



City of Kalamazoo, Michigan Lead Solubility Testing

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1.0 INTRODUCTION

1.1 BACKGROUND

Historically, the City has used hexametaphosphate for sequestering iron and as a corrosion inhibitor at all their pumping stations throughout the service area. The City of Kalamazoo (City) requested Tetra Tech perform a desk top corrosion control study to evaluate the use of a liquid blended phosphate corrosion inhibitor instead of continuing to feed sodium hexametaphosphate at each of their pumping stations. Tetra Tech was also engaged to perform the design services to implement the conversion to the commercial phosphate inhibitor at each of their stations and other improvements. In March 2017, Tetra Tech recommended the City could switch to a liquid inhibitor product that contained a blend of ortho- and polyphosphate to provide an orthophosphate dose similar to what was measured in the existing system and supplying sufficient polyphosphate to sequester iron and calcium. The City switched to the use of the Carus 8400, which consists of a blend of 60% polyphosphate and 40% orthophosphate at several of their stations. Four of the stations were initially converted to the new feed system and began feeding the Carus 8400 blended phosphate corrosion inhibitor product. Some initial lead sampling results obtained after the change order indicated that the product may not be providing the improved lead corrosion benefit that was anticipated.

Therefore, Tetra Tech was requested to provide a testing program for implementation of a coupon test set up at each of the stations to evaluate the performance of the corrosion inhibitor product. The lead solubility test was intended to study the current product versus other competing products to assess their corrosion control effectiveness. The Michigan Department of Environment, Great Lakes, and Energy (EGLE) reviewed the proposed test plan and recommended that the City perform bench-scale lead solubility tests with different corrosion inhibitors to determine the effectiveness of various blends and different concentrations of orthophosphate before completing a field corrosion inhibitor coupon study. To this end, Tetra Tech completed an initial bench-scale test to evaluate the effect of various corrosion inhibitor products with varying orthophosphate-polyphosphate ratios in the untreated water from Pump Station 14, as a screening level study to guide decision making for final selection of a product to be used system wide. The first round of testing compared the performance of sodium hexametaphosphate at the historical dose, Carus 8400, 8600 and 8700 (blended phosphates) at doses of 1.5 and 3.0 mg/L as PO₄, Carus 3900 (zinc polyphosphate) against the chlorinated raw water with no corrosion inhibitor added. The results of the testing showed that the lower dose of the Carus 8400 and the higher dose of the Carus 8700 were most effective. However, the products were not able to reduce the lead release rates to below those of the untreated water after 30 days of exposure when the lead release rates leveled off.

The results of the testing were presented to the City and to EGLE for review and comment. The initial report noted that at higher levels of alkalinity and DIC exhibited by the raw water that lead carbonate would tend to be the dominant corrosion product formed and might not offer the same level of protection that a lead phosphate complex could provide. It was agreed that a second round of solubility testing would be performed in which higher concentrations of orthophosphate would be used and two products containing a higher percentage of orthophosphate would be tested to evaluate their effectiveness.

1.2 PURPOSE

The purpose of this report is to present the results of the second round of bench-scale corrosion inhibitor testing and the assessment of their corrosion control effectiveness. The bench-scale test was completed following the protocol developed by Cornwell as described in "Coupon Procedures for Evaluating Lead and Copper Solubility," Cornwell, David A. and Wagner, Jacob R., October 2019, Volume 111, Issue 10, pp. 12-24. Based on the results from the bench-scale test, this report discusses which corrosion control product and dose was more effective in

treating the City's water and provides observational conclusions and recommendations to help the City decide how to proceed.

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2.0 CORROSION INHIBITOR BENCH-SCALE EVALUATION

2.1 BENCH-SCALE TEST OVERVIEW

The project team conducted bench-scale testing of Kalamazoo's untreated water from Pump Station 14 to evaluate the corrosion control effectiveness of different inhibitor products at different doses. The solubility study tested lead release rates using products in which the percentage of orthophosphate varied. A total of thirteen water qualities were tested using four different phosphate-blended products having higher percentages of orthophosphate. The orthophosphate dose for each product was varied from the maximum of 3.0 mg/L used in the first round testing up to a maximum of 6.0 mg/L.

The test included one raw water sample as a blank to understand how the water would behave without the use of a corrosion inhibitor for comparison and three samples of each of corrosion inhibitor using increasing doses of orthophosphate to assess their corrosion control performance with higher orthophosphate concentration and varying polyphosphate concentration. **Table 2-1** summarizes the inhibitor products and their doses that were used in this study.

Table 2-1 Lead Solubility Product Testing Matrix

Description	Jar No.	Product	Poly:Ortho Ratio	Product Dose, mg/L	Orthophosphate Dose, mg/L PO ₄ /L	Polyphosphate Dose, mg/L PO ₄ /L
Blank	0	-	-	-	-	-
Prior Ortho	1	Carus 8600-P	30:70	4.3	3.00	1.3
Med Ortho	2	Carus 8600-M	30:70	6.4	4.50	1.9
High Ortho	3	Carus 8400-H	30:70	8.6	6.00	2.6
Prior Ortho	4	Carus 8700-P	15:85	3.5	1.50	0.5
Med Ortho	5	Carus 8700-M	15:85	5.3	4.50	0.8
High Ortho	6	Carus 8700-H	15:85	7.1	6.00	1.1
Prior Ortho	7	WSU-178-P	26:74	4.1	3.00	1.1
Med Ortho	8	WSU-178-M	26:74	6.1	4.50	1.6
High Ortho	9	WSU-178-H	26:74	8.1	6.00	2.1
Prior Ortho	11	WSU-110-P	10:90	3.3	3.00	0.3
Med Ortho	12	WSU-110-M	10:90	5.0	4.50	0.5
High Ortho	13	WSU-110-H	10:90	6.7	6.00	0.7

2.2 TEST PROCEDURE

A large sample volume was collected for use throughout the duration of the testing at the beginning of the first round of solubility testing. It was observed during the first round of testing that the dissolved iron in the sample was being oxidized at an increased rate as the test progressed and was causing the raw water sample color and turbidity to increase. The second round of testing required more jars to be tested and therefore, a larger sample volume than the first round of solubility testing. Therefore, a decision was made to collect raw water samples as additional sample volume was required to reduce the impact of iron oxidation upon the sample color and turbidity. Samples were

collected from Pump Station 14 (PS14) on April 26, 2021; May 18, 2021; May 25, 2021; June 8, 2021; June 14, 2021 and June 25, 2021.

Bench scale solubility tests were performed over a period of 12 weeks using raw water from PS14 beginning on May 6, 2021 and concluding with the last set of lead samples collected on July 13, 2021. Thirteen (13) samples were tested twice per week where raw water from PS14 was dosed with different inhibitor products at different doses as described in **Table 2-1**. The more detailed laboratory procedure followed is contained in Appendix A and an overall summary of the procedure is provided here.

Each sample contained 800-mL of untreated water from PS14 and was dosed with the specified corrosion inhibitor solution at the defined doses, and with sodium hypochlorite to simulate current disinfection practices. The pH was adjusted using hydrochloric acid to simulate gas chlorination as currently used at the pump stations. After a 20-minute mixing time, fresh solutions were transferred into 12 ounce (355 mL) wide mouth mason jars and the lead coupons, which were suspended from plexiglass covers, were placed over the top of the jars and excess solution was expelled out thus creating an airtight seal. The remaining fresh solution, or treated sample water, volume was analyzed for the parameters listed in **Table 2-2**. A sample of the treated water sample was withdrawn and sent to an accredited laboratory for analysis of total phosphorus concentration.

The mason jars containing the test solution and the lead coupons were normally allowed to sit for a 3- to 4-day period when a new set of fresh solution samples were prepared. However, due to holidays during the test period and raw water sample collection stagnation periods of a minimum of 2 days and a maximum of 5 days occurred. The lead coupons were then transferred from the spent solution (3 to 4 days old) into the fresh treated water samples. The contents of the spent solution mason jars were analyzed at the end of each exposure period for the parameters listed in **Table 2-2** by withdrawing 100 mL of sample. The remaining spent solution water was acidified with nitric acid to a pH 2 and allowed to stand for approximately 20 hours to dissolve any particulate lead. A sample of this acidified spent solution was sent to an accredited laboratory for analysis of lead concentration.

A total of 13 tests were planned to be performed where Pump Station 14's source water was dosed with corrosion inhibitor products, chlorine, and hydrochloric acid over a 6 week period. The study was planned to last long enough so that the lead concentration curve would flatten out, but not too long to avoid increasing the cost of this preliminary bench-scale study. However, the test was extended to a total of 18 tests after a sample was received with a high level of phosphate in the raw water sample.

Table 2-2 Solubility Test Sampling and Analysis

Parameter	Sampling Frequency			
	PS 14 Source Water	Treated Sample Water	End of Each Exposure Period	End of Test Period
Bench Laboratory Measurements				
Alkalinity	Each Change Out	Each Jar	Each Jar	--
Ammonia	Each Change Out	--	--	--
Calcium	Each Change Out	--	--	--
Chloride	Each Change Out	--	--	--
Conductivity	Each Change Out	Each Jar	Each Jar	--
Iron	Each Change Out	--	--	--
Orthophosphate	Each Change Out	Each Jar	Each Jar	--
pH	Each Change Out	Each Jar	Each Jar	--
Sulfate	Each Change Out	--	--	--
Total Chlorine	Each Change Out	Each Jar	Each Jar	--
Temperature	Each Change Out	Each Jar	Each Jar	--
Outside Laboratory Tests				
Lead	Each Change Out	--	Each Jar	--
Total Phosphorus	Each Change Out	Each Jar	--	--
Coupon Weight Loss	N/A	--	--	All Jars

2.3 RESULTS

2.3.1 Raw Water

The raw water from Pump Station 14 was tested for various water quality parameters when each new batch of test solutions was prepared to understand the quality of water prior to chemical addition. The raw water quality is summarized in **Table 2-3**.

Table 2-3 Raw Water Quality

Parameter	Average	Minimum	Maximum
pH	8.04	7.53	8.42
Temperature, °C	22.9	21.1	24.5
Total Chlorine, mg/L	0.03	0.0	0.10
Conductivity, µS/cm	842	667	908
Turbidity, NTU	1.17	0.48	4.03
Alkalinity, mg/L as CaCO ₃	284	240	312
Calcium, mg/L as CaCO ₃	203	31	304
Free Ammonia, mg/L	0.07	0.02	0.19
Iron, mg/L	0.08	0.01	0.12
Chloride, mg/L	41.8	10.4	128
Sulfate, mg/L	31	16	82
Color, Pt-Co	9.6	0	44
Orthophosphate, mg/L as PO ₄ ³⁻	1.13	0.07	7.64

The test water after chemical addition was analyzed for the water quality parameters described in **Table 2-2**

Table 2-2. Water quality results of fresh test water and spent solution measured in-house are presented in **Appendix A**. Lead and total phosphorus concentrations as tested by an accredited laboratory are summarized in **Appendix B**.

2.3.2 Total Phosphorus

Total phosphorus, Total P, samples were collected for analysis after chemicals were added to the raw water to prepare fresh solution to go in each jar. The raw water generally had minimal total phosphorus levels (< 0.1 mg PO_4/L) which were considered the Total-P baseline that would increase with the addition of phosphate corrosion inhibitors. The sum of raw water Total-P and orthophosphate and polyphosphate levels of each inhibitor product yields Total-P concentrations in the fresh test samples. **Figure 2-1** presents the initial concentration of Total P in the test samples. The results generally reflect the expected concentrations of total phosphorus after chemical addition with some outlying results. The second water sample that was collected had a higher level of total P which may have been the result of the station not being in operation at the time the sample was collected which resulted in some water that had residual chemical in it being pulled back into the sample tap. The water sample collected on June 8, 2021 was measured to contain a very high level of Total P as shown in **Figure 2-1** for test 11. The normal procedure to make the most efficient use of time and staff was to perform the orthophosphate test following making up the new solutions since the test takes more time to perform. The high orthophosphate level was not discovered until after the jars had been filled with the new solution. The remaining raw water sample was discarded and a new sample was collected as soon as possible. The coupons remained in contact with the solution with the higher phosphate concentration for a period of 6 days waiting for the new sample to arrive. Strict instructions were provided for the collection of any subsequent samples to confirm that Station 14 was in operation so that the sample reflects the raw water quality only without any chemical addition. The testing period was also extended so that several water changes could be performed with the raw without any chemicals in the raw water.

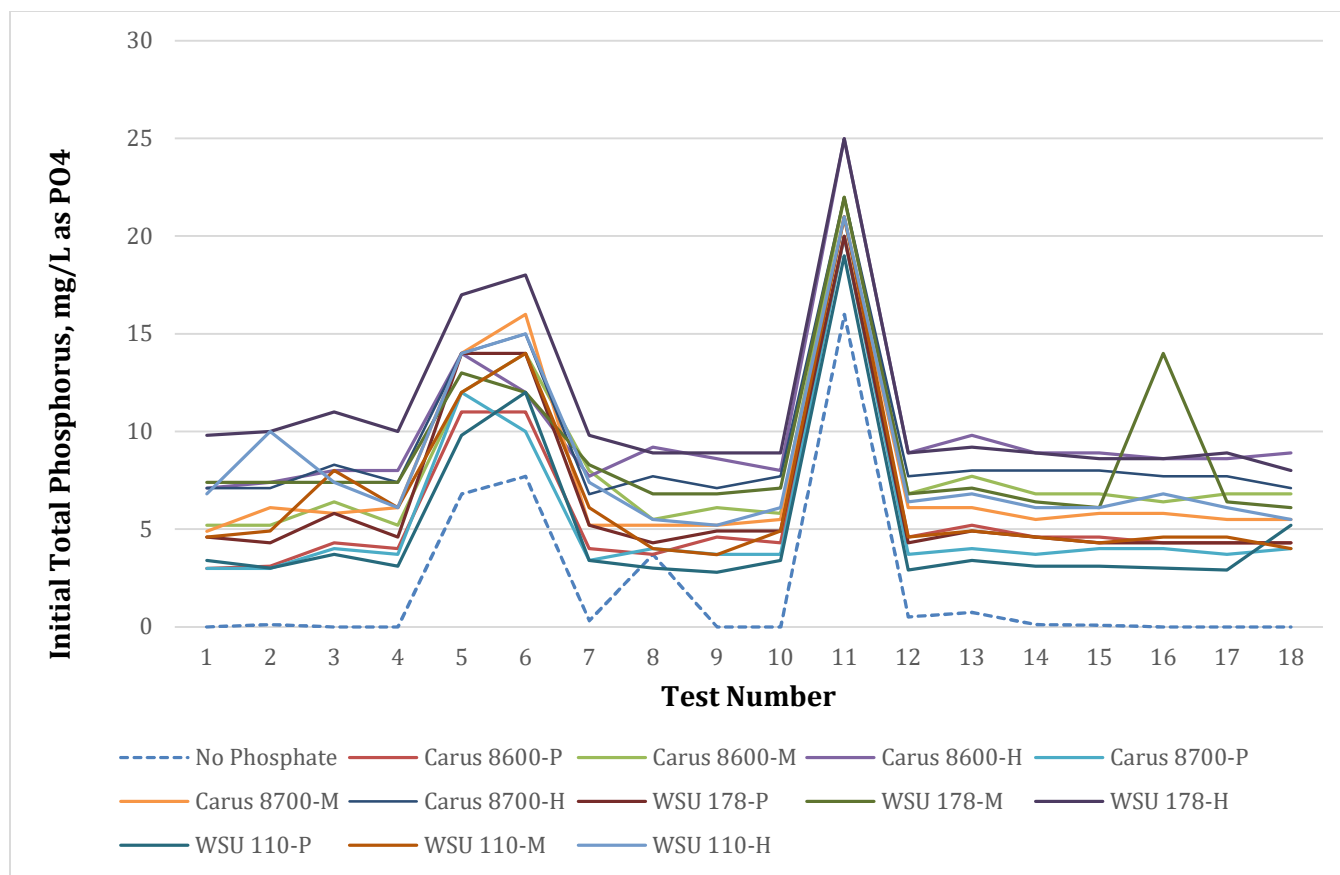


Figure 2-1 Total Phosphorus Concentration

2.3.3 Orthophosphate

The purpose of this study was to test different corrosion inhibitors at varying orthophosphate-to-polyphosphate ratios and with higher concentrations of orthophosphate to determine which product provided better results for corrosion control in the distribution system and if a higher orthophosphate dose provided better lead release control. Orthophosphate is commonly used for lead and copper control and polyphosphate is mainly used for sequestering iron, manganese and calcium. Orthophosphate control on lead and copper release rates depends on the pH and dissolved inorganic carbon (DIC) of the water, on the characteristics of existing corrosion scale, and on the concentration of orthophosphate added. The solutions used in each jar were measured for orthophosphate concentration before introduction of the lead coupons and after the lead coupons were removed. Initial orthophosphate levels are presented in **Figure 2-2**. Resulting orthophosphate concentrations are approximate to the target dosing levels described in **Table 2-1**. As shown in **Figure 2-2** there were variations in the phosphate concentrations in the raw water which may have resulted from water samples being collected when the station was not running and there was some residual chemical in the lines. The water samples obtained for test 13 thru 17 were checked to see that there was not phosphate added and the resulting initial orthophosphate concentrations were consistent at the end of the test with the exception of the WSU 178 product at a dose of 3.0 mg/L as PO4 which was high in the last test.

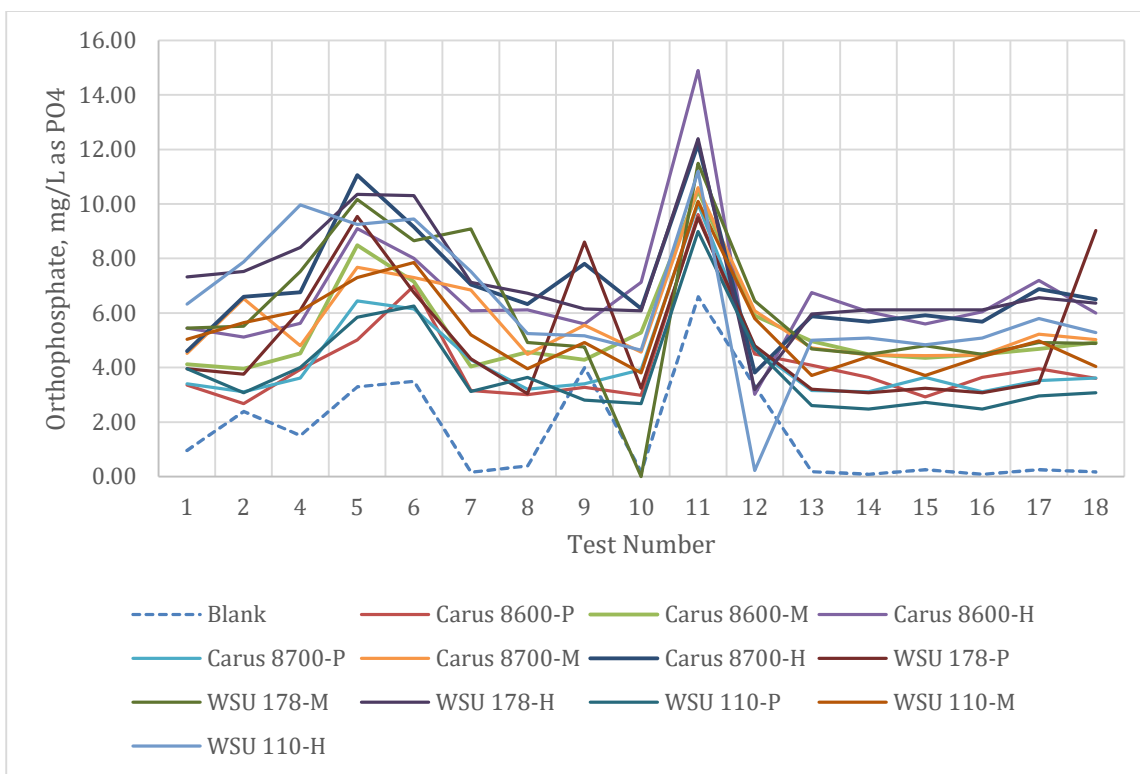


Figure 2-2 Measured Initial Orthophosphate Concentration

2.3.4 Chlorine Residual

While necessary for disinfection, chlorine is an oxidant considered to be a corrosive agent in water. Chlorine is known to affect iron the most, but it also appears to have an effect on lead and copper metals. Chlorine's corrosion potential is typically diminished by increasing the pH of the water or adding orthophosphate. In order to simulate system conditions, chlorine was added to the test samples with a target minimum residual of 1 mg/L after 3 to 4 days of contact time. Chlorine was added in the form of sodium hypochlorite solution after the corrosion inhibitor was added in order to limit the oxidation of dissolved iron. A small amount of hydrochloric acid was added to compensate for the pH effect of adding hypochlorite solution instead of gaseous chlorine solution as currently practiced by the City. The same chlorine dose was added to all the jars and the dose was not adjusted for each jar to achieve the same residual. The chlorine residual was below target levels in the first experiments and, therefore, the chlorine dose was adjusted to meet the 1 to 1.5 mg/L chlorine residual target for all subsequent tests. **Figure 2-3** shows chlorine residual of the spent solution after being in contact with lead coupons for a 2 to 6-day period. Although each jar was dosed with the same amount of chlorine the residuals remaining in the jars varied over a range of close to zero to 2.0 mg/L during the test period. The two spikes in chlorine residual measured for test 6 and test 8 do not appear to correlate to other water quality variables measured during the testing. Iron concentrations which can exert a significant chlorine demand were consistently very low during the test. During the middle of the test the water treated with a corrosion inhibitor generally had a higher chlorine residual than the blank, but at the beginning and end of the test the chlorine residual of the blank was generally higher than most of the samples treated with a phosphate inhibitor. Although some variations are present the chlorine residual for each test period the measurements for all jars increased or decreased in a similar pattern.

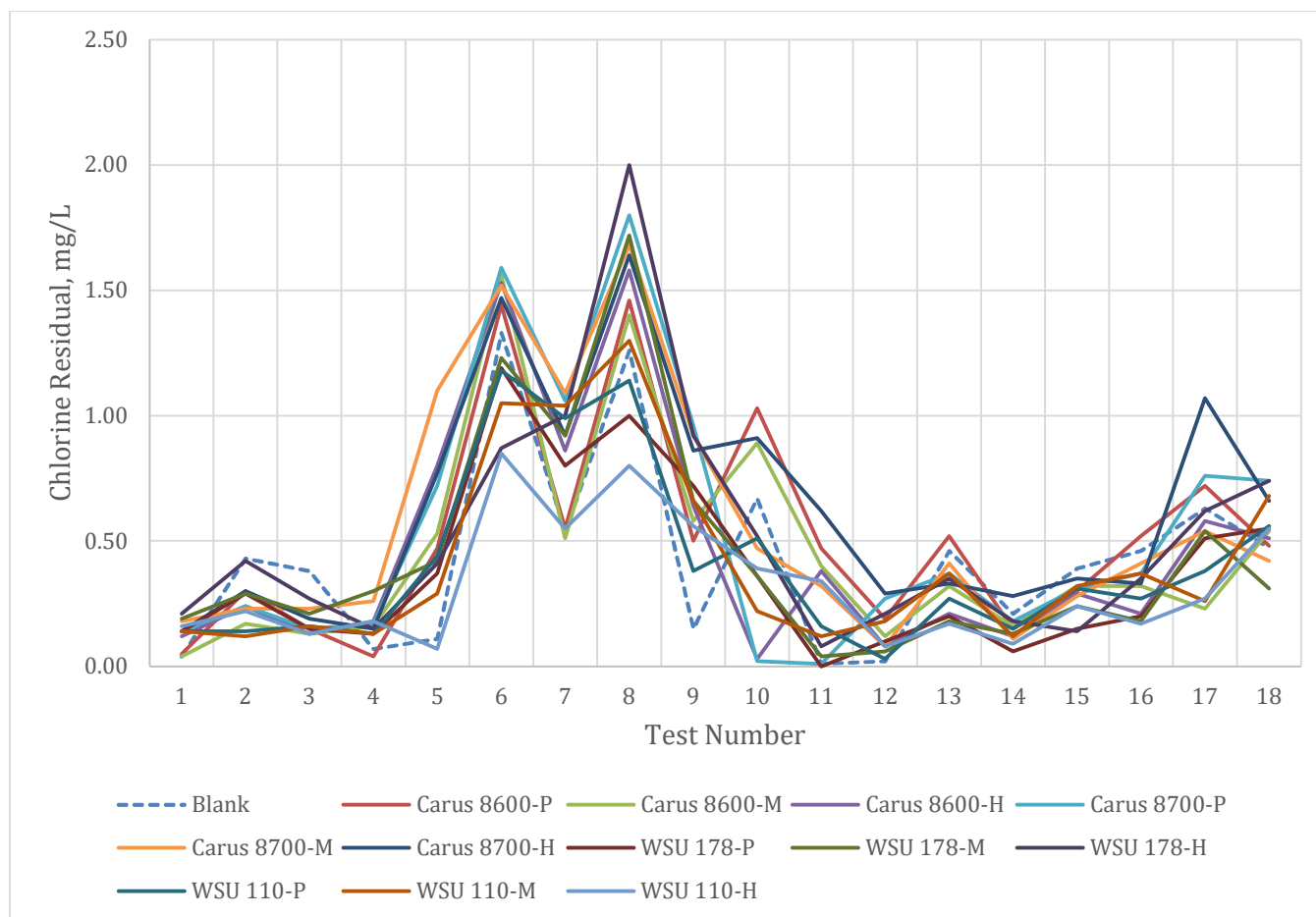


Figure 2-3 Chlorine Residual of Spent Solutions

2.3.5 pH and Alkalinity

Alkalinity is the capacity of water to buffer pH changes that helps maintain a stable pH level. Alkalinity is primarily the sum of carbonate, bicarbonate, and hydrogen and hydroxide ions. Dissolved inorganic carbon (DIC) is a water parameter related to alkalinity, but more relevant to corrosion as it directly measures the carbonate species found in water that can react with lead and copper to form passivating scales. DIC is the total amount of inorganic carbon in the water which equals to the sum of carbon dioxide, carbonic acid, carbonate, and bicarbonate.

The pH, alkalinity, and DIC of water can vary within the distribution system due to interactions between the water and the pipes, biological activity, and decreased disinfectant levels. However, systems try to maintain a buffer intensity, or buffer capacity, that limits pH fluctuations. Literature indicates that waters with a pH range of 8.8 to 10 and low DIC (less than 10 mg/L as C) have high buffer intensity and therefore exhibit less variability in pH levels in the distribution system. And, conversely, high DIC levels may aggravate the solubility of metals found in pipe scales as literature indicates that DIC concentrations above approximately 20 mg/L as C can cause an increase in lead solubility.

Table 2-4 and **Table 2-5** summarize experimental results of pH and alkalinity and calculated results of DIC for the fresh test samples (initial) and the spent solutions (final), respectively. The average pH, alkalinity, and DIC remained stable when comparing the initial and final water qualities which indicates that there was not a significant change in dissolved carbon dioxide while the solutions were in the jars. However, pH values of 7.8 - 8.0 and high DIC values, >60, are not within recommended ranges for metals solubility control. To lower DIC concentrations and increase

pH of the water, carbonic acid needs to be stripped out of the water as carbon dioxide. Another alternative is to increase the water pH with the use of chemicals, including potassium hydroxide, sodium hydroxide, and calcium hydroxide to form a protective scale on the pipe walls to reduce the rate of lead release into the water. However, adjusting the pH or DIC of the test solutions to achieve higher pH or lower DIC to reduce corrosion rates was not part of this study.

Table 2-4 Initial Carbonate System Chemistry

Description	pH			Alkalinity, mg/L as CaCO ₃			DIC, mg/L as C		
	Max	Min	Average	Max	Min	Average	Max	Min	Average
Raw	8.42	7.53	8.04	312	240	284	77.0	58.5	68.8
Blank	8.41	7.59	7.98	292	222	268	71.8	54.3	64.9
C8600-P	8.30	7.49	7.97	288	220	260	71.8	54.5	63.4
C8600-M	8.27	7.49	8.00	280	192	256	69.0	48.2	62.3
C8400-H	8.33	7.48	7.98	288	234	262	71.9	56.3	63.9
C8700-P	8.34	7.48	7.95	292	236	266	73.7	57.2	65.0
C8700-M	8.31	7.50	7.97	308	232	268	77.0	56.2	65.4
C8700-H	8.28	7.51	7.98	288	234	268	71.5	56.1	65.2
W178-P	8.36	7.50	7.97	292	232	270	71.0	55.8	65.7
W178-M	8.27	7.50	7.96	292	232	270	72.6	56.0	65.9
W178-H	8.27	7.52	8.03	388	232	277	72.9	56.1	65.9
W110-P	8.28	7.55	7.90	290	244	274	72.0	59.1	66.8
W110-M	8.33	7.55	7.99	292	244	277	72.9	58.3	67.1
W110-H	9.32	7.43	8.01	290	248	277	74.3	52.7	67.1

Table 2-5 Final Carbonate System Chemistry

Description	pH			Alkalinity, mg/L as CaCO ₃			DIC, mg/L as C		
	Max	Min	Average	Max	Min	Average	Max	Min	Average
Blank	8.30	7.55	7.95	310	208	273-	78.2	51.0	66.6
C8600-P	8.22	7.61	7.97	294	218	273	73.4	53.0	66.6
C8600-M	8.24	7.61	7.97	292	252	275	72.5	61.1	67.1
C8400-H	8.20	7.58	7.98	290	232	277	71.6	56.3	67.4
C8700-P	8.26	7.49	7.97	286	244	278	72.1	59.4	67.8
C8700-M	8.22	7.50	7.92	289	202	271	72.2	51.2	66.3
C8700-H	8.29	7.41	7.96	294	234	277	73.4	60.1	67.6
W178-P	8.26	7.62	8.01	304	254	278	74.4	61.2	67.6
W178-M	8.24	7.49	7.99	300	266	281	74.7	64.0	68.6
W178-H	8.26	7.57	8.00	308	256	281	75.7	62.7	68.4
W110-P	8.32	7.56	7.99	294	262	281	74.1	63.6	68.3
W110-M	8.27	7.65	8.03	296	264	283	73.8	63.6	68.9
W110-H	8.25	7.57	8.03	292	256	282	71.5	62.3	68.5

2.3.6 Color

Color is a secondary standard that has been found to be objectionable when exceeding 15 color units. High levels of color in drinking water can be a result of dissolved inorganic material, inadequate treatment, iron and manganese precipitates. Metals, including lead, copper, and iron, are also common causes of colored waters as they are released from corroded pipe walls into the bulk water. Corrosion of metal surfaces, dissolution of corrosion scale, and scouring of corrosion sediments can cause metals to release into the bulk water and, therefore, increase color in the water.

Figure 2-4 presents apparent color concentrations of the spent solutions. Apparent color measures insoluble and soluble substances as opposed to true color which only measures soluble substances following sample filtration. In the early part of the test there was significant variation in color values and many jars exceeded the color in the blank, however in the latter portion of the test the values were lower with less variation and the large majority were less than the secondary standard. Average color concentrations ranged between 13.6 and 20.73 Pt-Co units for the treated samples prior to introduction of the coupons and the raw water averaged 9.64 and the chlorinated blank averaged 20.71. The Carus 8700 product was at the high end of the average color and the WSU products were at the lower end. Average color concentrations for the spent solutions ranged between 8.24 and 11.29 Pt Co units and the untreated, chlorinated raw water blank averaged 8.24. The Carus 8700 product was at the high end, but below the secondary standard and the other products had color values less than 10. The average color values for the solutions before the coupons were introduced were higher than the untreated raw water, but lower than the chlorinated, untreated raw water blank and the average color values for the spent solutions after the lead coupons were removed were all below the secondary standard of 15 Pt Co units.

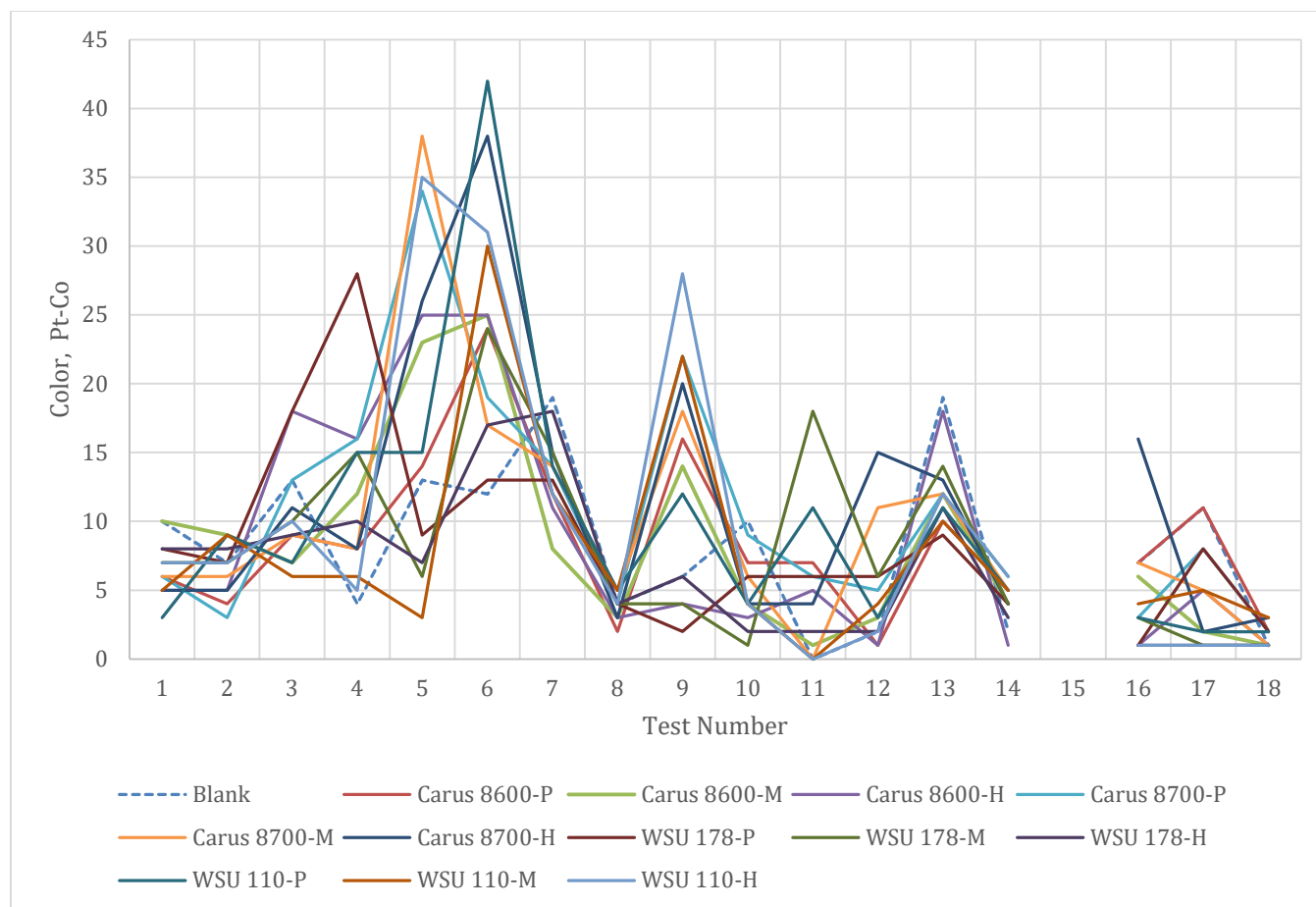


Figure 2-4 Color Levels in Spent Solutions

2.3.7 Turbidity

Turbidity, a measurement of the light scattering ability of insoluble substances in the water, serves as an indicator of the cloudiness of the water. High turbidity can lead to customer complaints and can reduce the effectiveness of the disinfection process. Turbidity of the initial chlorinated, blank sample and the spent solutions is shown in **Figure 2-5**. Turbidity of the raw water following chlorination and prior to the introduction of the lead coupon (initial) varied between 0.32 and 2.74 NTU. The turbidity of the spent solutions after the lead coupons were removed were tightly grouped together as shown in **Figure 2-5** and were all less than 1 NTU. The turbidities of all the treated water samples after exposure to the lead coupons were less than the initial chlorinated raw water and therefore, it does not appear that the addition of the corrosion inhibitors would not increase the turbidities of the finished water. The turbidities of the spent solutions also closely tracked the turbidity of the blank further reinforcing the conclusion that the addition of the corrosion inhibitors did not contribute to any significant increase in turbidity.

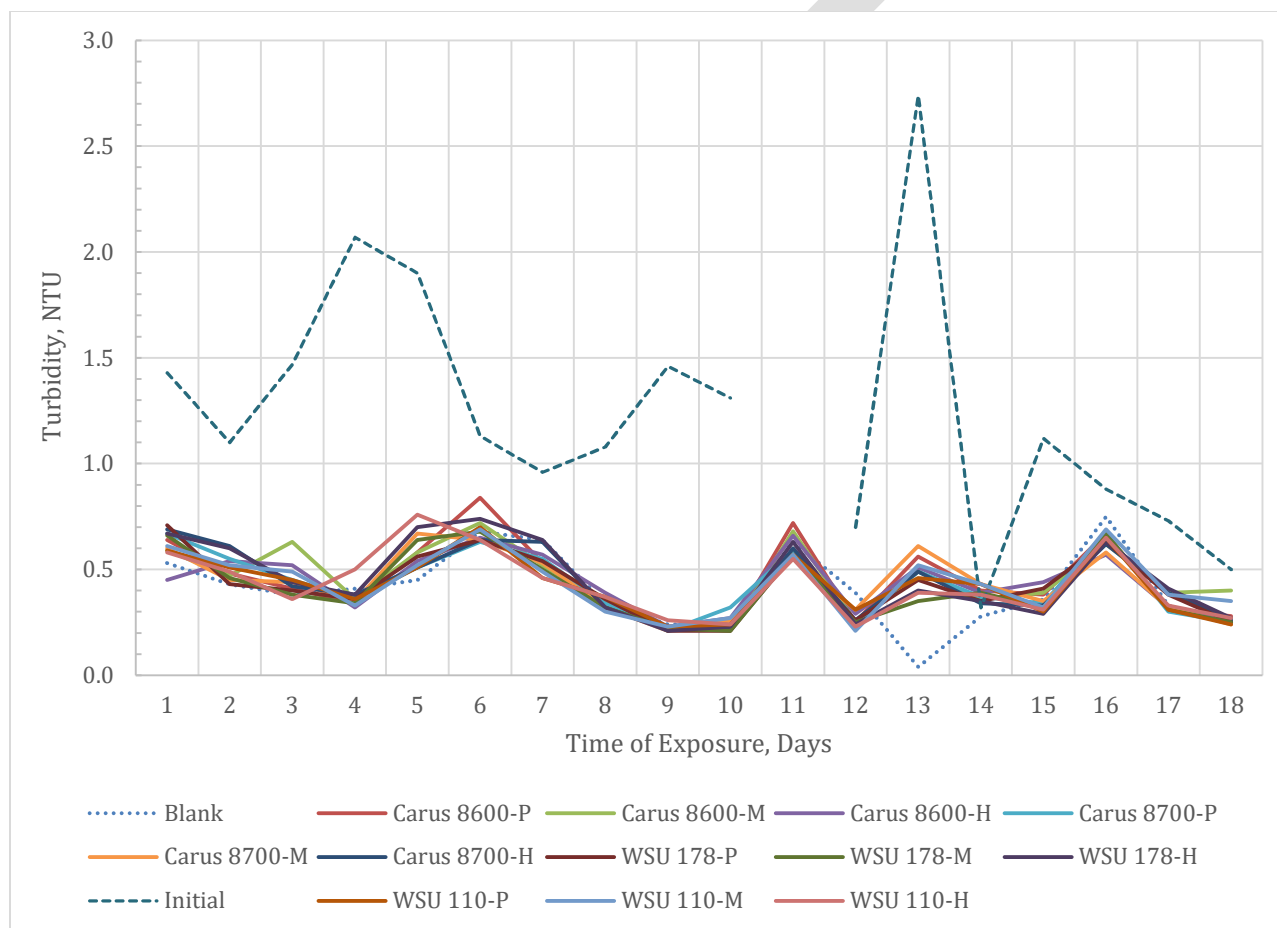


Figure 2-5 Final Turbidity Levels

Table 2-6 presents deviations in turbidity with time for Tests 1, 5, and 11. The final turbidity was measured in spent solutions that were in contact with the lead coupons for a 3 to 4-day period. The remaining sample volume was allowed to stand for an extra 3 to 4 days and turbidity was once again measured. Turbidity can further decrease when the water is allowed to sit for a longer period of time which is representative of distribution conditions where large particles settle in the pipelines as pipe velocities decrease.

The final turbidities in test 1 were all higher with phosphate addition compared to the blank, with the Carus 8700-H and WSU 178 H having the smallest increases with turbidities less than 0.5 NTU. The middle dose of each product

had a higher turbidity increase up to 1-1.5 NTU and the highest turbidity increase was associated with the low dose of Carus 8600. In test 5 the final turbidities were all higher than the blank, the lowest increase was for the low dose of the Carus 8600 and the highest turbidity increase was for the high dose of the Carus 8600. The turbidities of the other products and doses varied between 0.5 and 1.2 NTU which do not represent significant turbidity levels that would lead to customer complaints. The blank solution turbidity after the holding period was not measured in test 11 however, the initial turbidity of the blank was 0.63 for comparison. The turbidities of the solutions varied between 0.29 and 1.22 NTU. All values were less than 1 NTU, except for the low dose of the Carus 8700. The data indicate that the addition of the corrosion inhibitor products did increase the turbidities of many of the samples, the turbidity increases were not large and would not be expected to be high enough that they would be noticeable by customers.

Table 2-6 Turbidity Concentration with Time

Inhibitor Product	Final Turbidity, NTU			Final + 3-4 Days Turbidity, NTU		
	1	5	11	1	5	11
Blank	1.02	-	0.63	0.19-	0.22	-
C8600-P	1.10	0.45	0.72	2.00	0.37	0.32
C8600-M	1.01	0.58	0.68	1.09	0.88	0.73
C8600-H	0.96	0.58	0.66	0.9	1.53	0.88
C8700-P	0.89	0.54	0.59	0.74	1.00	1.22
C8700-M	0.88	0.51	0.55	1.01	0.83	0.64
C8700-H	1.07	0.67	0.60	0.39	0.59	0.71
W178-P	0.86	0.51	0.57	0.92	1.02	0.29
W178-M	0.88	0.56	0.57	1.53	0.54	0.88
W178-H	0.82	0.64	0.63	0.46	0.72	0.75
W110-P	0.87	0.70	0.57	0.93	0.59	0.36
W110-M	0.83	0.51	0.57	1.19	1.01	0.60
W110-H	0.81	0.52	0.55	0.97	1.15	0.98

2.3.8 Lead Solubility

The lead release rates versus test number are graphed in **Figure 2-6** for comparison to the other water quality results and versus time in **Figure 2-7**. The untreated sample and the 3.0 mg/L dose of Carus 8600 had very high initial lead concentrations whereas all the other products had release rates of around 80 to 150 µg/L-day. Beginning with the second water change out all the products began a downward trend in terms of lead release rates. The WSU 110 product had two higher lead release rates that did not follow the general trend during the first 40 days. The trend did not continue from 40 days thru 70 days as each test appeared to alternate between high and low release rates and then at the end most of the release rates were increasing.

The Carus 8700 product at a dose of 4.5 mg/L as PO4 maintained the lowest lead release rates over the course of the test for eleven out of the seventeen water change outs and with one exception had a lower release rate than the untreated blank. The performance of this product was more consistent than some of the other products and doses whose release rates varied considerably over the course of the test. The lowest release rate provided by this product was 22 µg/L-day. The Carus 8700 product dosed at 3.0 mg/L also provided consistently low lead release rates over the course of the test, although the values were somewhat higher than those for the 4.5 mg/L dose as

PO4. The WSU products with the higher percentage of orthophosphate produced some of the higher lead release rates and also provided less consistent results. The trend of the lead release rates generally decreased over the first 60 days of the test and increased for the last two water change outs.

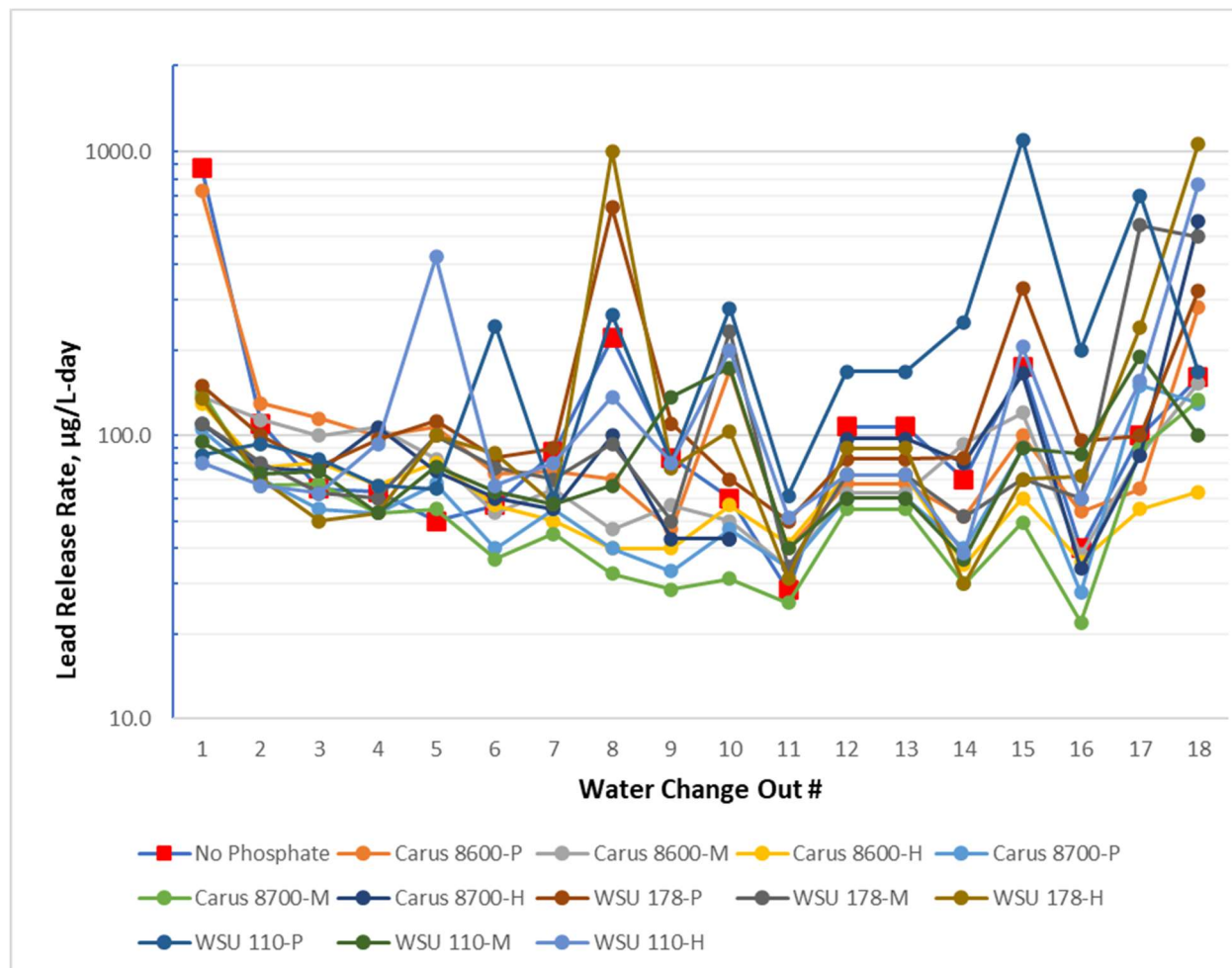


Figure 2-6 Lead Release Rate vs. Test Number

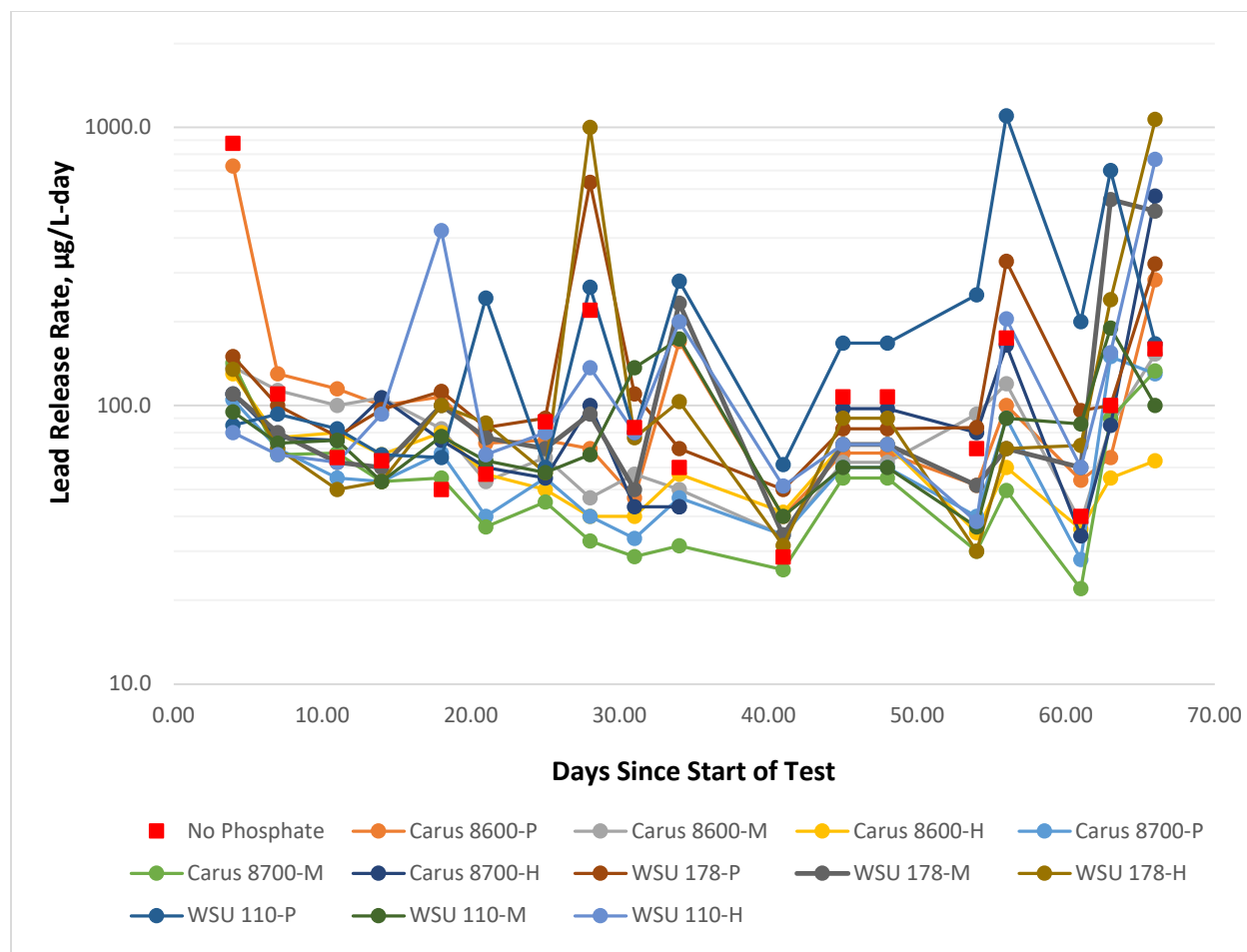


Figure 2-7 Lead Release Rate vs. Time

2.3.9 Lead Corrosion Rate

The rate of corrosion of lead coupons was measured based on a change in mass or weight loss over the test period. Weighed lead coupons were supplied for the test by Metal Samples Company. The coupons were 3-inch long by 1/2 -inch wide and 1/16-inch thick providing an exposed surface area of approximately 3 square inches. As part of this study, thirteen (13) of these lead coupons were inserted into separate mason jars attached to a PVC hanger attached to a plexiglass cover. The coupons were suspended in the test water, which was changed twice per week. The coupons were exposed to the solution in each jar for an average period of 66 days. Lead coupons were weighed prior to and following the bench-scale study to evaluate their rate of corrosion using **Equation 2-1**.

$$\text{Corrosion Rate, } \left(\frac{\text{mils}}{\text{year}} \right) = \frac{(W)(K)}{(D)(A)(T)} \quad \text{Equation 2-1}$$

Where W is the weight loss in g, D is the density of the metal in g/cm³, A is the area of the test specimen in in², T is the exposure time in hours, and K is a constant that equals to 5.34 x 10⁵.

The information for each coupon used in the test is summarized in **Table 2-7**, and each coupon was photographed at the end of the exposure period before and after weighing. **Figure 2-8** shows the coupons at the end of the exposure period after they had been shipped to Metals Samples for weighing and before cleaning. The coupons

appear to be in relatively good condition without a significant amount of corrosion or corrosion byproduct build up. They appear to have a relatively thin layer of scale covering varying percentages of the surface area. Some of the scale build up and discoloration of the coupons is more brownish in color indicating that some coprecipitation of iron may have occurred.

Table 2-7 Lead Coupon Corrosion Rates

Jar #	Product	Lead Coupon Serial #	Initial Weight, g	Final Weight, g	Weight Loss, mg	Corrosion Rate, mpy
0	Blank	B5711	16.6938	16.6799	0.0139	0.1208
1	Carus 8600-P	B5710	16.7648	16.7570	0.0078	0.0678
2	Carus 8600-M	B5709	17.1558	17.1491	0.0067	0.0582
3	Carus 8400-H	B5708	16.9361	16.9281	0.0080	0.0695
4	Carus 8700-P	B5707	17.2505	17.2393	0.0112	0.0974
5	Carus 8700-M	B5706	16.9124	16.9098	0.0026	0.0226
6	Carus 8700-H	B5705	16.5829	16.5761	0.0068	0.0591
7	WSU-178-P	B5704	16.5373	16.5278	0.0095	0.0826
8	WSU-178-M	B5703	17.1173	17.1073	0.01	0.0869
9	WSU-178-H	B5702	16.9627	16.9523	0.0104	0.0904
11	WSU-110-P	B5701	16.8571	16.8493	0.0078	0.0678
12	WSU-110-M	B5700	17.3124	17.2947	0.0177	0.1539
13	WSU-110-H	B5699	16.6554	16.6462	0.0092	0.0800

The lowest corrosion rate was exhibited by Jar 5 which was dosed with Carus 8700 at 4.5 mg/L as PO₄. This product also provided the lowest lead release rates in the solubility testing. The next two lowest corrosion rates were for Jar 2 dosed with Carus 8600 at a dose of 4.5 mg/L as PO₄ and Jar 6 dosed with Carus 8700 at a dose of 6.0 mg/L as PO₄. The blank that was not treated with a corrosion inhibitor had a corrosion rate that was 5 times greater than Jar 5 and approximately 2 times greater than the rates for Jars 2 and 6. Looking at the data for the three doses of each product there does not appear to be a discernible relationship between increasing orthophosphate dose and the lead coupon corrosion rate. The jar that had the lowest corrosion rate, Jar 5, was dosed with 4.5 mg/L as PO₄ and the jar that had the highest corrosion rate, Jar 12, was also dosed with 4.5 mg/L as PO₄. The product used in Jar 5 provided about 0.8 mg/L of polyphosphate and the product used in Jar 12 had about 0.5 mg/L of polyphosphate.

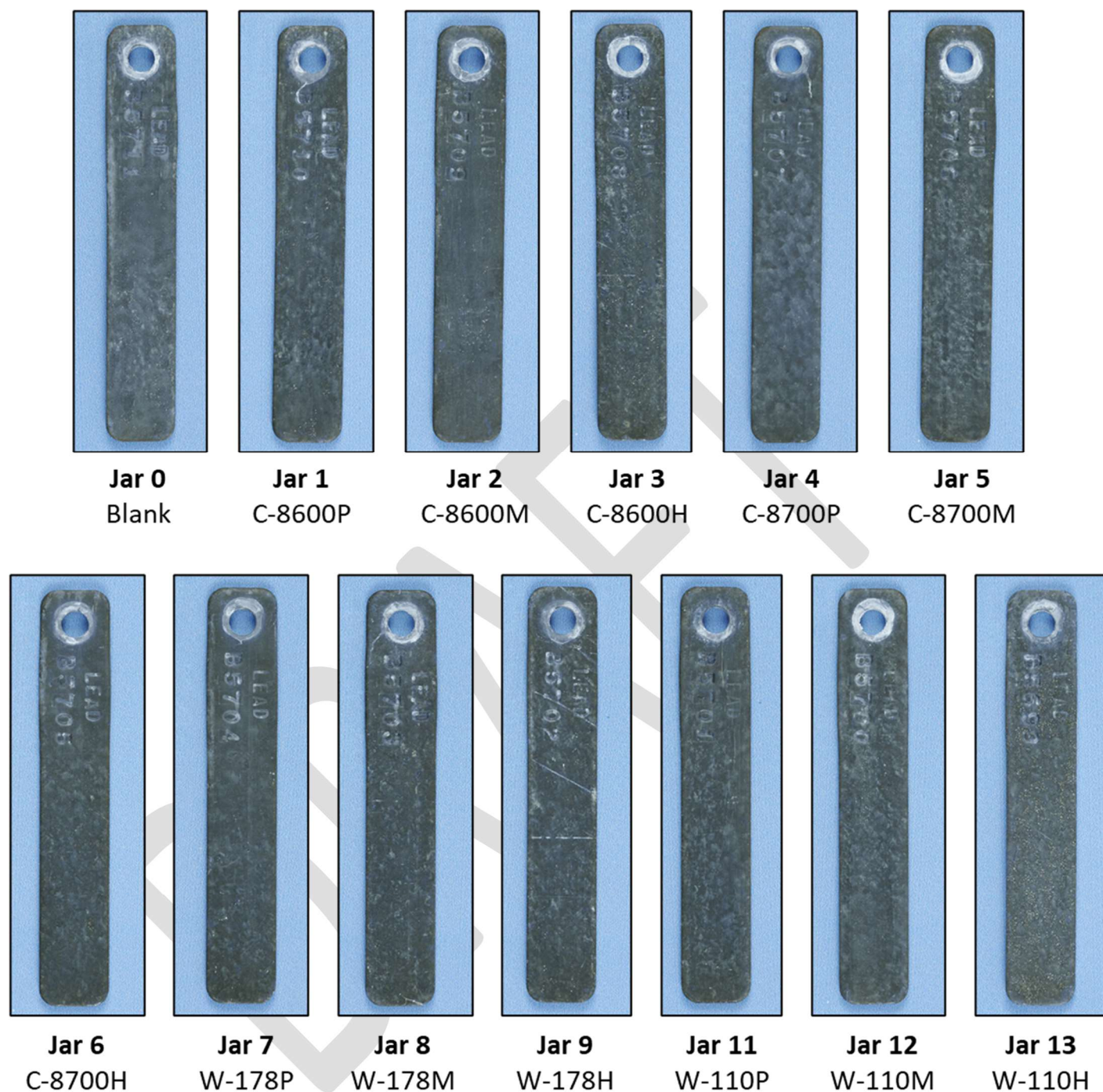


Figure2-8 Lead Coupons at the End of the Test Period

2.4 DISCUSSION AND RECOMMENDATIONS

Two primary objectives of the second round of lead solubility testing were to determine if feeding a higher dose of orthophosphate would decrease lead solubility more than the 1.5 and 3.0 mg/L dose used in the first round of testing. The second objective was to see if having a higher percentage of orthophosphate in the blended phosphate inhibitor product increased, decreased or had limited impact upon the release of lead into solution. To evaluate the effect of increasing the orthophosphate dose the lead release results were plotted for each individual product tested for the 3.0, 4.5 and 6.0 mg/L orthophosphate dose target. The resulting graphs are shown in **Figure 2-9**. The 3.0 mg/L dose is the green line, the 4.5 mg/L is the grey line and the 6.0 mg/L dose is the orange line.



Figure 2-9 Lead Release Rate vs. Dose for Each Product

For the Carus 8600 the highest dose provided the lowest overall lead release rates with 60% of the values less than the blank. The 3.0 and 4.5 mg/L orthophosphate doses of the Carus 8600 had higher release rates than the 6.0 mg/L dose over almost the entire test and showed more variability. The lowest single release rate provided by the Carus 8600 was over 30 µg/L-day. For the Carus 8700 product the lowest overall lead release rates were produced by the 4.5 mg/L orthophosphate dose with about half of the values below the untreated water. The lowest single lead release rate for the Carus 8700 medium dose was a little over 20 µg/L-day. The 3.0 mg/L dose of the Carus 8700 appears to follow the same pattern as the medium dose, but with higher release rates throughout the test. The highest dose, 6.0 mg/L, of the Carus 8700 produced lead release rates that were significantly higher than the other two doses and exhibited more variability over the course of the test.

The low dose, 3.0 mg/L, of the WSU 178 overall produced higher lead release rates than the other two doses, but the data were less consistent in terms of which product produced the lowest rates as the test progressed. The high dose of the WSU 178 produced the lowest lead release rate around 30 µg/L-day during the test period and traded

position with the medium dose in terms of which product provided the lowest release rate for each change out. The WSU 178 product was able to provide release rates lower than the untreated water about 55% of the time. The medium dose, 4.5 mg/L, of the WSU 110 provided the best overall results with 50% of the release rates lower than the untreated water and the lowest single release rate of approximately 35 µg/L. The low dose of the WSU 110 had the highest release rates of the three doses tested and there was a significant amount of variability in the release rates from one solution change out to the next. The low dose did not provide an acceptable response in terms of lower release rates as the exposure time to the corrosion inhibitor increased. The high dose, 6.0 mg/L, produced lead release rates that were close to the those provided by the medium dose, but slightly higher, most of the test. However, there were several tests in which release rate for the high dose significantly exceeded the release rates provided by the medium dose. Overall, the data do not provide a clear dose response in terms of orthophosphate and lead release rates. The low dose of 3.0 mg/L did not seem to provide the best results for any of the products tested and the high dose also did not provide the best results or lower lead release rates than the medium dose consistently for every product and every dose.

The second objective was to evaluate the effect of different percentages of polyphosphate present had on the lead release rates. A plot was constructed in which the lead release rates was plotted for each of the three orthophosphate doses tested. The products had increasing percentages of polyphosphate of 30%, 26%, 15% and 10% for the Carus 8600, WSU 178, Carus 8700 and WSU 110, respectively. The plots of lead release versus dose are contained in **Figure 2-10**. The graphs show that for the 3.0 and 4.5 mg/L dose of orthophosphate the product with the 15% polyphosphate percentage, Carus 8700, consistently provided the lowest release rates for each of those doses. The next best performance for the 3.0 and 4.5 mg/L doses was the product with the highest polyphosphate percentage, the Carus 8700. The WSU 178 with the higher polyphosphate concentration appeared to provide better results for most of the test at the 3.0 mg/L dose and the WSU 110 product provided better overall results when the dose was increased to 4.5 mg/L. The Carus 8600 with the highest percentage of polyphosphate provided the best overall results over the course of the test. The Carus 8700 and the WSU 178 appeared to provide the next best results over the course of the test at an orthophosphate dose of 6.0 mg/L. The WSU 110 product with the lowest percentage of polyphosphate present did not provide the best overall results as might have been expected since polyphosphate has the tendency to increase the solubility of metals and the orthophosphate is the primary agent responsible for creating the very low solubility passivation layer on the surface of the lead.

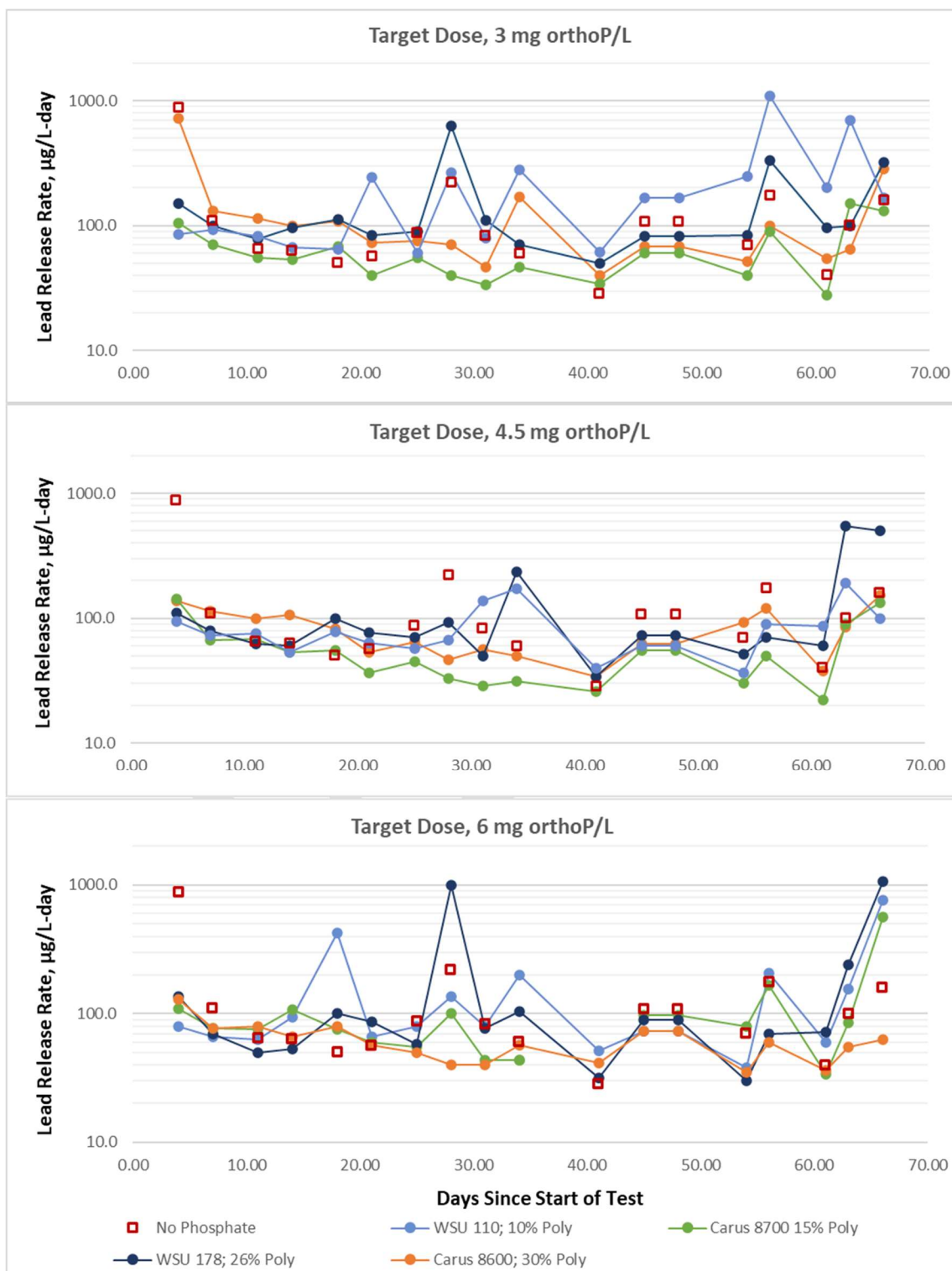


Figure 2-10 Lead Release Rate by Orthophosphate Dose

An additional plot of lead release rate versus orthophosphate concentration was performed using all the data collected. The plot was constructed to see if an identifiable pattern or trend could be identified for lead release rate versus orthophosphate concentration of the solution. The plot is presented in **Figure 2-11**.

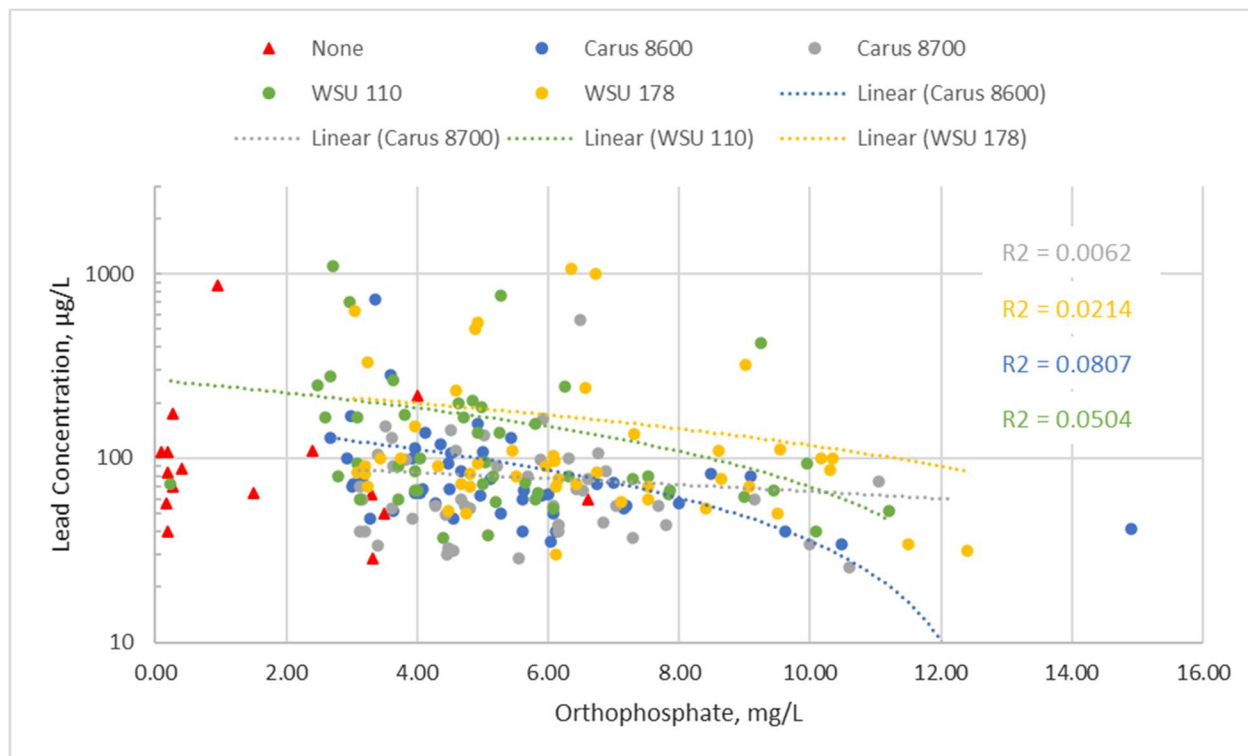


Figure 2-11 Lead Release Rate versus Orthophosphate Concentration

The plot shows each of the products separately and the untreated water. Trend lines were placed on the plot to show what potential relationship might exist between orthophosphate dose and the lead release rates. The trend lines for the Carus 8600 and the WSU 110 are decreasing indicating decreased lead release with increasing dose and the trend lines for the WSU 178 and for the Carus 8700 are decreasing with a flatter slope. The plot shows that there is a significant amount of scatter in the data and the correlation coefficients are extremely low indicating that there is not a statistically demonstrable relationship for the data. We could not conclude from this information that a definite relationship between increasing orthophosphate dose and lead release rates exists for this data set.

The lead release data show that the lowest lead values were reached when there was some polyphosphate present and a high percentage of orthophosphate did not provide consistent results or the lowest levels of lead release. The water has a high concentration of calcium in it which may be consuming a portion of the orthophosphate present in the form of calcium phosphate or a bimetallic phosphate. These compounds may not form as protective of a coating as when orthophosphate and hydroxide combine with lead to form lead hydroxyphosphate on the lead surface. As mentioned in the previous round of testing the water is also high in alkalinity and DIC which favor the formation of lead carbonates which do not form the most effective passivation layer. Therefore, some level of polyphosphate should be present in the water to sequester calcium so that the maximum effect of the orthophosphate dose can be realized.

2.4.1 Recommendations

The results from this set of solubility tests indicate that an orthophosphate dose of 4.5 mg/L with some concentration of polyphosphate present was able to reduce lead release rates to below those of the untreated solution. A polyphosphate concentration of 1.0 to 1.5 mg/L appeared to enhance the ability of the orthophosphate dose to reduce the release of lead into solution. Going toward a product that was primarily orthophosphate did not appear to reduce the lead release rate, provided consistent lead release rates or the lowest single lead release rate. The 4.5 mg/L dose of the Carus 8700 product provided the lowest lead coupon corrosion rate, the lowest and most consistent lead release rates and the lowest single lead release rate of all the products tested. It is recommended that the Carus 8700 product be used in any further testing and is the product of choice based upon the results of this round of testing. A similar product providing 4.5 mg/L of orthophosphate and 1 mg/L of polyphosphate should provide similar results. However, most proprietary blended phosphate products use phosphoric acid to provide the orthophosphate component, but do not all use the same type or chain length of polyphosphate compound. Unfortunately, the suppliers of these products do not share the exact make up of their products and therefore, testing must be performed to verify that two products having the same percentage of poly and orthophosphate will perform the same. Finally, this study did not control for the pH of the solution after the addition of the inhibitors. Due to the varying concentrations of primarily phosphoric acid in the inhibitors they all have different pH values and will affect the pH of the water after treatment. Alkalinity, pH and DIC all have an impact upon the effectiveness of the of the corrosion inhibitors to prevent lead release. If further reduction in lead solubility or lead release rates is required adjustment of these water quality parameters may be considered to optimize the performance of the corrosion inhibitor.

