysis	200.7 Rev 4.4		1			35744	04/14/22 11:07	AMB	TAL SPK
Dissolved	Prep	200.8			50 mL	50 mL	387401	04/13/22 18:58	TMH	FGS SEA
Dissolved	Analysis	200.8		1	50 mL	50 mL	387559	04/14/22 15:29	FCW	FGS SEA
Total/NA	Prep	200.8			50 mL	50 mL	387395	04/13/22 18:29	JLS	FGS SEA
Total/NA	Analysis	200.8		1	50 mL	50 mL	387559	04/14/22 14:00	FCW	FGS SEA
Total/NA	Analysis	SM 2320B		1	100 mL	100 mL	35741	04/18/22 08:56	AMB	TAL SPK
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	35674	04/11/22 11:54	AMB	TAL SPK
Total/NA	Prep	SM 5220			2 mL	2 mL	386918	04/08/22 16:45	MLT	FGS SEA
Total/NA	Analysis	SM 5220D		1	2 mL	2 mL	386954	04/08/22 20:56	MLT	FGS SEA

Client Sample ID: MW-9 Lab Sample ID: 590-17237-2 Date Collected: 04/05/22 12:55 **Matrix: Water** Date Received: 04/05/22 14:00

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1			35626	04/06/22 11:16	NMI	TAL SPI
Total/NA	Analysis	300.0		1			35627	04/06/22 11:16	NMI	TAL SP
Total/NA	Prep	200.7			50 mL	50 mL	35695	04/12/22 15:47	AMB	TAL SP
Total/NA	Analysis	200.7 Rev 4.4		1			35744	04/14/22 11:11	AMB	TAL SP
Dissolved	Prep	200.8			50 mL	50 mL	387401	04/13/22 18:58	TMH	FGS SE
Dissolved	Analysis	200.8		1	50 mL	50 mL	387559	04/14/22 15:25	FCW	FGS SE
Total/NA	Prep	200.8			50 mL	50 mL	387395	04/13/22 18:29	JLS	FGS SE
Total/NA	Analysis	200.8		1	50 mL	50 mL	387559	04/14/22 14:23	FCW	FGS SE
Total/NA	Analysis	SM 2320B		1	100 mL	100 mL	35741	04/18/22 08:56	AMB	TAL SP
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	35674	04/11/22 11:54	AMB	TAL SPI
Total/NA	Prep	SM 5220			2 mL	2 mL	386918	04/08/22 16:45	MLT	FGS SE
Total/NA	Analysis	SM 5220D		1	2 mL	2 mL	386954	04/08/22 20:56	MLT	FGS SE

Client Sample ID: MW-10 Lab Sample ID: 590-17237-3 Date Collected: 04/05/22 10:55 **Matrix: Water** Date Received: 04/05/22 14:00

_	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1			35626	04/06/22 11:31	NMI	TAL SPK
Total/NA	Analysis	300.0		1			35627	04/06/22 11:31	NMI	TAL SPK
Total/NA	Prep	200.7			50 mL	50 mL	35695	04/12/22 15:47	AMB	TAL SPK
Total/NA	Analysis	200.7 Rev 4.4		1			35744	04/14/22 11:15	AMB	TAL SPK
Dissolved	Prep	200.8			50 mL	50 mL	387401	04/13/22 18:58	TMH	FGS SEA
Dissolved	Analysis	200.8		1	50 mL	50 mL	387559	04/14/22 16:12	FCW	FGS SEA

Eurofins Spokane

Client: Valley Science and Engineering Project/Site: SIA/2018230022-002-201

Client Sample ID: MW-10

Date Collected: 04/05/22 10:55 Date Received: 04/05/22 14:00

Lab Sample ID: 590-17237-3

Matrix: Water

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	200.8			50 mL	50 mL	387395	04/13/22 18:29	JLS	FGS SEA
Total/NA	Analysis	200.8		1	50 mL	50 mL	387559	04/14/22 14:27	FCW	FGS SEA
Total/NA	Analysis	SM 2320B		1	100 mL	100 mL	35741	04/18/22 08:56	AMB	TAL SPK
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	35674	04/11/22 11:54	AMB	TAL SPK
Total/NA	Prep	SM 5220			2 mL	2 mL	386918	04/08/22 16:45	MLT	FGS SEA
Total/NA	Analysis	SM 5220D		1	2 mL	2 mL	386954	04/08/22 20:56	MLT	FGS SEA

Lab Sample ID: 590-17237-4

Matrix: Water

Date Collected: 04/05/22 12:06 Date Received: 04/05/22 14:00

Client Sample ID: MW-11

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1			35626	04/06/22 11:47	NMI	TAL SPK
Total/NA	Analysis	300.0		1			35627	04/06/22 11:47	NMI	TAL SPK
Total/NA	Prep	200.7			50 mL	50 mL	35695	04/12/22 15:47	AMB	TAL SPK
Total/NA	Analysis	200.7 Rev 4.4		1			35744	04/14/22 11:31	AMB	TAL SPK
Dissolved	Prep	200.8			50 mL	50 mL	387401	04/13/22 18:58	TMH	FGS SEA
Dissolved	Analysis	200.8		1	50 mL	50 mL	387559	04/14/22 16:16	FCW	FGS SE
Total/NA	Prep	200.8			50 mL	50 mL	387395	04/13/22 18:29	JLS	FGS SEA
Total/NA	Analysis	200.8		1	50 mL	50 mL	387559	04/14/22 14:31	FCW	FGS SEA
Total/NA	Analysis	SM 2320B		1	100 mL	100 mL	35741	04/18/22 08:56	AMB	TAL SPK
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	35674	04/11/22 11:54	AMB	TAL SPK
Total/NA	Prep	SM 5220			2 mL	2 mL	386918	04/08/22 16:45	MLT	FGS SE
Total/NA	Analysis	SM 5220D		1	2 mL	2 mL	386954	04/08/22 20:56	MLT	FGS SE

Client Sample ID: MW-12 Lab Sample ID: 590-17237-5 Date Collected: 04/05/22 09:19 **Matrix: Water**

Date Received: 04/05/22 14:00

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1			35626	04/06/22 12:02	NMI	TAL SPK
Total/NA	Analysis	300.0		1			35627	04/06/22 12:02	NMI	TAL SPK
Total/NA	Prep	200.7			50 mL	50 mL	35695	04/12/22 15:47	AMB	TAL SPK
Total/NA	Analysis	200.7 Rev 4.4		1			35744	04/14/22 11:35	AMB	TAL SPK
Dissolved	Prep	200.8			50 mL	50 mL	387401	04/13/22 18:58	TMH	FGS SEA
Dissolved	Analysis	200.8		1	50 mL	50 mL	387559	04/14/22 16:20	FCW	FGS SEA
Total/NA	Prep	200.8			50 mL	50 mL	387395	04/13/22 18:29	JLS	FGS SEA
Total/NA	Analysis	200.8		1	50 mL	50 mL	387559	04/14/22 14:35	FCW	FGS SEA
Total/NA	Analysis	SM 2320B		1	100 mL	100 mL	35741	04/18/22 08:56	AMB	TAL SPK
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	35674	04/11/22 11:54	AMB	TAL SPK
Total/NA	Prep	SM 5220			2 mL	2 mL	386918	04/08/22 16:45	MLT	FGS SEA
Total/NA	Analysis	SM 5220D		1	2 mL	2 mL	386954	04/08/22 20:56	MLT	FGS SEA

Eurofins Spokane

Lab Chronicle

Client: Valley Science and Engineering Project/Site: SIA/2018230022-002-201

Job ID: 590-17237-1

Laboratory References:

FGS SEA = Eurofins Seattle, 5755 8th Street East, Tacoma, WA 98424, TEL (253)922-2310 TAL SPK = Eurofins Spokane, 11922 East 1st Ave, Spokane, WA 99206, TEL (509)924-9200

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Accreditation/Certification Summary

Client: Valley Science and Engineering Project/Site: SIA/2018230022-002-201

Job ID: 590-17237-1

Laboratory: Eurofins Spokane

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Pro	ogram	Identification Number	Expiration Date
Washington	Sta	ate	C569	01-06-23
The following analytes	s are included in this reno	ort but the laboratory is r	not certified by the governing authority	This list may include analytes for which
The following analytes the agency does not o	•	ort, but the laboratory is r	not certified by the governing authority.	This list may include analytes for whic
• .	•	ort, but the laboratory is r Matrix	not certified by the governing authority. Analyte	This list may include analytes for whic

Laboratory: Eurofins Seattle

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Washington	State	C788	07-13-22

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Method Summary

Client: Valley Science and Engineering Project/Site: SIA/2018230022-002-201

Job ID: 590-17237-1

Method	Method Description	Protocol	Laboratory
300.0	Anions, Ion Chromatography	MCAWW	TAL SPK
200.7 Rev 4.4	Metals (ICP)	EPA	TAL SPK
200.8	Metals (ICP/MS)	EPA	FGS SEA
SM 2320B	Alkalinity	SM	TAL SPK
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL SPK
SM 5220D	COD	SM	FGS SEA
200.7	Preparation, Total Metals	EPA	TAL SPK
200.8	Preparation, Total Metals	EPA	FGS SEA
SM 5220	COD	SM	FGS SEA

Protocol References:

EPA = US Environmental Protection Agency

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

SM = "Standard Methods For The Examination Of Water And Wastewater"

Laboratory References:

FGS SEA = Eurofins Seattle, 5755 8th Street East, Tacoma, WA 98424, TEL (253)922-2310 TAL SPK = Eurofins Spokane, 11922 East 1st Ave, Spokane, WA 99206, TEL (509)924-9200

J-1/23/-1

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TestAmerica Spokane

11922 E. 1st Ave.

Chain of Custody Record

Test-	ΥM	eri	CO
THE LEADER IN	ENVIRO	MELENTAL	TESTING

Spokane, WA 99206 phone 509,924,9200 fax Regulatory Program □ DW □ NPDES ☐ RCRA ☐ Other TestAmerica Laboratories, Inc. **Client Contact** Project Manager: Sara Rodriguez Date COC No: Site Contact: Valley Science and Engineering Tel/Fax: (509) 703-2679 Carrier COCs Lab Contact. of 12720 E Nora Ave Ste A **Analysis Turnaround Time** Sampler^a ☐ CALENDAR DAYS Spokane, WA 99216 For Lab Use Only (509) 921-0290 Phone Walk-in Client: TAT if different from Below (509) 921-1788 FAX 2 weeks Lab Sampling: Bicarbonate alkalinity Spokane Airport 1 week Spokane Washington Job / SDG No. 2 days PO # 2018230022-002-201 1 day Type Sample Sample (C=Comp, Sample Identification Date Time Matrix Cont. G=Grab) Sample Specific Notes: H₂O G 8-WM H₂O Х G MW-9 use method with lowest detection G H₂O Х Х MW-10 limits for COD H₂O 1206 G Х Х MW-11 H₂O Х G xlx Х Х Χ MW-12 590-17237 Chain of Custody Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other Possible Hazard Identification Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample. Skin irritant Unknow Archive for____ Months Non-Hazard ☐ Flammable Return to Client Disposal by Lab Special instructions/QC Requirements & Comments. Please report results down to the MDL. **Custody Seals Intact:** Cooler Temp. ("C): Obs'd: Corr'd: Therm ID No.. 11000 ☐ Yes ☐ No Custody Seal No. Date/Time: 15 Relinquished by: Company Received by Company Date/Time: ANA 4/3/20 Oa Relinquished by Date/Time: Company: Date/Time Company: Relinquished by Date/Time: Date/Time: Company: Received in Laboratory by: Company:

Form No. CA-C-WI-002, Rev. 4.3, dated 12/05/2013

Page 21 of 24 4/19/2022

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Eurofins Spokane

11922 East 1st Ave Spokane, WA 99206

Chain of Custody Record



🔆 eurofins

Environment Testing America

Phone: 509-924-9200 Fax: 509-924-9290																							
Client Information (Sub Contract Lab)	Sampler:			Arri	b PM: rringto		₹and	lee E	·								No(s):				COC No: 590-6737.1		
Client Contact: Shipping/Receiving	Phone:										sus.co	эm			e of Ori shing						Page: Page 1 of 1		
Company: Eurofins Environment Testing Northwest,				 _						(See no ; State	note): te Prog	gram	n - W	/ashi	ingto	n					Job #: 590-17237-1		_
Address: 5755 8th Street East, ,	Due Date Requeste 4/18/2022	.ed:	*	i	1			·	-		nalys				<u> </u>		***************************************	***************************************	***************************************	1	Preservation Code		
City: Tacoma	TAT Requested (da	ays):																	William .		C - Zn Acetate	M - Hexane N - None O - AsNaO2	
State, Zip: WA, 98424	- BO #:						1	Mn	Man			.		1							E - NaHSO4 F - MeOH	P - Na2O4S Q - Na2SO3 R - Na2S2O3	
Phone: 253-922-2310(Tel)	PO #:				اړا			Fe	Fe &				,	1		1 1			Silvenus.		G - Amchler H - Ascerbic Acid	S - H2SO4 T - TSP Dodecahydra	irate
Email:	WO #:] N N N	(ON	$_{i}$ \downarrow	A,	Diss As,					1			***************************************				I - Ice J - DI Water	U - Acetone V - MCAA W - pH 4-5	
Project Name: SIA/2018230022-002-201	Project #: 59001988] \$	res or		TOT To	TRD DI		1		,						,	ntain	L - EDA	W - pH 4-5 Z - other (specify)	
Site:	SSOW#:				Samp	B	اءا	9					.]						,	통 6	Other:		
Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	and the second s	Matrix (W=water, S=50Bd, O=waste/oll, BT=Tlasue, A=Alr)	The second	Perform MS/MSD	410.2/410.2_Prep	200.8_CWA/200.8_P_TOT Total	200.8_CWA/FIELD_FLTRD		-							14.10.1		Total Number	Special Ins	structions/Note:	
		'ڲڲڲڶ	Preserva	ation Code:	<u> </u>	X		Ш			4									Δ			
MW-8 (590-17237-1)	4/5/22	13:18 Pacific	<u> </u>	Water	Ш	4	х	X	×									4		3	NAMES AND ADDRESS OF THE PARTY		
MW-9 (590-17237-2)	4/5/22	12:55 Pacific	<u> </u>	Water	Ш	\Box	х	х	×											3			
MW-10 (590-17237-3)	4/5/22	10:55 Pacific		Water			х	х	х											3			
MW-11 (590-17237-4)	4/5/22	12:06 Pacific		Water			х	х	x				T							3	***************************************		
MW-12 (590-17237-5)	4/5/22	09:19 Pacific		Water	丁	\prod	х	х	х				I	\Box						3		· · · · · · · · · · · · · · · · · · ·	
		<u> </u>		I	Ш	4						_	_			\perp	4				·	···	
		<u> </u>	$oxed{oxed}$	<u></u>	Ш						_	\perp											
	[]	[]		í	Ш								\downarrow										
		[1								I	I										
Note: Since laboratory accreditations are subject to change, Eurofins Environment does not currently maintain accreditation in the State of Origin listed above for analystatus should be brought to Eurofins Environment Testing Northwest, LLC attention	ılysis/tests/matrix bein	ng analyzed, the	he samples mus	ust be shipped bi	back to	to the E	Eurofin	ifins Env	nvironn	iment Te	Testing h	i Northy	hwest, L	, LLC la	laborat	atory or	or other	er instru	uctions v	will b	be provided. Any char	anges to accreditation	ratory
Possible Hazard Identification	***************************************				7	Sam	···~	-				ay bi	e as:	sess	sed if	f san	nples	s are			d longer than 1 m	•	
Unconfirmed Deliverable Requested: I, II, III, IV, Other (specify)	Primary Delivera	able Rank: 2	<u>;</u>		+	Spec				Client ns/QC	t C Requ		<i>Dis</i> ments		al By	/ Lab)		[⊥] Arc	zhive	ve For	Months	
Empty Kit Relinquished by:		Date:			Time	<u> </u>									Metho	d of S	Shipmer	ant:		*******			
			1	Company	10		Receive	vector	<i>f</i> :	<u></u>	7				-	- 10			7-7	_	· 24 / 2	Company	
	Date/Time: Date/Time:			Company	NO	/ R	Receive	Vertey	$ \equiv $	X	/						4 /* Date/Ti	· ·	22			Company	
Relinquished by:	Date/Time;			Company		R	₹eceiv	ived by:	<i>/</i> :						***************************************	Ē	Date/Ti	ime:	***************************************			Сотрапу	
Custody Seals Intact: Custody Seal No.:				V 4.1.N.,	<u>, 111</u>	7 i c	onler /	Temp	geratu	re(s)	Cend S	gher	Rema	arks:		7 4					<u> </u>	4.1.17 (8.8.17.8)	

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Tieses to Signature

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Ver: 06/08/2021 4/19/2022

Client: Valley Science and Engineering

Job Number: 590-17237-1

Login Number: 17237 List Source: Eurofins Spokane

List Number: 1

Creator: Vaughan, Madison 1

Question	Answer	Comment
Radioactivity wasn't checked or is = background as measured by a survey meter.</td <td>N/A</td> <td></td>	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Client: Valley Science and Engineering

Job Number: 590-17237-1

Login Number: 17237 List Source: Eurofins Seattle
List Number: 2 List Creation: 04/07/22 04:57 PM

Creator: Greene, Ashton R

Creator. Greene, Ashton R		
Question	Answer	Comment
Radioactivity wasn't checked or is = background as measured by a smeter.</td <td>survey N/A</td> <td></td>	survey N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	IR9 1.5 / 1.9
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the	COC. True	
Samples are received within Holding Time (excluding tests with immed HTs)	diate True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	s N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Eurofins Spokane

Sample ID	MW-8	
Date	10-18-20	
Time	1:00 pm	
Project	SIA Land Treatment Site GW Monitoring	
Sample Matrix	water	
Collection Method	low flow (0.2 - 0.3 L/min)	
Sample Location	dedicated tube	
Weather	700	
Sampling Personnel	TR#	

FIELD INSTRUMENTS

/		
рН	Oakton pH/Con 10	
Conductivity	Oakton pH/Con 10	
Temperature	Oakton pH/Con 10	
Oxidation Reduction Potential	Oakton ORPTestr 10	
Dissolved Oxygen	YSI 550A (El. 2350')	

PARAMETERS

Time	рН Сол	Conductivity	Conductivity Temperature	Reduction	Dissolved Oxygen	Comments
	su	uS/cm	°C	mV	mg/L	
1:05	7.42	345,4	14.7	64	3.8	
1.00 1:10	7.15	338.	14.3	72	3.4	
1:15	719	341.8	147	99	3.9	
1 20	75	339.0	14.5	98	3.6	
				9. E		