APPENDIX A – BENCH-SCALE TESTING RESULTS

Table A- 1. Fresh Treated Samples Water Quality

Test	Beaker No.	Product	pH	Temp., °C	Total Cl2, mg/L	Conductivity, µS/ cm	Turbidity, NTU	Alkalinity, mg/L as CaCO3	Free Ammonia, NH3 – N	Calcium, mg/L as CaCO3	Iron, mg/L	Chloride, mg/L	Sulfate, mg/L	Color, Pt-Co	Ortho P, mg/L
1	-	Raw Water	7.53	21.1	0.00	777	1.02	300	0.05	96	0.12	33.77	34	8	0.1
	0	Blank	7.65	21.8	1.40	793	1.43	286	-	-	-	-	-	20	0.96
	1	Carus 8600-P	7.75	21.9	1.23	805	1.66	272	-	-	-	-	-	13	3.36
	2	Carus 8600-M	7.96	22.1	1.06	776	1.60	270	-	-	-	-	-	9	4.12
	3	Carus 8400-H	7.64	22.2	1.50	788	1.56	288	-	-	-	-	-	10	5.44
	4	Carus 8700-P	7.54	22.4	1.43	805	2.07	292	-	-	-	-	-	16	3.40
	5	Carus 8700-M	7.69	22.1	1.15	806	1.26	292	-	-	-	-	-	12	4.52
	6	Carus 8700-H	7.77	21.1	1.17	814	1.82	288	-	-	-	-	-	17	4.60
	7	WSU-178-P	7.74	21.8	1.33	812	1.24	286	-	-	-	-	-	13	3.96
	8	WSU-178-M	7.68	21.4	1.44	812	1.30	292	-	-	-	-	-	13	5.45
	9	WSU-178-H	7.52	21.9	1.37	811	1.15	388	-	-	-	-	-	24	7.32
	11	WSU-110-P	7.56	22.2	1.15	800	1.53	286	-	-	-	-	-	34	3.96
	12	WSU-110-M	7.64	22.4	1.23	804	1.34	292	-	-	-	-	-	17	5.04
	13	WSU-110-H	7.43	22.3	1.42	797	1.61	290	-	-	-	-	-	44	6.32
2	-	Raw Water	7.67	22.2	0.02	737	1.02	306.00	0.04	98	0.09	31.32	27	10	0.12
	0	Blank	7.59	21.5	1.36	737	1.10	282	-	-	-	-	-	10	2.40
	1	Carus 8600-P	7.65	23.4	1.65	798	1.01	220	-	-	-	-	-	9	2.68
	2	Carus 8600-M	7.58	22.6	1.48	806	0.96	192	-	-	-	-	-	7	3.96
	3	Carus 8400-H	7.64	22.3	1.61	812	0.89	256	-	-	-	-	-	7	5.12
	4	Carus 8700-P	7.48	21.6	1.63	803	0.88	280	-	-	-	-	-	9	3.12
	5	Carus 8700-M	7.62	22.1	1.55	807	1.07	308	-	-	-	-	-	13	6.52
	6	Carus 8700-H	7.62	22.1	1.44	807	0.86	286	-	-	-	-	-	9	6.60
	7	WSU-178-P	7.52	22.6	1.51	807	0.88	278	-	-	-	-	-	9	3.76
	8	WSU-178-M	7.52	22.5	1.67	801	0.82	286	-	-	-	-	-	8	5.52
	9	WSU-178-H	7.64	22.3	1.66	791	0.87	282	-	-	-	-	-	7	7.52
	11	WSU-110-P	7.55	22.4	1.53	807	83.00	284	-	-	-	-	-	11	3.08
	12	WSU-110-M	7.88	22.3	1.59	767	0.81	288	-	-	-	-	-	9	5.64
	13	WSU-110-H	7.63	22.6	1.62	787	0.83	286	-	-	-	-	-	13	7.87

Test	Beaker No.	Product	pH	Temp., °C	Total Cl2, mg/L	Conductivity, µS/ cm	Turbidity, NTU	Alkalinity, mg/L as CaCO3	Free Ammonia, NH3 – N	Calcium, mg/L as CaCO3	Iron, mg/L	Chloride, mg/L	Sulfate, mg/L	Color, Pt-Co	Ortho P, mg/L
3	-	Raw Water	7.78	21.7	0.01	667	1.23	312	0.036	122	0.08	12.30	18	16	
	0	Blank	7.66	21.3	1.73	691	1.47	288	-	-	-	-	-	10	
	1	Carus 8600-P	7.66	21.3	1.79	691	1.47	288.0	-	-	-	-	-	4	
	2	Carus 8600-M	7.86	21.3	1.96	697	1.18	280	-	-	-	-	-	7	
	3	Carus 8400-H	7.76	21.3	1.88	697	1.01	280.0	-	-	-	-	-	8	
	4	Carus 8700-P	7.74	21.3	2.04	697	1.29	278	-	-	-	-	-	6	
	5	Carus 8700-M	7.69	21.3	1.91	697	1.04	276.0	-	-	-	-	-	9	
	6	Carus 8700-H	7.68	21.2	2.00	697	1.43	274	-	-	-	-	-	10	
	7	WSU-178-P	7.94	21.2	1.98	687	1.53	288.0	-	-	-	-	-	9	
	8	WSU-178-M	7.93	21.3	1.97	697	2.90	284.0	-	-	-	-	-	8	
	9	WSU-178-H	8.09	21.2	1.82	681	1.36	282	-	-	-	-	-	13	
	11	WSU-110-P	7.68	21.3	2.04	627	1.54	276.0	-	-	-	-	-	10	
	12	WSU-110-M	7.69	21.2	2.02	721	1.57	272	-	-	-	-	-	10	
	13	WSU-110-H	7.76	21.2	1.82	727	1.61	280.0	-	-	-	-	-	9	
4	-	Raw Water	8.03	24.5	0.04	671	0.77	280	0.042	176	0.11	28.34	16	14	0.16
	0	Blank	7.88	22.9	1.82	701	2.07	222	-	-	-	-	-	33	1.51
	1	Carus 8600-P	7.90	23.2	1.84	707	0.84	226	-	-	-	-	-	9	3.93
	2	Carus 8600-M	7.89	22.8	1.76	697	1.75	232	-	-	-	-	-	6	4.52
	3	Carus 8400-H	7.90	23.3	1.71	707	1.83	238	-	-	-	-	-	23	5.62
	4	Carus 8700-P	7.96	22.4	1.87	687	1.78	258	-	-	-	-	-	32	3.62
	5	Carus 8700-M	7.94	22.6	1.80	697	2.21	282	-	-	-	-	-	37	4.80
	6	Carus 8700-H	7.68	22.2	1.77	707	0.87	280	-	-	-	-	-	39	6.76
	7	WSU-178-P	7.72	22.1	1.87	707	6.74	284	-	-	-	-	-	41	6.10
	8	WSU-178-M	7.73	22.2	1.88	707	2.88	284	-	-	-	-	-	39	7.52
	9	WSU-178-H	7.80	22.2	1.61	707	4.33	284	-	-	-	-	-	33	8.40
	11	WSU-110-P	7.81	22.0	1.64	707	2.86	282	-	-	-	-	-	39	4.00
	12	WSU-110-M	7.80	21.9	1.88	711	2.63	284	-	-	-	-	-	29	6.08
	13	WSU-110-H	8.11	21.8	1.77	707	5.22	282	-	-	-	-	-	21	9.96

Test	Beaker No.	Product	pH	Temp., °C	Total Cl2, mg/L	Conductivity, µS/ cm	Turbidity, NTU	Alkalinity, mg/L as CaCO3	Free Ammonia, NH3 – N	Calcium, mg/L as CaCO3	Iron, mg/L	Chloride, mg/L	Sulfate, mg/L	Color, Pt-Co	Ortho P, mg/L
5	-	Raw Water	7.89	23.0	0.02	872	1.66	288	0.042	184	0.11	22.40	21	12	3.98
	0	Blank	7.82	23.0	1.38	899	1.90	282	-	-	-	-	-	10	3.30
	1	Carus 8600-P	7.74	22.9	2.88	899	1.76	280	-	-	-	-	-	22	5.01
	2	Carus 8600-M	7.64	23.1	2.92	888	2.44	276	-	-	-	-	-	16	8.48
	3	Carus 8400-H	7.80	23.0	2.75	901	1.76	278	-	-	-	-	-	14	9.10
	4	Carus 8700-P	7.82	22.4	2.52	898	1.71	280	-	-	-	-	-	18	6.44
	5	Carus 8700-M	7.75	22.9	2.84	901	1.74	276	-	-	-	-	-	18	7.68
	6	Carus 8700-H	7.92	23.0	2.75	899	1.91	280	-	-	-	-	-	14	11.05
	7	WSU-178-P	7.90	22.8	2.58	901	1.72	270	-	-	-	-	-	14	9.55
	8	WSU-178-M	7.91	22.6	2.82	893	1.89	272	-	-	-	-	-	28	10.16
	9	WSU-178-H	8.01	22.7	2.64	896	1.77	280	-	-	-	-	-	59	10.35
	11	WSU-110-P	7.87	23.0	2.31	900	1.74	270	-	-	-	-	-	49	5.85
	12	WSU-110-M	7.92	22.8	2.52	897	1.73	284	-	-	-	-	-	19	7.30
	13	WSU-110-H	7.77	22.7	2.58	887	1.75	282	-	-	-	-	-	32	9.25
6	-	Raw Water	8.42	22.6	0.02	874	1.37	296	0.041	182	0.10	19.00	19	44	4.23
	0	Blank	7.95	22.4	2.78	904	1.13	284	-	-	-	-	-	94	3.50
	1	Carus 8600-P	8.30	22.4	2.84	903	1.22	262	-	-	-	-	-	68	7.00
	2	Carus 8600-M	8.23	22.2	1.88	899	1.17	242	-	-	-	-	-	66	7.15
	3	Carus 8400-H	8.17	22.3	1.88	899	1.07	234	-	-	-	-	-	60	8.00
	4	Carus 8700-P	8.16	22.3	2.80	903	1.18	238	-	-	-	-	-	74	6.15
	5	Carus 8700-M	8.20	22.3	2.16	902	1.15	234	-	-	-	-	-	77	7.30
	6	Carus 8700-H	8.24	22.2	2.26	901	1.16	234	-	-	-	-	-	64	9.15
	7	WSU-178-P	8.16	22.2	2.64	901	1.17	232	-	-	-	-	-	67	6.75
	8	WSU-178-M	8.10	22.2	2.46	902	1.11	232	-	-	-	-	-	47	8.65
	9	WSU-178-H	8.13	22.3	2.32	899	1.26	234	-	-	-	-	-	37	10.30
	11	WSU-110-P	7.93	22.5	2.64	903	1.42	252	-	-	-	-	-	28	6.25
	12	WSU-110-M	8.10	22.3	2.36	902	1.20	272	-	-	-	-	-	29	7.85
	13	WSU-110-H	8.13	22.4	2.38	900	1.14	274	-	-	-	-	-	22	9.45

Test	Beaker No.	Product	pH	Temp., °C	Total Cl2, mg/L	Conductivity, µS/ cm	Turbidity, NTU	Alkalinity, mg/L as CaCO3	Free Ammonia, NH3 – N	Calcium, mg/L as CaCO3	Iron, mg/L	Chloride, mg/L	Sulfate, mg/L	Color, Pt-Co	Ortho P, mg/L
7	-	Raw Water	7.93	22.8	0.02	908	1.07	240	0.194	91	0.12	128	82	11	0.16
	0	Blank	7.98	22.9	2.12	902	0.96	258	-	-	-	-	-	10	0.17
	1	Carus 8600-P	7.49	22.8	2.49	900	1.17	266	-	-	-	-	-	41	3.16
	2	Carus 8600-M	7.49	22.8	1.12	898	1.05	264	-	-	-	-	-	12	4.04
	3	Carus 8400-H	7.48	22.8	2.12	895	1.24	250	-	-	-	-	-	12	6.08
	4	Carus 8700-P	7.50	22.8	2.52	884	1.14	250	-	-	-	-	-	8	4.28
	5	Carus 8700-M	7.50	23.0	3.10	896	1.24	248	-	-	-	-	-	15	6.84
	6	Carus 8700-H	7.51	22.8	3.00	896	1.06	250	-	-	-	-	-	16	7.04
	7	WSU-178-P	7.50	22.9	2.64	906	0.91	244	-	-	-	-	-	6	4.32
	8	WSU-178-M	7.50	22.9	2.48	901	1.06	266	-	-	-	-	-	11	9.08
	9	WSU-178-H	7.53	22.8	2.88	892	1.38	280	-	-	-	-	-	14	7.12
	11	WSU-110-P	7.55	22.8	2.84	900	0.96	270	-	-	-	-	-	12	3.12
	12	WSU-110-M	7.55	22.8	2.88	897	1.45	272	-	-	-	-	-	7	5.20
	13	WSU-110-H	7.55	22.9	2.94	891	0.91	264	-	-	-	-	-	11	7.52
8	-	Raw Water	8.07	22.9	0.01	876	0.56	286	0.178	31	0.09	96.00	23	0	0.28
	0	Blank	8.05	22.0	2.94	911	1.08	256	-	-	-	-	-	6	0.40
	1	Carus 8600-P	8.07	22.6	2.80	896	0.92	244	-	-	-	-	-	0	3.00
	2	Carus 8600-M	8.05	22.7	2.76	897	0.68	240	-	-	-	-	-	7	4.56
	3	Carus 8400-H	8.06	22.6	2.94	899	0.63	238	-	-	-	-	-	5	6.12
	4	Carus 8700-P	8.02	22.8	3.28	900	0.58	236	-	-	-	-	-	4	3.20
	5	Carus 8700-M	8.01	22.8	2.16	909	0.95	232	-	-	-	-	-	3	4.48
	6	Carus 8700-H	8.03	22.6	2.96	898	1.16	234	-	-	-	-	-	7	6.32
	7	WSU-178-P	8.02	22.1	2.86	898	0.83	236	-	-	-	-	-	4	3.04
	8	WSU-178-M	8.04	22.4	3.28	900	1.48	232	-	-	-	-	-	8	4.92
	9	WSU-178-H	8.05	22.4	3.14	899	1.48	232	-	-	-	-	-	11	6.72
	11	WSU-110-P	8.03	22.5	2.72	901	0.55	244	-	-	-	-	-	7	3.64
	12	WSU-110-M	8.02	22.4	3.06	899	1.16	274	-	-	-	-	-	6	3.96
	13	WSU-110-H	8.04	22.2	2.68	897	0.93	280	-	-	-	-	-	6	5.25

Test	Beaker No.	Product	pH	Temp., °C	Total Cl2, mg/L	Conductivity, µS/ cm	Turbidity, NTU	Alkalinity, mg/L as CaCO3	Free Ammonia, NH3 – N	Calcium, mg/L as CaCO3	Iron, mg/L	Chloride, mg/L	Sulfate, mg/L	Color, Pt-Co	Ortho P, mg/L
9	-	Raw Water	8.09	22.8	0.00	871	0.54	262	0.02	304	0.06	126.30	49	6	0.14
	0	Blank	8.12	22.4	2.36	890	1.46	282	-	-	-	-	-	4	4.00
	1	Carus 8600-P	8.12	22.4	2.04	888	1.87	252	-	-	-	-	-	11	3.28
	2	Carus 8600-M	8.13	22.4	2.04	889	1.05	266	-	-	-	-	-	5	4.28
	3	Carus 8400-H	8.01	21.8	2.12	886	1.04	276	-	-	-	-	-	4	5.60
	4	Carus 8700-P	8.06	22.3	2.22	890	0.59	276	-	-	-	-	-	3	3.40
	5	Carus 8700-M	8.10	22.1	2.08	893	3.70	272	-	-	-	-	-	3	5.55
	6	Carus 8700-H	8.13	22.0	1.32	889	1.16	276	-	-	-	-	-	2	7.80
	7	WSU-178-P	8.12	22.3	2.28	893	1.30	276	-	-	-	-	-	5	8.60
	8	WSU-178-M	8.14	21.9	2.30	888	1.70	276	-	-	-	-	-	2	4.75
	9	WSU-178-H	8.16	22.1	2.32	888	2.26	280	-	-	-	-	-	6	6.15
	11	WSU-110-P	8.00	21.9	2.30	890	2.21	290	-	-	-	-	-	2	2.80
	12	WSU-110-M	8.14	22.1	2.28	895	1.40	284	-	-	-	-	-	4	4.92
	13	WSU-110-H	8.11	22.4	2.30	892	2.01	280	-	-	-	-	-	1	5.16
10	-	Raw Water	8.28	23.6		835	4.03	266	0.162	292	0.09	98.00	37		0.22
	0	Blank	8.25	22.0		862	20.50	260	-	-	-	-	-		0.18
	1	Carus 8600-P	8.23	22.8	2.59	868	3.61	254	-	-	-	-	-	3	2.98
	2	Carus 8600-M	8.26	22.6	1.96	865	2.20	254	-	-	-	-	-	5	5.28
	3	Carus 8400-H	8.22	22.4	2.08	867	1.34	250	-	-	-	-	-	9	7.12
	4	Carus 8700-P	8.20	22.4	2.48	868	1.75	252	-	-	-	-	-	16	3.92
	5	Carus 8700-M	8.21	22.3	1.92	867	2.88	254	-	-	-	-	-	16	4.56
	6	Carus 8700-H	8.22	22.0	2.14	866	1.99	270	-	-	-	-	-	29	6.16
	7	WSU-178-P	8.22	22.2	1.72	864	1.96	250	-	-	-	-	-	37	3.24
	8	WSU-178-M	8.21	22.1	1.64	862	3.70	250	-	-	-	-	-	8	4.6.
	9	WSU-178-H	8.21	22.1	1.42	862	14.70	252	-	-	-	-	-	44	6.08
	11	WSU-110-P	8.24	22.1	1.54	864	2.90	248	-	-	-	-	-	32	2.68
	12	WSU-110-M	8.26	21.8	1.54	862	3.31	248	-	-	-	-	-	46	3.80
	13	WSU-110-H	8.26	21.5	1.62	863	11.40	252	-	-	-	-	-	38	4.64

Test	Beaker No.	Product	pH	Temp., °C	Total Cl2, mg/L	Conductivity, µS/ cm	Turbidity, NTU	Alkalinity, mg/L as CaCO3	Free Ammonia, NH3 – N	Calcium, mg/L as CaCO3	Iron, mg/L	Chloride, mg/L	Sulfate, mg/L	Color, Pt-Co	Ortho P, mg/L
11	-	Raw Water	8.14	23.2		891	3.20	292.0							7.64
	0	Blank						292.0	-	-	-	-	-		6.60
	1	Carus 8600-P	8.08	22.7		908	3.39	280.0	-	-	-	-	-		9.62
	2	Carus 8600-M	8.03	22.5		910	3.22	270.0	-	-	-	-	-		10.48
	3	Carus 8400-H	8.00	22.7		911	3.11	274.0	-	-	-	-	-		14.90
	4	Carus 8700-P	7.93	22.6		909	3.19	278.0	-	-	-	-	-		10.00
	5	Carus 8700-M	8.07	22.2		911	3.05	280.0	-	-	-	-	-		10.60
	6	Carus 8700-H	8.02	22.2		918	3.04	268.0	-	-	-	-	-		12.20
	7	WSU-178-P	7.98	22.3		901	3.15	292.0	-	-	-	-	-		9.50
	8	WSU-178-M	8.00	22.3		906	2.82	282.0	-	-	-	-	-		11.50
	9	WSU-178-H							-	-	-	-	-		12.40
	11	WSU-110-P						284.0	-	-	-	-	-		9.00
	12	WSU-110-M						290.0	-	-	-	-	-		10.10
	13	WSU-110-H						286.0	-	-	-	-	-		11.20
12	-	Raw Water	7.97	22.8	0.01	885	0.49	292	0.059	282	0.01	11.93	23	2	0.26
	0	Blank	7.89	22.7	1.50	903	0.70	278	-	-	-	-	-	18	3.32
	1	Carus 8600-P	7.93	23.0	1.10	909	0.67	278	-	-	-	-	-	17	4.50
	2	Carus 8600-M	7.78	22.9	1.18	905	0.66	280	-	-	-	-	-	34	5.90
	3	Carus 8400-H	8.10	22.8	1.12	899	1.00	282	-	-	-	-	-	7	3.02
	4	Carus 8700-P	8.03	22.8	1.32	896	1.53	276	-	-	-	-	-	26	4.68
	5	Carus 8700-M	8.15	22.7	1.52	900	1.49	278	-	-	-	-	-	15	6.08
	6	Carus 8700-H	8.13	22.8	1.27	900	1.43	278	-	-	-	-	-	29	3.82
	7	WSU-178-P	8.19	22.4	1.01	905	2.70	286	-	-	-	-	-	4	4.80
	8	WSU-178-M	8.01	21.7	0.82	903	1.44	284	-	-	-	-	-	36	6.44
	9	WSU-178-H	8.12	22.2	1.04	901	2.31	284	-	-	-	-	-	0	3.20
	11	WSU-110-P	7.69	21.4	1.01	905	0.61	282	-	-	-	-	-	29	4.70
	12	WSU-110-M	8.00	22.0	0.48	898	3.69	290	-	-	-	-	-	24	5.80
	13	WSU-110-H	7.91	21.9	0.93	902	2.65	290	-	-	-	-	-	17	0.23

Test	Beaker No.	Product	pH	Temp., °C	Total Cl2, mg/L	Conductivity, µS/ cm	Turbidity, NTU	Alkalinity, mg/L as CaCO3	Free Ammonia, NH3 – N	Calcium, mg/L as CaCO3	Iron, mg/L	Chloride, mg/L	Sulfate, mg/L	Color, Pt-Co	Ortho P, mg/L
13	-	Raw Water	7.94	23.4	0.08	888	0.54	292	0.078	296	0.08	22.00	32	2	0.07
	0	Blank	8.41	21.6	1.62	898	2.74	256	-	-	-	-	-	26	0.19
	1	Carus 8600-P	7.94	22.3	1.30	908	1.01	268	-	-	-	-	-	44	4.08
	2	Carus 8600-M	8.15	22.4	1.55	901	0.92	268	-	-	-	-	-	76	4.96
	3	Carus 8400-H	8.29	22.0	1.48	901	0.84	252	-	-	-	-	-	31	6.75
	4	Carus 8700-P	8.34	22.2	1.30	910	0.56	250	-	-	-	-	-	55	3.16
	5	Carus 8700-M	7.80	23.1	1.22	908	0.57	252	-	-	-	-	-	42	4.72
	6	Carus 8700-H	8.16	22.6	1.40	913	0.60	254	-	-	-	-	-	48	5.88
	7	WSU-178-P	7.96	22.8	1.35	913	0.53	250	-	-	-	-	-	25	3.20
	8	WSU-178-M	7.90	21.8	1.33	904	0.56	250	-	-	-	-	-	23	4.68
	9	WSU-178-H	8.17	22.1	1.30	904	0.55	254	-	-	-	-	-	25	5.96
	11	WSU-110-P	8.28	22.1	1.08	901	0.55	250	-	-	-	-	-	19	2.60
	12	WSU-110-M	8.30	22.0	1.29	902	0.62	244	-	-	-	-	-	5	3.72
	13	WSU-110-H	9.32	21.9	1.15	902	0.65	248	-	-	-	-	-	16	5.00
14	-	Raw Water	8.16	22.8		882	0.48	288	-	-	-	-	-		
	0	Blank	8.34	22.4		900	0.32	266	-	-	-	-	-		
	1	Carus 8600-P	8.27	22.6		905	0.40	276	-	-	-	-	-		
	2	Carus 8600-M	8.27	22.5		903	0.50	266	-	-	-	-	-		
	3	Carus 8400-H	8.33	22.4		905	0.48	270	-	-	-	-	-		
	4	Carus 8700-P	8.27	22.6		906	0.38	268	-	-	-	-	-		
	5	Carus 8700-M	8.31	22.4		907	0.46	266	-	-	-	-	-		
	6	Carus 8700-H	8.23	22.6		910	0.34	266	-	-	-	-	-		
	7	WSU-178-P	8.27	22.6		905	0.41	264	-	-	-	-	-		
	8	WSU-178-M	8.27	22.6		905	0.41	268	-	-	-	-	-		
	9	WSU-178-H	8.27	22.5		907	0.42	260	-	-	-	-	-		
	11	WSU-110-P	8.15	22.1		902	0.41	288	-	-	-	-	-		
	12	WSU-110-M	8.31	22.2		904	0.96	272	-	-	-	-	-		
	13	WSU-110-H	8.29	22.4		902	0.54	278	-	-	-	-	-		

Test	Beaker No.	Product	pH	Temp., °C	Total Cl2, mg/L	Conductivity, µS/ cm	Turbidity, NTU	Alkalinity, mg/L as CaCO3	Free Ammonia, NH3 – N	Calcium, mg/L as CaCO3	Iron, mg/L	Chloride, mg/L	Sulfate, mg/L	Color, Pt-Co	Ortho P, mg/L
15	-	Raw Water	8.19	22.8	0.10	867	0.97	292	0.062	284	0.08	35.00	41	2	0.11
	0	Blank	7.86	23.3	1.52	909	1.12	276	-	-	-	-	-	36	0.26
	1	Carus 8600-P	7.81	23.4	1.37	917	1.13	270	-	-	-	-	-	8	2.92
	2	Carus 8600-M	8.07	22.8	1.10	912	1.38	280	-	-	-	-	-	9	4.36
	3	Carus 8400-H	8.17	22.7	1.22	914	1.21	278	-	-	-	-	-	1	5.60
	4	Carus 8700-P	7.80	23.4	1.27	918	1.24	278	-	-	-	-	-	3	3.64
	5	Carus 8700-M	8.01	22.6	1.37	924	1.10	272	-	-	-	-	-	7	4.44
	6	Carus 8700-H	7.67	23.3	1.29	929	1.16	266	-	-	-	-	-	4	5.92
	7	WSU-178-P	7.78	23.4	1.26	915	1.05	280	-	-	-	-	-	3	3.24
	8	WSU-178-M	8.21	22.5	1.31	910	1.14	278	-	-	-	-	-	1	4.80
	9	WSU-178-H	8.22	22.6	1.36	910	1.26	282	-	-	-	-	-	1	6.12
	11	WSU-110-P	7.92	22.8	1.19	912	1.11	284	-	-	-	-	-	3	2.72
	12	WSU-110-M	7.97	22.7	1.29	915	1.16	278	-	-	-	-	-	4	3.72
	13	WSU-110-H	8.02	22.3	1.38	911	1.14	282	-	-	-	-	-	1	4.84
16	-	Raw Water	8.2	22.8		886	0.84	266		276				8	0.09
	0	Blank	7.99	22.9	1.81	909	0.88	244	-	-	-	-	-	8	0.09
	1	Carus 8600-P	8.41	22.8	1.67	906	0.89	248	-	-	-	-	-	7	3.64
	2	Carus 8600-M	8.33	22.7	1.55	909	0.95	236	-	-	-	-	-	14	4.48
	3	Carus 8400-H	7.99	23.0	1.65	903	0.92	248	-	-	-	-	-	1	6.04
	4	Carus 8700-P	7.94	23.1	1.43	909	0.91	244	-	-	-	-	-	1	3.12
	5	Carus 8700-M	8.28	22.8	1.68	906	0.95	240	-	-	-	-	-	36	4.46
	6	Carus 8700-H	8.35	22.6	1.38	904	1.01	256	-	-	-	-	-	5	5.68
	7	WSU-178-P	7.97	23.0	1.48	909	0.90	288	-	-	-	-	-	17	3.08
	8	WSU-178-M	7.92	22.9	1.40	907	0.87	284	-	-	-	-	-	1	4.48
	9	WSU-178-H	8.20	22.9	1.66	906	0.98	284	-	-	-	-	-	5	6.12
	11	WSU-110-P	7.96	22.8	1.69	907	1.33	284	-	-	-	-	-	13	2.48
	12	WSU-110-M	8.08	22.7	1.48	907	0.98	288	-	-	-	-	-	19	4.40
	13	WSU-110-H	7.96	22.7	1.59	908	0.90	284	-	-	-	-	-	16	5.08

Test	Beaker No.	Product	pH	Temp., °C	Total Cl2, mg/L	Conductivity, µS/ cm	Turbidity, NTU	Alkalinity, mg/L as CaCO3	Free Ammonia, NH3 – N	Calcium, mg/L as CaCO3	Iron, mg/L	Chloride, mg/L	Sulfate, mg/L	Color, Pt-Co	Ortho P, mg/L
18	-	Raw Water	8.19	24.2		897	0.80	250	0.016	278	0.05	10.39	19		0.41
	0	Blank	8.02	23.6	1.67	911	0.73	232	-	-	-	-	-	13	0.26
	1	Carus 8600-P	7.96	23.7	1.14	916	0.87	224	-	-	-	-	-	16	3.96
	2	Carus 8600-M	8.17	22.6	1.40	909	0.79	220	-	-	-	-	-	6	4.68
	3	Carus 8400-H	8.10	23.0	1.66	915	0.74	252	-	-	-	-	-	13	7.20
	4	Carus 8700-P	8.29	21.4	1.70	883	0.64	284	-	-	-	-	-	26	3.52
	5	Carus 8700-M	8.05	19.4	1.07	886	0.64	286	-	-	-	-	-	36	5.22
	6	Carus 8700-H	7.98	19.4	1.55	897	0.63	288	-	-	-	-	-	19	6.88
	7	WSU-178-P	8.02	22.6	1.69	909	0.80	276	-	-	-	-	-	1	3.44
	8	WSU-178-M	8.15	22.4	1.61	910	0.91	274	-	-	-	-	-	0	4.92
	9	WSU-178-H	8.12	22.6	1.57	915	0.85	276	-	-	-	-	-	1	6.56
	11	WSU-110-P	8.04	23.5	1.38	913	0.82	272	-	-	-	-	-	5	2.96
	12	WSU-110-M	7.90	24.1	1.42	915	0.85	276	-	-	-	-	-	7	4.98
	13	WSU-110-H	7.85	25.0	1.41	921	0.85	270	-	-	-	-	-	17	5.80
18		Raw Water	8.31	22.6	0.08	879	0.55	296	0.016	262	0.05	10.39	19	0	0.10
	0	Blank	8.13	22.7	1.70	907	0.50	278	-	-	-	-	-	0	0.18
	1	Carus 8600-P	8.07	22.8	1.77	903	0.83	276	-	-	-	-	-	0	3.60
	2	Carus 8600-M	8.08	22.7	1.72	903	0.55	276	-	-	-	-	-	4	4.92
	3	Carus 8400-H	8.06	22.8	1.76	904	0.55	276	-	-	-	-	-	0	6.00
	4	Carus 8700-P	8.08	22.9	1.89	907	0.63	272	-	-	-	-	-	9	3.62
	5	Carus 8700-M	8.10	22.3	1.55	904	0.76	280	-	-	-	-	-	5	5.02
	6	Carus 8700-H	8.28	22.3	1.77	908	0.95	268	-	-	-	-	-	4	6.50
	7	WSU-178-P	8.36	22.1	1.79	906	1.32	272	-	-	-	-	-	1	9.02
	8	WSU-178-M	8.07	22.3	1.73	905	0.52	270	-	-	-	-	-	2	4.88
	9	WSU-178-H	8.24	22.3	1.59	909	0.68	274	-	-	-	-	-	1	6.36
	11	WSU-110-P	8.09	22.3	1.62	904	1.52	278	-	-	-	-	-	1	3.08
	12	WSU-110-M	8.33	22.1	1.59	904	0.61	274	-	-	-	-	-	1	4.04
	13	WSU-110-H	8.09	22.3	1.65	905	1.12	274	-	-	-	-	-	1	5.28

Table A- 2. Spent Solution Water Quality

Test	Beaker No.	Product	pH	Temp., °C	Total Cl2, mg/L	Conductivity, µS/ cm	Turbidity, NTU	Alkalinity, mg/L as CaCO3	Free Ammonia, NH3 – N	Calcium, mg/L as CaCO3	Iron, mg/L	Chloride, mg/L	Sulfate, mg/L	Color, Pt-Co	Ortho P, mg/L
1	0	Blank	7.55	21.4	0.04	737	0.53	310	-	-	-	-	-	10	3.52
	1	Carus 8600-P	7.64	21.7	0.05	757	0.64	294	-	-	-	-	-	6	3.40
	2	Carus 8600-M	7.70	21.7	0.04	741	0.59	292	-	-	-	-	-	10	4.72
	3	Carus 8400-H	7.58	21.9	0.12	747	0.45	285	-	-	-	-	-	5	6.84
	4	Carus 8700-P	7.73	21.7	0.14	697	0.67	286	-	-	-	-	-	6	3.92
	5	Carus 8700-M	7.64	21.7	0.18	747	0.60	289	-	-	-	-	-	6	4.92
	6	Carus 8700-H	7.64	21.5	0.14	747	0.69	294	-	-	-	-	-	5	6.20
	7	WSU-178-P	7.63	21.9	0.14	687	0.71	292	-	-	-	-	-	8	4.40
	8	WSU-178-M	7.49	21.8	0.19	777	0.66	294	-	-	-	-	-	7	5.72
	9	WSU-178-H	7.57	21.8	0.21	767	0.67	288	-	-	-	-	-	8	7.20
	11	WSU-110-P	7.56	21.9	0.14	777	0.59	294	-	-	-	-	-	3	4.04
	12	WSU-110-M	7.65	21.8	0.14	761	0.61	296	-	-	-	-	-	5	4.32
	13	WSU-110-H	7.57	22.0	0.16	791	0.58	282	-	-	-	-	-	7	5.56
2	0	Blank	7.64	20.9	0.43	717	0.43	278	-	-	-	-	-	7	
	1	Carus 8600-P	7.73	21.2	0.30	727	0.48	278	-	-	-	-	-	4	
	2	Carus 8600-M	7.77	21.0	0.17	727	0.47	274	-	-	-	-	-	9	
	3	Carus 8400-H	7.80	21.2	0.24	737	0.54	284	-	-	-	-	-	5	
	4	Carus 8700-P	7.81	21.1	0.24	737	0.55	282	-	-	-	-	-	3	
	5	Carus 8700-M	7.75	21.1	0.23	747	0.45	288	-	-	-	-	-	6	
	6	Carus 8700-H	7.79	21.0	0.30	767	0.61	290	-	-	-	-	-	5	
	7	WSU-178-P	7.75	21.2	0.29	777	0.43	290	-	-	-	-	-	7	
	8	WSU-178-M	7.72	20.9	0.29	761	0.46	290	-	-	-	-	-	7	
	9	WSU-178-H	7.82	20.8	0.42	757	0.60	308	-	-	-	-	-	8	
	11	WSU-110-P	7.78	20.8	0.14	797	0.51	292	-	-	-	-	-	9	
	12	WSU-110-M	7.81	20.8	0.12	807	0.52	290	-	-	-	-	-	9	
	13	WSU-110-H	7.96	20.6	0.22	777	0.49	290	-	-	-	-	-	7	

Test	Beaker No.	Product	pH	Temp., °C	Total Cl2, mg/L	Conductivity, µS/ cm	Turbidity, NTU	Alkalinity, mg/L as CaCO3	Free Ammonia, NH3 – N	Calcium, mg/L as CaCO3	Iron, mg/L	Chloride, mg/L	Sulfate, mg/L	Color, Pt-Co	Ortho P, mg/L
3	0	Blank	7.75	21.2	0.38	731	0.38	280	-	-	-	-	-	13	0.07
	1	Carus 8600-P	7.75	20.8	0.15	727	0.41	290	-	-	-	-	-	9	2.76
	2	Carus 8600-M	7.64	20.8	0.13	731	0.63	286	-	-	-	-	-	7	5.20
	3	Carus 8400-H	7.79	20.9	0.13	737	0.52	284	-	-	-	-	-	18	6.40
	4	Carus 8700-P	7.76	20.9	0.15	737	0.45	286	-	-	-	-	-	13	3.08
	5	Carus 8700-M	7.76	20.9	0.23	761	0.44	288	-	-	-	-	-	9	5.30
	6	Carus 8700-H	7.72	20.8	0.19	767	0.42	288	-	-	-	-	-	11	6.20
	7	WSU-178-P	7.88	20.8	0.15	747	0.40	304	-	-	-	-	-	18	4.00
	8	WSU-178-M	7.91	20.9	0.21	757	0.38	300	-	-	-	-	-	10	5.64
	9	WSU-178-H	7.90	21.0	0.27	747	0.44	302	-	-	-	-	-	9	7.12
	11	WSU-110-P	7.78	20.9	0.16	761	0.45	288	-	-	-	-	-	7	3.24
	12	WSU-110-M	7.74	21.1	0.16	771	0.49	290	-	-	-	-	-	6	4.48
	13	WSU-110-H	7.78	21.2	0.13	777	0.36	290	-	-	-	-	-	10	9.40
4	0	Blank			0.07				-	-	-	-	-	4	0.08
	1	Carus 8600-P	8.13	22.1	0.04	888	0.34	280	-	-	-	-	-	8	0.28
	2	Carus 8600-M	7.90	22.1	0.16	893	0.36	280	-	-	-	-	-	12	4.44
	3	Carus 8400-H	8.08	22.0	0.18	889	0.32	278	-	-	-	-	-	16	5.58
	4	Carus 8700-P	7.49	22.0	0.17	891	0.36	284	-	-	-	-	-	16	3.60
	5	Carus 8700-M	8.18	21.9	0.26	887	0.35	286	-	-	-	-	-	8	5.00
	6	Carus 8700-H	8.17	22.0	0.15	891	0.38	284	-	-	-	-	-	8	6.35
	7	WSU-178-P	8.21	22.1	0.13	887	0.36	286	-	-	-	-	-	28	4.15
	8	WSU-178-M	7.90	21.9	0.30	889	0.34	282	-	-	-	-	-	15	6.35
	9	WSU-178-H	8.00	21.7	0.15	886	0.38	282	-	-	-	-	-	10	7.65
	11	WSU-110-P	8.01	21.8	0.13	888	0.36	282	-	-	-	-	-	15	3.20
	12	WSU-110-M	8.15	21.8	0.13	888	0.33	282	-	-	-	-	-	6	4.65
	13	WSU-110-H	8.05	22.0	0.18	893	0.50	286	-	-	-	-	-	5	5.31

Test	Beaker No.	Product	pH	Temp., °C	Total Cl2, mg/L	Conductivity, µS/ cm	Turbidity, NTU	Alkalinity, mg/L as CaCO3	Free Ammonia, NH3 – N	Calcium, mg/L as CaCO3	Iron, mg/L	Chloride, mg/L	Sulfate, mg/L	Color, Pt-Co	Ortho P, mg/L
5	0	Blank	8.12	22.4	0.11	903	0.45	286	-	-	-	-	-	13	3.30
	1	Carus 8600-P	8.01	22.0	0.47	909	0.58	284	-	-	-	-	-	14	5.01
	2	Carus 8600-M	7.97	21.6	0.53	908	0.58	282	-	-	-	-	-	23	8.48
	3	Carus 8400-H	8.01	21.7	0.80	910	0.54	278	-	-	-	-	-	25	9.10
	4	Carus 8700-P	7.84	21.7	0.72	910	0.51	284	-	-	-	-	-	34	6.44
	5	Carus 8700-M	7.93	21.6	1.10	907	0.67	278	-	-	-	-	-	38	7.68
	6	Carus 8700-H	7.97	21.7	0.77	910	0.51	282	-	-	-	-	-	26	11.05
	7	WSU-178-P	8.04	21.6	0.37	907	0.56	282	-	-	-	-	-	9	9.55
	8	WSU-178-M	8.02	21.6	0.42	911	0.64	278	-	-	-	-	-	6	10.16
	9	WSU-178-H	8.10	21.8	0.41	903	0.70	280	-	-	-	-	-	7	10.35
	11	WSU-110-P	8.12	21.6	0.44	903	0.51	286	-	-	-	-	-	15	5.85
	12	WSU-110-M	8.10	21.8	0.29	910	0.52	280	-	-	-	-	-	3	7.30
	13	WSU-110-H	8.11	21.8	0.07	911	0.76	286	-	-	-	-	-	35	9.25
6	0	Blank	7.62	22.3	1.33	909	0.68	284	-	-	-	-	-	12	3.04
	1	Carus 8600-P	7.61	22.4	1.44	911	0.84	282	-	-	-	-	-	24	5.60
	2	Carus 8600-M	7.61	22.6	1.56	909	0.72	276	-	-	-	-	-	25	6.80
	3	Carus 8400-H	7.60	22.6	1.53	913	0.65	282	-	-	-	-	-	25	8.36
	4	Carus 8700-P	7.62	22.6	1.59	904	0.63	284	-	-	-	-	-	19	6.04
	5	Carus 8700-M	7.62	22.8	1.52	913	0.64	282	-	-	-	-	-	17	7.64
	6	Carus 8700-H	7.61	22.7	1.47	911	0.64	278	-	-	-	-	-	38	8.96
	7	WSU-178-P	7.62	22.8	1.19	911	0.64	282	-	-	-	-	-	13	6.68
	8	WSU-178-M	7.65	23.1	1.23	915	0.68	278	-	-	-	-	-	24	8.84
	9	WSU-178-H	7.63	22.9	0.87	915	0.74	282	-	-	-	-	-	17	10.10
	11	WSU-110-P	7.67	22.9	1.18	904	0.70	286	-	-	-	-	-	42	5.84
	12	WSU-110-M	7.68	22.6	1.05	916	0.69	276	-	-	-	-	-	30	7.72
	13	WSU-110-H	7.66	22.7	0.85	910	0.64	286	-	-	-	-	-	31	9.08

Test	Beaker No.	Product	pH	Temp., °C	Total Cl2, mg/L	Conductivity, µS/ cm	Turbidity, NTU	Alkalinity, mg/L as CaCO3	Free Ammonia, NH3 – N	Calcium, mg/L as CaCO3	Iron, mg/L	Chloride, mg/L	Sulfate, mg/L	Color, Pt-Co	Ortho P, mg/L
7	0	Blank	7.99	21.8	0.54	906	0.64	278	-	-	-	-	-	19	0.18
	1	Carus 8600-P	7.96	21.7	0.55	954	0.53	218	-	-	-	-	-	12	2.98
	2	Carus 8600-M	8.02	21.9	0.51	928	0.52	252	-	-	-	-	-	8	4.20
	3	Carus 8400-H	8.00	21.6	0.86	939	0.57	232	-	-	-	-	-	11	5.58
	4	Carus 8700-P	7.96	21.8	1.06	932	0.55	244	-	-	-	-	-	14	3.30
	5	Carus 8700-M	7.99	21.6	1.09	916	0.53	268	-	-	-	-	-	14	4.70
	6	Carus 8700-H	8.01	21.6	0.92	904	0.63	282	-	-	-	-	-	15	6.34
	7	WSU-178-P	8.00	21.7	0.80	919	0.54	276	-	-	-	-	-	13	4.88
	8	WSU-178-M	7.98	21.6	0.92	913	0.50	278	-	-	-	-	-	15	5.36
	9	WSU-178-H	8.00	21.7	1.00	903	0.64	278	-	-	-	-	-	18	6.60
	11	WSU-110-P	7.99	21.6	0.99	917	0.46	272	-	-	-	-	-	14	4.16
	12	WSU-110-M	8.00	21.7	1.04	907	0.49	294	-	-	-	-	-	12	5.02
	13	WSU-110-H	7.98	21.7	0.55	926	0.46	270	-	-	-	-	-	12	6.20
8	0	Blank	8.07	22.2	1.26	826	0.34	256	-	-	-	-	-	4	1.40
	1	Carus 8600-P	7.79	21.9	1.46	911	0.32	270	-	-	-	-	-	2	4.16
	2	Carus 8600-M	8.01	22.0	1.40	903	0.34	274	-	-	-	-	-	3	8.20
	3	Carus 8400-H	8.01	21.9	1.58	910	0.39	268	-	-	-	-	-	3	9.44
	4	Carus 8700-P	8.01	21.9	1.80	905	0.34	272	-	-	-	-	-	4	3.68
	5	Carus 8700-M	8.03	21.8	1.68	915	0.32	270	-	-	-	-	-	5	4.00
	6	Carus 8700-H	8.05	21.9	1.64	909	0.32	274	-	-	-	-	-	3	5.92
	7	WSU-178-P	8.02	22.1	1.00	910	0.36	274	-	-	-	-	-	4	4.00
	8	WSU-178-M	8.00	22.1	1.72	921	0.32	272	-	-	-	-	-	4	5.16
	9	WSU-178-H	8.00	22.0	2.00	903	0.32	270	-	-	-	-	-	4	6.72
	11	WSU-110-P	7.97	21.9	1.14	907	0.37	274	-	-	-	-	-	5	3.00
	12	WSU-110-M	7.99	21.9	1.30	914	0.30	282	-	-	-	-	-	5	4.12
	13	WSU-110-H	7.96	22.1	0.80	916	0.37	256	-	-	-	-	-	4	5.04

Test	Beaker No.	Product	pH	Temp., °C	Total Cl2, mg/L	Conductivity, µS/ cm	Turbidity, NTU	Alkalinity, mg/L as CaCO3	Free Ammonia, NH3 – N	Calcium, mg/L as CaCO3	Iron, mg/L	Chloride, mg/L	Sulfate, mg/L	Color, Pt-Co	Ortho P, mg/L
9	0	Blank	8.16	21.8	0.15	895	0.24	282	-	-	-	-	-	6	0.36
	1	Carus 8600-P	8.22	21.9	0.50	893	0.23	282	-	-	-	-	-	16	3.24
	2	Carus 8600-M	8.20	21.8	0.58	898	0.23	286	-	-	-	-	-	14	4.44
	3	Carus 8400-H	8.19	21.9	0.64	902	0.23	288	-	-	-	-	-	4	5.96
	4	Carus 8700-P	8.19	21.9	0.96	900	0.21	286	-	-	-	-	-	22	3.16
	5	Carus 8700-M	8.15	22.0	0.92	893	0.21	286	-	-	-	-	-	18	4.60
	6	Carus 8700-H	8.16	22.0	0.86	901	0.22	282	-	-	-	-	-	20	6.16
	7	WSU-178-P	8.14	22.1	0.72	895	0.21	288	-	-	-	-	-	2	3.24
	8	WSU-178-M	8.12	22.3	0.66	905	0.22	282	-	-	-	-	-	4	5.02
	9	WSU-178-H	8.12	22.1	0.92	898	0.21	286	-	-	-	-	-	6	6.12
	11	WSU-110-P	8.15	22.1	0.38	892	0.23	284	-	-	-	-	-	12	3.08
	12	WSU-110-M	8.16	22.1	0.66	903	0.23	284	-	-	-	-	-	22	3.76
	13	WSU-110-H	8.17	22.1	0.56	905	0.26	286	-	-	-	-	-	28	6.24
10	0	Blank	8.22	21.9	0.67	871	0.24	262	-	-	-	-	-	10	0.19
	1	Carus 8600-P	8.20	21.8	1.03	869	0.22	268	-	-	-	-	-	7	2.93
	2	Carus 8600-M	8.19	21.9	0.89	871	0.21	264	-	-	-	-	-	4	4.18
	3	Carus 8400-H	8.19	21.7	0.03	867	0.27	270	-	-	-	-	-	3	5.00
	4	Carus 8700-P	8.18	21.8	0.02	875	0.32	266	-	-	-	-	-	9	3.07
	5	Carus 8700-M	8.20	21.6	0.47	872	0.26	270	-	-	-	-	-	6	3.99
	6	Carus 8700-H	8.21	21.6	0.91	876	0.22	270	-	-	-	-	-	4	4.43
	7	WSU-178-P	8.18	21.7	0.36	875	0.21	270	-	-	-	-	-	6	3.13
	8	WSU-178-M	8.18	21.6	0.36	866	0.21	266	-	-	-	-	-	1	3.30
	9	WSU-178-H	8.17	21.7	0.52	870	0.23	266	-	-	-	-	-	2	4.26
	11	WSU-110-P	8.17	21.7	0.51	870	0.24	274	-	-	-	-	-	4	2.51
	12	WSU-110-M	8.13	21.7	0.22	881	0.27	264	-	-	-	-	-	4	3.62
	13	WSU-110-H	8.19	21.8	0.39	874	0.24	264	-	-	-	-	-	4	3.98

Test	Beaker No.	Product	pH	Temp., °C	Total Cl2, mg/L	Conductivity, µS/ cm	Turbidity, NTU	Alkalinity, mg/L as CaCO3	Free Ammonia, NH3 – N	Calcium, mg/L as CaCO3	Iron, mg/L	Chloride, mg/L	Sulfate, mg/L	Color, Pt-Co	Ortho P, mg/L
11	0	Blank	8.01	21.8	0.01	911	0.63	284	-	-	-	-	-	0	6.60
	1	Carus 8600-P	8.07	22.0	0.47	910	0.72	286	-	-	-	-	-	7	9.40
	2	Carus 8600-M	8.10	22.1	0.40	921	0.68	280	-	-	-	-	-	1	15.80
	3	Carus 8400-H	8.11	22.0	0.38	917	0.66	280	-	-	-	-	-	5	12.80
	4	Carus 8700-P	8.07	21.9	0.01	924	0.59	274	-	-	-	-	-	6	20.10
	5	Carus 8700-M	8.10	21.6		909	0.55	288	-	-	-	-	-	-	-
	6	Carus 8700-H	8.12	22.0	0.62	925	0.60	276	-	-	-	-	-	4	20.10
	7	WSU-178-P	8.19	22.0	0.00	904	0.57	298	-	-	-	-	-	6	16.00
	8	WSU-178-M	8.16	22.0	0.04	910	0.57	296	-	-	-	-	-	18	11.00
	9	WSU-178-H	8.16	22.1	0.08	914	0.63	294	-	-	-	-	-	2	15.00
	11	WSU-110-P	8.12	22.3	0.16	925	0.57	278	-	-	-	-	-	11	8.70
	12	WSU-110-M	8.12	22.0	0.12	921	0.57	278	-	-	-	-	-	0	9.60
	13	WSU-110-H	8.11	22.2	0.34	923	0.55	290	-	-	-	-	-	0	11.40
12	0	Blank	8.02	22.0	0.02	912	0.39	282	-	-	-	-	-	2	0.12
	1	Carus 8600-P	8.18	22.1	0.19	916	0.25	288	-	-	-	-	-	1	3.56
	2	Carus 8600-M	8.24	21.9	0.12	915	0.25	276	-	-	-	-	-	3	4.68
	3	Carus 8400-H	8.19	21.7	0.08	910	0.29	286	-	-	-	-	-	1	6.04
	4	Carus 8700-P	8.26	21.4	0.27	914	0.24	284	-	-	-	-	-	5	3.28
	5	Carus 8700-M	7.59	21.7	0.08	950	0.31	228	-	-	-	-	-	11	4.80
	6	Carus 8700-H	8.02	21.9	0.29	915	0.26	262	-	-	-	-	-	15	6.00
	7	WSU-178-P	8.14	22.1	0.10	935	0.26	254	-	-	-	-	-	6	3.40
	8	WSU-178-M	8.12	22.1	0.06	922	0.25	272	-	-	-	-	-	6	5.00
	9	WSU-178-H	8.22	21.9	0.21	920	0.24	278	-	-	-	-	-	2	6.64
	11	WSU-110-P	8.01	21.3	0.03	912	0.31	262	-	-	-	-	-	3	2.76
	12	WSU-110-M	8.11	22.0	0.18	917	0.21	282	-	-	-	-	-	4	4.12
	13	WSU-110-H	8.12	22.2	0.08	911	0.23	290	-	-	-	-	-	2	4.92

Test	Beaker No.	Product	pH	Temp., °C	Total Cl2, mg/L	Conductivity, µS/ cm	Turbidity, NTU	Alkalinity, mg/L as CaCO3	Free Ammonia, NH3 – N	Calcium, mg/L as CaCO3	Iron, mg/L	Chloride, mg/L	Sulfate, mg/L	Color, Pt-Co	Ortho P, mg/L
13	0	Blank	8.30	22.3		892	0.04	270	-	-	-	-	-		
	1	Carus 8600-P	8.21	22.5		916	0.56	264	-	-	-	-	-		
	2	Carus 8600-M	8.22	22.4		921	0.49	272	-	-	-	-	-		
	3	Carus 8400-H	8.20	22.4		910	0.51	280	-	-	-	-	-		
	4	Carus 8700-P	8.24	22.4		914	0.49	282	-	-	-	-	-		
	5	Carus 8700-M	8.22	22.4		917	0.61	278	-	-	-	-	-		
	6	Carus 8700-H	8.22	22.2		914	0.49	282	-	-	-	-	-		
	7	WSU-178-P	8.23	21.9		914	0.45	282	-	-	-	-	-		
	8	WSU-178-M	8.20	21.9		916	0.35	282	-	-	-	-	-		
	9	WSU-178-H	8.26	21.8		912	0.40	284	-	-	-	-	-		
	11	WSU-110-P	8.20	21.9		905	0.46	280	-	-	-	-	-		
	12	WSU-110-M	8.22	21.9		913	0.52	276	-	-	-	-	-		
	13	WSU-110-H	8.25	22.0		915	0.39	278	-	-	-	-	-		
14	0	Blank	7.83	22.5	0.21	943	0.28	208	-	-	-	-	-	2	0.10
	1	Carus 8600-P	7.91	22.2	0.15	910	0.40	284	-	-	-	-	-	5	3.16
	2	Carus 8600-M	7.87	22.1	0.16	917	0.36	268	-	-	-	-	-	4	4.64
	3	Carus 8400-H	7.88	22.0	0.12	921	0.39	278	-	-	-	-	-	1	5.92
	4	Carus 8700-P	8.12	22.0	0.18	910	0.37	282	-	-	-	-	-	6	3.00
	5	Carus 8700-M	7.50	21.9	0.11	970	0.43	202	-	-	-	-	-	5	4.60
	6	Carus 8700-H	7.95	22.1	0.28	917	0.34	288	-	-	-	-	-	4	5.88
	7	WSU-178-P	8.07	22.0	0.06	915	0.35	282	-	-	-	-	-	4	3.28
	8	WSU-178-M	8.10	22.2	0.13	916	0.39	276	-	-	-	-	-	4	4.72
	9	WSU-178-H	7.85	22.0	0.18	939	0.35	256	-	-	-	-	-	3	6.12
	11	WSU-110-P	7.97	22.2	0.15	920	0.43	272	-	-	-	-	-	5	2.56
	12	WSU-110-M	8.13	22.1	0.12	912	0.43	282	-	-	-	-	-	5	4.48
	13	WSU-110-H	8.15	22.0	0.09	910	0.38	276	-	-	-	-	-	6	5.88

Test	Beaker No.	Product	pH	Temp., °C	Total Cl2, mg/L	Conductivity, µS/ cm	Turbidity, NTU	Alkalinity, mg/L as CaCO3	Free Ammonia, NH3 – N	Calcium, mg/L as CaCO3	Iron, mg/L	Chloride, mg/L	Sulfate, mg/L	Color, Pt-Co	Ortho P, mg/L
15	0	Blank	8.01	22.7	0.46	911	0.75	256	-	-	-	-	-	19	0.03
	1	Carus 8600-P	7.94	22.5	0.52	919	0.67	220	-	-	-	-	-	10	3.00
	2	Carus 8600-M	8.00	21.4	0.32	912	0.62	272	-	-	-	-	-	12	4.64
	3	Carus 8400-H	8.02	21.5	0.21	917	0.57	276	-	-	-	-	-	18	6.52
	4	Carus 8700-P	3.22	21.9	0.37	913	0.67	276	-	-	-	-	-	12	3.92
	5	Carus 8700-M	7.98	21.5	0.41	917	0.58	268	-	-	-	-	-	12	5.24
	6	Carus 8700-H	8.20	21.8	0.33	929	0.62	264	-	-	-	-	-	13	6.80
	7	WSU-178-P	7.96	22.3	0.20	917	0.63	272	-	-	-	-	-	9	4.06
	8	WSU-178-M	7.96	22.3	0.18	916	0.67	276	-	-	-	-	-	14	5.56
	9	WSU-178-H	7.93	22.2	0.35	919	0.63	286	-	-	-	-	-	11	6.96
	11	WSU-110-P	7.96	22.3	0.27	923	0.65	282	-	-	-	-	-	11	3.32
	12	WSU-110-M	8.16	22.1	0.37	920	0.69	284	-	-	-	-	-	10	4.52
	13	WSU-110-H	8.01	22.7	0.46	911	0.75	256	-	-	-	-	-	19	0.03
16	0	Blank	7.95	22.3	0.39	919	0.36	272	-	-	-	-	-	7	0.36
	1	Carus 8600-P	7.97	22.1	0.30	911	0.38	280	-	-	-	-	-	7	3.56
	2	Carus 8600-M	7.94	22.0	0.32	910	0.39	280	-	-	-	-	-	6	5.00
	3	Carus 8400-H	7.94	21.9	0.29	915	0.44	290	-	-	-	-	-	1	6.06
	4	Carus 8700-P	7.96	21.9	0.31	905	0.34	284	-	-	-	-	-	3	3.68
	5	Carus 8700-M	8.06	22.1	0.28	915	0.35	282	-	-	-	-	-	7	5.24
	6	Carus 8700-H	7.82	21.7	0.35	914	0.33	288	-	-	-	-	-	16	6.18
	7	WSU-178-P	8.09	21.7	0.15	917	0.41	286	-	-	-	-	-	1	3.84
	8	WSU-178-M	8.06	21.6	0.24	917	0.32	284	-	-	-	-	-	3	5.28
	9	WSU-178-H	8.10	21.4	0.14	918	0.29	276	-	-	-	-	-	1	6.52
	11	WSU-110-P	8.06	21.6	0.31	912	0.30	286	-	-	-	-	-	3	3.12
	12	WSU-110-M	8.03	21.9	0.32	917	0.32	284	-	-	-	-	-	4	4.16
	13	WSU-110-H	8.03	22.0	0.24	912	0.31	292	-	-	-	-	-	1	5.68

Test	Beaker No.	Product	pH	Temp., °C	Total Cl2, mg/L	Conductivity, µS/ cm	Turbidity, NTU	Alkalinity, mg/L as CaCO3	Free Ammonia, NH3 – N	Calcium, mg/L as CaCO3	Iron, mg/L	Chloride, mg/L	Sulfate, mg/L	Color, Pt-Co	Ortho P, mg/L
17	0	Blank	8.10	22.6	0.63	903	0.33	268	-	-	-	-	-	11	0.22
	1	Carus 8600-P	8.12	22.5	0.72	910	0.31	272	-	-	-	-	-	11	3.32
	2	Carus 8600-M	8.03	22.6	0.23	914	0.39	264	-	-	-	-	-	2	4.80
	3	Carus 8400-H	8.00	22.7	0.58	915	0.32	268	-	-	-	-	-	5	6.12
	4	Carus 8700-P	8.02	22.7	0.76	905	0.30	272	-	-	-	-	-	8	3.40
	5	Carus 8700-M	8.04	22.7	0.54	904	0.32	272	-	-	-	-	-	5	8.12
	6	Carus 8700-H	7.41	22.7	1.07	944	0.39	234	-	-	-	-	-	2	6.32
	7	WSU-178-P	7.74	22.7	0.51	911	0.38	288	-	-	-	-	-	8	4.22
	8	WSU-178-M	8.02	22.4	0.54	918	0.31	278	-	-	-	-	-	1	5.04
	9	WSU-178-H	8.03	22.4	0.62	909	0.41	278	-	-	-	-	-	1	6.12
	11	WSU-110-P	8.04	22.3	0.38	904	0.31	286	-	-	-	-	-	2	3.44
	12	WSU-110-M	8.00	22.4	0.26	912	0.38	290	-	-	-	-	-	5	4.52
	13	WSU-110-H	8.09	22.4	0.27	918	0.33	282	-	-	-	-	-	1	5.64
18	0	Blank	7.88	22.9	0.47	910	0.25	282	-	-	-	-	-	1	0.36
	1	Carus 8600-P	8.04	22.1	0.48	911	0.28	278	-	-	-	-	-	2	3.80
	2	Carus 8600-M	8.03	22.2	0.54	920	0.40	276	-	-	-	-	-	1	5.06
	3	Carus 8400-H	7.97	22.1	0.51	924	0.25	276	-	-	-	-	-	1	6.36
	4	Carus 8700-P	7.97	22.1	0.74	920	0.25	278	-	-	-	-	-	2	3.72
	5	Carus 8700-M	7.90	22.0	0.42	929	0.24	260	-	-	-	-	-	1	5.20
	6	Carus 8700-H	8.29	22.0	0.66	914	0.26	272	-	-	-	-	-	3	6.38
	7	WSU-178-P	8.26	22.0	0.55	922	0.25	276	-	-	-	-	-	2	3.96
	8	WSU-178-M	8.24	22.0	0.31	914	0.25	272	-	-	-	-	-	1	5.16
	9	WSU-178-H	8.19	21.9	0.74	927	0.27	266	-	-	-	-	-	1	6.58
	11	WSU-110-P	8.32	21.9	0.56	915	0.24	276	-	-	-	-	-	2	3.32
	12	WSU-110-M	8.27	21.9	0.68	914	0.35	282	-	-	-	-	-	3	4.44
	13	WSU-110-H	8.14	21.9	0.55	910	0.27	286	-	-	-	-	-	1	6.08

APPENDIX B – LEAD AND TOTAL PHOSPHORUS RESULTS SUMMARY

Table B- 3. Laboratory Total Phosphorus and Lead Analysis Results

Test	Beaker No.	Product	Initial Total Phosphorus, mg/L as PO ₄	Lead, µg/L
1	0	Blank	0	3500
	1	Carus 8600-P	3	2900
	2	Carus 8600-M	5.2	550
	3	Carus 8400-H	7.1	520
	4	Carus 8700-P	3	420
	5	Carus 8700-M	4.9	570
	6	Carus 8700-H	7.1	440
	7	WSU-178-P	4.6	600
	8	WSU-178-M	7.4	440
	9	WSU-178-H	9.8	540
	11	WSU-110-P	3.4	340
	12	WSU-110-M	4.6	380
	13	WSU-110-H	6.8	320
2	0	Blank	0.12	330
	1	Carus 8600-P	3.1	390
	2	Carus 8600-M	5.2	340
	3	Carus 8400-H	7.4	230
	4	Carus 8700-P	3	210
	5	Carus 8700-M	6.1	200
	6	Carus 8700-H	7.1	230
	7	WSU-178-P	4.3	300
	8	WSU-178-M	7.4	240
	9	WSU-178-H	10	210
	11	WSU-110-P	3	280
	12	WSU-110-M	4.9	220
	13	WSU-110-H	10	200

Test	Beaker No.	Product	Initial Total Phosphorus, mg/L as PO ₄	Lead, µg/L
3	0	Blank	0	260
	1	Carus 8600-P	4.3	460
	2	Carus 8600-M	6.4	400
	3	Carus 8400-H	8	320
	4	Carus 8700-P	4	220
	5	Carus 8700-M	5.8	270
	6	Carus 8700-H	8.3	300
	7	WSU-178-P	5.8	310
	8	WSU-178-M	7.4	250
	9	WSU-178-H	11	200
	11	WSU-110-P	3.7	330
	12	WSU-110-M	8	300
	13	WSU-110-H	7.4	250
4	0	Blank	0	190
	1	Carus 8600-P	4	300
	2	Carus 8600-M	5.2	320
	3	Carus 8400-H	8	200
	4	Carus 8700-P	3.7	160
	5	Carus 8700-M	6.1	160
	6	Carus 8700-H	7.4	320
	7	WSU-178-P	4.6	290
	8	WSU-178-M	7.4	180
	9	WSU-178-H	10	160
	11	WSU-110-P	3.1	200
	12	WSU-110-M	6.1	160
	13	WSU-110-H	6.1	280

Test	Beaker No.	Product	Initial Total Phosphorus, mg/L as PO ₄	Lead, µg/L
5	0	Blank	6.8	200
	1	Carus 8600-P	11	430
	2	Carus 8600-M	12	330
	3	Carus 8400-H	14	320
	4	Carus 8700-P	12	270
	5	Carus 8700-M	14	220
	6	Carus 8700-H	14	300
	7	WSU-178-P	14	450
	8	WSU-178-M	13	400
	9	WSU-178-H	17	400
	11	WSU-110-P	9.8	260
	12	WSU-110-M	12	310
	13	WSU-110-H	14	1700
6	0	Blank	7.7	170
	1	Carus 8600-P	11	220
	2	Carus 8600-M	14	160
	3	Carus 8400-H	12	170
	4	Carus 8700-P	10	120
	5	Carus 8700-M	16	110
	6	Carus 8700-H	15	180
	7	WSU-178-P	14	250
	8	WSU-178-M	12	230
	9	WSU-178-H	18	260
	11	WSU-110-P	12	730
	12	WSU-110-M	14	190
	13	WSU-110-H	15	200

Test	Beaker No.	Product	Initial Total Phosphorus, mg/L as PO ₄	Lead, µg/L
7	0	Blank	0.31	350
	1	Carus 8600-P	4	300
	2	Carus 8600-M	8	260
	3	Carus 8400-H	7.7	200
	4	Carus 8700-P	3.4	220
	5	Carus 8700-M	5.2	180
	6	Carus 8700-H	6.8	220
	7	WSU-178-P	5.2	360
	8	WSU-178-M	8.3	280
	9	WSU-178-H	9.8	230
	11	WSU-110-P	3.4	240
	12	WSU-110-M	6.1	230
	13	WSU-110-H	7.4	320
8	0	Blank	3.7	660
	1	Carus 8600-P	3.7	210
	2	Carus 8600-M	5.5	140
	3	Carus 8400-H	9.2	120
	4	Carus 8700-P	4	120
	5	Carus 8700-M	5.2	98
	6	Carus 8700-H	7.7	300
	7	WSU-178-P	4.3	1900
	8	WSU-178-M	6.8	280
	9	WSU-178-H	8.9	3000
	11	WSU-110-P	3	800
	12	WSU-110-M	4	200
	13	WSU-110-H	5.5	410

Test	Beaker No.	Product	Initial Total Phosphorus, mg/L as PO ₄	Lead, µg/L
9	0	Blank	0	250
	1	Carus 8600-P	4.6	140
	2	Carus 8600-M	6.1	170
	3	Carus 8400-H	8.6	120
	4	Carus 8700-P	3.7	100
	5	Carus 8700-M	5.2	86
	6	Carus 8700-H	7.1	130
	7	WSU-178-P	4.9	330
	8	WSU-178-M	6.8	150
	9	WSU-178-H	8.9	230
	11	WSU-110-P	2.8	240
	12	WSU-110-M	3.7	410
	13	WSU-110-H	5.2	240
10	0	Blank	0	180
	1	Carus 8600-P	4.3	510
	2	Carus 8600-M	5.8	150
	3	Carus 8400-H	8	170
	4	Carus 8700-P	3.7	140
	5	Carus 8700-M	5.5	94
	6	Carus 8700-H	7.7	130
	7	WSU-178-P	4.9	210
	8	WSU-178-M	7.1	700
	9	WSU-178-H	8.9	310
	11	WSU-110-P	3.4	840
	12	WSU-110-M	4.9	520
	13	WSU-110-H	6.1	600

Test	Beaker No.	Product	Initial Total Phosphorus, mg/L as PO ₄	Lead, µg/L
11	0	Blank	16	200
	1	Carus 8600-P	20	280
	2	Carus 8600-M	22	240
	3	Carus 8400-H	25	290
	4	Carus 8700-P	20	240
	5	Carus 8700-M	21	180
	6	Carus 8700-H	22	--
	7	WSU-178-P	20	350
	8	WSU-178-M	22	240
	9	WSU-178-H	25	220
	11	WSU-110-P	19	430
	12	WSU-110-M	21	280
	13	WSU-110-H	21	360
12	0	Blank	0.52	430
	1	Carus 8600-P	4.6	270
	2	Carus 8600-M	6.8	250
	3	Carus 8400-H	8.9	290
	4	Carus 8700-P	3.7	240
	5	Carus 8700-M	6.1	220
	6	Carus 8700-H	7.7	390
	7	WSU-178-P	4.3	330
	8	WSU-178-M	6.8	290
	9	WSU-178-H	8.9	360
	11	WSU-110-P	2.9	670
	12	WSU-110-M	4.6	240
	13	WSU-110-H	6.4	290

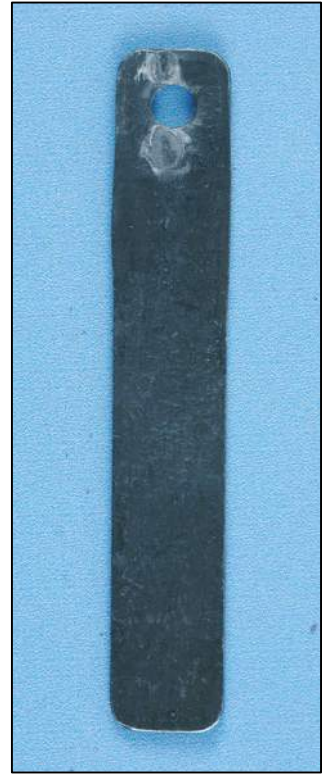
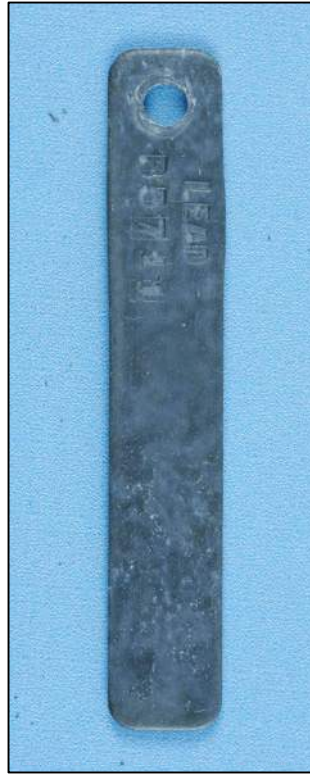
Test	Beaker No.	Product	Initial Total Phosphorus, mg/L as PO ₄	Lead, µg/L
13	0	Blank	0.74	1400
	1	Carus 8600-P	5.2	3300
	2	Carus 8600-M	7.7	1600
	3	Carus 8400-H	9.8	290
	4	Carus 8700-P	4	190
	5	Carus 8700-M	6.1	110
	6	Carus 8700-H	8	360
	7	WSU-178-P	4.9	410
	8	WSU-178-M	7.1	180
	9	WSU-178-H	9.2	170
	11	WSU-110-P	3.4	320
	12	WSU-110-M	4.9	300
	13	WSU-110-H	6.8	860
14	0	Blank	0.12	420
	1	Carus 8600-P	4.6	310
	2	Carus 8600-M	6.8	560
	3	Carus 8400-H	8.9	210
	4	Carus 8700-P	3.7	240
	5	Carus 8700-M	5.5	180
	6	Carus 8700-H	8	480
	7	WSU-178-P	4.6	500
	8	WSU-178-M	6.4	310
	9	WSU-178-H	8.9	180
	11	WSU-110-P	3.1	1500
	12	WSU-110-M	4.6	220
	13	WSU-110-H	6.1	230

Test	Beaker No.	Product	Initial Total Phosphorus, mg/L as PO ₄	Lead, µg/L
15	0	Blank	0.089	350
	1	Carus 8600-P	4.6	200
	2	Carus 8600-M	6.8	240
	3	Carus 8400-H	8.9	120
	4	Carus 8700-P	4	180
	5	Carus 8700-M	5.8	99
	6	Carus 8700-H	8	330
	7	WSU-178-P	4.3	660
	8	WSU-178-M	6.1	140
	9	WSU-178-H	8.6	140
	11	WSU-110-P	3.1	2200
	12	WSU-110-M	4.3	180
	13	WSU-110-H	6.1	410
16	0	Blank	0	200
	1	Carus 8600-P	4.3	270
	2	Carus 8600-M	6.4	190
	3	Carus 8400-H	8.6	180
	4	Carus 8700-P	4	140
	5	Carus 8700-M	5.8	110
	6	Carus 8700-H	7.7	170
	7	WSU-178-P	4.3	480
	8	WSU-178-M	14	300
	9	WSU-178-H	8.6	360
	11	WSU-110-P	3	1000
	12	WSU-110-M	4.6	430
	13	WSU-110-H	6.8	300

Test	Beaker No.	Product	Initial Total Phosphorus, mg/L as PO ₄	Lead, µg/L
17	0	Blank	0	200
	1	Carus 8600-P	4.3	130
	2	Carus 8600-M	6.8	170
	3	Carus 8400-H	8.6	110
	4	Carus 8700-P	3.7	300
	5	Carus 8700-M	5.5	180
	6	Carus 8700-H	7.7	170
	7	WSU-178-P	4.3	200
	8	WSU-178-M	6.4	1100
	9	WSU-178-H	8.9	480
	11	WSU-110-P	2.9	1400
	12	WSU-110-M	4.6	380
	13	WSU-110-H	6.1	310
18	0	Blank	0	480
	1	Carus 8600-P	4.3	850
	2	Carus 8600-M	6.8	460
	3	Carus 8400-H	8.9	190
	4	Carus 8700-P	4	390
	5	Carus 8700-M	5.5	400
	6	Carus 8700-H	7.1	1700
	7	WSU-178-P	4.3	970
	8	WSU-178-M	6.1	1500
	9	WSU-178-H	8	3200
	11	WSU-110-P	5.2	500
	12	WSU-110-M	4	300
	13	WSU-110-H	5.5	2300

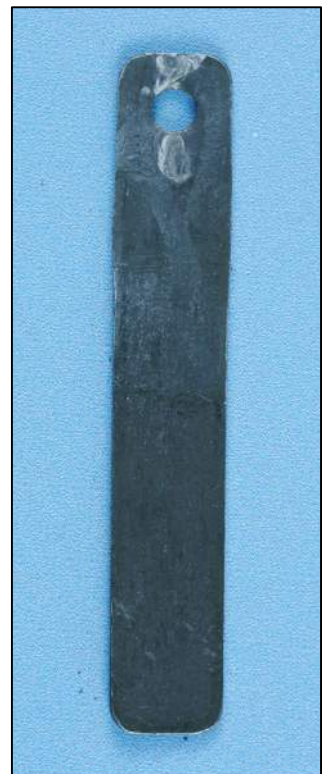
APPENDIX C – COUPON WEIGHT LOSS REPORT

Jar 0



Before Cleaning

After Cleaning



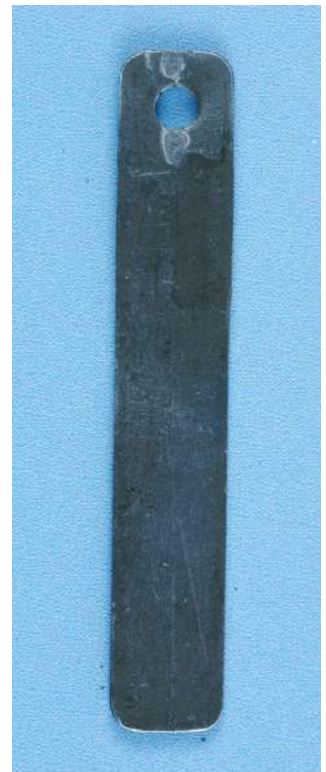
Jar 1

Jar 2



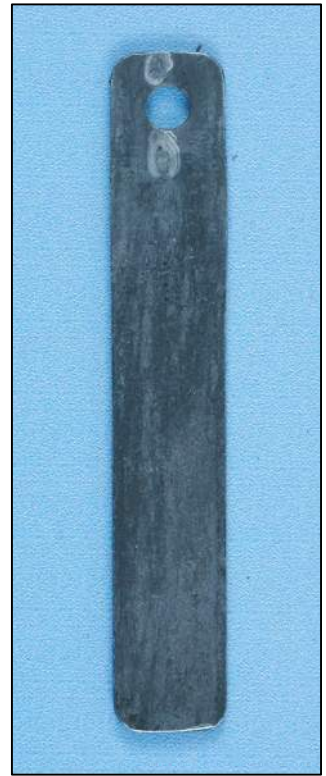
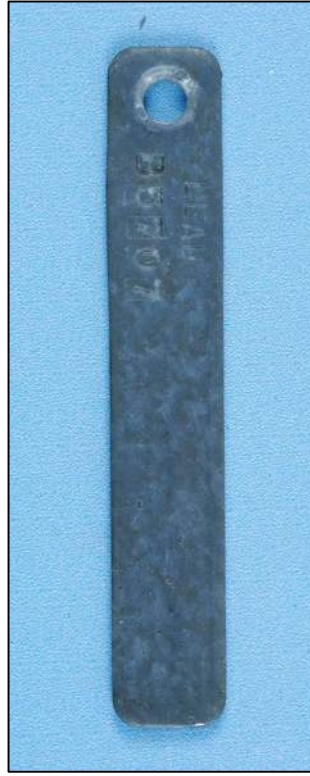
Before Cleaning

After Cleaning



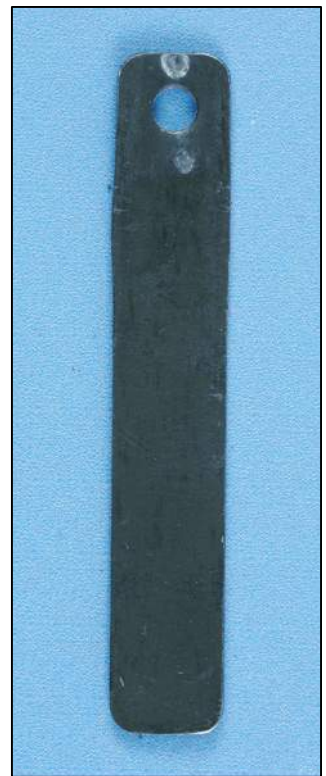
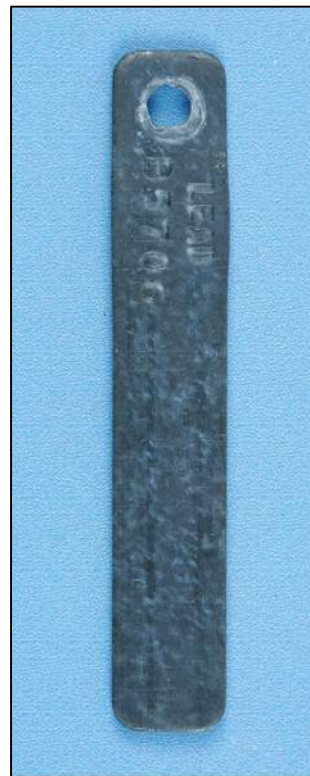
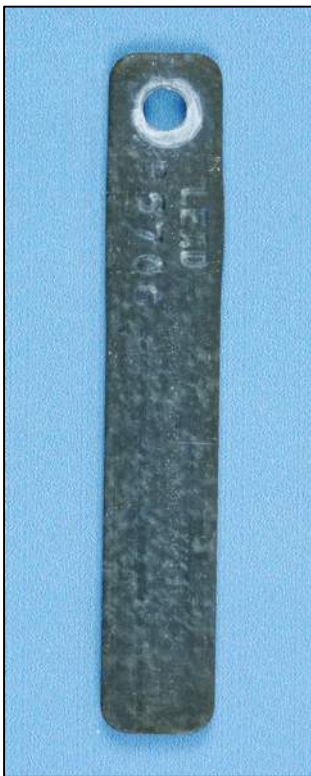
Jar 3

Jar 4



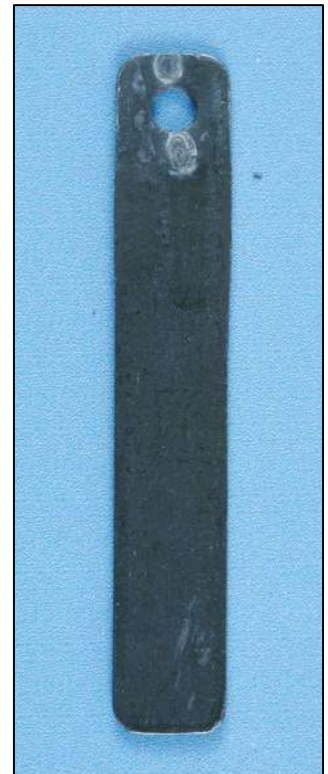
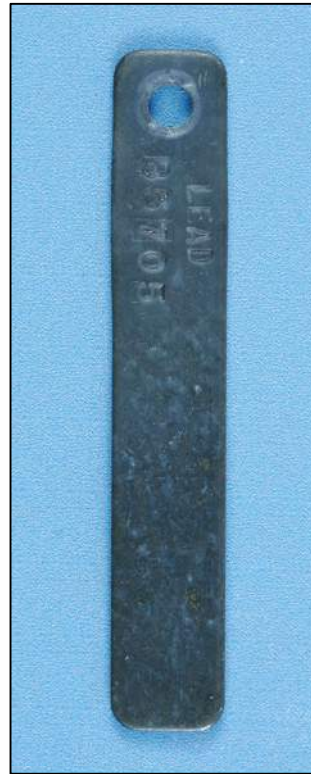
Before Cleaning

After Cleaning



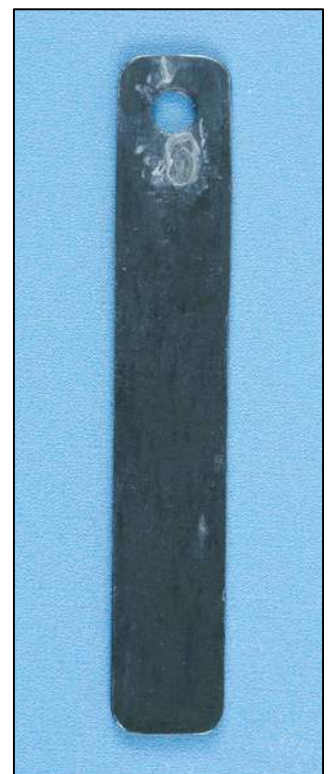
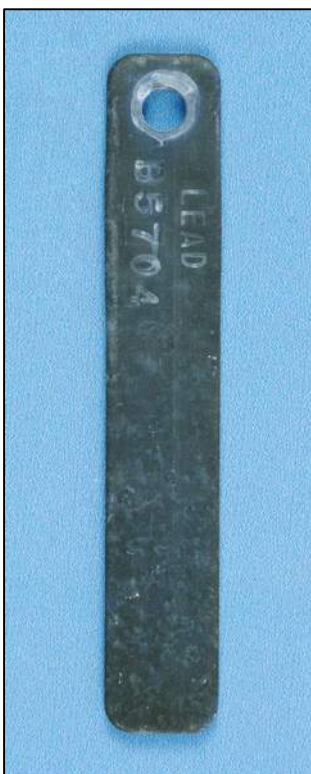
Jar 5

Jar 6



Before Cleaning

After Cleaning



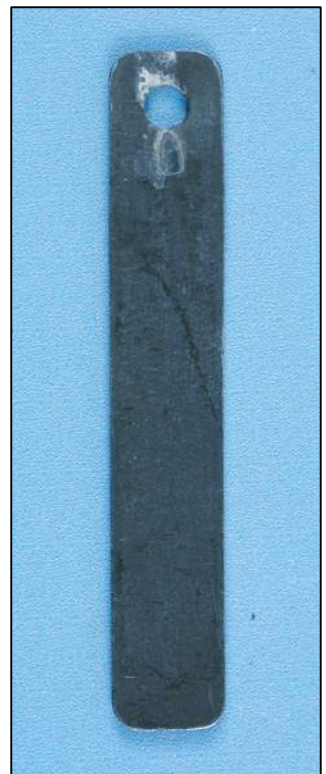
Jar 7

Jar 8



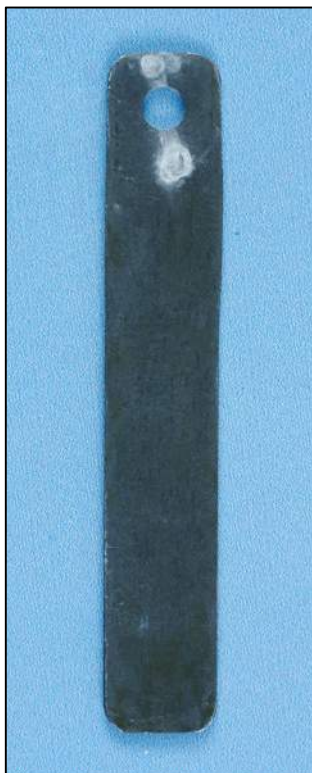
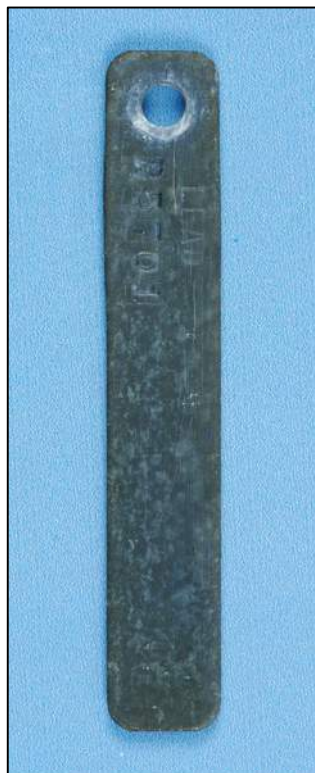
Before Cleaning

After Cleaning



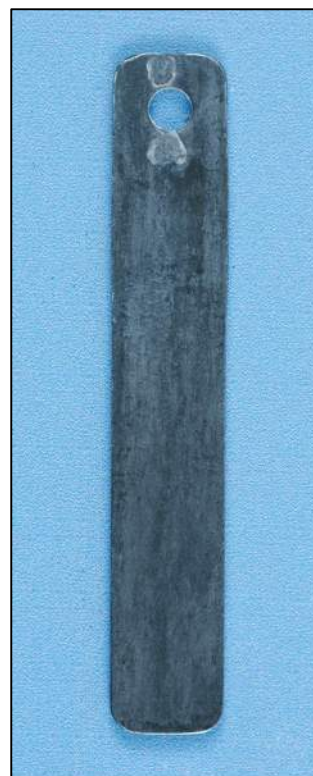
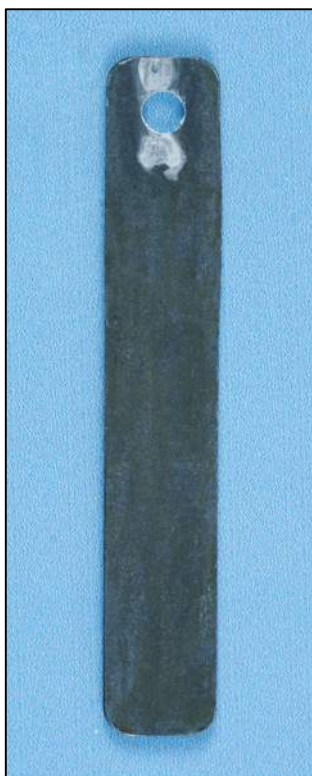
Jar 9

Jar 11



Before Cleaning

After Cleaning

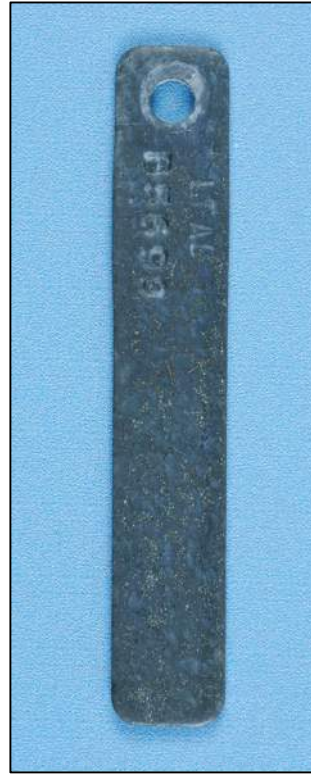
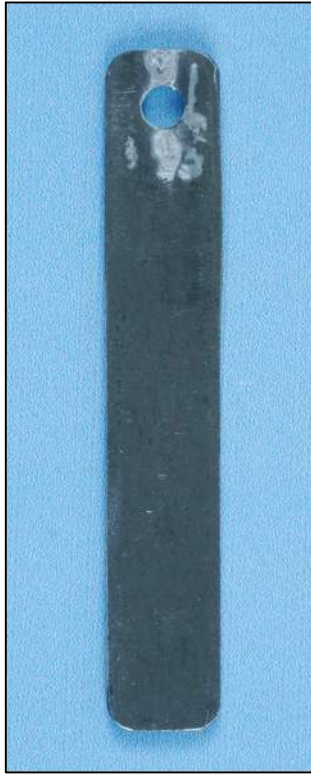


Jar 12

Jar 13



Before Cleaning



After Cleaning



Metal Samples, Co., Inc.
Phone: (256) 358-4202
Corrosion Analysis Data Report

Customer : TETRA TECH, INC Shop Order : 212838
Purchase Order: MAIL/JAMES

Alloy	: LEAD	ID Number	: B5699
Initial Weight	: 16.6554	Installed	: 5/6/2021
Final Weight	: 16.6462	Removed	: 7/12/2021
Weight Loss	: 0.0092	Hours Exposed	: 1608
Density (g/cm3)	: 11.3500	Surface Area (in2)	: 3.3691

Mils Per Year : 0.0800
Comments : NO VISIBLE ETCHING
Location : ORLANDO LAB-JAR 13/KALAMAZOO

Alloy	: LEAD	ID Number	: B5700
Initial Weight	: 17.3124	Installed	: 5/6/2021
Final Weight	: 17.2947	Removed	: 7/12/2021
Weight Loss	: 0.0177	Hours Exposed	: 1608
Density (g/cm3)	: 11.3500	Surface Area (in2)	: 3.3691

Mils Per Year : 0.1539
Comments : NO VISIBLE ETCHING
Location : ORLANDO LAB-JAR 12/KALAMAZOO

Alloy	: LEAD	ID Number	: B5701
Initial Weight	: 16.8571	Installed	: 5/6/2021
Final Weight	: 16.8493	Removed	: 7/12/2021
Weight Loss	: 0.0078	Hours Exposed	: 1608
Density (g/cm3)	: 11.3500	Surface Area (in2)	: 3.3691

Mils Per Year : 0.0678
Comments : NO VISIBLE ETCHING
Location : ORLANDO LAB-JAR 11/KALAMAZOO

Alloy	: LEAD	ID Number	: B5702
Initial Weight	: 16.9627	Installed	: 5/6/2021
Final Weight	: 16.9523	Removed	: 7/12/2021
Weight Loss	: 0.0104	Hours Exposed	: 1608
Density (g/cm3)	: 11.3500	Surface Area (in2)	: 3.3691

Mils Per Year : 0.0904
Comments : NO VISIBLE ETCHING
Location : ORLANDO LAB-JAR 9/KALAMAZOO

Metal Samples, Co., Inc.
Phone: (256) 358-4202
Corrosion Analysis Data Report

Customer : TETRA TECH, INC Shop Order : 212838
Purchase Order: MAIL/JAMES

Alloy	: LEAD	ID Number	: B5703
Initial Weight	: 17.1173	Installed	: 5/6/2021
Final Weight	: 17.1073	Removed	: 7/12/2021
Weight Loss	: 0.0100	Hours Exposed	: 1608
Density (g/cm3)	: 11.3500	Surface Area (in2)	: 3.3691

Mils Per Year : 0.0869
Comments : NO VISIBLE ETCHING
Location : ORLANDO LAB-JAR 8/KALAMAZOO

Alloy	: LEAD	ID Number	: B5704
Initial Weight	: 16.5373	Installed	: 5/6/2021
Final Weight	: 16.5278	Removed	: 7/12/2021
Weight Loss	: 0.0095	Hours Exposed	: 1608
Density (g/cm3)	: 11.3500	Surface Area (in2)	: 3.3691

Mils Per Year : 0.0826
Comments : NO VISIBLE ETCHING
Location : ORLANDO LAB-JAR 7/KALAMAZOO

Alloy	: LEAD	ID Number	: B5705
Initial Weight	: 16.5829	Installed	: 5/6/2021
Final Weight	: 16.5761	Removed	: 7/12/2021
Weight Loss	: 0.0068	Hours Exposed	: 1608
Density (g/cm3)	: 11.3500	Surface Area (in2)	: 3.3691

Mils Per Year : 0.0591
Comments : NO VISIBLE ETCHING
Location : ORLANDO LAB-JAR 6/KALAMAZOO

Alloy	: LEAD	ID Number	: B5706
Initial Weight	: 16.9124	Installed	: 5/6/2021
Final Weight	: 16.9098	Removed	: 7/12/2021
Weight Loss	: 0.0026	Hours Exposed	: 1608
Density (g/cm3)	: 11.3500	Surface Area (in2)	: 3.3691

Mils Per Year : 0.0226
Comments : NO VISIBLE ETCHING
Location : ORLANDO LAB-JAR 5/KALAMAZOO

Metal Samples, Co., Inc.
Phone: (256) 358-4202
Corrosion Analysis Data Report

Customer : TETRA TECH, INC Shop Order : 212838
Purchase Order: MAIL/JAMES

Alloy	: LEAD	ID Number	: B5707
Initial Weight	: 17.2505	Installed	: 5/6/2021
Final Weight	: 17.2393	Removed	: 7/12/2021
Weight Loss	: 0.0112	Hours Exposed	: 1608
Density (g/cm3)	: 11.3500	Surface Area (in2)	: 3.3691
Mils Per Year	: 0.0974		
Comments	: NO VISIBLE ETCHING		
Location	: ORLANDO LAB-JAR 4/KALAMAZOO		

Alloy	: LEAD	ID Number	: B5708
Initial Weight	: 16.9361	Installed	: 5/6/2021
Final Weight	: 16.9281	Removed	: 7/12/2021
Weight Loss	: 0.0080	Hours Exposed	: 1608
Density (g/cm3)	: 11.3500	Surface Area (in2)	: 3.3691
Mils Per Year	: 0.0695		
Comments	: NO VISIBLE ETCHING		
Location	: ORLANDO LAB-JAR 3/KALAMAZOO		

Alloy	: LEAD	ID Number	: B5709
Initial Weight	: 17.1558	Installed	: 5/6/2021
Final Weight	: 17.1491	Removed	: 7/12/2021
Weight Loss	: 0.0067	Hours Exposed	: 1608
Density (g/cm3)	: 11.3500	Surface Area (in2)	: 3.3691
Mils Per Year	: 0.0582		
Comments	: NO VISIBLE ETCHING		
Location	: ORLANDO LAB-JAR 2/KALAMAZOO		

Alloy	: LEAD	ID Number	: B5710
Initial Weight	: 16.7648	Installed	: 5/6/2021
Final Weight	: 16.7570	Removed	: 7/12/2021
Weight Loss	: 0.0078	Hours Exposed	: 1608
Density (g/cm3)	: 11.3500	Surface Area (in2)	: 3.3691
Mils Per Year	: 0.0678		
Comments	: NO VISIBLE ETCHING		
Location	: ORLANDO LAB-JAR 1/KALAMAZOO		

Date: 7/23/2021

Page: 4

Metal Samples, Co., Inc.
Phone: (256) 358-4202
Corrosion Analysis Data Report

Customer : TETRA TECH, INC
Purchase Order: MAIL/JAMES

Shop Order : 212838

Alloy	:	LEAD	ID Number	:	B5711
Initial Weight	:	16.6938	Installed	:	5/6/2021
Final Weight	:	16.6799	Removed	:	7/12/2021
Weight Loss	:	0.0139	Hours Exposed	:	1608
Density (g/cm3)	:	11.3500	Surface Area (in2)	:	3.3691

Mils Per Year : 0.1208
Comments : NO VISIBLE ETCHING
Location : ORLANDO LAB-JAR 0/KALAMAZOO

APPENDIX D – LABORATORY WATER QUALITY TEST REPORTS

750 Royal Oaks Drive, Suite 100
Monrovia, California 91016-3629
Tel: (626) 386-1100
Fax: (866) 988-3757
1 800 566 LABS (1 800 566 5227)

Laboratory Report

for

Tetra Tech
201 East Pine Street
Suite 1000
Orlando, FL 32801
Attention: James Christopher
Fax: 407-839-3790

Date of Issue
06/01/2021

Rinda Seddos
EUROFINS EATON
ANALYTICAL, LLC



Utah ELCP CA00006

ZIA8: Vanessa Berry
Project Manager

Report: 935513
Project: KALAMAZOO
Group: Lead Solubility Testing - Phase 2

* Accredited in accordance with TNI 2016 and ISO/IEC 17025:2017.

* Laboratory certifies that the test results meet all **TNI 2016 and ISO/IEC 17025:2017** requirements unless noted under the individual analysis.

* Following the cover page are State Certification List, ISO 17025 Accredited Method List, Acknowledgement of Samples Received, Comments, Hits Report, Data Report, QC Summary, QC Report and Regulatory Forms, as applicable.

* Test results relate only to the sample(s) tested.

* Test results apply to the sample(s) as received, unless otherwise noted in the comments report (ISO/IEC 17025:2017).

* This report shall not be reproduced except in full, without the written approval of the laboratory.

* This report includes ISO/IEC 17025 and non-ISO 17025 accredited methods.