GENERAL NOTES

Static Water Level:	13.53ft Belie Sampling 13.53ft After Sampling 1:25pm-Pulled Sample	

Sample ID	MW-9	
Date	10-18-22	
Time	10:15	
Project	SIA Land Treatment Site GW Monitoring	
Sample Matrix	water	
Collection Method	low flow (0.2 - 0.3 L/min)	
Sample Location	dedicated tube	
Weather	650	
Sampling Personnel	JRH	

FIELD INSTRUMENTS

pH	Oakton pH/Con 10
Conductivity	Oakton pH/Con 10
Temperature	Oakton pH/Con 10
Oxidation Reduction Potential	Oakton ORPTestr 10
Dissolved Oxygen	YSI 550A

PARAMETERS

Time	Time	рН	рН	Conductivity	Temperature	Oxidation Reduction Potential	Dissolved Oxygen	Comments
	su	uS/em	°C	mV	mg/L			
10.20	7.69	18105	13.2	105	4.7			
10.25	7.51	163.7	13.5	102	4.4			
10:30	7.66	15101	13.9	116	4.7			
10 35	7.52	149.8	13.2	123	4.9			
		×						
				:				

GENERAL NOTES

		GENE
Static Water Level:	12.48ft - Before	sampling
	12.48ft - Before 12.49ft - Afrec	Sumplety
/	10:40 am pulled	sumple

Sample ID	MW-10	
Date	10/18/22	
Time	90 20 m	
Project	SIA Land Treatment Site GW Monitoring	
Sample Matrix	water	
Collection Method	low flow (0.2 - 0.3 L/min)	
Sample Location	dedicated tube	
Weather	600	
Sampling Personnel	JRH	

FIELD INSTRUMENTS

рН	Oakton pH/Con 10	
Conductivity	Oakton pH/Con 10	
Temperature	Oakton pH/Con 10	
Oxidation Reduction Potential	Oakton ORPTestr 10	
Dissolved Oxygen	YSI 550A	

PARAMETERS

Time	рН С	рН	Conductivity	Temperature	Oxidation Reduction Potential	Dissolved Oxygen	Comments
	su	uS/cm	°C	mV	mg/L		
9330	7.19	18901	11.9	34	5.8		
9:35	7.12	134.2	12,2	54	4.5		
9:40	7.35	182.9	12.2	73	4.5		
9:45	7.38	1830	12.2	76	4.5		
		, ,					
			R				

GENERAL NOTES

			OBI IBLE
Static Water Lev	el: 12.40 (+	- Belise	sumpling
Static Water Lev	14.15++	· Alter :	sumpling
	9:50 am	- pulled	sample
- Flow rate	(200-3000	nL/min)	1
		. ,	

Sample ID	MW-11	
Date	10-18-22	
Time	11:50	
Project	SIA Land Treatment Site GW Monitoring	
Sample Matrix	water	
Collection Method	low flow (0.2 - 0.3 L/min)	
Sample Location	dedicated tube	
Weather	700	
Sampling Personnel	JRH	

FIELD INSTRUMENTS

рН	Oakton pH/Con 10	
Conductivity	Oakton pH/Con 10	
Temperature	Oakton pH/Con 10	
Oxidation Reduction Potential	Oakton ORPTestr 10	
Dissolved Oxygen	YSI 550A	

PARAMETERS

Time	pН	Conductivity	Temperature	Oxidation Reduction Potential	Dissolved Oxygen	Comments
	su	uS/cm	°C	mV	mg/L	
1/155	7.63	178.7	14.0	97	4.6	
12:00	7.15	1777	14.2	106	14,3	
12:05	698	1799	14.2	115	3.7	
13 10	6.92	177.5	13,9	120	3.9	
. Wilk						

GENERAL NOTES

Static Water Level:	12.504-After sampling 12.15-Pulled sample	7
	12:15-Pulled sample	

Sample ID	MW-12	
Date	10-18-22	
Time	11:00 am	
Project	SIA Land Treatment Site GW Monitoring	
Sample Matrix	water	
Collection Method	low flow (0.2 - 0.3 L/min)	
Sample Location	dedicated tube	
Weather	700	
Sampling Personnel	JAH	

FIELD INSTRUMENTS

рН	Oakton pH/Con 10
Conductivity	Oakton pH/Con 10
Temperature	Oakton pH/Con 10
Oxidation Reduction Potential	Oakton ORPTestr 10
Dissolved Oxygen	YSI 550A

PARAMETERS

Time	рН	Conductivity	Temperature	Oxidation Reduction Potential	Dissolved Oxygen	Comments
	su	uS/cm	°C	mV	mg/L	
11:03	7.44	349.5	13.5	96	4/28	
11-10	7.13	346.3	13.7	100	5.0	
11.15	7.36	3469	13.4	108	500	
11,20	7,29	346.3	13.5	104	4,4	
				3. 3		
						· ·

GENERAL NOTES

			ENERAL NOTE
Static Water Level:	14.57	+ - Before	- sampling
Static Water Level:	14.554	it - After	sampling
		- Pulled	
			V

Valley Science and Engineering

12720 E Nora Avenue, Suite A | Spokane Valley, WA 99216 | (509) 921-0290 | FAX (509) 921-1788

Instrument Calibration Form					
Date:		Time: 4512 am			
Personnel		Instrument Oakton			
Calibration	Reading After				
Standards Used	Calibration	Comments			
	120				
1413	1413				
, 110					
11-7					
pH7	7.00				
V ·	1,00				
PH 10	10.01				
Date:		Time:			
Personnel		Instrument			
Calibration	Reading After	T			
Standards Used	Calibration	Comments			
		- VARIANCE V			
_					
k:					
Date:		Time:			
Personnel		Instrument			
Calibration	Reading After				
Standards Used	Calibration	Comments			



Environment Testing

ANALYTICAL REPORT

Eurofins Spokane 11922 East 1st Ave Spokane, WA 99206 Tel: (509)924-9200

Laboratory Job ID: 590-18996-1

Client Project/Site: SIA/2018230022-002-201

For:

Valley Science and Engineering 12720 E Nora Ave Spokane, Washington 99216

Attn: Sara Rodriguez

Langue timington

Authorized for release by: 11/1/2022 3:13:33 PM

Randee Arrington, Lab Director (509)924-9200

Randee.Arrington@et.eurofinsus.com

.....LINKS

Review your project results through

Have a Question?



Visit us at: www.eurofinsus.com/Env This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Client: Valley Science and Engineering Project/Site: SIA/2018230022-002-201

Laboratory Job ID: 590-18996-1

Table of Contents

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Case Narrative

Client: Valley Science and Engineering
Project/Site: SIA/2018230022-002-201

Job ID: 590-18996-1

Job ID: 590-18996-1

Laboratory: Eurofins Spokane

Narrative

Receipt

The samples were received on 10/18/2022 3:20 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 3.3° C.

GC Semi VOA

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

Metals

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

General Chemistry

Method SM 2320B: The method blank for analytical batch 590-38711 contained Bicarbonate Alkalinity as CaCO3 above the method detection limit (MDL). Associated samples were not re-analyzed because results were less than the reporting limit (RL) OR practical quantitation limit (PQL).

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

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Sample Summary

Client: Valley Science and Engineering Project/Site: SIA/2018230022-002-201

Job ID: 590-18996-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
590-18996-1	MW-8	Water	10/18/22 13:25	10/18/22 15:20
590-18996-2	MW-9	Water	10/18/22 10:40	10/18/22 15:20
590-18996-3	MW-10	Water	10/18/22 09:50	10/18/22 15:20
590-18996-4	MW-11	Water	10/18/22 12:15	10/18/22 15:20
590-18996-5	MW-12	Water	10/18/22 11:25	10/18/22 15:20

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Definitions/Glossary

Client: Valley Science and Engineering Job ID: 590-18996-1 Project/Site: SIA/2018230022-002-201

Qualifiers

M	eta	ls

Qualifier **Qualifier Description**

Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value. A negative instrument reading had an absolute value greater than the reporting limit

General Chemistry

Qualifier **Qualifier Description**

В Compound was found in the blank and sample.

J Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation These commonly used abbreviations may or may not be present in this report.

Listed under the "D" column to designate that the result is reported on a dry weight basis

%R Percent Recovery **CFL** Contains Free Liquid CFU Colony Forming Unit **CNF** Contains No Free Liquid

DER Duplicate Error Ratio (normalized absolute difference)

Dil Fac **Dilution Factor**

DL Detection Limit (DoD/DOE)

DL, RA, RE, IN Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample

Decision Level Concentration (Radiochemistry) DLC

EDL Estimated Detection Limit (Dioxin) LOD Limit of Detection (DoD/DOE) Limit of Quantitation (DoD/DOE) LOQ

MCL EPA recommended "Maximum Contaminant Level" Minimum Detectable Activity (Radiochemistry) MDA Minimum Detectable Concentration (Radiochemistry) MDC

MDL Method Detection Limit MLMinimum Level (Dioxin) MPN Most Probable Number MQL Method Quantitation Limit

NC Not Calculated

ND Not Detected at the reporting limit (or MDL or EDL if shown)

Negative / Absent NEG POS Positive / Present

PQL **Practical Quantitation Limit**

PRES Presumptive QC Quality Control

RER Relative Error Ratio (Radiochemistry)

Reporting Limit or Requested Limit (Radiochemistry) RL

RPD Relative Percent Difference, a measure of the relative difference between two points

Toxicity Equivalent Factor (Dioxin) **TEF** Toxicity Equivalent Quotient (Dioxin) TFO

TNTC Too Numerous To Count

Client Sample Results

Client: Valley Science and Engineering Project/Site: SIA/2018230022-002-201

Lab Sample ID: 590-18996-1 **Client Sample ID: MW-8**

Date Collected: 10/18/22 13:25 **Matrix: Water**

Date Received: 10/18/22 15:20

Sodium

Method: MCAWW 300.0	0 - Anions, Ion Chr	omatograph	ıy						
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	62		0.80	0.42	mg/L			10/18/22 20:11	1
Nitrate as N	3.3		0.20	0.057	mg/L			10/18/22 20:11	1
Nitrite as N	ND		0.20	0.069	mg/L			10/18/22 20:11	1
Sulfate	8.1		0.50	0.13	mg/L			10/18/22 20:11	1
Method: EPA 200.7 Rev	v 4.4 - Metals (ICP)								
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	43		1.0	0.20	mg/L		10/24/22 10:17	10/24/22 20:12	1
Magnesium	12		0.50	0.13	mg/L		10/24/22 10:17	10/24/22 20:12	1
Potassium	4.8		1.0	0.29	mg/L		10/24/22 10:17	10/24/22 20:12	1

Method: EPA 200.8 - Metals (ICP/MS)									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0020		0.0010	0.00020	mg/L		10/24/22 19:11	10/27/22 04:02	1
Iron	0.058	J	0.10	0.013	mg/L		10/24/22 19:11	10/27/22 04:02	1
Manganese	0.00051	J	0.0020	0.00046	mg/L		10/24/22 19:11	10/27/22 04:02	1

0.50

10

4.4

2.4

10

0.20 mg/L

Method: EPA 200.8 - Metals (ICP/MS) - Dissolved										
	Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Arsenic	0.0020		0.0010	0.00020	mg/L		10/25/22 19:19	10/27/22 01:26	1
	Iron	0.046	J	0.10	0.013	mg/L		10/25/22 19:19	10/27/22 01:26	1
	Manganese	0.00096	J	0.0020	0.00046	mg/L		10/25/22 19:19	10/27/22 01:26	1

General Chemistry									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chemical Oxygen Demand (MCAWW 410.4)	ND		10	5.0	mg/L			10/27/22 22:00	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	95	В	20	5.0	mg/L			10/21/22 14:13	1
Total Dissolved Solids (SM 2540C)	210		25	13	mg/L			10/24/22 13:12	1

Client Sample ID: MW-9 Lab Sample ID: 590-18996-2 Date Collected: 10/18/22 10:40 **Matrix: Water**

Date Received: 10/18/22 15:20

Magnesium

Potassium

Sodium

Sate Received: 10/10/22	10.20								
Method: MCAWW 300.	0 - Anions, Ion Chr	omatograph	ıy						
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	3.9		0.80	0.42	mg/L			10/18/22 20:24	1
Nitrate as N	4.6		0.20	0.057	mg/L			10/18/22 20:24	1
Nitrite as N	ND		0.20	0.069	mg/L			10/18/22 20:24	1
Sulfate	5.9		0.50	0.13	mg/L			10/18/22 20:24	1
Method: EPA 200.7 Re	v 4.4 - Metals (ICP)								
Analyte		Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	15		1.0	0.20	mg/L		10/24/22 10:17	10/24/22 20:16	1

0.50

1.0 0.50 0.13 mg/L

0.29 mg/L

0.20 mg/L

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10/24/22 10:17 10/24/22 20:16

10/24/22 10:17 10/24/22 20:16

10/24/22 10:17 10/24/22 20:16

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Job ID: 590-18996-1

10/24/22 10:17 10/24/22 20:12

Client Sample Results

Client: Valley Science and Engineering Project/Site: SIA/2018230022-002-201

Client Sample ID: MW-9 Lab Sample ID: 590-18996-2

Date Collected: 10/18/22 10:40 **Matrix: Water**

Date Received: 10/18/22 15:20

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0046		0.0010	0.00020	mg/L		10/24/22 19:11	10/27/22 04:05	1
Iron	0.039	J	0.10	0.013	mg/L		10/24/22 19:11	10/27/22 04:05	1
Manganese	0.0011	J	0.0020	0.00046	mg/L		10/24/22 19:11	10/27/22 04:05	1
Method: EPA 200.8 - Metals (ICP	/MS) - Dis	ssolved							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0047		0.0010	0.00020	mg/L		10/25/22 19:19	10/27/22 01:29	1
Iron	0.018	J	0.10	0.013	mg/L		10/25/22 19:19	10/27/22 01:29	1
Manganese	ND		0.0020	0.00046	mg/L		10/25/22 19:19	10/27/22 01:29	1
General Chemistry									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chemical Oxygen Demand (MCAWW 410.4)	ND		10	5.0	mg/L			10/27/22 22:00	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	80	В	20	5.0	mg/L			10/21/22 14:13	1
Total Dissolved Solids (SM 2540C)	97		25	13	mg/L			10/24/22 13:12	1

Client Sample ID: MW-10 Lab Sample ID: 590-18996-3 **Matrix: Water**

Date Collected: 10/18/22 09:50

Date Received: 10/18/22 15:20

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	20		0.80	0.42	mg/L			10/18/22 20:36	1
Nitrate as N	5.6		0.20	0.057	mg/L			10/18/22 20:36	1
Nitrite as N	ND		0.20	0.069	mg/L			10/18/22 20:36	1
Sulfate	5.9		0.50	0.13	mg/L			10/18/22 20:36	1
Method: EPA 200.7 Rev 4.4 - Mo	etals (ICP)								
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	17		1.0	0.20	mg/L		10/24/22 10:17	10/24/22 20:20	1
Magnesium	5.3		0.50	0.13	mg/L		10/24/22 10:17	10/24/22 20:20	1
Potassium	2.4		1.0	0.29	mg/L		10/24/22 10:17	10/24/22 20:20	1
Sodium	12		0.50	0.20	mg/L		10/24/22 10:17	10/24/22 20:20	1
Analyto	Pocult	Qualifier	DI	MDI	Unit	n	Droparod	Analyzod	Dil Fac
	0.0017	Qualifier	0.0010	MDL 0.00020		<u>D</u>	Prepared 10/24/22 19:11	Analyzed 10/27/22 04:08	
Arsenic					mg/L	<u>D</u>			
Analyte Arsenic Iron Manganese	0.0017	J	0.0010	0.00020	mg/L mg/L	<u>D</u>	10/24/22 19:11	10/27/22 04:08	1 1 1
Arsenic Iron Manganese	0.0017 0.043 0.00072	J	0.0010 0.10	0.00020	mg/L mg/L	<u> </u>	10/24/22 19:11 10/24/22 19:11	10/27/22 04:08 10/27/22 04:08	1
Arsenic Iron Manganese Method: EPA 200.8 - Metals (IC	0.0017 0.043 0.00072 P/MS) - Dis	J	0.0010 0.10	0.00020	mg/L mg/L mg/L	<u>D</u>	10/24/22 19:11 10/24/22 19:11	10/27/22 04:08 10/27/22 04:08	1 1
Arsenic Iron Manganese Method: EPA 200.8 - Metals (IC Analyte	0.0017 0.043 0.00072 P/MS) - Dis	J J ssolved	0.0010 0.10 0.0020	0.00020 0.013 0.00046	mg/L mg/L mg/L		10/24/22 19:11 10/24/22 19:11 10/24/22 19:11	10/27/22 04:08 10/27/22 04:08 10/27/22 04:08	1 1 1 Dil Fac
Arsenic Iron Manganese Method: EPA 200.8 - Metals (IC Analyte Arsenic	0.0017 0.043 0.00072 P/MS) - Dis Result	J J ssolved Qualifier	0.0010 0.10 0.0020	0.00020 0.013 0.00046	mg/L mg/L mg/L mg/L		10/24/22 19:11 10/24/22 19:11 10/24/22 19:11 Prepared	10/27/22 04:08 10/27/22 04:08 10/27/22 04:08 Analyzed	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
Arsenic Iron Manganese Method: EPA 200.8 - Metals (IC Analyte Arsenic Iron	0.0017 0.043 0.00072 P/MS) - Dis Result 0.0017	J J ssolved Qualifier	0.0010 0.10 0.0020 RL 0.0010	0.00020 0.013 0.00046 MDL 0.00020	mg/L mg/L mg/L Unit mg/L mg/L		10/24/22 19:11 10/24/22 19:11 10/24/22 19:11 Prepared 10/25/22 19:19	10/27/22 04:08 10/27/22 04:08 10/27/22 04:08 Analyzed 10/27/22 01:32	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
Arsenic Iron	0.0017 0.043 0.00072 P/MS) - Dis Result 0.0017 0.020	J J ssolved Qualifier	0.0010 0.10 0.0020 RL 0.0010 0.10	0.00020 0.013 0.00046 MDL 0.00020 0.013	mg/L mg/L mg/L Unit mg/L mg/L		10/24/22 19:11 10/24/22 19:11 10/24/22 19:11 Prepared 10/25/22 19:19 10/25/22 19:19	10/27/22 04:08 10/27/22 04:08 10/27/22 04:08 10/27/22 04:08 Analyzed 10/27/22 01:32 10/27/22 01:32	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
Arsenic Iron Manganese Method: EPA 200.8 - Metals (IC Analyte Arsenic Iron Manganese	0.0017 0.043 0.00072 P/MS) - Dis Result 0.0017 0.020 ND	J J ssolved Qualifier	0.0010 0.10 0.0020 RL 0.0010 0.10	0.00020 0.013 0.00046 MDL 0.00020 0.013	mg/L mg/L mg/L Unit mg/L mg/L mg/L mg/L		10/24/22 19:11 10/24/22 19:11 10/24/22 19:11 Prepared 10/25/22 19:19 10/25/22 19:19	10/27/22 04:08 10/27/22 04:08 10/27/22 04:08 10/27/22 04:08 Analyzed 10/27/22 01:32 10/27/22 01:32	1