STATE CERTIFICATION LIST

State	Certification Number	State	Certification Number
Alabama	41060	Montana	Cert 0035
Arizona	AZ0778	Nebraska	Certified
Arkansas	Certified	Nevada	CA000062018
California	2813	New Hampshire *	2959
Colorado	Certified	New Jersey *	CA 008
Connecticut	PH-0107	New Mexico	Certified
Delaware	CA 006	New York *	11320
Florida *	E871024	North Carolina	06701
Georgia	947	North Dakota	R-009
Guam	18-005R	Oregon *	CA200003-005
Hawaii	Certified	Pennsylvania *	68-565
Idaho	Certified	Puerto Rico	Certified
Illinois *	200033	Rhode Island	LAO00326
Indiana	C-CA-01	South Carolina	87016
Iowa - Asbestos	413	South Dakota	Certified
Kansas *	E-10268	Tennessee	TN02839
Kentucky	90107	Texas *	T104704230-18-15
Louisiana *	LA180000	Utah (Primary AB) *	CA00006
Maine	CA0006	Vermont	VT0114
Maryland	224	Virginia *	460260
Commonwealth of Northern Marianas Is.	MP0004	Washington	C838
Massachusetts	M-CA006	EPA Region 5	Certified
Michigan	9906	Los Angeles County Sanitation Districts	10264
Mississippi	Certified		

[* NELAP/TNI Recognized Accreditation Bodies](#)

ISO/IEC 17025 Accredited Method List

The tests listed below are accredited and meet the requirements of ISO/IEC 17025 as verified by the ANSI-ASQ National Accreditation Board/A2LA.
Refer to Certificate and scope of accreditation (5890) found at: <https://www.eurofinsus.com/Eaton>

SPECIFIC TESTS	METHOD OR TECHNIQUE USED	Environ-mental (Drinking Water)	Environ-mental (Waste Water)	Water as a Component of Food and Bev/Bev/ Bottled Water
1,2,3-TCP (5 PPT & 0.5 PPT)	CA SRL 524M-TCP	x		x
1,4-Dioxane	EPA 522	x		x
2,3,7,8-TCDD	Modified EPA 1613B	x		x
Acrylamide	In House Method (2440)	x		x
Algal Toxins/Microcystin	In House Method (3570)			
Alkalinity	SM 2320B	x	x	x
Ammonia	EPA 350.1		x	x
Ammonia	SM 4500-NH3 H		x	x
Anions and DBPs by IC	EPA 300.0	x	x	x
Anions and DBPs by IC	EPA 300.1	x		x
Asbestos	EPA 100.2	x	x	
BOD / CBOD	SM 5210B		x	x
Bromate	In House Method (2447)	x		x
Carbamates	EPA 531.2	x		x
Carbonate as CO3	SM 2330B	x	x	x
Carbonyls	EPA 556	x		x
COD	EPA 410.4 / SM 5220D		x	
Chloramines	SM 4500-CL G	x	x	x
Chlorinated Acids	EPA 515.4	x		x
Chlorinated Acids	EPA 555	x		x
Chlorine Dioxide	SM 4500-CLO2 D Palin Test	x		x
Chlorine -Total/Free/ Combined Residual	SM 4500-Cl G	x	x	x
Conductivity	EPA 120.1		x	
Conductivity	SM 2510B	x	x	x
Corrosivity (Langelier Index)	SM 2330B	x		x
Cyanide, Amenable	SM 4500-CN G	x	x	
Cyanide, Free	SM 4500CN F	x	x	x
Cyanide, Total	EPA 335.4	x	x	x
Cyanogen Chloride (screen)	In House Method (2470)	x		x
Diquat and Paraquat	EPA 549.2	x		x
DBP/HAA	SM 6251B	x		x
Dissolved Oxygen	SM 4500-O G		x	x
DOC	SM 5310C	x		x
E. Coli	(MTF/EC+MUG)	x		x
E. Coli	CFR 141.21(f)(6)(i)	x		x
E. Coli	SM 9223		x	
E. Coli (Enumeration)	SM 9221B.1/ SM 9221F	x		x
E. Coli (Enumeration)	SM 9223B	x		x
EDB/DCBP	EPA 504.1	x		
EDB/DBCP and DBP	EPA 551.1	x		x
EDTA and NTA	In House Method (2454)	x		x
Endothall	EPA 548.1	x		x
Endothall	In-house Method (2445)	x		x
Enterococci	SM 9230B	x	x	
Fecal Coliform	SM 9221 E (MTF/EC)	x		
Fecal Coliform	SM 9221C, E (MTF/EC)		x	
Fecal Coliform (Enumeration)	SM 9221E (MTF/EC)	x		x
Fecal Coliform with Chlorine Present	SM 9221E		x	
Fecal Streptococci	SM 9230B	x	x	
Fluoride	SM 4500-F C	x	x	x
Glyphosate	EPA 547	x		x
Glyphosate + AMPA	In House Method (3618)	x		x
Gross Alpha/Beta	EPA 900.0	x	x	x
Gross Alpha Coprecipitation	SM 7110 C	x	x	x
Hardness	SM 2340B	x	x	x
Heterotrophic Bacteria	In House Method (2439)	x		x
Heterotrophic Bacteria	SM 9215 B	x		x
Hexavalent Chromium	EPA 218.6	x	x	x

SPECIFIC TESTS	METHOD OR TECHNIQUE USED	Environ-mental (Drinking Water)	Environ-mental (Waste Water)	Water as a Component of Food and Bev/Bev/ Bottled Water
Hexavalent Chromium	EPA 218.7	x		x
Hexavalent Chromium	SM 3500-Cr B		x	
Hormones	EPA 539	x		x
Hydroxide as OH Calc.	SM 2330B	x		x
Kjeldahl Nitrogen	EPA 351.2		x	
Legionella	Legiolert	x		x
Mercury	EPA 200.8	x		x
Metals	EPA 200.7 / 200.8	x	x	x
Microcystin LR	ELISA (2360)	x		x
Microcystin, Total	EPA 546	x		x
NDMA	EEA/Agilent 521.1 In house method (2425)	x		x
Nitrate/Nitrite Nitrogen	EPA 353.2	x	x	x
OCL, Pesticides/PCB	EPA 505	x		x
Ortho Phosphate	EPA 365.1	x	x	x
Ortho Phosphorous	SM 4500P E	x		x
Oxyhalides Disinfection Byproducts	EPA 317.0	x		x
Perchlorate	EPA 331.0	x		x
Perchlorate (low and high)	EPA 314.0	x		x
Perfluorinated Alkyl Acids	EPA 537	x		x
Perfluorinated Pollutant	In house Method (2434)	x		x
pH	EPA 150.1	x		
pH	SM 4500-H+B	x	x	x
Phenylurea Pesticides/ Herbicides	In House Method, based on EPA 532 (2448)	x		x
Pseudomonas	IDEXX Pseudalart (2461)	x		x
Radium-226	GA Institute of Tech	x		x
Radium-228	GA Institute of Tech	x		x
Radon-222	SM 7500RN	x		x
Residue, Filterable	SM 2540C	x	x	x
Residue, Non-filterable	SM 2540D		x	
Residue, Total	SM 2540B		x	x
Residue, Volatile	EPA 160.4		x	
Semi-VOC	EPA 525.2	x		x
Silica	SM 4500-Si D	x	x	
Silica	SM 4500-SiO2 C	x	x	
Sulfide	SM 4500-S ⁻ D		x	
Sulfite	SM 4500-SO ³ B	x	x	x
Surfactants	SM 5540C	x	x	x
Taste and Odor Analytes	SM 6040E	x		x
Total Coliform (P/A)	SM 9221 A, B	x		x
Total Coliform (Enumeration)	SM 9221 A, B, C	x		x
Total Coliform / E. coli	Colisure SM 9223	x		x
Total Coliform	SM 9221B		x	
Total Coliform with Chlorine Present	SM 9221B		x	
Total Coliform / E.coli (P/A and Enumeration)	SM 9223	x		x
TOC	SM 5310C	x	x	x
TOX	SM 5320B		x	
Total Phenols	EPA 420.1		x	
Total Phenols	EPA 420.4	x	x	x
Total Phosphorous	SM 4500 P E		x	
Triazine Pesticides & Degradates	In House (3617)	x		x
Turbidity	EPA 180.1	x	x	x
Turbidity	SM 2130B	x	x	
Uranium by ICP/MS	EPA 200.8	x		x
UV 254	SM 5910B	x		
VOC	EPA 524.2	x		x
VOC	In House Method (2411)	x		x
Yeast and Mold	SM 9610	x		x
Field Sampling	N/A			

Acknowledgement of Samples Received

Addr: **Tetra Tech**
201 East Pine Street
Suite 1000
Orlando, FL 32801

Attn: James Christopher
Phone: 407-480-3907

Client ID: TETRATECH-ORLAN

Folder #: 935513

Project: KALAMAZOO

Sample Group: Lead Solubility Testing - Phase 2

Project Manager: Vanessa Berry

Phone: 503-310-3905

The following samples were received from you on **May 17, 2021** at **1156**. They have been scheduled for the tests listed below each sample. If this information is incorrect, please contact your service representative. Thank you for using Eurofins Eaton Analytical, LLC.

Sample #	Sample ID	Sample Date
<u>202105170198</u>	J-0, Day 1	05/06/2021 1653
	Total phosphorus as P	Total phosphorus as PO4- Calc.
<u>202105170199</u>	J-1, Day 1	05/06/2021 1212
	Total phosphorus as P	Total phosphorus as PO4- Calc.
<u>202105170200</u>	J-2, Day 1	05/06/2021 1212
	Total phosphorus as P	Total phosphorus as PO4- Calc.
<u>202105170201</u>	J-3, Day 1	05/06/2021 1212
	Total phosphorus as P	Total phosphorus as PO4- Calc.
<u>202105170202</u>	J-4, Day 1	05/06/2021 1410
	Total phosphorus as P	Total phosphorus as PO4- Calc.
<u>202105170203</u>	J-5, Day 1	05/06/2021 1410
	Total phosphorus as P	Total phosphorus as PO4- Calc.
<u>202105170204</u>	J-6, Day 1	05/06/2021 1410
	Total phosphorus as P	Total phosphorus as PO4- Calc.
<u>202105170205</u>	J-7, Day 1	05/06/2021 1510
	Total phosphorus as P	Total phosphorus as PO4- Calc.
<u>202105170206</u>	J-8, Day 1	05/06/2021 1510
	Total phosphorus as P	Total phosphorus as PO4- Calc.
<u>202105170207</u>	J-9, Day 1	05/06/2021 1510
	Total phosphorus as P	Total phosphorus as PO4- Calc.
<u>202105170208</u>	J-11, Day 1	05/06/2021 1600
	Total phosphorus as P	Total phosphorus as PO4- Calc.
<u>202105170209</u>	J-12, Day 1	05/06/2021 1600
	Total phosphorus as P	Total phosphorus as PO4- Calc.
<u>202105170210</u>	J-13, Day 1	05/06/2021 1600
	Total phosphorus as P	Total phosphorus as PO4- Calc.

Acknowledgement of Samples Received

Addr: **Tetra Tech**
201 East Pine Street
Suite 1000
Orlando, FL 32801

Attn: James Christopher
Phone: 407-480-3907

Client ID: TETRATECH-ORLAN
Folder #: 935513
Project: KALAMAZOO
Sample Group: Lead Solubility Testing - Phase 2

Project Manager: Vanessa Berry
Phone: 503-310-3905

The following samples were received from you on **May 17, 2021** at **1156**. They have been scheduled for the tests listed below each sample. If this information is incorrect, please contact your service representative. Thank you for using Eurofins Eaton Analytical, LLC.

Sample #	Sample ID	Sample Date
<u>202105170211</u>	J-0, Day 1	05/11/2021 0753
	@ICPMS	
<u>202105170212</u>	J-1, Day 1	05/11/2021 0753
	@ICPMS	
<u>202105170213</u>	J-2, Day 1	05/11/2021 0753
	@ICPMS	
<u>202105170214</u>	J-3, Day 1	05/11/2021 0753
	@ICPMS	
<u>202105170215</u>	J-4, Day 1	05/11/2021 0753
	@ICPMS	
<u>202105170216</u>	J-5, Day 1	05/11/2021 0753
	@ICPMS	
<u>202105170217</u>	J-6, Day 1	05/11/2021 0753
	@ICPMS	
<u>202105170218</u>	J-7, Day 1	05/11/2021 0753
	@ICPMS	
<u>202105170219</u>	J-8, Day 1	05/11/2021 0753
	@ICPMS	
<u>202105170220</u>	J-9, Day 1	05/11/2021 0753
	@ICPMS	
<u>202105170221</u>	J-11, Day 1	05/11/2021 0753
	@ICPMS	
<u>202105170222</u>	J-12, Day 1	05/11/2021 0753
	@ICPMS	
<u>202105170223</u>	J-13, Day 1	05/11/2021 0753
	@ICPMS	

Acknowledgement of Samples Received

Addr: **Tetra Tech**
201 East Pine Street
Suite 1000
Orlando, FL 32801

Attn: James Christopher
Phone: 407-480-3907

Client ID: TETRATECH-ORLAN
Folder #: 935513
Project: KALAMAZOO
Sample Group: Lead Solubility Testing - Phase 2

Project Manager: Vanessa Berry
Phone: 503-310-3905

The following samples were received from you on **May 17, 2021** at **1156**. They have been scheduled for the tests listed below each sample. If this information is incorrect, please contact your service representative. Thank you for using Eurofins Eaton Analytical, LLC.

Sample #	Sample ID	Sample Date
<u>202105170224</u>	J-1, Day 2	05/10/2021 1008
	Total phosphorus as P	Total phosphorus as PO4- Calc.
<u>202105170225</u>	J-2, Day 2	05/10/2021 1008
	Total phosphorus as P	Total phosphorus as PO4- Calc.
<u>202105170226</u>	J-3, Day 2	05/10/2021 1008
	Total phosphorus as P	Total phosphorus as PO4- Calc.
<u>202105170227</u>	J-4, Day 2	05/10/2021 1104
	Total phosphorus as P	Total phosphorus as PO4- Calc.
<u>202105170228</u>	J-5, Day 2	05/10/2021 1104
	Total phosphorus as P	Total phosphorus as PO4- Calc.
<u>202105170229</u>	J-6, Day 2	05/10/2021 1104
	Total phosphorus as P	Total phosphorus as PO4- Calc.
<u>202105170230</u>	J-7, Day 2	05/10/2021 1140
	Total phosphorus as P	Total phosphorus as PO4- Calc.
<u>202105170231</u>	J-8, Day 2	05/10/2021 1140
	Total phosphorus as P	Total phosphorus as PO4- Calc.
<u>202105170232</u>	J-9, Day 2	05/10/2021 1140
	Total phosphorus as P	Total phosphorus as PO4- Calc.
<u>202105170233</u>	J-11, Day 2	05/10/2021 1207
	Total phosphorus as P	Total phosphorus as PO4- Calc.
<u>202105170234</u>	J-12, Day 2	05/10/2021 1207
	Total phosphorus as P	Total phosphorus as PO4- Calc.
<u>202105170235</u>	J-13, Day 2	05/10/2021 1207
	Total phosphorus as P	Total phosphorus as PO4- Calc.
<u>202105170236</u>	J-0, Day 2	05/10/2021 1325
	Total phosphorus as P	Total phosphorus as PO4- Calc.

Acknowledgement of Samples Received

Addr: **Tetra Tech**
201 East Pine Street
Suite 1000
Orlando, FL 32801

Attn: James Christopher
Phone: 407-480-3907

Client ID: TETRATECH-ORLAN
Folder #: 935513
Project: KALAMAZOO
Sample Group: Lead Solubility Testing - Phase 2

Project Manager: Vanessa Berry
Phone: 503-310-3905

The following samples were received from you on **May 17, 2021** at **1156**. They have been scheduled for the tests listed below each sample. If this information is incorrect, please contact your service representative. Thank you for using Eurofins Eaton Analytical, LLC.

Sample #	Sample ID	Sample Date
<u>202105170237</u>	J-0, Day 2	05/14/2021 1014
	@ICPMS	
<u>202105170238</u>	J-1, Day 2	05/14/2021 1014
	@ICPMS	
<u>202105170239</u>	J-2, Day 2	05/14/2021 1014
	@ICPMS	
<u>202105170240</u>	J-3, Day 2	05/14/2021 1014
	@ICPMS	
<u>202105170241</u>	J-4, Day 2	05/14/2021 1014
	@ICPMS	
<u>202105170242</u>	J-5, Day 2	05/14/2021 1014
	@ICPMS	
<u>202105170243</u>	J-6, Day 2	05/14/2021 1014
	@ICPMS	
<u>202105170244</u>	J-7, Day 2	05/14/2021 1014
	@ICPMS	
<u>202105170245</u>	J-8, Day 2	05/14/2021 1014
	@ICPMS	
<u>202105170246</u>	J-9, Day 2	05/14/2021 1014
	@ICPMS	
<u>202105170247</u>	J-11, Day 2	05/14/2021 1014
	@ICPMS	
<u>202105170248</u>	J-12, Day 2	05/14/2021 1014
	@ICPMS	
<u>202105170249</u>	J-13, Day 2	05/14/2021 1014
	@ICPMS	

Acknowledgement of Samples Received

Addr: **Tetra Tech**
201 East Pine Street
Suite 1000
Orlando, FL 32801

Attn: James Christopher
Phone: 407-480-3907

Client ID: TETRATECH-ORLAN

Folder #: 935513

Project: KALAMAZOO

Sample Group: Lead Solubility Testing - Phase 2

Project Manager: Vanessa Berry

Phone: 503-310-3905

The following samples were received from you on **May 17, 2021** at **1156**. They have been scheduled for the tests listed below each sample. If this information is incorrect, please contact your service representative. Thank you for using Eurofins Eaton Analytical, LLC.

Sample #	Sample ID	Sample Date
<u>202105170250</u>	J-0, Day 3	05/13/2021 1106
	Total phosphorus as P	Total phosphorus as PO4- Calc.
<u>202105170251</u>	J-1, Day 3	05/13/2021 0922
	Total phosphorus as P	Total phosphorus as PO4- Calc.
<u>202105170252</u>	J-2, Day 3	05/13/2021 0922
	Total phosphorus as P	Total phosphorus as PO4- Calc.
<u>202105170253</u>	J-3, Day 3	05/13/2021 0922
	Total phosphorus as P	Total phosphorus as PO4- Calc.
<u>202105170254</u>	J-4, Day 3	05/13/2021 0952
	Total phosphorus as P	Total phosphorus as PO4- Calc.
<u>202105170255</u>	J-5, Day 3	05/13/2021 0952
	Total phosphorus as P	Total phosphorus as PO4- Calc.
<u>202105170256</u>	J-6, Day 3	05/13/2021 0952
	Total phosphorus as P	Total phosphorus as PO4- Calc.
<u>202105170257</u>	J-7, Day 3	05/13/2021 1017
	Total phosphorus as P	Total phosphorus as PO4- Calc.
<u>202105170258</u>	J-8, Day 3	05/13/2021 1017
	Total phosphorus as P	Total phosphorus as PO4- Calc.
<u>202105170259</u>	J-9, Day 3	05/13/2021 1017
	Total phosphorus as P	Total phosphorus as PO4- Calc.
<u>202105170260</u>	J-11, Day 3	05/13/2021 1042
	Total phosphorus as P	Total phosphorus as PO4- Calc.
<u>202105170261</u>	J-12, Day 3	05/13/2021 1042
	Total phosphorus as P	Total phosphorus as PO4- Calc.
<u>202105170262</u>	J-13, Day 3	05/13/2021 1042
	Total phosphorus as P	Total phosphorus as PO4- Calc.

Acknowledgement of Samples Received

Addr: **Tetra Tech**
201 East Pine Street
Suite 1000
Orlando, FL 32801

Attn: James Christopher
Phone: 407-480-3907

Client ID: TETRATECH-ORLAN

Folder #: 935513

Project: KALAMAZOO

Sample Group: Lead Solubility Testing - Phase 2

Project Manager: Vanessa Berry

Phone: 503-310-3905

The following samples were received from you on **May 17, 2021** at **1156**. They have been scheduled for the tests listed below each sample. If this information is incorrect, please contact your service representative. Thank you for using Eurofins Eaton Analytical, LLC.

Sample #	Sample ID	Sample Date
Test Description		
@ICPMS -- ICPMS Metals		



CHAIN OF CUSTODY RECORD

Eaton Analytical

750 Royal Oaks Drive, Suite 100
Monrovia, CA 91016-3629
Phone: 626 386 1100
Fax: 626 386 1101
800 566 LABS (800 566 5227)
Website: www.EatonAnalytical.com

EUROFINS EATON ANALYTICAL USE ONLY:

LOGIN COMMENTS: _____

SAMPLES CHECKED AGAINST COC BY: CB

SAMPLES LOGGED IN BY: be

SAMPLE TEMP RECEIVED AT:

☐ (Other) IR Gun ID = _____ (Observation = _____ °C) (check for yes)

☒ Monrovia IR Gun ID = 616 (Observation = 1.3 °C) (Final = _____ °C)

☒ Compliance Acceptance Criteria: (Chemistry: 4 ± 2 °C) (Microbiology: < 10 °C)

TYPE OF ICE: Real ☒ Synthetic _____ No Ice _____

CONDITION OF ICE: Frozen _____ Partially Frozen ☒ Thawed _____

METHOD OF SHIPMENT: Pick-Up / Walk-In / FedEx / UPS / DHL / Area Fast / Top Line / Other: _____

TO BE COMPLETED BY SAMPLER:

COMPANY/AGENCY NAME:		PROJECT CODE:	COMPLIANCE SAMPLES		NON-COMPLIANCE SAMPLES	
Tetra Tech			- Requires state forms		REGULATION INVOLVED:	
TAT requested: rush by adv notice only		COC ID:	Type of samples (circle one):	ROUTINE	SPECIAL	CONFIRMATION
EEA CLIENT CODE:			SEE ATTACHED KIT ORDER FOR ANALYSES			
Tetra Tech - orlan			List ALL ANALYSES REQUIRED (enter number of bottles sent for each test for each sample)			
SAMPLE DATE	SAMPLE TIME	SAMPLE ID	CLIENT LAB ID	MATRIX	FIELD DATA	FIELD DATA
05/04/21	16:33	J-0, Day 1		FW		
12:12		J-1, Day 1				
		J-2, Day 1				
14:10		J-3, Day 1				
		J-4, Day 1				
		J-5, Day 1				
		J-6, Day 1				
15:10		J-7, Day 1				
		J-8, Day 1				
		J-9, Day 1				

SAMPLER COMMENTS:

Preserved w/ H₂SO₄

*** MATRIX TYPES:** RSW = Raw Surface Water
RGW = Raw Ground Water
CFW = Chlor(am)inated Finished Water
FW = Other Finished Water
SEAW = Sea Water
WW = Waste Water
BW = Bottled Water
SW = Storm Water
SO = Soil
SL = Sludge
O = Other - Please Identify

SAMPLED BY:	PRINT NAME	COMPANY/TITLE	DATE	TIME
RELINQUISHED BY:	Ana Rosabal	Tetra Tech	05/14/21	10:41
RECEIVED BY:	Ana Rosabal	Tetra Tech	05/14/21	10:41
RELINQUISHED BY:	Chris Bock	CB	5.17.21	1156
RECEIVED BY:				



Eaton Analytical

750 Royal Oaks Drive, Suite 100
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Fax: 626 386 1101
800 566 LABS (800 566 5227)
Website: www.EatonAnalytical.com

CHAIN OF CUSTODY RECORD

EUROFINS EATON ANALYTICAL USE ONLY:

LOGIN COMMENTS: _____

SAMPLES CHECKED AGAINST COC BY: 131

SAMPLES LOGGED IN BY: _____

SAMPLE TEMP RECEIVED AT:

☐ (Other) IR Gun ID = _____ (Observation = _____ °C) (Corr. Factor = _____ °C) (Final = _____ °C) (check for yes)

☒ Monrovia IR Gun ID = 616 (Observation = 1.3 °C) (Corr. Factor = -0.2 °C) (Final = 1.1 °C)

Compliance Acceptance Criteria: (Chemistry: 4 ± 2 °C) (Microbiology: < 10 °C)

TYPE OF ICE: Real ☒ Synthetic ☐ No Ice ☐ **CONDITION OF ICE:** Frozen ☐ Partially Frozen ☒ Thawed ☐ N/A ☐

METHOD OF SHIPMENT: Pick-Up / Walk-In / FedEx / UPS / DHL / Area Fast / Top Line / Other: _____

TO BE COMPLETED BY SAMPLER:

COMPANY/AGENCY NAME:		PROJECT CODE:	COMPLIANCE SAMPLES		NON-COMPLIANCE SAMPLES		REGULATION INVOLVED:	
Tetra Tech			- Requires state forms				(eg. SDWA, NPDES, etc.)	
EEA CLIENT CODE:		COC ID:	Type of samples (circle one):		ROUTINE SPECIAL CONFIRMATION		(check for yes), OR	
Tetra Tech-orlan								
TAT requested: rush by adv notice only		SAMPLE GROUP:		SEE ATTACHED KIT ORDER FOR ANALYSES		List ALL ANALYSES REQUIRED (enter number of bottles sent for each test for each sample)		
SAMPLE DATE	SAMPLE TIME	SAMPLE ID	CLIENT LAB ID	MATRIX	FIELD DATA	FIELD DATA	SAMPLER COMMENTS	
05/10	16:00	J-11, Day 1		FW			Preserved w/	
↓	↓	J-12, Day 1		↓			Pres Day	
05/11	7:53	J-13, Day 1					Preserved w/	
↓	↓	J-10, Day 1					Nitric acid by	
↓	↓	J-1, Day 1					Tetra Tech	
↓	↓	J-2, Day 1					↓	
↓	↓	J-3, Day 1						
↓	↓	J-4, Day 1						
↓	↓	J-5, Day 1						
↓	↓	J-6, Day 1						

*** MATRIX TYPES:** RSW = Raw Surface Water CFW = Chlor(am)inated Finished Water SEAW = Sea Water BW = Bottled Water SO = Soil O = Other - Please Identify
RGW = Raw Ground Water FW = Other Finished Water WW = Waste Water SW = Storm Water SL = Sludge

SAMPLED BY:	PRINT NAME	COMPANY/TITLE	DATE	TIME
	Ana Rosabal	Tetra Tech	05/14/21	10:41
RELINQUISHED BY:	Ana Rosabal	Tetra Tech	05/14/21	10:41
RECEIVED BY:	Chris Breen	CPA	5-17-21	1151
RELINQUISHED BY:				
RECEIVED BY:				



Eaton Analytical

750 Royal Oaks Drive, Suite 100
Monrovia, CA 91016-3629
Phone: 626 386 1100
Fax: 626 386 1101
800 566 LABS (800 566 5227)
Website: www.EatonAnalytical.com

CHAIN OF CUSTODY RECORD

EUROFINS EATON ANALYTICAL USE ONLY:

LOGIN COMMENTS: _____

SAMPLES CHECKED AGAINST COC BY: 13

SAMPLES LOGGED IN BY: 16

SAMPLE TEMP RECEIVED AT:

☐ (Other) IR Gun ID = _____ (Observation = _____ °C) (Final = _____ °C) (check for yes)

☒ Monrovia IR Gun ID = 616 (Observation = 1.3 °C) (Final = 1.1 °C)

Compliance Acceptance Criteria: (Chemistry: 4 ± 2 °C) (Microbiology: < 10 °C)

TYPE OF ICE: Real ☒ Synthetic _____ No Ice _____ **CONDITION OF ICE:** Frozen _____ Partially Frozen ☒ Thawed _____ N/A _____

METHOD OF SHIPMENT: Pick-Up / Walk-In / FedEx / UPS / DHL / Area Fast / Top Line / Other: _____

TO BE COMPLETED BY SAMPLER:

COMPANY/AGENCY NAME:		PROJECT CODE:		COMPLIANCE SAMPLES		NON-COMPLIANCE SAMPLES		REGULATION INVOLVED:	
Tetra Tech				- Requires state forms				(eg. SDWA, NPDES, etc.)	
EEA CLIENT CODE:	COC ID:	SAMPLE GROUP:		SEE ATTACHED KIT ORDER FOR ANALYSES		Type of samples (circle one):		ROUTINE SPECIAL CONFIRMATION	
tetra tech-orlan		lead solubility test - phase 2							
TAT requested: rush by adv notice only		STD _____ 1 wk _____ 3 day _____ 2 day _____ 1 day _____							
SAMPLE DATE	SAMPLE TIME	SAMPLE ID	CLIENT LAB ID	MATRIX	FIELD DATA	FIELD DATA	SAMPLER COMMENTS		
05/11	7:53	J-2, Day 1		PW					
		J-3, Day 1							
		J-9, Day 1							
		J-11, Day 1							
		J-12, Day 1							
		J-13, Day 1							
05/10	10:08	J-1, Day 2							
05/10		J-2, Day 2							
05/10		J-3, Day 2							
05/10	11:04	J-4, Day 2							

*** MATRIX TYPES:** RSW = Raw Surface Water CFW = Chlor(am)inated Finished Water SEAW = Sea Water BW = Bottled Water SO = Soil
RGW = Raw Ground Water FW = Other Finished Water WW = Waste Water SW = Storm Water SL = Sludge

SAMPLED BY:	RELINQUISHED BY:	RECEIVED BY:	RECEIVED BY:	RECEIVED BY:	SIGNATURE	PRINT NAME	COMPANY/TITLE	DATE	TIME
						Ana Rosabal	Tetra Tech	05/14/21	10:44
						Ana Rosabal	Tetra Tech	05/14/21	10:44
						Chuan Brooch	Tetra Tech	5.17.21	11:57



Eaton Analytical

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Monrovia, CA 91016-3629
Phone: 626 386 1100
Fax: 626 386 1101
800 566 LABS (800 566 5227)
Website: www.EatonAnalytical.com

CHAIN OF CUSTODY RECORD

EUROFINS EATON ANALYTICAL USE ONLY:

LOGIN COMMENTS: _____

SAMPLES CHECKED AGAINST COC BY: JS

SAMPLES LOGGED IN BY: JS

SAMPLE TEMP RECEIVED AT:

☐ (Other) IR Gun ID = _____ (Observation = _____ °C) (Final = _____ °C) (check for yes)

☒ Monrovia IR Gun ID = 616 (Observation = 1.3 °C) (Final = 1.1 °C)

Compliance Acceptance Criteria: (Chemistry: 4 ± 2 °C) (Microbiology: < 10 °C)

TYPE OF ICE: Real ☒ Synthetic ☐ No Ice ☐ **CONDITION OF ICE:** Frozen ☐ Partially Frozen ☒ Thawed ☐ N/A ☐

METHOD OF SHIPMENT: Pick-Up / Walk-In / FedEx / UPS / DHL / Area Fast / Top Line / Other: _____

TO BE COMPLETED BY SAMPLER:

COMPANY/AGENCY NAME:		PROJECT CODE:	COMPLIANCE SAMPLES		NON-COMPLIANCE SAMPLES		(check for yes)	
Tetra Tech			- Requires state forms		REGULATION INVOLVED:		(eg. SDWA, NPDES, etc.)	
EEA CLIENT CODE:		COC ID:	Type of samples (circle one):		ROUTINE	SPECIAL	CONFIRMATION	(check for yes), <u>OR</u>
TAT requested: rush by adv notice only		SEE ATTACHED KIT ORDER FOR ANALYSES						
TAT requested: rush by adv notice only		List ALL ANALYSES REQUIRED (enter number of bottles sent for each test for each sample)						
SAMPLE DATE	SAMPLE TIME	SAMPLE ID	CLIENT LAB ID	MATRIX	FIELD DATA	FIELD DATA	SAMPLER COMMENTS	
05/10	11:04	J-5, Day 2		FW				
		J-6, Day 2						
	11:46	J-7, Day 2						
		J-8, Day 2						
		J-9, Day 2						
	12:00	J-11, Day 2						
		J-12, Day 2						
		J-13, Day 2						
	13:25	J-0, Day 2						
05/14	10:14	J-0, Day 2						Preserved in nitric acid

*** MATRIX TYPES:** RSW = Raw Surface Water RGW = Raw Ground Water CFW = Chlor(am)inated Finished Water FW = Other Finished Water SEAW = Sea Water WW = Waste Water BW = Bottled Water SW = Storm Water SO = Soil SL = Sludge O = Other - Please Identify

SAMPLED BY:	RELINQUISHED BY:	RECEIVED BY:	RECEIVED BY:	RECEIVED BY:	SIGNATURE	PRINT NAME	COMPANY/TITLE	DATE	TIME
					<u>Ana Rosabal</u>	Ana Rosabal	Tetra Tech	05/14/21	10:57
					<u>Chris Bruehl</u>	Chris Bruehl	HTP	5.17.21	1156



Eaton Analytical

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Monrovia, CA 91016-3629
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800 566 LABS (800 566 5227)
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CHAIN OF CUSTODY RECORD

EUROFINS EATON ANALYTICAL USE ONLY:

LOGIN COMMENTS: _____

SAMPLES CHECKED AGAINST COC BY: 13

SAMPLES LOGGED IN BY: 14

SAMPLE TEMP RECEIVED AT:

☐ (Other) IR Gun ID = _____ (Observation = _____ °C) (Corr. Factor = _____ °C) (Final = _____ °C) (check for yes)

☒ Monrovia IR Gun ID = 666 (Observation = 13 °C) (Corr. Factor = 0.2 °C) (Final = 1.1 °C)

Compliance Acceptance Criteria: (Chemistry: 4 ± 2 °C) (Microbiology: < 10 °C)

TYPE OF ICE: Real ☒ Synthetic ☐ No Ice ☐ **CONDITION OF ICE:** Frozen ☐ Partially Frozen ☒ Thawed ☐ N/A ☐

METHOD OF SHIPMENT: Pick-Up / Walk-In / FedEx / UPS / DHL / Area Fast / Top Line / Other: _____

TO BE COMPLETED BY SAMPLER: 506289002475

COMPANY/AGENCY NAME:		PROJECT CODE:	COMPLIANCE SAMPLES	NON-COMPLIANCE SAMPLES	(check for yes)
Tetra Tech			- Requires state forms		
EEA CLIENT CODE:		COC ID:	Type of samples (circle one):	ROUTINE SPECIAL CONFIRMATION	(eg. SDWA, NPDES, etc.)
Tetra tech - orlon					
TAT requested: rush by adv notice only		SEE ATTACHED KIT ORDER FOR ANALYSES			
		List ALL ANALYSES REQUIRED (enter number of bottles sent for each test for each sample)			
SAMPLE DATE	SAMPLE TIME	SAMPLE ID	MATRIX	FIELD DATA	SAMPLER COMMENTS
05/14	10:14	J-1, Day 2	FW		nitric acid by Tetra Tech
		J-2			
		J-3			
		J-4			
		J-5			
		J-6			
		J-7			
		J-8			
		J-9			
		J-11			

*** MATRIX TYPES:** RSW = Raw Surface Water CFW = Chlor(am)inated Finished Water SEAW = Sea Water BW = Bottled Water SO = Soil
RGW = Raw Ground Water FW = Other Finished Water WW = Waste Water SW = Storm Water SL = Sludge

SAMPLED BY:	PRINT NAME	COMPANY/TITLE	DATE	TIME
<u>Chris B...</u>	Ana Kojabai	Tetra Tech	05/14/21	11:00
RELINQUISHED BY:	Ana Kojabai			
RECEIVED BY:	Chris B...		5.17.21	1151
RELINQUISHED BY:				
RECEIVED BY:				



Eaton Analytical

750 Royal Oaks Drive, Suite 100
Monrovia, CA 91016-3629
Phone: 626 386 1100
Fax: 626 386 1101
800 566 LABS (800 566 5227)
Website: www.EatonAnalytical.com

CHAIN OF CUSTODY RECORD

EUROFINS EATON ANALYTICAL USE ONLY:

LOG IN COMMENTS: _____

SAMPLES CHECKED AGAINST COC BY: BB

SAMPLES LOGGED IN BY: BB

SAMPLE TEMP RECEIVED AT: _____

☒ (Other) IR Gun ID = _____ (Observation = _____ °C) (Final = _____ °C) (check for yes)

☒ Monrovia IR Gun ID = 616 (Observation = 1.3 °C) (Final = 1.1 °C)

Compliance Acceptance Criteria: (Chemistry: 4 ± 2 °C) (Microbiology: < 10 °C)

TYPE OF ICE: Real ☒ Synthetic ☐ No Ice ☐ CONDITION OF ICE: Frozen ☐ Partially Frozen ☒ Thawed ☐ N/A ☐

METHOD OF SHIPMENT: Pick-Up / Walk-In / FedEx / UPS / DHL / Area Fast / Top Line / Other: _____

TO BE COMPLETED BY SAMPLER: _____ (check for yes)

COMPANY/AGENCY NAME: Tetra Tech

PROJECT CODE: _____

SAMPLE GROUP: lead solubility test - phase 2

EEA CLIENT CODE: tetra tech-solar

COC ID: _____

TAT requested: rush by adv notice only

SAMPLE DATE	SAMPLE TIME	SAMPLE ID	CLIENT LAB ID	MATRIX	FIELD DATA	FIELD DATA	COMPLIANCE SAMPLES	NON-COMPLIANCE SAMPLES	SAMPLER COMMENTS
05/14	10:14	J-12, Day 2		BW					
↓	↓	J-13, ↓		↓					
05/13	11:06	J-0, Day 3							
↓	9:22	J-1, ↓							
↓	↓	J-2, ↓							
↓	↓	J-3, ↓							
↓	9:52	J-4, ↓							
↓	↓	J-5, ↓							
↓	↓	J-6, ↓							
↓	10:17	J-2, ↓							

SEE ATTACHED KIT ORDER FOR ANALYSES

List ALL ANALYSES REQUIRED (enter number of bottles sent for each test for each sample)

COMPLIANCE SAMPLES: ☐ - Requires state forms

NON-COMPLIANCE SAMPLES: ☐ REGULATION INVOLVED: _____ (eg. SDWA, NPDES, etc.)

Type of samples (circle one): ROUTINE SPECIAL CONFIRMATION

(check for yes) ☐ (check for yes) ☐

* MATRIX TYPES: RSW = Raw Surface Water CFW = Chlor(am)inated Finished Water SEAW = Sea Water BW = Bottled Water SO = Soil O = Other - Please Identify
RGW = Raw Ground Water FW = Other Finished Water WW = Waste Water SW = Storm Water SL = Sludge

SAMPLED BY:	PRINT NAME	COMPANY/TITLE	DATE	TIME
<u>Anna Rosalba</u>	<u>Anna Rosalba</u>	<u>Tetra Tech</u>	<u>05/14/21</u>	<u>11:03</u>
RELINQUISHED BY:				
<u>Anna Rosalba</u>	<u>Anna Rosalba</u>	<u>Tetra Tech</u>	<u>05/14/21</u>	<u>1103</u>
RECEIVED BY:				
<u>Chris Beach</u>	<u>Chris Beach</u>	<u>TTA</u>	<u>5-17-21</u>	<u>1151</u>
RELINQUISHED BY:				
RECEIVED BY:				



eurofins

Eaton Analytical

INTERNAL CHAIN OF CUSTODY RECORD

SAMPLE TEMP RECEIVED:

Note: If samples are out of temperature range, let the ASMs know. ASMs will determine whether to proceed with analysis or not.

SAMPLES REC'D DAY OF COLLECTION?		Yes / No
1	2	
3	4	
5	6	
7	8	
9	10	
11	12	
13	14	
15	16	
17	18	
19	20	
21	22	
23	24	
25	26	
27	28	
29	30	
31	32	
33	34	
35	36	
37	38	
39	40	
41	42	
43	44	
45	46	
47	48	
49	50	
51	52	
53	54	
55	56	
57	58	
59	60	
61	62	
63	64	
65	66	
67	68	
69	70	
71	72	
73	74	
75	76	
77	78	
79	80	
81	82	
83	84	
85	86	
87	88	
89	90	
91	92	
93	94	
95	96	
97	98	
99	100	

$t_{\text{Observation}} = 1.6$ °C (Corr. Factor 0.2 °C) (Final = 1.4 °C)

<input checked="" type="checkbox"/> V	No Ice		CONDITION OF ICE:	Frozen	Partially Frozen	Thawed	N/A
<input type="checkbox"/>	Cumulative						

METHOD OF SHIPMENT: Pick-Up / Walk-In / FedEx / UPS / DHL / Area Fast / Top Line / Other: _____

506209002464

Compliance Acceptance Criteria:

- 1) **Chemistry:** >0, ≤ 6°C, not frozen (NELAP) (if received after 24 hrs of sample collection)
- 2) **Microbiology, Distribution:** < 10°C, not frozen (can be ≥ 10°C if received on ice the same day as sample collection, within 8 hours)
- 3) **Microbiology, Surface Water:** < 10°C (if received after 2 hours of sample collection)

If out of temperature range for both Chemistry and Microbiology samples and temperature does not confirm, then measure the temperature of each quadrant and record each temperature of the quadrants

1 = (Observation = _____ °C) (Corr Factor = _____ °C) (Final = _____ °C)	2 = (Observation = _____ °C) (Corr Factor = _____ °C) (Final = _____ °C)
3 = (Observation = _____ °C) (Corr Factor = _____ °C) (Final = _____ °C)	4 = (Observation = _____ °C) (Corr Factor = _____ °C) (Final = _____ °C)

4 DioxIn (16f13 or 2,3,7,8 TCDD): must be between 0-4 °C, not frozen (if received after 24 hrs of sample collection)

Lot Number: _____ pH strip type: 0 - 14 or _____ Expiration Date: _____ Results: _____

6) Chlorine check. Manufacturer: Sansafe. Lot No.: _____ Expiration Date: _____ Results: _____

VOA and Radon	No Samples with Headspace:	Samples with Headspace (see below):
7)		

Use/Source Documentation (use additional VOC and Radon Internal COFC for additional bottles)

Headspace Documentation (Use additional VOC and non-volatile GC for evaluation)
 @CH, 532LCMS, 555, 536, Anatoxin, LCMS methods using 40 ml vials, International clients:
 Methods 515.4, HAA/6261.552), 505, SPME, @CH, 532LCMS, 555, 536, Anatoxin, LCMS methods using 40 ml vials, International clients:

[illegible]

Note Sample IDs which have dissimilar headspace (i.e. potential sampling errors):

SIGNATURE	PRINT NAME	COMPANY/TITLE	DATE	TIME
<i>[Signature]</i>	Chuck Brooks	Eurofins Eaton Analytical	5.17.21	1156



Kit Order for Tetra Tech Inc.

Vanessa Berry is your Eurofins Eaton Analytical, LLC Service Manager

750 Royal Oaks Drive, Suite 100
Monrovia, California 91016-3629
(626) 386-1100 FAX (866) 988-3757

Kit #: 289250



Created By: Vanessa Berry - [ZIA8]

Deliver By: 04/29/2021

STG: Bottle Orders

Ice Type: W

Client ID: TETRATECH-ORLAN



Project Code: KALAMAZOO Bottle Orders

Group Name: Lead Solubility Testing - Phase 2

PO#/JOB#:

Description: No Schedule

Ship Sample Kits to
Tetra Tech
201 East Pine Street
Suite 1000
Orlando, FL 32801
Attn: James Christopher
Phone: 407-480-3907
Fax: 407-839-3790

Send Report to
Tetra Tech
201 East Pine Street
Suite 1000
Orlando, FL 32801
Attn: James Christopher
Phone: 407-480-3907
Fax: 407-839-3790

Billing Address
Tetra Tech
201 East Pine Street
Suite 1000
Orlando, FL 32801
Attn: James Christopher
Phone: 407-480-3907
Fax: 407-839-3790

# of Sample Tests	Bottle Qty - Type [preservative information]	Total	UN DOT #
26	Total phosphorus as P	26	UN1830
26	@ICPMS	26	
Sum Tests: 52		Sum Bottles: 52	
Comments			
include return shipping labels			
COCs			

Tel: (626) 386-1100
Fax: (866) 988-3757
1 800 566 LABS (1 800 566 5227)

Laboratory Comments**Report:** 935513**Project:** KALAMAZOO**Group:** Lead Solubility Testing - Phase 2

Tetra Tech
James Christopher
201 East Pine Street
Suite 1000
Orlando, FL 32801

Flags Legend:

B4 - Target analyte detected in blank at or above method acceptance criteria.

D1 - Sample required dilution due to matrix.

Tel: (626) 386-1100
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1 800 566 LABS (1 800 566 5227)

Laboratory Hits

Report: 935513
Project: KALAMAZOO
Group: Lead Solubility Testing - Phase 2

Tetra Tech
James Christopher
201 East Pine Street
Suite 1000
Orlando, FL 32801

Samples Received on:
05/17/2021 1156

Analyzed	Analyte	Sample ID	Result	Federal MCL	Units	MRL
202105170199 <u>J-1, Day 1</u>						
05/26/2021 12:59	Total phosphorus as P		0.98		mg/L	0.10
05/26/2021 15:26	Total phosphorus as PO4- Calc.		3.0		mg/L	0.030
202105170200 <u>J-2, Day 1</u>						
05/26/2021 13:00	Total phosphorus as P		1.7		mg/L	0.10
05/26/2021 15:26	Total phosphorus as PO4- Calc.		5.2		mg/L	0.030
202105170201 <u>J-3, Day 1</u>						
05/26/2021 13:00	Total phosphorus as P		2.3		mg/L	0.10
05/26/2021 15:26	Total phosphorus as PO4- Calc.		7.1		mg/L	0.030
202105170202 <u>J-4, Day 1</u>						
05/25/2021 15:04	Total phosphorus as P		0.98		mg/L	0.10
05/26/2021 15:56	Total phosphorus as PO4- Calc.		3.0		mg/L	0.030
202105170203 <u>J-5, Day 1</u>						
05/25/2021 15:05	Total phosphorus as P		1.6		mg/L	0.10
05/26/2021 15:56	Total phosphorus as PO4- Calc.		4.9		mg/L	0.030
202105170204 <u>J-6, Day 1</u>						
05/25/2021 15:06	Total phosphorus as P		2.3		mg/L	0.10
05/26/2021 15:56	Total phosphorus as PO4- Calc.		7.1		mg/L	0.030
202105170205 <u>J-7, Day 1</u>						
05/25/2021 15:07	Total phosphorus as P		1.5		mg/L	0.10
05/26/2021 15:56	Total phosphorus as PO4- Calc.		4.6		mg/L	0.030
202105170206 <u>J-8, Day 1</u>						
05/25/2021 15:08	Total phosphorus as P		2.4		mg/L	0.10
05/26/2021 15:56	Total phosphorus as PO4- Calc.		7.4		mg/L	0.030
202105170207 <u>J-9, Day 1</u>						
05/25/2021 15:09	Total phosphorus as P		3.2		mg/L	0.10
05/26/2021 15:56	Total phosphorus as PO4- Calc.		9.8		mg/L	0.030
202105170208 <u>J-11, Day 1</u>						
05/25/2021 15:10	Total phosphorus as P		1.1		mg/L	0.10
05/26/2021 15:56	Total phosphorus as PO4- Calc.		3.4		mg/L	0.030
202105170209 <u>J-12, Day 1</u>						
05/25/2021 15:10	Total phosphorus as P		1.5		mg/L	0.10
05/26/2021 15:56	Total phosphorus as PO4- Calc.		4.6		mg/L	0.030

SUMMARY OF POSITIVE DATA ONLY

Tel: (626) 386-1100
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1 800 566 LABS (1 800 566 5227)

Laboratory Hits

Report: 935513
Project: KALAMAZOO
Group: Lead Solubility Testing - Phase 2

Tetra Tech
James Christopher
201 East Pine Street
Suite 1000
Orlando, FL 32801

Samples Received on:
05/17/2021 1156

Analyzed	Analyte	Sample ID	Result	Federal MCL	Units	MRL
	202105170210	<u>J-13, Day 1</u>				
05/25/2021 15:11	Total phosphorus as P		2.2		mg/L	0.10
05/26/2021 15:57	Total phosphorus as PO4- Calc.		6.8		mg/L	0.030
	202105170211	<u>J-0, Day 1</u>				
05/20/2021 13:22	Lead Total ICAP/MS		3500	15	ug/L	10
	202105170212	<u>J-1, Day 1</u>				
05/25/2021 18:09	Lead Total ICAP/MS		2900	15	ug/L	10
	202105170213	<u>J-2, Day 1</u>				
05/20/2021 12:32	Lead Total ICAP/MS		550	15	ug/L	0.50
	202105170214	<u>J-3, Day 1</u>				
05/20/2021 12:33	Lead Total ICAP/MS		520	15	ug/L	0.50
	202105170215	<u>J-4, Day 1</u>				
05/20/2021 12:33	Lead Total ICAP/MS		420	15	ug/L	0.50
	202105170216	<u>J-5, Day 1</u>				
05/25/2021 17:47	Lead Total ICAP/MS		570	15	ug/L	0.50
	202105170217	<u>J-6, Day 1</u>				
05/20/2021 12:34	Lead Total ICAP/MS		440	15	ug/L	0.50
	202105170218	<u>J-7, Day 1</u>				
05/20/2021 12:35	Lead Total ICAP/MS		600	15	ug/L	0.50
	202105170219	<u>J-8, Day 1</u>				
05/20/2021 12:40	Lead Total ICAP/MS		440	15	ug/L	0.50
	202105170220	<u>J-9, Day 1</u>				
05/25/2021 17:49	Lead Total ICAP/MS		540	15	ug/L	0.50
	202105170221	<u>J-11, Day 1</u>				
05/20/2021 12:41	Lead Total ICAP/MS		340	15	ug/L	0.50
	202105170222	<u>J-12, Day 1</u>				
05/25/2021 17:51	Lead Total ICAP/MS		380	15	ug/L	0.50
	202105170223	<u>J-13, Day 1</u>				
05/20/2021 12:42	Lead Total ICAP/MS		320	15	ug/L	0.50
	202105170224	<u>J-1, Day 2</u>				
05/25/2021 15:12	Total phosphorus as P		1.0		mg/L	0.10

SUMMARY OF POSITIVE DATA ONLY

Tel: (626) 386-1100
Fax: (866) 988-3757
1 800 566 LABS (1 800 566 5227)

Laboratory Hits

Report: 935513
Project: KALAMAZOO
Group: Lead Solubility Testing - Phase 2

Tetra Tech
James Christopher
201 East Pine Street
Suite 1000
Orlando, FL 32801

Samples Received on:
05/17/2021 1156

Analyzed	Analyte	Sample ID	Result	Federal MCL	Units	MRL
05/26/2021 15:57	Total phosphorus as PO4- Calc.		3.1		mg/L	0.030
	202105170225	<u>J-2, Day 2</u>				
05/25/2021 15:15	Total phosphorus as P		1.7		mg/L	0.10
05/26/2021 15:57	Total phosphorus as PO4- Calc.		5.2		mg/L	0.030
	202105170226	<u>J-3, Day 2</u>				
05/25/2021 15:16	Total phosphorus as P		2.4		mg/L	0.10
05/26/2021 15:58	Total phosphorus as PO4- Calc.		7.4		mg/L	0.030
	202105170227	<u>J-4, Day 2</u>				
05/25/2021 15:17	Total phosphorus as P		0.98		mg/L	0.10
05/26/2021 15:58	Total phosphorus as PO4- Calc.		3.0		mg/L	0.030
	202105170228	<u>J-5, Day 2</u>				
05/25/2021 15:18	Total phosphorus as P		2.0		mg/L	0.10
05/26/2021 15:58	Total phosphorus as PO4- Calc.		6.1		mg/L	0.030
	202105170229	<u>J-6, Day 2</u>				
05/25/2021 15:19	Total phosphorus as P		2.3		mg/L	0.10
05/26/2021 15:58	Total phosphorus as PO4- Calc.		7.1		mg/L	0.030
	202105170230	<u>J-7, Day 2</u>				
05/25/2021 15:19	Total phosphorus as P		1.4		mg/L	0.10
05/26/2021 15:58	Total phosphorus as PO4- Calc.		4.3		mg/L	0.030
	202105170231	<u>J-8, Day 2</u>				
05/25/2021 15:20	Total phosphorus as P		2.4		mg/L	0.10
05/26/2021 15:58	Total phosphorus as PO4- Calc.		7.4		mg/L	0.030
	202105170232	<u>J-9, Day 2</u>				
05/25/2021 15:21	Total phosphorus as P		3.4		mg/L	0.10
05/26/2021 15:58	Total phosphorus as PO4- Calc.		10		mg/L	0.030
	202105170233	<u>J-11, Day 2</u>				
05/25/2021 15:22	Total phosphorus as P		0.97		mg/L	0.10
05/26/2021 15:58	Total phosphorus as PO4- Calc.		3.0		mg/L	0.030
	202105170234	<u>J-12, Day 2</u>				
05/25/2021 15:23	Total phosphorus as P		1.6		mg/L	0.10
05/26/2021 15:58	Total phosphorus as PO4- Calc.		4.9		mg/L	0.030
	202105170235	<u>J-13, Day 2</u>				
05/28/2021 13:57	Total phosphorus as P		3.3		mg/L	0.10

SUMMARY OF POSITIVE DATA ONLY

Tel: (626) 386-1100
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1 800 566 LABS (1 800 566 5227)

Laboratory Hits

Report: 935513
Project: KALAMAZOO
Group: Lead Solubility Testing - Phase 2

Tetra Tech
James Christopher
201 East Pine Street
Suite 1000
Orlando, FL 32801

Samples Received on:
05/17/2021 1156

Analyzed	Analyte	Sample ID	Result	Federal MCL	Units	MRL
05/28/2021 16:51	Total phosphorus as PO4- Calc.		10		mg/L	0.030
	202105170236	<u>J-0, Day 2</u>				
05/28/2021 14:00	Total phosphorus as P		0.041		mg/L	0.10
05/28/2021 16:51	Total phosphorus as PO4- Calc.		0.12		mg/L	0.030
	202105170237	<u>J-0, Day 2</u>				
05/20/2021 12:42	Lead Total ICAP/MS		330	15	ug/L	0.50
	202105170238	<u>J-1, Day 2</u>				
05/20/2021 12:43	Lead Total ICAP/MS		390	15	ug/L	0.50
	202105170239	<u>J-2, Day 2</u>				
05/20/2021 12:44	Lead Total ICAP/MS		340	15	ug/L	0.50
	202105170240	<u>J-3, Day 2</u>				
05/20/2021 12:45	Lead Total ICAP/MS		230	15	ug/L	0.50
	202105170241	<u>J-4, Day 2</u>				
05/20/2021 12:46	Lead Total ICAP/MS		210	15	ug/L	0.50
	202105170242	<u>J-5, Day 2</u>				
05/20/2021 12:46	Lead Total ICAP/MS		200	15	ug/L	0.50
	202105170243	<u>J-6, Day 2</u>				
05/20/2021 12:53	Lead Total ICAP/MS		230	15	ug/L	0.50
	202105170244	<u>J-7, Day 2</u>				
05/20/2021 12:55	Lead Total ICAP/MS		300	15	ug/L	0.50
	202105170245	<u>J-8, Day 2</u>				
05/20/2021 12:56	Lead Total ICAP/MS		240	15	ug/L	0.50
	202105170246	<u>J-9, Day 2</u>				
05/20/2021 12:57	Lead Total ICAP/MS		210	15	ug/L	0.50
	202105170247	<u>J-11, Day 2</u>				
05/20/2021 12:59	Lead Total ICAP/MS		280	15	ug/L	0.50
	202105170248	<u>J-12, Day 2</u>				
05/20/2021 13:00	Lead Total ICAP/MS		220	15	ug/L	0.50
	202105170249	<u>J-13, Day 2</u>				
05/20/2021 13:01	Lead Total ICAP/MS		200	15	ug/L	0.50
	202105170251	<u>J-1, Day 3</u>				

SUMMARY OF POSITIVE DATA ONLY

Tel: (626) 386-1100
Fax: (866) 988-3757
1 800 566 LABS (1 800 566 5227)

Laboratory Hits

Report: 935513
Project: KALAMAZOO
Group: Lead Solubility Testing - Phase 2

Tetra Tech
James Christopher
201 East Pine Street
Suite 1000
Orlando, FL 32801

Samples Received on:
05/17/2021 1156

Analyzed	Analyte	Sample ID	Result	Federal MCL	Units	MRL
05/28/2021 14:02	Total phosphorus as P		1.4		mg/L	0.10
05/28/2021 16:51	Total phosphorus as PO4- Calc.		4.3		mg/L	0.030
	202105170252	<u>J-2, Day 3</u>				
05/28/2021 14:05	Total phosphorus as P		2.1		mg/L	0.10
05/28/2021 16:51	Total phosphorus as PO4- Calc.		6.4		mg/L	0.030
	202105170253	<u>J-3, Day 3</u>				
05/28/2021 14:06	Total phosphorus as P		2.6		mg/L	0.10
05/28/2021 16:51	Total phosphorus as PO4- Calc.		8.0		mg/L	0.030
	202105170254	<u>J-4, Day 3</u>				
05/28/2021 14:07	Total phosphorus as P		1.3		mg/L	0.10
05/28/2021 16:51	Total phosphorus as PO4- Calc.		4.0		mg/L	0.030
	202105170255	<u>J-5, Day 3</u>				
05/28/2021 14:08	Total phosphorus as P		1.9		mg/L	0.10
05/28/2021 16:51	Total phosphorus as PO4- Calc.		5.8		mg/L	0.030
	202105170256	<u>J-6, Day 3</u>				
05/28/2021 14:09	Total phosphorus as P		2.7		mg/L	0.10
05/28/2021 16:51	Total phosphorus as PO4- Calc.		8.3		mg/L	0.030
	202105170257	<u>J-7, Day 3</u>				
05/28/2021 14:10	Total phosphorus as P		1.9		mg/L	0.10
05/28/2021 16:51	Total phosphorus as PO4- Calc.		5.8		mg/L	0.030
	202105170258	<u>J-8, Day 3</u>				
05/28/2021 14:11	Total phosphorus as P		2.4		mg/L	0.10
05/28/2021 16:52	Total phosphorus as PO4- Calc.		7.4		mg/L	0.030
	202105170259	<u>J-9, Day 3</u>				
05/28/2021 14:14	Total phosphorus as P		3.5		mg/L	0.10
05/28/2021 16:52	Total phosphorus as PO4- Calc.		11		mg/L	0.030
	202105170260	<u>J-11, Day 3</u>				
05/28/2021 14:17	Total phosphorus as P		1.2		mg/L	0.10
05/28/2021 16:52	Total phosphorus as PO4- Calc.		3.7		mg/L	0.030
	202105170261	<u>J-12, Day 3</u>				
05/28/2021 14:18	Total phosphorus as P		2.6		mg/L	0.10
05/28/2021 16:52	Total phosphorus as PO4- Calc.		8.0		mg/L	0.030
	202105170262	<u>J-13, Day 3</u>				

SUMMARY OF POSITIVE DATA ONLY



Eaton Analytical

Tel: (626) 386-1100
Fax: (866) 988-3757
1 800 566 LABS (1 800 566 5227)

Laboratory Hits

Report: 935513

Project: KALAMAZOO

Group: Lead Solubility Testing - Phase 2

Tetra Tech

James Christopher
201 East Pine Street
Suite 1000
Orlando, FL 32801

Samples Received on:
05/17/2021 1156

Analyzed	Analyte	Sample ID	Result	Federal MCL	Units	MRL
05/28/2021 14:19	Total phosphorus as P		2.4		mg/L	0.10
05/28/2021 16:52	Total phosphorus as PO4- Calc.		7.4		mg/L	0.030

SUMMARY OF POSITIVE DATA ONLY

Tel: (626) 386-1100
Fax: (866) 988-3757
1 800 566 LABS (1 800 566 5227)

Laboratory Data

Report: 935513
Project: KALAMAZOO
Group: Lead Solubility Testing - Phase 2

Tetra Tech
James Christopher
201 East Pine Street
Suite 1000
Orlando, FL 32801

Samples Received on:
05/17/2021 1156

Prepped	Analyzed	Prep Batch	Analytical Batch	Method	Analyte	Result	Units	MRL	Dilution
J-0, Day 1 (202105170198)						Sampled on 05/06/2021 1653			
SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.									
05/26/21 15:26				(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	ND (c)	mg/L	0.030	1
SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)									
05/26/21 12:22		1330441		(SM4500-PE/EPA 365.1)	Total phosphorus as P	ND	mg/L	0.020	1
J-1, Day 1 (202105170199)						Sampled on 05/06/2021 1212			
SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.									
05/26/21 15:26				(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	3.0 (c)	mg/L	0.030	1
SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)									
05/26/21 12:59		1330441		(SM4500-PE/EPA 365.1)	Total phosphorus as P	0.98	mg/L	0.10	5
J-2, Day 1 (202105170200)						Sampled on 05/06/2021 1212			
SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.									
05/26/21 15:26				(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	5.2 (c)	mg/L	0.030	1
SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)									
05/26/21 13:00		1330441		(SM4500-PE/EPA 365.1)	Total phosphorus as P	1.7	mg/L	0.10	5
J-3, Day 1 (202105170201)						Sampled on 05/06/2021 1212			
SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.									
05/26/21 15:26				(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	7.1 (c)	mg/L	0.030	1
SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)									
05/26/21 13:00		1330441		(SM4500-PE/EPA 365.1)	Total phosphorus as P	2.3	mg/L	0.10	5
J-4, Day 1 (202105170202)						Sampled on 05/06/2021 1410			
SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.									
05/26/21 15:56				(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	3.0 (c)	mg/L	0.030	1
SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)									
05/25/21 15:04		1330617		(SM4500-PE/EPA 365.1)	Total phosphorus as P	0.98	mg/L	0.10	5
J-5, Day 1 (202105170203)						Sampled on 05/06/2021 1410			
SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.									

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Tel: (626) 386-1100
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1 800 566 LABS (1 800 566 5227)

Laboratory Data

Report: 935513
Project: KALAMAZOO
Group: Lead Solubility Testing - Phase 2

Tetra Tech
James Christopher
201 East Pine Street
Suite 1000
Orlando, FL 32801

Samples Received on:
05/17/2021 1156

Prepped	Analyzed	Prep Batch	Analytical Batch	Method	Analyte	Result	Units	MRL	Dilution
	05/26/21 15:56			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	4.9 (c)	mg/L	0.030	1
	SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)								
	05/25/21 15:05		1330617	(SM4500-PE/EPA 365.1)	Total phosphorus as P	1.6	mg/L	0.10	5
J-6, Day 1 (202105170204)						Sampled on 05/06/2021 1410			
	SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.								
	05/26/21 15:56			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	7.1 (c)	mg/L	0.030	1
	SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)								
	05/25/21 15:06		1330617	(SM4500-PE/EPA 365.1)	Total phosphorus as P	2.3	mg/L	0.10	5
J-7, Day 1 (202105170205)						Sampled on 05/06/2021 1510			
	SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.								
	05/26/21 15:56			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	4.6 (c)	mg/L	0.030	1
	SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)								
	05/25/21 15:07		1330617	(SM4500-PE/EPA 365.1)	Total phosphorus as P	1.5	mg/L	0.10	5
J-8, Day 1 (202105170206)						Sampled on 05/06/2021 1510			
	SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.								
	05/26/21 15:56			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	7.4 (c)	mg/L	0.030	1
	SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)								
	05/25/21 15:08		1330617	(SM4500-PE/EPA 365.1)	Total phosphorus as P	2.4	mg/L	0.10	5
J-9, Day 1 (202105170207)						Sampled on 05/06/2021 1510			
	SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.								
	05/26/21 15:56			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	9.8 (c)	mg/L	0.030	1
	SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)								
	05/25/21 15:09		1330617	(SM4500-PE/EPA 365.1)	Total phosphorus as P	3.2	mg/L	0.10	5
J-11, Day 1 (202105170208)						Sampled on 05/06/2021 1600			
	SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.								
	05/26/21 15:56			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	3.4 (c)	mg/L	0.030	1
	SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)								

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Samples Received on:
05/17/2021 1156

Prepped	Analyzed	Prep Batch	Analytical Batch	Method	Analyte	Result	Units	MRL	Dilution
	05/25/21 15:10		1330617	(SM4500-PE/EPA 365.1)	Total phosphorus as P	1.1	mg/L	0.10	5
<u>J-12, Day 1 (202105170209)</u>						Sampled on 05/06/2021 1600			
SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.									
	05/26/21 15:56			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	4.6 (c)	mg/L	0.030	1
SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)									
	05/25/21 15:10		1330617	(SM4500-PE/EPA 365.1)	Total phosphorus as P	1.5	mg/L	0.10	5
<u>J-13, Day 1 (202105170210)</u>						Sampled on 05/06/2021 1600			
SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.									
	05/26/21 15:57			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	6.8 (c)	mg/L	0.030	1
SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)									
	05/25/21 15:11		1330617	(SM4500-PE/EPA 365.1)	Total phosphorus as P	2.2	mg/L	0.10	5
<u>J-0, Day 1 (202105170211)</u>						Sampled on 05/11/2021 0753			
EPA 200.8 - ICPMS Metals									
05/17/21	05/20/21 13:22	1328298	1329267	(EPA 200.8)	Lead Total ICAP/MS	3500	ug/L	10	20
<u>J-1, Day 1 (202105170212)</u>						Sampled on 05/11/2021 0753			
EPA 200.8 - ICPMS Metals									
05/17/21	05/25/21 18:09	1328298	1329307	(EPA 200.8)	Lead Total ICAP/MS	2900	ug/L	10	20
<u>J-2, Day 1 (202105170213)</u>						Sampled on 05/11/2021 0753			
EPA 200.8 - ICPMS Metals									
05/17/21	05/20/21 12:32	1328298	1329121	(EPA 200.8)	Lead Total ICAP/MS	550 (B4)	ug/L	0.50	1
<u>J-3, Day 1 (202105170214)</u>						Sampled on 05/11/2021 0753			
EPA 200.8 - ICPMS Metals									
05/17/21	05/20/21 12:33	1328298	1329121	(EPA 200.8)	Lead Total ICAP/MS	520 (B4)	ug/L	0.50	1
<u>J-4, Day 1 (202105170215)</u>						Sampled on 05/11/2021 0753			
EPA 200.8 - ICPMS Metals									
05/17/21	05/20/21 12:33	1328298	1329121	(EPA 200.8)	Lead Total ICAP/MS	420 (B4)	ug/L	0.50	1
<u>J-5, Day 1 (202105170216)</u>						Sampled on 05/11/2021 0753			
EPA 200.8 - ICPMS Metals									

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Samples Received on:
05/17/2021 1156

Prepped	Analyzed	Prep Batch	Analytical Batch	Method	Analyte	Result	Units	MRL	Dilution
05/17/21	05/25/21 17:47	1328298	1329307	(EPA 200.8)	Lead Total ICAP/MS	570	ug/L	0.50	1
<u>J-6, Day 1 (202105170217)</u>						Sampled on 05/11/2021 0753			
EPA 200.8 - ICPMS Metals									
05/17/21	05/20/21 12:34	1328298	1329121	(EPA 200.8)	Lead Total ICAP/MS	440 (B4)	ug/L	0.50	1
<u>J-7, Day 1 (202105170218)</u>						Sampled on 05/11/2021 0753			
EPA 200.8 - ICPMS Metals									
05/17/21	05/20/21 12:35	1328298	1329121	(EPA 200.8)	Lead Total ICAP/MS	600 (B4)	ug/L	0.50	1
<u>J-8, Day 1 (202105170219)</u>						Sampled on 05/11/2021 0753			
EPA 200.8 - ICPMS Metals									
05/17/21	05/20/21 12:40	1328298	1329121	(EPA 200.8)	Lead Total ICAP/MS	440 (B4)	ug/L	0.50	1
<u>J-9, Day 1 (202105170220)</u>						Sampled on 05/11/2021 0753			
EPA 200.8 - ICPMS Metals									
05/17/21	05/25/21 17:49	1328298	1329307	(EPA 200.8)	Lead Total ICAP/MS	540	ug/L	0.50	1
<u>J-11, Day 1 (202105170221)</u>						Sampled on 05/11/2021 0753			
EPA 200.8 - ICPMS Metals									
05/17/21	05/20/21 12:41	1328298	1329121	(EPA 200.8)	Lead Total ICAP/MS	340 (B4)	ug/L	0.50	1
<u>J-12, Day 1 (202105170222)</u>						Sampled on 05/11/2021 0753			
EPA 200.8 - ICPMS Metals									
05/17/21	05/25/21 17:51	1328298	1329307	(EPA 200.8)	Lead Total ICAP/MS	380	ug/L	0.50	1
<u>J-13, Day 1 (202105170223)</u>						Sampled on 05/11/2021 0753			
EPA 200.8 - ICPMS Metals									
05/17/21	05/20/21 12:42	1328298	1329121	(EPA 200.8)	Lead Total ICAP/MS	320 (B4)	ug/L	0.50	1
<u>J-1, Day 2 (202105170224)</u>						Sampled on 05/10/2021 1008			
SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.									
	05/26/21 15:57			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	3.1 (c)	mg/L	0.030	1
SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)									
	05/25/21 15:12		1330617	(SM4500-PE/EPA 365.1)	Total phosphorus as P	1.0	mg/L	0.10	5
<u>J-2, Day 2 (202105170225)</u>						Sampled on 05/10/2021 1008			
SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.									

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05/17/2021 1156

Prepped	Analyzed	Prep Batch	Analytical Batch	Method	Analyte	Result	Units	MRL	Dilution
	05/26/21 15:57			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	5.2 (c)	mg/L	0.030	1
	SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)								
	05/25/21 15:15		1330617	(SM4500-PE/EPA 365.1)	Total phosphorus as P	1.7	mg/L	0.10	5
J-3, Day 2 (202105170226)						Sampled on 05/10/2021 1008			
	SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.								
	05/26/21 15:58			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	7.4 (c)	mg/L	0.030	1
	SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)								
	05/25/21 15:16		1330617	(SM4500-PE/EPA 365.1)	Total phosphorus as P	2.4	mg/L	0.10	5
J-4, Day 2 (202105170227)						Sampled on 05/10/2021 1104			
	SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.								
	05/26/21 15:58			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	3.0 (c)	mg/L	0.030	1
	SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)								
	05/25/21 15:17		1330617	(SM4500-PE/EPA 365.1)	Total phosphorus as P	0.98	mg/L	0.10	5
J-5, Day 2 (202105170228)						Sampled on 05/10/2021 1104			
	SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.								
	05/26/21 15:58			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	6.1 (c)	mg/L	0.030	1
	SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)								
	05/25/21 15:18		1330617	(SM4500-PE/EPA 365.1)	Total phosphorus as P	2.0	mg/L	0.10	5
J-6, Day 2 (202105170229)						Sampled on 05/10/2021 1104			
	SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.								
	05/26/21 15:58			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	7.1 (c)	mg/L	0.030	1
	SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)								
	05/25/21 15:19		1330617	(SM4500-PE/EPA 365.1)	Total phosphorus as P	2.3	mg/L	0.10	5
J-7, Day 2 (202105170230)						Sampled on 05/10/2021 1140			
	SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.								
	05/26/21 15:58			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	4.3 (c)	mg/L	0.030	1
	SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)								

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Samples Received on:
05/17/2021 1156

Prepped	Analyzed	Prep Batch	Analytical Batch	Method	Analyte	Result	Units	MRL	Dilution
	05/25/21 15:19		1330617	(SM4500-PE/EPA 365.1)	Total phosphorus as P	1.4	mg/L	0.10	5
<u>J-8, Day 2 (202105170231)</u>						Sampled on 05/10/2021 1140			
SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.									
	05/26/21 15:58			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	7.4 (c)	mg/L	0.030	1
SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)									
	05/25/21 15:20		1330617	(SM4500-PE/EPA 365.1)	Total phosphorus as P	2.4	mg/L	0.10	5
<u>J-9, Day 2 (202105170232)</u>						Sampled on 05/10/2021 1140			
SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.									
	05/26/21 15:58			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	10 (c)	mg/L	0.030	1
SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)									
	05/25/21 15:21		1330617	(SM4500-PE/EPA 365.1)	Total phosphorus as P	3.4	mg/L	0.10	5
<u>J-11, Day 2 (202105170233)</u>						Sampled on 05/10/2021 1207			
SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.									
	05/26/21 15:58			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	3.0 (c)	mg/L	0.030	1
SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)									
	05/25/21 15:22		1330617	(SM4500-PE/EPA 365.1)	Total phosphorus as P	0.97	mg/L	0.10	5
<u>J-12, Day 2 (202105170234)</u>						Sampled on 05/10/2021 1207			
SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.									
	05/26/21 15:58			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	4.9 (c)	mg/L	0.030	1
SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)									
	05/25/21 15:23		1330617	(SM4500-PE/EPA 365.1)	Total phosphorus as P	1.6	mg/L	0.10	5
<u>J-13, Day 2 (202105170235)</u>						Sampled on 05/10/2021 1207			
SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.									
	05/28/21 16:51			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	10 (c)	mg/L	0.030	1
SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)									
	05/28/21 13:57		1331205	(SM4500-PE/EPA 365.1)	Total phosphorus as P	3.3	mg/L	0.10	5
<u>J-0, Day 2 (202105170236)</u>						Sampled on 05/10/2021 1325			

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05/17/2021 1156

Prepped	Analyzed	Prep Batch	Analytical Batch	Method	Analyte	Result	Units	MRL	Dilution
SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.									
	05/28/21 16:51			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	0.12 (c)	mg/L	0.030	1
SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)									
	05/28/21 14:00		1331205	(SM4500-PE/EPA 365.1)	Total phosphorus as P	0.041	mg/L	0.10	5
J-0, Day 2 (202105170237)						Sampled on 05/14/2021 1014			
EPA 200.8 - ICPMS Metals									
05/17/21	05/20/21 12:42	1328298	1329121	(EPA 200.8)	Lead Total ICAP/MS	330 (B4)	ug/L	0.50	1
J-1, Day 2 (202105170238)						Sampled on 05/14/2021 1014			
EPA 200.8 - ICPMS Metals									
05/17/21	05/20/21 12:43	1328298	1329121	(EPA 200.8)	Lead Total ICAP/MS	390 (B4)	ug/L	0.50	1
J-2, Day 2 (202105170239)						Sampled on 05/14/2021 1014			
EPA 200.8 - ICPMS Metals									
05/17/21	05/20/21 12:44	1328298	1329121	(EPA 200.8)	Lead Total ICAP/MS	340 (B4)	ug/L	0.50	1
J-3, Day 2 (202105170240)						Sampled on 05/14/2021 1014			
EPA 200.8 - ICPMS Metals									
05/17/21	05/20/21 12:45	1328298	1329121	(EPA 200.8)	Lead Total ICAP/MS	230 (B4)	ug/L	0.50	1
J-4, Day 2 (202105170241)						Sampled on 05/14/2021 1014			
EPA 200.8 - ICPMS Metals									
05/17/21	05/20/21 12:46	1328298	1329121	(EPA 200.8)	Lead Total ICAP/MS	210 (B4)	ug/L	0.50	1
J-5, Day 2 (202105170242)						Sampled on 05/14/2021 1014			
EPA 200.8 - ICPMS Metals									
05/17/21	05/20/21 12:46	1328298	1329121	(EPA 200.8)	Lead Total ICAP/MS	200 (B4)	ug/L	0.50	1
J-6, Day 2 (202105170243)						Sampled on 05/14/2021 1014			
EPA 200.8 - ICPMS Metals									
05/17/21	05/20/21 12:53	1328298	1329122	(EPA 200.8)	Lead Total ICAP/MS	230 (B4)	ug/L	0.50	1
J-7, Day 2 (202105170244)						Sampled on 05/14/2021 1014			
EPA 200.8 - ICPMS Metals									
05/17/21	05/20/21 12:55	1328298	1329122	(EPA 200.8)	Lead Total ICAP/MS	300 (B4)	ug/L	0.50	1
J-8, Day 2 (202105170245)						Sampled on 05/14/2021 1014			

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05/17/2021 1156

Prepped	Analyzed	Prep Batch	Analytical Batch	Method	Analyte	Result	Units	MRL	Dilution
EPA 200.8 - ICPMS Metals									
05/17/21	05/20/21 12:56	1328298	1329122	(EPA 200.8)	Lead Total ICAP/MS	240 (B4)	ug/L	0.50	1
J-9, Day 2 (202105170246)						Sampled on 05/14/2021 1014			
EPA 200.8 - ICPMS Metals									
05/17/21	05/20/21 12:57	1328298	1329122	(EPA 200.8)	Lead Total ICAP/MS	210 (B4)	ug/L	0.50	1
J-11, Day 2 (202105170247)						Sampled on 05/14/2021 1014			
EPA 200.8 - ICPMS Metals									
05/17/21	05/20/21 12:59	1328298	1329122	(EPA 200.8)	Lead Total ICAP/MS	280	ug/L	0.50	1
J-12, Day 2 (202105170248)						Sampled on 05/14/2021 1014			
EPA 200.8 - ICPMS Metals									
05/17/21	05/20/21 13:00	1328298	1329122	(EPA 200.8)	Lead Total ICAP/MS	220	ug/L	0.50	1
J-13, Day 2 (202105170249)						Sampled on 05/14/2021 1014			
EPA 200.8 - ICPMS Metals									
05/17/21	05/20/21 13:01	1328298	1329122	(EPA 200.8)	Lead Total ICAP/MS	200	ug/L	0.50	1
J-0, Day 3 (202105170250)						Sampled on 05/13/2021 1106			
SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.									
	05/28/21 16:51			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	ND (c)	mg/L	0.030	1
SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)									
	05/28/21 14:01		1331205	(SM4500-PE/EPA 365.1)	Total phosphorus as P	ND (D1)	mg/L	0.10	5
J-1, Day 3 (202105170251)						Sampled on 05/13/2021 0922			
SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.									
	05/28/21 16:51			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	4.3 (c)	mg/L	0.030	1
SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)									
	05/28/21 14:02		1331205	(SM4500-PE/EPA 365.1)	Total phosphorus as P	1.4	mg/L	0.10	5
J-2, Day 3 (202105170252)						Sampled on 05/13/2021 0922			
SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.									
	05/28/21 16:51			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	6.4 (c)	mg/L	0.030	1
SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)									

Rounding on totals after summation.
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Laboratory Data

Report: 935513
Project: KALAMAZOO
Group: Lead Solubility Testing - Phase 2

Tetra Tech
James Christopher
201 East Pine Street
Suite 1000
Orlando, FL 32801

Samples Received on:
05/17/2021 1156

Prepped	Analyzed	Prep Batch	Analytical Batch	Method	Analyte	Result	Units	MRL	Dilution
	05/28/21 14:05		1331205	(SM4500-PE/EPA 365.1)	Total phosphorus as P	2.1	mg/L	0.10	5
<u>J-3, Day 3 (202105170253)</u>						Sampled on 05/13/2021 0922			
SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.									
	05/28/21 16:51			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	8.0 (c)	mg/L	0.030	1
SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)									
	05/28/21 14:06		1331205	(SM4500-PE/EPA 365.1)	Total phosphorus as P	2.6	mg/L	0.10	5
<u>J-4, Day 3 (202105170254)</u>						Sampled on 05/13/2021 0952			
SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.									
	05/28/21 16:51			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	4.0 (c)	mg/L	0.030	1
SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)									
	05/28/21 14:07		1331205	(SM4500-PE/EPA 365.1)	Total phosphorus as P	1.3	mg/L	0.10	5
<u>J-5, Day 3 (202105170255)</u>						Sampled on 05/13/2021 0952			
SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.									
	05/28/21 16:51			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	5.8 (c)	mg/L	0.030	1
SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)									
	05/28/21 14:08		1331205	(SM4500-PE/EPA 365.1)	Total phosphorus as P	1.9	mg/L	0.10	5
<u>J-6, Day 3 (202105170256)</u>						Sampled on 05/13/2021 0952			
SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.									
	05/28/21 16:51			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	8.3 (c)	mg/L	0.030	1
SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)									
	05/28/21 14:09		1331205	(SM4500-PE/EPA 365.1)	Total phosphorus as P	2.7	mg/L	0.10	5
<u>J-7, Day 3 (202105170257)</u>						Sampled on 05/13/2021 1017			
SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.									
	05/28/21 16:51			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	5.8 (c)	mg/L	0.030	1
SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)									
	05/28/21 14:10		1331205	(SM4500-PE/EPA 365.1)	Total phosphorus as P	1.9	mg/L	0.10	5
<u>J-8, Day 3 (202105170258)</u>						Sampled on 05/13/2021 1017			

Rounding on totals after summation.

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Laboratory Data

Report: 935513
Project: KALAMAZOO
Group: Lead Solubility Testing - Phase 2

Tetra Tech
James Christopher
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Samples Received on:
05/17/2021 1156

Prepped	Analyzed	Prep Batch	Analytical Batch	Method	Analyte	Result	Units	MRL	Dilution
SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.									
	05/28/21 16:52			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	7.4 (c)	mg/L	0.030	1
SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)									
	05/28/21 14:11		1331205	(SM4500-PE/EPA 365.1)	Total phosphorus as P	2.4	mg/L	0.10	5
J-9, Day 3 (202105170259)						Sampled on 05/13/2021 1017			
SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.									
	05/28/21 16:52			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	11 (c)	mg/L	0.030	1
SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)									
	05/28/21 14:14		1331205	(SM4500-PE/EPA 365.1)	Total phosphorus as P	3.5	mg/L	0.10	5
J-11, Day 3 (202105170260)						Sampled on 05/13/2021 1042			
SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.									
	05/28/21 16:52			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	3.7 (c)	mg/L	0.030	1
SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)									
	05/28/21 14:17		1331205	(SM4500-PE/EPA 365.1)	Total phosphorus as P	1.2	mg/L	0.10	5
J-12, Day 3 (202105170261)						Sampled on 05/13/2021 1042			
SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.									
	05/28/21 16:52			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	8.0 (c)	mg/L	0.030	1
SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)									
	05/28/21 14:18		1331205	(SM4500-PE/EPA 365.1)	Total phosphorus as P	2.6	mg/L	0.10	5
J-13, Day 3 (202105170262)						Sampled on 05/13/2021 1042			
SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.									
	05/28/21 16:52			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	7.4 (c)	mg/L	0.030	1
SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)									
	05/28/21 14:19		1331205	(SM4500-PE/EPA 365.1)	Total phosphorus as P	2.4	mg/L	0.10	5

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Report: 935513
Project: KALAMAZOO
Group: Lead Solubility Testing - Phase 2

Tetra Tech

ICPMS Metals

Prep Batch: 1328298 Analytical Batch: 1329121

202105170213	J-2, Day 1
202105170214	J-3, Day 1
202105170215	J-4, Day 1
202105170217	J-6, Day 1
202105170218	J-7, Day 1
202105170219	J-8, Day 1
202105170221	J-11, Day 1
202105170223	J-13, Day 1
202105170237	J-0, Day 2
202105170238	J-1, Day 2
202105170239	J-2, Day 2
202105170240	J-3, Day 2
202105170241	J-4, Day 2
202105170242	J-5, Day 2

Analysis Date: 05/20/2021

Analyzed by: URDE
Analyzed by: URDE
Analyzed by: URDE
Analyzed by: URDE
Analyzed by: URDE
Analyzed by: URDE
Analyzed by: URDE
Analyzed by: URDE
Analyzed by: URDE
Analyzed by: URDE
Analyzed by: URDE
Analyzed by: URDE
Analyzed by: URDE

ICPMS Metals

Prep Batch: 1328298 Analytical Batch: 1329122

202105170243	J-6, Day 2
202105170244	J-7, Day 2
202105170245	J-8, Day 2
202105170246	J-9, Day 2
202105170247	J-11, Day 2
202105170248	J-12, Day 2
202105170249	J-13, Day 2

Analysis Date: 05/20/2021

Analyzed by: URDE
Analyzed by: URDE
Analyzed by: URDE
Analyzed by: URDE
Analyzed by: URDE
Analyzed by: URDE
Analyzed by: URDE

ICPMS Metals

Prep Batch: 1328298 Analytical Batch: 1329267

202105170211	J-0, Day 1
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Analysis Date: 05/20/2021

Analyzed by: URDE

ICPMS Metals

Prep Batch: 1328298 Analytical Batch: 1329307

202105170212	J-1, Day 1
202105170216	J-5, Day 1
202105170220	J-9, Day 1
202105170222	J-12, Day 1

Analysis Date: 05/25/2021

Analyzed by: DHX7
Analyzed by: DHX7
Analyzed by: DHX7
Analyzed by: DHX7

Total phosphorus as P (T-P)

Analytical Batch: 1330441

202105170198	J-0, Day 1
202105170199	J-1, Day 1
202105170200	J-2, Day 1
202105170201	J-3, Day 1

Analysis Date: 05/26/2021

Analyzed by: LQ3M
Analyzed by: LQ3M
Analyzed by: LQ3M
Analyzed by: LQ3M

Total phosphorus as P (T-P)

Analytical Batch: 1330617

202105170202	J-4, Day 1
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Analysis Date: 05/25/2021

Analyzed by: LQ3M

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Laboratory QC Summary

Report: 935513

Project: KALAMAZOO

Group: Lead Solubility Testing - Phase 2

Tetra Tech

202105170203	J-5, Day 1	Analyzed by: LQ3M
202105170204	J-6, Day 1	Analyzed by: LQ3M
202105170205	J-7, Day 1	Analyzed by: LQ3M
202105170206	J-8, Day 1	Analyzed by: LQ3M
202105170207	J-9, Day 1	Analyzed by: LQ3M
202105170208	J-11, Day 1	Analyzed by: LQ3M
202105170209	J-12, Day 1	Analyzed by: LQ3M
202105170210	J-13, Day 1	Analyzed by: LQ3M
202105170224	J-1, Day 2	Analyzed by: LQ3M
202105170225	J-2, Day 2	Analyzed by: LQ3M
202105170226	J-3, Day 2	Analyzed by: LQ3M
202105170227	J-4, Day 2	Analyzed by: LQ3M
202105170228	J-5, Day 2	Analyzed by: LQ3M
202105170229	J-6, Day 2	Analyzed by: LQ3M
202105170230	J-7, Day 2	Analyzed by: LQ3M
202105170231	J-8, Day 2	Analyzed by: LQ3M
202105170232	J-9, Day 2	Analyzed by: LQ3M
202105170233	J-11, Day 2	Analyzed by: LQ3M
202105170234	J-12, Day 2	Analyzed by: LQ3M

Total phosphorus as P (T-P)

Analytical Batch: 1331205

202105170235	J-13, Day 2	Analyzed by: LQ3M
202105170236	J-0, Day 2	Analyzed by: LQ3M
202105170250	J-0, Day 3	Analyzed by: LQ3M
202105170251	J-1, Day 3	Analyzed by: LQ3M
202105170252	J-2, Day 3	Analyzed by: LQ3M
202105170253	J-3, Day 3	Analyzed by: LQ3M
202105170254	J-4, Day 3	Analyzed by: LQ3M
202105170255	J-5, Day 3	Analyzed by: LQ3M
202105170256	J-6, Day 3	Analyzed by: LQ3M
202105170257	J-7, Day 3	Analyzed by: LQ3M
202105170258	J-8, Day 3	Analyzed by: LQ3M
202105170259	J-9, Day 3	Analyzed by: LQ3M
202105170260	J-11, Day 3	Analyzed by: LQ3M
202105170261	J-12, Day 3	Analyzed by: LQ3M
202105170262	J-13, Day 3	Analyzed by: LQ3M

Analysis Date: 05/28/2021

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Laboratory QC

Report: 935513
Project: KALAMAZOO
Group: Lead Solubility Testing - Phase 2

Tetra Tech

QC Type	Analyte	Native	Spiked	Recovered	Units	Yield(%)	Limits (%)	RPD Limit(%)	RPD%
ICPMS Metals by EPA 200.8									
Analytical Batch: 1329121					Analysis Date: 05/20/2021				
LCS1	Lead Total ICAP/MS		50	49.6	ug/L	99	(85-115)		
LCS2	Lead Total ICAP/MS		50	51.4	ug/L	103	(85-115)	20	3.6
MBLK	Lead Total ICAP/MS			<0.0608	ug/L				
MRL_CHK	Lead Total ICAP/MS		0.5	0.501	ug/L	100	(50-150)		
MS_202105130577	Lead Total ICAP/MS	ND	50	47.2	ug/L	94	(70-130)		
MS2_202105170218	Lead Total ICAP/MS	600	50	659	ug/L	109	(70-130)		
MSD_202105130577	Lead Total ICAP/MS	ND	50	48.1	ug/L	96	(70-130)	20	1.9
MSD2_202105170218	Lead Total ICAP/MS	600	50	657	ug/L	104	(70-130)	20	0.38
ICPMS Metals by EPA 200.8									
Analytical Batch: 1329122					Analysis Date: 05/20/2021				
LCS1	Lead Total ICAP/MS		50	51.1	ug/L	102	(85-115)		
LCS2	Lead Total ICAP/MS		50	50.8	ug/L	102	(85-115)	20	0.39
MBLK	Lead Total ICAP/MS			<0.0608	ug/L				
MRL_CHK	Lead Total ICAP/MS		0.5	0.488	ug/L	98	(50-150)		
MS_202105170243	Lead Total ICAP/MS	230	50	277	ug/L	99	(70-130)		
MS2_202105180855	Lead Total ICAP/MS	ND	50	49.0	ug/L	98	(70-130)		
MSD_202105170243	Lead Total ICAP/MS	230	50	275	ug/L	97	(70-130)	20	0.61
MSD2_202105180855	Lead Total ICAP/MS	ND	50	46.3	ug/L	93	(70-130)	20	5.8
ICPMS Metals by EPA 200.8									
Analytical Batch: 1329267					Analysis Date: 05/20/2021				
LCS1	Lead Total ICAP/MS		50	51.4	ug/L	103	(85-115)		
LCS2	Lead Total ICAP/MS		50	51.4	ug/L	103	(85-115)	20	0.0
MBLK	Lead Total ICAP/MS			<0.0608	ug/L				
MRL_CHK	Lead Total ICAP/MS		0.5	0.493	ug/L	99	(50-150)		
MS_202105170211	Lead Total ICAP/MS	3500	50	4390	ug/L	92	(70-130)		
MSD_202105170211	Lead Total ICAP/MS	3500	50	4490	ug/L	102	(70-130)	20	2.1
ICPMS Metals by EPA 200.8									
Analytical Batch: 1329307					Analysis Date: 05/25/2021				
LCS1	Lead Total ICAP/MS		50	53.7	ug/L	107	(85-115)		
LCS2	Lead Total ICAP/MS		50	49.9	ug/L	100	(85-115)	20	7.3
MBLK	Lead Total ICAP/MS			<0.0608	ug/L				
MRL_CHK	Lead Total ICAP/MS		0.5	0.551	ug/L	110	(50-150)		
MS_202105130879	Lead Total ICAP/MS	ND	50	56.8	ug/L	113	(70-130)		

Spike recovery is already corrected for native results.