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Job ID: 590-18996-1

Ingineering Job ID: 590-18996-1

Client: Valley Science and Engineering Project/Site: SIA/2018230022-002-201

Client Sample ID: MW-10 Lab Sample ID: 590-18996-3

Date Collected: 10/18/22 09:50 Matrix: Water

Date Received: 10/18/22 15:20

General Chemistry (Continued)									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	60	В	20	5.0	mg/L			10/21/22 14:13	1
Total Dissolved Solids (SM 2540C)	160		25	13	mg/L			10/24/22 13:12	1

Client Sample ID: MW-11

Date Collected: 10/18/22 12:15

Lab Sample ID: 590-18996-4

Matrix: Water

Date Received: 10/18/22 15:20

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	13		0.80	0.42	mg/L			10/18/22 20:49	1
Nitrate as N	4.8		0.20	0.057	mg/L			10/18/22 20:49	1
Nitrite as N	ND		0.20	0.069	mg/L			10/18/22 20:49	1
Sulfate	5.7		0.50	0.13	mg/L			10/18/22 20:49	1

Method: EPA 200.7 Rev 4.4 - Metals (ICP)								
Analyte	Result Qualifie	r RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	<u></u>	1.0	0.20	mg/L		10/24/22 10:17	10/24/22 20:24	1
Magnesium	6.4	0.50	0.13	mg/L		10/24/22 10:17	10/24/22 20:24	1
Potassium	3.7	1.0	0.29	mg/L		10/24/22 10:17	10/24/22 20:24	1
Sodium	6.3	0.50	0.20	mg/L		10/24/22 10:17	10/24/22 20:24	1

Method: EPA 200.8 - Metals (ICP)	/MS)								
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0019		0.0010	0.00020	mg/L		10/24/22 19:11	10/27/22 04:11	1
Iron	0.029	J	0.10	0.013	mg/L		10/24/22 19:11	10/27/22 04:11	1
Manganese	ND		0.0020	0.00046	mg/L		10/24/22 19:11	10/27/22 04:11	1

Method: EPA 200.8 - Metal	ls (ICP/MS) - Dissolved							
Analyte	Result Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0019	0.0010	0.00020	mg/L		10/25/22 19:19	10/27/22 01:35	1
Iron	0.023 J	0.10	0.013	mg/L		10/25/22 19:19	10/27/22 01:35	1
Manganese	ND	0.0020	0.00046	mg/L		10/25/22 19:19	10/27/22 01:35	1

General Chemistry Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chemical Oxygen Demand (MCAWW 410.4)	ND		10	5.0	mg/L			10/27/22 22:00	1
Bicarbonate Alkalinity as CaCO3 (SM 2320B)	50	В	20	5.0	mg/L			10/21/22 14:13	1
Total Dissolved Solids (SM 2540C)	160		25	13	mg/L			10/24/22 13:12	1

Client Sample ID: MW-12

Date Collected: 10/18/22 11:25

Lab Sample ID: 590-18996-5

Matrix: Water

Date Received: 10/18/22 15:20

Method: MCAWW 300.0 -								
Analyte	Result Qu	ualifier RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	44	0.80	0.42	mg/L			10/18/22 21:02	1
Nitrate as N	2.4	0.20	0.057	mg/L			10/18/22 21:02	1
Nitrite as N	ND	0.20	0.069	mg/L			10/18/22 21:02	1
Sulfate	15	0.50	0.13	mg/L			10/18/22 21:02	1

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Client Sample Results

Client: Valley Science and Engineering Project/Site: SIA/2018230022-002-201

Lab Sample ID: 590-18996-5

Matrix: Water

Job ID: 590-18996-1

Client Sample ID: MW-12
Date Collected: 10/18/22 11:25
Date Received: 10/18/22 15:20

Method: EPA 200.7 Rev 4.4 - Me Analyte		Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	40		1.0	0.20	mg/L		10/24/22 10:17	10/24/22 20:28	1
Magnesium	12		0.50	0.13	mg/L		10/24/22 10:17	10/24/22 20:28	1
Potassium	3.1		1.0	0.29	mg/L		10/24/22 10:17	10/24/22 20:28	
Sodium	19		0.50	0.20	mg/L		10/24/22 10:17	10/24/22 20:28	
Method: EPA 200.8 - Metals (ICI	P/MS)								
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fa
Arsenic	0.0030		0.0010	0.00020	mg/L		10/24/22 19:11	10/27/22 04:14	
Iron	0.17		0.10	0.013	mg/L		10/24/22 19:11	10/27/22 04:14	
Manganaca	0.0030		0.0020	0.00046	mg/L		10/24/22 19:11	10/27/22 04:14	
Manganese	0.0000				Ū				
		ssolved			Ū				
Method: EPA 200.8 - Metals (ICI	P/MS) - Dis	ssolved Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fa
Method: EPA 200.8 - Metals (ICI Analyte	P/MS) - Dis			MDL 0.00020		<u>D</u>	Prepared 10/25/22 19:19	Analyzed 10/27/22 01:38	Dil Fa
Method: EPA 200.8 - Metals (ICI Analyte Arsenic Iron	P/MS) - Dis Result	Qualifier	RL		mg/L	<u>D</u>			Dil Fa
Method: EPA 200.8 - Metals (ICI Analyte Arsenic	P/MS) - Dis Result 0.0031	Qualifier	RL 0.0010	0.00020	mg/L mg/L	<u>D</u>	10/25/22 19:19	10/27/22 01:38 10/27/22 01:38	Dil Fa
Method: EPA 200.8 - Metals (ICI Analyte Arsenic Iron	P/MS) - Dis Result 0.0031 0.041	Qualifier	RL 0.0010 0.10	0.00020 0.013	mg/L mg/L	<u>D</u>	10/25/22 19:19 10/25/22 19:19	10/27/22 01:38 10/27/22 01:38	Dil Fa
Method: EPA 200.8 - Metals (ICI Analyte Arsenic Iron Manganese General Chemistry	P/MS) - Dis Result 0.0031 0.041 ND	Qualifier	RL 0.0010 0.10	0.00020 0.013	mg/L mg/L mg/L	<u>D</u>	10/25/22 19:19 10/25/22 19:19	10/27/22 01:38 10/27/22 01:38	Dil Fa
Method: EPA 200.8 - Metals (ICI Analyte Arsenic Iron Manganese	P/MS) - Dis Result 0.0031 0.041 ND	Qualifier J	RL 0.0010 0.10 0.0020	0.00020 0.013 0.00046	mg/L mg/L mg/L	<u> </u>	10/25/22 19:19 10/25/22 19:19 10/25/22 19:19	10/27/22 01:38 10/27/22 01:38 10/27/22 01:38	
Method: EPA 200.8 - Metals (ICI Analyte Arsenic Iron Manganese General Chemistry Analyte Chemical Oxygen Demand (MCAWW	P/MS) - Dis Result 0.0031 0.041 ND	Qualifier J Qualifier	RL 0.0010 0.10 0.0020	0.00020 0.013 0.00046 MDL 5.0	mg/L mg/L mg/L	<u> </u>	10/25/22 19:19 10/25/22 19:19 10/25/22 19:19	10/27/22 01:38 10/27/22 01:38 10/27/22 01:38 Analyzed	

Client: Valley Science and Engineering Job ID: 590-18996-1 Project/Site: SIA/2018230022-002-201

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 590-38661/1003

Matrix: Water

Analysis Batch: 38661

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

MB MB

Analyte Result Qualifier RL **MDL** Unit Analyzed Dil Fac D **Prepared** 0.20 Nitrate as N ND 0.057 mg/L 10/18/22 17:01 Nitrite as N ND 0.20 0.069 mg/L 10/18/22 17:01

Client Sample ID: Lab Control Sample Lab Sample ID: LCS 590-38661/1004 **Matrix: Water** Prep Type: Total/NA

Analysis Batch: 38661

Spike LCS LCS %Rec Analyte Added Result Qualifier Unit %Rec Limits 90 - 110 Nitrate as N 5.00 5.16 mg/L 103 Nitrite as N 5.00 4.93 90 - 110 mg/L 99

Lab Sample ID: MB 590-38662/1003 **Client Sample ID: Method Blank Matrix: Water** Prep Type: Total/NA

Analysis Batch: 38662

MB MB Result Qualifier RL **MDL** Unit Dil Fac Analyte Prepared Analyzed Chloride ND 0.80 0.42 mg/L 10/18/22 17:01 Sulfate ND 0.50 0.13 mg/L 10/18/22 17:01

Lab Sample ID: LCS 590-38662/1004 **Client Sample ID: Lab Control Sample Matrix: Water** Prep Type: Total/NA

Analysis Batch: 38662

	Spike	LCS	LCS				%Rec		
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits		
Chloride	12.5	12.7		mg/L		101	90 - 110		
Sulfate	12.5	12.8		mg/L		102	90 - 110		