Spikes which exceed Limits and Method Blanks with positive results are highlighted by Underlining.

Criteria for MS and Dup are advisory only, batch control is based on LCS. Criteria for duplicates are advisory only, unless otherwise specified in the method.

RPD not calculated for LCS2 when different a concentration than LCS1 is used.

RPD not calculated for Duplicates when the result is not five times the MRL (Minimum Reporting Level).

(S) - Indicates surrogate compound.

(I) - Indicates internal standard compound.

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Laboratory QC

Report: 935513
Project: KALAMAZOO
Group: Lead Solubility Testing - Phase 2

Tetra Tech

QC Type	Analyte	Native	Spiked	Recovered	Units	Yield(%)	Limits (%)	RPD Limit(%)	RPD%
MS2_202105180751	Lead Total ICAP/MS	ND	50	56.7	ug/L	113	(70-130)		
MSD_202105130879	Lead Total ICAP/MS	ND	50	50.5	ug/L	101	(70-130)	20	12
MSD2_202105180751	Lead Total ICAP/MS	ND	50	50.8	ug/L	102	(70-130)	20	11

Total phosphorus as P (T-P) by SM4500-PE/EPA 365.1

Analytical Batch: 1330441

Analysis Date: 05/26/2021

LCS1	Total phosphorus as P		0.4	0.416	mg/L	104	(90-110)		
LCS2	Total phosphorus as P		0.4	0.415	mg/L	104	(90-110)	20	0.24
MBLK	Total phosphorus as P			<0.0108	mg/L				
MRL_CHK	Total phosphorus as P		0.02	0.0223	mg/L	112	(50-150)		
MS_202105190195	Total phosphorus as P	ND	0.4	0.411	mg/L	103	(90-110)		
MS2_202105200189	Total phosphorus as P	ND	0.4	0.418	mg/L	103	(90-110)		
MSD_202105190195	Total phosphorus as P	ND	0.4	0.400	mg/L	100	(90-110)	20	2.8
MSD2_202105200189	Total phosphorus as P	ND	0.4	0.407	mg/L	100	(90-110)	20	2.6

Total phosphorus as P (T-P) by SM4500-PE/EPA 365.1

Analytical Batch: 1330617

Analysis Date: 05/25/2021

LCS1	Total phosphorus as P		0.4	0.415	mg/L	104	(90-110)		
LCS2	Total phosphorus as P		0.4	0.424	mg/L	106	(90-110)	20	2.1
MBLK	Total phosphorus as P			<0.0108	mg/L				
MRL_CHK	Total phosphorus as P		0.02	0.0200	mg/L	100	(50-150)		
MS_202105170202	Total phosphorus as P	0.98	0.4	NR	mg/L				
MS2_202105170225	Total phosphorus as P	1.7	0.4	NR	mg/L				
MSD_202105170202	Total phosphorus as P	0.98	0.4	NR	mg/L				
MSD2_202105170225	Total phosphorus as P	1.7	0.4	NR	mg/L				

Total phosphorus as P (T-P) by SM4500-PE/EPA 365.1

Analytical Batch: 1331205

Analysis Date: 05/28/2021

LCS1	Total phosphorus as P		0.4	0.433	mg/L	108	(90-110)		
LCS2	Total phosphorus as P		0.4	0.426	mg/L	106	(90-110)	20	1.6
MBLK	Total phosphorus as P			<0.0108	mg/L				
MRL_CHK	Total phosphorus as P		0.02	0.0287	mg/L	144	(50-150)		
MS_202105170235	Total phosphorus as P	3.3	0.4	NR	mg/L		(90-110)		
MS2_202105170258	Total phosphorus as P	2.4	0.4	NR	mg/L		(90-110)		
MSD_202105170235	Total phosphorus as P	3.3	0.4	NR	mg/L		(90-110)		
MSD2_202105170258	Total phosphorus as P	2.4	0.4	NR	mg/L		(90-110)		

Spike recovery is already corrected for native results.

Spikes which exceed Limits and Method Blanks with positive results are highlighted by Underlining.

Criteria for MS and Dup are advisory only, batch control is based on LCS. Criteria for duplicates are advisory only, unless otherwise specified in the method.

RPD not calculated for LCS2 when different a concentration than LCS1 is used.

RPD not calculated for Duplicates when the result is not five times the MRL (Minimum Reporting Level).

(S) - Indicates surrogate compound.

(I) - Indicates internal standard compound.

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Laboratory Report

for

Tetra Tech
201 East Pine Street
Suite 1000
Orlando, FL 32801
Attention: James Christopher
Fax: 407-839-3790

Date of Issue
06/08/2021

Vanessa Berry

**EUROFINS EATON
ANALYTICAL, LLC**



Utah ELCP CA00006

ZIA8: Vanessa Berry
Project Manager

Report: 936880
Project: KALAMAZOO
Group: Lead Solubility Testing - Phase 2

* Accredited in accordance with TNI 2016 and ISO/IEC 17025:2017.

* Laboratory certifies that the test results meet all **TNI 2016 and ISO/IEC 17025:2017** requirements unless noted under the individual analysis.

* Following the cover page are State Certification List, ISO 17025 Accredited Method List, Acknowledgement of Samples Received, Comments, Hits Report, Data Report, QC Summary, QC Report and Regulatory Forms, as applicable.

* Test results relate only to the sample(s) tested.

* Test results apply to the sample(s) as received, unless otherwise noted in the comments report (ISO/IEC 17025:2017).

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* This report includes ISO/IEC 17025 and non-ISO 17025 accredited methods.

STATE CERTIFICATION LIST

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Arizona	AZ0778	Nebraska	Certified
Arkansas	Certified	Nevada	CA000062018
California	2813	New Hampshire *	2959
Colorado	Certified	New Jersey *	CA 008
Connecticut	PH-0107	New Mexico	Certified
Delaware	CA 006	New York *	11320
Florida *	E871024	North Carolina	06701
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Hawaii	Certified	Pennsylvania *	68-565
Idaho	Certified	Puerto Rico	Certified
Illinois *	200033	Rhode Island	LAO00326
Indiana	C-CA-01	South Carolina	87016
Iowa - Asbestos	413	South Dakota	Certified
Kansas *	E-10268	Tennessee	TN02839
Kentucky	90107	Texas *	T104704230-18-15
Louisiana *	LA180000	Utah (Primary AB) *	CA00006
Maine	CA0006	Vermont	VT0114
Maryland	224	Virginia *	460260
Commonwealth of Northern Marianas Is.	MP0004	Washington	C838
Massachusetts	M-CA006	EPA Region 5	Certified
Michigan	9906	Los Angeles County Sanitation Districts	10264
Mississippi	Certified		

* NELAP/TNI Recognized Accreditation Bodies

ISO/IEC 17025 Accredited Method List

The tests listed below are accredited and meet the requirements of ISO/IEC 17025 as verified by the ANSI-ASQ National Accreditation Board/A2LA.
Refer to Certificate and scope of accreditation (5890) found at: <https://www.eurofinsus.com/Eaton>

SPECIFIC TESTS	METHOD OR TECHNIQUE USED	Environ-mental (Drinking Water)	Environ-mental (Waste Water)	Water as a Component of Food and Bev/Bev/ Bottled Water
1,2,3-TCP (5 PPT & 0.5 PPT)	CA SRL 524M-TCP	x		x
1,4-Dioxane	EPA 522	x		x
2,3,7,8-TCDD	Modified EPA 1613B	x		x
Acrylamide	In House Method (2440)	x		x
Algal Toxins/Microcystin	In House Method (3570)			
Alkalinity	SM 2320B	x	x	x
Ammonia	EPA 350.1		x	x
Ammonia	SM 4500-NH3 H		x	x
Anions and DBPs by IC	EPA 300.0	x	x	x
Anions and DBPs by IC	EPA 300.1	x		x
Asbestos	EPA 100.2	x	x	
BOD / CBOD	SM 5210B		x	x
Bromate	In House Method (2447)	x		x
Carbamates	EPA 531.2	x		x
Carbonate as CO3	SM 2330B	x	x	x
Carbonyls	EPA 556	x		x
COD	EPA 410.4 / SM 5220D		x	
Chloramines	SM 4500-CL G	x	x	x
Chlorinated Acids	EPA 515.4	x		x
Chlorinated Acids	EPA 555	x		x
Chlorine Dioxide	SM 4500-CLO2 D Palin Test	x		x
Chlorine -Total/Free/ Combined Residual	SM 4500-Cl G	x	x	x
Conductivity	EPA 120.1		x	
Conductivity	SM 2510B	x	x	x
Corrosivity (Langelier Index)	SM 2330B	x		x
Cyanide, Amenable	SM 4500-CN G	x	x	
Cyanide, Free	SM 4500CN F	x	x	x
Cyanide, Total	EPA 335.4	x	x	x
Cyanogen Chloride (screen)	In House Method (2470)	x		x
Diquat and Paraquat	EPA 549.2	x		x
DBP/HAA	SM 6251B	x		x
Dissolved Oxygen	SM 4500-O G		x	x
DOC	SM 5310C	x		x
E. Coli	(MTF/EC+MUG)	x		x
E. Coli	CFR 141.21(f)(6)(i)	x		x
E. Coli	SM 9223		x	
E. Coli (Enumeration)	SM 9221B.1/ SM 9221F	x		x
E. Coli (Enumeration)	SM 9223B	x		x
EDB/DCBP	EPA 504.1	x		
EDB/DBCP and DBP	EPA 551.1	x		x
EDTA and NTA	In House Method (2454)	x		x
Endothall	EPA 548.1	x		x
Endothall	In-house Method (2445)	x		x
Enterococci	SM 9230B	x	x	
Fecal Coliform	SM 9221 E (MTF/EC)	x		
Fecal Coliform	SM 9221C, E (MTF/EC)		x	
Fecal Coliform (Enumeration)	SM 9221E (MTF/EC)	x		x
Fecal Coliform with Chlorine Present	SM 9221E		x	
Fecal Streptococci	SM 9230B	x	x	
Fluoride	SM 4500-F C	x	x	x
Glyphosate	EPA 547	x		x
Glyphosate + AMPA	In House Method (3618)	x		x
Gross Alpha/Beta	EPA 900.0	x	x	x
Gross Alpha Coprecipitation	SM 7110 C	x	x	x
Hardness	SM 2340B	x	x	x
Heterotrophic Bacteria	In House Method (2439)	x		x
Heterotrophic Bacteria	SM 9215 B	x		x
Hexavalent Chromium	EPA 218.6	x	x	x

SPECIFIC TESTS	METHOD OR TECHNIQUE USED	Environ-mental (Drinking Water)	Environ-mental (Waste Water)	Water as a Component of Food and Bev/Bev/ Bottled Water
Hexavalent Chromium	EPA 218.7	x		x
Hexavalent Chromium	SM 3500-Cr B		x	
Hormones	EPA 539	x		x
Hydroxide as OH Calc.	SM 2330B	x		x
Kjeldahl Nitrogen	EPA 351.2		x	
Legionella	Legiolert	x		x
Mercury	EPA 200.8	x		x
Metals	EPA 200.7 / 200.8	x	x	x
Microcystin LR	ELISA (2360)	x		x
Microcystin, Total	EPA 546	x		x
NDMA	EEA/Agilent 521.1 In house method (2425)	x		x
Nitrate/Nitrite Nitrogen	EPA 353.2	x	x	x
OCL, Pesticides/PCB	EPA 505	x		x
Ortho Phosphate	EPA 365.1	x	x	x
Ortho Phosphorous	SM 4500P E	x		x
Oxyhalides Disinfection Byproducts	EPA 317.0	x		x
Perchlorate	EPA 331.0	x		x
Perchlorate (low and high)	EPA 314.0	x		x
Perfluorinated Alkyl Acids	EPA 537	x		x
Perfluorinated Pollutant	In house Method (2434)	x		x
pH	EPA 150.1	x		
pH	SM 4500-H+B	x	x	x
Phenylurea Pesticides/ Herbicides	In House Method, based on EPA 532 (2448)	x		x
Pseudomonas	IDEXX Pseudalert (2461)	x		x
Radium-226	GA Institute of Tech	x		x
Radium-228	GA Institute of Tech	x		x
Radon-222	SM 7500RN	x		x
Residue, Filterable	SM 2540C	x	x	x
Residue, Non-filterable	SM 2540D		x	
Residue, Total	SM 2540B		x	x
Residue, Volatile	EPA 160.4		x	
Semi-VOC	EPA 525.2	x		x
Silica	SM 4500-Si D	x	x	
Silica	SM 4500-SiO2 C	x	x	
Sulfide	SM 4500-S ⁻ D		x	
Sulfite	SM 4500-SO ³ B	x	x	x
Surfactants	SM 5540C	x	x	x
Taste and Odor Analytes	SM 6040E	x		x
Total Coliform (P/A)	SM 9221 A, B	x		x
Total Coliform (Enumeration)	SM 9221 A, B, C	x		x
Total Coliform / E. coli	Colisure SM 9223	x		x
Total Coliform	SM 9221B		x	
Total Coliform with Chlorine Present	SM 9221B		x	
Total Coliform / E.coli (P/A and Enumeration)	SM 9223	x		x
TOC	SM 5310C	x	x	x
TOX	SM 5320B		x	
Total Phenols	EPA 420.1		x	
Total Phenols	EPA 420.4	x	x	x
Total Phosphorous	SM 4500 P E		x	
Triazine Pesticides & Degradates	In House (3617)	x		x
Turbidity	EPA 180.1	x	x	x
Turbidity	SM 2130B	x	x	
Uranium by ICP/MS	EPA 200.8	x		x
UV 254	SM 5910B	x		
VOC	EPA 524.2	x		x
VOC	In House Method (2411)	x		x
Yeast and Mold	SM 9610	x		x
Field Sampling	N/A			

Acknowledgement of Samples Received

Addr: **Tetra Tech**
201 East Pine Street
Suite 1000
Orlando, FL 32801

Attn: James Christopher
Phone: 407-480-3907

Client ID: TETRATECH-ORLAN
Folder #: 936880
Project: KALAMAZOO
Sample Group: Lead Solubility Testing - Phase 2

Project Manager: Vanessa Berry
Phone: 503-310-3905

The following samples were received from you on **May 24, 2021** at **1306**. They have been scheduled for the tests listed below each sample. If this information is incorrect, please contact your service representative. Thank you for using Eurofins Eaton Analytical, LLC.

Sample #	Sample ID	Sample Date
<u>202105240353</u>	J-0, DAY 3	05/18/2021 1015
	@ICPMS	
<u>202105240354</u>	J-1, DAY 3	05/18/2021 1015
	@ICPMS	
<u>202105240355</u>	J-2, DAY 3	05/18/2021 1015
	@ICPMS	
<u>202105240356</u>	J-3, DAY 3	05/18/2021 1015
	@ICPMS	
<u>202105240357</u>	J-4, DAY 3	05/18/2021 1015
	@ICPMS	
<u>202105240358</u>	J-5, DAY 3	05/18/2021 1015
	@ICPMS	
<u>202105240359</u>	J-6, DAY 3	05/18/2021 1015
	@ICPMS	
<u>202105240360</u>	J-7, DAY 3	05/18/2021 1015
	@ICPMS	
<u>202105240361</u>	J-8, DAY 3	05/18/2021 1015
	@ICPMS	
<u>202105240362</u>	J-9, DAY 3	05/18/2021 1015
	@ICPMS	
<u>202105240363</u>	J-11, DAY 3	05/18/2021 1015
	@ICPMS	
<u>202105240364</u>	J-12, DAY 3	05/18/2021 1015
	@ICPMS	
<u>202105240365</u>	J-13, DAY 3	05/18/2021 1015
	@ICPMS	

Acknowledgement of Samples Received

Addr: **Tetra Tech**
201 East Pine Street
Suite 1000
Orlando, FL 32801

Attn: James Christopher
Phone: 407-480-3907

Client ID: TETRATECH-ORLAN
Folder #: 936880
Project: KALAMAZOO
Sample Group: Lead Solubility Testing - Phase 2

Project Manager: Vanessa Berry
Phone: 503-310-3905

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Sample #	Sample ID	Sample Date
<u>202105240366</u>	J-0. DAY 4	05/21/2021 1326
	@ICPMS	
<u>202105240367</u>	J-1. DAY 4	05/21/2021 1326
	@ICPMS	
<u>202105240368</u>	J-2. DAY 4	05/21/2021 1326
	@ICPMS	
<u>202105240369</u>	J-3. DAY 4	05/21/2021 1326
	@ICPMS	
<u>202105240370</u>	J-4. DAY 4	05/21/2021 1326
	@ICPMS	
<u>202105240371</u>	J-5. DAY 4	05/21/2021 1326
	@ICPMS	
<u>202105240372</u>	J-6. DAY 4	05/21/2021 1326
	@ICPMS	
<u>202105240373</u>	J-7. DAY 4	05/21/2021 1326
	@ICPMS	
<u>202105240374</u>	J-8. DAY 4	05/21/2021 1326
	@ICPMS	
<u>202105240375</u>	J-9. DAY 4	05/21/2021 1326
	@ICPMS	
<u>202105240376</u>	J-11. DAY 4	05/21/2021 1326
	@ICPMS	
<u>202105240377</u>	J-12. DAY 4	05/21/2021 1326
	@ICPMS	
<u>202105240378</u>	J-13. DAY 4	05/21/2021 1326
	@ICPMS	

Acknowledgement of Samples Received

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201 East Pine Street
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Orlando, FL 32801

Attn: James Christopher
Phone: 407-480-3907

Client ID: TETRATECH-ORLAN
Folder #: 936880
Project: KALAMAZOO
Sample Group: Lead Solubility Testing - Phase 2

Project Manager: Vanessa Berry
Phone: 503-310-3905

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Sample #	Sample ID	Sample Date
<u>202105240379</u>	J-0. DAY 4	05/21/2021 1034
	Total phosphorus as P Total phosphorus as PO4- Calc.	
<u>202105240380</u>	J-1. DAY 4	05/21/2021 0849
	Total phosphorus as P Total phosphorus as PO4- Calc.	
<u>202105240381</u>	J-2. DAY 4	05/21/2021 0849
	Total phosphorus as P Total phosphorus as PO4- Calc.	
<u>202105240382</u>	J-3. DAY 4	05/21/2021 0849
	Total phosphorus as P Total phosphorus as PO4- Calc.	
<u>202105240383</u>	J-4. DAY 4	05/17/2021 0911
	Total phosphorus as P Total phosphorus as PO4- Calc.	
<u>202105240384</u>	J-5. DAY 4	05/17/2021 0911
	Total phosphorus as P Total phosphorus as PO4- Calc.	
<u>202105240385</u>	J-6. DAY 4	05/17/2021 0911
	Total phosphorus as P Total phosphorus as PO4- Calc.	
<u>202105240386</u>	J-7. DAY 4	05/17/2021 1000
	Total phosphorus as P Total phosphorus as PO4- Calc.	
<u>202105240387</u>	J-8. DAY 4	05/17/2021 1000
	Total phosphorus as P Total phosphorus as PO4- Calc.	
<u>202105240388</u>	J-9. DAY 4	05/17/2021 1000
	Total phosphorus as P Total phosphorus as PO4- Calc.	
<u>202105240389</u>	J-11. DAY 4	05/17/2021 1015
	Total phosphorus as P Total phosphorus as PO4- Calc.	
<u>202105240390</u>	J-12. DAY 4	05/17/2021 1015
	Total phosphorus as P Total phosphorus as PO4- Calc.	
<u>202105240391</u>	J-13. DAY 4	05/17/2021 1015
	Total phosphorus as P Total phosphorus as PO4- Calc.	

Acknowledgement of Samples Received

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Attn: James Christopher
Phone: 407-480-3907

Client ID: TETRATECH-ORLAN
Folder #: 936880
Project: KALAMAZOO
Sample Group: Lead Solubility Testing - Phase 2

Project Manager: Vanessa Berry
Phone: 503-310-3905

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Sample #	Sample ID	Sample Date
202105240392	J-0. DAY 5	05/20/2021 1549
	Total phosphorus as P	Total phosphorus as PO4- Calc.
202105240393	J-1. DAY 5	05/20/2021 1250
	Total phosphorus as P	Total phosphorus as PO4- Calc.
202105240394	J-2. DAY 5	05/20/2021 1250
	Total phosphorus as P	Total phosphorus as PO4- Calc.
202105240395	J-3. DAY 5	05/20/2021 1250
	Total phosphorus as P	Total phosphorus as PO4- Calc.
202105240396	J-4. DAY 5	05/20/2021 1324
	Total phosphorus as P	Total phosphorus as PO4- Calc.
202105240397	J-5. DAY 5	05/20/2021 1324
	Total phosphorus as P	Total phosphorus as PO4- Calc.
202105240398	J-6. DAY 5	05/20/2021 1324
	Total phosphorus as P	Total phosphorus as PO4- Calc.
202105240399	J-7. DAY 5	05/20/2021 1351
	Total phosphorus as P	Total phosphorus as PO4- Calc.
202105240400	J-8. DAY 5	05/20/2021 1351
	Total phosphorus as P	Total phosphorus as PO4- Calc.
202105240401	J-9. DAY 5	05/20/2021 1351
	Total phosphorus as P	Total phosphorus as PO4- Calc.
202105240402	J-11. DAY 5	05/20/2021 1419
	Total phosphorus as P	Total phosphorus as PO4- Calc.
202105240403	J-12. DAY 5	05/20/2021 1419
	Total phosphorus as P	Total phosphorus as PO4- Calc.
202105240404	J-13. DAY 5	05/20/2021 1419
	Total phosphorus as P	Total phosphorus as PO4- Calc.

Acknowledgement of Samples Received

Addr: **Tetra Tech**
201 East Pine Street
Suite 1000
Orlando, FL 32801

Attn: James Christopher
Phone: 407-480-3907

Client ID: TETRATECH-ORLAN

Folder #: 936880

Project: KALAMAZOO

Sample Group: Lead Solubility Testing - Phase 2

Project Manager: Vanessa Berry

Phone: 503-310-3905

The following samples were received from you on **May 24, 2021** at **1306**. They have been scheduled for the tests listed below each sample. If this information is incorrect, please contact your service representative. Thank you for using Eurofins Eaton Analytical, LLC.

Sample #	Sample ID	Sample Date
Test Description		
@ICPMS -- ICPMS Metals		



Eaton Analytical

CHAIN OF CUSTODY RECORD

EUROFINS EATON ANALYTICAL USE ONLY:

750 Royal Oaks Drive, Suite 100
Monrovia, CA 91016-3629
Phone: 626 386 1100
Fax: 626 386 1101
800 566 LABS (800 566 5227)
Website: www.EatonAnalytical.com

TO BE COMPLETED BY SAMPLER:

COMPANY/AGENCY NAME: Tetra Tech		PROJECT CODE:		COMPLIANCE SAMPLES - Requires state forms		NON-COMPLIANCE SAMPLES REGULATION INVOLVED:	
EEA CLIENT CODE: Tetra Tech-orlan		COC ID:		Type of samples (circle one): ROUTINE SPECIAL CONFIRMATION		(eg. SDWA, NPDES, etc.)	
TAT requested: rush by adv notice only		SAMPLE GROUP: lead solubility test - phase 2		SEE ATTACHED KIT ORDER FOR ANALYSES		(check for yes), OR	
STD 1 wk 3 day 2 day 1 day		CLIENT LAB ID		List ALL ANALYSES REQUIRED (enter number of bottles sent for each test for each sample)			
SAMPLE DATE	SAMPLE TIME	SAMPLE ID	MATRIX	FIELD DATA	FIELD DATA	SAMPLER COMMENTS	
05/18/15	10:15	J-0, Day 3	#W				
		J-1,					
		J-2,					
		J-3,					
		J-4,					
		J-5,					
		J-6,					
		J-7,					
		J-8,					
		J-9,					

* MATRIX TYPES: RSW = Raw Surface Water CFW = Chlor(am)inated Finished Water SEAW = Sea Water BW = Bottled Water SO = Soil O = Other - Please Identify
RGW = Raw Ground Water FW = Other Finished Water WW = Waste Water SW = Storm Water SL = Sludge

SAMPLED BY: Ana Rosabal	PRINT NAME Ana Rosabal	COMPANY/TITLE Tetra Tech	DATE 05/21/20	TIME 13:30
RELINQUISHED BY: Chantal Brown				
RECEIVED BY: Chantal Brown				
RELINQUISHED BY:				
RECEIVED BY:				



Eaton Analytical

CHAIN OF CUSTODY RECORD

EUROFINS EATON ANALYTICAL USE ONLY:

750 Royal Oaks Drive, Suite 100
Monrovia, CA 91016-3629

Phone: 626 386 1100
Fax: 626 386 1101

800 566 LABS (800 566 5227)

Website: www.EatonAnalytical.com

LOGIN COMMENTS:

SAMPLES CHECKED AGAINST COC BY: 13

SAMPLES LOGGED IN BY: 13

SAMPLE TEMP RECEIVED AT:

☐ (Other) IR Gun ID = 666

☒ Monrovia IR Gun ID = 666

Compliance Acceptance Criteria: (Chemistry: $4 \pm 2^\circ\text{C}$) (Microbiology: $< 10^\circ\text{C}$)

TYPE OF ICE: Real ☒ Synthetic

No Ice

CONDITION OF ICE: Frozen

Partially Frozen

Thawed

N/A

METHOD OF SHIPMENT: Pick-Up / Walk-In / FedEx / UPS / DHL / Area Fast / Top Line / Other: FedEx

TO BE COMPLETED BY SAMPLER:

COMPANY/AGENCY NAME:

Tetra Tech

EEA CLIENT CODE:

Tetra Tech-h-orlan

COC ID:

13

TAT requested: rush by adv notice only

PROJECT CODE:

SAMPLE GROUP:

lead solubility test - phase 2

STD 1 wk 3 day 2 day 1 day

COMPLIANCE SAMPLES

- Requires state forms

ROUTINE SPECIAL CONFIRMATION

SEE ATTACHED KIT ORDER FOR ANALYSES

List ALL ANALYSES REQUIRED (enter number of bottles sent for each test for each sample)

(check for yes)

NON-COMPLIANCE SAMPLES

REGULATION INVOLVED:

(eg. SDWA, NPDES, etc.)

(check for yes)

SAMPLER COMMENTS

* MATRIX TYPES: RSW = Raw Surface Water
RGW = Raw Ground Water

CFW = Chlor(am)inated Finished Water
FW = Other Finished Water

SEAW = Sea Water
WW = Waste Water

BW = Bottled Water
SW = Storm Water

SO = Soil
SL = Sludge

O = Other - Please Identify

SIGNATURE

PRINT NAME

COMPANY/TITLE

DATE

TIME

SAMPLED BY:	<u>Ana Rosabal</u>	<u>Tetra Tech</u>	<u>05/21/20</u>	<u>13:30</u>
RELINQUISHED BY:	<u>Ana Rosabal</u>	<u>Tetra Tech</u>	<u>05/24/20</u>	<u>13:30</u>
RECEIVED BY:	<u>Chun Brochu</u>	<u>ETEA</u>	<u>5/24/21</u>	<u>1306</u>
RELINQUISHED BY:				
RECEIVED BY:				



Eaton Analytical

CHAIN OF CUSTODY RECORD

EUROFINS EATON ANALYTICAL USE ONLY:

750 Royal Oaks Drive, Suite 100
Monrovia, CA 91016-3629

Phone: 626 386 1100
Fax: 626 386 1101

800 566 LABS (800 566 5227)

Website: www.EatonAnalytical.com

936580

LOGIN COMMENTS: _____

SAMPLES CHECKED AGAINST COC BY: CB

SAMPLES LOGGED IN BY: _____

SAMPLE TEMP RECEIVED AT: _____ (check for yes)

☐ (Other) IR Gun ID = _____ (Observation = _____ °C) (Corr. Factor _____ °C) (Final = _____ °C)

☒ Monrovia IR Gun ID = 666 (Observation = 11.7 °C) (Corr. Factor -0.2 °C) (Final = 11.5 °C)

Compliance Acceptance Criteria: (Chemistry: 4 ± 2 °C) (Microbiology: < 10 °C)

TYPE OF ICE: Real ☒ Synthetic ☐ No Ice ☐ CONDITION OF ICE: Frozen _____ Partially Frozen _____ Thawed _____

METHOD OF SHIPMENT: Pick-Up / Walk-In / FedEx / UPS / DHL / Area Fast / Top Line / Other: _____

TO BE COMPLETED BY SAMPLER:

COMPANY/AGENCY NAME:		PROJECT CODE:		COMPLIANCE SAMPLES		NON-COMPLIANCE SAMPLES	
Tetra Tech				- Requires state forms		REGULATION INVOLVED:	
EEA CLIENT CODE:		COC ID:		Type of samples (circle one):		(eg. SDWA, NPDES, etc.)	
tetra tech - calan				ROUTINE SPECIAL CONFIRMATION			
TAT requested: rush by adv notice only		SAMPLE GROUP:		SEE ATTACHED KIT ORDER FOR ANALYSES		(check for yes) <u>OR</u>	
SAMPLE ID		CLIENT LAB ID		List ALL ANALYSES REQUIRED (enter number of bottles sent for each test for each sample)		SAMPLER COMMENTS	
SAMPLE DATE	SAMPLE TIME	MATRIX	FIELD DATA	FIELD DATA	1	2	3
05/21/13:26		FW					
J-7, Day 4							
J-8,							
J-9,							
J-11,							
J-12,							
J-13,							
J-0, Day 4							
J-1,							
J-2,							
J-3,							

* MATRIX TYPES: RSW = Raw Surface Water RGW = Raw Ground Water CFW = Chlor(am)inated Finished Water FW = Other Finished Water

SEAW = Sea Water BW = Bottled Water SO = Soil

WW = Waste Water SW = Storm Water SL = Sludge

O = Other - Please Identify

SAMPLED BY:	PRINT NAME	COMPANY/TITLE	DATE	TIME
<u>Ana Karabal</u>	Ana Karabal	Tetra Tech	05/21/20	13:30
<u>Ana Karabal</u>	Ana Karabal	Tetra Tech	05/21/20	13:30
<u>Chris Brooks</u>	Chris Brooks	CTP	5.24.21	1306
RELINQUISHED BY:				
RELINQUISHED BY:				
RECEIVED BY:				



eurofins

Eaton Analytical

750 Royal Oaks Drive, Suite 100
Monrovia, CA 91016-3629
Phone: 626 386 1100
Fax: 626 386 1101
800 566 LABS (800 566 5227)
Website: www.EatonAnalytical.com

CHAIN OF CUSTODY RECORD

EUROFINS EATON ANALYTICAL USE ONLY:

LOGIN COMMENTS: _____

SAMPLES CHECKED AGAINST COC BY: JB

SAMPLES LOGGED IN BY: JB

SAMPLE TEMP RECEIVED AT: _____

(Other) IR Gun ID = _____ (Observation = _____ °C) (check for yes)

Monrovia IR Gun ID = 616 (Observation = 11.7 °C) (Final = 11.5 °C)

Compliance Acceptance Criteria: (Chemistry: 4 ± 2 °C) (Microbiology: < 10 °C)

TYPE OF ICE: Real ☒ Synthetic ☐ No Ice ☐ CONDITION OF ICE: Frozen ☐ Partially Frozen ☐ Thawed ☐ N/A ☐

METHOD OF SHIPMENT: Pick-Up / Walk-In / FedEx / UPS / DHL / Area Fast / Top Line / Other: _____

TO BE COMPLETED BY SAMPLER:

COMPANY/AGENCY NAME:		PROJECT CODE:	COMPLIANCE SAMPLES		NON-COMPLIANCE SAMPLES	
Tetra Tech			- Requires state forms		REGULATION INVOLVED:	
EEA CLIENT CODE:	COC ID:	SAMPLE GROUP:	Type of samples (circle one):	ROUTINE	SPECIAL	CONFIRMATION
TAT requested: rush by adv notice only			SEE ATTACHED KIT ORDER FOR ANALYSES			
SAMPLE DATE	SAMPLE TIME	SAMPLE ID	CLIENT LAB ID	MATRIX	FIELD DATA	SAMPLER COMMENTS
05/17/11	10:11	J-4, Day 4		FW		
	↓	J-5,				
	↓	J-6,				
10:20	↓	J-7,				
	↓	J-8,				
	↓	J-9,				
10:15	↓	J-11,				
	↓	J-12,				
	↓	J-13,				
05/20 15:49		J-0, Day 5				

* MATRIX TYPES: RSW = Raw Surface Water
RGW = Raw Ground Water
CFW = Chlor(am)inated Finished Water
FW = Other Finished Water
SEAW = Sea Water
WW = Waste Water
BW = Bottled Water
SW = Storm Water
SO = Soil
SL = Sludge

SAMPLED BY:	RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:	SIGNATURE	PRINT NAME	COMPANY/TITLE	DATE	TIME
					<u>[Signature]</u>	Ana Rosabal	Tetra Tech	05/21/20	13:20
					<u>[Signature]</u>	Ana Rosabal	Tetra Tech	05/21/20	13:30
					<u>[Signature]</u>	Chun-Brook	CTA	5.24.21	13:06



Eaton Analytical

CHAIN OF CUSTODY RECORD

EUROFINS EATON ANALYTICAL USE ONLY:

750 Royal Oaks Drive, Suite 100
Monrovia, CA 91016-3629
Phone: 626 386 1100
Fax: 626 386 1101
800 566 LABS (800 566 5227)
Website: www.EatonAnalytical.com

LOGIN COMMENTS:

SAMPLES CHECKED AGAINST COC BY: 13

SAMPLES LOGGED IN BY: 2

SAMPLE TEMP RECEIVED AT:

☐ (Other) IR Gun ID =

☒ Monrovia IR Gun ID = 616

(Observation = 11.7 °C) (Final = 11.5 °C)

(Observation = 11.7 °C) (Final = 11.5 °C)

Compliance Acceptance Criteria: (Chemistry: 4 ± 2 °C) (Microbiology: < 10 °C)

TYPE OF ICE: Real ☒ Synthetic ☐ No Ice ☐

CONDITION OF ICE: Frozen ☐ Partially Frozen ☒ Thawed ☐ N/A ☐

METHOD OF SHIPMENT: Pick-Up / Walk-In / FedEx / UPS / DHL / Area Fast / Top Line / Other: FedEx

TO BE COMPLETED BY SAMPLER:

COMPANY/AGENCY NAME:		PROJECT CODE:		COMPLIANCE SAMPLES		NON-COMPLIANCE SAMPLES	
Tetra Tech				- Requires state forms		REGULATION INVOLVED:	
EEA CLIENT CODE:		COC ID:		Type of samples (circle one):		(eg. SDWA, NPDES, etc.)	
Tetra tech - orlan				ROUTINE SPECIAL CONFIRMATION			
TAT requested: rush by adv notice only		SAMPLE GROUP:		SEE ATTACHED KIT ORDER FOR ANALYSES		(check for yes), <u>OR</u>	
SAMPLE DATE		SAMPLE ID		List ALL ANALYSES REQUIRED (enter number of bottles sent for each test for each sample)		SAMPLER COMMENTS	
SAMPLE TIME		CLIENT LAB ID					
05/20	12:50	J-1, Days					
	13:20	J-2,					
	13:20	J-3,					
	13:51	J-4,					
	14:19	J-5,					
		J-6,					
		J-7,					
		J-8,					
		J-9,					
		J-11,					

* MATRIX TYPES: RSW = Raw Surface Water RGW = Raw Ground Water CFW = Chlor(am)inated Finished Water FW = Other Finished Water
SEAW = Sea Water BW = Bottled Water SO = Soil WW = Waste Water SW = Storm Water SL = Sludge

SAMPLED BY:	PRINT NAME	COMPANY/TITLE	DATE	TIME
RELINQUISHED BY:	Ana Rosabal	Tetra Tech	05/21/20	13:30
RECEIVED BY:	Ana Rosabal	Tetra Tech	05/21/20	13:30
RELINQUISHED BY:	Chris Brooker	Tetra Tech	5.24.21	1306
RECEIVED BY:				



Eaton Analytical

CHAIN OF CUSTODY RECORD

EUROFINS EATON ANALYTICAL USE ONLY:

750 Royal Oaks Drive, Suite 100
Monrovia, CA 91016-3629
Phone: 626 386 1100
Fax: 626 386 1101
800 566 LABS (800 566 5227)
Website: www.EatonAnalytical.com

LOGIN COMMENTS:

SAMPLES CHECKED AGAINST COC BY: 936880

750 Royal Oaks Drive, Suite 100
Monrovia, CA 91016-3629

Phone: 626 386 1100
Fax: 626 386 1101

800 566 LABS (800 566 5227)

Website: www.EatonAnalytical.com

SAMPLE TEMP RECEIVED AT:

☐ (Other) IR Gun ID =

(Observation =

°C) (Final =

SAMPLES REC'D DAY OF COLLECTION? ☐ (check for yes)

°C) (Final =

°C) (Final =

☒ Monrovia

IR Gun ID =

(Observation =

°C) (Final =

Compliance Acceptance Criteria: (Chemistry: 4 ± 2 °C) (Microbiology: < 10°C)

TYPE OF ICE: Real ☒ Synthetic

No Ice

CONDITION OF ICE: Frozen

Partially Frozen

Thawed

N/A

METHOD OF SHIPMENT: Pick-Up / Walk-In / DHL / UPS / FedEx / Area Fast / Top Line / Other:

TO BE COMPLETED BY SAMPLER:

COMPANY/AGENCY NAME:

PROJECT CODE:

SAMPLE GROUP:

COMPLIANCE SAMPLES

NON-COMPLIANCE SAMPLES

REGULATION INVOLVED:

(check for yes)

(check for yes)

(check for yes)

(check for yes)

(check for yes)

(check for yes)

Tetra Tech

EEA CLIENT CODE:

COC ID:

SAMPLE GROUP:

lead solubility test, phase 2

COMPLIANCE SAMPLES

NON-COMPLIANCE SAMPLES

REGULATION INVOLVED:

(check for yes)

(check for yes)

(check for yes)

(check for yes)

(check for yes)

(check for yes)

TAT requested: rush by adv notice only

STD 1 wk 3 day 2 day 1 day

SAMPLE DATE

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SAMPLE DATE

SAMPLE TIME

SAMPLE ID

CLIENT LAB ID



eurofins

Eaton Analytical

EEA Folder Number:

INTERNAL CHAIN OF CUSTODY RECORD

SAMPLE TEMP RECEIVED:

Note: If samples are out of temperature range, let the ASMs know. ASMs will determine whether to proceed with analysis or not.

SAMPLES REC'D DAY OF COLLECTION?		Yes / No
1	2	
3	4	
5	6	
7	8	
9	10	
11	12	
13	14	
15	16	
17	18	
19	20	
21	22	
23	24	
25	26	
27	28	
29	30	
31	32	
33	34	
35	36	
37	38	
39	40	
41	42	
43	44	
45	46	
47	48	
49	50	
51	52	
53	54	
55	56	
57	58	
59	60	
61	62	
63	64	
65	66	
67	68	
69	70	
71	72	
73	74	
75	76	
77	78	
79	80	
81	82	
83	84	
85	86	
87	88	
89	90	
91	92	
93	94	
95	96	
97	98	
99	100	

IR Gun ID = 1616 (Observation = 11.7 °C) (Corr. Factor = 0.2 °C) (Final = 11.5 °C)

TYPE OF ICE:	Synthetic	No Ice	CONDITION OF ICE:	Frozen	Partially Frozen	Thawed	N/A
TYPE OF ICE: Real	<input checked="" type="checkbox"/>	<input type="checkbox"/>	CONDITION OF ICE:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

METHOD OF SHIPMENT: Pick-Up / Walk-In / FedEx / UPS / DHL / Area Fast / Top Line / Other: _____

Compliance Acceptance Criteria:

- 1) Chemistry: >0 , $\leq 6^{\circ}\text{C}$, not frozen (NELAP) (if received after 24 hrs of sample collection)
- 2) Microbiology, Distribution: $< 10^{\circ}\text{C}$, not frozen (can be $\geq 10^{\circ}\text{C}$ if received on ice the same day as sample collection, within 8 hours)
- 3) Microbiology, Surface Water: $< 10^{\circ}\text{C}$ (if received after 2 hours of sample collection)

If out of temperature range for both Chemistry and Microbiology samples and temperature does not confirm, then measure the temperature of each quadrant and record each temperature of the quadrants

1 = (Observation= <u>119</u> °C) (Corr Factor _____ °C) (Final = _____ °C)	2 = (Observation= <u>117</u> °C) (Corr Factor _____ °C) (Final = _____ °C)
3 = (Observation= <u>117</u> °C) (Corr Factor _____ °C) (Final = _____ °C)	4 = (Observation= <u>118</u> °C) (Corr Factor _____ °C) (Final = _____ °C)

- 4 Dioxin (1613 or 2,3,7,8 TCDD): must be between 0-4 °C, not frozen (if received after 24 hrs of sample collection)
- 5) pH Check. Manufacturer: _____ Lot Number: _____ pH strip type: 0 - 14 or _____ Expiration Date: _____ Results: _____
- 6) Chlorine check. Manufacturer: Sansafe. Lot No.: _____ Expiration Date: _____ Results: _____

7) VOA and Radon Headspace:

No Samples with Headspace:

Samples with Headspace (see below):

Headspace Documentation (use additional VOC and Radon Internal COFC for additional bottles)

Exempt from headspace concerns: Methods 515.4, HAA(6251.552), 505, SPME, @CH, 532LCMS, 556, 536, Anatoxin, LCMS methods using 40 ml vials, International clients:

[illegible]

Note Sample IDs which have dissimilar headspace (i.e. potential sampling errors):

RECEIVED BY	SIGNATURE	PRINT NAME	COMPANY/TITLE	DATE	TIME
	<i>Chava Brooker</i>	<i>Chava Brooker</i>	Eurofins Eaton Analytical	5.24.21	1306

750 Royal Oaks Drive, Suite 100
Monrovia, California 91016-3629
(626) 386-1100 FAX (866) 988-3757

Created Date & Time: 4/23/2021 1:42:32PM

Note: Sampler Please return this paper with your samples

Client ID: TETRATECH-ORLAN

Kit #: 289256

Created By: - [AutoGenerated]
Deliver By: 05/10/2021
STG: Bottle Orders
Ice Type: W

Project Code: KALAMAZOO Bottle Orders
Group Name: Lead Solubility Testing - Phase 2
PO#/JOB#:
Description: Every 1 week on Mon

Ship Sample Kits to
Tetra Tech
201 East Pine Street
Suite 1000
Orlando, FL 32801
Attn: James Christopher
Phone: 407-480-3907
Fax: 407-839-3790

Send Report to
Tetra Tech
201 East Pine Street
Suite 1000
Orlando, FL 32801
Attn: James Christopher
Phone: 407-480-3907
Fax: 407-839-3790

Billing Address
Tetra Tech
201 East Pine Street
Suite 1000
Orlando, FL 32801
Attn: James Christopher
Phone: 407-480-3907
Fax: 407-839-3790

# of Sample Tests	Bottle Qty - Type [preservative information]	Total	UN DOT #
26 Total phosphorus as P	1 - 250ml poly [0.5 ml H2SO4 (50%)]	26	UN1830
26 @ICPMS	1 - 250ml poly [no preservative]	26	
Sum Tests: 52		Sum Bottles: 52	
Comments			
include return shipping labels COCs			

Tel: (626) 386-1100
Fax: (866) 988-3757
1 800 566 LABS (1 800 566 5227)

Laboratory Comments**Report:** 936880**Project:** KALAMAZOO**Group:** Lead Solubility Testing - Phase 2

Tetra Tech
James Christopher
201 East Pine Street
Suite 1000
Orlando, FL 32801

Flags Legend:

M1 - Matrix spike recovery was high; the associated blank spike recovery was acceptable.

M2 - Matrix spike recovery was low; the associated blank spike recovery was acceptable.

Tel: (626) 386-1100
Fax: (866) 988-3757
1 800 566 LABS (1 800 566 5227)

Laboratory Hits

Report: 936880
Project: KALAMAZOO
Group: Lead Solubility Testing - Phase 2

Tetra Tech
James Christopher
201 East Pine Street
Suite 1000
Orlando, FL 32801

Samples Received on:
05/24/2021 1306

Analyzed	Analyte	Sample ID	Result	Federal MCL	Units	MRL
06/02/2021 17:10	202105240353 Lead Total ICAP/MS	<u>J-0, DAY 3</u>	260	15	ug/L	0.50
06/02/2021 17:13	202105240354 Lead Total ICAP/MS	<u>J-1, DAY 3</u>	460	15	ug/L	0.50
06/02/2021 17:16	202105240355 Lead Total ICAP/MS	<u>J-2, DAY 3</u>	400	15	ug/L	0.50
06/02/2021 17:19	202105240356 Lead Total ICAP/MS	<u>J-3, DAY 3</u>	320	15	ug/L	0.50
06/02/2021 17:22	202105240357 Lead Total ICAP/MS	<u>J-4, DAY 3</u>	220	15	ug/L	0.50
06/02/2021 17:31	202105240358 Lead Total ICAP/MS	<u>J-5, DAY 3</u>	270	15	ug/L	0.50
06/02/2021 17:42	202105240359 Lead Total ICAP/MS	<u>J-6, DAY 3</u>	300	15	ug/L	0.50
06/02/2021 17:45	202105240360 Lead Total ICAP/MS	<u>J-7, DAY 3</u>	310	15	ug/L	0.50
06/02/2021 17:48	202105240361 Lead Total ICAP/MS	<u>J-8, DAY 3</u>	250	15	ug/L	0.50
06/02/2021 17:51	202105240362 Lead Total ICAP/MS	<u>J-9, DAY 3</u>	200	15	ug/L	0.50
06/02/2021 17:54	202105240363 Lead Total ICAP/MS	<u>J-11, DAY 3</u>	330	15	ug/L	0.50
06/02/2021 17:57	202105240364 Lead Total ICAP/MS	<u>J-12, DAY 3</u>	300	15	ug/L	0.50
06/02/2021 18:00	202105240365 Lead Total ICAP/MS	<u>J-13, DAY 3</u>	250	15	ug/L	0.50
06/02/2021 18:03	202105240366 Lead Total ICAP/MS	<u>J-0, DAY 4</u>	190	15	ug/L	0.50
06/02/2021 18:27	202105240367 Lead Total ICAP/MS	<u>J-1, DAY 4</u>	300	15	ug/L	0.50
	202105240368	<u>J-2, DAY 4</u>				

SUMMARY OF POSITIVE DATA ONLY

Tel: (626) 386-1100
Fax: (866) 988-3757
1 800 566 LABS (1 800 566 5227)

Laboratory Hits

Report: 936880
Project: KALAMAZOO
Group: Lead Solubility Testing - Phase 2

Tetra Tech
James Christopher
201 East Pine Street
Suite 1000
Orlando, FL 32801

Samples Received on:
05/24/2021 1306

Analyzed	Analyte	Sample ID	Result	Federal MCL	Units	MRL
06/02/2021 18:36	Lead Total ICAP/MS		320	15	ug/L	0.50
	202105240369	<u>J-3. DAY 4</u>				
06/02/2021 18:38	Lead Total ICAP/MS		200	15	ug/L	0.50
	202105240370	<u>J-4. DAY 4</u>				
06/02/2021 18:41	Lead Total ICAP/MS		160	15	ug/L	0.50
	202105240371	<u>J-5. DAY 4</u>				
06/02/2021 18:44	Lead Total ICAP/MS		160	15	ug/L	0.50
	202105240372	<u>J-6. DAY 4</u>				
06/02/2021 18:47	Lead Total ICAP/MS		320	15	ug/L	0.50
	202105240373	<u>J-7. DAY 4</u>				
06/02/2021 18:56	Lead Total ICAP/MS		290	15	ug/L	0.50
	202105240374	<u>J-8. DAY 4</u>				
06/02/2021 18:59	Lead Total ICAP/MS		180	15	ug/L	0.50
	202105240375	<u>J-9. DAY 4</u>				
06/02/2021 19:02	Lead Total ICAP/MS		160	15	ug/L	0.50
	202105240376	<u>J-11. DAY 4</u>				
06/02/2021 19:05	Lead Total ICAP/MS		200	15	ug/L	0.50
	202105240377	<u>J-12. DAY 4</u>				
06/02/2021 19:08	Lead Total ICAP/MS		160	15	ug/L	0.50
	202105240378	<u>J-13. DAY 4</u>				
06/02/2021 19:17	Lead Total ICAP/MS		280	15	ug/L	0.50
	202105240380	<u>J-1. DAY 4</u>				
06/04/2021 12:56	Total phosphorus as P		1.3		mg/L	0.10
06/04/2021 15:23	Total phosphorus as PO4- Calc.		4.0		mg/L	0.030
	202105240381	<u>J-2. DAY 4</u>				
06/04/2021 12:57	Total phosphorus as P		1.7		mg/L	0.10
06/04/2021 15:23	Total phosphorus as PO4- Calc.		5.2		mg/L	0.030
	202105240382	<u>J-3. DAY 4</u>				
06/04/2021 12:58	Total phosphorus as P		2.6		mg/L	0.10
06/04/2021 15:23	Total phosphorus as PO4- Calc.		8.0		mg/L	0.030
	202105240383	<u>J-4. DAY 4</u>				

SUMMARY OF POSITIVE DATA ONLY

Tel: (626) 386-1100
Fax: (866) 988-3757
1 800 566 LABS (1 800 566 5227)

Laboratory Hits

Report: 936880
Project: KALAMAZOO
Group: Lead Solubility Testing - Phase 2

Tetra Tech
James Christopher
201 East Pine Street
Suite 1000
Orlando, FL 32801

Samples Received on:
05/24/2021 1306

Analyzed	Analyte	Sample ID	Result	Federal MCL	Units	MRL
06/02/2021 13:55	Total phosphorus as P		1.2		mg/L	0.10
06/02/2021 16:45	Total phosphorus as PO4- Calc.		3.7		mg/L	0.030
	202105240384	<u>J-5. DAY 4</u>				
06/02/2021 13:56	Total phosphorus as P		2.0		mg/L	0.10
06/02/2021 16:45	Total phosphorus as PO4- Calc.		6.1		mg/L	0.030
	202105240385	<u>J-6. DAY 4</u>				
06/02/2021 13:56	Total phosphorus as P		2.4		mg/L	0.10
06/02/2021 16:45	Total phosphorus as PO4- Calc.		7.4		mg/L	0.030
	202105240386	<u>J-7. DAY 4</u>				
06/02/2021 13:57	Total phosphorus as P		1.5		mg/L	0.10
06/02/2021 16:45	Total phosphorus as PO4- Calc.		4.6		mg/L	0.030
	202105240387	<u>J-8. DAY 4</u>				
06/02/2021 13:58	Total phosphorus as P		2.4		mg/L	0.10
06/02/2021 16:45	Total phosphorus as PO4- Calc.		7.4		mg/L	0.030
	202105240388	<u>J-9. DAY 4</u>				
06/02/2021 13:59	Total phosphorus as P		3.4		mg/L	0.10
06/02/2021 16:46	Total phosphorus as PO4- Calc.		10		mg/L	0.030
	202105240389	<u>J-11. DAY 4</u>				
06/04/2021 12:33	Total phosphorus as P		1.0		mg/L	0.10
06/04/2021 15:21	Total phosphorus as PO4- Calc.		3.1		mg/L	0.030
	202105240390	<u>J-12. DAY 4</u>				
06/04/2021 12:36	Total phosphorus as P		2.0		mg/L	0.10
06/04/2021 15:21	Total phosphorus as PO4- Calc.		6.1		mg/L	0.030
	202105240391	<u>J-13. DAY 4</u>				
06/04/2021 12:37	Total phosphorus as P		2.0		mg/L	0.10
06/04/2021 15:21	Total phosphorus as PO4- Calc.		6.1		mg/L	0.030
	202105240392	<u>J-0. DAY 5</u>				
06/04/2021 12:55	Total phosphorus as P		2.2		mg/L	0.10
06/04/2021 15:23	Total phosphorus as PO4- Calc.		6.8		mg/L	0.030
	202105240393	<u>J-1. DAY 5</u>				
06/04/2021 12:38	Total phosphorus as P		3.5		mg/L	0.10
06/04/2021 15:21	Total phosphorus as PO4- Calc.		11		mg/L	0.030
	202105240394	<u>J-2. DAY 5</u>				

SUMMARY OF POSITIVE DATA ONLY

Tel: (626) 386-1100
Fax: (866) 988-3757
1 800 566 LABS (1 800 566 5227)

Laboratory Hits

Report: 936880
Project: KALAMAZOO
Group: Lead Solubility Testing - Phase 2

Tetra Tech
James Christopher
201 East Pine Street
Suite 1000
Orlando, FL 32801

Samples Received on:
05/24/2021 1306

Analyzed	Analyte	Sample ID	Result	Federal MCL	Units	MRL
06/04/2021 12:41	Total phosphorus as P		4.0		mg/L	0.10
06/04/2021 15:21	Total phosphorus as PO4- Calc.		12		mg/L	0.030
	202105240395	<u>J-3. DAY 5</u>				
06/04/2021 12:42	Total phosphorus as P		4.5		mg/L	0.10
06/04/2021 15:21	Total phosphorus as PO4- Calc.		14		mg/L	0.030
	202105240396	<u>J-4. DAY 5</u>				
06/04/2021 12:43	Total phosphorus as P		3.8		mg/L	0.10
06/04/2021 15:21	Total phosphorus as PO4- Calc.		12		mg/L	0.030
	202105240397	<u>J-5. DAY 5</u>				
06/04/2021 12:44	Total phosphorus as P		4.5		mg/L	0.10
06/04/2021 15:21	Total phosphorus as PO4- Calc.		14		mg/L	0.030
	202105240398	<u>J-6. DAY 5</u>				
06/04/2021 12:44	Total phosphorus as P		4.6		mg/L	0.10
06/04/2021 15:21	Total phosphorus as PO4- Calc.		14		mg/L	0.030
	202105240399	<u>J-7. DAY 5</u>				
06/04/2021 12:45	Total phosphorus as P		4.6		mg/L	0.10
06/04/2021 15:21	Total phosphorus as PO4- Calc.		14		mg/L	0.030
	202105240400	<u>J-8. DAY 5</u>				
06/04/2021 12:46	Total phosphorus as P		4.2		mg/L	0.10
06/04/2021 15:21	Total phosphorus as PO4- Calc.		13		mg/L	0.030
	202105240401	<u>J-9. DAY 5</u>				
06/04/2021 12:49	Total phosphorus as P		5.5		mg/L	0.20
06/04/2021 15:22	Total phosphorus as PO4- Calc.		17		mg/L	0.030
	202105240402	<u>J-11. DAY 5</u>				
06/04/2021 12:52	Total phosphorus as P		3.2		mg/L	0.10
06/04/2021 15:23	Total phosphorus as PO4- Calc.		9.8		mg/L	0.030
	202105240403	<u>J-12. DAY 5</u>				
06/04/2021 12:53	Total phosphorus as P		3.9		mg/L	0.10
06/04/2021 15:23	Total phosphorus as PO4- Calc.		12		mg/L	0.030
	202105240404	<u>J-13. DAY 5</u>				
06/04/2021 12:54	Total phosphorus as P		4.5		mg/L	0.10
06/04/2021 15:23	Total phosphorus as PO4- Calc.		14		mg/L	0.030

SUMMARY OF POSITIVE DATA ONLY

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Laboratory Data

Report: 936880
Project: KALAMAZOO
Group: Lead Solubility Testing - Phase 2

Tetra Tech
James Christopher
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Samples Received on:
05/24/2021 1306

Prepped	Analyzed	Prep Batch	Analytical Batch	Method	Analyte	Result	Units	MRL	Dilution
<u>J-0, DAY 3 (202105240353)</u>						Sampled on 05/18/2021 1015			
EPA 200.8 - ICPMS Metals									
05/24/21	06/02/21 17:10	1329969	1331258	(EPA 200.8)	Lead Total ICAP/MS	260	ug/L	0.50	1
<u>J-1, DAY 3 (202105240354)</u>						Sampled on 05/18/2021 1015			
EPA 200.8 - ICPMS Metals									
05/24/21	06/02/21 17:13	1329969	1331258	(EPA 200.8)	Lead Total ICAP/MS	460	ug/L	0.50	1
<u>J-2, DAY 3 (202105240355)</u>						Sampled on 05/18/2021 1015			
EPA 200.8 - ICPMS Metals									
05/24/21	06/02/21 17:16	1329969	1331258	(EPA 200.8)	Lead Total ICAP/MS	400	ug/L	0.50	1
<u>J-3, DAY 3 (202105240356)</u>						Sampled on 05/18/2021 1015			
EPA 200.8 - ICPMS Metals									
05/24/21	06/02/21 17:19	1329969	1331258	(EPA 200.8)	Lead Total ICAP/MS	320	ug/L	0.50	1
<u>J-4, DAY 3 (202105240357)</u>						Sampled on 05/18/2021 1015			
EPA 200.8 - ICPMS Metals									
05/24/21	06/02/21 17:22	1329969	1331258	(EPA 200.8)	Lead Total ICAP/MS	220 (M1)	ug/L	0.50	1
<u>J-5, DAY 3 (202105240358)</u>						Sampled on 05/18/2021 1015			
EPA 200.8 - ICPMS Metals									
05/24/21	06/02/21 17:31	1329969	1331258	(EPA 200.8)	Lead Total ICAP/MS	270	ug/L	0.50	1
<u>J-6, DAY 3 (202105240359)</u>						Sampled on 05/18/2021 1015			
EPA 200.8 - ICPMS Metals									
05/24/21	06/02/21 17:42	1329969	1331258	(EPA 200.8)	Lead Total ICAP/MS	300	ug/L	0.50	1
<u>J-7, DAY 3 (202105240360)</u>						Sampled on 05/18/2021 1015			
EPA 200.8 - ICPMS Metals									
05/24/21	06/02/21 17:45	1329969	1331258	(EPA 200.8)	Lead Total ICAP/MS	310	ug/L	0.50	1
<u>J-8, DAY 3 (202105240361)</u>						Sampled on 05/18/2021 1015			
EPA 200.8 - ICPMS Metals									
05/24/21	06/02/21 17:48	1329969	1331258	(EPA 200.8)	Lead Total ICAP/MS	250	ug/L	0.50	1
<u>J-9, DAY 3 (202105240362)</u>						Sampled on 05/18/2021 1015			
EPA 200.8 - ICPMS Metals									

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Samples Received on:
05/24/2021 1306

Prepped	Analyzed	Prep Batch	Analytical Batch	Method	Analyte	Result	Units	MRL	Dilution
05/24/21	06/02/21 17:51	1329969	1331258	(EPA 200.8)	Lead Total ICAP/MS	200	ug/L	0.50	1
<u>J-11. DAY 3 (202105240363)</u>						Sampled on 05/18/2021 1015			
EPA 200.8 - ICPMS Metals									
05/24/21	06/02/21 17:54	1329969	1331258	(EPA 200.8)	Lead Total ICAP/MS	330	ug/L	0.50	1
<u>J-12. DAY 3 (202105240364)</u>						Sampled on 05/18/2021 1015			
EPA 200.8 - ICPMS Metals									
05/24/21	06/02/21 17:57	1329969	1331258	(EPA 200.8)	Lead Total ICAP/MS	300	ug/L	0.50	1
<u>J-13. DAY 3 (202105240365)</u>						Sampled on 05/18/2021 1015			
EPA 200.8 - ICPMS Metals									
05/24/21	06/02/21 18:00	1329969	1331258	(EPA 200.8)	Lead Total ICAP/MS	250	ug/L	0.50	1
<u>J-0. DAY 4 (202105240366)</u>						Sampled on 05/21/2021 1326			
EPA 200.8 - ICPMS Metals									
05/24/21	06/02/21 18:03	1329969	1331258	(EPA 200.8)	Lead Total ICAP/MS	190	ug/L	0.50	1
<u>J-1. DAY 4 (202105240367)</u>						Sampled on 05/21/2021 1326			
EPA 200.8 - ICPMS Metals									
05/24/21	06/02/21 18:27	1329969	1331259	(EPA 200.8)	Lead Total ICAP/MS	300 (M2)	ug/L	0.50	1
<u>J-2. DAY 4 (202105240368)</u>						Sampled on 05/21/2021 1326			
EPA 200.8 - ICPMS Metals									
05/24/21	06/02/21 18:36	1329969	1331259	(EPA 200.8)	Lead Total ICAP/MS	320	ug/L	0.50	1
<u>J-3. DAY 4 (202105240369)</u>						Sampled on 05/21/2021 1326			
EPA 200.8 - ICPMS Metals									
05/24/21	06/02/21 18:38	1329969	1331259	(EPA 200.8)	Lead Total ICAP/MS	200	ug/L	0.50	1
<u>J-4. DAY 4 (202105240370)</u>						Sampled on 05/21/2021 1326			
EPA 200.8 - ICPMS Metals									
05/24/21	06/02/21 18:41	1329969	1331259	(EPA 200.8)	Lead Total ICAP/MS	160	ug/L	0.50	1
<u>J-5. DAY 4 (202105240371)</u>						Sampled on 05/21/2021 1326			
EPA 200.8 - ICPMS Metals									
05/24/21	06/02/21 18:44	1329969	1331259	(EPA 200.8)	Lead Total ICAP/MS	160	ug/L	0.50	1
<u>J-6. DAY 4 (202105240372)</u>						Sampled on 05/21/2021 1326			

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Samples Received on:
05/24/2021 1306

Prepped	Analyzed	Prep Batch	Analytical Batch	Method	Analyte	Result	Units	MRL	Dilution
EPA 200.8 - ICPMS Metals									
05/24/21	06/02/21 18:47	1329969	1331259	(EPA 200.8)	Lead Total ICAP/MS	320	ug/L	0.50	1
J-7. DAY 4 (202105240373)						Sampled on 05/21/2021 1326			
EPA 200.8 - ICPMS Metals									
05/24/21	06/02/21 18:56	1329969	1331259	(EPA 200.8)	Lead Total ICAP/MS	290	ug/L	0.50	1
J-8. DAY 4 (202105240374)						Sampled on 05/21/2021 1326			
EPA 200.8 - ICPMS Metals									
05/24/21	06/02/21 18:59	1329969	1331259	(EPA 200.8)	Lead Total ICAP/MS	180	ug/L	0.50	1
J-9. DAY 4 (202105240375)						Sampled on 05/21/2021 1326			
EPA 200.8 - ICPMS Metals									
05/24/21	06/02/21 19:02	1329969	1331259	(EPA 200.8)	Lead Total ICAP/MS	160	ug/L	0.50	1
J-11. DAY 4 (202105240376)						Sampled on 05/21/2021 1326			
EPA 200.8 - ICPMS Metals									
05/24/21	06/02/21 19:05	1329969	1331259	(EPA 200.8)	Lead Total ICAP/MS	200	ug/L	0.50	1
J-12. DAY 4 (202105240377)						Sampled on 05/21/2021 1326			
EPA 200.8 - ICPMS Metals									
05/24/21	06/02/21 19:08	1329969	1331259	(EPA 200.8)	Lead Total ICAP/MS	160	ug/L	0.50	1
J-13. DAY 4 (202105240378)						Sampled on 05/21/2021 1326			
EPA 200.8 - ICPMS Metals									
05/24/21	06/02/21 19:17	1329969	1331259	(EPA 200.8)	Lead Total ICAP/MS	280	ug/L	0.50	1
J-0. DAY 4 (202105240379)						Sampled on 05/21/2021 1034			
SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.									
	06/04/21 15:23			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	ND (c)	mg/L	0.030	1
SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)									
	06/04/21 12:56		1332571	(SM4500-PE/EPA 365.1)	Total phosphorus as P	ND	mg/L	0.10	5
J-1. DAY 4 (202105240380)						Sampled on 05/21/2021 0849			
SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.									
	06/04/21 15:23			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	4.0 (c)	mg/L	0.030	1
SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)									

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Prepped	Analyzed	Prep Batch	Analytical Batch	Method	Analyte	Result	Units	MRL	Dilution
	06/04/21 12:56		1332571	(SM4500-PE/EPA 365.1)	Total phosphorus as P	1.3	mg/L	0.10	5
<u>J-2. DAY 4 (202105240381)</u>						Sampled on 05/21/2021 0849			
SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.									
	06/04/21 15:23			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	5.2 (c)	mg/L	0.030	1
SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)									
	06/04/21 12:57		1332571	(SM4500-PE/EPA 365.1)	Total phosphorus as P	1.7	mg/L	0.10	5
<u>J-3. DAY 4 (202105240382)</u>						Sampled on 05/21/2021 0849			
SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.									
	06/04/21 15:23			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	8.0 (c)	mg/L	0.030	1
SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)									
	06/04/21 12:58		1332571	(SM4500-PE/EPA 365.1)	Total phosphorus as P	2.6	mg/L	0.10	5
<u>J-4. DAY 4 (202105240383)</u>						Sampled on 05/17/2021 0911			
SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.									
	06/02/21 16:45			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	3.7 (c)	mg/L	0.030	1
SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)									
	06/02/21 13:55		1331971	(SM4500-PE/EPA 365.1)	Total phosphorus as P	1.2	mg/L	0.10	5
<u>J-5. DAY 4 (202105240384)</u>						Sampled on 05/17/2021 0911			
SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.									
	06/02/21 16:45			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	6.1 (c)	mg/L	0.030	1
SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)									
	06/02/21 13:56		1331971	(SM4500-PE/EPA 365.1)	Total phosphorus as P	2.0	mg/L	0.10	5
<u>J-6. DAY 4 (202105240385)</u>						Sampled on 05/17/2021 0911			
SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.									
	06/02/21 16:45			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	7.4 (c)	mg/L	0.030	1
SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)									
	06/02/21 13:56		1331971	(SM4500-PE/EPA 365.1)	Total phosphorus as P	2.4	mg/L	0.10	5
<u>J-7. DAY 4 (202105240386)</u>						Sampled on 05/17/2021 1000			

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Tetra Tech
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Orlando, FL 32801

Samples Received on:
05/24/2021 1306

Prepped	Analyzed	Prep Batch	Analytical Batch	Method	Analyte	Result	Units	MRL	Dilution
SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.									
	06/02/21 16:45			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	4.6 (c)	mg/L	0.030	1
SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)									
	06/02/21 13:57		1331971	(SM4500-PE/EPA 365.1)	Total phosphorus as P	1.5	mg/L	0.10	5
J-8. DAY 4 (202105240387)						Sampled on 05/17/2021 1000			
SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.									
	06/02/21 16:45			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	7.4 (c)	mg/L	0.030	1
SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)									
	06/02/21 13:58		1331971	(SM4500-PE/EPA 365.1)	Total phosphorus as P	2.4	mg/L	0.10	5
J-9. DAY 4 (202105240388)						Sampled on 05/17/2021 1000			
SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.									
	06/02/21 16:46			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	10 (c)	mg/L	0.030	1
SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)									
	06/02/21 13:59		1331971	(SM4500-PE/EPA 365.1)	Total phosphorus as P	3.4	mg/L	0.10	5
J-11. DAY 4 (202105240389)						Sampled on 05/17/2021 1015			
SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.									
	06/04/21 15:21			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	3.1 (c)	mg/L	0.030	1
SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)									
	06/04/21 12:33		1332571	(SM4500-PE/EPA 365.1)	Total phosphorus as P	1.0 (M1)	mg/L	0.10	5
J-12. DAY 4 (202105240390)						Sampled on 05/17/2021 1015			
SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.									
	06/04/21 15:21			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	6.1 (c)	mg/L	0.030	1
SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)									
	06/04/21 12:36		1332571	(SM4500-PE/EPA 365.1)	Total phosphorus as P	2.0	mg/L	0.10	5
J-13. DAY 4 (202105240391)						Sampled on 05/17/2021 1015			
SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.									

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Prepped	Analyzed	Prep Batch	Analytical Batch	Method	Analyte	Result	Units	MRL	Dilution
	06/04/21 15:21			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	6.1 (c)	mg/L	0.030	1
	SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)								
	06/04/21 12:37		1332571	(SM4500-PE/EPA 365.1)	Total phosphorus as P	2.0	mg/L	0.10	5
J-0. DAY 5 (202105240392)						Sampled on 05/20/2021 1549			
	SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.								
	06/04/21 15:23			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	6.8 (c)	mg/L	0.030	1
	SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)								
	06/04/21 12:55		1332571	(SM4500-PE/EPA 365.1)	Total phosphorus as P	2.2	mg/L	0.10	5
J-1. DAY 5 (202105240393)						Sampled on 05/20/2021 1250			
	SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.								
	06/04/21 15:21			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	11 (c)	mg/L	0.030	1
	SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)								
	06/04/21 12:38		1332571	(SM4500-PE/EPA 365.1)	Total phosphorus as P	3.5	mg/L	0.10	5
J-2. DAY 5 (202105240394)						Sampled on 05/20/2021 1250			
	SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.								
	06/04/21 15:21			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	12 (c)	mg/L	0.030	1
	SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)								
	06/04/21 12:41		1332571	(SM4500-PE/EPA 365.1)	Total phosphorus as P	4.0	mg/L	0.10	5
J-3. DAY 5 (202105240395)						Sampled on 05/20/2021 1250			
	SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.								
	06/04/21 15:21			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	14 (c)	mg/L	0.030	1
	SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)								
	06/04/21 12:42		1332571	(SM4500-PE/EPA 365.1)	Total phosphorus as P	4.5	mg/L	0.10	5
J-4. DAY 5 (202105240396)						Sampled on 05/20/2021 1324			
	SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.								
	06/04/21 15:21			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	12 (c)	mg/L	0.030	1
	SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)								

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Prepped	Analyzed	Prep Batch	Analytical Batch	Method	Analyte	Result	Units	MRL	Dilution
	06/04/21 12:43		1332571	(SM4500-PE/EPA 365.1)	Total phosphorus as P	3.8	mg/L	0.10	5
<u>J-5. DAY 5 (202105240397)</u>						Sampled on 05/20/2021 1324			
SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.									
	06/04/21 15:21			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	14 (c)	mg/L	0.030	1
SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)									
	06/04/21 12:44		1332571	(SM4500-PE/EPA 365.1)	Total phosphorus as P	4.5	mg/L	0.10	5
<u>J-6. DAY 5 (202105240398)</u>						Sampled on 05/20/2021 1324			
SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.									
	06/04/21 15:21			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	14 (c)	mg/L	0.030	1
SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)									
	06/04/21 12:44		1332571	(SM4500-PE/EPA 365.1)	Total phosphorus as P	4.6	mg/L	0.10	5
<u>J-7. DAY 5 (202105240399)</u>						Sampled on 05/20/2021 1351			
SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.									
	06/04/21 15:21			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	14 (c)	mg/L	0.030	1
SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)									
	06/04/21 12:45		1332571	(SM4500-PE/EPA 365.1)	Total phosphorus as P	4.6	mg/L	0.10	5
<u>J-8. DAY 5 (202105240400)</u>						Sampled on 05/20/2021 1351			
SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.									
	06/04/21 15:21			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	13 (c)	mg/L	0.030	1
SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)									
	06/04/21 12:46		1332571	(SM4500-PE/EPA 365.1)	Total phosphorus as P	4.2 (M1)	mg/L	0.10	5
<u>J-9. DAY 5 (202105240401)</u>						Sampled on 05/20/2021 1351			
SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.									
	06/04/21 15:22			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	17 (c)	mg/L	0.030	1
SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)									
	06/04/21 12:49		1332571	(SM4500-PE/EPA 365.1)	Total phosphorus as P	5.5	mg/L	0.20	10
<u>J-11. DAY 5 (202105240402)</u>						Sampled on 05/20/2021 1419			

Rounding on totals after summation.

(c) - indicates calculated results. Analysis is a calculated result. Reported results are not rounded until the final step before reporting. Therefore methods that use a test result with further calculation may have slight differences in final result than the component analyses.

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Laboratory Data

Report: 936880
Project: KALAMAZOO
Group: Lead Solubility Testing - Phase 2

Tetra Tech
 James Christopher
 201 East Pine Street
 Suite 1000
 Orlando, FL 32801

Samples Received on:
 05/24/2021 1306

Prepped	Analyzed	Prep Batch	Analytical Batch	Method	Analyte	Result	Units	MRL	Dilution
SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.									
	06/04/21 15:23			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	9.8 (c)	mg/L	0.030	1
SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)									
	06/04/21 12:52		1332571	(SM4500-PE/EPA 365.1)	Total phosphorus as P	3.2	mg/L	0.10	5
J-12. DAY 5 (202105240403)						Sampled on 05/20/2021 1419			
SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.									
	06/04/21 15:23			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	12 (c)	mg/L	0.030	1
SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)									
	06/04/21 12:53		1332571	(SM4500-PE/EPA 365.1)	Total phosphorus as P	3.9	mg/L	0.10	5
J-13. DAY 5 (202105240404)						Sampled on 05/20/2021 1419			
SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.									
	06/04/21 15:23			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	14 (c)	mg/L	0.030	1
SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)									
	06/04/21 12:54		1332571	(SM4500-PE/EPA 365.1)	Total phosphorus as P	4.5	mg/L	0.10	5

Rounding on totals after summation.
 (c) - indicates calculated results. Analysis is a calculated result. Reported results are not rounded until the final step before reporting. Therefore methods that use a test result with further calculation may have slight differences in final result than the component analyses.

Report: 936880
Project: KALAMAZOO
Group: Lead Solubility Testing - Phase 2

Tetra Tech

ICPMS Metals

Prep Batch: 1329969 Analytical Batch: 1331258

202105240353	J-0, DAY 3
202105240354	J-1, DAY 3
202105240355	J-2, DAY 3
202105240356	J-3, DAY 3
202105240357	J-4, DAY 3
202105240358	J-5, DAY 3
202105240359	J-6, DAY 3
202105240360	J-7, DAY 3
202105240361	J-8, DAY 3
202105240362	J-9, DAY 3
202105240363	J-11, DAY 3
202105240364	J-12, DAY 3
202105240365	J-13, DAY 3
202105240366	J-0. DAY 4

Analysis Date: 06/02/2021

Analyzed by: AZS
Analyzed by: AZS
Analyzed by: AZS
Analyzed by: AZS
Analyzed by: AZS
Analyzed by: AZS
Analyzed by: AZS
Analyzed by: AZS
Analyzed by: AZS
Analyzed by: AZS
Analyzed by: AZS
Analyzed by: AZS
Analyzed by: AZS
Analyzed by: AZS

ICPMS Metals

Prep Batch: 1329969 Analytical Batch: 1331259

202105240367	J-1. DAY 4
202105240368	J-2. DAY 4
202105240369	J-3. DAY 4
202105240370	J-4. DAY 4
202105240371	J-5. DAY 4
202105240372	J-6. DAY 4
202105240373	J-7. DAY 4
202105240374	J-8. DAY 4
202105240375	J-9. DAY 4
202105240376	J-11. DAY 4
202105240377	J-12. DAY 4
202105240378	J-13. DAY 4

Analysis Date: 06/02/2021

Analyzed by: AZS
Analyzed by: AZS
Analyzed by: AZS
Analyzed by: AZS
Analyzed by: AZS
Analyzed by: AZS
Analyzed by: AZS
Analyzed by: AZS
Analyzed by: AZS
Analyzed by: AZS
Analyzed by: AZS
Analyzed by: AZS

Total phosphorus as P (T-P)

Analytical Batch: 1331971

202105240383	J-4. DAY 4
202105240384	J-5. DAY 4
202105240385	J-6. DAY 4
202105240386	J-7. DAY 4
202105240387	J-8. DAY 4
202105240388	J-9. DAY 4

Analysis Date: 06/02/2021

Analyzed by: LQ3M
Analyzed by: LQ3M
Analyzed by: LQ3M
Analyzed by: LQ3M
Analyzed by: LQ3M
Analyzed by: LQ3M

Total phosphorus as P (T-P)

Analytical Batch: 1332571

202105240379	J-0, DAY 4
202105240380	J-1, DAY 4
202105240381	J-2. DAY 4
202105240382	J-3. DAY 4

Analysis Date: 06/04/2021

Analyzed by: LQ3M
Analyzed by: LQ3M
Analyzed by: LQ3M
Analyzed by: LQ3M

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Laboratory QC Summary

Report: 936880**Project:** KALAMAZOO**Group:** Lead Solubility Testing - Phase 2

Tetra Tech

202105240389	J-11. DAY 4	Analyzed by: LQ3M
202105240390	J-12. DAY 4	Analyzed by: LQ3M
202105240391	J-13. DAY 4	Analyzed by: LQ3M
202105240392	J-0. DAY 5	Analyzed by: LQ3M
202105240393	J-1. DAY 5	Analyzed by: LQ3M
202105240394	J-2. DAY 5	Analyzed by: LQ3M
202105240395	J-3. DAY 5	Analyzed by: LQ3M
202105240396	J-4. DAY 5	Analyzed by: LQ3M
202105240397	J-5. DAY 5	Analyzed by: LQ3M
202105240398	J-6. DAY 5	Analyzed by: LQ3M
202105240399	J-7. DAY 5	Analyzed by: LQ3M
202105240400	J-8. DAY 5	Analyzed by: LQ3M
202105240401	J-9. DAY 5	Analyzed by: LQ3M
202105240402	J-11. DAY 5	Analyzed by: LQ3M
202105240403	J-12. DAY 5	Analyzed by: LQ3M
202105240404	J-13. DAY 5	Analyzed by: LQ3M

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Laboratory QC

Report: 936880
Project: KALAMAZOO
Group: Lead Solubility Testing - Phase 2

Tetra Tech

QC Type	Analyte	Native	Spiked	Recovered	Units	Yield(%)	Limits (%)	RPD Limit(%)	RPD%
ICPMS Metals by EPA 200.8									
Analytical Batch: 1331258					Analysis Date: 06/02/2021				
LCS1	Lead Total ICAP/MS		50	47.7	ug/L	95	(85-115)		
LCS2	Lead Total ICAP/MS		50	48.7	ug/L	97	(85-115)	20	2.1
MBLK	Lead Total ICAP/MS			<0.0608	ug/L				
MRL_CHK	Lead Total ICAP/MS		0.5	0.483	ug/L	97	(50-150)		
MS_202105270361	Lead Total ICAP/MS	ND	50	49.3	ug/L	99	(70-130)		
MS2_202105240357	Lead Total ICAP/MS	220	50	283	ug/L	<u>134</u>	(70-130)		
MSD_202105270361	Lead Total ICAP/MS	ND	50	47.5	ug/L	95	(70-130)	20	3.7
MSD2_202105240357	Lead Total ICAP/MS	220	50	291	ug/L	<u>150</u>	(70-130)	20	2.7
ICPMS Metals by EPA 200.8									
Analytical Batch: 1331259					Analysis Date: 06/02/2021				
LCS1	Lead Total ICAP/MS		50	47.3	ug/L	95	(85-115)		
LCS2	Lead Total ICAP/MS		50	48.1	ug/L	96	(85-115)	20	1.7
MBLK	Lead Total ICAP/MS			<0.0608	ug/L				
MRL_CHK	Lead Total ICAP/MS		0.5	0.477	ug/L	95	(50-150)		
MS_202105240367	Lead Total ICAP/MS	300	50	334	ug/L	<u>57</u>	(70-130)		
MS2_202105240377	Lead Total ICAP/MS	160	50	206	ug/L	86	(70-130)		
MSD_202105240367	Lead Total ICAP/MS	300	50	353	ug/L	94	(70-130)	20	5.4
MSD2_202105240377	Lead Total ICAP/MS	160	50	202	ug/L	78	(70-130)	20	1.9
Total phosphorus as P (T-P) by SM4500-PE/EPA 365.1									
Analytical Batch: 1331971					Analysis Date: 06/02/2021				
LCS1	Total phosphorus as P		0.4	0.414	mg/L	103	(90-110)		
LCS2	Total phosphorus as P		0.4	0.400	mg/L	100	(90-110)	20	3.4
MBLK	Total phosphorus as P			<0.0108	mg/L				
MRL_CHK	Total phosphorus as P		0.02	0.0132	mg/L	66	(50-150)		
MS_202105170174	Total phosphorus as P	ND	0.4	0.391	mg/L	98	(90-110)		
MSD_202105170174	Total phosphorus as P	ND	0.4	0.409	mg/L	102	(90-110)	20	4.4
Total phosphorus as P (T-P) by SM4500-PE/EPA 365.1									
Analytical Batch: 1332571					Analysis Date: 06/04/2021				
LCS1	Total phosphorus as P		0.4	0.424	mg/L	106	(90-110)		
LCS2	Total phosphorus as P		0.4	0.428	mg/L	107	(90-110)	20	0.94
MBLK	Total phosphorus as P			<0.0108	mg/L				
MRL_CHK	Total phosphorus as P		0.02	0.0161	mg/L	81	(50-150)		
MS_202105240389	Total phosphorus as P	1.0	0.4	4.48	mg/L	<u>172</u>	(90-110)		

Spike recovery is already corrected for native results.