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: MB 590-38730/2-A **Client Sample ID: Method Blank Matrix: Water Prep Type: Total/NA**

Analysis Batch: 38739

	MB	MR							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	ND		1.0	0.20	mg/L		10/24/22 10:17	10/24/22 16:11	1
Magnesium	ND		0.50	0.13	mg/L		10/24/22 10:17	10/24/22 16:11	1
Potassium	ND		1.0	0.29	mg/L		10/24/22 10:17	10/24/22 16:11	1
Sodium	ND	L	0.50	0.20	ma/L		10/24/22 10:17	10/24/22 16:11	1

Lab Sample ID: LCS 590-38730/1-A **Client Sample ID: Lab Control Sample Matrix: Water** Prep Type: Total/NA

Analysis Batch: 38739							Prep E	Batch: 38730
	Spike	LCS	LCS				%Rec	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Calcium	50.0	48.4		mg/L		97	85 - 115	
Magnesium	50.0	49.7		mg/L		99	85 - 115	
Potassium	50.0	46.9		mg/L		94	85 - 115	
Sodium	50.0	47.6		mg/L		95	85 - 115	

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Prep Batch: 38730

Job ID: 590-18996-1

Client: Valley Science and Engineering Project/Site: SIA/2018230022-002-201

Method: 200.8 - Metals (ICP/MS)

Lab Sample ID: MB 580-407820/26-A

Matrix: Water

Analysis Batch: 408193

Client Sample ID: Method Blank

Prep Type: Total/NA Prep Batch: 407820

Analyte	Result 0	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.0010	0.00020	mg/L		10/24/22 19:11	10/27/22 02:38	1
Iron	ND		0.10	0.013	mg/L		10/24/22 19:11	10/27/22 02:38	1
Manganese	ND	(0.0020	0.00046	mg/L		10/24/22 19:11	10/27/22 02:38	1

MR MR

MD MD

ND

Lab Sample ID: LCS 580-407820/27-A

Matrix: Water

Analysis Batch: 408193

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 407820

П	7 many one Date min 100 100								
		Spike	LCS	LCS				%Rec	
	Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
	Arsenic	1.00	0.998		mg/L		100	85 - 115	
	Iron	20.0	19.6		mg/L		98	85 - 115	
	Manganese	1.00	1.01		mg/L		101	85 - 115	

Lab Sample ID: LCSD 580-407820/28-A

Matrix: Water

Analysis Batch: 408193

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 407820

	Spike	LCSD	LCSD				%Rec		RPD
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Arsenic	1.00	1.02		mg/L		102	85 - 115	2	20
Iron	20.0	20.0		mg/L		100	85 - 115	2	20
Manganese	1.00	1.02		mg/L		102	85 - 115	0	20

Lab Sample ID: MB 580-407912/14-A

Matrix: Water

Analysis Batch: 408193

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 407912

	IVID	INID							
Analyte Ro	esult	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.0010	0.00020	mg/L		10/25/22 19:19	10/27/22 00:38	1
Iron	ND		0.10	0.013	mg/L		10/25/22 19:19	10/27/22 00:38	1

0.0020

0.00046 mg/L

Lab Sample ID: LCS 580-407912/15-A

Matrix: Water

Manganese

Analysis Batch: 408193

Client Sample ID: Lab Control Sample

10/25/22 19:19 10/27/22 00:38

Prep Type: Total/NA

Prep Batch: 407912

	Spi	ke LCS	LCS			%Rec	
Analyte	Add	ed Result	Qualifier	Unit D	%Rec	Limits	
Arsenic	1.	00 1.00		mg/L	100	85 - 115	
Iron	20	.0 19.9		mg/L	99	85 - 115	
Manganese	1.	00 1.02		mg/L	102	85 - 115	

Lab Sample ID: LCSD 580-407912/16-A

Matrix: Water

Analysis Batch: 408193

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA Prep Batch: 407912

-	Spike	LCSD	LCSD				%Rec		RPD
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Arsenic	1.00	1.01		mg/L		101	85 - 115	1	20
Iron	20.0	20.3		mg/L		101	85 - 115	2	20
Manganese	1.00	0.997		mg/L		100	85 - 115	2	20

Eurofins Spokane

Client: Valley Science and Engineering Job ID: 590-18996-1 Project/Site: SIA/2018230022-002-201

Method: 410.4 - COD

Lab Sample ID: MB 480-647438/75 Client Sample ID: Method Blank

Matrix: Water

Analysis Batch: 647438

MB MB

Result Qualifier RL **MDL** Unit Analyzed Dil Fac Analyte D Prepared 10 10/27/22 22:00 **Chemical Oxygen Demand** ND 5.0 mg/L

Lab Sample ID: LCS 480-647438/76 **Client Sample ID: Lab Control Sample Matrix: Water** Prep Type: Total/NA

Analysis Batch: 647438

Spike LCS LCS %Rec Added Result Qualifier Unit D %Rec Limits 25.0 90 - 110 Chemical Oxygen Demand 25.7 mg/L 103

Lab Sample ID: 590-18996-4 MS Client Sample ID: MW-11 **Matrix: Water** Prep Type: Total/NA

Analysis Batch: 647438

Sample Sample Spike MS MS %Rec Result Qualifier Result Qualifier Limits **Analyte** Added Unit %Rec Chemical Oxygen Demand ND 50.0 45.8 75 - 125 mg/L

Method: SM 2320B - Alkalinity

Lab Sample ID: MB 590-38711/1 Client Sample ID: Method Blank Prep Type: Total/NA

Matrix: Water

Analysis Batch: 38711

MB MB

Analyte Result Qualifier RL MDL Unit Prepared Analyzed Dil Fac Bicarbonate Alkalinity as CaCO3 5.00 J 20 5.0 mg/L 10/21/22 14:13

Lab Sample ID: LCS 590-38711/2 **Client Sample ID: Lab Control Sample** Prep Type: Total/NA

Matrix: Water

Analysis Batch: 38711

LCS LCS Spike %Rec Analyte Added Result Qualifier Unit %Rec Limits Bicarbonate Alkalinity as CaCO3 505 mg/L 101 90 - 110

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 590-38780/1 Client Sample ID: Method Blank **Matrix: Water** Prep Type: Total/NA

Analysis Batch: 38780

MB MB

Result Qualifier RL MDL Unit Prepared Analyzed 13 mg/L Total Dissolved Solids $\overline{\mathsf{ND}}$ 25 10/24/22 13:12

Client Sample ID: Lab Control Sample Lab Sample ID: LCS 590-38780/2 **Matrix: Water** Prep Type: Total/NA

Analysis Batch: 38780

LCS LCS Spike %Rec Added Limits Result Qualifier Unit %Rec Total Dissolved Solids 504 503 100 80 - 120 mg/L

Eurofins Spokane

11/1/2022

Prep Type: Total/NA

Job ID: 590-18996-1

Client: Valley Science and Engineering Project/Site: SIA/2018230022-002-201

Client Sample ID: MW-8

Date Collected: 10/18/22 13:25 Date Received: 10/18/22 15:20

Lab Sample ID: 590-18996-1

Lab Sample ID: 590-18996-2

Lab Sample ID: 590-18996-3

Matrix: Water

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1	5 mL	5 mL	38661	10/18/22 20:11	NMI	EET SPK
Total/NA	Analysis	300.0		1	5 mL	5 mL	38662	10/18/22 20:11	NMI	EET SPK
Total/NA Total/NA	Prep Analysis	200.7 200.7 Rev 4.4		1	50 mL	50 mL	38730 38739	10/24/22 10:17 10/24/22 20:12		EET SPK EET SPK
Dissolved Dissolved	Prep Analysis	200.8 200.8		1	50 mL 50 mL	50 mL 50 mL	407912 408193	10/25/22 19:19 10/27/22 01:26		EET SEA EET SEA
Total/NA Total/NA	Prep Analysis	200.8 200.8		1	50 mL 50 mL	50 mL 50 mL	407820 408193	10/24/22 19:11 10/27/22 04:02	TMH FCW	EET SEA EET SEA
Total/NA	Analysis	410.4		1	2 mL	2 mL	647438	10/27/22 22:00	CSS	EET BUF
Total/NA	Analysis	SM 2320B		1	100 mL	100 mL	38711	10/21/22 14:13	AMB	EET SPK
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	38780	10/24/22 13:12	AMB	EET SPK

Client Sample ID: MW-9

Date Collected: 10/18/22 10:40

Date Received: 10/18/22 15:20

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1	5 mL	5 mL	38661	10/18/22 20:24	NMI	EET SPK
Total/NA	Analysis	300.0		1	5 mL	5 mL	38662	10/18/22 20:24	NMI	EET SPK
Total/NA	Prep	200.7			50 mL	50 mL	38730	10/24/22 10:17	AMB	EET SPK
Total/NA	Analysis	200.7 Rev 4.4		1			38739	10/24/22 20:16	AMB	EET SPK
Dissolved	Prep	200.8			50 mL	50 mL	407912	10/25/22 19:19	TMH	EET SEA
Dissolved	Analysis	200.8		1	50 mL	50 mL	408193	10/27/22 01:29	FCW	EET SEA
Total/NA	Prep	200.8			50 mL	50 mL	407820	10/24/22 19:11	TMH	EET SEA
Total/NA	Analysis	200.8		1	50 mL	50 mL	408193	10/27/22 04:05	FCW	EET SEA
Total/NA	Analysis	410.4		1	2 mL	2 mL	647438	10/27/22 22:00	CSS	EET BUF
Total/NA	Analysis	SM 2320B		1	100 mL	100 mL	38711	10/21/22 14:13	AMB	EET SPK
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	38780	10/24/22 13:12	AMB	EET SPK

Client Sample ID: MW-10

Date Collected: 10/18/22 09:50 Date Received: 10/18/22 15:20

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1	5 mL	5 mL	38661	10/18/22 20:36	NMI	EET SPK
Total/NA	Analysis	300.0		1	5 mL	5 mL	38662	10/18/22 20:36	NMI	EET SPK
Total/NA	Prep	200.7			50 mL	50 mL	38730	10/24/22 10:17	AMB	EET SPK
Total/NA	Analysis	200.7 Rev 4.4		1			38739	10/24/22 20:20	AMB	EET SPK
Dissolved	Prep	200.8			50 mL	50 mL	407912	10/25/22 19:19	TMH	EET SEA
Dissolved	Analysis	200.8		1	50 mL	50 mL	408193	10/27/22 01:32	FCW	EET SEA
Total/NA	Prep	200.8			50 mL	50 mL	407820	10/24/22 19:11	TMH	EET SEA
Total/NA	Analysis	200.8		1	50 mL	50 mL	408193	10/27/22 04:08	FCW	EET SEA
Total/NA	Analysis	410.4		1	2 mL	2 mL	647438	10/27/22 22:00	CSS	EET BUF

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11/1/2022

Matrix: Water

Job ID: 590-18996-1

Client: Valley Science and Engineering Project/Site: SIA/2018230022-002-201

Client Sample ID: MW-10

Date Collected: 10/18/22 09:50 Date Received: 10/18/22 15:20 Lab Sample ID: 590-18996-3

Matrix: Water

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 2320B		1	100 mL	100 mL	38711	10/21/22 14:13	AMB	EET SPK
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	38780	10/24/22 13:12	AMB	EET SPK

Lab Sample ID: 590-18996-4 Client Sample ID: MW-11

Date Collected: 10/18/22 12:15 **Matrix: Water**

Date Received: 10/18/22 15:20

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1	5 mL	5 mL	38661	10/18/22 20:49	NMI	EET SPK
Total/NA	Analysis	300.0		1	5 mL	5 mL	38662	10/18/22 20:49	NMI	EET SPK
Total/NA	Prep	200.7			50 mL	50 mL	38730	10/24/22 10:17	AMB	EET SPK
Total/NA	Analysis	200.7 Rev 4.4		1			38739	10/24/22 20:24	AMB	EET SPK
Dissolved	Prep	200.8			50 mL	50 mL	407912	10/25/22 19:19	TMH	EET SEA
Dissolved	Analysis	200.8		1	50 mL	50 mL	408193	10/27/22 01:35	FCW	EET SEA
Total/NA	Prep	200.8			50 mL	50 mL	407820	10/24/22 19:11	TMH	EET SEA
Total/NA	Analysis	200.8		1	50 mL	50 mL	408193	10/27/22 04:11	FCW	EET SEA
Total/NA	Analysis	410.4		1	2 mL	2 mL	647438	10/27/22 22:00	CSS	EET BUF
Total/NA	Analysis	SM 2320B		1	100 mL	100 mL	38711	10/21/22 14:13	AMB	EET SPK
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	38780	10/24/22 13:12	AMB	EET SPK

Client Sample ID: MW-12 Lab Sample ID: 590-18996-5

Date Collected: 10/18/22 11:25 Date Received: 10/18/22 15:20

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1	5 mL	5 mL	38661	10/18/22 21:02	NMI	EET SP
Total/NA	Analysis	300.0		1	5 mL	5 mL	38662	10/18/22 21:02	NMI	EET SP
Total/NA	Prep	200.7			50 mL	50 mL	38730	10/24/22 10:17	AMB	EET SPK
Total/NA	Analysis	200.7 Rev 4.4		1			38739	10/24/22 20:28	AMB	EET SP
Dissolved	Prep	200.8			50 mL	50 mL	407912	10/25/22 19:19	TMH	EET SEA
Dissolved	Analysis	200.8		1	50 mL	50 mL	408193	10/27/22 01:38	FCW	EET SEA
Total/NA	Prep	200.8			50 mL	50 mL	407820	10/24/22 19:11	TMH	EET SEA
Total/NA	Analysis	200.8		1	50 mL	50 mL	408193	10/27/22 04:14	FCW	EET SEA
Total/NA	Analysis	410.4		1	2 mL	2 mL	647438	10/27/22 22:00	CSS	EET BUF
Total/NA	Analysis	SM 2320B		1	100 mL	100 mL	38711	10/21/22 14:13	AMB	EET SPI
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	38780	10/24/22 13:12	AMB	EET SPK

Laboratory References:

EET BUF = Eurofins Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600

EET SEA = Eurofins Seattle, 5755 8th Street East, Tacoma, WA 98424, TEL (253)922-2310

EET SPK = Eurofins Spokane, 11922 East 1st Ave, Spokane, WA 99206, TEL (509)924-9200

Eurofins Spokane

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Matrix: Water

Accreditation/Certification Summary

Client: Valley Science and Engineering Project/Site: SIA/2018230022-002-201

Job ID: 590-18996-1

Laboratory: Eurofins Spokane

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	P	rogram	Identification Number	Expiration Date
Washington	S	state	C569	01-06-23
The following analytes the agency does not d		ort, but the laboratory is r	not certified by the governing authority.	This list may include analytes for w
Analysis Method	Prep Method	Matrix	Analyte	

Laboratory: Eurofins Buffalo

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Washington	State	C784	02-10-23

Laboratory: Eurofins Seattle

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Washington	State	C788	07-13-23

Eurofins Spokane

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Method Summary

Client: Valley Science and Engineering Project/Site: SIA/2018230022-002-201

Job ID: 590-18996-1

Method	Method Description	Protocol	Laboratory
300.0	Anions, Ion Chromatography	MCAWW	EET SPK
200.7 Rev 4.4	Metals (ICP)	EPA	EET SPK
200.8	Metals (ICP/MS)	EPA	EET SEA
410.4	COD	MCAWW	EET BUF
SM 2320B	Alkalinity	SM	EET SPK
SM 2540C	Solids, Total Dissolved (TDS)	SM	EET SPK
200.7	Preparation, Total Metals	EPA	EET SPK
200.8	Preparation, Total Metals	EPA	EET SEA

Protocol References:

EPA = US Environmental Protection Agency

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

SM = "Standard Methods For The Examination Of Water And Wastewater"

Laboratory References:

EET BUF = Eurofins Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600

EET SEA = Eurofins Seattle, 5755 8th Street East, Tacoma, WA 98424, TEL (253)922-2310

EET SPK = Eurofins Spokane, 11922 East 1st Ave, Spokane, WA 99206, TEL (509)924-9200

TestAmerica Spokane

Chain of Custody Record

TestAm	erica
THE LEADER IN ENVIRO	NMENTAL TESTING

11922 E. 1st Ave.

Spokane, WA 99206 phone 509.924.9200 fax	Regu	latory Pro	aram [] DW [NPDE:	s ſ	RCI	RA		Other											TestAmerica Laboratories	
Cilent Contact			ra Rodrigu				Con							Date							COC No:	
Valley Science and Engineering		509) 703-2					Con							Cari							of COCs	
12720 E Nora Ave Ste A			urnaround	Time		1	1	I	T		1	$\overline{}$		Vui.	"	Т	\top	П		T	Sampler ⁻	
Spokane, WA 99216	<u> </u>	DAR DAYS		KING DAY	/S	11		ž							ı					ı	For Lab Use Only	
(509) 921-0290 Phone		T if different fr		207,0 27,1		:	ž	and					1								Walk-in Client:	
(509) 921 1788 FAX	- - ' '		weeks				and h	œ					ΙI								Lab Sampling:	
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PO # 2018230022-002-201	1 8		l days				1	SSO	z		1		ΙI		7						5557 555 110.	
		1	Sample	1		{ÿ š	E L	2	នុ		E		اءا		1							
Sample Identification	Sample Date	Sample Time	Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y/N)	EPA 200.8 Total As, Fe	EPA 200.8 DIs	NO2-N, NO3-N	TOS Calclum	Magnesium	Sodium	Potassium		Ricarbo	Chloride	Sulfate			icanipina Secu	Sample Specific Notes:	~~~~~~~~~~
MW-8	0 18-22	1:25	G	H ₂ O		Ш	х	х	x	x :	x x	×	x		x x	x	х					
MW-9		p:40	G	H₂O			х	х	Х	X :	x x	X	х		x x							
MW-10		9:50	G	H ₂ O		П	х	х	х	x :	x x	X	x		x x						use method with lowest detection limits for COD	n
MW-11		12:15	G	H₂O		П	х	х	х	x :	x x	X	х		x x		х					
MW-12		11.25	G	H ₂ O		П	Х	х	х	x :	x x	X	х		x x	х	х					
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Preservation Used: 1= ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=	NaOH; 6= 0	Other		energian representation. Componentation and the												car same						
Possible Hazard Identification: Are any samples from a listed EPA Hazardous Waste? Please I Comments Section if the lab is to dispose of the sample.	.ist any EP <i>F</i>	A Waste Co	des for the	sample	in the	S	Samp	le D	lspo	osal (A fee	e ma	y be	ass	9880	i if s	amp	les	are r	etain	ed longer than 1 month)	
Non-Hazard Flammable Skin Irritant	Polsor		Unkno					Retu	rn to	Client			Di:	sposa	by La	b			Archi	re for_	Months	
Special Instructions/QC Requirements & Comments Please	report resi	ults down i	to the MDL	•																		
Custody Seals Intacl.	Custody S	eal No.							Co	oler T	emp.	(°C)	Obs	d	2	2	Cor	'd;_;	<u>5.2</u>		Therm ID No 1 005	
Relinquished by: JOSH HUGING: 5' LOWSE location / July 1		Valley	,	Date/Ti	2.24	5		enc	Vfr	~\C	veb				\		li-	,			Date/Time:	
Relinquished by Color Co	Company	<u>,</u> /		Date/Ti	me: 22.3(70/D	Recei	L'A			4	1	۷.		C T	omp	any. 7	Pa	>		Date/Time: 15/20	
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Eurofins Spokane