Spikes which exceed Limits and Method Blanks with positive results are highlighted by Underlining.

Criteria for MS and Dup are advisory only, batch control is based on LCS. Criteria for duplicates are advisory only, unless otherwise specified in the method.

RPD not calculated for LCS2 when different a concentration than LCS1 is used.

RPD not calculated for Duplicates when the result is not five times the MRL (Minimum Reporting Level).

(S) - Indicates surrogate compound.

(I) - Indicates internal standard compound.

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Laboratory QC

Report: 936880
Project: KALAMAZOO
Group: Lead Solubility Testing - Phase 2

Tetra Tech

QC Type	Analyte	Native	Spiked	Recovered	Units	Yield(%)	Limits (%)	RPD Limit(%)	RPD%
MS2_202105240400	Total phosphorus as P	4.2	0.4	7.05	mg/L	<u>140</u>	(90-110)		
MSD_202105240389	Total phosphorus as P	1.0	0.4	3.10	mg/L	103	(90-110)	20	<u>36</u>
MSD2_202105240400	Total phosphorus as P	4.2	0.4	6.51	mg/L	<u>113</u>	(90-110)	20	8.0

Spike recovery is already corrected for native results.

Spikes which exceed Limits and Method Blanks with positive results are highlighted by Underlining.

Criteria for MS and Dup are advisory only, batch control is based on LCS. Criteria for duplicates are advisory only, unless otherwise specified in the method.

RPD not calculated for LCS2 when different a concentration than LCS1 is used.

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750 Royal Oaks Drive, Suite 100
Monrovia, California 91016-3629
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Laboratory Report

for

Tetra Tech
201 East Pine Street
Suite 1000
Orlando, FL 32801
Attention: James Christopher

Date of Issue

06/18/2021

Vanessa Berry

**EUROFINS EATON
ANALYTICAL, LLC**



Utah ELCP CA00006

ZIA8: Vanessa Berry
Project Manager

Report: 938680
Project: KALAMAZOO
Group: Lead Solubility Testing - Phase 2

* Accredited in accordance with TNI 2016 and ISO/IEC 17025:2017.

* Laboratory certifies that the test results meet all **TNI 2016 and ISO/IEC 17025:2017** requirements unless noted under the individual analysis.

* Following the cover page are State Certification List, ISO 17025 Accredited Method List, Acknowledgement of Samples Received, Comments, Hits Report,

Data Report, QC Summary, QC Report and Regulatory Forms, as applicable.

* Test results relate only to the sample(s) tested.

* Test results apply to the sample(s) as received, unless otherwise noted in the comments report (ISO/IEC 17025:2017).

* This report shall not be reproduced except in full, without the written approval of the laboratory.

STATE CERTIFICATION LIST

State	Certification Number	State	Certification Number
Alabama	41060	Montana	Cert 0035
Arizona	AZ0778	Nebraska	Certified
Arkansas	Certified	Nevada	CA000062018
California	2813	New Hampshire *	2959
Colorado	Certified	New Jersey *	CA 008
Connecticut	PH-0107	New Mexico	Certified
Delaware	CA 006	New York *	11320
Florida *	E871024	North Carolina	06701
Georgia	947	North Dakota	R-009
Guam	18-005R	Oregon *	CA200003-005
Hawaii	Certified	Pennsylvania *	68-565
Idaho	Certified	Puerto Rico	Certified
Illinois *	200033	Rhode Island	LAO00326
Indiana	C-CA-01	South Carolina	87016
Iowa - Asbestos	413	South Dakota	Certified
Kansas *	E-10268	Tennessee	TN02839
Kentucky	90107	Texas *	T104704230-18-15
Louisiana *	LA180000	Utah (Primary AB) *	CA00006
Maine	CA0006	Vermont	VT0114
Maryland	224	Virginia *	460260
Commonwealth of Northern Marianas Is.	MP0004	Washington	C838
Massachusetts	M-CA006	EPA Region 5	Certified
Michigan	9906	Los Angeles County Sanitation Districts	10264
Mississippi	Certified		

* NELAP/TNI Recognized Accreditation Bodies

ISO/IEC 17025 Accredited Method List

The tests listed below are accredited and meet the requirements of ISO/IEC 17025 as verified by the ANSI-ASQ National Accreditation Board/A2LA.
Refer to Certificate and scope of accreditation (5890) found at: <https://www.eurofinsus.com/Eaton>

SPECIFIC TESTS	METHOD OR TECHNIQUE USED	Environ-mental (Drinking Water)	Environ-mental (Waste Water)	Water as a Component of Food and Bev/Bev/ Bottled Water
1,2,3-TCP (5 PPT & 0.5 PPT)	CA SRL 524M-TCP	x		x
1,4-Dioxane	EPA 522	x		x
2,3,7,8-TCDD	Modified EPA 1613B	x		x
Acrylamide	In House Method (2440)	x		x
Algal Toxins/Microcystin	In House Method (3570)			
Alkalinity	SM 2320B	x	x	x
Ammonia	EPA 350.1		x	x
Ammonia	SM 4500-NH3 H		x	x
Anions and DBPs by IC	EPA 300.0	x	x	x
Anions and DBPs by IC	EPA 300.1	x		x
Asbestos	EPA 100.2	x	x	
BOD / CBOD	SM 5210B		x	x
Bromate	In House Method (2447)	x		x
Carbamates	EPA 531.2	x		x
Carbonate as CO3	SM 2330B	x	x	x
Carbonyls	EPA 556	x		x
COD	EPA 410.4 / SM 5220D		x	
Chloramines	SM 4500-CL G	x	x	x
Chlorinated Acids	EPA 515.4	x		x
Chlorinated Acids	EPA 555	x		x
Chlorine Dioxide	SM 4500-CLO2 D Palin Test	x		x
Chlorine -Total/Free/ Combined Residual	SM 4500-Cl G	x	x	x
Conductivity	EPA 120.1		x	
Conductivity	SM 2510B	x	x	x
Corrosivity (Langelier Index)	SM 2330B	x		x
Cyanide, Amenable	SM 4500-CN G	x	x	
Cyanide, Free	SM 4500CN F	x	x	x
Cyanide, Total	EPA 335.4	x	x	x
Cyanogen Chloride (screen)	In House Method (2470)	x		x
Diquat and Paraquat	EPA 549.2	x		x
DBP/HAA	SM 6251B	x		x
Dissolved Oxygen	SM 4500-O G		x	x
DOC	SM 5310C	x		x
E. Coli	(MTF/EC+MUG)	x		x
E. Coli	CFR 141.21(f)(6)(i)	x		x
E. Coli	SM 9223		x	
E. Coli (Enumeration)	SM 9221B.1/ SM 9221F	x		x
E. Coli (Enumeration)	SM 9223B	x		x
EDB/DCBP	EPA 504.1	x		
EDB/DBCP and DBP	EPA 551.1	x		x
EDTA and NTA	In House Method (2454)	x		x
Endothall	EPA 548.1	x		x
Endothall	In-house Method (2445)	x		x
Enterococci	SM 9230B	x	x	
Fecal Coliform	SM 9221 E (MTF/EC)	x		
Fecal Coliform	SM 9221C, E (MTF/EC)		x	
Fecal Coliform (Enumeration)	SM 9221E (MTF/EC)	x		x
Fecal Coliform with Chlorine Present	SM 9221E		x	
Fecal Streptococci	SM 9230B	x	x	
Fluoride	SM 4500-F C	x	x	x
Glyphosate	EPA 547	x		x
Glyphosate + AMPA	In House Method (3618)	x		x
Gross Alpha/Beta	EPA 900.0	x	x	x
Gross Alpha Coprecipitation	SM 7110 C	x	x	x
Hardness	SM 2340B	x	x	x
Heterotrophic Bacteria	In House Method (2439)	x		x
Heterotrophic Bacteria	SM 9215 B	x		x
Hexavalent Chromium	EPA 218.6	x	x	x

SPECIFIC TESTS	METHOD OR TECHNIQUE USED	Environ-mental (Drinking Water)	Environ-mental (Waste Water)	Water as a Component of Food and Bev/Bev/ Bottled Water
Hexavalent Chromium	EPA 218.7	x		x
Hexavalent Chromium	SM 3500-Cr B		x	
Hormones	EPA 539	x		x
Hydroxide as OH Calc.	SM 2330B	x		x
Kjeldahl Nitrogen	EPA 351.2		x	
Legionella	Legiolert	x		x
Mercury	EPA 200.8	x		x
Metals	EPA 200.7 / 200.8	x	x	x
Microcystin LR	ELISA (2360)	x		x
Microcystin, Total	EPA 546	x		x
NDMA	EEA/Agilent 521.1 In house method (2425)	x		x
Nitrate/Nitrite Nitrogen	EPA 353.2	x	x	x
OCL, Pesticides/PCB	EPA 505	x		x
Ortho Phosphate	EPA 365.1	x	x	x
Ortho Phosphorous	SM 4500P E	x		x
Oxyhalides Disinfection Byproducts	EPA 317.0	x		x
Perchlorate	EPA 331.0	x		x
Perchlorate (low and high)	EPA 314.0	x		x
Perfluorinated Alkyl Acids	EPA 537	x		x
Perfluorinated Pollutant	In house Method (2434)	x		x
pH	EPA 150.1	x		
pH	SM 4500-H+B	x	x	x
Phenylurea Pesticides/ Herbicides	In House Method, based on EPA 532 (2448)	x		x
Pseudomonas	IDEXX Pseudalert (2461)	x		x
Radium-226	GA Institute of Tech	x		x
Radium-228	GA Institute of Tech	x		x
Radon-222	SM 7500RN	x		x
Residue, Filterable	SM 2540C	x	x	x
Residue, Non-filterable	SM 2540D		x	
Residue, Total	SM 2540B		x	x
Residue, Volatile	EPA 160.4		x	
Semi-VOC	EPA 525.2	x		x
Silica	SM 4500-Si D	x	x	
Silica	SM 4500-SiO2 C	x	x	
Sulfide	SM 4500-S ⁻ D		x	
Sulfite	SM 4500-SO ³ B	x	x	x
Surfactants	SM 5540C	x	x	x
Taste and Odor Analytes	SM 6040E	x		x
Total Coliform (P/A)	SM 9221 A, B	x		x
Total Coliform (Enumeration)	SM 9221 A, B, C	x		x
Total Coliform / E. coli	Colisure SM 9223	x		x
Total Coliform	SM 9221B		x	
Total Coliform with Chlorine Present	SM 9221B		x	
Total Coliform / E.coli (P/A and Enumeration)	SM 9223	x		x
TOC	SM 5310C	x	x	x
TOX	SM 5320B		x	
Total Phenols	EPA 420.1		x	
Total Phenols	EPA 420.4	x	x	x
Total Phosphorous	SM 4500 P E		x	
Triazine Pesticides & Degradates	In House (3617)	x		x
Turbidity	EPA 180.1	x	x	x
Turbidity	SM 2130B	x	x	
Uranium by ICP/MS	EPA 200.8	x		x
UV 254	SM 5910B	x		
VOC	EPA 524.2	x		x
VOC	In House Method (2411)	x		x
Yeast and Mold	SM 9610	x		x
Field Sampling	N/A			

Acknowledgement of Samples Received

Addr: **Tetra Tech**
201 East Pine Street
Suite 1000
Orlando, FL 32801

Attn: James Christopher
Phone: 407-480-3907

Client ID: TETRATECH-ORLAN
Folder #: 938680
Project: KALAMAZOO
Sample Group: Lead Solubility Testing - Phase 2
Project Manager: Vanessa Berry
Phone: 503-310-3905

The following samples were received from you on **June 02, 2021 at 1147**. They have been scheduled for the tests listed below each sample. If this information is incorrect, please contact your service representative. Thank you for using Eurofins Eaton Analytical, LLC.

Sample #	Sample ID	Sample Date
<u>202106020799</u>	J-1, Day5	05/26/2021 1241
	@ICPMS	
<u>202106020800</u>	J-2, Day5	05/26/2021 1241
	@ICPMS	
<u>202106020801</u>	J-3, Day5	05/26/2021 1241
	@ICPMS	
<u>202106020802</u>	J-4, Day5	05/26/2021 1241
	@ICPMS	
<u>202106020803</u>	J-5, Day5	05/26/2021 1241
	@ICPMS	
<u>202106020804</u>	J-6, Day5	05/26/2021 1241
	@ICPMS	
<u>202106020805</u>	J-7, Day5	05/26/2021 1241
	@ICPMS	
<u>202106020806</u>	J-8, Day5	05/26/2021 1241
	@ICPMS	
<u>202106020807</u>	J-9, Day5	05/26/2021 1241
	@ICPMS	
<u>202106020808</u>	J-11, Day5	05/26/2021 1241
	@ICPMS	
<u>202106020809</u>	J-0, Day6	05/25/2021 1234
	Total phosphorus as P	Total phosphorus as PO4- Calc.
<u>202106020810</u>	J-1, Day6	05/25/2021 0948
	Total phosphorus as P	Total phosphorus as PO4- Calc.
<u>202106020811</u>	J-2, Day6	05/25/2021 0948
	Total phosphorus as P	Total phosphorus as PO4- Calc.

Acknowledgement of Samples Received

Addr: **Tetra Tech**
201 East Pine Street
Suite 1000
Orlando, FL 32801

Attn: James Christopher
Phone: 407-480-3907

Client ID: TETRATECH-ORLAN
Folder #: 938680
Project: KALAMAZOO
Sample Group: Lead Solubility Testing - Phase 2

Project Manager: Vanessa Berry
Phone: 503-310-3905

The following samples were received from you on **June 02, 2021 at 1147**. They have been scheduled for the tests listed below each sample. If this information is incorrect, please contact your service representative. Thank you for using Eurofins Eaton Analytical, LLC.

Sample #	Sample ID	Sample Date
<u>202106020812</u>	J-3, Day6	05/25/2021 0948
	Total phosphorus as P	Total phosphorus as PO4- Calc.
<u>202106020813</u>	J-4, Day6	05/25/2021 0950
	Total phosphorus as P	Total phosphorus as PO4- Calc.
<u>202106020814</u>	J-5, Day6	05/25/2021 0950
	Total phosphorus as P	Total phosphorus as PO4- Calc.
<u>202106020815</u>	J-6, Day6	05/25/2021 0950
	Total phosphorus as P	Total phosphorus as PO4- Calc.
<u>202106020816</u>	J-7, Day6	05/25/2021 1018
	Total phosphorus as P	Total phosphorus as PO4- Calc.
<u>202106020817</u>	J-8, Day6	05/25/2021 1018
	Total phosphorus as P	Total phosphorus as PO4- Calc.
<u>202106020818</u>	J-9, Day6	05/25/2021 1018
	Total phosphorus as P	Total phosphorus as PO4- Calc.
<u>202106020819</u>	J-11, Day6	05/25/2021 1042
	Total phosphorus as P	Total phosphorus as PO4- Calc.
<u>202106020820</u>	J-12, Day6	05/25/2021 1042
	Total phosphorus as P	Total phosphorus as PO4- Calc.
<u>202106020821</u>	J-13, Day6	05/25/2021 1042
	Total phosphorus as P	Total phosphorus as PO4- Calc.
<u>202106020822</u>	J-0, Day7	05/28/2021 1120
	Total phosphorus as P	Total phosphorus as PO4- Calc.
<u>202106020823</u>	J-1, Day7	05/28/2021 1120
	Total phosphorus as P	Total phosphorus as PO4- Calc.
<u>202106020824</u>	J-2, Day7	05/28/2021 1120
	Total phosphorus as P	Total phosphorus as PO4- Calc.

Acknowledgement of Samples Received

Addr: **Tetra Tech**
201 East Pine Street
Suite 1000
Orlando, FL 32801

Attn: James Christopher
Phone: 407-480-3907

Client ID: TETRATECH-ORLAN
Folder #: 938680
Project: KALAMAZOO
Sample Group: Lead Solubility Testing - Phase 2

Project Manager: Vanessa Berry
Phone: 503-310-3905

The following samples were received from you on **June 02, 2021 at 1147**. They have been scheduled for the tests listed below each sample. If this information is incorrect, please contact your service representative. Thank you for using Eurofins Eaton Analytical, LLC.

Sample #	Sample ID	Sample Date
<u>202106020825</u>	J-3, Day7	05/28/2021 1120
	Total phosphorus as P	Total phosphorus as PO4- Calc.
<u>202106020826</u>	J-4, Day7	05/28/2021 1135
	Total phosphorus as P	Total phosphorus as PO4- Calc.
<u>202106020827</u>	J-5, Day7	05/28/2021 1135
	Total phosphorus as P	Total phosphorus as PO4- Calc.
<u>202106020828</u>	J-6, Day7	05/28/2021 1135
	Total phosphorus as P	Total phosphorus as PO4- Calc.
<u>202106020829</u>	J-7, Day7	05/28/2021 1206
	Total phosphorus as P	Total phosphorus as PO4- Calc.
<u>202106020830</u>	J-8, Day7	05/28/2021 1206
	Total phosphorus as P	Total phosphorus as PO4- Calc.
<u>202106020831</u>	J-9, Day7	05/28/2021 1206
	Total phosphorus as P	Total phosphorus as PO4- Calc.
<u>202106020832</u>	J-11, Day7	05/28/2021 1230
	Total phosphorus as P	Total phosphorus as PO4- Calc.
<u>202106020833</u>	J-12, Day7	05/28/2021 1230
	Total phosphorus as P	Total phosphorus as PO4- Calc.
<u>202106020834</u>	J-13, Day7	05/28/2021 1230
	Total phosphorus as P	Total phosphorus as PO4- Calc.
<u>202106020835</u>	J-0, Day6	05/29/2021 1730
	@ICPMS	
<u>202106020836</u>	J-1, Day6	05/29/2021 1730
	@ICPMS	
<u>202106020837</u>	J-2, Day6	05/29/2021 1730
	@ICPMS	

Acknowledgement of Samples Received

Addr: **Tetra Tech**
201 East Pine Street
Suite 1000
Orlando, FL 32801

Attn: James Christopher
Phone: 407-480-3907

Client ID: TETRATECH-ORLAN
Folder #: 938680
Project: KALAMAZOO
Sample Group: Lead Solubility Testing - Phase 2
Project Manager: Vanessa Berry
Phone: 503-310-3905

The following samples were received from you on **June 02, 2021 at 1147**. They have been scheduled for the tests listed below each sample. If this information is incorrect, please contact your service representative. Thank you for using Eurofins Eaton Analytical, LLC.

Sample #	Sample ID	Sample Date
<u>202106020838</u>	J-3, Day6	05/29/2021 1730
	@ICPMS	
<u>202106020839</u>	J-4, Day6	05/29/2021 1730
	@ICPMS	
<u>202106020840</u>	J-5, Day6	05/29/2021 1730
	@ICPMS	
<u>202106020841</u>	J-6, Day6	05/29/2021 1730
	@ICPMS	
<u>202106020842</u>	J-7, Day6	05/29/2021 1730
	@ICPMS	
<u>202106020843</u>	J-8, Day6	05/29/2021 1730
	@ICPMS	
<u>202106020844</u>	J-9, Day6	05/29/2021 1730
	@ICPMS	
<u>202106020845</u>	J-11, Day6	05/29/2021 1730
	@ICPMS	
<u>202106020846</u>	J-12, Day6	05/29/2021 1730
	@ICPMS	
<u>202106020847</u>	J-13, Day6	05/29/2021 1730
	@ICPMS	
<u>202106020848</u>	J-0, Day5	05/26/2021 1241
	@ICPMS	
<u>202106020849</u>	J-12, Day5	05/26/2021 1241
	@ICPMS	
<u>202106020850</u>	J-13, Day5	05/26/2021 1241
	@ICPMS	

Acknowledgement of Samples Received

Addr: **Tetra Tech**
201 East Pine Street
Suite 1000
Orlando, FL 32801

Attn: James Christopher
Phone: 407-480-3907

Client ID: TETRATECH-ORLAN

Folder #: 938680

Project: KALAMAZOO

Sample Group: Lead Solubility Testing - Phase 2

Project Manager: Vanessa Berry

Phone: 503-310-3905

The following samples were received from you on **June 02, 2021** at **1147**. They have been scheduled for the tests listed below each sample. If this information is incorrect, please contact your service representative. Thank you for using Eurofins Eaton Analytical, LLC.

Sample #	Sample ID	Sample Date
Test Description		
	@ICPMS -- ICPMS Metals	



Eaton Analytical

CHAIN OF CUSTODY RECORD

EUROFINS EATON ANALYTICAL USE ONLY:

750 Royal Oaks Drive, Suite 100
Monrovia, CA 91016-3629
Phone: 626 386 1100
Fax: 626 386 1101
800 566 LABS (800 566 5227)
Website: www.EatonAnalytical.com

LOGIN COMMENTS:

SAMPLES CHECKED AGAINST COC BY: 95168

750 Royal Oaks Drive, Suite 100
Monrovia, CA 91016-3629

Phone: 626 386 1100
Fax: 626 386 1101

800 566 LABS (800 566 5227)

Website: www.EatonAnalytical.com

SAMPLE TEMP RECEIVED AT:

☐ (Other) IR Gun ID = 031A (Observation = 40 °C) (check for yes)

☒ Monrovia IR Gun ID = 031A (Observation = 40 °C) (Final = 39 °C)

Compliance Acceptance Criteria: (Chemistry: 4 ± 2 °C) (Microbiology: $< 10^6$ °C)

TYPE OF ICE: Real ☒ Synthetic ☐ No Ice ☒

CONDITION OF ICE: Frozen ☒ Partially Frozen ☐ Thawed ☐ N/A ☐

METHOD OF SHIPMENT: Pick-Up / Walk-In / FedEx / UPS / DHL / Area Fast / Top Line / Other: 5062 09005235

TO BE COMPLETED BY SAMPLER:

COMPANY/AGENCY NAME:

PROJECT CODE:

SAMPLE GROUP:

COMPLIANCE SAMPLES

NON-COMPLIANCE SAMPLES

(check for yes)

EEA CLIENT CODE:

COC ID:

TAT requested: rush by adv notice only

REGULATION INVOLVED:

ROUTINE SPECIAL CONFIRMATION

(check for yes)

SEE ATTACHED KIT ORDER FOR ANALYSES

List ALL ANALYSES REQUIRED (enter number of bottles sent for each test for each sample)

SAMPLER COMMENTS

(check for yes)

STD 1 wk 3 day 2 day 1 day

CLIENT LAB ID

FIELD DATA

MATRIX

FW

10 ppm

SEAW = Sea Water

BW = Bottled Water

SW = Storm Water

SL = Sludge

O = Other - Please Identify

SAMPLED BY:

RELINQUISHED BY:

RECEIVED BY:

RECEIVED BY:

SIGNATURE

PRINT NAME

COMPANY/TITLE

DATE

TIME

05/26/12 12:41

J-1, Days

J-2,

J-3,

J-4,

J-5,

J-6,

J-7,

J-8,

J-9,

J-11,

15:54

06/01/12

15:54

1149

QA FO 0029.2 (Version 2) (08/28/2014)

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Eaton Analytical

CHAIN OF CUSTODY RECORD

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Monrovia, CA 91016-3629
Phone: 626 386 1100
Fax: 626 386 1101
800 566 LABS (800 566 5227)
Website: www.EatonAnalytical.com

LOGIN COMMENTS:

SAMPLES CHECKED AGAINST COC BY: OC

SAMPLES LOGGED IN BY: OC

SAMPLE TEMP RECEIVED AT:

☐ (Other) IR Gun ID = 031A (Observation = 40 °C) (check for yes)
☒ Monrovia IR Gun ID = 031A (Observation = 40 °C) (Final = 39 °C)
Compliance Acceptance Criteria: (Chemistry: 4 ± 2 °C) (Microbiology: < 10 °C)

TYPE OF ICE: Real ☒ Synthetic ☐ No Ice ☐ CONDITION OF ICE: Frozen ☒ Partially Frozen ☐ Thawed ☐ N/A ☐

METHOD OF SHIPMENT: Pick-Up / Walk-In / FedEx / UPS / DHL / Area Fast / Top Line / Other: FedEx

TO BE COMPLETED BY SAMPLER:

(check for yes)

PROJECT CODE:

COMPANY/AGENCY NAME:

Tetra Tech

EEA CLIENT CODE:

COC ID:

tetra tech-01

SAMPLE GROUP:

lead solubility kit-phase 2

TAT requested: rush by adv notice only

STD ☐ 1 wk ☐ 3 day ☐ 2 day ☐ 1 day

(check for yes)

COMPLIANCE SAMPLES

- Requires state forms

NON-COMPLIANCE SAMPLES

REGULATION INVOLVED:

(eg. SDWA, NPDES, etc.)

Type of samples (circle one): ROUTINE SPECIAL CONFIRMATION

SEE ATTACHED KIT ORDER FOR ANALYSES

List ALL ANALYSES REQUIRED (enter number of bottles sent for each test for each sample)

SAMPLE DATE	SAMPLE TIME	SAMPLE ID	CLIENT LAB ID	MATRIX	FIELD DATA	FIELD DATA	SAMPLER COMMENTS
05/25/12	12:30	Jaw 0, Day 6		FW			
	9:48	J-1, Day 6					
	↓	J-2, Day 6					
	↓	J-3, Day 6					
	9:50	J-4, Day 6					
	↓	J-5, Day 6					
	↓	J-6, Day 6					
	10:18	J-7, Day 6					
	↓	J-8, Day 6					
	↓	J-9, Day 6					

* MATRIX TYPES: RSW = Raw Surface Water RGW = Raw Ground Water CFW = Chlor(am)inated Finished Water WW = Waste Water SEAW = Sea Water BW = Bottled Water SO = Soil O = Other - Please Identify
FW = Other Finished Water SW = Storm Water SL = Sludge

SAMPLED BY:	PRINT NAME	COMPANY/TITLE	DATE	TIME
<u>[Signature]</u>	Ana Kasaba	tetra tech	06/01/21	15:54
RELINQUISHED BY:	Ana Kasaba	tetra tech	06/01/21	15:54
RECEIVED BY:	Joe Sanchez	EEA	6/2/21	148
RELINQUISHED BY:				
RECEIVED BY:				



Eaton Analytical

CHAIN OF CUSTODY RECORD

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800 566 LABS (800 566 5227)
Website: www.EatonAnalytical.com

LOGIN COMMENTS:

SAMPLES CHECKED AGAINST COC BY: 07

SAMPLES LOGGED IN BY: 07

SAMPLE TEMP RECEIVED AT:

☐ (Other) IR Gun ID = 1031A (Observation = 4.0 °C) (check for yes)

☒ Monrovia IR Gun ID = 1031A (Observation = 4.0 °C) (Final = 3.5 °C)

Compliance Acceptance Criteria: (Chemistry: 4 ± 2 °C) (Microbiology: < 10 °C)

TYPE OF ICE: Real ☒ Synthetic ☐ No Ice ☐

CONDITION OF ICE: Frozen ☒ Partially Frozen ☐ Thawed ☐ N/A ☐

METHOD OF SHIPMENT: Pick-Up / Walk-In / FedEx / UPS / DHL / Area Fast / Top Line / Other: Top Line

TO BE COMPLETED BY SAMPLER:

COMPANY/AGENCY NAME: Tetra Tech

COE ID: 1031A

TAT requested: rush by adv notice only

PROJECT CODE: lead solubility test - phase 2

SAMPLE GROUP: lead solubility test - phase 2

STD 1 wk 3 day 2 day 1 day

FIELD DATA

MATRIX: FW

CLIENT LAB ID

SAMPLE ID

SAMPLE DATE

SAMPLE TIME

05/12/11 10:42

J-11, Day 6

J-12, ↓

J-13, ↓

J-10, Day 7

J-1, ↓

J-2, ↓

J-3, ↓

J-4, ↓

J-5, ↓

J-6, ↓

05/18 11:20

11:35

↓

↓

↓

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↓

(check for yes)

COMPLIANCE SAMPLES

Requires state forms

ROUTINE SPECIAL CONFIRMATION

SEE ATTACHED KIT ORDER FOR ANALYSES

List ALL ANALYSES REQUIRED (enter number of bottles sent for each test for each sample)

01/24/11

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↓

(check for yes)

NON-COMPLIANCE SAMPLES

REGULATION INVOLVED:

(eg. SDWA, NPDES, etc.)

(check for yes), OR

SIGNATURE

PRINT NAME

COMPANY/TITLE

DATE

TIME

SAMPLED BY:

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

SEAW = Sea Water

WW = Waste Water

CFW = Chlor(am)inated Finished Water

FW = Other Finished Water

BSW = Bottled Water

SW = Storm Water

SO = Soil

SL = Sludge

O = Other - Please Identify

PAGE

OF



Eaton Analytical

CHAIN OF CUSTODY RECORD

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Website: www.EatonAnalytical.com

LOGIN COMMENTS:

5-11, Day 7 bottles for KPMs instead of Total P @

SAMPLES CHECKED AGAINST COC BY: BD

SAMPLES LOGGED IN BY: BD

SAMPLE TEMP RECEIVED AT:

☒ (Other) IR Gun ID = 031A (Observation = 9.0 °C) (check for yes)

☒ Monrovia IR Gun ID = 031A (Observation = 9.0 °C) (check for yes)

Compliance Acceptance Criteria: (Chemistry: 4 ± 2 °C) (Microbiology: < 10 °C)

TYPE OF ICE: Real ☒ Synthetic ☐ No Ice ☐

CONDITION OF ICE: Frozen ☒ Partially Frozen ☐ Thawed ☐

METHOD OF SHIPMENT: Pick-Up / Walk-In / FedEx / UPS / DHL / Area Fast / Top Line / Other: N/A

TO BE COMPLETED BY SAMPLER:

COMPANY/AGENCY NAME:		PROJECT CODE:		COMPLIANCE SAMPLES		NON-COMPLIANCE SAMPLES	
Tetra Tech				- Requires state forms		REGULATION INVOLVED:	
EEA CLIENT CODE:		COC ID:		Type of samples (circle one):		(eg. SDWA, NPDES, etc.)	
tetra tech-or-1				ROUTINE SPECIAL CONFIRMATION			
TAT requested: rush by adv notice only		SAMPLE GROUP:		SEE ATTACHED KIT ORDER FOR ANALYSES		(check for yes), OR	
SAMPLE DATE		SAMPLE ID		List ALL ANALYSES REQUIRED (enter number of bottles sent for each test for each sample)		SAMPLER COMMENTS	
SAMPLE TIME		CLIENT LAB ID					
05/20/2016	12:00	J-7, Day 7	FW				
	12:30	J-8					
	12:30	J-9					
	12:30	J-11					
	12:30	J-12					
	12:30	J-13					
	12:30	J-10, Day 6					
	12:30	J-11					
	12:30	J-12					
	12:30	J-13					

* MATRIX TYPES: RSW = Raw Surface Water RGW = Raw Ground Water CFW = Chlor(am)inated Finished Water FW = Other Finished Water SEAW = Sea Water BW = Bottled Water SW = Storm Water SO = Soil O = Other - Please Identify WW = Waste Water SL = Sludge

SAMPLED BY:	SIGNATURE	PRINT NAME	COMPANY/TITLE	DATE	TIME
RELINQUISHED BY:	<u>[Signature]</u>	Ana Roaaba	tetra tech	06/01/21	15:54
RECEIVED BY:	<u>[Signature]</u>	Ana Roaaba	tetra tech	06/01/21	15:54
RELINQUISHED BY:	<u>[Signature]</u>	Joe Sanchez	ETA	6/2/21	1148
RECEIVED BY:					



Eaton Analytical

CHAIN OF CUSTODY RECORD

EUROFINS EATON ANALYTICAL USE ONLY:

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Monrovia, CA 91016-3629
Phone: 626 386 1100
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800 566 LABS (800 566 5227)
Website: www.EatonAnalytical.com

LOGIN COMMENTS:

SAMPLES CHECKED AGAINST COC BY: CC

SAMPLES LOGGED IN BY: CC

SAMPLE TEMP RECEIVED AT:

☐ (Other) IR Gun ID = 431A (Observation = 4.0 °C) (check for yes)
☒ Monrovia IR Gun ID = 4.0 °C (Observation = 4.0 °C) (Final = 3.9 °C)
Compliance Acceptance Criteria: (Chemistry: 4 ± 2 °C) (Microbiology: < 10 °C)

TYPE OF ICE: Real ☒ Synthetic ☐ No Ice ☒ CONDITION OF ICE: Frozen ☒ Partially Frozen ☐ Thawed ☐ N/A ☐

METHOD OF SHIPMENT: Pick-Up / Walk-In FedEx / UPS / DHL / Area Fast / Top Line / Other: _____

TO BE COMPLETED BY SAMPLER:

COMPANY/AGENCY NAME:		PROJECT CODE:	COMPLIANCE SAMPLES		NON-COMPLIANCE SAMPLES	
Tetra Tech			- Requires state forms		REGULATION INVOLVED:	
EEA CLIENT CODE:	COC ID:	SAMPLE GROUP:	Type of samples (circle one):	ROUTINE	SPECIAL	CONFIRMATION
Tetra tech-01		lead solubility test-phase 2	SEE ATTACHED KIT ORDER FOR ANALYSES			(check for yes), <u>OR</u>
TAT requested: rush by adv notice only			List ALL ANALYSES REQUIRED (enter number of bottles sent for each test for each sample)			
SAMPLE DATE	SAMPLE TIME	SAMPLE ID	CLIENT LAB ID	MATRIX	FIELD DATA	SAMPLER COMMENTS
05/19/17:30		J-4, Day 6		fw		
		J-5,				
		J-6,				
		J-7,				
		J-8,				
		J-9,				
		J-11,				
		J-12,				
		J-13,				
05/26/12:41		J-0, Day 5				

* MATRIX TYPES: RSW = Raw Surface Water RGW = Raw Ground Water CFW = Chlor(am)inated Finished Water FW = Other Finished Water
SEAW = Sea Water BW = Bottled Water SW = Storm Water SO = Soil O = Other - Please Identify
WW = Waste Water SL = Sludge

SAMPLED BY:	SIGNATURE	PRINT NAME	COMPANY/TITLE	DATE	TIME
RELINQUISHED BY:	<u>[Signature]</u>	Ana Rosabal	tetra tech	06/01/21	15:54
RECEIVED BY:	<u>[Signature]</u>	Ana Rosabal	tetra tech	06/01/21	15:54
RELINQUISHED BY:	<u>[Signature]</u>	Joe Sanchez	EBD	6/2/21	1147
RECEIVED BY:					

EUROFINS EATON ANALYTICAL USE ONLY:

750 Royal Oaks Drive, Suite 100
Monrovia, CA 91016-3629
Phone: 626 386 1100
Fax: 626 386 1101
800 566 LABS (800 566 5227)
Website: www.EatonAnalytical.com

SAMPLES CHECKED AGAINST COC BY:

SAMPLES LOGGED IN BY:

SAMPLE TEMP RECEIVED AT:

(Other) IR Gun ID = (Observation = °C) (Corr Factor = °C) (Final = °C)

Case	Category	Observation	Comment	Initial	Final
6214	1	1	1	1	1
6214	1	1	1	1	1

✓ Monrovia IR Gun ID = 4317 (Observation = 0 °C) (Corr. Factor 0.1 °C) (Final = 2.9 °C)

Compliance Acceptance Criteria: (Chemistry: $4 \pm 2^\circ\text{C}$) (Microbiology: $< 10^\circ\text{C}$)

CONFIDENTIAL

TYPE OF ICE: Real ☒ Synthetic ☐ No ice ☒ CONDITION OF ICE: Frozen ☒ Partially Frozen ☐ Inawed ☐ N/A ☐

METHOD OF SHIPMENT: Pick-Up / Walk-In / FedEx / UPS / DHL / Area Fast / Top Line / Other: _____

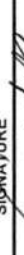


TO BE COMPLETED BY SAMPLER:

(check for yes)

(check for yes)

[illegible]

* **MATRIX TYPES:** RSW = Raw Surface Water
 FW = Other Finished Water
 CFW = Chlor(am)inated Finished Water
 SEAW = Sea Water
 BW = Bottled Water
 RGW = Raw Ground Water
 WW = Waste Water
 SW = Storm Water
 SO = Soil
 SL = Sludge
 O = Other - Please Identify

SIGNATURE	PRINT NAME	COMPANY/TITLE	DATE	TIME
	Ana Rosabal	Tetra Tech	06/01/21	15:54
	Ana Rosabal	Tetra Tech	06/01/21	15:54
	Joe Sanchez	ETA	6/2/21	1147

Tel: (626) 386-1100
Fax: (866) 988-3757
1 800 566 LABS (1 800 566 5227)

Laboratory Comments**Report:** 938680**Project:** KALAMAZOO**Group:** Lead Solubility Testing - Phase 2

Tetra Tech
James Christopher
201 East Pine Street
Suite 1000
Orlando, FL 32801

Flags Legend:

M3 - The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The associated blank spike recovery was acceptable.

Tel: (626) 386-1100
Fax: (866) 988-3757
1 800 566 LABS (1 800 566 5227)

Laboratory Hits

Report: 938680
Project: KALAMAZOO
Group: Lead Solubility Testing - Phase 2

Tetra Tech
James Christopher
201 East Pine Street
Suite 1000
Orlando, FL 32801

Samples Received on:
06/02/2021 1147

Analyzed	Analyte	Sample ID	Result	Federal MCL	Units	MRL
06/08/2021 12:47	202106020799 Lead Total ICAP/MS	<u>J-1, Day5</u>	430	15	ug/L	0.50
06/08/2021 12:49	202106020800 Lead Total ICAP/MS	<u>J-2, Day5</u>	330	15	ug/L	0.50
06/08/2021 12:50	202106020801 Lead Total ICAP/MS	<u>J-3, Day5</u>	320	15	ug/L	0.50
06/08/2021 12:50	202106020802 Lead Total ICAP/MS	<u>J-4, Day5</u>	270	15	ug/L	0.50
06/08/2021 12:53	202106020803 Lead Total ICAP/MS	<u>J-5, Day5</u>	220	15	ug/L	0.50
06/08/2021 12:54	202106020804 Lead Total ICAP/MS	<u>J-6, Day5</u>	300	15	ug/L	0.50
06/08/2021 12:55	202106020805 Lead Total ICAP/MS	<u>J-7, Day5</u>	450	15	ug/L	0.50
06/08/2021 12:56	202106020806 Lead Total ICAP/MS	<u>J-8, Day5</u>	400	15	ug/L	0.50
06/08/2021 12:56	202106020807 Lead Total ICAP/MS	<u>J-9, Day5</u>	400	15	ug/L	0.50
06/08/2021 12:57	202106020808 Lead Total ICAP/MS	<u>J-11, Day5</u>	260	15	ug/L	0.50
06/10/2021 15:38	202106020809 Total phosphorus as P	<u>J-0, Day6</u>	2.5		mg/L	0.10
06/10/2021 16:35	Total phosphorus as PO4- Calc.		7.7		mg/L	0.030
06/10/2021 15:38	202106020810 Total phosphorus as P	<u>J-1, Day6</u>	3.6		mg/L	0.10
06/10/2021 16:35	Total phosphorus as PO4- Calc.		11		mg/L	0.030
06/10/2021 15:39	202106020811 Total phosphorus as P	<u>J-2, Day6</u>	4.4		mg/L	0.10
06/10/2021 16:35	Total phosphorus as PO4- Calc.		14		mg/L	0.030
06/10/2021 15:40	202106020812 Total phosphorus as P	<u>J-3, Day6</u>	4.0		mg/L	0.10

SUMMARY OF POSITIVE DATA ONLY

Tel: (626) 386-1100
Fax: (866) 988-3757
1 800 566 LABS (1 800 566 5227)

Laboratory Hits

Report: 938680
Project: KALAMAZOO
Group: Lead Solubility Testing - Phase 2

Tetra Tech
James Christopher
201 East Pine Street
Suite 1000
Orlando, FL 32801

Samples Received on:
06/02/2021 1147

Analyzed	Analyte	Sample ID	Result	Federal MCL	Units	MRL
06/10/2021 16:35	Total phosphorus as PO4- Calc.		12		mg/L	0.030
	202106020813	<u>J-4, Day6</u>				
06/10/2021 15:41	Total phosphorus as P		3.4		mg/L	0.10
06/10/2021 16:35	Total phosphorus as PO4- Calc.		10		mg/L	0.030
	202106020814	<u>J-5, Day6</u>				
06/10/2021 15:42	Total phosphorus as P		5.2		mg/L	0.20
06/10/2021 16:35	Total phosphorus as PO4- Calc.		16		mg/L	0.030
	202106020815	<u>J-6, Day6</u>				
06/10/2021 15:45	Total phosphorus as P		4.9		mg/L	0.10
06/10/2021 16:36	Total phosphorus as PO4- Calc.		15		mg/L	0.030
	202106020816	<u>J-7, Day6</u>				
06/10/2021 15:48	Total phosphorus as P		4.5		mg/L	0.10
06/10/2021 16:36	Total phosphorus as PO4- Calc.		14		mg/L	0.030
	202106020817	<u>J-8, Day6</u>				
06/10/2021 15:49	Total phosphorus as P		4.1		mg/L	0.10
06/10/2021 16:36	Total phosphorus as PO4- Calc.		12		mg/L	0.030
	202106020818	<u>J-9, Day6</u>				
06/10/2021 15:50	Total phosphorus as P		5.8		mg/L	0.20
06/10/2021 16:37	Total phosphorus as PO4- Calc.		18		mg/L	0.030
	202106020819	<u>J-11, Day6</u>				
06/10/2021 15:51	Total phosphorus as P		3.8		mg/L	0.10
06/10/2021 16:37	Total phosphorus as PO4- Calc.		12		mg/L	0.030
	202106020820	<u>J-12, Day6</u>				
06/10/2021 15:52	Total phosphorus as P		4.6		mg/L	0.10
06/10/2021 16:37	Total phosphorus as PO4- Calc.		14		mg/L	0.030
	202106020821	<u>J-13, Day6</u>				
06/10/2021 15:52	Total phosphorus as P		5.0		mg/L	0.20
06/10/2021 16:37	Total phosphorus as PO4- Calc.		15		mg/L	0.030
	202106020822	<u>J-0, Day7</u>				
06/10/2021 15:53	Total phosphorus as P		0.10		mg/L	0.10
06/10/2021 16:37	Total phosphorus as PO4- Calc.		0.31		mg/L	0.030
	202106020823	<u>J-1, Day7</u>				
06/10/2021 15:54	Total phosphorus as P		1.3		mg/L	0.10

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Project: KALAMAZOO
Group: Lead Solubility Testing - Phase 2

Tetra Tech
James Christopher
201 East Pine Street
Suite 1000
Orlando, FL 32801

Samples Received on:
06/02/2021 1147

Analyzed	Analyte	Sample ID	Result	Federal MCL	Units	MRL
06/10/2021 16:37	Total phosphorus as PO4- Calc.		4.0		mg/L	0.030
	202106020824	<u>J-2, Day7</u>				
06/16/2021 16:22	Total phosphorus as P		2.6		mg/L	0.10
06/17/2021 11:50	Total phosphorus as PO4- Calc.		8.0		mg/L	0.030
	202106020825	<u>J-3, Day7</u>				
06/16/2021 16:23	Total phosphorus as P		2.5		mg/L	0.10
06/17/2021 11:50	Total phosphorus as PO4- Calc.		7.7		mg/L	0.030
	202106020826	<u>J-4, Day7</u>				
06/16/2021 16:24	Total phosphorus as P		1.1		mg/L	0.10
06/17/2021 11:50	Total phosphorus as PO4- Calc.		3.4		mg/L	0.030
	202106020827	<u>J-5, Day7</u>				
06/16/2021 16:27	Total phosphorus as P		1.7		mg/L	0.10
06/17/2021 11:50	Total phosphorus as PO4- Calc.		5.2		mg/L	0.030
	202106020828	<u>J-6, Day7</u>				
06/16/2021 16:28	Total phosphorus as P		2.2		mg/L	0.10
06/17/2021 11:50	Total phosphorus as PO4- Calc.		6.8		mg/L	0.030
	202106020829	<u>J-7, Day7</u>				
06/16/2021 16:29	Total phosphorus as P		1.7		mg/L	0.10
06/17/2021 11:50	Total phosphorus as PO4- Calc.		5.2		mg/L	0.030
	202106020830	<u>J-8, Day7</u>				
06/16/2021 16:30	Total phosphorus as P		2.7		mg/L	0.10
06/17/2021 11:50	Total phosphorus as PO4- Calc.		8.3		mg/L	0.030
	202106020831	<u>J-9, Day7</u>				
06/16/2021 16:31	Total phosphorus as P		3.2		mg/L	0.10
06/17/2021 11:50	Total phosphorus as PO4- Calc.		9.8		mg/L	0.030
	202106020832	<u>J-11, Day7</u>				
06/16/2021 16:32	Total phosphorus as P		1.1		mg/L	0.10
06/17/2021 11:50	Total phosphorus as PO4- Calc.		3.4		mg/L	0.030
	202106020833	<u>J-12, Day7</u>				
06/16/2021 16:36	Total phosphorus as P		2.0		mg/L	0.10
06/17/2021 11:50	Total phosphorus as PO4- Calc.		6.1		mg/L	0.030
	202106020834	<u>J-13, Day7</u>				

SUMMARY OF POSITIVE DATA ONLY

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Laboratory Hits

Report: 938680
Project: KALAMAZOO
Group: Lead Solubility Testing - Phase 2

Tetra Tech
James Christopher
201 East Pine Street
Suite 1000
Orlando, FL 32801

Samples Received on:
06/02/2021 1147

Analyzed	Analyte	Sample ID	Result	Federal MCL	Units	MRL
06/16/2021 16:39	Total phosphorus as P		2.4		mg/L	0.10
06/17/2021 11:50	Total phosphorus as PO4- Calc.		7.4		mg/L	0.030
	202106020835	<u>J-0, Day6</u>				
06/08/2021 12:58	Lead Total ICAP/MS		170	15	ug/L	0.50
	202106020836	<u>J-1, Day6</u>				
06/08/2021 13:00	Lead Total ICAP/MS		220	15	ug/L	0.50
	202106020837	<u>J-2, Day6</u>				
06/08/2021 13:02	Lead Total ICAP/MS		160	15	ug/L	0.50
	202106020838	<u>J-3, Day6</u>				
06/08/2021 13:03	Lead Total ICAP/MS		170	15	ug/L	0.50
	202106020839	<u>J-4, Day6</u>				
06/08/2021 13:03	Lead Total ICAP/MS		120	15	ug/L	0.50
	202106020840	<u>J-5, Day6</u>				
06/08/2021 13:04	Lead Total ICAP/MS		110	15	ug/L	0.50
	202106020841	<u>J-6, Day6</u>				
06/08/2021 13:05	Lead Total ICAP/MS		180	15	ug/L	0.50
	202106020842	<u>J-7, Day6</u>				
06/08/2021 13:06	Lead Total ICAP/MS		250	15	ug/L	0.50
	202106020843	<u>J-8, Day6</u>				
06/08/2021 13:06	Lead Total ICAP/MS		230	15	ug/L	0.50
	202106020844	<u>J-9, Day6</u>				
06/08/2021 13:07	Lead Total ICAP/MS		260	15	ug/L	0.50
	202106020845	<u>J-11, Day6</u>				
06/08/2021 13:13	Lead Total ICAP/MS		730	15	ug/L	0.50
	202106020846	<u>J-12, Day6</u>				
06/08/2021 13:15	Lead Total ICAP/MS		190	15	ug/L	0.50
	202106020847	<u>J-13, Day6</u>				
06/08/2021 13:16	Lead Total ICAP/MS		200	15	ug/L	0.50
	202106020848	<u>J-0, Day5</u>				
06/08/2021 13:16	Lead Total ICAP/MS		200	15	ug/L	0.50
	202106020849	<u>J-12, Day5</u>				

SUMMARY OF POSITIVE DATA ONLY



Eaton Analytical

Tel: (626) 386-1100
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Laboratory Hits

Report: 938680

Project: KALAMAZOO

Group: Lead Solubility Testing - Phase 2

Tetra Tech

James Christopher
201 East Pine Street
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Orlando, FL 32801

Samples Received on:
06/02/2021 1147

Analyzed	Analyte	Sample ID	Result	Federal MCL	Units	MRL
06/08/2021 13:17	Lead Total ICAP/MS		310	15	ug/L	0.50
	202106020850	<u>J-13, Day5</u>				
06/08/2021 13:20	Lead Total ICAP/MS		1700	15	ug/L	0.50

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Tetra Tech
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Orlando, FL 32801

Samples Received on:
06/02/2021 1147

Prepped	Analyzed	Prep Batch	Analytical Batch	Method	Analyte	Result	Units	MRL	Dilution
<u>J-1, Day5 (202106020799)</u>						Sampled on 05/26/2021 1241			
EPA 200.8 - ICPMS Metals									
06/03/21	06/08/21 12:47	1332169	1333135	(EPA 200.8)	Lead Total ICAP/MS	430 (M3)	ug/L	0.50	1
<u>J-2, Day5 (202106020800)</u>						Sampled on 05/26/2021 1241			
EPA 200.8 - ICPMS Metals									
06/03/21	06/08/21 12:49	1332169	1333135	(EPA 200.8)	Lead Total ICAP/MS	330	ug/L	0.50	1
<u>J-3, Day5 (202106020801)</u>						Sampled on 05/26/2021 1241			
EPA 200.8 - ICPMS Metals									
06/03/21	06/08/21 12:50	1332169	1333135	(EPA 200.8)	Lead Total ICAP/MS	320	ug/L	0.50	1
<u>J-4, Day5 (202106020802)</u>						Sampled on 05/26/2021 1241			
EPA 200.8 - ICPMS Metals									
06/03/21	06/08/21 12:50	1332169	1333135	(EPA 200.8)	Lead Total ICAP/MS	270	ug/L	0.50	1
<u>J-5, Day5 (202106020803)</u>						Sampled on 05/26/2021 1241			
EPA 200.8 - ICPMS Metals									
06/03/21	06/08/21 12:53	1332169	1333135	(EPA 200.8)	Lead Total ICAP/MS	220	ug/L	0.50	1
<u>J-6, Day5 (202106020804)</u>						Sampled on 05/26/2021 1241			
EPA 200.8 - ICPMS Metals									
06/03/21	06/08/21 12:54	1332169	1333135	(EPA 200.8)	Lead Total ICAP/MS	300	ug/L	0.50	1
<u>J-7, Day5 (202106020805)</u>						Sampled on 05/26/2021 1241			
EPA 200.8 - ICPMS Metals									
06/03/21	06/08/21 12:55	1332169	1333135	(EPA 200.8)	Lead Total ICAP/MS	450	ug/L	0.50	1
<u>J-8, Day5 (202106020806)</u>						Sampled on 05/26/2021 1241			
EPA 200.8 - ICPMS Metals									
06/03/21	06/08/21 12:56	1332169	1333135	(EPA 200.8)	Lead Total ICAP/MS	400	ug/L	0.50	1
<u>J-9, Day5 (202106020807)</u>						Sampled on 05/26/2021 1241			
EPA 200.8 - ICPMS Metals									
06/03/21	06/08/21 12:56	1332169	1333135	(EPA 200.8)	Lead Total ICAP/MS	400	ug/L	0.50	1
<u>J-11, Day5 (202106020808)</u>						Sampled on 05/26/2021 1241			
EPA 200.8 - ICPMS Metals									

Rounding on totals after summation.
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Samples Received on:
06/02/2021 1147

Prepped	Analyzed	Prep Batch	Analytical Batch	Method	Analyte	Result	Units	MRL	Dilution
06/03/21	06/08/21 12:57	1332169	1333135	(EPA 200.8)	Lead Total ICAP/MS	260	ug/L	0.50	1
<u>J-0, Day6 (202106020809)</u>						Sampled on 05/25/2021 1234			
SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.									
06/10/21	16:35			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	7.7 (c)	mg/L	0.030	1
SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)									
06/10/21	15:38		1333988	(SM4500-PE/EPA 365.1)	Total phosphorus as P	2.5	mg/L	0.10	5
<u>J-1, Day6 (202106020810)</u>						Sampled on 05/25/2021 0948			
SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.									
06/10/21	16:35			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	11 (c)	mg/L	0.030	1
SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)									
06/10/21	15:38		1333988	(SM4500-PE/EPA 365.1)	Total phosphorus as P	3.6	mg/L	0.10	5
<u>J-2, Day6 (202106020811)</u>						Sampled on 05/25/2021 0948			
SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.									
06/10/21	16:35			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	14 (c)	mg/L	0.030	1
SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)									
06/10/21	15:39		1333988	(SM4500-PE/EPA 365.1)	Total phosphorus as P	4.4	mg/L	0.10	5
<u>J-3, Day6 (202106020812)</u>						Sampled on 05/25/2021 0948			
SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.									
06/10/21	16:35			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	12 (c)	mg/L	0.030	1
SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)									
06/10/21	15:40		1333988	(SM4500-PE/EPA 365.1)	Total phosphorus as P	4.0	mg/L	0.10	5
<u>J-4, Day6 (202106020813)</u>						Sampled on 05/25/2021 0950			
SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.									
06/10/21	16:35			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	10 (c)	mg/L	0.030	1
SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)									
06/10/21	15:41		1333988	(SM4500-PE/EPA 365.1)	Total phosphorus as P	3.4	mg/L	0.10	5
<u>J-5, Day6 (202106020814)</u>						Sampled on 05/25/2021 0950			

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Samples Received on:
06/02/2021 1147

Prepped	Analyzed	Prep Batch	Analytical Batch	Method	Analyte	Result	Units	MRL	Dilution
SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.									
	06/10/21 16:35			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	16 (c)	mg/L	0.030	1
SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)									
	06/10/21 15:42		1333988	(SM4500-PE/EPA 365.1)	Total phosphorus as P	5.2	mg/L	0.20	10
J-6, Day6 (202106020815)						Sampled on 05/25/2021 0950			
SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.									
	06/10/21 16:36			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	15 (c)	mg/L	0.030	1
SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)									
	06/10/21 15:45		1333988	(SM4500-PE/EPA 365.1)	Total phosphorus as P	4.9	mg/L	0.10	5
J-7, Day6 (202106020816)						Sampled on 05/25/2021 1018			
SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.									
	06/10/21 16:36			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	14 (c)	mg/L	0.030	1
SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)									
	06/10/21 15:48		1333988	(SM4500-PE/EPA 365.1)	Total phosphorus as P	4.5	mg/L	0.10	5
J-8, Day6 (202106020817)						Sampled on 05/25/2021 1018			
SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.									
	06/10/21 16:36			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	12 (c)	mg/L	0.030	1
SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)									
	06/10/21 15:49		1333988	(SM4500-PE/EPA 365.1)	Total phosphorus as P	4.1	mg/L	0.10	5
J-9, Day6 (202106020818)						Sampled on 05/25/2021 1018			
SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.									
	06/10/21 16:37			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	18 (c)	mg/L	0.030	1
SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)									
	06/10/21 15:50		1333988	(SM4500-PE/EPA 365.1)	Total phosphorus as P	5.8	mg/L	0.20	10
J-11, Day6 (202106020819)						Sampled on 05/25/2021 1042			
SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.									
	06/10/21 16:37			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	12 (c)	mg/L	0.030	1

Rounding on totals after summation.

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Samples Received on:
06/02/2021 1147

Prepped	Analyzed	Prep Batch	Analytical Batch	Method	Analyte	Result	Units	MRL	Dilution
SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)									
	06/10/21 15:51		1333988	(SM4500-PE/EPA 365.1)	Total phosphorus as P	3.8	mg/L	0.10	5
J-12, Day6 (202106020820)					Sampled on 05/25/2021 1042				
SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.									
	06/10/21 16:37			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	14 (c)	mg/L	0.030	1
SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)									
	06/10/21 15:52		1333988	(SM4500-PE/EPA 365.1)	Total phosphorus as P	4.6	mg/L	0.10	5
J-13, Day6 (202106020821)					Sampled on 05/25/2021 1042				
SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.									
	06/10/21 16:37			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	15 (c)	mg/L	0.030	1
SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)									
	06/10/21 15:52		1333988	(SM4500-PE/EPA 365.1)	Total phosphorus as P	5.0	mg/L	0.20	10
J-0, Day7 (202106020822)					Sampled on 05/28/2021 1120				
SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.									
	06/10/21 16:37			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	0.31 (c)	mg/L	0.030	1
SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)									
	06/10/21 15:53		1333988	(SM4500-PE/EPA 365.1)	Total phosphorus as P	0.10	mg/L	0.10	5
J-1, Day7 (202106020823)					Sampled on 05/28/2021 1120				
SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.									
	06/10/21 16:37			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	4.0 (c)	mg/L	0.030	1
SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)									
	06/10/21 15:54		1333988	(SM4500-PE/EPA 365.1)	Total phosphorus as P	1.3	mg/L	0.10	5
J-2, Day7 (202106020824)					Sampled on 05/28/2021 1120				
SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.									
	06/17/21 11:50			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	8.0 (c)	mg/L	0.030	1
SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)									
	06/16/21 16:22		1335492	(SM4500-PE/EPA 365.1)	Total phosphorus as P	2.6	mg/L	0.10	5

Rounding on totals after summation.

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Tel: (626) 386-1100
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Laboratory Data

Report: 938680
Project: KALAMAZOO
Group: Lead Solubility Testing - Phase 2

Tetra Tech
James Christopher
201 East Pine Street
Suite 1000
Orlando, FL 32801

Samples Received on:
06/02/2021 1147

Prepped	Analyzed	Prep Batch	Analytical Batch	Method	Analyte	Result	Units	MRL	Dilution
<u>J-3, Day7 (202106020825)</u>						Sampled on 05/28/2021 1120			
SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.									
06/17/21 11:50				(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	7.7 (c)	mg/L	0.030	1
SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)									
06/16/21 16:23		1335492		(SM4500-PE/EPA 365.1)	Total phosphorus as P	2.5	mg/L	0.10	5
<u>J-4, Day7 (202106020826)</u>						Sampled on 05/28/2021 1135			
SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.									
06/17/21 11:50				(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	3.4 (c)	mg/L	0.030	1
SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)									
06/16/21 16:24		1335492		(SM4500-PE/EPA 365.1)	Total phosphorus as P	1.1	mg/L	0.10	5
<u>J-5, Day7 (202106020827)</u>						Sampled on 05/28/2021 1135			
SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.									
06/17/21 11:50				(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	5.2 (c)	mg/L	0.030	1
SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)									
06/16/21 16:27		1335492		(SM4500-PE/EPA 365.1)	Total phosphorus as P	1.7	mg/L	0.10	5
<u>J-6, Day7 (202106020828)</u>						Sampled on 05/28/2021 1135			
SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.									
06/17/21 11:50				(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	6.8 (c)	mg/L	0.030	1
SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)									
06/16/21 16:28		1335492		(SM4500-PE/EPA 365.1)	Total phosphorus as P	2.2	mg/L	0.10	5
<u>J-7, Day7 (202106020829)</u>						Sampled on 05/28/2021 1206			
SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.									
06/17/21 11:50				(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	5.2 (c)	mg/L	0.030	1
SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)									
06/16/21 16:29		1335492		(SM4500-PE/EPA 365.1)	Total phosphorus as P	1.7	mg/L	0.10	5
<u>J-8, Day7 (202106020830)</u>						Sampled on 05/28/2021 1206			
SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.									

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Group: Lead Solubility Testing - Phase 2

Tetra Tech
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201 East Pine Street
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Samples Received on:
06/02/2021 1147

Prepped	Analyzed	Prep Batch	Analytical Batch	Method	Analyte	Result	Units	MRL	Dilution
	06/17/21 11:50			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	8.3 (c)	mg/L	0.030	1
	SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)								
	06/16/21 16:30		1335492	(SM4500-PE/EPA 365.1)	Total phosphorus as P	2.7	mg/L	0.10	5
J-9, Day7 (202106020831)						Sampled on 05/28/2021 1206			
	SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.								
	06/17/21 11:50			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	9.8 (c)	mg/L	0.030	1
	SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)								
	06/16/21 16:31		1335492	(SM4500-PE/EPA 365.1)	Total phosphorus as P	3.2	mg/L	0.10	5
J-11, Day7 (202106020832)						Sampled on 05/28/2021 1230			
	SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.								
	06/17/21 11:50			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	3.4 (c)	mg/L	0.030	1
	SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)								
	06/16/21 16:32		1335492	(SM4500-PE/EPA 365.1)	Total phosphorus as P	1.1	mg/L	0.10	5
J-12, Day7 (202106020833)						Sampled on 05/28/2021 1230			
	SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.								
	06/17/21 11:50			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	6.1 (c)	mg/L	0.030	1
	SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)								
	06/16/21 16:36		1335492	(SM4500-PE/EPA 365.1)	Total phosphorus as P	2.0	mg/L	0.10	5
J-13, Day7 (202106020834)						Sampled on 05/28/2021 1230			
	SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.								
	06/17/21 11:50			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	7.4 (c)	mg/L	0.030	1
	SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)								
	06/16/21 16:39		1335492	(SM4500-PE/EPA 365.1)	Total phosphorus as P	2.4	mg/L	0.10	5
J-0, Day6 (202106020835)						Sampled on 05/29/2021 1730			
	EPA 200.8 - ICPMS Metals								
06/03/21	06/08/21 12:58	1332169	1333135	(EPA 200.8)	Lead Total ICAP/MS	170	ug/L	0.50	1
J-1, Day6 (202106020836)						Sampled on 05/29/2021 1730			

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Tetra Tech
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Samples Received on:
06/02/2021 1147

Prepped	Analyzed	Prep Batch	Analytical Batch	Method	Analyte	Result	Units	MRL	Dilution
EPA 200.8 - ICPMS Metals									
06/03/21	06/08/21 13:00	1332169	1333135	(EPA 200.8)	Lead Total ICAP/MS	220	ug/L	0.50	1
J-2, Day6 (202106020837)						Sampled on 05/29/2021 1730			
EPA 200.8 - ICPMS Metals									
06/03/21	06/08/21 13:02	1332169	1333135	(EPA 200.8)	Lead Total ICAP/MS	160	ug/L	0.50	1
J-3, Day6 (202106020838)						Sampled on 05/29/2021 1730			
EPA 200.8 - ICPMS Metals									
06/03/21	06/08/21 13:03	1332169	1333135	(EPA 200.8)	Lead Total ICAP/MS	170	ug/L	0.50	1
J-4, Day6 (202106020839)						Sampled on 05/29/2021 1730			
EPA 200.8 - ICPMS Metals									
06/03/21	06/08/21 13:03	1332169	1333135	(EPA 200.8)	Lead Total ICAP/MS	120	ug/L	0.50	1
J-5, Day6 (202106020840)						Sampled on 05/29/2021 1730			
EPA 200.8 - ICPMS Metals									
06/03/21	06/08/21 13:04	1332169	1333135	(EPA 200.8)	Lead Total ICAP/MS	110	ug/L	0.50	1
J-6, Day6 (202106020841)						Sampled on 05/29/2021 1730			
EPA 200.8 - ICPMS Metals									
06/03/21	06/08/21 13:05	1332169	1333135	(EPA 200.8)	Lead Total ICAP/MS	180	ug/L	0.50	1
J-7, Day6 (202106020842)						Sampled on 05/29/2021 1730			
EPA 200.8 - ICPMS Metals									
06/03/21	06/08/21 13:06	1332169	1333135	(EPA 200.8)	Lead Total ICAP/MS	250	ug/L	0.50	1
J-8, Day6 (202106020843)						Sampled on 05/29/2021 1730			
EPA 200.8 - ICPMS Metals									
06/03/21	06/08/21 13:06	1332169	1333135	(EPA 200.8)	Lead Total ICAP/MS	230	ug/L	0.50	1
J-9, Day6 (202106020844)						Sampled on 05/29/2021 1730			
EPA 200.8 - ICPMS Metals									
06/03/21	06/08/21 13:07	1332169	1333135	(EPA 200.8)	Lead Total ICAP/MS	260	ug/L	0.50	1
J-11, Day6 (202106020845)						Sampled on 05/29/2021 1730			
EPA 200.8 - ICPMS Metals									
06/03/21	06/08/21 13:13	1332169	1333136	(EPA 200.8)	Lead Total ICAP/MS	730 (M3)	ug/L	0.50	1
J-12, Day6 (202106020846)						Sampled on 05/29/2021 1730			

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Laboratory Data

Report: 938680
Project: KALAMAZOO
Group: Lead Solubility Testing - Phase 2

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Samples Received on:
06/02/2021 1147

Prepped	Analyzed	Prep Batch	Analytical Batch	Method	Analyte	Result	Units	MRL	Dilution
EPA 200.8 - ICPMS Metals									
06/03/21	06/08/21 13:15	1332169	1333136	(EPA 200.8)	Lead Total ICAP/MS	190	ug/L	0.50	1
J-13, Day6 (202106020847)						Sampled on 05/29/2021 1730			
EPA 200.8 - ICPMS Metals									
06/03/21	06/08/21 13:16	1332169	1333136	(EPA 200.8)	Lead Total ICAP/MS	200	ug/L	0.50	1
J-0, Day5 (202106020848)						Sampled on 05/26/2021 1241			
EPA 200.8 - ICPMS Metals									
06/03/21	06/08/21 13:16	1332169	1333136	(EPA 200.8)	Lead Total ICAP/MS	200	ug/L	0.50	1
J-12, Day5 (202106020849)						Sampled on 05/26/2021 1241			
EPA 200.8 - ICPMS Metals									
06/03/21	06/08/21 13:17	1332169	1333136	(EPA 200.8)	Lead Total ICAP/MS	310	ug/L	0.50	1
J-13, Day5 (202106020850)						Sampled on 05/26/2021 1241			
EPA 200.8 - ICPMS Metals									
06/03/21	06/08/21 13:20	1332169	1333136	(EPA 200.8)	Lead Total ICAP/MS	1700	ug/L	0.50	1

Report: 938680
Project: KALAMAZOO
Group: Lead Solubility Testing - Phase 2

Tetra Tech

ICPMS Metals

Prep Batch: 1332169 Analytical Batch: 1333135

Analysis Date: 06/08/2021

202106020799	J-1, Day5	Analyzed by: URDE
202106020800	J-2, Day5	Analyzed by: URDE
202106020801	J-3, Day5	Analyzed by: URDE
202106020802	J-4, Day5	Analyzed by: URDE
202106020803	J-5, Day5	Analyzed by: URDE
202106020804	J-6, Day5	Analyzed by: URDE
202106020805	J-7, Day5	Analyzed by: URDE
202106020806	J-8, Day5	Analyzed by: URDE
202106020807	J-9, Day5	Analyzed by: URDE
202106020808	J-11, Day5	Analyzed by: URDE
202106020835	J-0, Day6	Analyzed by: URDE
202106020836	J-1, Day6	Analyzed by: URDE
202106020837	J-2, Day6	Analyzed by: URDE
202106020838	J-3, Day6	Analyzed by: URDE
202106020839	J-4, Day6	Analyzed by: URDE
202106020840	J-5, Day6	Analyzed by: URDE
202106020841	J-6, Day6	Analyzed by: URDE
202106020842	J-7, Day6	Analyzed by: URDE
202106020843	J-8, Day6	Analyzed by: URDE
202106020844	J-9, Day6	Analyzed by: URDE

ICPMS Metals

Prep Batch: 1332169 Analytical Batch: 1333136

Analysis Date: 06/08/2021

202106020845	J-11, Day6	Analyzed by: URDE
202106020846	J-12, Day6	Analyzed by: URDE
202106020847	J-13, Day6	Analyzed by: URDE
202106020848	J-0, Day5	Analyzed by: URDE
202106020849	J-12, Day5	Analyzed by: URDE
202106020850	J-13, Day5	Analyzed by: URDE

Total phosphorus as P (T-P)

Analytical Batch: 1333988

Analysis Date: 06/10/2021

202106020809	J-0, Day6	Analyzed by: LQ3M
202106020810	J-1, Day6	Analyzed by: LQ3M
202106020811	J-2, Day6	Analyzed by: LQ3M
202106020812	J-3, Day6	Analyzed by: LQ3M
202106020813	J-4, Day6	Analyzed by: LQ3M
202106020814	J-5, Day6	Analyzed by: LQ3M
202106020815	J-6, Day6	Analyzed by: LQ3M
202106020816	J-7, Day6	Analyzed by: LQ3M
202106020817	J-8, Day6	Analyzed by: LQ3M
202106020818	J-9, Day6	Analyzed by: LQ3M
202106020819	J-11, Day6	Analyzed by: LQ3M
202106020820	J-12, Day6	Analyzed by: LQ3M
202106020821	J-13, Day6	Analyzed by: LQ3M

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Laboratory QC Summary

Report: 938680

Project: KALAMAZOO

Group: Lead Solubility Testing - Phase 2

Tetra Tech

202106020822	J-0, Day7	Analyzed by: LQ3M
202106020823	J-1, Day7	Analyzed by: LQ3M

Total phosphorus as P (T-P)

Analytical Batch: 1335492

Analysis Date: 06/16/2021

202106020824	J-2, Day7	Analyzed by: LQ3M
202106020825	J-3, Day7	Analyzed by: LQ3M
202106020826	J-4, Day7	Analyzed by: LQ3M
202106020827	J-5, Day7	Analyzed by: LQ3M
202106020828	J-6, Day7	Analyzed by: LQ3M
202106020829	J-7, Day7	Analyzed by: LQ3M
202106020830	J-8, Day7	Analyzed by: LQ3M
202106020831	J-9, Day7	Analyzed by: LQ3M
202106020832	J-11, Day7	Analyzed by: LQ3M
202106020833	J-12, Day7	Analyzed by: LQ3M
202106020834	J-13, Day7	Analyzed by: LQ3M

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Laboratory QC

Report: 938680
Project: KALAMAZOO
Group: Lead Solubility Testing - Phase 2

Tetra Tech

QC Type	Analyte	Native	Spiked	Recovered	Units	Yield(%)	Limits (%)	RPD Limit(%)	RPD%
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ICPMS Metals by EPA 200.8

Analytical Batch: 1333135

Analysis Date: 06/08/2021

LCS1	Lead Total ICAP/MS		50	51.0	ug/L	102	(85-115)		
LCS2	Lead Total ICAP/MS		50	53.3	ug/L	107	(85-115)	20	4.4
MBLK	Lead Total ICAP/MS			<0.0608	ug/L				
MRL_CHK	Lead Total ICAP/MS		0.5	0.517	ug/L	103	(50-150)		
MS_202106020799	Lead Total ICAP/MS	430	50	471	ug/L	74	(70-130)		
MS2_202106020835	Lead Total ICAP/MS	170	50	215	ug/L	96	(70-130)		
MSD_202106020799	Lead Total ICAP/MS	430	50	468	ug/L	<u>67</u>	(70-130)	20	0.74
MSD2_202106020835	Lead Total ICAP/MS	170	50	219	ug/L	104	(70-130)	20	1.9

ICPMS Metals by EPA 200.8

Analytical Batch: 1333136

Analysis Date: 06/08/2021

LCS1	Lead Total ICAP/MS		50	51.4	ug/L	103	(85-115)		
LCS2	Lead Total ICAP/MS		50	51.0	ug/L	102	(85-115)	20	0.98
MBLK	Lead Total ICAP/MS			<0.0608	ug/L				
MRL_CHK	Lead Total ICAP/MS		0.5	0.527	ug/L	105	(50-150)		
MS_202106020845	Lead Total ICAP/MS	730	50	784	ug/L	98	(70-130)		
MS2_202106030469	Lead Total ICAP/MS	230	50	277	ug/L	96	(70-130)		
MSD_202106020845	Lead Total ICAP/MS	730	50	766	ug/L	<u>63</u>	(70-130)	20	2.3
MSD2_202106030469	Lead Total ICAP/MS	230	50	280	ug/L	103	(70-130)	20	1.5

Total phosphorus as P (T-P) by SM4500-PE/EPA 365.1

Analytical Batch: 1333988

Analysis Date: 06/10/2021

LCS1	Total phosphorus as P		0.4	0.423	mg/L	106	(90-110)		
LCS2	Total phosphorus as P		0.4	0.432	mg/L	108	(90-110)	20	2.1
MBLK	Total phosphorus as P			<0.0108	mg/L				
MRL_CHK	Total phosphorus as P		0.02	0.0135	mg/L	68	(50-150)		
MS_202106080153	Total phosphorus as P	ND	0.4	0.422	mg/L	103	(90-110)		
MS2_202106020814	Total phosphorus as P	5.2	0.4	NR	mg/L		(90-110)		
MSD_202106080153	Total phosphorus as P	ND	0.4	0.422	mg/L	102	(90-110)	20	0.12
MSD2_202106020814	Total phosphorus as P	5.2	0.4	NR	mg/L		(90-110)		

Total phosphorus as P (T-P) by SM4500-PE/EPA 365.1

Analytical Batch: 1335492

Analysis Date: 06/16/2021

LCS1	Total phosphorus as P		0.4	0.408	mg/L	102	(90-110)		
LCS2	Total phosphorus as P		0.4	0.416	mg/L	104	(90-110)	20	1.9
MBLK	Total phosphorus as P			<0.0108	mg/L				

Spike recovery is already corrected for native results.

Spikes which exceed Limits and Method Blanks with positive results are highlighted by Underlining.

Criteria for MS and Dup are advisory only, batch control is based on LCS. Criteria for duplicates are advisory only, unless otherwise specified in the method.

RPD not calculated for LCS2 when different a concentration than LCS1 is used.

RPD not calculated for Duplicates when the result is not five times the MRL (Minimum Reporting Level).

(S) - Indicates surrogate compound.

(I) - Indicates internal standard compound.

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Laboratory QC

Report: 938680
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Tetra Tech

QC Type	Analyte	Native	Spiked	Recovered	Units	Yield(%)	Limits (%)	RPD Limit(%)	RPD%
MRL_CHK	Total phosphorus as P		0.02	0.0205	mg/L	102	(50-150)		
MS_202106020328	Total phosphorus as P	ND	0.4	0.418	mg/L	105	(90-110)		
MS2_202106020329	Total phosphorus as P	ND	0.4	0.436	mg/L	109	(90-110)		
MSD_202106020328	Total phosphorus as P	ND	0.4	0.419	mg/L	105	(90-110)	20	0.22
MSD2_202106020329	Total phosphorus as P	ND	0.4	0.424	mg/L	106	(90-110)	20	2.9

Spike recovery is already corrected for native results.

Spikes which exceed Limits and Method Blanks with positive results are highlighted by Underlining.

Criteria for MS and Dup are advisory only, batch control is based on LCS. Criteria for duplicates are advisory only, unless otherwise specified in the method.

RPD not calculated for LCS2 when different a concentration than LCS1 is used.

RPD not calculated for Duplicates when the result is not five times the MRL (Minimum Reporting Level).

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Tel: (626) 386-1100
Fax: (866) 988-3757
1 800 566 LABS (1 800 566 5227)

Laboratory Report

for

Tetra Tech
201 East Pine Street
Suite 1000
Orlando, FL 32801
Attention: James Christopher
Fax: 407-839-3790

Date of Issue

06/30/2021

Vanessa Berry

**EUROFINS EATON
ANALYTICAL, LLC**



Utah ELCP CA00006

ZIA8: Vanessa Berry
Project Manager

Report: 940684
Project: KALAMAZOO
Group: Lead Solubility Testing - Phase 1

* Accredited in accordance with TNI 2016 and ISO/IEC 17025:2017.

* Laboratory certifies that the test results meet all **TNI 2016 and ISO/IEC 17025:2017** requirements unless noted under the individual analysis.

* Following the cover page are State Certification List, ISO 17025 Accredited Method List, Acknowledgement of Samples Received, Comments, Hits Report, Data Report, QC Summary, QC Report and Regulatory Forms, as applicable.

* Test results relate only to the sample(s) tested.

* Test results apply to the sample(s) as received, unless otherwise noted in the comments report (ISO/IEC 17025:2017).

* This report shall not be reproduced except in full, without the written approval of the laboratory.

* This report includes ISO/IEC 17025 and non-ISO 17025 accredited methods.

STATE CERTIFICATION LIST

State	Certification Number	State	Certification Number
Alabama	41060	Montana	Cert 0035
Arizona	AZ0778	Nebraska	Certified
Arkansas	Certified	Nevada	CA000062018
California	2813	New Hampshire *	2959
Colorado	Certified	New Jersey *	CA 008
Connecticut	PH-0107	New Mexico	Certified
Delaware	CA 006	New York *	11320
Florida *	E871024	North Carolina	06701
Georgia	947	North Dakota	R-009
Guam	18-005R	Oregon *	CA200003-005
Hawaii	Certified	Pennsylvania *	68-565
Idaho	Certified	Puerto Rico	Certified
Illinois *	200033	Rhode Island	LAO00326
Indiana	C-CA-01	South Carolina	87016
Iowa - Asbestos	413	South Dakota	Certified
Kansas *	E-10268	Tennessee	TN02839
Kentucky	90107	Texas *	T104704230-18-15
Louisiana *	LA180000	Utah (Primary AB) *	CA00006
Maine	CA0006	Vermont	VT0114
Maryland	224	Virginia *	460260
Commonwealth of Northern Marianas Is.	MP0004	Washington	C838
Massachusetts	M-CA006	EPA Region 5	Certified
Michigan	9906	Los Angeles County Sanitation Districts	10264
Mississippi	Certified		

[* NELAP/TNI Recognized Accreditation Bodies](#)

ISO/IEC 17025 Accredited Method List

The tests listed below are accredited and meet the requirements of ISO/IEC 17025 as verified by the ANSI-ASQ National Accreditation Board/A2LA.
Refer to Certificate and scope of accreditation (5890) found at: <https://www.eurofinsus.com/Eaton>

SPECIFIC TESTS	METHOD OR TECHNIQUE USED	Environ-mental (Drinking Water)	Environ-mental (Waste Water)	Water as a Component of Food and Bev/Bev/ Bottled Water
1,2,3-TCP (5 PPT & 0.5 PPT)	CA SRL 524M-TCP	x		x
1,4-Dioxane	EPA 522	x		x
2,3,7,8-TCDD	Modified EPA 1613B	x		x
Acrylamide	In House Method (2440)	x		x
Algal Toxins/Microcystin	In House Method (3570)			
Alkalinity	SM 2320B	x	x	x
Ammonia	EPA 350.1		x	x
Ammonia	SM 4500-NH3 H		x	x
Anions and DBPs by IC	EPA 300.0	x	x	x
Anions and DBPs by IC	EPA 300.1	x		x
Asbestos	EPA 100.2	x	x	
BOD / CBOD	SM 5210B		x	x
Bromate	In House Method (2447)	x		x
Carbamates	EPA 531.2	x		x
Carbonate as CO3	SM 2330B	x	x	x
Carbonyls	EPA 556	x		x
COD	EPA 410.4 / SM 5220D		x	
Chloramines	SM 4500-CL G	x	x	x
Chlorinated Acids	EPA 515.4	x		x
Chlorinated Acids	EPA 555	x		x
Chlorine Dioxide	SM 4500-CLO2 D Palin Test	x		x
Chlorine -Total/Free/ Combined Residual	SM 4500-Cl G	x	x	x
Conductivity	EPA 120.1		x	
Conductivity	SM 2510B	x	x	x
Corrosivity (Langelier Index)	SM 2330B	x		x
Cyanide, Amenable	SM 4500-CN G	x	x	
Cyanide, Free	SM 4500CN F	x	x	x
Cyanide, Total	EPA 335.4	x	x	x
Cyanogen Chloride (screen)	In House Method (2470)	x		x
Diquat and Paraquat	EPA 549.2	x		x
DBP/HAA	SM 6251B	x		x
Dissolved Oxygen	SM 4500-O G		x	x
DOC	SM 5310C	x		x
E. Coli	(MTF/EC+MUG)	x		x
E. Coli	CFR 141.21(f)(6)(i)	x		x
E. Coli	SM 9223		x	
E. Coli (Enumeration)	SM 9221B.1/ SM 9221F	x		x
E. Coli (Enumeration)	SM 9223B	x		x
EDB/DCBP	EPA 504.1	x		
EDB/DBCP and DBP	EPA 551.1	x		x
EDTA and NTA	In House Method (2454)	x		x
Endothall	EPA 548.1	x		x
Endothall	In-house Method (2445)	x		x
Enterococci	SM 9230B	x	x	
Fecal Coliform	SM 9221 E (MTF/EC)	x		
Fecal Coliform	SM 9221C, E (MTF/EC)		x	
Fecal Coliform (Enumeration)	SM 9221E (MTF/EC)	x		x
Fecal Coliform with Chlorine Present	SM 9221E		x	
Fecal Streptococci	SM 9230B	x	x	
Fluoride	SM 4500-F C	x	x	x
Glyphosate	EPA 547	x		x
Glyphosate + AMPA	In House Method (3618)	x		x
Gross Alpha/Beta	EPA 900.0	x	x	x
Gross Alpha Coprecipitation	SM 7110 C	x	x	x
Hardness	SM 2340B	x	x	x
Heterotrophic Bacteria	In House Method (2439)	x		x
Heterotrophic Bacteria	SM 9215 B	x		x
Hexavalent Chromium	EPA 218.6	x	x	x

SPECIFIC TESTS	METHOD OR TECHNIQUE USED	Environ-mental (Drinking Water)	Environ-mental (Waste Water)	Water as a Component of Food and Bev/Bev/ Bottled Water
Hexavalent Chromium	EPA 218.7	x		x
Hexavalent Chromium	SM 3500-Cr B		x	
Hormones	EPA 539	x		x
Hydroxide as OH Calc.	SM 2330B	x		x
Kjeldahl Nitrogen	EPA 351.2		x	
Legionella	Legiolert	x		x
Mercury	EPA 200.8	x		x
Metals	EPA 200.7 / 200.8	x	x	x
Microcystin LR	ELISA (2360)	x		x
Microcystin, Total	EPA 546	x		x
NDMA	EEA/Agilent 521.1 In house method (2425)	x		x
Nitrate/Nitrite Nitrogen	EPA 353.2	x	x	x
OCL, Pesticides/PCB	EPA 505	x		x
Ortho Phosphate	EPA 365.1	x	x	x
Ortho Phosphorous	SM 4500P E	x		x
Oxyhalides Disinfection Byproducts	EPA 317.0	x		x
Perchlorate	EPA 331.0	x		x
Perchlorate (low and high)	EPA 314.0	x		x
Perfluorinated Alkyl Acids	EPA 537	x		x
Perfluorinated Pollutant	In house Method (2434)	x		x
pH	EPA 150.1	x		
pH	SM 4500-H+B	x	x	x
Phenylurea Pesticides/ Herbicides	In House Method, based on EPA 532 (2448)	x		x
Pseudomonas	IDEXX Pseudalert (2461)	x		x
Radium-226	GA Institute of Tech	x		x
Radium-228	GA Institute of Tech	x		x
Radon-222	SM 7500RN	x		x
Residue, Filterable	SM 2540C	x	x	x
Residue, Non-filterable	SM 2540D		x	
Residue, Total	SM 2540B		x	x
Residue, Volatile	EPA 160.4		x	
Semi-VOC	EPA 525.2	x		x
Silica	SM 4500-Si D	x	x	
Silica	SM 4500-SiO2 C	x	x	
Sulfide	SM 4500-S ⁻ D		x	
Sulfite	SM 4500-SO ³ B	x	x	x
Surfactants	SM 5540C	x	x	x
Taste and Odor Analytes	SM 6040E	x		x
Total Coliform (P/A)	SM 9221 A, B	x		x
Total Coliform (Enumeration)	SM 9221 A, B, C	x		x
Total Coliform / E. coli	Colisure SM 9223	x		x
Total Coliform	SM 9221B		x	
Total Coliform with Chlorine Present	SM 9221B		x	
Total Coliform / E.coli (P/A and Enumeration)	SM 9223	x		x
TOC	SM 5310C	x	x	x
TOX	SM 5320B		x	
Total Phenols	EPA 420.1		x	
Total Phenols	EPA 420.4	x	x	x
Total Phosphorous	SM 4500 P E		x	
Triazine Pesticides & Degradates	In House (3617)	x		x
Turbidity	EPA 180.1	x	x	x
Turbidity	SM 2130B	x	x	
Uranium by ICP/MS	EPA 200.8	x		x
UV 254	SM 5910B	x		
VOC	EPA 524.2	x		x
VOC	In House Method (2411)	x		x
Yeast and Mold	SM 9610	x		x
Field Sampling	N/A			

Acknowledgement of Samples Received

Addr: **Tetra Tech**
201 East Pine Street
Suite 1000
Orlando, FL 32801

Attn: James Christopher
Phone: 407-480-3907

Client ID: TETRATECH-ORLAN
Folder #: 940684
Project: KALAMAZOO
Sample Group: Lead Solubility Testing - Phase 1

Project Manager: Vanessa Berry
Phone: 503-310-3905

The following samples were received from you on **June 14, 2021 at 1313**. They have been scheduled for the tests listed below each sample. If this information is incorrect, please contact your service representative. Thank you for using Eurofins Eaton Analytical, LLC.

Sample #	Sample ID	Sample Date
<u>202106140204</u>	J-1 Day 7	06/02/2021 1310
	@ICPMS	
<u>202106140205</u>	J-2 Day 7	06/02/2021 1310
	@ICPMS	
<u>202106140206</u>	J-3 Day 7	06/02/2021 1310
	@ICPMS	
<u>202106140207</u>	J-4 Day 7	06/02/2021 1310
	@ICPMS	
<u>202106140208</u>	J-5 Day 7	06/02/2021 1310
	@ICPMS	
<u>202106140209</u>	J-6 Day 7	06/02/2021 1310
	@ICPMS	
<u>202106140210</u>	J-7 Day 7	06/02/2021 1310
	@ICPMS	
<u>202106140211</u>	J-8 Day 7	06/02/2021 1310
	@ICPMS	
<u>202106140212</u>	J-9 Day 7	06/02/2021 1310
	@ICPMS	
<u>202106140213</u>	J-11 Day 7	06/02/2021 1310
	@ICPMS	
<u>202106140214</u>	J-12 Day 7	06/02/2021 1310
	@ICPMS	
<u>202106140215</u>	J-13 Day 7	06/02/2021 1310
	@ICPMS	
<u>202106140216</u>	J0 Day 9	06/04/2021 1055
	Total phosphorus as P	Total phosphorus as PO4- Calc.

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Sample #	Sample ID	Sample Date
<u>202106140217</u>	J1 Day 9	06/04/2021 0857
	Total phosphorus as P Total phosphorus as PO4- Calc.	
<u>202106140218</u>	J2 Day 9	06/04/2021 0901
	Total phosphorus as P Total phosphorus as PO4- Calc.	
<u>202106140219</u>	J3 Day 9	06/04/2021 0909
	Total phosphorus as P Total phosphorus as PO4- Calc.	
<u>202106140220</u>	J4 Day 9	06/04/2021 0929
	Total phosphorus as P Total phosphorus as PO4- Calc.	
<u>202106140221</u>	J5 Day 9	06/04/2021 0931
	Total phosphorus as P Total phosphorus as PO4- Calc.	
<u>202106140222</u>	J6 Day 9	06/04/2021 0935
	Total phosphorus as P Total phosphorus as PO4- Calc.	
<u>202106140223</u>	J7 Day 9	06/04/2021 1007
	Total phosphorus as P Total phosphorus as PO4- Calc.	
<u>202106140224</u>	J8 Day 9	06/04/2021 1010
	Total phosphorus as P Total phosphorus as PO4- Calc.	
<u>202106140225</u>	J9 Day 9	06/04/2021 1014
	Total phosphorus as P Total phosphorus as PO4- Calc.	
<u>202106140226</u>	J11 Day 9	06/04/2021 1027
	Total phosphorus as P Total phosphorus as PO4- Calc.	
<u>202106140227</u>	J12 Day 9	06/04/2021 1130
	Total phosphorus as P Total phosphorus as PO4- Calc.	
<u>202106140228</u>	J13 Day 9	06/04/2021 1133
	Total phosphorus as P Total phosphorus as PO4- Calc.	
<u>202106140229</u>	J-0 Day 8	06/01/2021 1349
	Total phosphorus as P Total phosphorus as PO4- Calc.	

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Sample #	Sample ID	Sample Date
<u>202106140230</u>	J-1 Day 8	06/01/2021 1349
	Total phosphorus as P	Total phosphorus as PO4- Calc.
<u>202106140231</u>	J-2 Day 8	06/01/2021 1349
	Total phosphorus as P	Total phosphorus as PO4- Calc.
<u>202106140232</u>	J-3 Day 8	06/01/2021 1349
	Total phosphorus as P	Total phosphorus as PO4- Calc.
<u>202106140233</u>	J-4 Day 8	06/01/2021 1433
	Total phosphorus as P	Total phosphorus as PO4- Calc.
<u>202106140234</u>	J-5 Day 8	06/01/2021 1433
	Total phosphorus as P	Total phosphorus as PO4- Calc.
<u>202106140235</u>	J-6 Day 8	06/01/2021 1422
	Total phosphorus as P	Total phosphorus as PO4- Calc.
<u>202106140236</u>	J-7 Day 8	06/01/2021 1505
	Total phosphorus as P	Total phosphorus as PO4- Calc.
<u>202106140237</u>	J-8 Day 8	06/01/2021 1505
	Total phosphorus as P	Total phosphorus as PO4- Calc.
<u>202106140238</u>	J-9 Day 8	06/01/2021 1505
	Total phosphorus as P	Total phosphorus as PO4- Calc.
<u>202106140239</u>	J-11 Day 8	06/01/2021 1512
	Total phosphorus as P	Total phosphorus as PO4- Calc.
<u>202106140240</u>	J-12 Day 8	06/01/2021 1512
	Total phosphorus as P	Total phosphorus as PO4- Calc.
<u>202106140241</u>	J-13 Day 8	06/01/2021 1512
	Total phosphorus as P	Total phosphorus as PO4- Calc.
<u>202106140242</u>	J-0 Day 9	06/08/2021 1310
	@ICPMS	

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Sample #	Sample ID	Sample Date
<u>202106140243</u>	J-1 Day 9	06/08/2021 1310
	@ICPMS	
<u>202106140244</u>	J-2 Day 9	06/08/2021 1310
	@ICPMS	
<u>202106140245</u>	J-3 Day 9	06/08/2021 1310
	@ICPMS	
<u>202106140246</u>	J-4 Day 9	06/08/2021 1310
	@ICPMS	
<u>202106140247</u>	J-5 Day 9	06/08/2021 1310
	@ICPMS	
<u>202106140248</u>	J-6 Day 9	06/08/2021 1310
	@ICPMS	
<u>202106140249</u>	J-7 Day 9	06/08/2021 1310
	@ICPMS	
<u>202106140250</u>	J-8 Day 9	06/08/2021 1310
	@ICPMS	
<u>202106140251</u>	J-9 Day 9	06/08/2021 1310
	@ICPMS	
<u>202106140252</u>	J-11 Day 9	06/08/2021 1310
	@ICPMS	
<u>202106140253</u>	J-12 Day 9	06/08/2021 1310
	@ICPMS	
<u>202106140254</u>	J-13 Day 9	06/08/2021 1310
	@ICPMS	
<u>202106140255</u>	J-0 Day 10	06/07/2021 1124
	Total phosphorus as P	Total phosphorus as PO4- Calc.

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Project: KALAMAZOO

Sample Group: Lead Solubility Testing - Phase 1

Project Manager: Vanessa Berry

Phone: 503-310-3905

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Sample #	Sample ID	Sample Date
<u>202106140256</u>	J-1 Day 10	06/07/2021 0946
	Total phosphorus as P	Total phosphorus as PO4- Calc.
<u>202106140257</u>	J-2 Day 10	06/07/2021 0946
	Total phosphorus as P	Total phosphorus as PO4- Calc.
<u>202106140258</u>	J-3 Day 10	06/07/2021 0946
	Total phosphorus as P	Total phosphorus as PO4- Calc.
<u>202106140259</u>	J-4 Day 10	06/07/2021 1004
	Total phosphorus as P	Total phosphorus as PO4- Calc.
<u>202106140260</u>	J-5 Day 10	06/07/2021 1004
	Total phosphorus as P	Total phosphorus as PO4- Calc.
<u>202106140261</u>	J-6 Day 10	06/07/2021 1004
	Total phosphorus as P	Total phosphorus as PO4- Calc.
<u>202106140262</u>	Jar 7 Day 10	06/07/2021 1031
	Total phosphorus as P	Total phosphorus as PO4- Calc.
<u>202106140263</u>	Jar 8 Day 10	06/07/2021 1031
	Total phosphorus as P	Total phosphorus as PO4- Calc.
<u>202106140264</u>	Jar 9 Day 10	06/07/2021 1031
	Total phosphorus as P	Total phosphorus as PO4- Calc.
<u>202106140265</u>	Jar 11 Day 10	06/07/2021 1052
	Total phosphorus as P	Total phosphorus as PO4- Calc.
<u>202106140266</u>	Jar 12 Day 10	06/07/2021 1052
	Total phosphorus as P	Total phosphorus as PO4- Calc.
<u>202106140267</u>	J-13 Day 10	06/07/2021 1052
	Total phosphorus as P	Total phosphorus as PO4- Calc.
<u>202106140268</u>	Jar 0 Day 8	06/05/2021 1321
	@ICPMS	

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Sample #	Sample ID	Sample Date
<u>202106140269</u>	Jar 1 Day 8	06/05/2021 1323
	@ICPMS	
<u>202106140270</u>	Jar 2 Day 8	06/05/2021 1324
	@ICPMS	
<u>202106140271</u>	Jar 3 Day 8	06/05/2021 1325
	@ICPMS	
<u>202106140272</u>	Jar 4 Day 8	06/05/2021 1326
	@ICPMS	
<u>202106140273</u>	Jar 5 Day 8	06/05/2021 1327
	@ICPMS	
<u>202106140274</u>	Jar 6 Day 8	06/05/2021 1328
	@ICPMS	
<u>202106140275</u>	Jar 7 Day 8	06/05/2021 1331
	@ICPMS	
<u>202106140276</u>	Jar 8 Day 8	06/05/2021 1333
	@ICPMS	
<u>202106140277</u>	Jar 9 Day 8	06/05/2021 1334
	@ICPMS	
<u>202106140278</u>	Jar 11 Day 8	06/05/2021 1336
	@ICPMS	
<u>202106140279</u>	Jar 12 Day 8	06/05/2021 1337
	@ICPMS	
<u>202106140280</u>	Jar 13 Day 8	06/05/2021 1341
	@ICPMS	
<u>202106140281</u>	J-0, Day 7	06/02/2021 1310
	@ICPMS	

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Sample #	Sample ID	Sample Date
Test Description		
@ICPMS -- ICPMS Metals		



eurofins

Eaton Analytical

CHAIN OF CUSTODY RECORD

EUROFINS EATON ANALYTICAL USE ONLY:

750 Royal Oaks Drive, Suite 100

Monrovia, CA 91016-3629

Phone: 626 386 1100

Fax: 626 386 1101

800 566 LABS (800 566 5227)

Website: www.EatonAnalytical.com

LOGIN COMMENTS:

SAMPLES CHECKED AGAINST COC BY: gms

SAMPLES LOGGED IN BY: gms

SAMPLE TEMP RECEIVED AT:

☐ (Other) IR Gun ID = _____ (Observation = _____ °C) (check for yes)

☒ Monrovia IR Gun ID = 606 (Observation = 20.1 °C) (Final = 19.9 °C)

Compliance Acceptance Criteria: (Chemistry: 4 ± 2 °C) (Microbiology: < 10 °C)

TYPE OF ICE: Real ☒ Synthetic _____

No Ice _____

CONDITION OF ICE: Frozen _____ Partially Frozen _____ Thawed _____

METHOD OF SHIPMENT: Pick-Up / Walk-In / FedEx / UPS / DHL / Area Fast / Top Line / Other: _____

TO BE COMPLETED BY SAMPLER:

COMPANY/AGENCY NAME:		PROJECT CODE:		COMPLIANCE SAMPLES		NON-COMPLIANCE SAMPLES		(check for yes)	
Tetra Tech				- Requires state forms		REGULATION INVOLVED:			
EEA CLIENT CODE:		COC ID:		Type of samples (circle one):		ROUTINE SPECIAL CONFIRMATION		(eg. SDWA, NPDES, etc.)	
tetra-tech-cv1				SEE ATTACHED KIT ORDER FOR ANALYSES				(check for yes), OR	
TAT requested: rush by adv notice only		STD		1 wk		3 day		1 day	
SAMPLE DATE	SAMPLE TIME	SAMPLE ID	CLIENT LAB ID	MATRIX	FIELD DATA	FIELD DATA	SAMPLER COMMENTS		
6/2/10	10:10	J-1	day 7	fw					
		J-2							
		J-3							
		J-4							
		J-5							
		J-6							
		J-7							
		J-8							
		J-9							
		J-11							

* MATRIX TYPES: RSW = Raw Surface Water CFW = Chlor(am)inated Finished Water SEAW = Sea Water BW = Bottled Water SO = Soil
RGW = Raw Ground Water FW = Other Finished Water WW = Waste Water SW = Storm Water SL = Sludge
O = Other - Please Identify

SAMPLED BY:	SIGNATURE	PRINT NAME	COMPANY/TITLE	DATE	TIME
RELINQUISHED BY:	<u>Abigail Hamner</u>	<u>Abigail Hamner</u>	<u>Tetra Tech</u>	<u>06/11/21</u>	<u>14:10</u>
RECEIVED BY:	<u>Abigail Hamner</u>	<u>Abigail Hamner</u>	<u>Tetra Tech</u>	<u>06/11/21</u>	<u>14:10</u>
RELINQUISHED BY:	<u>Chuck Brown</u>	<u>Chuck Brown</u>	<u>CTP</u>	<u>6/14/21</u>	<u>13:13</u>
RECEIVED BY:					



CHAIN OF CUSTODY RECORD

Eaton Analytical

EUROFINS EATON ANALYTICAL USE ONLY:

750 Royal Oaks Drive, Suite 100
Monrovia, CA 91016-3629
Phone: 626 386 1100
Fax: 626 386 1101
800 566 LABS (800 566 5227)
Website: www.EatonAnalytical.com

LOGIN COMMENTS:

SAMPLES CHECKED AGAINST COC BY: B

SAMPLES LOGGED IN BY: D

SAMPLES REC'D DAY OF COLLECTION? (check for yes)

Monrovia IR Gun ID = 616 (Observation = 20.1 °C) (Corr. Factor = 0.12 °C) (Final = 19.9 °C)

Compliance Acceptance Criteria: (Chemistry: 4 ± 2 °C) (Microbiology: < 10 °C)

TYPE OF ICE: Real ☒ Synthetic ☐ No Ice ☐ CONDITION OF ICE: Frozen ☐ Partially Frozen ☐ Thawed ☒ N/A

METHOD OF SHIPMENT: Pick-Up / Walk-In / FedEx / UPS / DHL / Area Fast / Top Line / Other:

TO BE COMPLETED BY SAMPLER:

COMPANY/AGENCY NAME:		PROJECT CODE:	COMPLIANCE SAMPLES		NON-COMPLIANCE SAMPLES		(check for yes)	
Tetra Tech			- Requires state forms		REGULATION INVOLVED:		(eg. SDWA, NPDES, etc.)	
EEA CLIENT CODE:		COC ID:	Type of samples (circle one):	ROUTINE	SPECIAL	CONFIRMATION	(check for yes), OR	
TAT requested: rush by adv notice only			SEE ATTACHED KIT ORDER FOR ANALYSES					
SAMPLE ID		CLIENT LAB ID	MATRIX	FIELD DATA	FIELD DATA	List ALL ANALYSES REQUIRED (enter number of bottles sent for each test for each sample)		
SAMPLE DATE	SAMPLE TIME							SAMPLER COMMENTS
6/02 13:10	J-12 day 7		fw					
6/02 13:10	J-13 day 7							
6/04 10:55	J0 day 9							
8:57	J1							
9:01	J2							
9:09	J3							
9:29	J4							
9:31	J5							
9:35	J6							
10:07	J7							

* MATRIX TYPES: RSW = Raw Surface Water RGW = Raw Ground Water CFW = Chlor(am)inated Finished Water FW = Other Finished Water SEAW = Sea Water BW = Bottled Water SW = Storm Water WW = Waste Water SO = Soil SL = Sludge O = Other - Please Identify

SAMPLED BY:	SIGNATURE	PRINT NAME	COMPANY/TITLE	DATE	TIME
RELINQUISHED BY:	<u>Agartha</u>	<u>Ana Ravahal</u>	<u>Tetra Tech</u>	<u>06/11/21</u>	<u>14:10</u>
RECEIVED BY:	<u>Chen Brooker</u>	<u>Abigail Herrick</u>	<u>Tetra Tech</u>	<u>06/11/21</u>	<u>14:10</u>
RELINQUISHED BY:				<u>6/14/21</u>	<u>13:30</u>
RECEIVED BY:					



CHAIN OF CUSTODY RECORD

Eaton Analytical

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Phone: 626 386 1100
Fax: 626 386 1101
800 566 LABS (800 566 5227)
Website: www.EatonAnalytical.com

LOGIN COMMENTS:

SAMPLES CHECKED AGAINST COC BY: LB

SAMPLES LOGGED IN BY: LB

SAMPLE TEMP RECEIVED AT:

☐ (Other) IR Gun ID = _____ (Observation = _____ °C) (check for yes)
☒ Monrovia IR Gun ID = 666 (Observation = 20.1 °C) (Final = 19.9 °C)
Compliance Acceptance Criteria: (Chemistry: 4 ± 2 °C) (Microbiology: < 10 °C)

TYPE OF ICE: Real ☒ Synthetic _____ No Ice _____

CONDITION OF ICE: Frozen _____ Partially Frozen _____ Thawed _____
METHOD OF SHIPMENT: Pick-Up / Walk-In / FedEx / UPS / DHL / Area Fast / Top Line / Other: _____

TO BE COMPLETED BY SAMPLER:

COMPANY/AGENCY NAME:		PROJECT CODE:	COMPLIANCE SAMPLES		NON-COMPLIANCE SAMPLES		(check for yes)		
Tetra Tech			- Requires state forms		REGULATION INVOLVED:		(check for yes)		
EEA CLIENT CODE:		COC ID:	Type of samples (circle one):		ROUTINE SPECIAL CONFIRMATION		(eg. SDWA, NPDES, etc.)		
tetra-tech-or-1			SEE ATTACHED KIT ORDER FOR ANALYSES						
TAT requested: rush by adv notice only		STD		1 wk		3 day		1 day	
SAMPLE DATE	SAMPLE TIME	SAMPLE ID	CLIENT LAB ID	MATRIX	FIELD DATA	FIELD DATA	SAMPLER COMMENTS		
6/04/10:10		J8, day 9		fw					
10:14		J9							
10:27		J11							
11:20		J12							
11:23		J13							
6/01 13:49		J-0 Day 8							
		J-1							
		J-2							
		J-3							
14:33		J-4							

* MATRIX TYPES: RSW = Raw Surface Water RGW = Raw Ground Water CFW = Chlor(am)inated Finished Water FW = Other Finished Water SEAW = Sea Water BW = Bottled Water SO = Soil WW = Waste Water SW = Storm Water SL = Sludge O = Other - Please Identify

SAMPLED BY:	SIGNATURE	PRINT NAME	COMPANY/TITLE	DATE	TIME
RELINQUISHED BY:	<u>[Signature]</u>	<u>Ara Roshal</u>	<u>Tetra Tech</u>	<u>06/04/21</u>	<u>14:10</u>
RECEIVED BY:	<u>[Signature]</u>	<u>Abigail Herrera</u>	<u>Tetra Tech</u>	<u>06/11/21</u>	<u>14:10</u>
RELINQUISHED BY:	<u>[Signature]</u>	<u>Chun Buehn</u>	<u>CTA</u>	<u>6/14/21</u>	<u>1313</u>
RECEIVED BY:					



Eaton Analytical

CHAIN OF CUSTODY RECORD

EUROFINS EATON ANALYTICAL USE ONLY:

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Monrovia, CA 91016-3629

Phone: 626 386 1100
Fax: 626 386 1101

800 566 LABS (800 566 5227)

Website: www.EatonAnalytical.com

LOGIN COMMENTS:

SAMPLES CHECKED AGAINST COC BY: 03

SAMPLES LOGGED IN BY: 0

SAMPLE TEMP RECEIVED AT:

☐ (Other) IR Gun ID = _____ (Observation = _____ °C) (check for yes)
☒ Monrovia IR Gun ID = 616 (Observation = 20.1 °C) (Final = 19.9 °C)
Compliance Acceptance Criteria: (Chemistry: 4 ± 2 °C) (Microbiology: < 10 °C)

TYPE OF ICE: Real ☒ Synthetic _____ No Ice _____

CONDITION OF ICE: Frozen _____ Partially Frozen _____ Thawed _____

METHOD OF SHIPMENT: Pick-Up / Walk-In / FedEx / UPS / DHL / Area Fast / Top Line / Other: _____

TO BE COMPLETED BY SAMPLER:

COMPANY/AGENCY NAME:		PROJECT CODE:	COMPLIANCE SAMPLES		NON-COMPLIANCE SAMPLES	
Tetra Tech			- Requires state forms		REGULATION INVOLVED:	
EEA CLIENT CODE:		COC ID:	Type of samples (circle one):		(eg. SDWA, NPDES, etc.)	
tetratech-cv1 10000000			ROUTINE SPECIAL CONFIRMATION			
TAT requested: rush by adv notice only		SAMPLE GROUP:		SEE ATTACHED KIT ORDER FOR ANALYSES		
		lead solubility test phase 1		(check for yes), OR		
		STD 1 wk 3 day 1 day		List ALL ANALYSES REQUIRED (enter number of bottles sent for each test for each sample)		
SAMPLE DATE	SAMPLE TIME	SAMPLE ID	CLIENT LAB ID	MATRIX	FIELD DATA	SAMPLER COMMENTS
6/01/14:33	J-5, day 8			FW		
14:22	J-6					
15:08	J-7					
↓	J-8					
↓	J-9					
15:12	J-11					
↓	J-12					
↓	J-13					

* MATRIX TYPES: RSW = Raw Surface Water CFW = Chlor(am)inated Finished Water SEAW = Sea Water BW = Bottled Water SO = Soil
RGW = Raw Ground Water FW = Other Finished Water WW = Waste Water SW = Storm Water SL = Sludge
O = Other - Please Identify

SAMPLED BY:	PRINT NAME	COMPANY/TITLE	DATE	TIME
RELINQUISHED BY: <u>Abigail Herrick</u>	Ana Rosabal	Tetra Tech	06/11/21	14:10
RECEIVED BY: <u>Abigail Herrick</u>	Abigail Herrick	Tetra Tech	06/11/21	14:10
RELINQUISHED BY: <u>Chen Brooker</u>	Chen Brooker	Tetra Tech	06/14/21	13/3
RECEIVED BY:				



Eaton Analytical

CHAIN OF CUSTODY RECORD

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800 566 LABS (800 566 5227)
Website: www.EatonAnalytical.com

LOGIN COMMENTS:

SAMPLES CHECKED AGAINST COC BY: BS

750 Royal Oaks Drive, Suite 100
Monrovia, CA 91016-3629

Phone: 626 386 1100
Fax: 626 386 1101

800 566 LABS (800 566 5227)

Website: www.EatonAnalytical.com

SAMPLE TEMP RECEIVED AT:

☐ (Other) IR Gun ID =

(Observation = 6.6 °C)

IR Gun ID = 6.6

(Observation = 20.1 °C)

(Corr. Factor = -0.2 °C)

(Final = 19.9 °C)

SAMPLES REC'D DAY OF COLLECTION? ☐ (check for yes)

SAMPLES LOGGED IN BY: BS

☒ Monrovia

Compliance Acceptance Criteria: (Chemistry: 4 ± 2 °C) (Microbiology: < 10 °C)

TYPE OF ICE: Real ☒ Synthetic

No Ice

CONDITION OF ICE: Frozen

Partially Frozen

Thawed

METHOD OF SHIPMENT: Pick-Up / Walk-In / FedEx / UPS / DHL / Area Fast / Top Line / Other: N/A

TO BE COMPLETED BY SAMPLER:

COMPANY/AGENCY NAME:

Tetra Tech

EEA CLIENT CODE:

tetrattech-cv1

COC ID:

SAMPLE GROUP:

lead solubility test phase 1

TAT requested: rush by adv notice only

STD 1 wk 3 day 2 day 1 day

SAMPLE DATE	SAMPLE TIME	SAMPLE ID	CLIENT LAB ID	MATRIX	FIELD DATA	FIELD DATA	SAMPLER COMMENTS
06/09	13:00	J-11, day 9		FW			
	↓	J-12					
	↓	J-13					
06/11	11:24	J-0, day 10					
	↓	J-1					
	↓	J-2					
	↓	J-3					
	↓	J-4					
	↓	J-5					
	↓	J-6					

* MATRIX TYPES: RSW = Raw Surface Water RGW = Raw Ground Water CFW = Chlor(am)inated Finished Water FW = Other Finished Water SEAW = Sea Water WW = Waste Water BW = Bottled Water SW = Storm Water SO = Soil SL = Sludge O = Other - Please Identify

SAMPLED BY:	SIGNATURE	PRINT NAME	COMPANY/TITLE	DATE	TIME
RELINQUISHED BY:	<u>Apigail Herrera</u>	<u>Apigail Herrera</u>	<u>Tetra Tech</u>	<u>06/04/21</u>	<u>14:10</u>
RECEIVED BY:	<u>Chad Brooks</u>	<u>Chad Brooks</u>	<u>TTB</u>	<u>06/04/21</u>	<u>13:13</u>
RELINQUISHED BY:					
RECEIVED BY:					



Eaton Analytical

CHAIN OF CUSTODY RECORD

EUROFINS EATON ANALYTICAL USE ONLY:

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Monrovia, CA 91016-3629
Phone: 626 386 1100
Fax: 626 386 1101
800 566 LABS (800 566 5227)
Website: www.EatonAnalytical.com

LOGIN COMMENTS:

SAMPLES CHECKED AGAINST COC BY: 13

750 Royal Oaks Drive, Suite 100

Monrovia, CA 91016-3629

Phone: 626 386 1100

Fax: 626 386 1101

800 566 LABS (800 566 5227)

Website: www.EatonAnalytical.com

SAMPLES LOGGED IN BY: 13

SAMPLE TEMP RECEIVED AT:

☐ (Other) IR Gun ID = _____ (check for yes)

☒ Monrovia IR Gun ID = 666 (check for yes)

Compliance Acceptance Criteria: (Chemistry: $4 \pm 2^{\circ}\text{C}$) (Microbiology: $< 10^{\circ}\text{C}$)

TYPE OF ICE: Real ☒ Synthetic _____

CONDITION OF ICE: Frozen _____ Partially Frozen _____ Thawed _____

METHOD OF SHIPMENT: Pick-Up / Walk-In / FedEx / UPS / DHL / Area Fast / Top Line / Other: _____

TO BE COMPLETED BY SAMPLER:

COMPANY/AGENCY NAME:		PROJECT CODE:	COMPLIANCE SAMPLES		NON-COMPLIANCE SAMPLES	
			- Requires state forms		REGULATION INVOLVED:	
			Type of samples (circle one): ROUTINE SPECIAL CONFIRMATION		(eg. SDWA, NPDES, etc.)	
EEA CLIENT CODE:		COC ID:	SEE ATTACHED KIT ORDER FOR ANALYSES			
			(check for yes) <input type="checkbox"/> (check for yes) <input type="checkbox"/>			
TAT requested: rush by adv notice only		STD	1 wk	3 day	2 day	1 day
SAMPLE DATE	SAMPLE TIME	SAMPLE ID	CLIENT LAB ID	MATRIX	FIELD DATA	FIELD DATA
6/07	10:31	Jan 7, day 10		FW		
		Jan 8,				
		Jan 9,				
		Jan 11,				
		Jan 12,				
		J-13,				
6/05	1:21	Jan 0, day 8				
		Jan 1,				
		Jan 2,				
		Jan 3,				

* MATRIX TYPES: RSW = Raw Surface Water RGW = Raw Ground Water CFW = Chlor(am)inated Finished Water FW = Other Finished Water
SEAW = Sea Water BW = Bottled Water SW = Storm Water
WW = Waste Water SL = Sludge

SAMPLED BY:	PRINT NAME	COMPANY/TITLE	DATE	TIME
RELINQUISHED BY:	Ana Dabala	Tetra Tech	06/11/21	14:10
RECEIVED BY:	Abigail Herrick	Tetra Tech	06/11/21	14:10
RELINQUISHED BY:	Chen Brochu	Tetra Tech	06/14/21	13:13
RECEIVED BY:				



eurofins

Eaton Analytical

CHAIN OF CUSTODY RECORD

EUROFINS EATON ANALYTICAL USE ONLY:

750 Royal Oaks Drive, Suite 100
Monrovia, CA 91016-3629
Phone: 626 386 1100
Fax: 626 386 1101
800 566 LABS (800 566 5227)
Website: www.EatonAnalytical.com

LOGIN COMMENTS:

SAMPLES CHECKED AGAINST COC BY: BB

SAMPLES LOGGED IN BY: BB

SAMPLE TEMP RECEIVED AT:

☐ (Other) IR Gun ID = 606 (Observation = 20.1 °C) (check for yes)
☒ Monrovia IR Gun ID = 606 (Observation = 20.1 °C) (Final = 19.9 °C)
Compliance Acceptance Criteria: (Chemistry: 4 ± 2 °C) (Microbiology: < 10 °C)

TYPE OF ICE: Real ☒ Synthetic ☐ No Ice ☐

CONDITION OF ICE: Frozen ☐ Partially Frozen ☐ Thawed ☒ N/A ☐

METHOD OF SHIPMENT: Pick-Up / Walk-In / FedEx / UPS / DHL / Area Fast / Top Line / Other: FedEx

TO BE COMPLETED BY SAMPLER:

COMPANY/AGENCY NAME:		PROJECT CODE:	COMPLIANCE SAMPLES		NON-COMPLIANCE SAMPLES		(check for yes)	
			- Requires state forms		REGULATION INVOLVED:			
			Type of samples (circle one):	ROUTINE	SPECIAL	CONFIRMATION	(eg. SDWA, NPDES, etc.)	
EEA CLIENT CODE:		COC ID:	SEE ATTACHED KIT ORDER FOR ANALYSES					
TAT requested: rush by adv notice only		List ALL ANALYSES REQUIRED (enter number of bottles sent for each test for each sample)						
SAMPLE DATE	SAMPLE TIME	SAMPLE ID	CLIENT LAB ID	MATRIX	FIELD DATA	FIELD DATA	SAMPLER COMMENTS	
6/05/12	1:26	Jar 4, day 0		FW				
6/05/12	1:27	Jar 5,						
6/05/12	1:28	Jar 6,						
6/05/12	1:31	Jar 7						
6/05/12	1:33	Jar 8						
6/05/12	1:34	Jar 9						
6/05/12	1:36	Jar 11						
6/05/12	1:37	Jar 12						
6/05/12	1:41	Jar 13						
6/05/12	13:10	J-O, day 7						

* MATRIX TYPES: RSW = Raw Surface Water
RGW = Raw Ground Water
CFW = Chlor(am)inated Finished Water
FW = Other Finished Water
SEAW = Sea Water
WW = Waste Water
BW = Bottled Water
SW = Storm Water
SO = Soil
SL = Sludge
O = Other - Please Identify

SAMPLED BY:	SIGNATURE	PRINT NAME	COMPANY/TITLE	DATE	TIME
RELINQUISHED BY:	<u>Abigail Merrick</u>	<u>Ana Roseba</u>	<u>Tetra Tech</u>	<u>06/11/21</u>	<u>14:10</u>
RECEIVED BY:	<u>Chad Brown</u>	<u>Abigail Merrick</u>	<u>Tetra Tech</u>	<u>06/11/21</u>	<u>14:10</u>
RELINQUISHED BY:		<u>Chad Brown</u>	<u>DTA</u>	<u>06/14/21</u>	<u>13:13</u>
RECEIVED BY:					



eurofins

Eaton Analytical

INTERNAL CHAIN OF CUSTODY RECORD

EEA Folder Number:

616

SAMPLE TEMP RECEIVED:

Note: If samples are out of temperature range, let the ASMs know. ASMs will determine whether to proceed with analysis or not.

SAMPLES REC'D DAY OF COLLECTION? Yes / No

IR Gun ID = 616 (Observation = 20.1 °C) (Corr.Factor -0.2 °C) (Final = 19.9 °C)

TYPE OF ICE: Real ☒ Synthetic ☐ No Ice ☐

CONDITION OF ICE: Frozen ☐ Partially Frozen ☐ Thawed ☒ N/A ☐

METHOD OF SHIPMENT: Pick-Up / Walk-In / FedEx / UPS / DHL / Area Fast / Top Line / Other: ☐

Compliance Acceptance Criteria:

506209033246 / 506209033235

- 1) Chemistry: >0, ≤6°C, not frozen (NELAP) (if received after 24 hrs of sample collection)
- 2) Microbiology, Distribution: < 10°C, not frozen (can be ≥10°C if received on ice the same day as sample collection, within 8 hours)
- 3) Microbiology, Surface Water: < 10°C (if received after 2 hours of sample collection)

If out of temperature range for both Chemistry and Microbiology samples and temperature does not confirm, then measure the temperature of each quadrant and record each temperature of the quadrants

1 = (Observation = 20.2 °C) (Corr.Factor -0.2 °C) (Final = 20.0 °C)	2 = (Observation = 20.2 °C) (Corr.Factor -0.2 °C) (Final = 20.0 °C)
3 = (Observation = 20.1 °C) (Corr.Factor -0.2 °C) (Final = 19.9 °C)	4 = (Observation = 20.4 °C) (Corr.Factor -0.2 °C) (Final = 20.2 °C)

4 Dioxin (1613 or 2,3,7,8 TCDD): must be between 0-4 °C, not frozen (if received after 24 hrs of sample collection)

5) pH Check. Manufacturer: ☐ Lot Number: ☐ pH strip type: 0 - 14 or ☐ Expiration Date: ☐ Results: ☐

6) Chlorine check. Manufacturer: Sansafe. Lot No.: ☐ Expiration Date: ☐ Results: ☐

VOA and Radon

No Samples with Headspace: ☐

Samples with Headspace (see below): ☐

Headspace Documentation (use additional VOC and Radon Internal COFC for additional bottles)

Exempt from headspace concerns: Methods 515.4, HAA(6251.562), 505, SPME, @CH, 532LCMS, 556, 536, Anatoxin, LCMS methods using 40 ml vials, International clients:

Samp ID	Bottle #	None/<6 mm	Samp ID	Bottle #	None/<6 mm	Samp ID	Bottle #	None/<6 mm

Note Sample IDs which have dissimilar headspace (i.e. potential sampling errors):

RECEIVED BY	SIGNATURE	PRINT NAME	COMPANY/TITLE	DATE	TIME
	Chun Brook	Chun Brook	Eurofins Eaton Analytical	6.14.21	1313

Tel: (626) 386-1100
Fax: (866) 988-3757
1 800 566 LABS (1 800 566 5227)

Laboratory Comments

Report: 940684

Project: KALAMAZOO

Group: Lead Solubility Testing - Phase 1

Tetra Tech
James Christopher
201 East Pine Street
Suite 1000
Orlando, FL 32801

Flags Legend:

B4 - Target analyte detected in blank at or above method acceptance criteria.

M1 - Matrix spike recovery was high; the associated blank spike recovery was acceptable.

Tel: (626) 386-1100
Fax: (866) 988-3757
1 800 566 LABS (1 800 566 5227)

Laboratory Hits

Report: 940684
Project: KALAMAZOO
Group: Lead Solubility Testing - Phase 1

Tetra Tech
James Christopher
201 East Pine Street
Suite 1000
Orlando, FL 32801

Samples Received on:
06/14/2021 1313

Analyzed	Analyte	Sample ID	Result	Federal MCL	Units	MRL
06/16/2021 00:14	202106140204 Lead Total ICAP/MS	<u>J-1 Day 7</u>	300	15	ug/L	0.50
06/16/2021 00:17	202106140205 Lead Total ICAP/MS	<u>J-2 Day 7</u>	260	15	ug/L	0.50
06/16/2021 00:20	202106140206 Lead Total ICAP/MS	<u>J-3 Day 7</u>	200	15	ug/L	0.50
06/16/2021 00:23	202106140207 Lead Total ICAP/MS	<u>J-4 Day 7</u>	220	15	ug/L	0.50
06/16/2021 00:26	202106140208 Lead Total ICAP/MS	<u>J-5 Day 7</u>	180	15	ug/L	0.50
06/16/2021 00:34	202106140209 Lead Total ICAP/MS	<u>J-6 Day 7</u>	220	15	ug/L	0.50
06/16/2021 00:37	202106140210 Lead Total ICAP/MS	<u>J-7 Day 7</u>	360	15	ug/L	0.50
06/16/2021 00:40	202106140211 Lead Total ICAP/MS	<u>J-8 Day 7</u>	280	15	ug/L	0.50
06/16/2021 00:43	202106140212 Lead Total ICAP/MS	<u>J-9 Day 7</u>	230	15	ug/L	0.50
06/16/2021 00:52	202106140213 Lead Total ICAP/MS	<u>J-11 Day 7</u>	240	15	ug/L	0.50
06/16/2021 00:55	202106140214 Lead Total ICAP/MS	<u>J-12 Day 7</u>	230	15	ug/L	0.50
06/16/2021 00:58	202106140215 Lead Total ICAP/MS	<u>J-13 Day 7</u>	320	15	ug/L	0.50
06/22/2021 15:40	202106140217 Total phosphorus as P	<u>J1 Day 9</u>	1.5		mg/L	0.10
06/23/2021 12:05	Total phosphorus as PO4- Calc.		4.6		mg/L	0.030
06/22/2021 15:44	202106140218 Total phosphorus as P	<u>J2 Day 9</u>	2.0		mg/L	0.10
06/23/2021 12:05	Total phosphorus as PO4- Calc.		6.1		mg/L	0.030
	202106140219	<u>J3 Day 9</u>				

SUMMARY OF POSITIVE DATA ONLY

Tel: (626) 386-1100
Fax: (866) 988-3757
1 800 566 LABS (1 800 566 5227)

Laboratory Hits

Report: 940684
Project: KALAMAZOO
Group: Lead Solubility Testing - Phase 1

Tetra Tech
James Christopher
201 East Pine Street
Suite 1000
Orlando, FL 32801

Samples Received on:
06/14/2021 1313

Analyzed	Analyte	Sample ID	Result	Federal MCL	Units	MRL
06/22/2021 15:47	Total phosphorus as P		2.8		mg/L	0.10
06/23/2021 12:05	Total phosphorus as PO4- Calc.		8.6		mg/L	0.030
	202106140220	<u>J4 Day 9</u>				
06/22/2021 15:47	Total phosphorus as P		1.2		mg/L	0.10
06/23/2021 12:05	Total phosphorus as PO4- Calc.		3.7		mg/L	0.030
	202106140221	<u>J5 Day 9</u>				
06/22/2021 15:48	Total phosphorus as P		1.7		mg/L	0.10
06/23/2021 12:05	Total phosphorus as PO4- Calc.		5.2		mg/L	0.030
	202106140222	<u>J6 Day 9</u>				
06/22/2021 15:49	Total phosphorus as P		2.3		mg/L	0.10
06/23/2021 12:05	Total phosphorus as PO4- Calc.		7.1		mg/L	0.030
	202106140223	<u>J7 Day 9</u>				
06/22/2021 15:50	Total phosphorus as P		1.6		mg/L	0.10
06/23/2021 12:05	Total phosphorus as PO4- Calc.		4.9		mg/L	0.030
	202106140224	<u>J8 Day 9</u>				
06/22/2021 15:51	Total phosphorus as P		2.2		mg/L	0.10
06/23/2021 12:05	Total phosphorus as PO4- Calc.		6.8		mg/L	0.030
	202106140225	<u>J9 Day 9</u>				
06/22/2021 15:52	Total phosphorus as P		2.9		mg/L	0.10
06/23/2021 12:06	Total phosphorus as PO4- Calc.		8.9		mg/L	0.030
	202106140226	<u>J11 Day 9</u>				
06/22/2021 15:53	Total phosphorus as P		0.91		mg/L	0.10
06/23/2021 12:06	Total phosphorus as PO4- Calc.		2.8		mg/L	0.030
	202106140227	<u>J12 Day 9</u>				
06/22/2021 17:04	Total phosphorus as P		1.2		mg/L	0.10
06/23/2021 12:11	Total phosphorus as PO4- Calc.		3.7		mg/L	0.030
	202106140228	<u>J13 Day 9</u>				
06/22/2021 17:05	Total phosphorus as P		1.7		mg/L	0.10
06/23/2021 12:11	Total phosphorus as PO4- Calc.		5.2		mg/L	0.030
	202106140229	<u>J-0 Day 8</u>				
06/16/2021 18:25	Total phosphorus as P		1.2		mg/L	0.10
06/17/2021 11:53	Total phosphorus as PO4- Calc.		3.7		mg/L	0.030
	202106140230	<u>J-1 Day 8</u>				

SUMMARY OF POSITIVE DATA ONLY

Tel: (626) 386-1100
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Laboratory Hits

Report: 940684
Project: KALAMAZOO
Group: Lead Solubility Testing - Phase 1

Tetra Tech
James Christopher
201 East Pine Street
Suite 1000
Orlando, FL 32801

Samples Received on:
06/14/2021 1313

Analyzed	Analyte	Sample ID	Result	Federal MCL	Units	MRL
06/16/2021 18:26	Total phosphorus as P		1.2		mg/L	0.10
06/17/2021 11:53	Total phosphorus as PO4- Calc.		3.7		mg/L	0.030
	202106140231	<u>J-2 Day 8</u>				
06/16/2021 18:27	Total phosphorus as P		1.8		mg/L	0.10
06/17/2021 11:53	Total phosphorus as PO4- Calc.		5.5		mg/L	0.030
	202106140232	<u>J-3 Day 8</u>				
06/16/2021 18:28	Total phosphorus as P		3.0		mg/L	0.10
06/17/2021 11:53	Total phosphorus as PO4- Calc.		9.2		mg/L	0.030
	202106140233	<u>J-4 Day 8</u>				
06/16/2021 18:28	Total phosphorus as P		1.3		mg/L	0.10
06/17/2021 11:53	Total phosphorus as PO4- Calc.		4.0		mg/L	0.030
	202106140234	<u>J-5 Day 8</u>				
06/16/2021 18:29	Total phosphorus as P		1.7		mg/L	0.10
06/17/2021 11:53	Total phosphorus as PO4- Calc.		5.2		mg/L	0.030
	202106140235	<u>J-6 Day 8</u>				
06/22/2021 15:30	Total phosphorus as P		2.5		mg/L	0.10
06/23/2021 12:05	Total phosphorus as PO4- Calc.		7.7		mg/L	0.030
	202106140236	<u>J-7 Day 8</u>				
06/22/2021 15:31	Total phosphorus as P		1.4		mg/L	0.10
06/23/2021 12:05	Total phosphorus as PO4- Calc.		4.3		mg/L	0.030
	202106140237	<u>J-8 Day 8</u>				
06/22/2021 15:32	Total phosphorus as P		2.2		mg/L	0.10
06/23/2021 12:05	Total phosphorus as PO4- Calc.		6.8		mg/L	0.030
	202106140238	<u>J-9 Day 8</u>				
06/22/2021 15:35	Total phosphorus as P		2.9		mg/L	0.10
06/23/2021 12:05	Total phosphorus as PO4- Calc.		8.9		mg/L	0.030
	202106140239	<u>J-11 Day 8</u>				
06/22/2021 15:36	Total phosphorus as P		0.98		mg/L	0.10
06/23/2021 12:05	Total phosphorus as PO4- Calc.		3.0		mg/L	0.030
	202106140240	<u>J-12 Day 8</u>				
06/22/2021 15:37	Total phosphorus as P		1.3		mg/L	0.10
06/23/2021 12:05	Total phosphorus as PO4- Calc.		4.0		mg/L	0.030

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Laboratory Hits

Report: 940684
Project: KALAMAZOO
Group: Lead Solubility Testing - Phase 1

Tetra Tech
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Suite 1000
Orlando, FL 32801

Samples Received on:
06/14/2021 1313

Analyzed	Analyte	Sample ID	Result	Federal MCL	Units	MRL
		202106140241				
		<u>J-13 Day 8</u>				
06/22/2021 15:38	Total phosphorus as P		1.8		mg/L	0.10
06/23/2021 12:05	Total phosphorus as PO4- Calc.		5.5		mg/L	0.030
		202106140242				
		<u>J-0 Day 9</u>				
06/16/2021 01:01	Lead Total ICAP/MS		250	15	ug/L	0.50
		202106140243				
		<u>J-1 Day 9</u>				
06/16/2021 01:10	Lead Total ICAP/MS		140	15	ug/L	0.50
		202106140244				
		<u>J-2 Day 9</u>				
06/16/2021 01:13	Lead Total ICAP/MS		170	15	ug/L	0.50
		202106140245				
		<u>J-3 Day 9</u>				
06/16/2021 01:16	Lead Total ICAP/MS		120	15	ug/L	0.50
		202106140246				
		<u>J-4 Day 9</u>				
06/16/2021 01:19	Lead Total ICAP/MS		100	15	ug/L	0.50
		202106140247				
		<u>J-5 Day 9</u>				
06/16/2021 01:22	Lead Total ICAP/MS		86	15	ug/L	0.50
		202106140248				
		<u>J-6 Day 9</u>				
06/16/2021 01:40	Lead Total ICAP/MS		130	15	ug/L	0.50
		202106140249				
		<u>J-7 Day 9</u>				
06/16/2021 01:54	Lead Total ICAP/MS		330	15	ug/L	0.50
		202106140250				
		<u>J-8 Day 9</u>				
06/16/2021 01:57	Lead Total ICAP/MS		150	15	ug/L	0.50
		202106140251				
		<u>J-9 Day 9</u>				
06/16/2021 02:00	Lead Total ICAP/MS		230	15	ug/L	0.50
		202106140252				
		<u>J-11 Day 9</u>				
06/16/2021 02:03	Lead Total ICAP/MS		240	15	ug/L	0.50
		202106140253				
		<u>J-12 Day 9</u>				
06/16/2021 02:06	Lead Total ICAP/MS		410	15	ug/L	0.50
		202106140254				
		<u>J-13 Day 9</u>				
06/16/2021 02:09	Lead Total ICAP/MS		240	15	ug/L	0.50
		202106140256				
		<u>J-1 Day 10</u>				
06/22/2021 17:25	Total phosphorus as P		1.4		mg/L	0.10

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Laboratory Hits

Report: 940684
Project: KALAMAZOO
Group: Lead Solubility Testing - Phase 1

Tetra Tech
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Samples Received on:
06/14/2021 1313

Analyzed	Analyte	Sample ID	Result	Federal MCL	Units	MRL
06/23/2021 12:12	Total phosphorus as PO4- Calc.		4.3		mg/L	0.030
	202106140257	<u>J-2 Day 10</u>				
06/22/2021 17:25	Total phosphorus as P		1.9		mg/L	0.10
06/23/2021 12:12	Total phosphorus as PO4- Calc.		5.8		mg/L	0.030
	202106140258	<u>J-3 Day 10</u>				
06/22/2021 17:26	Total phosphorus as P		2.6		mg/L	0.10
06/23/2021 12:12	Total phosphorus as PO4- Calc.		8.0		mg/L	0.030
	202106140259	<u>J-4 Day 10</u>				
06/22/2021 17:27	Total phosphorus as P		1.2		mg/L	0.10
06/23/2021 12:12	Total phosphorus as PO4- Calc.		3.7		mg/L	0.030
	202106140260	<u>J-5 Day 10</u>				
06/22/2021 17:28	Total phosphorus as P		1.8		mg/L	0.10
06/23/2021 12:12	Total phosphorus as PO4- Calc.		5.5		mg/L	0.030
	202106140261	<u>J-6 Day 10</u>				
06/22/2021 17:29	Total phosphorus as P		2.5		mg/L	0.10
06/23/2021 12:12	Total phosphorus as PO4- Calc.		7.7		mg/L	0.030
	202106140262	<u>Jar 7 Day 10</u>				
06/25/2021 16:28	Total phosphorus as P		1.6		mg/L	0.10
06/28/2021 10:44	Total phosphorus as PO4- Calc.		4.9		mg/L	0.030
	202106140263	<u>Jar 8 Day 10</u>				
06/25/2021 16:29	Total phosphorus as P		2.3		mg/L	0.10
06/28/2021 10:44	Total phosphorus as PO4- Calc.		7.1		mg/L	0.030
	202106140264	<u>Jar 9 Day 10</u>				
06/25/2021 16:30	Total phosphorus as P		2.9		mg/L	0.10
06/28/2021 10:44	Total phosphorus as PO4- Calc.		8.9		mg/L	0.030
	202106140265	<u>Jar 11 Day 10</u>				
06/25/2021 16:33	Total phosphorus as P		1.1		mg/L	0.10
06/28/2021 10:44	Total phosphorus as PO4- Calc.		3.4		mg/L	0.030
	202106140266	<u>Jar 12 Day 10</u>				
06/25/2021 16:34	Total phosphorus as P		1.6		mg/L	0.10
06/28/2021 10:44	Total phosphorus as PO4- Calc.		4.9		mg/L	0.030
	202106140267	<u>J-13 Day 10</u>				
06/25/2021 16:35	Total phosphorus as P		2.0		mg/L	0.10

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Group: Lead Solubility Testing - Phase 1

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Samples Received on:
06/14/2021 1313

Analyzed	Analyte	Sample ID	Result	Federal MCL	Units	MRL
06/28/2021 10:44	Total phosphorus as PO4- Calc.		6.1		mg/L	0.030
	202106140268	<u>Jar 0 Day 8</u>				
06/16/2021 02:12	Lead Total ICAP/MS		660	15	ug/L	0.50
	202106140269	<u>Jar 1 Day 8</u>				
06/16/2021 02:15	Lead Total ICAP/MS		210	15	ug/L	0.50
	202106140270	<u>Jar 2 Day 8</u>				
06/16/2021 02:18	Lead Total ICAP/MS		140	15	ug/L	0.50
	202106140271	<u>Jar 3 Day 8</u>				
06/16/2021 02:30	Lead Total ICAP/MS		120	15	ug/L	0.50
	202106140272	<u>Jar 4 Day 8</u>				
06/16/2021 02:39	Lead Total ICAP/MS		120	15	ug/L	0.50
	202106140273	<u>Jar 5 Day 8</u>				
06/16/2021 02:42	Lead Total ICAP/MS		98	15	ug/L	0.50
	202106140274	<u>Jar 6 Day 8</u>				
06/16/2021 02:45	Lead Total ICAP/MS		300	15	ug/L	0.50
	202106140275	<u>Jar 7 Day 8</u>				
06/18/2021 19:10	Lead Total ICAP/MS		1900	15	ug/L	5.0
	202106140276	<u>Jar 8 Day 8</u>				
06/16/2021 02:51	Lead Total ICAP/MS		280	15	ug/L	0.50
	202106140277	<u>Jar 9 Day 8</u>				
06/18/2021 19:13	Lead Total ICAP/MS		3000	15	ug/L	5.0
	202106140278	<u>Jar 11 Day 8</u>				
06/16/2021 02:57	Lead Total ICAP/MS		800	15	ug/L	0.50
	202106140279	<u>Jar 12 Day 8</u>				
06/16/2021 03:08	Lead Total ICAP/MS		200	15	ug/L	0.50
	202106140280	<u>Jar 13 Day 8</u>				
06/16/2021 03:11	Lead Total ICAP/MS		410	15	ug/L	0.50
	202106140281	<u>J-0, Day 7</u>				
06/18/2021 19:16	Lead Total ICAP/MS		350	15	ug/L	0.50

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Group: Lead Solubility Testing - Phase 1

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Samples Received on:
06/14/2021 1313

Prepped	Analyzed	Prep Batch	Analytical Batch	Method	Analyte	Result	Units	MRL	Dilution
<u>J-1 Day 7 (202106140204)</u>						Sampled on 06/02/2021 1310			
EPA 200.8 - ICPMS Metals									
06/15/21	06/16/21 00:14	1334804	1335072	(EPA 200.8)	Lead Total ICAP/MS	300	ug/L	0.50	1
<u>J-2 Day 7 (202106140205)</u>						Sampled on 06/02/2021 1310			
EPA 200.8 - ICPMS Metals									
06/15/21	06/16/21 00:17	1334804	1335072	(EPA 200.8)	Lead Total ICAP/MS	260	ug/L	0.50	1
<u>J-3 Day 7 (202106140206)</u>						Sampled on 06/02/2021 1310			
EPA 200.8 - ICPMS Metals									
06/15/21	06/16/21 00:20	1334804	1335072	(EPA 200.8)	Lead Total ICAP/MS	200	ug/L	0.50	1
<u>J-4 Day 7 (202106140207)</u>						Sampled on 06/02/2021 1310			
EPA 200.8 - ICPMS Metals									
06/15/21	06/16/21 00:23	1334804	1335072	(EPA 200.8)	Lead Total ICAP/MS	220	ug/L	0.50	1
<u>J-5 Day 7 (202106140208)</u>						Sampled on 06/02/2021 1310			
EPA 200.8 - ICPMS Metals									
06/15/21	06/16/21 00:26	1334804	1335072	(EPA 200.8)	Lead Total ICAP/MS	180	ug/L	0.50	1
<u>J-6 Day 7 (202106140209)</u>						Sampled on 06/02/2021 1310			
EPA 200.8 - ICPMS Metals									
06/15/21	06/16/21 00:34	1334804	1335072	(EPA 200.8)	Lead Total ICAP/MS	220	ug/L	0.50	1
<u>J-7 Day 7 (202106140210)</u>						Sampled on 06/02/2021 1310			
EPA 200.8 - ICPMS Metals									
06/15/21	06/16/21 00:37	1334804	1335072	(EPA 200.8)	Lead Total ICAP/MS	360	ug/L	0.50	1
<u>J-8 Day 7 (202106140211)</u>						Sampled on 06/02/2021 1310			
EPA 200.8 - ICPMS Metals									
06/15/21	06/16/21 00:40	1334804	1335072	(EPA 200.8)	Lead Total ICAP/MS	280	ug/L	0.50	1
<u>J-9 Day 7 (202106140212)</u>						Sampled on 06/02/2021 1310			
EPA 200.8 - ICPMS Metals									
06/15/21	06/16/21 00:43	1334804	1335072	(EPA 200.8)	Lead Total ICAP/MS	230 (M1)	ug/L	0.50	1
<u>J-11 Day 7 (202106140213)</u>						Sampled on 06/02/2021 1310			
EPA 200.8 - ICPMS Metals									

Rounding on totals after summation.

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Laboratory Data

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Tetra Tech
James Christopher
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Samples Received on:
06/14/2021 1313

Prepped	Analyzed	Prep Batch	Analytical Batch	Method	Analyte	Result	Units	MRL	Dilution
06/15/21	06/16/21 00:52	1334804	1335072	(EPA 200.8)	Lead Total ICAP/MS	240	ug/L	0.50	1
<u>J-12 Day 7 (202106140214)</u>						Sampled on 06/02/2021 1310			
EPA 200.8 - ICPMS Metals									
06/15/21	06/16/21 00:55	1334804	1335072	(EPA 200.8)	Lead Total ICAP/MS	230	ug/L	0.50	1
<u>J-13 Day 7 (202106140215)</u>						Sampled on 06/02/2021 1310			
EPA 200.8 - ICPMS Metals									
06/15/21	06/16/21 00:58	1334804	1335072	(EPA 200.8)	Lead Total ICAP/MS	320	ug/L	0.50	1
<u>J0 Day 9 (202106140216)</u>						Sampled on 06/04/2021 1055			
SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.									
	06/23/21 12:05			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	ND (c)	mg/L	0.030	1
SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)									
	06/22/21 15:39		1336671	(SM4500-PE/EPA 365.1)	Total phosphorus as P	ND	mg/L	0.10	5
<u>J1 Day 9 (202106140217)</u>						Sampled on 06/04/2021 0857			
SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.									
	06/23/21 12:05			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	4.6 (c)	mg/L	0.030	1
SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)									
	06/22/21 15:40		1336671	(SM4500-PE/EPA 365.1)	Total phosphorus as P	1.5	mg/L	0.10	5
<u>J2 Day 9 (202106140218)</u>						Sampled on 06/04/2021 0901			
SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.									
	06/23/21 12:05			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	6.1 (c)	mg/L	0.030	1
SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)									
	06/22/21 15:44		1336671	(SM4500-PE/EPA 365.1)	Total phosphorus as P	2.0	mg/L	0.10	5
<u>J3 Day 9 (202106140219)</u>						Sampled on 06/04/2021 0909			
SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.									
	06/23/21 12:05			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	8.6 (c)	mg/L	0.030	1
SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)									
	06/22/21 15:47		1336671	(SM4500-PE/EPA 365.1)	Total phosphorus as P	2.8	mg/L	0.10	5
<u>J4 Day 9 (202106140220)</u>						Sampled on 06/04/2021 0929			

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Laboratory Data

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Orlando, FL 32801

Samples Received on:
06/14/2021 1313

Prepped	Analyzed	Prep Batch	Analytical Batch	Method	Analyte	Result	Units	MRL	Dilution
SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.									
06/23/21	12:05			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	3.7 (c)	mg/L	0.030	1
SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)									
06/22/21	15:47	1336671		(SM4500-PE/EPA 365.1)	Total phosphorus as P	1.2	mg/L	0.10	5
J5 Day 9 (202106140221)						Sampled on 06/04/2021 0931			
SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.									
06/23/21	12:05			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	5.2 (c)	mg/L	0.030	1
SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)									
06/22/21	15:48	1336671		(SM4500-PE/EPA 365.1)	Total phosphorus as P	1.7	mg/L	0.10	5
J6 Day 9 (202106140222)						Sampled on 06/04/2021 0935			
SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.									
06/23/21	12:05			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	7.1 (c)	mg/L	0.030	1
SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)									
06/22/21	15:49	1336671		(SM4500-PE/EPA 365.1)	Total phosphorus as P	2.3	mg/L	0.10	5
J7 Day 9 (202106140223)						Sampled on 06/04/2021 1007			
SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.									
06/23/21	12:05			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	4.9 (c)	mg/L	0.030	1
SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)									
06/22/21	15:50	1336671		(SM4500-PE/EPA 365.1)	Total phosphorus as P	1.6	mg/L	0.10	5
J8 Day 9 (202106140224)						Sampled on 06/04/2021 1010			
SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.									
06/23/21	12:05			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	6.8 (c)	mg/L	0.030	1
SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)									
06/22/21	15:51	1336671		(SM4500-PE/EPA 365.1)	Total phosphorus as P	2.2	mg/L	0.10	5
J9 Day 9 (202106140225)						Sampled on 06/04/2021 1014			
SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.									

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Laboratory Data

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201 East Pine Street
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Orlando, FL 32801

Samples Received on:
06/14/2021 1313

Prepped	Analyzed	Prep Batch	Analytical Batch	Method	Analyte	Result	Units	MRL	Dilution
	06/23/21 12:06			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	8.9 (c)	mg/L	0.030	1
	SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)								
	06/22/21 15:52		1336671	(SM4500-PE/EPA 365.1)	Total phosphorus as P	2.9	mg/L	0.10	5
J11 Day 9 (202106140226)						Sampled on 06/04/2021 1027			
	SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.								
	06/23/21 12:06			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	2.8 (c)	mg/L	0.030	1
	SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)								
	06/22/21 15:53		1336671	(SM4500-PE/EPA 365.1)	Total phosphorus as P	0.91	mg/L	0.10	5
J12 Day 9 (202106140227)						Sampled on 06/04/2021 1130			
	SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.								
	06/23/21 12:11			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	3.7 (c)	mg/L	0.030	1
	SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)								
	06/22/21 17:04		1336672	(SM4500-PE/EPA 365.1)	Total phosphorus as P	1.2	mg/L	0.10	5
J13 Day 9 (202106140228)						Sampled on 06/04/2021 1133			
	SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.								
	06/23/21 12:11			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	5.2 (c)	mg/L	0.030	1
	SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)								
	06/22/21 17:05		1336672	(SM4500-PE/EPA 365.1)	Total phosphorus as P	1.7	mg/L	0.10	5
J-0 Day 8 (202106140229)						Sampled on 06/01/2021 1349			
	SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.								
	06/17/21 11:53			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	3.7 (c)	mg/L	0.030	1
	SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)								
	06/16/21 18:25		1335493	(SM4500-PE/EPA 365.1)	Total phosphorus as P	1.2	mg/L	0.10	5
J-1 Day 8 (202106140230)						Sampled on 06/01/2021 1349			
	SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.								
	06/17/21 11:53			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	3.7 (c)	mg/L	0.030	1
	SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)								

Rounding on totals after summation.

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Tel: (626) 386-1100
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Laboratory Data

Report: 940684
Project: KALAMAZOO
Group: Lead Solubility Testing - Phase 1

Tetra Tech
James Christopher
201 East Pine Street
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Orlando, FL 32801

Samples Received on:
06/14/2021 1313

Prepped	Analyzed	Prep Batch	Analytical Batch	Method	Analyte	Result	Units	MRL	Dilution
	06/16/21 18:26		1335493	(SM4500-PE/EPA 365.1)	Total phosphorus as P	1.2	mg/L	0.10	5
<u>J-2 Day 8 (202106140231)</u>						Sampled on 06/01/2021 1349			
SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.									
	06/17/21 11:53			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	5.5 (c)	mg/L	0.030	1
SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)									
	06/16/21 18:27		1335493	(SM4500-PE/EPA 365.1)	Total phosphorus as P	1.8	mg/L	0.10	5
<u>J-3 Day 8 (202106140232)</u>						Sampled on 06/01/2021 1349			
SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.									
	06/17/21 11:53			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	9.2 (c)	mg/L	0.030	1
SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)									
	06/16/21 18:28		1335493	(SM4500-PE/EPA 365.1)	Total phosphorus as P	3.0	mg/L	0.10	5
<u>J-4 Day 8 (202106140233)</u>						Sampled on 06/01/2021 1433			
SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.									
	06/17/21 11:53			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	4.0 (c)	mg/L	0.030	1
SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)									
	06/16/21 18:28		1335493	(SM4500-PE/EPA 365.1)	Total phosphorus as P	1.3	mg/L	0.10	5
<u>J-5 Day 8 (202106140234)</u>						Sampled on 06/01/2021 1433			
SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.									
	06/17/21 11:53			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	5.2 (c)	mg/L	0.030	1
SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)									
	06/16/21 18:29		1335493	(SM4500-PE/EPA 365.1)	Total phosphorus as P	1.7	mg/L	0.10	5
<u>J-6 Day 8 (202106140235)</u>						Sampled on 06/01/2021 1422			
SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.									
	06/23/21 12:05			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	7.7 (c)	mg/L	0.030	1
SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)									
	06/22/21 15:30		1336671	(SM4500-PE/EPA 365.1)	Total phosphorus as P	2.5	mg/L	0.10	5
<u>J-7 Day 8 (202106140236)</u>						Sampled on 06/01/2021 1505			

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Samples Received on:
06/14/2021 1313

Prepped	Analyzed	Prep Batch	Analytical Batch	Method	Analyte	Result	Units	MRL	Dilution
SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.									
06/23/21 12:05				(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	4.3 (c)	mg/L	0.030	1
SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)									
06/22/21 15:31		1336671		(SM4500-PE/EPA 365.1)	Total phosphorus as P	1.4	mg/L	0.10	5
J-8 Day 8 (202106140237)						Sampled on 06/01/2021 1505			
SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.									
06/23/21 12:05				(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	6.8 (c)	mg/L	0.030	1
SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)									
06/22/21 15:32		1336671		(SM4500-PE/EPA 365.1)	Total phosphorus as P	2.2	mg/L	0.10	5
J-9 Day 8 (202106140238)						Sampled on 06/01/2021 1505			
SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.									
06/23/21 12:05				(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	8.9 (c)	mg/L	0.030	1
SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)									
06/22/21 15:35		1336671		(SM4500-PE/EPA 365.1)	Total phosphorus as P	2.9	mg/L	0.10	5
J-11 Day 8 (202106140239)						Sampled on 06/01/2021 1512			
SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.									
06/23/21 12:05				(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	3.0 (c)	mg/L	0.030	1
SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)									
06/22/21 15:36		1336671		(SM4500-PE/EPA 365.1)	Total phosphorus as P	0.98	mg/L	0.10	5
J-12 Day 8 (202106140240)						Sampled on 06/01/2021 1512			
SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.									
06/23/21 12:05				(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	4.0 (c)	mg/L	0.030	1
SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)									
06/22/21 15:37		1336671		(SM4500-PE/EPA 365.1)	Total phosphorus as P	1.3	mg/L	0.10	5
J-13 Day 8 (202106140241)						Sampled on 06/01/2021 1512			
SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.									

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06/14/2021 1313

Prepped	Analyzed	Prep Batch	Analytical Batch	Method	Analyte	Result	Units	MRL	Dilution
	06/23/21 12:05			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	5.5 (c)	mg/L	0.030	1
SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)									
	06/22/21 15:38		1336671	(SM4500-PE/EPA 365.1)	Total phosphorus as P	1.8	mg/L	0.10	5
J-0 Day 9 (202106140242)						Sampled on 06/08/2021 1310			
EPA 200.8 - ICPMS Metals									
06/15/21	06/16/21 01:01	1334804	1335072	(EPA 200.8)	Lead Total ICAP/MS	250	ug/L	0.50	1
J-1 Day 9 (202106140243)						Sampled on 06/08/2021 1310			
EPA 200.8 - ICPMS Metals									
06/15/21	06/16/21 01:10	1334804	1335072	(EPA 200.8)	Lead Total ICAP/MS	140	ug/L	0.50	1
J-2 Day 9 (202106140244)						Sampled on 06/08/2021 1310			
EPA 200.8 - ICPMS Metals									
06/15/21	06/16/21 01:13	1334804	1335072	(EPA 200.8)	Lead Total ICAP/MS	170	ug/L	0.50	1
J-3 Day 9 (202106140245)						Sampled on 06/08/2021 1310			
EPA 200.8 - ICPMS Metals									
06/15/21	06/16/21 01:16	1334804	1335072	(EPA 200.8)	Lead Total ICAP/MS	120	ug/L	0.50	1
J-4 Day 9 (202106140246)						Sampled on 06/08/2021 1310			
EPA 200.8 - ICPMS Metals									
06/15/21	06/16/21 01:19	1334804	1335072	(EPA 200.8)	Lead Total ICAP/MS	100	ug/L	0.50	1
J-5 Day 9 (202106140247)						Sampled on 06/08/2021 1310			
EPA 200.8 - ICPMS Metals									
06/15/21	06/16/21 01:22	1334804	1335072	(EPA 200.8)	Lead Total ICAP/MS	86	ug/L	0.50	1
J-6 Day 9 (202106140248)						Sampled on 06/08/2021 1310			
EPA 200.8 - ICPMS Metals									
06/15/21	06/16/21 01:40	1334804	1335073	(EPA 200.8)	Lead Total ICAP/MS	130	ug/L	0.50	1
J-7 Day 9 (202106140249)						Sampled on 06/08/2021 1310			
EPA 200.8 - ICPMS Metals									
06/15/21	06/16/21 01:54	1334804	1335073	(EPA 200.8)	Lead Total ICAP/MS	330	ug/L	0.50	1
J-8 Day 9 (202106140250)						Sampled on 06/08/2021 1310			
EPA 200.8 - ICPMS Metals									

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Samples Received on:
06/14/2021 1313

Prepped	Analyzed	Prep Batch	Analytical Batch	Method	Analyte	Result	Units	MRL	Dilution
06/15/21	06/16/21 01:57	1334804	1335073	(EPA 200.8)	Lead Total ICAP/MS	150	ug/L	0.50	1
<u>J-9 Day 9 (202106140251)</u>						Sampled on 06/08/2021 1310			
EPA 200.8 - ICPMS Metals									
06/15/21	06/16/21 02:00	1334804	1335073	(EPA 200.8)	Lead Total ICAP/MS	230	ug/L	0.50	1
<u>J-11 Day 9 (202106140252)</u>						Sampled on 06/08/2021 1310			
EPA 200.8 - ICPMS Metals									
06/15/21	06/16/21 02:03	1334804	1335073	(EPA 200.8)	Lead Total ICAP/MS	240	ug/L	0.50	1
<u>J-12 Day 9 (202106140253)</u>						Sampled on 06/08/2021 1310			
EPA 200.8 - ICPMS Metals									
06/15/21	06/16/21 02:06	1334804	1335073	(EPA 200.8)	Lead Total ICAP/MS	410	ug/L	0.50	1
<u>J-13 Day 9 (202106140254)</u>						Sampled on 06/08/2021 1310			
EPA 200.8 - ICPMS Metals									
06/15/21	06/16/21 02:09	1334804	1335073	(EPA 200.8)	Lead Total ICAP/MS	240	ug/L	0.50	1
<u>J-0 Day 10 (202106140255)</u>						Sampled on 06/07/2021 1124			
SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.									
	06/23/21 12:11			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	ND (c)	mg/L	0.030	1
SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)									
	06/22/21 17:06		1336672	(SM4500-PE/EPA 365.1)	Total phosphorus as P	ND	mg/L	0.10	5
<u>J-1 Day 10 (202106140256)</u>						Sampled on 06/07/2021 0946			
SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.									
	06/23/21 12:12			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	4.3 (c)	mg/L	0.030	1
SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)									
	06/22/21 17:25		1336672	(SM4500-PE/EPA 365.1)	Total phosphorus as P	1.4	mg/L	0.10	5
<u>J-2 Day 10 (202106140257)</u>						Sampled on 06/07/2021 0946			
SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.									
	06/23/21 12:12			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	5.8 (c)	mg/L	0.030	1
SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)									
	06/22/21 17:25		1336672	(SM4500-PE/EPA 365.1)	Total phosphorus as P	1.9	mg/L	0.10	5

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Samples Received on:
06/14/2021 1313

Prepped	Analyzed	Prep Batch	Analytical Batch	Method	Analyte	Result	Units	MRL	Dilution
<u>J-3 Day 10 (202106140258)</u>						Sampled on 06/07/2021 0946			
SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.									
06/23/21 12:12				(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	8.0 (c)	mg/L	0.030	1
SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)									
06/22/21 17:26		1336672		(SM4500-PE/EPA 365.1)	Total phosphorus as P	2.6	mg/L	0.10	5
<u>J-4 Day 10 (202106140259)</u>						Sampled on 06/07/2021 1004			
SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.									
06/23/21 12:12				(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	3.7 (c)	mg/L	0.030	1
SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)									
06/22/21 17:27		1336672		(SM4500-PE/EPA 365.1)	Total phosphorus as P	1.2	mg/L	0.10	5
<u>J-5 Day 10 (202106140260)</u>						Sampled on 06/07/2021 1004			
SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.									
06/23/21 12:12				(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	5.5 (c)	mg/L	0.030	1
SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)									
06/22/21 17:28		1336672		(SM4500-PE/EPA 365.1)	Total phosphorus as P	1.8	mg/L	0.10	5
<u>J-6 Day 10 (202106140261)</u>						Sampled on 06/07/2021 1004			
SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.									
06/23/21 12:12				(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	7.7 (c)	mg/L	0.030	1
SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)									
06/22/21 17:29		1336672		(SM4500-PE/EPA 365.1)	Total phosphorus as P	2.5	mg/L	0.10	5
<u>Jar 7 Day 10 (202106140262)</u>						Sampled on 06/07/2021 1031			
SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.									
06/28/21 10:44				(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	4.9 (c)	mg/L	0.030	1
SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)									
06/25/21 16:28		1337543		(SM4500-PE/EPA 365.1)	Total phosphorus as P	1.6	mg/L	0.10	5
<u>Jar 8 Day 10 (202106140263)</u>						Sampled on 06/07/2021 1031			
SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.									

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Samples Received on:
06/14/2021 1313

Prepped	Analyzed	Prep Batch	Analytical Batch	Method	Analyte	Result	Units	MRL	Dilution
	06/28/21 10:44			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	7.1 (c)	mg/L	0.030	1
	SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)								
	06/25/21 16:29		1337543	(SM4500-PE/EPA 365.1)	Total phosphorus as P	2.3	mg/L	0.10	5
Jar 9 Day 10 (202106140264)						Sampled on 06/07/2021 1031			
	SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.								
	06/28/21 10:44			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	8.9 (c)	mg/L	0.030	1
	SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)								
	06/25/21 16:30		1337543	(SM4500-PE/EPA 365.1)	Total phosphorus as P	2.9	mg/L	0.10	5
Jar 11 Day 10 (202106140265)						Sampled on 06/07/2021 1052			
	SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.								
	06/28/21 10:44			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	3.4 (c)	mg/L	0.030	1
	SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)								
	06/25/21 16:33		1337543	(SM4500-PE/EPA 365.1)	Total phosphorus as P	1.1	mg/L	0.10	5
Jar 12 Day 10 (202106140266)						Sampled on 06/07/2021 1052			
	SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.								
	06/28/21 10:44			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	4.9 (c)	mg/L	0.030	1
	SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)								
	06/25/21 16:34		1337543	(SM4500-PE/EPA 365.1)	Total phosphorus as P	1.6	mg/L	0.10	5
J-13 Day 10 (202106140267)						Sampled on 06/07/2021 1052			
	SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.								
	06/28/21 10:44			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	6.1 (c)	mg/L	0.030	1
	SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)								
	06/25/21 16:35		1337543	(SM4500-PE/EPA 365.1)	Total phosphorus as P	2.0	mg/L	0.10	5
Jar 0 Day 8 (202106140268)						Sampled on 06/05/2021 1321			
EPA 200.8 - ICPMS Metals									
06/15/21	06/16/21 02:12	1334804	1335073	(EPA 200.8)	Lead Total ICAP/MS	660	ug/L	0.50	1
Jar 1 Day 8 (202106140269)						Sampled on 06/05/2021 1323			

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Tetra Tech
James Christopher
201 East Pine Street
Suite 1000
Orlando, FL 32801

Samples Received on:
06/14/2021 1313

Prepped	Analyzed	Prep Batch	Analytical Batch	Method	Analyte	Result	Units	MRL	Dilution
EPA 200.8 - ICPMS Metals									
06/15/21	06/16/21 02:15	1334804	1335073	(EPA 200.8)	Lead Total ICAP/MS	210	ug/L	0.50	1
Jar 2 Day 8 (202106140270)						Sampled on 06/05/2021 1324			
EPA 200.8 - ICPMS Metals									
06/15/21	06/16/21 02:18	1334804	1335073	(EPA 200.8)	Lead Total ICAP/MS	140	ug/L	0.50	1
Jar 3 Day 8 (202106140271)						Sampled on 06/05/2021 1325			
EPA 200.8 - ICPMS Metals									
06/15/21	06/16/21 02:30	1334804	1335073	(EPA 200.8)	Lead Total ICAP/MS	120 (B4)	ug/L	0.50	1
Jar 4 Day 8 (202106140272)						Sampled on 06/05/2021 1326			
EPA 200.8 - ICPMS Metals									
06/15/21	06/16/21 02:39	1334804	1335073	(EPA 200.8)	Lead Total ICAP/MS	120 (B4)	ug/L	0.50	1
Jar 5 Day 8 (202106140273)						Sampled on 06/05/2021 1327			
EPA 200.8 - ICPMS Metals									
06/15/21	06/16/21 02:42	1334804	1335073	(EPA 200.8)	Lead Total ICAP/MS	98 (B4)	ug/L	0.50	1
Jar 6 Day 8 (202106140274)						Sampled on 06/05/2021 1328			
EPA 200.8 - ICPMS Metals									
06/15/21	06/16/21 02:45	1334804	1335073	(EPA 200.8)	Lead Total ICAP/MS	300 (B4)	ug/L	0.50	1
Jar 7 Day 8 (202106140275)						Sampled on 06/05/2021 1331			
EPA 200.8 - ICPMS Metals									
06/15/21	06/18/21 19:10	1334804	1335693	(EPA 200.8)	Lead Total ICAP/MS	1900	ug/L	5.0	10
Jar 8 Day 8 (202106140276)						Sampled on 06/05/2021 1333			
EPA 200.8 - ICPMS Metals									
06/15/21	06/16/21 02:51	1334804	1335073	(EPA 200.8)	Lead Total ICAP/MS	280 (B4)	ug/L	0.50	1
Jar 9 Day 8 (202106140277)						Sampled on 06/05/2021 1334			
EPA 200.8 - ICPMS Metals									
06/15/21	06/18/21 19:13	1334804	1335693	(EPA 200.8)	Lead Total ICAP/MS	3000	ug/L	5.0	10
Jar 11 Day 8 (202106140278)						Sampled on 06/05/2021 1336			
EPA 200.8 - ICPMS Metals									
06/15/21	06/16/21 02:57	1334804	1335073	(EPA 200.8)	Lead Total ICAP/MS	800 (B4)	ug/L	0.50	1
Jar 12 Day 8 (202106140279)						Sampled on 06/05/2021 1337			

Rounding on totals after summation.

(c) - indicates calculated results. Analysis is a calculated result. Reported results are not rounded until the final step before reporting. Therefore methods that use a test result with further calculation may have slight differences in final result than the component analyses.

Tel: (626) 386-1100
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 1 800 566 LABS (1 800 566 5227)

Laboratory Data

Report: 940684
Project: KALAMAZOO
Group: Lead Solubility Testing - Phase 1

Tetra Tech
 James Christopher
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Samples Received on:
 06/14/2021 1313

Prepped	Analyzed	Prep Batch	Analytical Batch	Method	Analyte	Result	Units	MRL	Dilution
EPA 200.8 - ICPMS Metals									
06/15/21	06/16/21 03:08	1334804	1335073	(EPA 200.8)	Lead Total ICAP/MS	200 (B4)	ug/L	0.50	1
Jar 13 Day 8 (202106140280)						Sampled on 06/05/2021 1341			
EPA 200.8 - ICPMS Metals									
06/15/21	06/16/21 03:11	1334804	1335073	(EPA 200.8)	Lead Total ICAP/MS	410 (B4)	ug/L	0.50	1
J-0, Day 7 (202106140281)						Sampled on 06/02/2021 1310			
EPA 200.8 - ICPMS Metals									
06/15/21	06/18/21 19:16	1334804	1335693	(EPA 200.8)	Lead Total ICAP/MS	350	ug/L	0.50	1

Report: 940684

Project: KALAMAZOO

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Tetra Tech

ICPMS Metals

Prep Batch: 1334804 Analytical Batch: 1335072

Analysis Date: 06/16/2021

202106140204	J-1 Day 7	Analyzed by: AZS
202106140205	J-2 Day 7	Analyzed by: AZS
202106140206	J-3 Day 7	Analyzed by: AZS
202106140207	J-4 Day 7	Analyzed by: AZS
202106140208	J-5 Day 7	Analyzed by: AZS
202106140209	J-6 Day 7	Analyzed by: AZS
202106140210	J-7 Day 7	Analyzed by: AZS
202106140211	J-8 Day 7	Analyzed by: AZS
202106140212	J-9 Day 7	Analyzed by: AZS
202106140213	J-11 Day 7	Analyzed by: AZS
202106140214	J-12 Day 7	Analyzed by: AZS
202106140215	J-13 Day 7	Analyzed by: AZS
202106140242	J-0 Day 9	Analyzed by: AZS
202106140243	J-1 Day 9	Analyzed by: AZS
202106140244	J-2 Day 9	Analyzed by: AZS
202106140245	J-3 Day 9	Analyzed by: AZS
202106140246	J-4 Day 9	Analyzed by: AZS
202106140247	J-5 Day 9	Analyzed by: AZS

ICPMS Metals

Prep Batch: 1334804 Analytical Batch: 1335073

Analysis Date: 06/16/2021

202106140248	J-6 Day 9	Analyzed by: AZS
202106140249	J-7 Day 9	Analyzed by: AZS
202106140250	J-8 Day 9	Analyzed by: AZS
202106140251	J-9 Day 9	Analyzed by: AZS
202106140252	J-11 Day 9	Analyzed by: AZS
202106140253	J-12 Day 9	Analyzed by: AZS
202106140254	J-13 Day 9	Analyzed by: AZS
202106140268	Jar 0 Day 8	Analyzed by: AZS
202106140269	Jar 1 Day 8	Analyzed by: AZS
202106140270	Jar 2 Day 8	Analyzed by: AZS
202106140271	Jar 3 Day 8	Analyzed by: AZS
202106140272	Jar 4 Day 8	Analyzed by: AZS
202106140273	Jar 5 Day 8	Analyzed by: AZS
202106140274	Jar 6 Day 8	Analyzed by: AZS
202106140276	Jar 8 Day 8	Analyzed by: AZS
202106140278	Jar 11 Day 8	Analyzed by: AZS
202106140279	Jar 12 Day 8	Analyzed by: AZS
202106140280	Jar 13 Day 8	Analyzed by: AZS

ICPMS Metals

Prep Batch: 1334804 Analytical Batch: 1335075

Analysis Date: 06/16/2021

202106140281	J-0, Day 7	Analyzed by: AZS
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Total phosphorus as P (T-P)

Analysis Date: 06/16/2021

Analyzed by: LQ3M
Analyzed by: LQ3M
Analyzed by: LQ3M
Analyzed by: LQ3M
Analyzed by: LQ3M
Analyzed by: LQ3M

Prep Batch: 1334804 Analytical Batch: 1335693

Analysis Date: 06/18/2021

Analyzed by: AZS
Analyzed by: AZS
Analyzed by: AZS

Analytical Batch: 1336671

Analysis Date: 06/22/2021[illegible]

Analytical Batch: 1336672

Analysis Date: 06/22/2021[illegible]

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Laboratory QC Summary**Report:** 940684**Project:** KALAMAZOO**Group:** Lead Solubility Testing - Phase 1

Tetra Tech

Total phosphorus as P (T-P)**Analytical Batch: 1337543**

202106140262	Jar 7 Day 10
202106140263	Jar 8 Day 10
202106140264	Jar 9 Day 10
202106140265	Jar 11 Day 10
202106140266	Jar 12 Day 10
202106140267	J-13 Day 10

Analysis Date: 06/25/2021

Analyzed by: LQ3M
Analyzed by: LQ3M
Analyzed by: LQ3M
Analyzed by: LQ3M
Analyzed by: LQ3M
Analyzed by: LQ3M

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Laboratory QC

Report: 940684
Project: KALAMAZOO
Group: Lead Solubility Testing - Phase 1

Tetra Tech

QC Type	Analyte	Native	Spiked	Recovered	Units	Yield(%)	Limits (%)	RPD Limit(%)	RPD%
ICPMS Metals by EPA 200.8									
Analytical Batch: 1335072					Analysis Date: 06/15/2021				
LCS1	Lead Total ICAP/MS		50	49.1	ug/L	98	(85-115)		
LCS2	Lead Total ICAP/MS		50	48.5	ug/L	97	(85-115)	20	1.2
MBLK	Lead Total ICAP/MS			<0.0608	ug/L				
MRL_CHK	Lead Total ICAP/MS		0.5	0.500	ug/L	100	(50-150)		
MS_202106110408	Lead Total ICAP/MS	ND	50	45.8	ug/L	91	(70-130)		
MS2_202106140212	Lead Total ICAP/MS	230	50	288	ug/L	112	(70-130)		
MSD_202106110408	Lead Total ICAP/MS	ND	50	50.4	ug/L	100	(70-130)	20	9.6
MSD2_202106140212	Lead Total ICAP/MS	230	50	310	ug/L	<u>156</u>	(70-130)	20	7.2
ICPMS Metals by EPA 200.8									
Analytical Batch: 1335073					Analysis Date: 06/16/2021				
LCS1	Lead Total ICAP/MS		50	50.4	ug/L	101	(85-115)		
LCS2	Lead Total ICAP/MS		50	48.6	ug/L	97	(85-115)	20	3.6
MBLK	Lead Total ICAP/MS			<0.0608	ug/L				
MRL_CHK	Lead Total ICAP/MS		0.5	0.492	ug/L	98	(50-150)		
MS_202106140248	Lead Total ICAP/MS	130	50	168	ug/L	82	(70-130)		
MS2_202106140271	Lead Total ICAP/MS	120	50	187	ug/L	126	(70-130)		
MSD_202106140248	Lead Total ICAP/MS	130	50	181	ug/L	109	(70-130)	20	7.7
MSD2_202106140271	Lead Total ICAP/MS	120	50	178	ug/L	108	(70-130)	20	4.9
ICPMS Metals by EPA 200.8									
Analytical Batch: 1335075					Analysis Date: 06/16/2021				
LCS1	Lead Total ICAP/MS		50	48.9	ug/L	98	(85-115)		
LCS2	Lead Total ICAP/MS		50	46.6	ug/L	93	(85-115)	20	4.8
MRL_CHK	Lead Total ICAP/MS		0.5	0.548	ug/L	110	(50-150)		
MS_202106140281	Lead Total ICAP/MS	350	50	396	ug/L	103	(70-130)		
MS2_202106110448	Lead Total ICAP/MS	ND	50	51.3	ug/L	102	(70-130)		
MSD_202106140281	Lead Total ICAP/MS	350	50	391	ug/L	93	(70-130)	20	1.1
MSD2_202106110448	Lead Total ICAP/MS	ND	50	47.6	ug/L	95	(70-130)	20	7.5
Total phosphorus as P (T-P) by SM4500-PE/EPA 365.1									
Analytical Batch: 1335493					Analysis Date: 06/16/2021				
LCS1	Total phosphorus as P		0.4	0.416	mg/L	104	(90-110)		
LCS2	Total phosphorus as P		0.4	0.420	mg/L	105	(90-110)	20	0.96
MBLK	Total phosphorus as P			<0.0108	mg/L				
MRL_CHK	Total phosphorus as P		0.02	0.0150	mg/L	75	(50-150)		

Spike recovery is already corrected for native results.

Spikes which exceed Limits and Method Blanks with positive results are highlighted by Underlining.

Criteria for MS and Dup are advisory only, batch control is based on LCS. Criteria for duplicates are advisory only, unless otherwise specified in the method.

RPD not calculated for LCS2 when different a concentration than LCS1 is used.

RPD not calculated for Duplicates when the result is not five times the MRL (Minimum Reporting Level).

(S) - Indicates surrogate compound.

(I) - Indicates internal standard compound.