Laioillis Spokalle					
11922 East 1st Ave				eurofins	
Spokane, WA 99206	Chain of Cus	Chain of Custody Record			Environment Testing
Phone: 509-924-9200 Fax: 509-924-9290					America
Client Information (Sub Contract Lab)	Sampler:	Lab PM: Arrington, Randee E	Carrier Tracking No(s):	COC No:	
Client Contact: Shipping/Receiving	Phone:	E-Mail: Randee Arrington@et eurofineus com	State of Origin:	Page:	
Company: Eurofins Environment Testing Northeast,		Accreditations Required (See note)		Job #:	
Address:	Due Date Decuested.	otato Masimigioni, otate riog	raill - wasilingtori	590-18996-1	
10 Hazelwood Drive, ,	10/31/2022	Analys	Analysis Requested	Preservation Codes:	
Crity: Amherst	TAT Requested (days):			A - HCL B - NaOH	M - Hexane N - None
State, Zip: NY, 14228-2298				m	0 - AsnaO2 0 - Na2O4S 0 - Na2SO3
Phone: 716-691-2600(Tel) 716-691-7991(Fax)	PO #:			E - NaHSO4 F - MeOH G - Amchlor	R - Na2S2O3 S - H2SO4
Email:	WO#:			Acid	T - TSP Dodecahydrate U - Acetone
Project Name: SIA/2018230022-002-201	Project #: 59000246	6 (Yes o		J - DI Water K - EDTA L - EDA	V - MCAA W - pH 4-5 Y - Trizma
Site: CES - SIA	SSOW#:			Other:	Z - otner (specify)
Sample Identification - Client ID (Lab ID)	0	Matrix (W=water, S=solid, O=waste/oll,		o tedmuM list	
		=Air) IL D			Special Instructions/Note:
	Process	Droconcition Code:			

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Water Water Water Water

Water

Pacific 09:50 Pacific 12:15

> MW-10 (590-18996-3) MW-11 (590-18996-4) MW-12 (590-18996-5)

MW-9 (590-18996-2) MW-8 (590-18996-1)

Preservation Code:

10/18/22 10/18/22 10/18/22 10/18/22 10/18/22 Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Northwest, LLC places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/lests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Northwest, LLC altention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Environment Testing Northwest, LLC, attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Environment Testing Northwest, LLC, attention immediately.

		5	ample Dienosal / A fee may be accepted if		
Unconfirmed			e may	ampies are retained longer than	1 month)
			Return To Client Disposal By Lab	ab Archive For	Months
Deliverable Requested: I, II, III, JV, Other (specify)	Primary Deliverable Rank: 2	S	Requir		Simon
Empty Kit Relinquished by:/	Date:	Time:	-	Wethod of Shipment:	
Relinquished by: M. Clark	Date (1) OS	え遊ぶ	Received by:	Date/Time: (C) C) Company	Company
Relinquished by:	Date/Time:	Company	Received by:		Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Custody Seals Intact: Custody Seal No					
Δ Yes Δ No			Cooler Temperature(s) °C and Other Remarks:	41+1 # 218	

11/1/2022

Ver: 06/08/2021

Eurofins Spokane

11922 East 1st Ave

Spokane, WA 99206

Chain of Custody Record



🔅 eurofins

Environment Testing America

Client Information (Sub Contract Lab)	Sampler:				PM: ington	M: Carrier Trac gton, Randee E							er Tracking No(s):					COC No: 590-7272.1			
Shipping/Receiving	Phone:			E-M		-			rofinsı	is.con	n			Origin: ington					Page: Page 1 of 1		
Company:				1	Accre	ditatio	ns Req	ired (See no	e):				<u> </u>					Job#:		
Eurofins Environment Testing Northwest, ddress:	Due Date Reques	tod:			Stat	e - W	ashing	jton;	State	Progr	ram -	Wash	ingto	n					590-18996-1		
755 8th Street East, ,	10/31/2022	ieu.				Analysis Requested												Preservation Co	odes: M - Hexane		
ity: acoma	TAT Requested (c	lays):								Ť				T			Τ		A - HCL B - NaOH	N - None O - AsNaO2	
tate, Zip: VA, 98424							_				ļ								C - Zn Acetate D - Nitric Acid E - NaHSO4	P · Na2O4S Q - Na2SO3	
ione: 53-922-2310(Tel)	PO#:				11	e & Min													F - MeOH G - Amchlor	R - Na2S2O3 S - H2SO4	
nail:	WO #:) (S) (S)	As, Fe	As,				Ì								H - Ascorbic Acid	T - TSP Dodecahydrate U - Acetone V - MCAA	
oject Name: A/2018230022-002-201	Project #: 59000246				Jes (D Diss	j			ĺ							iners	J - DI Water K - EDTA L - EDA	W - pH 4-5 Y - Trizma	
le: ES - SIA	SSOW#:				Sample (Yes or No	P_T0	ELTH.	Ì										containe	Other:	Z - other (specify)	
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Client: Valley Science and Engineering

Job Number: 590-18996-1

Login Number: 18996 List Source: Eurofins Spokane

List Number: 1 Creator: Fettig, Riley

Creator: Fettig, Riley		
Question	Answer	Comment
Radioactivity wasn't checked or is = background as measured by a survey meter.</td <td>N/A</td> <td></td>	N/A	
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Eurofins Spokane

Client: Valley Science and Engineering

Job Number: 590-18996-1

Login Number: 18996
List Number: 3
List Source: Eurofins Buffalo
List Creation: 10/24/22 10:13 AM

Creator: Kolb, Chris M

Creator. Roll, Critis W		
Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background	True	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	3.3 ir gun #1 ice
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time (Excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Sampling Company provided.	True	
Samples received within 48 hours of sampling.	True	
Samples requiring field filtration have been filtered in the field.	True	
Chlorine Residual checked.	True	

Eurofins Spokane

Client: Valley Science and Engineering

Job Number: 590-18996-1

Login Number: 18996
List Source: Eurofins Seattle
List Number: 2
List Creation: 10/22/22 02:15 PM

Creator: Vallelunga, Diana L

Creator. Valleluliga, Dialia L		
Question	Answer	Comment
Radioactivity wasn't checked or is = background as measured by a survey meter.</td <td>N/A</td> <td></td>	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Eurofins Spokane

Appendix E.

Stormwater-Containing Glycol Land Application Reporting Form – Daily Log

- Instructions: 1. Measure and record the glycol concentration, total volume applied, application rates.
 - 2. Report total acreage covered, date, and time.
 - 3. Record conditions, any problems, solutions, observations.
 - 4. Complete this form and return to the airport each week, even if no operation occurred.
 - 5. Email the completed form to sara.rodriguez@valmont.com.

Date	Ti	me	Driver Initials	Glycol Concentratio	Volume Applied		tion Rate	Area	Conditions/Notes 1
	Start	Stop	Initials	%	Applied gallons	gal/acre	lb COD/acre		
					• •				
							<u> </u>		
Total					0				
Comments:									

¹ Description of weather, site conditions, problems, results of application, runoff, or other observations related to the sites, water quality, and deicer land application.

Appendix F.

Stormwater-Containing Glycol Sampling Field Sheet

SAMPLE COLLECTION DATA

Sample ID	Stormwater-Containing Glycol
Date	
Time	
Project	SIA Land Treatment Site Monitoring
Sample Matrix	Liquid
Collection Method	Grab
Sample Location	Land Application Tank
Weather	
Sampling Personnel	

FIELD INSTRUMENTS

pH	Oakton pH/Con 10
Conductivity	Oakton pH/Con 10
Temperature	Oakton pH/Con 10
Glycol	Misco Palm Abby 220 (SIA owned)

PARAMETERS

рН	Conductivity	Temp	Glycol	
s.u.	μS/cm	°C	%	Comments
	•			

GENERAL NOTES

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Appendix G.

Land Treatment Site Groundwater Sampling Field Sheet

SAMPLE COLLECTION DATA

Sample ID	
Date	
Time	
Project	SIA Land Treatment Site GW Monitoring
Sample Matrix	Water
Collection Method	low flow (0.2 - 0.3 L/min)
Sample Location	dedicated tube
Weather	
Sampling Personnel	

FIELD INSTRUMENTS

pH	Oakton pH/Con 10
Conductivity	Oakton pH/Con 10
Temperature	Oakton pH/Con 10
Oxidation Reduction Potential	Oakton ORPTestr 10
Dissolved Oxygen	YSI 550A (El. 2350')

PARAMETERS

Time	pН	Conductivity	Temperature	Oxidation Reduction Potential	Dissolved Oxygen	Comments
	s.u.	μS/cm	°C	mV	mg/L	

GENERAL NOTES

Static Water Level:	

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