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Laboratory QC

Report: 940684
Project: KALAMAZOO
Group: Lead Solubility Testing - Phase 1

Tetra Tech

QC Type	Analyte	Native	Spiked	Recovered	Units	Yield(%)	Limits (%)	RPD Limit(%)	RPD%
MS_202106030303	Total phosphorus as P	0.22	0.4	0.736	mg/L	<u>128</u>	(90-110)		
MS2_202106100436	Total phosphorus as P	0.066	0.4	0.497	mg/L	108	(90-110)		
MSD_202106030303	Total phosphorus as P	0.22	0.4	0.659	mg/L	108	(90-110)	20	11
MSD2_202106100436	Total phosphorus as P	0.066	0.4	0.503	mg/L	109	(90-110)	20	1.2

ICPMS Metals by EPA 200.8

Analytical Batch: 1335693

Analysis Date: 06/18/2021

LCS1	Lead Total ICAP/MS		50	49.5	ug/L	99	(85-115)		
LCS2	Lead Total ICAP/MS		50	49.1	ug/L	98	(85-115)	20	0.81
MBLK	Lead Total ICAP/MS			<0.0608	ug/L				
MRL_CHK	Lead Total ICAP/MS		0.5	0.514	ug/L	103	(50-150)		
MS_202106160308	Lead Total ICAP/MS	ND	50	54.8	ug/L	109	(70-130)		
MS2_202106140352	Lead Total ICAP/MS	ND	50	57.4	ug/L	115	(70-130)		
MSD_202106160308	Lead Total ICAP/MS	ND	50	54.2	ug/L	108	(70-130)	20	1.1
MSD2_202106140352	Lead Total ICAP/MS	ND	50	54.6	ug/L	109	(70-130)	20	4.8

Total phosphorus as P (T-P) by SM4500-PE/EPA 365.1

Analytical Batch: 1336671

Analysis Date: 06/22/2021

LCS1	Total phosphorus as P		0.4	0.417	mg/L	104	(90-110)		
LCS2	Total phosphorus as P		0.4	0.413	mg/L	103	(90-110)	20	0.96
MBLK	Total phosphorus as P			<0.0108	mg/L				
MRL_CHK	Total phosphorus as P		0.02	0.0188	mg/L	94	(50-150)		
MS_202106170543	Total phosphorus as P	ND	0.4	0.412	mg/L	100	(90-110)		
MS2_202106170544	Total phosphorus as P	ND	0.4	0.418	mg/L	100	(90-110)		
MSD_202106170543	Total phosphorus as P	ND	0.4	0.409	mg/L	99	(90-110)	20	0.63
MSD2_202106170544	Total phosphorus as P	ND	0.4	0.426	mg/L	102	(90-110)	20	1.9

Total phosphorus as P (T-P) by SM4500-PE/EPA 365.1

Analytical Batch: 1336672

Analysis Date: 06/22/2021

LCS1	Total phosphorus as P		0.4	0.416	mg/L	104	(90-110)		
LCS2	Total phosphorus as P		0.4	0.420	mg/L	105	(90-110)	20	0.96
MBLK	Total phosphorus as P			<0.0108	mg/L				
MRL_CHK	Total phosphorus as P		0.02	0.0216	mg/L	108	(50-150)		
MS_202106170545	Total phosphorus as P	ND	0.4	0.443	mg/L	110	(90-110)		
MS2_202106170546	Total phosphorus as P	ND	0.4	0.437	mg/L	109	(90-110)		
MSD_202106170545	Total phosphorus as P	ND	0.4	0.436	mg/L	109	(90-110)	20	1.6
MSD2_202106170546	Total phosphorus as P	ND	0.4	0.440	mg/L	110	(90-110)	20	0.66

Spike recovery is already corrected for native results.

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RPD not calculated for Duplicates when the result is not five times the MRL (Minimum Reporting Level).

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Laboratory QC

Report: 940684
Project: KALAMAZOO
Group: Lead Solubility Testing - Phase 1

Tetra Tech

QC Type	Analyte	Native	Spiked	Recovered	Units	Yield(%)	Limits (%)	RPD Limit(%)	RPD%
Total phosphorus as P (T-P) by SM4500-PE/EPA 365.1									
Analytical Batch: 1337543					Analysis Date: 06/25/2021				
LCS1	Total phosphorus as P		0.4	0.433	mg/L	108	(90-110)		
LCS2	Total phosphorus as P		0.4	0.431	mg/L	108	(90-110)	20	0.46
MBLK	Total phosphorus as P			<0.0108	mg/L				
MRL_CHK	Total phosphorus as P		0.02	0.0255	mg/L	127	(50-150)		
MS_202106220278	Total phosphorus as P	ND	0.4	0.454	mg/L	109	(90-110)		
MS2_202106220281	Total phosphorus as P	ND	0.4	0.448	mg/L	108	(90-110)		
MSD_202106220278	Total phosphorus as P	ND	0.4	0.456	mg/L	110	(90-110)	20	0.53
MSD2_202106220281	Total phosphorus as P	ND	0.4	0.457	mg/L	110	(90-110)	20	2.0

Spike recovery is already corrected for native results.

Spikes which exceed Limits and Method Blanks with positive results are highlighted by Underlining.

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RPD not calculated for LCS2 when different a concentration than LCS1 is used.

RPD not calculated for Duplicates when the result is not five times the MRL (Minimum Reporting Level).

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Laboratory Report

for

Tetra Tech
201 East Pine Street
Suite 1000
Orlando, FL 32801
Attention: James Christopher
Fax: 407-839-3790

Date of Issue

07/12/2021

Vanessa Berry

**EUROFINS EATON
ANALYTICAL, LLC**



Utah ELCP CA00006

ZIA8: Vanessa Berry
Project Manager

Report: 942014
Project: KALAMAZOO
Group: Lead Solubility Testing - Phase 2

* Accredited in accordance with TNI 2016 and ISO/IEC 17025:2017.

* Laboratory certifies that the test results meet all **TNI 2016 and ISO/IEC 17025:2017** requirements unless noted under the individual analysis.

* Following the cover page are State Certification List, ISO 17025 Accredited Method List, Acknowledgement of Samples Received, Comments, Hits Report, Data Report, QC Summary, QC Report and Regulatory Forms, as applicable.

* Test results relate only to the sample(s) tested.

* Test results apply to the sample(s) as received, unless otherwise noted in the comments report (ISO/IEC 17025:2017).

* This report shall not be reproduced except in full, without the written approval of the laboratory.

* This report includes ISO/IEC 17025 and non-ISO 17025 accredited methods.

STATE CERTIFICATION LIST

State	Certification Number	State	Certification Number
Alabama	41060	Montana	Cert 0035
Arizona	AZ0778	Nebraska	Certified
Arkansas	Certified	Nevada	CA000062018
California	2813	New Hampshire *	2959
Colorado	Certified	New Jersey *	CA 008
Connecticut	PH-0107	New Mexico	Certified
Delaware	CA 006	New York *	11320
Florida *	E871024	North Carolina	06701
Georgia	947	North Dakota	R-009
Guam	18-005R	Oregon *	CA200003-005
Hawaii	Certified	Pennsylvania *	68-565
Idaho	Certified	Puerto Rico	Certified
Illinois *	200033	Rhode Island	LAO00326
Indiana	C-CA-01	South Carolina	87016
Iowa - Asbestos	413	South Dakota	Certified
Kansas *	E-10268	Tennessee	TN02839
Kentucky	90107	Texas *	T104704230-18-15
Louisiana *	LA180000	Utah (Primary AB) *	CA00006
Maine	CA0006	Vermont	VT0114
Maryland	224	Virginia *	460260
Commonwealth of Northern Marianas Is.	MP0004	Washington	C838
Massachusetts	M-CA006	EPA Region 5	Certified
Michigan	9906	Los Angeles County Sanitation Districts	10264
Mississippi	Certified		

* NELAP/TNI Recognized Accreditation Bodies

ISO/IEC 17025 Accredited Method List

The tests listed below are accredited and meet the requirements of ISO/IEC 17025 as verified by the ANSI-ASQ National Accreditation Board/A2LA.
Refer to Certificate and scope of accreditation (5890) found at: <https://www.eurofinsus.com/Eaton>

SPECIFIC TESTS	METHOD OR TECHNIQUE USED	Environ-mental (Drinking Water)	Environ-mental (Waste Water)	Water as a Component of Food and Bev/Bev/ Bottled Water
1,2,3-TCP (5 PPT & 0.5 PPT)	CA SRL 524M-TCP	x		x
1,4-Dioxane	EPA 522	x		x
2,3,7,8-TCDD	Modified EPA 1613B	x		x
Acrylamide	In House Method (2440)	x		x
Algal Toxins/Microcystin	In House Method (3570)			
Alkalinity	SM 2320B	x	x	x
Ammonia	EPA 350.1		x	x
Ammonia	SM 4500-NH3 H		x	x
Anions and DBPs by IC	EPA 300.0	x	x	x
Anions and DBPs by IC	EPA 300.1	x		x
Asbestos	EPA 100.2	x	x	
BOD / CBOD	SM 5210B		x	x
Bromate	In House Method (2447)	x		x
Carbamates	EPA 531.2	x		x
Carbonate as CO3	SM 2330B	x	x	x
Carbonyls	EPA 556	x		x
COD	EPA 410.4 / SM 5220D		x	
Chloramines	SM 4500-CL G	x	x	x
Chlorinated Acids	EPA 515.4	x		x
Chlorinated Acids	EPA 555	x		x
Chlorine Dioxide	SM 4500-CLO2 D Palin Test	x		x
Chlorine -Total/Free/ Combined Residual	SM 4500-Cl G	x	x	x
Conductivity	EPA 120.1		x	
Conductivity	SM 2510B	x	x	x
Corrosivity (Langelier Index)	SM 2330B	x		x
Cyanide, Amenable	SM 4500-CN G	x	x	
Cyanide, Free	SM 4500CN F	x	x	x
Cyanide, Total	EPA 335.4	x	x	x
Cyanogen Chloride (screen)	In House Method (2470)	x		x
Diquat and Paraquat	EPA 549.2	x		x
DBP/HAA	SM 6251B	x		x
Dissolved Oxygen	SM 4500-O G		x	x
DOC	SM 5310C	x		x
E. Coli	(MTF/EC+MUG)	x		x
E. Coli	CFR 141.21(f)(6)(i)	x		x
E. Coli	SM 9223		x	
E. Coli (Enumeration)	SM 9221B.1/ SM 9221F	x		x
E. Coli (Enumeration)	SM 9223B	x		x
EDB/DCBP	EPA 504.1	x		
EDB/DBCP and DBP	EPA 551.1	x		x
EDTA and NTA	In House Method (2454)	x		x
Endothall	EPA 548.1	x		x
Endothall	In-house Method (2445)	x		x
Enterococci	SM 9230B	x	x	
Fecal Coliform	SM 9221 E (MTF/EC)	x		
Fecal Coliform	SM 9221C, E (MTF/EC)		x	
Fecal Coliform (Enumeration)	SM 9221E (MTF/EC)	x		x
Fecal Coliform with Chlorine Present	SM 9221E		x	
Fecal Streptococci	SM 9230B	x	x	
Fluoride	SM 4500-F C	x	x	x
Glyphosate	EPA 547	x		x
Glyphosate + AMPA	In House Method (3618)	x		x
Gross Alpha/Beta	EPA 900.0	x	x	x
Gross Alpha Coprecipitation	SM 7110 C	x	x	x
Hardness	SM 2340B	x	x	x
Heterotrophic Bacteria	In House Method (2439)	x		x
Heterotrophic Bacteria	SM 9215 B	x		x
Hexavalent Chromium	EPA 218.6	x	x	x

SPECIFIC TESTS	METHOD OR TECHNIQUE USED	Environ-mental (Drinking Water)	Environ-mental (Waste Water)	Water as a Component of Food and Bev/Bev/ Bottled Water
Hexavalent Chromium	EPA 218.7	x		x
Hexavalent Chromium	SM 3500-Cr B		x	
Hormones	EPA 539	x		x
Hydroxide as OH Calc.	SM 2330B	x		x
Kjeldahl Nitrogen	EPA 351.2		x	
Legionella	Legiolert	x		x
Mercury	EPA 200.8	x		x
Metals	EPA 200.7 / 200.8	x	x	x
Microcystin LR	ELISA (2360)	x		x
Microcystin, Total	EPA 546	x		x
NDMA	EEA/Agilent 521.1 In house method (2425)	x		x
Nitrate/Nitrite Nitrogen	EPA 353.2	x	x	x
OCL, Pesticides/PCB	EPA 505	x		x
Ortho Phosphate	EPA 365.1	x	x	x
Ortho Phosphorous	SM 4500P E	x		x
Oxyhalides Disinfection Byproducts	EPA 317.0	x		x
Perchlorate	EPA 331.0	x		x
Perchlorate (low and high)	EPA 314.0	x		x
Perfluorinated Alkyl Acids	EPA 537	x		x
Perfluorinated Pollutant	In house Method (2434)	x		x
pH	EPA 150.1	x		
pH	SM 4500-H+B	x	x	x
Phenylurea Pesticides/ Herbicides	In House Method, based on EPA 532 (2448)	x		x
Pseudomonas	IDEXX Pseudalart (2461)	x		x
Radium-226	GA Institute of Tech	x		x
Radium-228	GA Institute of Tech	x		x
Radon-222	SM 7500RN	x		x
Residue, Filterable	SM 2540C	x	x	x
Residue, Non-filterable	SM 2540D		x	
Residue, Total	SM 2540B		x	x
Residue, Volatile	EPA 160.4		x	
Semi-VOC	EPA 525.2	x		x
Silica	SM 4500-Si D	x	x	
Silica	SM 4500-SiO2 C	x	x	
Sulfide	SM 4500-S ⁻ D		x	
Sulfite	SM 4500-SO ³ B	x	x	x
Surfactants	SM 5540C	x	x	x
Taste and Odor Analytes	SM 6040E	x		x
Total Coliform (P/A)	SM 9221 A, B	x		x
Total Coliform (Enumeration)	SM 9221 A, B, C	x		x
Total Coliform / E. coli	Colisure SM 9223	x		x
Total Coliform	SM 9221B		x	
Total Coliform with Chlorine Present	SM 9221B		x	
Total Coliform / E.coli (P/A and Enumeration)	SM 9223	x		x
TOC	SM 5310C	x	x	x
TOX	SM 5320B		x	
Total Phenols	EPA 420.1		x	
Total Phenols	EPA 420.4	x	x	x
Total Phosphorous	SM 4500 P E		x	
Triazine Pesticides & Degradates	In House (3617)	x		x
Turbidity	EPA 180.1	x	x	x
Turbidity	SM 2130B	x	x	
Uranium by ICP/MS	EPA 200.8	x		x
UV 254	SM 5910B	x		
VOC	EPA 524.2	x		x
VOC	In House Method (2411)	x		x
Yeast and Mold	SM 9610	x		x
Field Sampling	N/A			

Acknowledgement of Samples Received

Addr: **Tetra Tech**
201 East Pine Street
Suite 1000
Orlando, FL 32801

Attn: James Christopher
Phone: 407-480-3907

Client ID: TETRATECH-ORLAN

Folder #: 942014

Project: KALAMAZOO

Sample Group: Lead Solubility Testing - Phase 2

Project Manager: Vanessa Berry

Phone: 503-310-3905

The following samples were received from you on **June 21, 2021 at 1806**. They have been scheduled for the tests listed below each sample. If this information is incorrect, please contact your service representative. Thank you for using Eurofins Eaton Analytical, LLC.

Sample #	Sample ID	Sample Date
<u>202106210701</u>	J-0, day 11	06/11/2021 1645
	Total phosphorus as P Total phosphorus as PO4- Calc.	
<u>202106210703</u>	J-1, day 11	06/11/2021 1645
	Total phosphorus as P Total phosphorus as PO4- Calc.	
<u>202106210704</u>	J-2, day 11	06/11/2021 1645
	Total phosphorus as P Total phosphorus as PO4- Calc.	
<u>202106210705</u>	J-3, day 11	06/11/2021 1645
	Total phosphorus as P Total phosphorus as PO4- Calc.	
<u>202106210706</u>	J-4, day 11	06/11/2021 1645
	Total phosphorus as P Total phosphorus as PO4- Calc.	
<u>202106210707</u>	J-5, day 11	06/11/2021 1645
	Total phosphorus as P Total phosphorus as PO4- Calc.	
<u>202106210708</u>	J-6, day 11	06/11/2021 1645
	Total phosphorus as P Total phosphorus as PO4- Calc.	
<u>202106210709</u>	J-7, day 11	06/11/2021 1645
	Total phosphorus as P Total phosphorus as PO4- Calc.	
<u>202106210710</u>	J-8, day 11	06/11/2021 1645
	Total phosphorus as P Total phosphorus as PO4- Calc.	
<u>202106210711</u>	J-9, day 11	06/11/2021 1645
	Total phosphorus as P Total phosphorus as PO4- Calc.	
<u>202106210712</u>	J-11, day 11	06/11/2021 1645
	Total phosphorus as P Total phosphorus as PO4- Calc.	
<u>202106210713</u>	J-12, day 11	06/11/2021 1645
	Total phosphorus as P Total phosphorus as PO4- Calc.	
<u>202106210714</u>	J-13, day 11	06/11/2021 1645
	Total phosphorus as P Total phosphorus as PO4- Calc.	

Acknowledgement of Samples Received

Addr: **Tetra Tech**
201 East Pine Street
Suite 1000
Orlando, FL 32801

Attn: James Christopher
Phone: 407-480-3907

Client ID: TETRATECH-ORLAN

Folder #: 942014

Project: KALAMAZOO

Sample Group: Lead Solubility Testing - Phase 2

Project Manager: Vanessa Berry

Phone: 503-310-3905

The following samples were received from you on **June 21, 2021 at 1806**. They have been scheduled for the tests listed below each sample. If this information is incorrect, please contact your service representative. Thank you for using Eurofins Eaton Analytical, LLC.

Sample #	Sample ID	Sample Date
<u>202106210715</u>	J-0, day 12	06/16/2021 1151
	Total phosphorus as P	Total phosphorus as PO4- Calc.
<u>202106210716</u>	J-1, day 12	06/16/2021 1151
	Total phosphorus as P	Total phosphorus as PO4- Calc.
<u>202106210717</u>	J-2, day 12	06/16/2021 1151
	Total phosphorus as P	Total phosphorus as PO4- Calc.
<u>202106210718</u>	J-3, day 12	06/16/2021 1151
	Total phosphorus as P	Total phosphorus as PO4- Calc.
<u>202106210719</u>	J-4, day 12	06/16/2021 1151
	Total phosphorus as P	Total phosphorus as PO4- Calc.
<u>202106210720</u>	J-5, day 12	06/16/2021 1151
	Total phosphorus as P	Total phosphorus as PO4- Calc.
<u>202106210721</u>	J-6, day 12	06/16/2021 1151
	Total phosphorus as P	Total phosphorus as PO4- Calc.
<u>202106210722</u>	J-7, day 12	06/16/2021 1151
	Total phosphorus as P	Total phosphorus as PO4- Calc.
<u>202106210723</u>	J-8, day 12	06/16/2021 1151
	Total phosphorus as P	Total phosphorus as PO4- Calc.
<u>202106210724</u>	J-9, day 12	06/16/2021 1151
	Total phosphorus as P	Total phosphorus as PO4- Calc.
<u>202106210725</u>	J-11, day 12	06/16/2021 1151
	Total phosphorus as P	Total phosphorus as PO4- Calc.
<u>202106210726</u>	J-12, day 12	06/16/2021 1151
	Total phosphorus as P	Total phosphorus as PO4- Calc.
<u>202106210727</u>	J-13, day 12	06/16/2021 1151
	Total phosphorus as P	Total phosphorus as PO4- Calc.

Acknowledgement of Samples Received

Addr: **Tetra Tech**
201 East Pine Street
Suite 1000
Orlando, FL 32801

Attn: James Christopher
Phone: 407-480-3907

Client ID: TETRATECH-ORLAN
Folder #: 942014
Project: KALAMAZOO
Sample Group: Lead Solubility Testing - Phase 2

Project Manager: Vanessa Berry
Phone: 503-310-3905

The following samples were received from you on **June 21, 2021 at 1806**. They have been scheduled for the tests listed below each sample. If this information is incorrect, please contact your service representative. Thank you for using Eurofins Eaton Analytical, LLC.

Sample #	Sample ID	Sample Date
<u>202106210728</u>	J-0, day 10	06/11/2021 1658
	@ICPMS	
<u>202106210729</u>	J-1, day 10	06/11/2021 1658
	@ICPMS	
<u>202106210730</u>	J-2, day 10	06/11/2021 1658
	@ICPMS	
<u>202106210731</u>	J-3, day 10	06/11/2021 1658
	@ICPMS	
<u>202106210732</u>	J-4, day 10	06/11/2021 1658
	@ICPMS	
<u>202106210733</u>	J-5, day 10	06/11/2021 1658
	@ICPMS	
<u>202106210734</u>	J-6, day 10	06/11/2021 1658
	@ICPMS	
<u>202106210735</u>	J-7, day 10	06/11/2021 1658
	@ICPMS	
<u>202106210736</u>	J-8, day 10	06/11/2021 1658
	@ICPMS	
<u>202106210737</u>	J-9, day 10	06/11/2021 1658
	@ICPMS	
<u>202106210738</u>	J-11, day 10	06/11/2021 1658
	@ICPMS	
<u>202106210739</u>	J-12, day 10	06/11/2021 1658
	@ICPMS	
<u>202106210740</u>	J-13, day 10	06/11/2021 1658
	@ICPMS	

Acknowledgement of Samples Received

Addr: **Tetra Tech**
201 East Pine Street
Suite 1000
Orlando, FL 32801

Attn: James Christopher
Phone: 407-480-3907

Client ID: TETRATECH-ORLAN
Folder #: 942014
Project: KALAMAZOO
Sample Group: Lead Solubility Testing - Phase 2

Project Manager: Vanessa Berry
Phone: 503-310-3905

The following samples were received from you on **June 21, 2021 at 1806**. They have been scheduled for the tests listed below each sample. If this information is incorrect, please contact your service representative. Thank you for using Eurofins Eaton Analytical, LLC.

Sample #	Sample ID	Sample Date
<u>202106210741</u>	J-0, day 11	06/18/2021 1110
	@ICPMS	
<u>202106210742</u>	J-1, day 11	06/18/2021 1110
	@ICPMS	
<u>202106210743</u>	J-2, day 11	06/18/2021 1110
	@ICPMS	
<u>202106210744</u>	J-3, day 11	06/18/2021 1110
	@ICPMS	
<u>202106210745</u>	J-4, day 11	06/18/2021 1110
	@ICPMS	
<u>202106210746</u>	J-5, day 11	06/18/2021 1110
	@ICPMS	
<u>202106210747</u>	J-6, day 11	06/18/2021 1110
	Total phosphorus as P	Total phosphorus as PO4- Calc.
<u>202106210748</u>	J-7, day 11	06/18/2021 1110
	@ICPMS	
<u>202106210749</u>	J-8, day 11	06/18/2021 1110
	@ICPMS	
<u>202106210750</u>	J-9, day 11	06/18/2021 1110
	@ICPMS	
<u>202106210751</u>	J-11, day 11	06/18/2021 1110
	@ICPMS	
<u>202106210752</u>	J-12, day 11	06/18/2021 1110
	@ICPMS	
<u>202106210753</u>	J-13, day 11	06/18/2021 1110
	@ICPMS	

Acknowledgement of Samples Received

Addr: **Tetra Tech**
201 East Pine Street
Suite 1000
Orlando, FL 32801

Attn: James Christopher
Phone: 407-480-3907

Client ID: TETRATECH-ORLAN

Folder #: 942014

Project: KALAMAZOO

Sample Group: Lead Solubility Testing - Phase 2

Project Manager: Vanessa Berry

Phone: 503-310-3905

The following samples were received from you on **June 21, 2021 at 1806**. They have been scheduled for the tests listed below each sample. If this information is incorrect, please contact your service representative. Thank you for using Eurofins Eaton Analytical, LLC.

Sample #	Sample ID	Sample Date
Test Description		
@ICPMS -- ICPMS Metals		



Eaton Analytical

CHAIN OF CUSTODY RECORD

EUROFINS EATON ANALYTICAL USE ONLY:

750 Royal Oaks Drive, Suite 100
Monrovia, CA 91016-3629
Phone: 626 386 1100
Fax: 626 386 1101
800 566 LABS (800 566 5227)
Website: www.EatonAnalytical.com

LOGIN COMMENTS:

SAMPLES CHECKED AGAINST COC BY: JS

SAMPLES LOGGED IN BY: JS

SAMPLE TEMP RECEIVED AT:

☐ (Other) IR Gun ID = 030A (Observation = 15.9 °C) (check for yes)

☒ Monrovia IR Gun ID = 030A (Observation = 15.9 °C) (Final = 15.7 °C)

Compliance Acceptance Criteria: (Chemistry: $4 \pm 2^\circ\text{C}$) (Microbiology: $< 10^\circ\text{C}$)

TYPE OF ICE: Real ☒ Synthetic ☒ No Ice ☒

CONDITION OF ICE: Frozen ☒ Partially Frozen ☒ Thawed ☒ N/A ☒

METHOD OF SHIPMENT: Pick-Up / Walk-In / FedEx / UPS / DHL / Area Fast / Top Line / Other: UPS

TO BE COMPLETED BY SAMPLER:

(check for yes)

(check for yes)

COMPANY/AGENCY NAME:		PROJECT CODE:	COMPLIANCE SAMPLES		NON-COMPLIANCE SAMPLES	
Tetra Tech			- Requires state forms		REGULATION INVOLVED:	
EEA CLIENT CODE:		COC ID:	Type of samples (circle one):		ROUTINE SPECIAL CONFIRMATION	
tetra.tech-cv1			<input checked="" type="checkbox"/> ROUTINE <input type="checkbox"/> SPECIAL		(eg. SDWA, NPDES, etc.)	
TAT requested: rush by adv notice only		SAMPLE GROUP:		SEE ATTACHED KIT ORDER FOR ANALYSES		
		lead solubility test - phosphate		(check for yes), OR		
SAMPLE DATE	SAMPLE TIME	SAMPLE ID	CLIENT LAB ID	MATRIX	FIELD DATA	FIELD DATA
6/11 10:45		J-11 day 11		FW		
		J-12				
		J-13				
6/10 11:51		J-0 day 12				
6/10		J-1				
		J-2				
		J-3				
		J-4				
		J-5				
		J-6				

* MATRIX TYPES: RSW = Raw Surface Water RGW = Raw Ground Water CFW = Chlor(am)inated Finished Water WW = Waste Water SEAW = Sea Water BW = Bottled Water SO = Soil
FW = Other Finished Water

SIGNATURE		PRINT NAME	COMPANY/TITLE	DATE	TIME
SAMPLED BY: <u>JS</u>	Ana Karabal	Ana Karabal	Tetra Tech	6/18/21	12:45
RELINQUISHED BY: <u>Abigail Herrick</u>	Abigail Herrick	Abigail Herrick	Tetra Tech	6/18/21	11:45
RECEIVED BY: <u>JS</u>	JS	JS	EEA	6/22/21	1800
RELINQUISHED BY:					
RECEIVED BY:					



eurofins

Eaton Analytical

CHAIN OF CUSTODY RECORD

EUROFINS EATON ANALYTICAL USE ONLY:

750 Royal Oaks Drive, Suite 100
Monrovia, CA 91016-3629
Phone: 626 386 1100
Fax: 626 386 1101
800 566 LABS (800 566 5227)
Website: www.EatonAnalytical.com

LOGIN COMMENTS:

SAMPLES CHECKED AGAINST COC BY: R

SAMPLES LOGGED IN BY: R

SAMPLE TEMP RECEIVED AT:

☐ (Other) IR Gun ID = G380A (Observation = 15.9 °C) (check for yes)

☒ Monrovia IR Gun ID = G380A (Observation = 15.9 °C) (check for yes)

Compliance Acceptance Criteria: (Chemistry: 4 ± 2 °C) (Microbiology: < 10 °C)

TYPE OF ICE: Real ☒ Synthetic ☐ No Ice ☒

CONDITION OF ICE: Frozen ☒ Partially Frozen ☐ Thawed ☐ N/A ☒

METHOD OF SHIPMENT: Pick-Up / Walk-In / FedEx / UPS / DHL / Area Fast / Top Line / Other: UPS

TO BE COMPLETED BY SAMPLER:

PROJECT CODE:

SAMPLE GROUP: Lead Solubility test - phase 1

STD 1 wk 3 day 2 day 1 day

COMPLIANCE SAMPLES ☐ NON-COMPLIANCE SAMPLES ☐

REGULATION INVOLVED: (eg. SDWA, NPDES, etc.)

ROUTINE SPECIAL CONFIRMATION (check for yes) OR

SEE ATTACHED KIT ORDER FOR ANALYSES

List ALL ANALYSES REQUIRED (enter number of bottles sent for each test for each sample)

SAMPLE DATE	SAMPLE TIME	SAMPLE ID	CLIENT LAB ID	MATRIX	FIELD DATA	FIELD DATA	SAMPLER COMMENTS									
6/10/11:51	J-7	day 12		FW			ICPMS									
	J-8															
	J-9															
	J-11															
	J-12															
	J-13															
6/12/11:58	J-0	day 10														
	J-1															
	J-2															
	J-3															

* MATRIX TYPES: RSW = Raw Surface Water RGW = Raw Ground Water CFW = Chlor(am)inated Finished Water FW = Other Finished Water SEAW = Sea Water BW = Bottled Water SW = Storm Water SO = Soil SL = Sludge WW = Waste Water

SAMPLED BY:	SIGNATURE	PRINT NAME	COMPANY/TITLE	DATE	TIME
RELINQUISHED BY:	<u>Abigail Herrick</u>	<u>Abigail Herrick</u>	<u>Tetra Tech</u>	<u>6/18/21</u>	<u>12:45</u>
RECEIVED BY:	<u>Abigail Herrick</u>	<u>Abigail Herrick</u>	<u>Tetra Tech</u>	<u>6/18/21</u>	<u>11:45</u>
RELINQUISHED BY:	<u>Abigail Herrick</u>	<u>Abigail Herrick</u>	<u>Tetra Tech</u>	<u>6/24/21</u>	<u>18:00</u>
RECEIVED BY:					



Eaton Analytical

CHAIN OF CUSTODY RECORD

EUROFINS EATON ANALYTICAL USE ONLY:

750 Royal Oaks Drive, Suite 100
Monrovia, CA 91016-3629
Phone: 626 386 1100
Fax: 626 386 1101
800 566 LABS (800 566 5227)
Website: www.EatonAnalytical.com

LOGIN COMMENTS:

SAMPLES CHECKED AGAINST COC BY: efw

SAMPLES LOGGED IN BY:

SAMPLE TEMP RECEIVED AT:

☐ (Other) IR Gun ID = 630A (Observation = 15.9 °C) (check for yes)

☒ Monrovia IR Gun ID = 630A (Observation = 15.9 °C) (Final = 15.7 °C)

Compliance Acceptance Criteria: (Chemistry: 4 ± 2 °C) (Microbiology: < 10 °C)

TYPE OF ICE: Real ☒ Synthetic ☐ No Ice ☒ CONDITION OF ICE: Frozen ☐ Partially Frozen ☐ Thawed ☐ N/A

METHOD OF SHIPMENT: Pick-Up / Walk-In / FedEx / UPS / DHL / Area Fast / Top Line / Other: UPS

TO BE COMPLETED BY SAMPLER:

COMPANY/AGENCY NAME: Tetra Tech PROJECT CODE: lead solubility test - phase 1 (check for yes)

EEA CLIENT CODE: tetrattech-avr1 COC ID: 10 (check for yes)

TAT requested: rush by adv notice only

COMPLIANCE SAMPLES ☐ NON-COMPLIANCE SAMPLES ☐ (check for yes)

REGULATION INVOLVED: (eg. SDWA, NPDES, etc.)

SEE ATTACHED KIT ORDER FOR ANALYSES

List ALL ANALYSES REQUIRED (enter number of bottles sent for each test for each sample)

STD 1 wk 2 day 3 day 1 day

SAMPLE ID

SAMPLE DATE

SAMPLE TIME

CLIENT LAB ID

MATRIX

FIELD DATA

FIELD DATA

SAMPLE COMMENTS

SAMPLE COMMENTS

SAMPLE COMMENTS

SAMPLE COMMENTS

SAMPLE COMMENTS

SAMPLE COMMENTS

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SAMPLE COMMENTS

* MATRIX TYPES: RSW = Raw Surface Water

RGW = Raw Ground Water

CFW = Chlor(am)inated Finished Water

FW = Other Finished Water

SEAW = Sea Water

WW = Waste Water

BW = Bottled Water

SW = Storm Water

SO = Soil

SL = Sludge

O = Other - Please Identify

SAMPLED BY: Arnell Kennedy

RELINQUISHED BY: Arnell Kennedy

RECEIVED BY: Arnell Kennedy

RELINQUISHED BY: Arnell Kennedy

RECEIVED BY: Arnell Kennedy

SIGNATURE

PRINT NAME

COMPANY/TITLE

DATE

TIME

SAMPLED BY: Arnell Kennedy Ana Rosabal Tetra Tech 6/18/21 12:45

RELINQUISHED BY: Arnell Kennedy Abigail Herrick Tetra Tech 6/18/21 11:45

RECEIVED BY: Arnell Kennedy Arnell Kennedy Tetra Tech 6-21-21 1800

RELINQUISHED BY: Arnell Kennedy

RECEIVED BY: Arnell Kennedy

RELINQUISHED BY: Arnell Kennedy

RECEIVED BY: Arnell Kennedy

RELINQUISHED BY: Arnell Kennedy

RECEIVED BY: Arnell Kennedy

RELINQUISHED BY: Arnell Kennedy

RECEIVED BY: Arnell Kennedy

EUROFINS EATON ANALYTICAL USE ONLY:

750 Royal Oaks Drive, Suite 100
Monrovia, CA 91016-3629

Phone: 626 386 1100
Fax: 626 386 1101
800 566 LABS (800 566 5227)

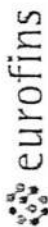
Website: www.EatonAnalytical.com

LOGIN COMMENTS: _____
 SAMPLES CHECKED AGAINST COC BY: pw
 SAMPLES LOGGED IN BY: pw
 SAMPLE TEMP RECEIVED AT:
☒ (Other) IR Gun ID = _____ (Observation = _____ °C) (Final = _____ °C) (check for yes)
☒ Monrovia IR Gun ID = 630A (Observation = 15.9 °C) (Final = 15.7 °C)
 Compliance Acceptance Criteria: (Chemistry: $4 \pm 2^{\circ}\text{C}$) (Microbiology: $< 10^{\circ}\text{C}$)
 TYPE OF ICE: Real _____ Synthetic ☒ No Ice _____
 CONDITION OF ICE: Frozen _____ Partially Frozen _____ Thawed ☒ N/A _____
 METHOD OF SHIPMENT: Pick-Up / Walk-In _____
 FedEx / UPS / DHL / Area Fast / Top Line / Other: _____

COMPANY/AGENCY NAME:			PROJECT CODE:		COMPLIANCE SAMPLES <input type="checkbox"/> NON-COMPLIANCE SAMPLES <input type="checkbox"/>		(check for yes)	
Tetra Tech					- Requires state forms <input type="checkbox"/>		(check for yes)	
EEA CLIENT CODE:			COC ID:		Type of samples (circle one):		(eg. SDWA, NPDES, etc.)	
tetratech-001					ROUTINE SPECIAL CONFIRMATION			
TAT requested: rush by adv notice only			STD 1 wk 3 day 1 day		SEE ATTACHED KIT ORDER FOR ANALYSES			
			SAMPLE GROUP:		List ALL ANALYSES REQUIRED (enter number of bottles sent for each test for each sample)			
			lead solubility test - phase I					
			MATRIX					
			CLIENT LAB ID					
			SAMPLE ID					
			FIELD DATA					
			FIELD DATA					
			FIELD DATA					
6/18	11:10	J-1	day 11					
		J-2						
		J-3						
		J-4						
		J-5						
		J-6						
		J-7						
		J-8						
		J-9						
		J-10						
		J-11						

* **MATRIX TYPES:** RSW = Raw Surface Water
RGW = Raw Ground Water
CFW = Chlor(am)inated Finished Water
FW = Other Finished Water
SEAW = Sea Water
WW = Waste Water
BW = Bottled Water
SW = Storm Water
SO = Soil
SL = Sludge
O = Other - Please Identify

SIGNATURE	PRINT NAME	COMPANY/TITLE	DATE	TIME
[Signature]	Ana Dorabul	Tetra Tech	6/18/21	12:40-
[Signature]	Avigail Herrick	Tetra Tech	6/18/21	11:45
[Signature]	youl from us	ETA	6-21-21	1804
SAMPLED BY:				
RELINQUISHED BY:				
RECEIVED BY:				
RELINQUISHED BY:				
RECEIVED BY:				



Eaton Analytical

INTERNAL CHAIN OF CUSTODY RECORD

IEEA Folder Number:

677244

SAMPLE TEMP RECEIVED:

Note: If samples are out of temperature range, let the ASMs know. ASMs will determine whether to proceed with analysis or not.

SAMPLES REC'D DAY OF COLLECTION? Yes / No

IR Gun ID = 6306 (Observation = 15.9 °C) (Corr.Factor = -0.2 °C) (Final = 15.7 °C)

TYPE OF ICE: Real ☒ Synthetic ☒ No Ice ☒ CONDITION OF ICE: Frozen ☐ Partially Frozen ☐ Thawed ☒ N/A ☐

METHOD OF SHIPMENT: Pick-Up / Walk-In / FedEx / UPS / DHL / Area Fast / Top Line / Other:

Compliance Acceptance Criteria:

- 1) Chemistry: >0, ≤6°C, not frozen (NELAP) (If received after 24 hrs of sample collection)
- 2) Microbiology, Distribution: < 10°C, not frozen (can be ≥10°C if received on ice the same day as sample collection, within 8 hours)
- 3) Microbiology, Surface Water: < 10°C (If received after 2 hours of sample collection)

If out of temperature range for both Chemistry and Microbiology samples and temperature does not confirm, then measure the temperature of each quadrant and record each temperature of the quadrants

1 - (Observation) °C (Corr.Factor) °C (Final) °C	2 - (Observation) °C (Corr.Factor) °C (Final) °C
15.9 -0.2 15.7	15.9 -0.2 15.7
3 - (Observation) °C (Corr.Factor) °C (Final) °C	4 - (Observation) °C (Corr.Factor) °C (Final) °C
16.5 -0.2 16.3	16.4 -0.2 16.2

4) Dioxin (1613 or 2,3,7,8 TCDD): must be between 0-4 °C, not frozen (If received after 24 hrs of sample collection)

5) pH Check. Manufacturer: Lot Number: pH strip type: 0 - 14 or Expiration Date Results:

6) Chlorine check. Manufacturer: Lot No.: Expiration Date: Results

7) VOA and Radon Headspace: ☐ No Samples with Headspace: ☐ Samples with Headspace (see below): ☐

Headspace Documentation (use additional VOC and Radon Internal COFC for additional bottles)

Exempt from headspace concerns: Methods 515.4, HAA(525,552), 505, SPME, @CH, 532LCMS, 556, 536, Anatoxin, LCMS methods using 40 ml vials, International clients:

Samp ID	Bottle #	None/<6 mm	>6mm	Samp ID	Bottle #	None/<6 mm	>6mm

Note Sample IDs which have dissimilar headspace (i.e. potential sampling errors):

RECEIVED BY:	SIGNATURE	COMPANY/TITLE	DATE	TIME
	<u>yan</u>	Eurofins Eaton Analytical	6-21-21	1806

Tel: (626) 386-1100
Fax: (866) 988-3757
1 800 566 LABS (1 800 566 5227)

Laboratory Comments**Report:** 942014**Project:** KALAMAZOO**Group:** Lead Solubility Testing - Phase 2

Tetra Tech
James Christopher
201 East Pine Street
Suite 1000
Orlando, FL 32801

Flags Legend:

B4 - Target analyte detected in blank at or above method acceptance criteria.

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Laboratory Hits

Report: 942014
Project: KALAMAZOO
Group: Lead Solubility Testing - Phase 2

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Samples Received on:
06/21/2021 1806

Analyzed	Analyte	Sample ID	Result	Federal MCL	Units	MRL
202106210701 <u>J-0, day 11</u>						
06/25/2021 17:44	Total phosphorus as P		5.2		mg/L	0.20
06/28/2021 10:44	Total phosphorus as PO4- Calc.		16		mg/L	0.030
202106210703 <u>J-1, day 11</u>						
06/25/2021 17:45	Total phosphorus as P		6.5		mg/L	0.20
06/28/2021 10:44	Total phosphorus as PO4- Calc.		20		mg/L	0.030
202106210704 <u>J-2, day 11</u>						
06/25/2021 17:46	Total phosphorus as P		7.1		mg/L	0.20
06/28/2021 10:44	Total phosphorus as PO4- Calc.		22		mg/L	0.030
202106210705 <u>J-3, day 11</u>						
06/25/2021 17:47	Total phosphorus as P		8.1		mg/L	0.20
06/28/2021 10:44	Total phosphorus as PO4- Calc.		25		mg/L	0.030
202106210706 <u>J-4, day 11</u>						
06/25/2021 17:48	Total phosphorus as P		6.7		mg/L	0.20
06/28/2021 10:44	Total phosphorus as PO4- Calc.		20		mg/L	0.030
202106210707 <u>J-5, day 11</u>						
06/25/2021 17:49	Total phosphorus as P		7.0		mg/L	0.20
06/28/2021 10:44	Total phosphorus as PO4- Calc.		21		mg/L	0.030
202106210708 <u>J-6, day 11</u>						
06/25/2021 17:50	Total phosphorus as P		7.3		mg/L	0.20
06/28/2021 10:44	Total phosphorus as PO4- Calc.		22		mg/L	0.030
202106210709 <u>J-7, day 11</u>						
06/25/2021 17:51	Total phosphorus as P		6.6		mg/L	0.20
06/28/2021 10:44	Total phosphorus as PO4- Calc.		20		mg/L	0.030
202106210710 <u>J-8, day 11</u>						
06/25/2021 17:51	Total phosphorus as P		7.2		mg/L	0.20
06/28/2021 10:44	Total phosphorus as PO4- Calc.		22		mg/L	0.030
202106210711 <u>J-9, day 11</u>						
06/25/2021 17:52	Total phosphorus as P		8.2		mg/L	0.20
06/28/2021 10:45	Total phosphorus as PO4- Calc.		25		mg/L	0.030
202106210712 <u>J-11, day 11</u>						
06/25/2021 17:55	Total phosphorus as P		6.3		mg/L	0.20
06/28/2021 10:45	Total phosphorus as PO4- Calc.		19		mg/L	0.030

SUMMARY OF POSITIVE DATA ONLY

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Laboratory Hits

Report: 942014
Project: KALAMAZOO
Group: Lead Solubility Testing - Phase 2

Tetra Tech
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Orlando, FL 32801

Samples Received on:
06/21/2021 1806

Analyzed	Analyte	Sample ID	Result	Federal MCL	Units	MRL
202106210713 <u>J-12, day 11</u>						
06/25/2021 17:56	Total phosphorus as P		6.9		mg/L	0.20
06/28/2021 10:45	Total phosphorus as PO4- Calc.		21		mg/L	0.030
202106210714 <u>J-13, day 11</u>						
06/25/2021 18:50	Total phosphorus as P		7.0		mg/L	0.20
06/28/2021 10:54	Total phosphorus as PO4- Calc.		21		mg/L	0.030
202106210715 <u>J-0, day 12</u>						
06/25/2021 18:52	Total phosphorus as P		0.17		mg/L	0.10
06/28/2021 10:54	Total phosphorus as PO4- Calc.		0.52		mg/L	0.030
202106210716 <u>J-1, day 12</u>						
06/25/2021 18:53	Total phosphorus as P		1.5		mg/L	0.10
06/28/2021 10:55	Total phosphorus as PO4- Calc.		4.6		mg/L	0.030
202106210717 <u>J-2, day 12</u>						
06/25/2021 18:54	Total phosphorus as P		2.2		mg/L	0.10
06/28/2021 10:55	Total phosphorus as PO4- Calc.		6.8		mg/L	0.030
202106210718 <u>J-3, day 12</u>						
06/25/2021 18:55	Total phosphorus as P		2.9		mg/L	0.10
06/28/2021 10:55	Total phosphorus as PO4- Calc.		8.9		mg/L	0.030
202106210719 <u>J-4, day 12</u>						
07/02/2021 14:26	Total phosphorus as P		1.2		mg/L	0.10
07/06/2021 12:09	Total phosphorus as PO4- Calc.		3.7		mg/L	0.030
202106210720 <u>J-5, day 12</u>						
07/02/2021 14:27	Total phosphorus as P		2.0		mg/L	0.10
07/06/2021 12:09	Total phosphorus as PO4- Calc.		6.1		mg/L	0.030
202106210721 <u>J-6, day 12</u>						
07/02/2021 14:28	Total phosphorus as P		2.5		mg/L	0.10
07/06/2021 12:09	Total phosphorus as PO4- Calc.		7.7		mg/L	0.030
202106210722 <u>J-7, day 12</u>						
07/02/2021 14:32	Total phosphorus as P		1.4		mg/L	0.10
07/06/2021 12:09	Total phosphorus as PO4- Calc.		4.3		mg/L	0.030
202106210723 <u>J-8, day 12</u>						
07/02/2021 14:32	Total phosphorus as P		2.2		mg/L	0.10
07/06/2021 12:09	Total phosphorus as PO4- Calc.		6.8		mg/L	0.030

SUMMARY OF POSITIVE DATA ONLY

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Laboratory Hits

Report: 942014
Project: KALAMAZOO
Group: Lead Solubility Testing - Phase 2

Tetra Tech
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Samples Received on:
06/21/2021 1806

Analyzed	Analyte	Sample ID	Result	Federal MCL	Units	MRL
202106210724 J-9, day 12						
07/02/2021 14:33	Total phosphorus as P		2.9		mg/L	0.10
07/06/2021 12:09	Total phosphorus as PO4- Calc.		8.9		mg/L	0.030
202106210725 J-11, day 12						
07/02/2021 14:34	Total phosphorus as P		0.94		mg/L	0.10
07/06/2021 12:09	Total phosphorus as PO4- Calc.		2.9		mg/L	0.030
202106210726 J-12, day 12						
07/02/2021 14:35	Total phosphorus as P		1.5		mg/L	0.10
07/06/2021 12:09	Total phosphorus as PO4- Calc.		4.6		mg/L	0.030
202106210727 J-13, day 12						
07/02/2021 14:36	Total phosphorus as P		2.1		mg/L	0.10
07/06/2021 12:09	Total phosphorus as PO4- Calc.		6.4		mg/L	0.030
202106210728 J-0, day 10						
07/01/2021 18:02	Lead Total ICAP/MS		180	15	ug/L	0.50
202106210729 J-1, day 10						
07/02/2021 18:32	Lead Total ICAP/MS		510	15	ug/L	5.0
202106210730 J-2, day 10						
07/01/2021 18:07	Lead Total ICAP/MS		150	15	ug/L	0.50
202106210731 J-3, day 10						
07/01/2021 18:08	Lead Total ICAP/MS		170	15	ug/L	0.50
202106210732 J-4, day 10						
07/01/2021 18:08	Lead Total ICAP/MS		140	15	ug/L	0.50
202106210733 J-5, day 10						
07/01/2021 18:09	Lead Total ICAP/MS		94	15	ug/L	0.50
202106210734 J-6, day 10						
07/01/2021 18:10	Lead Total ICAP/MS		130	15	ug/L	0.50
202106210735 J-7, day 10						
07/01/2021 18:11	Lead Total ICAP/MS		210	15	ug/L	0.50
202106210736 J-8, day 10						
07/02/2021 18:33	Lead Total ICAP/MS		700	15	ug/L	5.0
202106210737 J-9, day 10						

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Samples Received on:
06/21/2021 1806

Analyzed	Analyte	Sample ID	Result	Federal MCL	Units	MRL
07/02/2021 18:33	Lead Total ICAP/MS		310	15	ug/L	5.0
	202106210738	<u>J-11, day 10</u>				
07/02/2021 18:36	Lead Total ICAP/MS		840	15	ug/L	5.0
	202106210739	<u>J-12, day 10</u>				
07/02/2021 18:37	Lead Total ICAP/MS		520	15	ug/L	5.0
	202106210740	<u>J-13, day 10</u>				
07/02/2021 18:38	Lead Total ICAP/MS		600	15	ug/L	5.0
	202106210741	<u>J-0, day 11</u>				
07/02/2021 18:38	Lead Total ICAP/MS		200	15	ug/L	5.0
	202106210742	<u>J-1, day 11</u>				
07/02/2021 18:39	Lead Total ICAP/MS		280	15	ug/L	5.0
	202106210743	<u>J-2, day 11</u>				
07/02/2021 18:40	Lead Total ICAP/MS		240	15	ug/L	5.0
	202106210744	<u>J-3, day 11</u>				
07/02/2021 18:43	Lead Total ICAP/MS		290	15	ug/L	5.0
	202106210745	<u>J-4, day 11</u>				
07/02/2021 18:43	Lead Total ICAP/MS		240	15	ug/L	5.0
	202106210746	<u>J-5, day 11</u>				
07/02/2021 18:46	Lead Total ICAP/MS		180	15	ug/L	5.0
	202106210747	<u>J-6, day 11</u>				
07/02/2021 14:40	Total phosphorus as P		7.5		mg/L	0.20
07/06/2021 12:10	Total phosphorus as PO4- Calc.		23		mg/L	0.030
	202106210748	<u>J-7, day 11</u>				
07/02/2021 18:47	Lead Total ICAP/MS		350	15	ug/L	5.0
	202106210749	<u>J-8, day 11</u>				
07/02/2021 18:47	Lead Total ICAP/MS		240	15	ug/L	5.0
	202106210750	<u>J-9, day 11</u>				
07/02/2021 18:48	Lead Total ICAP/MS		220	15	ug/L	5.0
	202106210751	<u>J-11, day 11</u>				
07/02/2021 18:49	Lead Total ICAP/MS		430	15	ug/L	5.0
	202106210752	<u>J-12, day 11</u>				

SUMMARY OF POSITIVE DATA ONLY



Eaton Analytical

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Laboratory Hits

Report: 942014

Project: KALAMAZOO

Group: Lead Solubility Testing - Phase 2

Tetra Tech

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201 East Pine Street
Suite 1000
Orlando, FL 32801

Samples Received on:
06/21/2021 1806

Analyzed	Analyte	Sample ID	Result	Federal MCL	Units	MRL
07/02/2021 18:50	Lead Total ICAP/MS		280	15	ug/L	5.0
	202106210753	<u>J-13, day 11</u>				
07/02/2021 18:51	Lead Total ICAP/MS		360	15	ug/L	5.0

SUMMARY OF POSITIVE DATA ONLY

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Laboratory Data

Report: 942014
Project: KALAMAZOO
Group: Lead Solubility Testing - Phase 2

Tetra Tech
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Orlando, FL 32801

Samples Received on:
06/21/2021 1806

Prepped	Analyzed	Prep Batch	Analytical Batch	Method	Analyte	Result	Units	MRL	Dilution
<u>J-0, day 11 (202106210701)</u>						Sampled on 06/11/2021 1645			
SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.									
06/28/21 10:44				(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	16 (c)	mg/L	0.030	1
SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)									
06/25/21 17:44		1337543		(SM4500-PE/EPA 365.1)	Total phosphorus as P	5.2	mg/L	0.20	10
<u>J-1, day 11 (202106210703)</u>						Sampled on 06/11/2021 1645			
SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.									
06/28/21 10:44				(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	20 (c)	mg/L	0.030	1
SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)									
06/25/21 17:45		1337543		(SM4500-PE/EPA 365.1)	Total phosphorus as P	6.5	mg/L	0.20	10
<u>J-2, day 11 (202106210704)</u>						Sampled on 06/11/2021 1645			
SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.									
06/28/21 10:44				(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	22 (c)	mg/L	0.030	1
SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)									
06/25/21 17:46		1337543		(SM4500-PE/EPA 365.1)	Total phosphorus as P	7.1	mg/L	0.20	10
<u>J-3, day 11 (202106210705)</u>						Sampled on 06/11/2021 1645			
SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.									
06/28/21 10:44				(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	25 (c)	mg/L	0.030	1
SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)									
06/25/21 17:47		1337543		(SM4500-PE/EPA 365.1)	Total phosphorus as P	8.1	mg/L	0.20	10
<u>J-4, day 11 (202106210706)</u>						Sampled on 06/11/2021 1645			
SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.									
06/28/21 10:44				(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	20 (c)	mg/L	0.030	1
SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)									
06/25/21 17:48		1337543		(SM4500-PE/EPA 365.1)	Total phosphorus as P	6.7	mg/L	0.20	10
<u>J-5, day 11 (202106210707)</u>						Sampled on 06/11/2021 1645			
SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.									

Rounding on totals after summation.

(c) - indicates calculated results. Analysis is a calculated result. Reported results are not rounded until the final step before reporting. Therefore methods that use a test result with further calculation may have slight differences in final result than the component analyses.

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Laboratory Data

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Tetra Tech
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Samples Received on:
06/21/2021 1806

Prepped	Analyzed	Prep Batch	Analytical Batch	Method	Analyte	Result	Units	MRL	Dilution
	06/28/21 10:44			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	21 (c)	mg/L	0.030	1
	SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)								
	06/25/21 17:49		1337543	(SM4500-PE/EPA 365.1)	Total phosphorus as P	7.0	mg/L	0.20	10
J-6, day 11 (202106210708)						Sampled on 06/11/2021 1645			
	SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.								
	06/28/21 10:44			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	22 (c)	mg/L	0.030	1
	SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)								
	06/25/21 17:50		1337543	(SM4500-PE/EPA 365.1)	Total phosphorus as P	7.3	mg/L	0.20	10
J-7, day 11 (202106210709)						Sampled on 06/11/2021 1645			
	SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.								
	06/28/21 10:44			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	20 (c)	mg/L	0.030	1
	SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)								
	06/25/21 17:51		1337543	(SM4500-PE/EPA 365.1)	Total phosphorus as P	6.6	mg/L	0.20	10
J-8, day 11 (202106210710)						Sampled on 06/11/2021 1645			
	SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.								
	06/28/21 10:44			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	22 (c)	mg/L	0.030	1
	SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)								
	06/25/21 17:51		1337543	(SM4500-PE/EPA 365.1)	Total phosphorus as P	7.2	mg/L	0.20	10
J-9, day 11 (202106210711)						Sampled on 06/11/2021 1645			
	SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.								
	06/28/21 10:45			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	25 (c)	mg/L	0.030	1
	SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)								
	06/25/21 17:52		1337543	(SM4500-PE/EPA 365.1)	Total phosphorus as P	8.2	mg/L	0.20	10
J-11, day 11 (202106210712)						Sampled on 06/11/2021 1645			
	SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.								
	06/28/21 10:45			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	19 (c)	mg/L	0.030	1
	SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)								

Rounding on totals after summation.

(c) - indicates calculated results. Analysis is a calculated result. Reported results are not rounded until the final step before reporting. Therefore methods that use a test result with further calculation may have slight differences in final result than the component analyses.

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Laboratory Data

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Group: Lead Solubility Testing - Phase 2

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Samples Received on:
06/21/2021 1806

Prepped	Analyzed	Prep Batch	Analytical Batch	Method	Analyte	Result	Units	MRL	Dilution
	06/25/21 17:55		1337543	(SM4500-PE/EPA 365.1)	Total phosphorus as P	6.3	mg/L	0.20	10
<u>J-12, day 11 (202106210713)</u>						Sampled on 06/11/2021 1645			
SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.									
	06/28/21 10:45			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	21 (c)	mg/L	0.030	1
SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)									
	06/25/21 17:56		1337543	(SM4500-PE/EPA 365.1)	Total phosphorus as P	6.9	mg/L	0.20	10
<u>J-13, day 11 (202106210714)</u>						Sampled on 06/11/2021 1645			
SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.									
	06/28/21 10:54			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	21 (c)	mg/L	0.030	1
SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)									
	06/25/21 18:50		1337544	(SM4500-PE/EPA 365.1)	Total phosphorus as P	7.0	mg/L	0.20	10
<u>J-0, day 12 (202106210715)</u>						Sampled on 06/16/2021 1151			
SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.									
	06/28/21 10:54			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	0.52 (c)	mg/L	0.030	1
SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)									
	06/25/21 18:52		1337544	(SM4500-PE/EPA 365.1)	Total phosphorus as P	0.17	mg/L	0.10	5
<u>J-1, day 12 (202106210716)</u>						Sampled on 06/16/2021 1151			
SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.									
	06/28/21 10:55			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	4.6 (c)	mg/L	0.030	1
SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)									
	06/25/21 18:53		1337544	(SM4500-PE/EPA 365.1)	Total phosphorus as P	1.5	mg/L	0.10	5
<u>J-2, day 12 (202106210717)</u>						Sampled on 06/16/2021 1151			
SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.									
	06/28/21 10:55			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	6.8 (c)	mg/L	0.030	1
SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)									
	06/25/21 18:54		1337544	(SM4500-PE/EPA 365.1)	Total phosphorus as P	2.2	mg/L	0.10	5
<u>J-3, day 12 (202106210718)</u>						Sampled on 06/16/2021 1151			

Rounding on totals after summation.

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Laboratory Data

Report: 942014
Project: KALAMAZOO
Group: Lead Solubility Testing - Phase 2

Tetra Tech
James Christopher
201 East Pine Street
Suite 1000
Orlando, FL 32801

Samples Received on:
06/21/2021 1806

Prepped	Analyzed	Prep Batch	Analytical Batch	Method	Analyte	Result	Units	MRL	Dilution
SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.									
	06/28/21 10:55			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	8.9 (c)	mg/L	0.030	1
SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)									
	06/25/21 18:55	1337544		(SM4500-PE/EPA 365.1)	Total phosphorus as P	2.9	mg/L	0.10	5
J-4, day 12 (202106210719)						Sampled on 06/16/2021 1151			
SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.									
	07/06/21 12:09			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	3.7 (c)	mg/L	0.030	1
SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)									
	07/02/21 14:26	1338441		(SM4500-PE/EPA 365.1)	Total phosphorus as P	1.2	mg/L	0.10	5
J-5, day 12 (202106210720)						Sampled on 06/16/2021 1151			
SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.									
	07/06/21 12:09			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	6.1 (c)	mg/L	0.030	1
SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)									
	07/02/21 14:27	1338441		(SM4500-PE/EPA 365.1)	Total phosphorus as P	2.0	mg/L	0.10	5
J-6, day 12 (202106210721)						Sampled on 06/16/2021 1151			
SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.									
	07/06/21 12:09			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	7.7 (c)	mg/L	0.030	1
SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)									
	07/02/21 14:28	1338441		(SM4500-PE/EPA 365.1)	Total phosphorus as P	2.5	mg/L	0.10	5
J-7, day 12 (202106210722)						Sampled on 06/16/2021 1151			
SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.									
	07/06/21 12:09			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	4.3 (c)	mg/L	0.030	1
SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)									
	07/02/21 14:32	1338441		(SM4500-PE/EPA 365.1)	Total phosphorus as P	1.4	mg/L	0.10	5
J-8, day 12 (202106210723)						Sampled on 06/16/2021 1151			
SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.									

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Report: 942014
Project: KALAMAZOO
Group: Lead Solubility Testing - Phase 2

Tetra Tech
James Christopher
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Samples Received on:
06/21/2021 1806

Prepped	Analyzed	Prep Batch	Analytical Batch	Method	Analyte	Result	Units	MRL	Dilution
	07/06/21 12:09			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	6.8 (c)	mg/L	0.030	1
	SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)								
	07/02/21 14:32		1338441	(SM4500-PE/EPA 365.1)	Total phosphorus as P	2.2	mg/L	0.10	5
J-9, day 12 (202106210724)						Sampled on 06/16/2021 1151			
	SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.								
	07/06/21 12:09			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	8.9 (c)	mg/L	0.030	1
	SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)								
	07/02/21 14:33		1338441	(SM4500-PE/EPA 365.1)	Total phosphorus as P	2.9	mg/L	0.10	5
J-11, day 12 (202106210725)						Sampled on 06/16/2021 1151			
	SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.								
	07/06/21 12:09			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	2.9 (c)	mg/L	0.030	1
	SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)								
	07/02/21 14:34		1338441	(SM4500-PE/EPA 365.1)	Total phosphorus as P	0.94	mg/L	0.10	5
J-12, day 12 (202106210726)						Sampled on 06/16/2021 1151			
	SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.								
	07/06/21 12:09			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	4.6 (c)	mg/L	0.030	1
	SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)								
	07/02/21 14:35		1338441	(SM4500-PE/EPA 365.1)	Total phosphorus as P	1.5	mg/L	0.10	5
J-13, day 12 (202106210727)						Sampled on 06/16/2021 1151			
	SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.								
	07/06/21 12:09			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	6.4 (c)	mg/L	0.030	1
	SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)								
	07/02/21 14:36		1338441	(SM4500-PE/EPA 365.1)	Total phosphorus as P	2.1	mg/L	0.10	5
J-0, day 10 (202106210728)						Sampled on 06/11/2021 1658			
EPA 200.8 - ICPMS Metals									
06/22/21	07/01/21 18:02	1336248	1338529	(EPA 200.8)	Lead Total ICAP/MS	180	ug/L	0.50	1
J-1, day 10 (202106210729)						Sampled on 06/11/2021 1658			

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Samples Received on:
06/21/2021 1806

Prepped	Analyzed	Prep Batch	Analytical Batch	Method	Analyte	Result	Units	MRL	Dilution
EPA 200.8 - ICPMS Metals									
06/22/21	07/02/21 18:32	1336248	1338759	(EPA 200.8)	Lead Total ICAP/MS	510	ug/L	5.0	10
J-2, day 10 (202106210730)						Sampled on 06/11/2021 1658			
EPA 200.8 - ICPMS Metals									
06/22/21	07/01/21 18:07	1336248	1338529	(EPA 200.8)	Lead Total ICAP/MS	150 (B4)	ug/L	0.50	1
J-3, day 10 (202106210731)						Sampled on 06/11/2021 1658			
EPA 200.8 - ICPMS Metals									
06/22/21	07/01/21 18:08	1336248	1338529	(EPA 200.8)	Lead Total ICAP/MS	170 (B4)	ug/L	0.50	1
J-4, day 10 (202106210732)						Sampled on 06/11/2021 1658			
EPA 200.8 - ICPMS Metals									
06/22/21	07/01/21 18:08	1336248	1338529	(EPA 200.8)	Lead Total ICAP/MS	140 (B4)	ug/L	0.50	1
J-5, day 10 (202106210733)						Sampled on 06/11/2021 1658			
EPA 200.8 - ICPMS Metals									
06/22/21	07/01/21 18:09	1336248	1338529	(EPA 200.8)	Lead Total ICAP/MS	94 (B4)	ug/L	0.50	1
J-6, day 10 (202106210734)						Sampled on 06/11/2021 1658			
EPA 200.8 - ICPMS Metals									
06/22/21	07/01/21 18:10	1336248	1338529	(EPA 200.8)	Lead Total ICAP/MS	130 (B4)	ug/L	0.50	1
J-7, day 10 (202106210735)						Sampled on 06/11/2021 1658			
EPA 200.8 - ICPMS Metals									
06/22/21	07/01/21 18:11	1336248	1338529	(EPA 200.8)	Lead Total ICAP/MS	210 (B4)	ug/L	0.50	1
J-8, day 10 (202106210736)						Sampled on 06/11/2021 1658			
EPA 200.8 - ICPMS Metals									
06/22/21	07/02/21 18:33	1336248	1338759	(EPA 200.8)	Lead Total ICAP/MS	700	ug/L	5.0	10
J-9, day 10 (202106210737)						Sampled on 06/11/2021 1658			
EPA 200.8 - ICPMS Metals									
06/22/21	07/02/21 18:33	1336248	1338759	(EPA 200.8)	Lead Total ICAP/MS	310	ug/L	5.0	10
J-11, day 10 (202106210738)						Sampled on 06/11/2021 1658			
EPA 200.8 - ICPMS Metals									
06/22/21	07/02/21 18:36	1336248	1338759	(EPA 200.8)	Lead Total ICAP/MS	840	ug/L	5.0	10
J-12, day 10 (202106210739)						Sampled on 06/11/2021 1658			

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Samples Received on:
06/21/2021 1806

Prepped	Analyzed	Prep Batch	Analytical Batch	Method	Analyte	Result	Units	MRL	Dilution
EPA 200.8 - ICPMS Metals									
06/22/21	07/02/21 18:37	1336248	1338759	(EPA 200.8)	Lead Total ICAP/MS	520	ug/L	5.0	10
J-13, day 10 (202106210740)						Sampled on 06/11/2021 1658			
EPA 200.8 - ICPMS Metals									
06/22/21	07/02/21 18:38	1336248	1338759	(EPA 200.8)	Lead Total ICAP/MS	600	ug/L	5.0	10
J-0, day 11 (202106210741)						Sampled on 06/18/2021 1110			
EPA 200.8 - ICPMS Metals									
06/22/21	07/02/21 18:38	1336248	1338759	(EPA 200.8)	Lead Total ICAP/MS	200	ug/L	5.0	10
J-1, day 11 (202106210742)						Sampled on 06/18/2021 1110			
EPA 200.8 - ICPMS Metals									
06/22/21	07/02/21 18:39	1336248	1338759	(EPA 200.8)	Lead Total ICAP/MS	280	ug/L	5.0	10
J-2, day 11 (202106210743)						Sampled on 06/18/2021 1110			
EPA 200.8 - ICPMS Metals									
06/22/21	07/02/21 18:40	1336248	1338759	(EPA 200.8)	Lead Total ICAP/MS	240	ug/L	5.0	10
J-3, day 11 (202106210744)						Sampled on 06/18/2021 1110			
EPA 200.8 - ICPMS Metals									
06/22/21	07/02/21 18:43	1336248	1338759	(EPA 200.8)	Lead Total ICAP/MS	290	ug/L	5.0	10
J-4, day 11 (202106210745)						Sampled on 06/18/2021 1110			
EPA 200.8 - ICPMS Metals									
06/22/21	07/02/21 18:43	1336248	1338759	(EPA 200.8)	Lead Total ICAP/MS	240	ug/L	5.0	10
J-5, day 11 (202106210746)						Sampled on 06/18/2021 1110			
EPA 200.8 - ICPMS Metals									
06/22/21	07/02/21 18:46	1336248	1338759	(EPA 200.8)	Lead Total ICAP/MS	180	ug/L	5.0	10
J-6, day 11 (202106210747)						Sampled on 06/18/2021 1110			
SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.									
	07/06/21 12:10			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	23 (c)	mg/L	0.030	1
SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)									
	07/02/21 14:40		1338441	(SM4500-PE/EPA 365.1)	Total phosphorus as P	7.5	mg/L	0.20	10
J-7, day 11 (202106210748)						Sampled on 06/18/2021 1110			

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Report: 942014
Project: KALAMAZOO
Group: Lead Solubility Testing - Phase 2

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Samples Received on:
06/21/2021 1806

Prepped	Analyzed	Prep Batch	Analytical Batch	Method	Analyte	Result	Units	MRL	Dilution
EPA 200.8 - ICPMS Metals									
06/22/21	07/02/21 18:47	1336248	1338759	(EPA 200.8)	Lead Total ICAP/MS	350	ug/L	5.0	10
J-8, day 11 (202106210749)						Sampled on 06/18/2021 1110			
EPA 200.8 - ICPMS Metals									
06/22/21	07/02/21 18:47	1336248	1338759	(EPA 200.8)	Lead Total ICAP/MS	240	ug/L	5.0	10
J-9, day 11 (202106210750)						Sampled on 06/18/2021 1110			
EPA 200.8 - ICPMS Metals									
06/22/21	07/02/21 18:48	1336248	1338759	(EPA 200.8)	Lead Total ICAP/MS	220	ug/L	5.0	10
J-11, day 11 (202106210751)						Sampled on 06/18/2021 1110			
EPA 200.8 - ICPMS Metals									
06/22/21	07/02/21 18:49	1336248	1338759	(EPA 200.8)	Lead Total ICAP/MS	430	ug/L	5.0	10
J-12, day 11 (202106210752)						Sampled on 06/18/2021 1110			
EPA 200.8 - ICPMS Metals									
06/22/21	07/02/21 18:50	1336248	1338759	(EPA 200.8)	Lead Total ICAP/MS	280	ug/L	5.0	10
J-13, day 11 (202106210753)						Sampled on 06/18/2021 1110			
EPA 200.8 - ICPMS Metals									
06/22/21	07/02/21 18:51	1336248	1338759	(EPA 200.8)	Lead Total ICAP/MS	360	ug/L	5.0	10

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Report: 942014
Project: KALAMAZOO
Group: Lead Solubility Testing - Phase 2

Tetra Tech

Total phosphorus as P (T-P)

Analytical Batch: 1337543

202106210701	J-0, day 11
202106210703	J-1, day 11
202106210704	J-2, day 11
202106210705	J-3, day 11
202106210706	J-4, day 11
202106210707	J-5, day 11
202106210708	J-6, day 11
202106210709	J-7, day 11
202106210710	J-8, day 11
202106210711	J-9, day 11
202106210712	J-11, day 11
202106210713	J-12, day 11

Analysis Date: 06/25/2021

Analyzed by: LQ3M
Analyzed by: LQ3M
Analyzed by: LQ3M
Analyzed by: LQ3M
Analyzed by: LQ3M
Analyzed by: LQ3M
Analyzed by: LQ3M
Analyzed by: LQ3M
Analyzed by: LQ3M
Analyzed by: LQ3M
Analyzed by: LQ3M
Analyzed by: LQ3M

Total phosphorus as P (T-P)

Analytical Batch: 1337544

202106210714	J-13, day 11
202106210715	J-0, day 12
202106210716	J-1, day 12
202106210717	J-2, day 12
202106210718	J-3, day 12

Analysis Date: 06/25/2021

Analyzed by: LQ3M
Analyzed by: LQ3M
Analyzed by: LQ3M
Analyzed by: LQ3M
Analyzed by: LQ3M

Total phosphorus as P (T-P)

Analytical Batch: 1338441

202106210719	J-4, day 12
202106210720	J-5, day 12
202106210721	J-6, day 12
202106210722	J-7, day 12
202106210723	J-8, day 12
202106210724	J-9, day 12
202106210725	J-11, day 12
202106210726	J-12, day 12
202106210727	J-13, day 12
202106210747	J-6, day 11

Analysis Date: 07/02/2021

Analyzed by: LQ3M
Analyzed by: LQ3M
Analyzed by: LQ3M
Analyzed by: LQ3M
Analyzed by: LQ3M
Analyzed by: LQ3M
Analyzed by: LQ3M
Analyzed by: LQ3M
Analyzed by: LQ3M
Analyzed by: LQ3M

ICPMS Metals

Prep Batch: 1336248 Analytical Batch: 1338529

202106210728	J-0, day 10
202106210730	J-2, day 10
202106210731	J-3, day 10
202106210732	J-4, day 10
202106210733	J-5, day 10
202106210734	J-6, day 10
202106210735	J-7, day 10

Analysis Date: 07/01/2021

Analyzed by: AZS
Analyzed by: AZS
Analyzed by: AZS
Analyzed by: AZS
Analyzed by: AZS
Analyzed by: AZS
Analyzed by: AZS

ICPMS Metals

Prep Batch: 1336248 Analytical Batch: 1338530

Analysis Date: 07/01/2021

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Laboratory QC Summary

Report: 942014

Project: KALAMAZOO

Group: Lead Solubility Testing - Phase 2

Tetra Tech

202106210749

J-8, day 11

Analyzed by: AZS

ICPMS Metals

Prep Batch: 1336248 Analytical Batch: 1338759

Analysis Date: 07/02/2021

202106210729

J-1, day 10

Analyzed by: AZS

202106210736

J-8, day 10

Analyzed by: AZS

202106210737

J-9, day 10

Analyzed by: AZS

202106210738

J-11, day 10

Analyzed by: AZS

202106210739

J-12, day 10

Analyzed by: AZS

202106210740

J-13, day 10

Analyzed by: AZS

202106210741

J-0, day 11

Analyzed by: AZS

202106210742

J-1, day 11

Analyzed by: AZS

202106210743

J-2, day 11

Analyzed by: AZS

202106210744

J-3, day 11

Analyzed by: AZS

202106210745

J-4, day 11

Analyzed by: AZS

202106210746

J-5, day 11

Analyzed by: AZS

202106210748

J-7, day 11

Analyzed by: AZS

202106210749

J-8, day 11

Analyzed by: AZS

202106210750

J-9, day 11

Analyzed by: AZS

202106210751

J-11, day 11

Analyzed by: AZS

202106210752

J-12, day 11

Analyzed by: AZS

202106210753

J-13, day 11

Analyzed by: AZS

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Laboratory QC

Report: 942014
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Tetra Tech

QC Type	Analyte	Native	Spiked	Recovered	Units	Yield(%)	Limits (%)	RPD Limit(%)	RPD%
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Total phosphorus as P (T-P) by SM4500-PE/EPA 365.1

Analytical Batch: 1337543

Analysis Date: 06/25/2021

LCS1	Total phosphorus as P		0.4	0.433	mg/L	108	(90-110)		
LCS2	Total phosphorus as P		0.4	0.431	mg/L	108	(90-110)	20	0.46
MBLK	Total phosphorus as P			<0.0108	mg/L				
MRL_CHK	Total phosphorus as P		0.02	0.0255	mg/L	127	(50-150)		
MS_202106220278	Total phosphorus as P	ND	0.4	0.454	mg/L	109	(90-110)		
MS2_202106220281	Total phosphorus as P	ND	0.4	0.448	mg/L	108	(90-110)		
MSD_202106220278	Total phosphorus as P	ND	0.4	0.456	mg/L	110	(90-110)	20	0.53
MSD2_202106220281	Total phosphorus as P	ND	0.4	0.457	mg/L	110	(90-110)	20	2.0

Total phosphorus as P (T-P) by SM4500-PE/EPA 365.1

Analytical Batch: 1337544

Analysis Date: 06/25/2021

LCS1	Total phosphorus as P		0.4	0.428	mg/L	107	(90-110)		
LCS2	Total phosphorus as P		0.4	0.427	mg/L	107	(90-110)	20	0.23
MBLK	Total phosphorus as P			<0.0108	mg/L				
MRL_CHK	Total phosphorus as P		0.02	0.0170	mg/L	85	(50-150)		
MS_202106220282	Total phosphorus as P	ND	0.4	0.459	mg/L	<u>114</u>	(90-110)		
MS2_202106100191	Total phosphorus as P	ND	0.4	0.449	mg/L	<u>112</u>	(90-110)		
MSD_202106220282	Total phosphorus as P	ND	0.4	0.463	mg/L	<u>115</u>	(90-110)	20	0.85
MSD2_202106100191	Total phosphorus as P	ND	0.4	0.448	mg/L	<u>112</u>	(90-110)	20	0.18

Total phosphorus as P (T-P) by SM4500-PE/EPA 365.1

Analytical Batch: 1338441

Analysis Date: 07/02/2021

LCS1	Total phosphorus as P		0.4	0.436	mg/L	109	(90-110)		
LCS2	Total phosphorus as P		0.4	0.424	mg/L	106	(90-110)	20	2.8
MBLK	Total phosphorus as P			<0.0108	mg/L				
MRL_CHK	Total phosphorus as P		0.02	0.0130	mg/L	65	(50-150)		
MS_202106150689	Total phosphorus as P	ND	0.4	0.407	mg/L	102	(90-110)		
MS2_202106240771	Total phosphorus as P	ND	0.4	0.412	mg/L	103	(90-110)		
MSD_202106150689	Total phosphorus as P	ND	0.4	0.405	mg/L	101	(90-110)	20	0.52
MSD2_202106240771	Total phosphorus as P	ND	0.4	0.420	mg/L	105	(90-110)	20	2.1

ICPMS Metals by EPA 200.8

Analytical Batch: 1338529

Analysis Date: 07/01/2021

LCS1	Lead Total ICAP/MS		50	50.1	ug/L	100	(85-115)		
LCS2	Lead Total ICAP/MS		50	50.6	ug/L	101	(85-115)	20	0.99
MBLK	Lead Total ICAP/MS			<0.0608	ug/L				

Spike recovery is already corrected for native results.

Spikes which exceed Limits and Method Blanks with positive results are highlighted by Underlining.

Criteria for MS and Dup are advisory only, batch control is based on LCS. Criteria for duplicates are advisory only, unless otherwise specified in the method.

RPD not calculated for LCS2 when different a concentration than LCS1 is used.

RPD not calculated for Duplicates when the result is not five times the MRL (Minimum Reporting Level).

(S) - Indicates surrogate compound.

(I) - Indicates internal standard compound.

Tel: (626) 386-1100
Fax: (626) 988-3757
1 800 566 LABS (1 800 566 5227)

Laboratory QC

Report: 942014
Project: KALAMAZOO
Group: Lead Solubility Testing - Phase 2

Tetra Tech

QC Type	Analyte	Native	Spiked	Recovered	Units	Yield(%)	Limits (%)	RPD Limit(%)	RPD%
MRL_CHK	Lead Total ICAP/MS		0.5	0.506	ug/L	101	(50-150)		
MS_202106210728	Lead Total ICAP/MS	180	50	227	ug/L	95	(70-130)		
MS2_202106210738	Lead Total ICAP/MS	840	50	826	ug/L	73	(70-130)		
MSD_202106210728	Lead Total ICAP/MS	180	50	234	ug/L	108	(70-130)	20	2.9
MSD2_202106210738	Lead Total ICAP/MS	840	50	831	ug/L	84	(70-130)	20	0.59

ICPMS Metals by EPA 200.8

Analytical Batch: 1338530

Analysis Date: 07/01/2021

LCS1	Lead Total ICAP/MS		50	49.7	ug/L	99	(85-115)		
LCS2	Lead Total ICAP/MS		50	50.7	ug/L	101	(85-115)	20	2.0
MBLK	Lead Total ICAP/MS			<0.0608	ug/L				
MRL_CHK	Lead Total ICAP/MS		0.5	0.591	ug/L	118	(50-150)		
MS_202106210749	Lead Total ICAP/MS	240	50	281	ug/L	103	(70-130)		
MS2_202106230577	Lead Total ICAP/MS	ND	50	46.8	ug/L	94	(70-130)		
MSD_202106210749	Lead Total ICAP/MS	240	50	282	ug/L	106	(70-130)	20	0.34
MSD2_202106230577	Lead Total ICAP/MS	ND	50	49.4	ug/L	99	(70-130)	20	5.4

ICPMS Metals by EPA 200.8

Analytical Batch: 1338759

Analysis Date: 07/02/2021

LCS1	Lead Total ICAP/MS		50	54.2	ug/L	108	(85-115)		
LCS2	Lead Total ICAP/MS		50	52.5	ug/L	105	(85-115)	20	3.2
MBLK	Lead Total ICAP/MS			<0.0608	ug/L				
MRL_CHK	Lead Total ICAP/MS		0.5	0.533	ug/L	107	(50-150)		
MS_202107020152	Lead Total ICAP/MS	ND	50	50.0	ug/L	100	(70-130)		
MS2_202106210743	Lead Total ICAP/MS	240	50	737	ug/L	100	(70-130)		
MSD_202107020152	Lead Total ICAP/MS	ND	50	50.8	ug/L	102	(70-130)	20	1.8
MSD2_202106210743	Lead Total ICAP/MS	240	50	773	ug/L	107	(70-130)	20	4.8

Spike recovery is already corrected for native results.

Spikes which exceed Limits and Method Blanks with positive results are highlighted by Underlining.

Criteria for MS and Dup are advisory only, batch control is based on LCS. Criteria for duplicates are advisory only, unless otherwise specified in the method.

RPD not calculated for LCS2 when different a concentration than LCS1 is used.

RPD not calculated for Duplicates when the result is not five times the MRL (Minimum Reporting Level).

(S) - Indicates surrogate compound.

(I) - Indicates internal standard compound.

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Monrovia, California 91016-3629
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Laboratory Report

for

Tetra Tech
201 East Pine Street
Suite 1000
Orlando, FL 32801
Attention: James Christopher
Fax: 407-839-3790

Date of Issue

07/16/2021

Vanessa Berry

**EUROFINS EATON
ANALYTICAL, LLC**



Utah ELCP CA00006

ZIA8: Vanessa Berry
Project Manager

Report: 943899
Project: KALAMAZOO
Group: Lead Solubility Testing - Phase 2

* Accredited in accordance with TNI 2016 and ISO/IEC 17025:2017.

* Laboratory certifies that the test results meet all **TNI 2016 and ISO/IEC 17025:2017** requirements unless noted under the individual analysis.

* Following the cover page are State Certification List, ISO 17025 Accredited Method List, Acknowledgement of Samples Received, Comments, Hits Report, Data Report, QC Summary, QC Report and Regulatory Forms, as applicable.

* Test results relate only to the sample(s) tested.

* Test results apply to the sample(s) as received, unless otherwise noted in the comments report (ISO/IEC 17025:2017).

* This report shall not be reproduced except in full, without the written approval of the laboratory.

* This report includes ISO/IEC 17025 and non-ISO 17025 accredited methods.

STATE CERTIFICATION LIST

State	Certification Number	State	Certification Number
Alabama	41060	Montana	Cert 0035
Arizona	AZ0778	Nebraska	Certified
Arkansas	Certified	Nevada	CA000062018
California	2813	New Hampshire *	2959
Colorado	Certified	New Jersey *	CA 008
Connecticut	PH-0107	New Mexico	Certified
Delaware	CA 006	New York *	11320
Florida *	E871024	North Carolina	06701
Georgia	947	North Dakota	R-009
Guam	18-005R	Oregon *	CA200003-005
Hawaii	Certified	Pennsylvania *	68-565
Idaho	Certified	Puerto Rico	Certified
Illinois *	200033	Rhode Island	LAO00326
Indiana	C-CA-01	South Carolina	87016
Iowa - Asbestos	413	South Dakota	Certified
Kansas *	E-10268	Tennessee	TN02839
Kentucky	90107	Texas *	T104704230-18-15
Louisiana *	LA180000	Utah (Primary AB) *	CA00006
Maine	CA0006	Vermont	VT0114
Maryland	224	Virginia *	460260
Commonwealth of Northern Marianas Is.	MP0004	Washington	C838
Massachusetts	M-CA006	EPA Region 5	Certified
Michigan	9906	Los Angeles County Sanitation Districts	10264
Mississippi	Certified		

* NELAP/TNI Recognized Accreditation Bodies

ISO/IEC 17025 Accredited Method List

The tests listed below are accredited and meet the requirements of ISO/IEC 17025 as verified by the ANSI-ASQ National Accreditation Board/A2LA.
Refer to Certificate and scope of accreditation (5890) found at: <https://www.eurofinsus.com/Eaton>

SPECIFIC TESTS	METHOD OR TECHNIQUE USED	Environ-mental (Drinking Water)	Environ-mental (Waste Water)	Water as a Component of Food and Bev/Bev/ Bottled Water
1,2,3-TCP (5 PPT & 0.5 PPT)	CA SRL 524M-TCP	x		x
1,4-Dioxane	EPA 522	x		x
2,3,7,8-TCDD	Modified EPA 1613B	x		x
Acrylamide	In House Method (2440)	x		x
Algal Toxins/Microcystin	In House Method (3570)			
Alkalinity	SM 2320B	x	x	x
Ammonia	EPA 350.1		x	x
Ammonia	SM 4500-NH3 H		x	x
Anions and DBPs by IC	EPA 300.0	x	x	x
Anions and DBPs by IC	EPA 300.1	x		x
Asbestos	EPA 100.2	x	x	
BOD / CBOD	SM 5210B		x	x
Bromate	In House Method (2447)	x		x
Carbamates	EPA 531.2	x		x
Carbonate as CO3	SM 2330B	x	x	x
Carbonyls	EPA 556	x		x
COD	EPA 410.4 / SM 5220D		x	
Chloramines	SM 4500-CL G	x	x	x
Chlorinated Acids	EPA 515.4	x		x
Chlorinated Acids	EPA 555	x		x
Chlorine Dioxide	SM 4500-CLO2 D Palin Test	x		x
Chlorine -Total/Free/ Combined Residual	SM 4500-Cl G	x	x	x
Conductivity	EPA 120.1		x	
Conductivity	SM 2510B	x	x	x
Corrosivity (Langelier Index)	SM 2330B	x		x
Cyanide, Amenable	SM 4500-CN G	x	x	
Cyanide, Free	SM 4500CN F	x	x	x
Cyanide, Total	EPA 335.4	x	x	x
Cyanogen Chloride (screen)	In House Method (2470)	x		x
Diquat and Paraquat	EPA 549.2	x		x
DBP/HAA	SM 6251B	x		x
Dissolved Oxygen	SM 4500-O G		x	x
DOC	SM 5310C	x		x
E. Coli	(MTF/EC+MUG)	x		x
E. Coli	CFR 141.21(f)(6)(i)	x		x
E. Coli	SM 9223		x	
E. Coli (Enumeration)	SM 9221B.1/ SM 9221F	x		x
E. Coli (Enumeration)	SM 9223B	x		x
EDB/DCBP	EPA 504.1	x		
EDB/DBCP and DBP	EPA 551.1	x		x
EDTA and NTA	In House Method (2454)	x		x
Endothall	EPA 548.1	x		x
Endothall	In-house Method (2445)	x		x
Enterococci	SM 9230B	x	x	
Fecal Coliform	SM 9221 E (MTF/EC)	x		
Fecal Coliform	SM 9221C, E (MTF/EC)		x	
Fecal Coliform (Enumeration)	SM 9221E (MTF/EC)	x		x
Fecal Coliform with Chlorine Present	SM 9221E		x	
Fecal Streptococci	SM 9230B	x	x	
Fluoride	SM 4500-F C	x	x	x
Glyphosate	EPA 547	x		x
Glyphosate + AMPA	In House Method (3618)	x		x
Gross Alpha/Beta	EPA 900.0	x	x	x
Gross Alpha Coprecipitation	SM 7110 C	x	x	x
Hardness	SM 2340B	x	x	x
Heterotrophic Bacteria	In House Method (2439)	x		x
Heterotrophic Bacteria	SM 9215 B	x		x
Hexavalent Chromium	EPA 218.6	x	x	x

SPECIFIC TESTS	METHOD OR TECHNIQUE USED	Environ-mental (Drinking Water)	Environ-mental (Waste Water)	Water as a Component of Food and Bev/Bev/ Bottled Water
Hexavalent Chromium	EPA 218.7	x		x
Hexavalent Chromium	SM 3500-Cr B		x	
Hormones	EPA 539	x		x
Hydroxide as OH Calc.	SM 2330B	x		x
Kjeldahl Nitrogen	EPA 351.2		x	
Legionella	Legiolert	x		x
Mercury	EPA 200.8	x		x
Metals	EPA 200.7 / 200.8	x	x	x
Microcystin LR	ELISA (2360)	x		x
Microcystin, Total	EPA 546	x		x
NDMA	EEA/Agilent 521.1 In house method (2425)	x		x
Nitrate/Nitrite Nitrogen	EPA 353.2	x	x	x
OCL, Pesticides/PCB	EPA 505	x		x
Ortho Phosphate	EPA 365.1	x	x	x
Ortho Phosphorous	SM 4500P E	x		x
Oxyhalides Disinfection Byproducts	EPA 317.0	x		x
Perchlorate	EPA 331.0	x		x
Perchlorate (low and high)	EPA 314.0	x		x
Perfluorinated Alkyl Acids	EPA 537	x		x
Perfluorinated Pollutant	In house Method (2434)	x		x
pH	EPA 150.1	x		
pH	SM 4500-H+B	x	x	x
Phenylurea Pesticides/ Herbicides	In House Method, based on EPA 532 (2448)	x		x
Pseudomonas	IDEXX Pseudalert (2461)	x		x
Radium-226	GA Institute of Tech	x		x
Radium-228	GA Institute of Tech	x		x
Radon-222	SM 7500RN	x		x
Residue, Filterable	SM 2540C	x	x	x
Residue, Non-filterable	SM 2540D		x	
Residue, Total	SM 2540B		x	x
Residue, Volatile	EPA 160.4		x	
Semi-VOC	EPA 525.2	x		x
Silica	SM 4500-Si D	x	x	
Silica	SM 4500-SiO2 C	x	x	
Sulfide	SM 4500-S ⁻ D		x	
Sulfite	SM 4500-SO ³ B	x	x	x
Surfactants	SM 5540C	x	x	x
Taste and Odor Analytes	SM 6040E	x		x
Total Coliform (P/A)	SM 9221 A, B	x		x
Total Coliform (Enumeration)	SM 9221 A, B, C	x		x
Total Coliform / E. coli	Colisure SM 9223	x		x
Total Coliform	SM 9221B		x	
Total Coliform with Chlorine Present	SM 9221B		x	
Total Coliform / E.coli (P/A and Enumeration)	SM 9223	x		x
TOC	SM 5310C	x	x	x
TOX	SM 5320B		x	
Total Phenols	EPA 420.1		x	
Total Phenols	EPA 420.4	x	x	x
Total Phosphorous	SM 4500 P E		x	
Triazine Pesticides & Degradates	In House (3617)	x		x
Turbidity	EPA 180.1	x	x	x
Turbidity	SM 2130B	x	x	
Uranium by ICP/MS	EPA 200.8	x		x
UV 254	SM 5910B	x		
VOC	EPA 524.2	x		x
VOC	In House Method (2411)	x		x
Yeast and Mold	SM 9610	x		x
Field Sampling	N/A			

Acknowledgement of Samples Received

Addr: **Tetra Tech**
201 East Pine Street
Suite 1000
Orlando, FL 32801

Attn: James Christopher
Phone: 407-480-3907

Client ID: TETRATECH-ORLAN
Folder #: 943899
Project: KALAMAZOO
Sample Group: Lead Solubility Testing - Phase 2

Project Manager: Vanessa Berry
Phone: 503-310-3905

The following samples were received from you on **July 01, 2021** at **1448**. They have been scheduled for the tests listed below each sample. If this information is incorrect, please contact your service representative. Thank you for using Eurofins Eaton Analytical, LLC.

Sample #	Sample ID	Sample Date
<u>202107010566</u>	J-0, Day 13	06/21/2021 1345
	Total phosphorus as P	Total phosphorus as PO4- Calc.
<u>202107010567</u>	J-1, Day 13	06/21/2021 1345
	Total phosphorus as P	Total phosphorus as PO4- Calc.
<u>202107010568</u>	J-2, Day 13	06/21/2021 1345
	Total phosphorus as P	Total phosphorus as PO4- Calc.
<u>202107010569</u>	J-3, Day 13	06/21/2021 1345
	Total phosphorus as P	Total phosphorus as PO4- Calc.
<u>202107010570</u>	J-4, Day 13	06/21/2021 1345
	Total phosphorus as P	Total phosphorus as PO4- Calc.
<u>202107010571</u>	J-5, Day 13	06/21/2021 1345
	Total phosphorus as P	Total phosphorus as PO4- Calc.
<u>202107010572</u>	J-6, Day 13	06/21/2021 1345
	Total phosphorus as P	Total phosphorus as PO4- Calc.
<u>202107010573</u>	J-7, Day 13	06/21/2021 1345
	Total phosphorus as P	Total phosphorus as PO4- Calc.
<u>202107010574</u>	J-8, Day 13	06/21/2021 1345
	Total phosphorus as P	Total phosphorus as PO4- Calc.
<u>202107010575</u>	J-9, Day 13	06/21/2021 1345
	Total phosphorus as P	Total phosphorus as PO4- Calc.
<u>202107010576</u>	J-11, Day 13	06/21/2021 1345
	Total phosphorus as P	Total phosphorus as PO4- Calc.
<u>202107010577</u>	J-12, Day 13	06/21/2021 1345
	Total phosphorus as P	Total phosphorus as PO4- Calc.
<u>202107010578</u>	J-13, Day 13	06/21/2021 1345
	Total phosphorus as P	Total phosphorus as PO4- Calc.

Acknowledgement of Samples Received

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Sample #	Sample ID	Sample Date
<u>202107010579</u>	J-0, Day 12	06/22/2021 1230
	@ICPMS	
<u>202107010580</u>	J-1, Day 12	06/22/2021 1230
	@ICPMS	
<u>202107010581</u>	J-2, Day 12	06/22/2021 1230
	@ICPMS	
<u>202107010582</u>	J-3, Day 12	06/22/2021 1230
	@ICPMS	
<u>202107010583</u>	J-4, Day 12	06/22/2021 1230
	@ICPMS	
<u>202107010584</u>	J-5, Day 12	06/22/2021 1235
	@ICPMS	
<u>202107010585</u>	J-6, Day 12	06/22/2021 1235
	@ICPMS	
<u>202107010586</u>	J-7, Day 12	06/22/2021 1235
	@ICPMS	
<u>202107010587</u>	J-8, Day 12	06/22/2021 1235
	@ICPMS	
<u>202107010588</u>	J-9, Day 12	06/22/2021 1235
	@ICPMS	
<u>202107010589</u>	J-11, Day 12	06/22/2021 1240
	@ICPMS	
<u>202107010590</u>	J-12, Day 13	06/22/2021 1240
	@ICPMS	
<u>202107010591</u>	J-13, Day 13	06/22/2021 1240
	@ICPMS	

Acknowledgement of Samples Received

Addr: **Tetra Tech**
201 East Pine Street
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Attn: James Christopher
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Client ID: TETRATECH-ORLAN
Folder #: 943899
Project: KALAMAZOO
Sample Group: Lead Solubility Testing - Phase 2

Project Manager: Vanessa Berry
Phone: 503-310-3905

The following samples were received from you on **July 01, 2021** at **1448**. They have been scheduled for the tests listed below each sample. If this information is incorrect, please contact your service representative. Thank you for using Eurofins Eaton Analytical, LLC.

Sample #	Sample ID	Sample Date
<u>202107010592</u>	J-0, Day 14	06/24/2021 1355
	Total phosphorus as P	Total phosphorus as PO4- Calc.
<u>202107010593</u>	J-1, Day 14	06/24/2021 1355
	Total phosphorus as P	Total phosphorus as PO4- Calc.
<u>202107010594</u>	J-2, Day 14	06/24/2021 1355
	Total phosphorus as P	Total phosphorus as PO4- Calc.
<u>202107010595</u>	J-3, Day 14	06/24/2021 1355
	Total phosphorus as P	Total phosphorus as PO4- Calc.
<u>202107010596</u>	J-4, Day 14	06/24/2021 1355
	Total phosphorus as P	Total phosphorus as PO4- Calc.
<u>202107010597</u>	J-5, Day 14	06/24/2021 1355
	Total phosphorus as P	Total phosphorus as PO4- Calc.
<u>202107010598</u>	J-6, Day 14	06/24/2021 1355
	Total phosphorus as P	Total phosphorus as PO4- Calc.
<u>202107010599</u>	J-7, Day 14	06/24/2021 1355
	Total phosphorus as P	Total phosphorus as PO4- Calc.
<u>202107010600</u>	J-8, Day 14	06/24/2021 1355
	Total phosphorus as P	Total phosphorus as PO4- Calc.
<u>202107010601</u>	J-9, Day 14	06/24/2021 1355
	Total phosphorus as P	Total phosphorus as PO4- Calc.
<u>202107010602</u>	J-11, Day 14	06/24/2021 1355
	Total phosphorus as P	Total phosphorus as PO4- Calc.
<u>202107010603</u>	J-12, Day 14	06/24/2021 1355
	Total phosphorus as P	Total phosphorus as PO4- Calc.
<u>202107010604</u>	J-13, Day 14	06/24/2021 1355
	Total phosphorus as P	Total phosphorus as PO4- Calc.

Acknowledgement of Samples Received

Addr: **Tetra Tech**
201 East Pine Street
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Orlando, FL 32801

Attn: James Christopher
Phone: 407-480-3907

Client ID: TETRATECH-ORLAN
Folder #: 943899
Project: KALAMAZOO
Sample Group: Lead Solubility Testing - Phase 2

Project Manager: Vanessa Berry
Phone: 503-310-3905

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Sample #	Sample ID	Sample Date
<u>202107010605</u>	J-0, Day 15	06/29/2021 1224
	Total phosphorus as P	Total phosphorus as PO4- Calc.
<u>202107010606</u>	J-1, Day 15	06/29/2021 1224
	Total phosphorus as P	Total phosphorus as PO4- Calc.
<u>202107010607</u>	J-2, Day 15	06/29/2021 1224
	Total phosphorus as P	Total phosphorus as PO4- Calc.
<u>202107010608</u>	J-3, Day 15	06/29/2021 1224
	Total phosphorus as P	Total phosphorus as PO4- Calc.
<u>202107010609</u>	J-4, Day 15	06/29/2021 1224
	Total phosphorus as P	Total phosphorus as PO4- Calc.
<u>202107010610</u>	J-5, Day 15	06/29/2021 1224
	Total phosphorus as P	Total phosphorus as PO4- Calc.
<u>202107010611</u>	J-6, Day 15	06/29/2021 1224
	Total phosphorus as P	Total phosphorus as PO4- Calc.
<u>202107010612</u>	J-7, Day 15	06/29/2021 1224
	Total phosphorus as P	Total phosphorus as PO4- Calc.
<u>202107010613</u>	J-8, Day 15	06/29/2021 1224
	Total phosphorus as P	Total phosphorus as PO4- Calc.
<u>202107010614</u>	J-9, Day 15	06/29/2021 1224
	Total phosphorus as P	Total phosphorus as PO4- Calc.
<u>202107010615</u>	J-11, Day 15	06/29/2021 1224
	Total phosphorus as P	Total phosphorus as PO4- Calc.
<u>202107010616</u>	J-12, Day 15	06/29/2021 1224
	Total phosphorus as P	Total phosphorus as PO4- Calc.
<u>202107010617</u>	J-13, Day 15	06/29/2021 1224
	Total phosphorus as P	Total phosphorus as PO4- Calc.

Acknowledgement of Samples Received

Addr: **Tetra Tech**
201 East Pine Street
Suite 1000
Orlando, FL 32801

Attn: James Christopher
Phone: 407-480-3907

Client ID: TETRATECH-ORLAN
Folder #: 943899
Project: KALAMAZOO
Sample Group: Lead Solubility Testing - Phase 2

Project Manager: Vanessa Berry
Phone: 503-310-3905

The following samples were received from you on **July 01, 2021 at 1448**. They have been scheduled for the tests listed below each sample. If this information is incorrect, please contact your service representative. Thank you for using Eurofins Eaton Analytical, LLC.

Sample #	Sample ID	Sample Date
202107010618	J-0, Day 13	06/25/2021 1230
	@ICPMS	
202107010619	J-1, Day 13	06/25/2021 1230
	@ICPMS	
202107010620	J-2, Day 13	06/25/2021 1230
	@ICPMS	
202107010621	J-3, Day 13	06/25/2021 1230
	@ICPMS	
202107010622	J-4, Day 13	06/25/2021 1230
	@ICPMS	
202107010623	J-5, Day 13	06/25/2021 1230
	@ICPMS	
202107010624	J-6, Day 13	06/25/2021 1230
	@ICPMS	
202107010625	J-7, Day 13	06/25/2021 1230
	@ICPMS	
202107010626	J-8, Day 13	06/25/2021 1230
	@ICPMS	
202107010627	J-9, Day 13	06/25/2021 1230
	@ICPMS	
202107010628	J-11, Day 13	06/25/2021 1230
	@ICPMS	
202107010629	J-12, Day 13	06/25/2021 1230
	@ICPMS	
202107010630	J-13, Day 13	06/25/2021 1230
	@ICPMS	

Acknowledgement of Samples Received

Addr: **Tetra Tech**
201 East Pine Street
Suite 1000
Orlando, FL 32801

Attn: James Christopher
Phone: 407-480-3907

Client ID: TETRATECH-ORLAN

Folder #: 943899

Project: KALAMAZOO

Sample Group: Lead Solubility Testing - Phase 2

Project Manager: Vanessa Berry

Phone: 503-310-3905

The following samples were received from you on **July 01, 2021 at 1448**. They have been scheduled for the tests listed below each sample. If this information is incorrect, please contact your service representative. Thank you for using Eurofins Eaton Analytical, LLC.

Sample #	Sample ID	Sample Date
Test Description		
@ICPMS -- ICPMS Metals		



Eaton Analytical

CHAIN OF CUSTODY RECORD

EUROFINS EATON ANALYTICAL USE ONLY:

750 Royal Oaks Drive, Suite 100
Monrovia, CA 91016-3629
Phone: 626 386 1100
Fax: 626 386 1101
800 566 LABS (800 566 5227)
Website: www.EatonAnalytical.com

TO BE COMPLETED BY: **IGU 5062 0905 0008**

LOGIN COMMENTS: _____

SAMPLES CHECKED AGAINST COC BY: 98789

SAMPLES LOGGED IN BY: 98789

SAMPLE TEMP RECEIVED AT:

☐ (Other)

IR Gun ID = 6304

(Observation = 3.1 °C)

☒ Monrovia

IR Gun ID = 6304

(Observation = 3.1 °C)

SAMPLES REC'D DAY OF COLLECTION? 6 (check for yes)

°C) (Corr. Factor 0.0 °C) (Final = 2.9 °C)

°C) (Corr. Factor 0.0 °C) (Final = 2.9 °C)

Compliance Acceptance Criteria: (Chemistry: 4 ± 2 °C) (Microbiology: < 10 °C)

TYPE OF ICE: Real ☒ Synthetic

No Ice

CONDITION OF ICE: Frozen ☒ Partially Frozen

Thawed

METHOD OF SHIPMENT: Pick-Up / Walk-In / FedEx / UPS / DHL / Area Fast / Top Line / Other: UPS

COMPANY/AGENCY NAME: <u>Tetra Tech</u>		PROJECT CODE:	COMPLIANCE SAMPLES <input type="checkbox"/> NON-COMPLIANCE SAMPLES <input type="checkbox"/>		(check for yes)	
EEA CLIENT CODE: <u>tetra tech-01</u>		COC ID:	Type of samples (circle one): ROUTINE SPECIAL CONFIRMATION		(eg. SDWA, NPDES, etc.)	
TAT requested: rush by adv notice only		SAMPLE GROUP: <u>lead solubility - phase 2</u>	SEE ATTACHED KIT ORDER FOR ANALYSES		(check for yes) <u>OR</u>	
SAMPLE DATE	SAMPLE TIME	SAMPLE ID	CLIENT LAB ID	MATRIX	FIELD DATA	SAMPLER COMMENTS
<u>6/21/13</u>	<u>13:45</u>	<u>J-0, Day 13</u>		<u>FW</u>		
	<u>13:45</u>	<u>J-1</u>				
		<u>J-2</u>				
		<u>J-3</u>				
		<u>J-4</u>				
		<u>J-5</u>				
		<u>J-6</u>				
		<u>J-7</u>				
		<u>J-8</u>				
		<u>J-9</u>				

* MATRIX TYPES: RSW = Raw Surface Water
RGW = Raw Ground Water
CFW = Chlor(am)inated Finished Water
FW = Other Finished Water
SEAW = Sea Water
WW = Waste Water
BW = Bottled Water
SW = Storm Water
SO = Soil
SL = Sludge
O = Other - Please Identify

SAMPLED BY: [Signature] PRINT NAME: Ana Raaba COMPANY/TITLE: Tetra Tech DATE: 06/30/21 TIME: 10:40

RELINQUISHED BY: [Signature] PRINT NAME: Isaac Seag COMPANY/TITLE: Tetra Tech DATE: 6/30/21 TIME: 10:40

RECEIVED BY: [Signature] PRINT NAME: Carl M. [Signature] COMPANY/TITLE: 6/30/21 DATE: 7-1-21 TIME: 1445

RECEIVED BY: _____



Eaton Analytical

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Monrovia, CA 91016-3629
Phone: 626 386 1100
Fax: 626 386 1101
800 566 LABS (800 566 5227)
Website: www.EatonAnalytical.com

CHAIN OF CUSTODY RECORD

EUROFINS EATON ANALYTICAL USE ONLY:

LOGIN COMMENTS: _____

SAMPLES CHECKED AGAINST COC BY: h

SAMPLES LOGGED IN BY: h

SAMPLE TEMP RECEIVED AT:

☐ (Other) IR Gun ID = 6306 (Observation = 3.1 °C) (check for yes)
☒ Monrovia IR Gun ID = 6306 (Observation = 3.1 °C) (Final = 2.9 °C)
Compliance Acceptance Criteria: (Chemistry: 4 ± 2 °C) (Microbiology: < 10 °C)

TYPE OF ICE: Real ☒ Synthetic ☐ No Ice ☒ CONDITION OF ICE: Frozen ☒ Partially Frozen ☐ Thawed ☐ N/A ☐

METHOD OF SHIPMENT: Pick-Up / Walk-In / FedEx / DHL / Area Fast / Top Line / Other: FedEx

TO BE COMPLETED BY SAMPLER:

COMPANY/AGENCY NAME: Tetra Tech		PROJECT CODE:	COMPLIANCE SAMPLES <input type="checkbox"/> NON-COMPLIANCE SAMPLES <input type="checkbox"/>	(check for yes)
EEA CLIENT CODE: tetra tech - 0r1		COC ID:	REGULATION INVOLVED: (eg. SDWA, NPDES, etc.)	
TAT requested: rush by adv notice only		SAMPLE GROUP: lead solubility - phase 2	SEE ATTACHED KIT ORDER FOR ANALYSES <input type="checkbox"/> (check for yes), <u>OR</u>	
STD <input type="checkbox"/> 1 wk <input type="checkbox"/> 3 day <input type="checkbox"/> 2 day <input type="checkbox"/> 1 day		List ALL ANALYSES REQUIRED (enter number of bottles sent for each test for each sample)		

SAMPLE DATE	SAMPLE TIME	SAMPLE ID	CLIENT LAB ID	MATRIX	FIELD DATA	FIELD DATA	SAMPLER COMMENTS
6/21 13:45	↓	J-11, Day 13		fw			icpm
6/22 12:30	↓	J-12, ↓ J-13, ↓					
	↓	J-0, Day 12					
	↓	J-1, ↓					
	↓	J-2, ↓					
	↓	J-3, ↓					
	↓	J-4, ↓					
	↓	J-5, ↓					
	↓	J-6, ↓					

* MATRIX TYPES: RSW = Raw Surface Water RGW = Raw Ground Water CFW = Chlor(am)inated Finished Water FW = Other Finished Water
SEAW = Sea Water BW = Bottled Water SW = Storm Water SO = Soil SL = Sludge
WW = Waste Water

SAMPLED BY:	SIGNATURE: <u>[Signature]</u>	PRINT NAME: Ana Rosabal	COMPANY/TITLE: Tetra Tech	DATE: 06/30/21	TIME: 11:40
RELINQUISHED BY:					
RECEIVED BY:	<u>[Signature]</u>	Isaac Saez	Tetra Tech	06/30/21	11:40
RELINQUISHED BY:		f. awc mulls	EEA	7-1-21	1445
RECEIVED BY:					



Eaton Analytical

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Monrovia, CA 91016-3629
Phone: 626 386 1100
Fax: 626 386 1101
800 566 LABS (800 566 5227)
Website: www.EatonAnalytical.com

CHAIN OF CUSTODY RECORD

EUROFINS EATON ANALYTICAL USE ONLY:

LOGIN COMMENTS: _____

SAMPLES CHECKED AGAINST COC BY: df

SAMPLES LOGGED IN BY: _____

SAMPLE TEMP RECEIVED AT:
☐ (Other) IR Gun ID = _____ (Observation = _____ °C) (check for yes)
☒ Monrovia IR Gun ID = 6304 (Observation = 3-1 °C) (Final = 2-9 °C)
Compliance Acceptance Criteria: (Chemistry: 4 ± 2 °C) (Microbiology: < 10 °C)

TYPE OF ICE: Real ☒ Synthetic ☐ No Ice ☐ **CONDITION OF ICE:** Frozen ☒ Partially Frozen ☐ Thawed ☐ N/A ☐

METHOD OF SHIPMENT: Pick-Up / Walk-In / FedEx / UPS / DHL / Area Fast / Top Line / Other: _____

TO BE COMPLETED BY SAMPLER:

COMPANY/AGENCY NAME: <u>Tetra Tech</u>		PROJECT CODE:	COMPLIANCE SAMPLES - Requires state forms		NON-COMPLIANCE SAMPLES REGULATION INVOLVED:		(check for yes)
EEA CLIENT CODE: <u>Tetrattech-On</u>	COC ID:	SAMPLE GROUP: <u>lead solubility - phase 2</u>	Type of samples (circle one):	ROUTINE	SPECIAL	CONFIRMATION (eg. SDWA, NPDES, etc.)	
TAT requested: rush by adv notice only			SEE ATTACHED KIT ORDER FOR ANALYSES List ALL ANALYSES REQUIRED (enter number of bottles sent for each test for each sample)				
SAMPLE DATE	SAMPLE TIME	SAMPLE ID	CLIENT LAB ID	MATRIX	FIELD DATA	FIELD DATA	SAMPLER COMMENTS
6/22	12:35	J-7, Day 12		FW			
	↓	J-8,					
	↓	J-9,					
	12:40	J-11,					
	↓	J-12,					
	↓	J-13,					
6/24	13:55	J-0, Day 14					
	↓	J-1,					
	↓	J-2,					
	↓	J-3,					

* MATRIX TYPES: RSW = Raw Surface Water
RGW = Raw Ground Water

CFW = Chlor(am)inated Finished Water
FW = Other Finished Water

SEAW = Sea Water
WW = Waste Water

BW = Bottled Water
SW = Storm Water

SO = Soil
SL = Sludge

O = Other - Please Identify

SAMPLED BY:	PRINT NAME	COMPANY/TITLE	DATE	TIME
RELINQUISHED BY:	<u>Arac Rosabal</u>	<u>Tetra Tech</u>	<u>06/30/21</u>	<u>10:40</u>
RECEIVED BY:	<u>Isaac Serrano</u>	<u>Tetra Tech</u>	<u>6/30/21</u>	<u>10:40</u>
RELINQUISHED BY:	<u>Yanice Harris</u>	<u>EEA</u>	<u>7-1-21</u>	<u>1445</u>
RECEIVED BY:				



Eaton Analytical

CHAIN OF CUSTODY RECORD

EUROFINS EATON ANALYTICAL USE ONLY:

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Monrovia, CA 91016-3629
Phone: 626 386 1100
Fax: 626 386 1101
800 566 LABS (800 566 5227)
Website: www.EatonAnalytical.com

LOGIN COMMENTS: _____

SAMPLES CHECKED AGAINST COC BY: DL

SAMPLES LOGGED IN BY: DL

SAMPLE TEMP RECEIVED AT:
☐ (Other) IR Gun ID = _____ (Observation = _____ °C) (check for yes)
☒ Monrovia IR Gun ID = 6305 (Observation = 3-1 °C) (Final = _____ °C)
Compliance Acceptance Criteria: (Chemistry: 4 ± 2 °C) (Microbiology: < 10 °C)

TYPE OF ICE: Real ☒ Synthetic _____ No Ice _____ CONDITION OF ICE: Frozen ☒ Partially Frozen _____ Thawed _____ N/A _____

METHOD OF SHIPMENT: Pick-Up / Walk-In / FedEx / UPS / DHL / Area Fast / Top Line / Other: _____

TO BE COMPLETED BY SAMPLER:

COMPANY/AGENCY NAME: <u>Tetra Tech</u>		PROJECT CODE:	COMPLIANCE SAMPLES - Requires state forms		NON-COMPLIANCE SAMPLES		(check for yes)	
EEA CLIENT CODE: <u>tetra tech - orl</u>		COC ID:	Type of samples (circle one): ROUTINE SPECIAL CONFIRMATION		REGULATION INVOLVED:		(eg. SDWA, NPDES, etc.)	
TAT requested: rush by adv notice only		SAMPLE GROUP: <u>lead solubility - phase 2</u>	SEE ATTACHED KIT ORDER FOR ANALYSES		List ALL ANALYSES REQUIRED (enter number of bottles sent for each test for each sample)		(check for yes) <u>OR</u>	
SAMPLE DATE	SAMPLE TIME	SAMPLE ID	CLIENT LAB ID	MATRIX	FIELD DATA	FIELD DATA	SAMPLER COMMENTS	
6/24 13:55		J-4, Day 14		FW				
		J-5						
		J-6						
		J-7						
		J-8						
		J-9						
		J-11						
		J-12						
		J-13						
6/29 12:24		J-0, Day 15		FW				

* MATRIX TYPES: RSW = Raw Surface Water RGW = Raw Ground Water CFW = Chlor(am)inated Finished Water FW = Other Finished Water
SEAW = Sea Water WW = Waste Water BW = Bottled Water SW = Storm Water SO = Soil SL = Sludge
O = Other - Please Identify

SAMPLED BY:	PRINT NAME	COMPANY/TITLE	DATE	TIME
<u>[Signature]</u>	Ana Rosabal	Tetra Tech	06/30/21	10:59
RELINQUISHED BY:	Isaac Seese	Tetra Tech	6/30/21	10:55
RECEIVED BY:	<u>[Signature]</u>	EEH	7-1-21	1445
RELINQUISHED BY:				
RECEIVED BY:				

CHAIN OF CUSTODY RECORD

EUROFINS EATON ANALYTICAL USE ONLY:

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Monrovia, CA 91016-3629
Phone: 626 386 1100
Fax: 626 386 1101
800 566 LABS (800 566 5227)
Website: www.EatonAnalytical.com

LOGIN COMMENTS: _____

SAMPLES CHECKED AGAINST COC BY: _____

SAMPLES LOGGED IN BY: _____

SAMPLE TEMP RECEIVED AT:
☐ (Other) IR Gun ID = _____ (Observation = _____ °C) (check for yes)
☒ Monrovia IR Gun ID = 630A (Observation = 3.1 °C) (Final = _____ °C)
 Compliance Acceptance Criteria: (Chemistry: 4 ± 2 °C) (Microbiology: < 10 °C)

TYPE OF ICE: Real ☒ Synthetic ☐ No Ice ☐
CONDITION OF ICE: Frozen ☒ Partially Frozen ☐ Thawed ☐ N/A ☐

METHOD OF SHIPMENT: Pick-Up / Walk-In / FedEx / DHL / Area Fast / Top Line / Other: _____

TO BE COMPLETED BY SAMPLER:

COMPANY/AGENCY NAME: Tetra Tech

PROJECT CODE: _____

SAMPLE GROUP: lead solubility - phase 2

EEA CLIENT CODE: tetra tech-orl

COC ID: _____

TAT requested: rush by adv notice only

STD 1 wk 3 day 2 day 1 day

SAMPLE DATE	SAMPLE TIME	SAMPLE ID	CLIENT LAB ID	MATRIX	FIELD DATA	FIELD DATA	SAMPLER COMMENTS
6/24/12	12:24	J-1	Day 15	FW			
		J-2					
		J-3					
		J-4					
		J-5					
		J-6					
		J-7					
		J-8					
		J-9					
		J-11					

COMPLIANCE SAMPLES ☐ **NON-COMPLIANCE SAMPLES** ☐
 - Requires state forms ☐ **REGULATION INVOLVED:** _____
 Type of samples (circle one): ☐ ROUTINE ☐ SPECIAL ☐ CONFIRMATION (eg. SDWA, NPDES, etc.)

SEE ATTACHED KIT ORDER FOR ANALYSES ☐ (check for yes) **OR** ☐ (check for yes)

List ALL ANALYSES REQUIRED (enter number of bottles sent for each test for each sample)

Total - P

* **MATRIX TYPES:** RSW = Raw Surface Water
 RGW = Raw Ground Water

CFW = Chlor(am)inated Finished Water
 FW = Other Finished Water
 SEAW = Sea Water
 WW = Waste Water
 BW = Bottled Water
 SW = Storm Water
 SO = Soil
 SL = Sludge
 O = Other - Please Identify

SIGNATURE _____

PRINT NAME Ara Rosabal

COMPANY/TITLE Tetra Tech

DATE 06/30/11 **TIME** 11:05

SAMPLED BY: _____

RELINQUISHED BY: Isaac Seese

RECEIVED BY: Paul Mills

DATE 6/30/11 **TIME** 19:51

RELINQUISHED BY: _____

RECEIVED BY: _____

DATE 7-1-11 **TIME** 14:45

RELINQUISHED BY: _____

RECEIVED BY: _____

CHAIN OF CUSTODY RECORD

EUROFINS EATON ANALYTICAL USE ONLY:

750 Royal Oaks Drive, Suite 100
Monrovia, CA 91016-3629
Phone: 626 386 1100
Fax: 626 386 1101
800 566 LABS (800 566 5227)
Website: www.EatonAnalytical.com

LOGIN COMMENTS: Battery for (IPMS) phot SAMPLES CHECKED AGAINST COC BY: h

SAMPLE TEMP RECEIVED AT: SAMPLES LOGGED IN BY: h

☐ (Other) IR Gun ID = 630A (Observation = 3.1 °C) (check for yes)
☒ Monrovia IR Gun ID = 630A (Observation = 3.1 °C) (Final = 2.9 °C)
Compliance Acceptance Criteria: (Chemistry: 4 ± 2 °C) (Microbiology: < 10 °C)

TYPE OF ICE: Real ☒ Synthetic ☐ No Ice ☐ CONDITION OF ICE: Frozen ☒ Partially Frozen ☐ Thawed ☐ N/A

METHOD OF SHIPMENT: Pick-Up / Walk-In / FedEx / DHL / Area Fast / Top Line / Other: FedEx

TO BE COMPLETED BY SAMPLER:

COMPANY/AGENCY NAME:		PROJECT CODE:	COMPLIANCE SAMPLES		NON-COMPLIANCE SAMPLES		(check for yes)	
			- Requires state forms		REGULATION INVOLVED:			
			Type of samples (circle one): ROUTINE SPECIAL CONFIRMATION		(eg. SDWA, NPDES, etc.)			
EEA CLIENT CODE:		COC ID:	SEE ATTACHED KIT ORDER FOR ANALYSES					
Tetra Tech		Tetratech-01	List ALL ANALYSES REQUIRED (enter number of bottles sent for each test for each sample)					
SAMPLE DATE	SAMPLE TIME	SAMPLE ID	MATRIX	FIELD DATA	FIELD DATA	SAMPLER COMMENTS		
6/25	12:30	J-8, Day 13	FW					
		J-9,						
		J-11,						
		J-12,						
		J-13,						

* MATRIX TYPES: RSW = Raw Surface Water
RGW = Raw Ground Water

CFW = Chlor(am)inated Finished Water
FW = Other Finished Water

SEAW = Sea Water
WW = Waste Water

BW = Bottled Water
SW = Storm Water

SO = Soil
SL = Sludge

SAMPLED BY:	SIGNATURE	PRINT NAME	COMPANY/TITLE	DATE	TIME
RELINQUISHED BY:	<u>[Signature]</u>	<u>Ana Rosabal</u>	<u>Tetra Tech</u>	<u>06/30/21</u>	<u>11:35</u>
RECEIVED BY:	<u>[Signature]</u>	<u>Isaac Seese</u>	<u>Tetra Tech</u>	<u>6/30/21</u>	<u>11:20</u>
RELINQUISHED BY:	<u>[Signature]</u>	<u>[Signature]</u>	<u>[Signature]</u>	<u>7-1-21</u>	<u>1445</u>
RECEIVED BY:					

Tel: (626) 386-1100
Fax: (866) 988-3757
1 800 566 LABS (1 800 566 5227)

Laboratory Comments

Report: 943899

Project: KALAMAZOO

Group: Lead Solubility Testing - Phase 2

Tetra Tech
James Christopher
201 East Pine Street
Suite 1000
Orlando, FL 32801

Tel: (626) 386-1100
Fax: (866) 988-3757
1 800 566 LABS (1 800 566 5227)

Laboratory Hits

Report: 943899
Project: KALAMAZOO
Group: Lead Solubility Testing - Phase 2

Tetra Tech
James Christopher
201 East Pine Street
Suite 1000
Orlando, FL 32801

Samples Received on:
07/01/2021 1448

Analyzed	Analyte	Sample ID	Result	Federal MCL	Units	MRL
202107010566 <u>J-0, Day 13</u>						
07/09/2021 14:43	Total phosphorus as P		0.24		mg/L	0.10
07/12/2021 15:17	Total phosphorus as PO4- Calc.		0.74		mg/L	0.030
202107010567 <u>J-1, Day 13</u>						
07/09/2021 14:44	Total phosphorus as P		1.7		mg/L	0.10
07/12/2021 15:17	Total phosphorus as PO4- Calc.		5.2		mg/L	0.030
202107010568 <u>J-2, Day 13</u>						
07/09/2021 14:45	Total phosphorus as P		2.5		mg/L	0.10
07/12/2021 15:17	Total phosphorus as PO4- Calc.		7.7		mg/L	0.030
202107010569 <u>J-3, Day 13</u>						
07/09/2021 14:45	Total phosphorus as P		3.2		mg/L	0.10
07/12/2021 15:17	Total phosphorus as PO4- Calc.		9.8		mg/L	0.030
202107010570 <u>J-4, Day 13</u>						
07/09/2021 14:46	Total phosphorus as P		1.3		mg/L	0.10
07/12/2021 15:17	Total phosphorus as PO4- Calc.		4.0		mg/L	0.030
202107010571 <u>J-5, Day 13</u>						
07/09/2021 14:47	Total phosphorus as P		2.0		mg/L	0.10
07/12/2021 15:17	Total phosphorus as PO4- Calc.		6.1		mg/L	0.030
202107010572 <u>J-6, Day 13</u>						
07/09/2021 16:01	Total phosphorus as P		2.6		mg/L	0.10
07/12/2021 15:30	Total phosphorus as PO4- Calc.		8.0		mg/L	0.030
202107010573 <u>J-7, Day 13</u>						
07/09/2021 16:02	Total phosphorus as P		1.6		mg/L	0.10
07/12/2021 15:30	Total phosphorus as PO4- Calc.		4.9		mg/L	0.030
202107010574 <u>J-8, Day 13</u>						
07/09/2021 16:02	Total phosphorus as P		2.3		mg/L	0.10
07/12/2021 15:30	Total phosphorus as PO4- Calc.		7.1		mg/L	0.030
202107010575 <u>J-9, Day 13</u>						
07/09/2021 16:05	Total phosphorus as P		3.0		mg/L	0.10
07/12/2021 15:30	Total phosphorus as PO4- Calc.		9.2		mg/L	0.030
202107010576 <u>J-11, Day 13</u>						
07/09/2021 16:06	Total phosphorus as P		1.1		mg/L	0.10
07/12/2021 15:30	Total phosphorus as PO4- Calc.		3.4		mg/L	0.030

SUMMARY OF POSITIVE DATA ONLY

Tel: (626) 386-1100
Fax: (866) 988-3757
1 800 566 LABS (1 800 566 5227)

Laboratory Hits

Report: 943899
Project: KALAMAZOO
Group: Lead Solubility Testing - Phase 2

Tetra Tech
James Christopher
201 East Pine Street
Suite 1000
Orlando, FL 32801

Samples Received on:
07/01/2021 1448

Analyzed	Analyte	Sample ID	Result	Federal MCL	Units	MRL
	202107010577	<u>J-12, Day 13</u>				
07/09/2021 16:07	Total phosphorus as P		1.6		mg/L	0.10
07/12/2021 15:30	Total phosphorus as PO4- Calc.		4.9		mg/L	0.030
	202107010578	<u>J-13, Day 13</u>				
07/09/2021 16:07	Total phosphorus as P		2.2		mg/L	0.10
07/12/2021 15:30	Total phosphorus as PO4- Calc.		6.8		mg/L	0.030
	202107010579	<u>J-0, Day 12</u>				
07/05/2021 17:29	Lead Total ICAP/MS		430	15	ug/L	5.0
	202107010580	<u>J-1, Day 12</u>				
07/05/2021 17:33	Lead Total ICAP/MS		270	15	ug/L	5.0
	202107010581	<u>J-2, Day 12</u>				
07/05/2021 17:35	Lead Total ICAP/MS		250	15	ug/L	5.0
	202107010582	<u>J-3, Day 12</u>				
07/05/2021 17:36	Lead Total ICAP/MS		290	15	ug/L	5.0
	202107010583	<u>J-4, Day 12</u>				
07/05/2021 17:38	Lead Total ICAP/MS		240	15	ug/L	5.0
	202107010584	<u>J-5, Day 12</u>				
07/05/2021 17:39	Lead Total ICAP/MS		220	15	ug/L	5.0
	202107010585	<u>J-6, Day 12</u>				
07/05/2021 17:40	Lead Total ICAP/MS		390	15	ug/L	5.0
	202107010586	<u>J-7, Day 12</u>				
07/05/2021 17:40	Lead Total ICAP/MS		330	15	ug/L	5.0
	202107010587	<u>J-8, Day 12</u>				
07/05/2021 17:41	Lead Total ICAP/MS		290	15	ug/L	5.0
	202107010588	<u>J-9, Day 12</u>				
07/05/2021 17:42	Lead Total ICAP/MS		360	15	ug/L	5.0
	202107010589	<u>J-11, Day 12</u>				
07/05/2021 17:43	Lead Total ICAP/MS		670	15	ug/L	5.0
	202107010590	<u>J-12, Day 13</u>				
07/05/2021 17:43	Lead Total ICAP/MS		240	15	ug/L	5.0
	202107010591	<u>J-13, Day 13</u>				

SUMMARY OF POSITIVE DATA ONLY

Tel: (626) 386-1100
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1 800 566 LABS (1 800 566 5227)

Laboratory Hits

Report: 943899
Project: KALAMAZOO
Group: Lead Solubility Testing - Phase 2

Tetra Tech
James Christopher
201 East Pine Street
Suite 1000
Orlando, FL 32801

Samples Received on:
07/01/2021 1448

Analyzed	Analyte	Sample ID	Result	Federal MCL	Units	MRL
07/12/2021 21:25	Lead Total ICAP/MS		290	15	ug/L	0.50
	202107010592	<u>J-0, Day 14</u>				
07/09/2021 16:08	Total phosphorus as P		0.039		mg/L	0.10
07/12/2021 15:30	Total phosphorus as PO4- Calc.		0.12		mg/L	0.030
	202107010593	<u>J-1, Day 14</u>				
07/09/2021 16:09	Total phosphorus as P		1.5		mg/L	0.10
07/12/2021 15:31	Total phosphorus as PO4- Calc.		4.6		mg/L	0.030
	202107010594	<u>J-2, Day 14</u>				
07/13/2021 18:30	Total phosphorus as P		2.2		mg/L	0.10
07/14/2021 17:21	Total phosphorus as PO4- Calc.		6.8		mg/L	0.030
	202107010595	<u>J-3, Day 14</u>				
07/13/2021 18:31	Total phosphorus as P		2.9		mg/L	0.10
07/14/2021 17:21	Total phosphorus as PO4- Calc.		8.9		mg/L	0.030
	202107010596	<u>J-4, Day 14</u>				
07/13/2021 18:32	Total phosphorus as P		1.2		mg/L	0.10
07/14/2021 17:21	Total phosphorus as PO4- Calc.		3.7		mg/L	0.030
	202107010597	<u>J-5, Day 14</u>				
07/13/2021 18:35	Total phosphorus as P		1.8		mg/L	0.10
07/14/2021 17:21	Total phosphorus as PO4- Calc.		5.5		mg/L	0.030
	202107010598	<u>J-6, Day 14</u>				
07/13/2021 18:36	Total phosphorus as P		2.6		mg/L	0.10
07/14/2021 17:21	Total phosphorus as PO4- Calc.		8.0		mg/L	0.030
	202107010599	<u>J-7, Day 14</u>				
07/13/2021 18:37	Total phosphorus as P		1.5		mg/L	0.10
07/14/2021 17:21	Total phosphorus as PO4- Calc.		4.6		mg/L	0.030
	202107010600	<u>J-8, Day 14</u>				
07/13/2021 18:38	Total phosphorus as P		2.1		mg/L	0.10
07/14/2021 17:21	Total phosphorus as PO4- Calc.		6.4		mg/L	0.030
	202107010601	<u>J-9, Day 14</u>				
07/13/2021 18:39	Total phosphorus as P		2.9		mg/L	0.10
07/14/2021 17:21	Total phosphorus as PO4- Calc.		8.9		mg/L	0.030
	202107010602	<u>J-11, Day 14</u>				
07/13/2021 18:40	Total phosphorus as P		1.0		mg/L	0.10

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07/01/2021 1448

Analyzed	Analyte	Sample ID	Result	Federal MCL	Units	MRL
07/14/2021 17:21	Total phosphorus as PO4- Calc.		3.1		mg/L	0.030
	202107010603	<u>J-12, Day 14</u>				
07/13/2021 18:44	Total phosphorus as P		1.5		mg/L	0.10
07/14/2021 17:21	Total phosphorus as PO4- Calc.		4.6		mg/L	0.030
	202107010604	<u>J-13, Day 14</u>				
07/13/2021 18:47	Total phosphorus as P		2.0		mg/L	0.10
07/14/2021 17:21	Total phosphorus as PO4- Calc.		6.1		mg/L	0.030
	202107010605	<u>J-0, Day 15</u>				
07/13/2021 18:47	Total phosphorus as P		0.029		mg/L	0.10
07/14/2021 17:21	Total phosphorus as PO4- Calc.		0.089		mg/L	0.030
	202107010606	<u>J-1, Day 15</u>				
07/13/2021 18:48	Total phosphorus as P		1.5		mg/L	0.10
07/14/2021 17:21	Total phosphorus as PO4- Calc.		4.6		mg/L	0.030
	202107010607	<u>J-2, Day 15</u>				
07/13/2021 18:49	Total phosphorus as P		2.2		mg/L	0.10
07/14/2021 17:21	Total phosphorus as PO4- Calc.		6.8		mg/L	0.030
	202107010608	<u>J-3, Day 15</u>				
07/13/2021 18:50	Total phosphorus as P		2.9		mg/L	0.10
07/14/2021 17:21	Total phosphorus as PO4- Calc.		8.9		mg/L	0.030
	202107010609	<u>J-4, Day 15</u>				
07/13/2021 18:51	Total phosphorus as P		1.3		mg/L	0.10
07/14/2021 17:21	Total phosphorus as PO4- Calc.		4.0		mg/L	0.030
	202107010610	<u>J-5, Day 15</u>				
07/13/2021 18:52	Total phosphorus as P		1.9		mg/L	0.10
07/14/2021 17:21	Total phosphorus as PO4- Calc.		5.8		mg/L	0.030
	202107010611	<u>J-6, Day 15</u>				
07/13/2021 18:53	Total phosphorus as P		2.6		mg/L	0.10
07/14/2021 17:22	Total phosphorus as PO4- Calc.		8.0		mg/L	0.030
	202107010612	<u>J-7, Day 15</u>				
07/14/2021 11:20	Total phosphorus as P		1.4		mg/L	0.10
07/14/2021 17:28	Total phosphorus as PO4- Calc.		4.3		mg/L	0.030
	202107010613	<u>J-8, Day 15</u>				

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Laboratory Hits

Report: 943899
Project: KALAMAZOO
Group: Lead Solubility Testing - Phase 2

Tetra Tech
James Christopher
201 East Pine Street
Suite 1000
Orlando, FL 32801

Samples Received on:
07/01/2021 1448

Analyzed	Analyte	Sample ID	Result	Federal MCL	Units	MRL
07/14/2021 11:21	Total phosphorus as P		2.0		mg/L	0.10
07/14/2021 17:28	Total phosphorus as PO4- Calc.		6.1		mg/L	0.030
	202107010614	<u>J-9, Day 15</u>				
07/14/2021 11:22	Total phosphorus as P		2.8		mg/L	0.10
07/14/2021 17:28	Total phosphorus as PO4- Calc.		8.6		mg/L	0.030
	202107010615	<u>J-11, Day 15</u>				
07/14/2021 11:23	Total phosphorus as P		1.0		mg/L	0.10
07/14/2021 17:28	Total phosphorus as PO4- Calc.		3.1		mg/L	0.030
	202107010616	<u>J-12, Day 15</u>				
07/14/2021 11:24	Total phosphorus as P		1.4		mg/L	0.10
07/14/2021 17:28	Total phosphorus as PO4- Calc.		4.3		mg/L	0.030
	202107010617	<u>J-13, Day 15</u>				
07/14/2021 11:25	Total phosphorus as P		2.0		mg/L	0.10
07/14/2021 17:28	Total phosphorus as PO4- Calc.		6.1		mg/L	0.030
	202107010618	<u>J-0, Day 13</u>				
07/05/2021 17:47	Lead Total ICAP/MS		1400	15	ug/L	0.50
	202107010619	<u>J-1, Day 13</u>				
07/12/2021 21:48	Lead Total ICAP/MS		3300	15	ug/L	10
	202107010620	<u>J-2, Day 13</u>				
07/05/2021 17:48	Lead Total ICAP/MS		1600	15	ug/L	5.0
	202107010621	<u>J-3, Day 13</u>				
07/05/2021 17:48	Lead Total ICAP/MS		290	15	ug/L	5.0
	202107010622	<u>J-4, Day 13</u>				
07/05/2021 17:49	Lead Total ICAP/MS		190	15	ug/L	5.0
	202107010623	<u>J-5, Day 13</u>				
07/05/2021 17:50	Lead Total ICAP/MS		110	15	ug/L	5.0
	202107010624	<u>J-6, Day 13</u>				
07/05/2021 17:51	Lead Total ICAP/MS		360	15	ug/L	5.0
	202107010625	<u>J-7, Day 13</u>				
07/05/2021 17:51	Lead Total ICAP/MS		410	15	ug/L	5.0
	202107010626	<u>J-8, Day 13</u>				
07/05/2021 17:52	Lead Total ICAP/MS		180	15	ug/L	5.0

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Group: Lead Solubility Testing - Phase 2

Tetra Tech
James Christopher
201 East Pine Street
Suite 1000
Orlando, FL 32801

Samples Received on:
07/01/2021 1448

Analyzed	Analyte	Sample ID	Result	Federal MCL	Units	MRL
	202107010627	<u>J-9, Day 13</u>				
07/05/2021 17:53	Lead Total ICAP/MS		170	15	ug/L	5.0
	202107010628	<u>J-11, Day 13</u>				
07/05/2021 17:58	Lead Total ICAP/MS		320	15	ug/L	5.0
	202107010629	<u>J-12, Day 13</u>				
07/05/2021 18:00	Lead Total ICAP/MS		300	15	ug/L	5.0
	202107010630	<u>J-13, Day 13</u>				
07/05/2021 17:27	Lead Total ICAP/MS		860	15	ug/L	5.0

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Samples Received on:
07/01/2021 1448

Prepped	Analyzed	Prep Batch	Analytical Batch	Method	Analyte	Result	Units	MRL	Dilution
<u>J-0, Day 13 (202107010566)</u>						Sampled on 06/21/2021 1345			
SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.									
07/12/21 15:17				(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	0.74 (c)	mg/L	0.030	1
SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)									
07/09/21 14:43		1340330		(SM4500-PE/EPA 365.1)	Total phosphorus as P	0.24	mg/L	0.10	5
<u>J-1, Day 13 (202107010567)</u>						Sampled on 06/21/2021 1345			
SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.									
07/12/21 15:17				(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	5.2 (c)	mg/L	0.030	1
SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)									
07/09/21 14:44		1340330		(SM4500-PE/EPA 365.1)	Total phosphorus as P	1.7	mg/L	0.10	5
<u>J-2, Day 13 (202107010568)</u>						Sampled on 06/21/2021 1345			
SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.									
07/12/21 15:17				(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	7.7 (c)	mg/L	0.030	1
SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)									
07/09/21 14:45		1340330		(SM4500-PE/EPA 365.1)	Total phosphorus as P	2.5	mg/L	0.10	5
<u>J-3, Day 13 (202107010569)</u>						Sampled on 06/21/2021 1345			
SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.									
07/12/21 15:17				(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	9.8 (c)	mg/L	0.030	1
SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)									
07/09/21 14:45		1340330		(SM4500-PE/EPA 365.1)	Total phosphorus as P	3.2	mg/L	0.10	5
<u>J-4, Day 13 (202107010570)</u>						Sampled on 06/21/2021 1345			
SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.									
07/12/21 15:17				(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	4.0 (c)	mg/L	0.030	1
SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)									
07/09/21 14:46		1340330		(SM4500-PE/EPA 365.1)	Total phosphorus as P	1.3	mg/L	0.10	5
<u>J-5, Day 13 (202107010571)</u>						Sampled on 06/21/2021 1345			
SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.									

Rounding on totals after summation.

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Report: 943899
Project: KALAMAZOO
Group: Lead Solubility Testing - Phase 2

Tetra Tech
James Christopher
201 East Pine Street
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Orlando, FL 32801

Samples Received on:
07/01/2021 1448

Prepped	Analyzed	Prep Batch	Analytical Batch	Method	Analyte	Result	Units	MRL	Dilution
	07/12/21 15:17			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	6.1 (c)	mg/L	0.030	1
	SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)								
	07/09/21 14:47		1340330	(SM4500-PE/EPA 365.1)	Total phosphorus as P	2.0	mg/L	0.10	5
J-6, Day 13 (202107010572)						Sampled on 06/21/2021 1345			
	SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.								
	07/12/21 15:30			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	8.0 (c)	mg/L	0.030	1
	SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)								
	07/09/21 16:01		1340332	(SM4500-PE/EPA 365.1)	Total phosphorus as P	2.6	mg/L	0.10	5
J-7, Day 13 (202107010573)						Sampled on 06/21/2021 1345			
	SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.								
	07/12/21 15:30			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	4.9 (c)	mg/L	0.030	1
	SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)								
	07/09/21 16:02		1340332	(SM4500-PE/EPA 365.1)	Total phosphorus as P	1.6	mg/L	0.10	5
J-8, Day 13 (202107010574)						Sampled on 06/21/2021 1345			
	SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.								
	07/12/21 15:30			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	7.1 (c)	mg/L	0.030	1
	SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)								
	07/09/21 16:02		1340332	(SM4500-PE/EPA 365.1)	Total phosphorus as P	2.3	mg/L	0.10	5
J-9, Day 13 (202107010575)						Sampled on 06/21/2021 1345			
	SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.								
	07/12/21 15:30			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	9.2 (c)	mg/L	0.030	1
	SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)								
	07/09/21 16:05		1340332	(SM4500-PE/EPA 365.1)	Total phosphorus as P	3.0	mg/L	0.10	5
J-11, Day 13 (202107010576)						Sampled on 06/21/2021 1345			
	SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.								
	07/12/21 15:30			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	3.4 (c)	mg/L	0.030	1
	SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)								

Rounding on totals after summation.

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Samples Received on:
07/01/2021 1448

Prepped	Analyzed	Prep Batch	Analytical Batch	Method	Analyte	Result	Units	MRL	Dilution
	07/09/21 16:06		1340332	(SM4500-PE/EPA 365.1)	Total phosphorus as P	1.1	mg/L	0.10	5
<u>J-12, Day 13 (202107010577)</u>						Sampled on 06/21/2021 1345			
SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.									
	07/12/21 15:30			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	4.9 (c)	mg/L	0.030	1
SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)									
	07/09/21 16:07		1340332	(SM4500-PE/EPA 365.1)	Total phosphorus as P	1.6	mg/L	0.10	5
<u>J-13, Day 13 (202107010578)</u>						Sampled on 06/21/2021 1345			
SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.									
	07/12/21 15:30			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	6.8 (c)	mg/L	0.030	1
SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)									
	07/09/21 16:07		1340332	(SM4500-PE/EPA 365.1)	Total phosphorus as P	2.2	mg/L	0.10	5
<u>J-0, Day 12 (202107010579)</u>						Sampled on 06/22/2021 1230			
EPA 200.8 - ICPMS Metals									
07/01/21	07/05/21 17:29	1338588	1338936	(EPA 200.8)	Lead Total ICAP/MS	430	ug/L	5.0	10
<u>J-1, Day 12 (202107010580)</u>						Sampled on 06/22/2021 1230			
EPA 200.8 - ICPMS Metals									
07/01/21	07/05/21 17:33	1338588	1338937	(EPA 200.8)	Lead Total ICAP/MS	270	ug/L	5.0	10
<u>J-2, Day 12 (202107010581)</u>						Sampled on 06/22/2021 1230			
EPA 200.8 - ICPMS Metals									
07/01/21	07/05/21 17:35	1338588	1338937	(EPA 200.8)	Lead Total ICAP/MS	250	ug/L	5.0	10
<u>J-3, Day 12 (202107010582)</u>						Sampled on 06/22/2021 1230			
EPA 200.8 - ICPMS Metals									
07/01/21	07/05/21 17:36	1338588	1338937	(EPA 200.8)	Lead Total ICAP/MS	290	ug/L	5.0	10
<u>J-4, Day 12 (202107010583)</u>						Sampled on 06/22/2021 1230			
EPA 200.8 - ICPMS Metals									
07/01/21	07/05/21 17:38	1338588	1338937	(EPA 200.8)	Lead Total ICAP/MS	240	ug/L	5.0	10
<u>J-5, Day 12 (202107010584)</u>						Sampled on 06/22/2021 1235			
EPA 200.8 - ICPMS Metals									

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Prepped	Analyzed	Prep Batch	Analytical Batch	Method	Analyte	Result	Units	MRL	Dilution
07/01/21	07/05/21 17:39	1338588	1338937	(EPA 200.8)	Lead Total ICAP/MS	220	ug/L	5.0	10
<u>J-6, Day 12 (202107010585)</u>						Sampled on 06/22/2021 1235			
EPA 200.8 - ICPMS Metals									
07/01/21	07/05/21 17:40	1338588	1338937	(EPA 200.8)	Lead Total ICAP/MS	390	ug/L	5.0	10
<u>J-7, Day 12 (202107010586)</u>						Sampled on 06/22/2021 1235			
EPA 200.8 - ICPMS Metals									
07/01/21	07/05/21 17:40	1338588	1338937	(EPA 200.8)	Lead Total ICAP/MS	330	ug/L	5.0	10
<u>J-8, Day 12 (202107010587)</u>						Sampled on 06/22/2021 1235			
EPA 200.8 - ICPMS Metals									
07/01/21	07/05/21 17:41	1338588	1338937	(EPA 200.8)	Lead Total ICAP/MS	290	ug/L	5.0	10
<u>J-9, Day 12 (202107010588)</u>						Sampled on 06/22/2021 1235			
EPA 200.8 - ICPMS Metals									
07/01/21	07/05/21 17:42	1338588	1338937	(EPA 200.8)	Lead Total ICAP/MS	360	ug/L	5.0	10
<u>J-11, Day 12 (202107010589)</u>						Sampled on 06/22/2021 1240			
EPA 200.8 - ICPMS Metals									
07/01/21	07/05/21 17:43	1338588	1338937	(EPA 200.8)	Lead Total ICAP/MS	670	ug/L	5.0	10
<u>J-12, Day 13 (202107010590)</u>						Sampled on 06/22/2021 1240			
EPA 200.8 - ICPMS Metals									
07/01/21	07/05/21 17:43	1338588	1338937	(EPA 200.8)	Lead Total ICAP/MS	240	ug/L	5.0	10
<u>J-13, Day 13 (202107010591)</u>						Sampled on 06/22/2021 1240			
EPA 200.8 - ICPMS Metals									
07/01/21	07/12/21 21:25	1338588	1339270	(EPA 200.8)	Lead Total ICAP/MS	290	ug/L	0.50	1
<u>J-0, Day 14 (202107010592)</u>						Sampled on 06/24/2021 1355			
SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.									
07/12/21 15:30				(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	0.12 (c)	mg/L	0.030	1
SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)									
07/09/21 16:08			1340332	(SM4500-PE/EPA 365.1)	Total phosphorus as P	0.039	mg/L	0.10	5
<u>J-1, Day 14 (202107010593)</u>						Sampled on 06/24/2021 1355			
SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.									

Rounding on totals after summation.

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Tel: (626) 386-1100
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Laboratory Data

Report: 943899
Project: KALAMAZOO
Group: Lead Solubility Testing - Phase 2

Tetra Tech
James Christopher
201 East Pine Street
Suite 1000
Orlando, FL 32801

Samples Received on:
07/01/2021 1448

Prepped	Analyzed	Prep Batch	Analytical Batch	Method	Analyte	Result	Units	MRL	Dilution
	07/12/21 15:31			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	4.6 (c)	mg/L	0.030	1
	SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)								
	07/09/21 16:09		1340332	(SM4500-PE/EPA 365.1)	Total phosphorus as P	1.5	mg/L	0.10	5
J-2, Day 14 (202107010594)						Sampled on 06/24/2021 1355			
	SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.								
	07/14/21 17:21			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	6.8 (c)	mg/L	0.030	1
	SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)								
	07/13/21 18:30		1341062	(SM4500-PE/EPA 365.1)	Total phosphorus as P	2.2	mg/L	0.10	5
J-3, Day 14 (202107010595)						Sampled on 06/24/2021 1355			
	SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.								
	07/14/21 17:21			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	8.9 (c)	mg/L	0.030	1
	SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)								
	07/13/21 18:31		1341062	(SM4500-PE/EPA 365.1)	Total phosphorus as P	2.9	mg/L	0.10	5
J-4, Day 14 (202107010596)						Sampled on 06/24/2021 1355			
	SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.								
	07/14/21 17:21			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	3.7 (c)	mg/L	0.030	1
	SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)								
	07/13/21 18:32		1341062	(SM4500-PE/EPA 365.1)	Total phosphorus as P	1.2	mg/L	0.10	5
J-5, Day 14 (202107010597)						Sampled on 06/24/2021 1355			
	SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.								
	07/14/21 17:21			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	5.5 (c)	mg/L	0.030	1
	SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)								
	07/13/21 18:35		1341062	(SM4500-PE/EPA 365.1)	Total phosphorus as P	1.8	mg/L	0.10	5
J-6, Day 14 (202107010598)						Sampled on 06/24/2021 1355			
	SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.								
	07/14/21 17:21			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	8.0 (c)	mg/L	0.030	1
	SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)								

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James Christopher
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Samples Received on:
07/01/2021 1448

Prepped	Analyzed	Prep Batch	Analytical Batch	Method	Analyte	Result	Units	MRL	Dilution
	07/13/21 18:36		1341062	(SM4500-PE/EPA 365.1)	Total phosphorus as P	2.6	mg/L	0.10	5
<u>J-7, Day 14 (202107010599)</u>						Sampled on 06/24/2021 1355			
SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.									
	07/14/21 17:21			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	4.6 (c)	mg/L	0.030	1
SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)									
	07/13/21 18:37		1341062	(SM4500-PE/EPA 365.1)	Total phosphorus as P	1.5	mg/L	0.10	5
<u>J-8, Day 14 (202107010600)</u>						Sampled on 06/24/2021 1355			
SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.									
	07/14/21 17:21			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	6.4 (c)	mg/L	0.030	1
SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)									
	07/13/21 18:38		1341062	(SM4500-PE/EPA 365.1)	Total phosphorus as P	2.1	mg/L	0.10	5
<u>J-9, Day 14 (202107010601)</u>						Sampled on 06/24/2021 1355			
SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.									
	07/14/21 17:21			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	8.9 (c)	mg/L	0.030	1
SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)									
	07/13/21 18:39		1341062	(SM4500-PE/EPA 365.1)	Total phosphorus as P	2.9	mg/L	0.10	5
<u>J-11, Day 14 (202107010602)</u>						Sampled on 06/24/2021 1355			
SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.									
	07/14/21 17:21			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	3.1 (c)	mg/L	0.030	1
SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)									
	07/13/21 18:40		1341062	(SM4500-PE/EPA 365.1)	Total phosphorus as P	1.0	mg/L	0.10	5
<u>J-12, Day 14 (202107010603)</u>						Sampled on 06/24/2021 1355			
SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.									
	07/14/21 17:21			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	4.6 (c)	mg/L	0.030	1
SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)									
	07/13/21 18:44		1341062	(SM4500-PE/EPA 365.1)	Total phosphorus as P	1.5	mg/L	0.10	5
<u>J-13, Day 14 (202107010604)</u>						Sampled on 06/24/2021 1355			

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Samples Received on:
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Prepped	Analyzed	Prep Batch	Analytical Batch	Method	Analyte	Result	Units	MRL	Dilution
SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.									
07/14/21	17:21			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	6.1 (c)	mg/L	0.030	1
SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)									
07/13/21	18:47	1341062		(SM4500-PE/EPA 365.1)	Total phosphorus as P	2.0	mg/L	0.10	5
J-0, Day 15 (202107010605)						Sampled on 06/29/2021 1224			
SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.									
07/14/21	17:21			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	0.089 (c)	mg/L	0.030	1
SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)									
07/13/21	18:47	1341062		(SM4500-PE/EPA 365.1)	Total phosphorus as P	0.029	mg/L	0.10	5
J-1, Day 15 (202107010606)						Sampled on 06/29/2021 1224			
SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.									
07/14/21	17:21			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	4.6 (c)	mg/L	0.030	1
SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)									
07/13/21	18:48	1341062		(SM4500-PE/EPA 365.1)	Total phosphorus as P	1.5	mg/L	0.10	5
J-2, Day 15 (202107010607)						Sampled on 06/29/2021 1224			
SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.									
07/14/21	17:21			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	6.8 (c)	mg/L	0.030	1
SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)									
07/13/21	18:49	1341062		(SM4500-PE/EPA 365.1)	Total phosphorus as P	2.2	mg/L	0.10	5
J-3, Day 15 (202107010608)						Sampled on 06/29/2021 1224			
SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.									
07/14/21	17:21			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	8.9 (c)	mg/L	0.030	1
SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)									
07/13/21	18:50	1341062		(SM4500-PE/EPA 365.1)	Total phosphorus as P	2.9	mg/L	0.10	5
J-4, Day 15 (202107010609)						Sampled on 06/29/2021 1224			
SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.									

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07/01/2021 1448

Prepped	Analyzed	Prep Batch	Analytical Batch	Method	Analyte	Result	Units	MRL	Dilution
	07/14/21 17:21			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	4.0 (c)	mg/L	0.030	1
	SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)								
	07/13/21 18:51		1341062	(SM4500-PE/EPA 365.1)	Total phosphorus as P	1.3	mg/L	0.10	5
J-5, Day 15 (202107010610)						Sampled on 06/29/2021 1224			
	SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.								
	07/14/21 17:21			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	5.8 (c)	mg/L	0.030	1
	SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)								
	07/13/21 18:52		1341062	(SM4500-PE/EPA 365.1)	Total phosphorus as P	1.9	mg/L	0.10	5
J-6, Day 15 (202107010611)						Sampled on 06/29/2021 1224			
	SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.								
	07/14/21 17:22			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	8.0 (c)	mg/L	0.030	1
	SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)								
	07/13/21 18:53		1341062	(SM4500-PE/EPA 365.1)	Total phosphorus as P	2.6	mg/L	0.10	5
J-7, Day 15 (202107010612)						Sampled on 06/29/2021 1224			
	SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.								
	07/14/21 17:28			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	4.3 (c)	mg/L	0.030	1
	SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)								
	07/14/21 11:20		1341063	(SM4500-PE/EPA 365.1)	Total phosphorus as P	1.4	mg/L	0.10	5
J-8, Day 15 (202107010613)						Sampled on 06/29/2021 1224			
	SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.								
	07/14/21 17:28			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	6.1 (c)	mg/L	0.030	1
	SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)								
	07/14/21 11:21		1341063	(SM4500-PE/EPA 365.1)	Total phosphorus as P	2.0	mg/L	0.10	5
J-9, Day 15 (202107010614)						Sampled on 06/29/2021 1224			
	SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.								
	07/14/21 17:28			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	8.6 (c)	mg/L	0.030	1
	SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)								

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Samples Received on:
07/01/2021 1448

Prepped	Analyzed	Prep Batch	Analytical Batch	Method	Analyte	Result	Units	MRL	Dilution
	07/14/21 11:22		1341063	(SM4500-PE/EPA 365.1)	Total phosphorus as P	2.8	mg/L	0.10	5
<u>J-11, Day 15 (202107010615)</u>						Sampled on 06/29/2021 1224			
SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.									
	07/14/21 17:28			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	3.1 (c)	mg/L	0.030	1
SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)									
	07/14/21 11:23		1341063	(SM4500-PE/EPA 365.1)	Total phosphorus as P	1.0	mg/L	0.10	5
<u>J-12, Day 15 (202107010616)</u>						Sampled on 06/29/2021 1224			
SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.									
	07/14/21 17:28			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	4.3 (c)	mg/L	0.030	1
SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)									
	07/14/21 11:24		1341063	(SM4500-PE/EPA 365.1)	Total phosphorus as P	1.4	mg/L	0.10	5
<u>J-13, Day 15 (202107010617)</u>						Sampled on 06/29/2021 1224			
SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.									
	07/14/21 17:28			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	6.1 (c)	mg/L	0.030	1
SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)									
	07/14/21 11:25		1341063	(SM4500-PE/EPA 365.1)	Total phosphorus as P	2.0	mg/L	0.10	5
<u>J-0, Day 13 (202107010618)</u>						Sampled on 06/25/2021 1230			
EPA 200.8 - ICPMS Metals									
07/01/21	07/05/21 17:47	1338588	1338937	(EPA 200.8)	Lead Total ICAP/MS	1400	ug/L	0.50	1
<u>J-1, Day 13 (202107010619)</u>						Sampled on 06/25/2021 1230			
EPA 200.8 - ICPMS Metals									
07/01/21	07/12/21 21:48	1338588	1339270	(EPA 200.8)	Lead Total ICAP/MS	3300	ug/L	10	20
<u>J-2, Day 13 (202107010620)</u>						Sampled on 06/25/2021 1230			
EPA 200.8 - ICPMS Metals									
07/01/21	07/05/21 17:48	1338588	1338937	(EPA 200.8)	Lead Total ICAP/MS	1600	ug/L	5.0	10
<u>J-3, Day 13 (202107010621)</u>						Sampled on 06/25/2021 1230			
EPA 200.8 - ICPMS Metals									
07/01/21	07/05/21 17:48	1338588	1338937	(EPA 200.8)	Lead Total ICAP/MS	290	ug/L	5.0	10

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Samples Received on:
07/01/2021 1448

Prepped	Analyzed	Prep Batch	Analytical Batch	Method	Analyte	Result	Units	MRL	Dilution
<u>J-4, Day 13 (202107010622)</u>						Sampled on 06/25/2021 1230			
EPA 200.8 - ICPMS Metals									
07/01/21	07/05/21 17:49	1338588	1338937	(EPA 200.8)	Lead Total ICAP/MS	190	ug/L	5.0	10
<u>J-5, Day 13 (202107010623)</u>						Sampled on 06/25/2021 1230			
EPA 200.8 - ICPMS Metals									
07/01/21	07/05/21 17:50	1338588	1338937	(EPA 200.8)	Lead Total ICAP/MS	110	ug/L	5.0	10
<u>J-6, Day 13 (202107010624)</u>						Sampled on 06/25/2021 1230			
EPA 200.8 - ICPMS Metals									
07/01/21	07/05/21 17:51	1338588	1338937	(EPA 200.8)	Lead Total ICAP/MS	360	ug/L	5.0	10
<u>J-7, Day 13 (202107010625)</u>						Sampled on 06/25/2021 1230			
EPA 200.8 - ICPMS Metals									
07/01/21	07/05/21 17:51	1338588	1338937	(EPA 200.8)	Lead Total ICAP/MS	410	ug/L	5.0	10
<u>J-8, Day 13 (202107010626)</u>						Sampled on 06/25/2021 1230			
EPA 200.8 - ICPMS Metals									
07/01/21	07/05/21 17:52	1338588	1338937	(EPA 200.8)	Lead Total ICAP/MS	180	ug/L	5.0	10
<u>J-9, Day 13 (202107010627)</u>						Sampled on 06/25/2021 1230			
EPA 200.8 - ICPMS Metals									
07/01/21	07/05/21 17:53	1338588	1338937	(EPA 200.8)	Lead Total ICAP/MS	170	ug/L	5.0	10
<u>J-11, Day 13 (202107010628)</u>						Sampled on 06/25/2021 1230			
EPA 200.8 - ICPMS Metals									
07/01/21	07/05/21 17:58	1338588	1338938	(EPA 200.8)	Lead Total ICAP/MS	320	ug/L	5.0	10
<u>J-12, Day 13 (202107010629)</u>						Sampled on 06/25/2021 1230			
EPA 200.8 - ICPMS Metals									
07/01/21	07/05/21 18:00	1338588	1338938	(EPA 200.8)	Lead Total ICAP/MS	300	ug/L	5.0	10
<u>J-13, Day 13 (202107010630)</u>						Sampled on 06/25/2021 1230			
EPA 200.8 - ICPMS Metals									
07/01/21	07/05/21 17:27	1338588	1338936	(EPA 200.8)	Lead Total ICAP/MS	860	ug/L	5.0	10

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Laboratory QC Summary

Report: 943899
Project: KALAMAZOO
Group: Lead Solubility Testing - Phase 2

Tetra Tech

ICPMS Metals

Prep Batch: 1338588 Analytical Batch: 1338761

202107010626 J-8, Day 13

Analysis Date: 07/02/2021

Analyzed by: AZS

ICPMS Metals

Prep Batch: 1338588 Analytical Batch: 1338936

202107010579 J-0, Day 12

202107010630 J-13, Day 13

Analysis Date: 07/05/2021

Analyzed by: AZS

Analyzed by: AZS

ICPMS Metals

Prep Batch: 1338588 Analytical Batch: 1338937

202107010580 J-1, Day 12

202107010581 J-2, Day 12

202107010582 J-3, Day 12

202107010583 J-4, Day 12

202107010584 J-5, Day 12

202107010585 J-6, Day 12

202107010586 J-7, Day 12

202107010587 J-8, Day 12

202107010588 J-9, Day 12

202107010589 J-11, Day 12

202107010590 J-12, Day 13

202107010618 J-0, Day 13

202107010620 J-2, Day 13

202107010621 J-3, Day 13

202107010622 J-4, Day 13

202107010623 J-5, Day 13

202107010624 J-6, Day 13

202107010625 J-7, Day 13

202107010626 J-8, Day 13

202107010627 J-9, Day 13

Analysis Date: 07/05/2021

Analyzed by: AZS

Analyzed by: AZS

Analyzed by: AZS

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Analyzed by: AZS

Analyzed by: AZS

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Analyzed by: AZS

Analyzed by: AZS

Analyzed by: AZS

Analyzed by: AZS

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Analyzed by: AZS

Analyzed by: AZS

ICPMS Metals

Prep Batch: 1338588 Analytical Batch: 1338938

202107010628 J-11, Day 13

202107010629 J-12, Day 13

Analysis Date: 07/05/2021

Analyzed by: AZS

Analyzed by: AZS

ICPMS Metals

Prep Batch: 1338588 Analytical Batch: 1339270

202107010591 J-13, Day 13

202107010619 J-1, Day 13

Analysis Date: 07/12/2021

Analyzed by: DHX7

Analyzed by: DHX7

Total phosphorus as P (T-P)

Analytical Batch: 1340330

202107010566 J-0, Day 13

202107010567 J-1, Day 13

202107010568 J-2, Day 13

202107010569 J-3, Day 13

Analysis Date: 07/09/2021

Analyzed by: LQ3M

Analyzed by: LQ3M

Analyzed by: LQ3M

Analyzed by: LQ3M

Report: 943899

Project: KALAMAZOO

Group: Lead Solubility Testing - Phase 2

Tetra Tech

202107010570 J-4, Day 13
202107010571 J-5, Day 13

Analyzed by: LQ3M
Analyzed by: LQ3M

Total phosphorus as P (T-P)

Analytical Batch: 1340332

Analysis Date: 07/09/2021

202107010572 J-6, Day 13
202107010573 J-7, Day 13
202107010574 J-8, Day 13
202107010575 J-9, Day 13
202107010576 J-11, Day 13
202107010577 J-12, Day 13
202107010578 J-13, Day 13
202107010592 J-0, Day 14
202107010593 J-1, Day 14

Analyzed by: LQ3M
Analyzed by: LQ3M
Analyzed by: LQ3M
Analyzed by: LQ3M
Analyzed by: LQ3M
Analyzed by: LQ3M
Analyzed by: LQ3M
Analyzed by: LQ3M
Analyzed by: LQ3M

Total phosphorus as P (T-P)

Analytical Batch: 1341062

Analysis Date: 07/13/2021

202107010594 J-2, Day 14
202107010595 J-3, Day 14
202107010596 J-4, Day 14
202107010597 J-5, Day 14
202107010598 J-6, Day 14
202107010599 J-7, Day 14
202107010600 J-8, Day 14
202107010601 J-9, Day 14
202107010602 J-11, Day 14
202107010603 J-12, Day 14
202107010604 J-13, Day 14
202107010605 J-0, Day 15
202107010606 J-1, Day 15
202107010607 J-2, Day 15
202107010608 J-3, Day 15
202107010609 J-4, Day 15
202107010610 J-5, Day 15
202107010611 J-6, Day 15

Analyzed by: LQ3M
Analyzed by: LQ3M
Analyzed by: LQ3M
Analyzed by: LQ3M
Analyzed by: LQ3M
Analyzed by: LQ3M
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Analyzed by: LQ3M
Analyzed by: LQ3M
Analyzed by: LQ3M
Analyzed by: LQ3M

Total phosphorus as P (T-P)

Analytical Batch: 1341063

Analysis Date: 07/14/2021

202107010612 J-7, Day 15
202107010613 J-8, Day 15
202107010614 J-9, Day 15
202107010615 J-11, Day 15
202107010616 J-12, Day 15
202107010617 J-13, Day 15

Analyzed by: LQ3M
Analyzed by: LQ3M
Analyzed by: LQ3M
Analyzed by: LQ3M
Analyzed by: LQ3M
Analyzed by: LQ3M

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Laboratory QC

Report: 943899
Project: KALAMAZOO
Group: Lead Solubility Testing - Phase 2

Tetra Tech

QC Type	Analyte	Native	Spiked	Recovered	Units	Yield(%)	Limits (%)	RPD Limit(%)	RPD%
ICPMS Metals by EPA 200.8									
Analytical Batch: 1338761					Analysis Date: 07/02/2021				
LCS1	Lead Total ICAP/MS		50	56.5	ug/L	113	(85-115)		
LCS2	Lead Total ICAP/MS		50	52.4	ug/L	105	(85-115)	20	7.5
MBLK	Lead Total ICAP/MS			<0.0608	ug/L				
MRL_CHK	Lead Total ICAP/MS		0.5	0.514	ug/L	103	(50-150)		
MS_202107010626	Lead Total ICAP/MS	180	50	269	ug/L	87	(70-130)		
MS2_202107010654	Lead Total ICAP/MS	ND	50	49.8	ug/L	92	(70-130)		
MSD_202107010626	Lead Total ICAP/MS	180	50	264	ug/L	77	(70-130)	20	1.8
MSD2_202107010654	Lead Total ICAP/MS	ND	50	48.7	ug/L	89	(70-130)	20	2.3
ICPMS Metals by EPA 200.8									
Analytical Batch: 1338936					Analysis Date: 07/05/2021				
LCS1	Lead Total ICAP/MS		50	51.4	ug/L	103	(85-115)		
LCS2	Lead Total ICAP/MS		50	53.5	ug/L	107	(85-115)	20	4.0
MBLK	Lead Total ICAP/MS			<0.0608	ug/L				
MRL_CHK	Lead Total ICAP/MS		0.5	0.515	ug/L	103	(50-150)		
MS_202106300564	Lead Total ICAP/MS	ND	50	50.7	ug/L	101	(70-130)		
MS2_202106300602	Lead Total ICAP/MS	ND	50	52.1	ug/L	103	(70-130)		
MSD_202106300564	Lead Total ICAP/MS	ND	50	52.9	ug/L	106	(70-130)	20	4.2
MSD2_202106300602	Lead Total ICAP/MS	ND	50	51.8	ug/L	103	(70-130)	20	0.52
ICPMS Metals by EPA 200.8									
Analytical Batch: 1338937					Analysis Date: 07/05/2021				
LCS1	Lead Total ICAP/MS		50	52.2	ug/L	104	(85-115)		
LCS2	Lead Total ICAP/MS		50	51.9	ug/L	104	(85-115)	20	0.58
MBLK	Lead Total ICAP/MS			<0.0608	ug/L				
MRL_CHK	Lead Total ICAP/MS		0.5	0.499	ug/L	100	(50-150)		
MS_202107010580	Lead Total ICAP/MS	270	50	877	ug/L	121	(70-130)		
MS2_202107010590	Lead Total ICAP/MS	240	50	766	ug/L	105	(70-130)		
MSD_202107010580	Lead Total ICAP/MS	270	50	837	ug/L	113	(70-130)	20	4.7
MSD2_202107010590	Lead Total ICAP/MS	240	50	799	ug/L	112	(70-130)	20	4.3
ICPMS Metals by EPA 200.8									
Analytical Batch: 1338938					Analysis Date: 07/05/2021				
LCS1	Lead Total ICAP/MS		50	51.4	ug/L	103	(85-115)		
LCS2	Lead Total ICAP/MS		50	53.1	ug/L	106	(85-115)	20	3.1
MBLK	Lead Total ICAP/MS			<0.0608	ug/L				

Spike recovery is already corrected for native results.

Spikes which exceed Limits and Method Blanks with positive results are highlighted by Underlining.

Criteria for MS and Dup are advisory only, batch control is based on LCS. Criteria for duplicates are advisory only, unless otherwise specified in the method.

RPD not calculated for LCS2 when different a concentration than LCS1 is used.

RPD not calculated for Duplicates when the result is not five times the MRL (Minimum Reporting Level).

(S) - Indicates surrogate compound.

(I) - Indicates internal standard compound.

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Laboratory QC

Report: 943899
Project: KALAMAZOO
Group: Lead Solubility Testing - Phase 2

Tetra Tech

QC Type	Analyte	Native	Spiked	Recovered	Units	Yield(%)	Limits (%)	RPD Limit(%)	RPD%
MRL_CHK	Lead Total ICAP/MS		0.5	0.489	ug/L	98	(50-150)		
MS_202107010628	Lead Total ICAP/MS	320	50	909	ug/L	118	(70-130)		
MS2_202107010656	Lead Total ICAP/MS	0.81	50	50.8	ug/L	100	(70-130)		
MSD_202107010628	Lead Total ICAP/MS	320	50	904	ug/L	117	(70-130)	20	0.46
MSD2_202107010656	Lead Total ICAP/MS	0.81	50	49.6	ug/L	98	(70-130)	20	2.4

ICPMS Metals by EPA 200.8

Analytical Batch: 1339270

Analysis Date: 07/12/2021

LCS1	Lead Total ICAP/MS		50	51.7	ug/L	103	(85-115)		
LCS2	Lead Total ICAP/MS		50	47.6	ug/L	95	(85-115)	20	8.3
MBLK	Lead Total ICAP/MS			<0.0608	ug/L				
MRL_CHK	Lead Total ICAP/MS		0.5	0.537	ug/L	107	(50-150)		
MS_202107010143	Lead Total ICAP/MS	ND	50	48.4	ug/L	97	(70-130)		
MS2_202107010498	Lead Total ICAP/MS	0.88	50	53.9	ug/L	106	(70-130)		
MSD_202107010143	Lead Total ICAP/MS	ND	50	43.1	ug/L	86	(70-130)	20	12
MSD2_202107010498	Lead Total ICAP/MS	0.88	50	48.5	ug/L	95	(70-130)	20	11

Total phosphorus as P (T-P) by SM4500-PE/EPA 365.1

Analytical Batch: 1340330

Analysis Date: 07/09/2021

LCS1	Total phosphorus as P		0.4	0.388	mg/L	97	(90-110)		
LCS2	Total phosphorus as P		0.4	0.367	mg/L	92	(90-110)	20	5.6
MBLK	Total phosphorus as P			<0.0108	mg/L				
MRL_CHK	Total phosphorus as P		0.02	0.0220	mg/L	110	(50-150)		
MS_202107020203	Total phosphorus as P	ND	0.4	0.449	mg/L	108	(90-110)		
MS2_202106240278	Total phosphorus as P	0.054	0.4	0.485	mg/L	108	(90-110)		
MSD_202107020203	Total phosphorus as P	ND	0.4	0.464	mg/L	<u>112</u>	(90-110)	20	3.2
MSD2_202106240278	Total phosphorus as P	0.054	0.4	0.488	mg/L	109	(90-110)	20	0.57

Total phosphorus as P (T-P) by SM4500-PE/EPA 365.1

Analytical Batch: 1340332

Analysis Date: 07/09/2021

LCS1	Total phosphorus as P		0.4	0.429	mg/L	107	(90-110)		
LCS2	Total phosphorus as P		0.4	0.430	mg/L	107	(90-110)	20	0.23
MBLK	Total phosphorus as P			<0.0108	mg/L				
MRL_CHK	Total phosphorus as P		0.02	0.0204	mg/L	102	(50-150)		
MS_202107010294	Total phosphorus as P	0.077	0.4	0.508	mg/L	108	(90-110)		
MSD_202107010294	Total phosphorus as P	0.077	0.4	0.520	mg/L	<u>111</u>	(90-110)	20	2.4

Total phosphorus as P (T-P) by SM4500-PE/EPA 365.1

Analytical Batch: 1341062

Analysis Date: 07/13/2021

Spike recovery is already corrected for native results.

Spikes which exceed Limits and Method Blanks with positive results are highlighted by Underlining.

Criteria for MS and Dup are advisory only, batch control is based on LCS. Criteria for duplicates are advisory only, unless otherwise specified in the method.

RPD not calculated for LCS2 when different a concentration than LCS1 is used.

RPD not calculated for Duplicates when the result is not five times the MRL (Minimum Reporting Level).

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Laboratory QC

Report: 943899
Project: KALAMAZOO
Group: Lead Solubility Testing - Phase 2

Tetra Tech

QC Type	Analyte	Native	Spiked	Recovered	Units	Yield(%)	Limits (%)	RPD Limit(%)	RPD%
LCS1	Total phosphorus as P		0.4	0.431	mg/L	108	(90-110)		
LCS2	Total phosphorus as P		0.4	0.424	mg/L	106	(90-110)	20	1.6
MBLK	Total phosphorus as P			<0.0108	mg/L				
MRL_CHK	Total phosphorus as P		0.02	0.0189	mg/L	95	(50-150)		
MS_202107090062	Total phosphorus as P	ND	0.4	0.450	mg/L	109	(90-110)		
MS2_202107090063	Total phosphorus as P	0.021	0.4	0.471	mg/L	<u>113</u>	(90-110)		
MSD_202107090062	Total phosphorus as P	ND	0.4	0.437	mg/L	106	(90-110)	20	3.0
MSD2_202107090063	Total phosphorus as P	0.021	0.4	0.452	mg/L	108	(90-110)	20	4.2

Total phosphorus as P (T-P) by SM4500-PE/EPA 365.1

Analytical Batch: 1341063

Analysis Date: 07/14/2021

LCS1	Total phosphorus as P		0.4	0.420	mg/L	105	(90-110)		
LCS2	Total phosphorus as P		0.4	0.432	mg/L	108	(90-110)	20	2.8
MBLK	Total phosphorus as P			<0.0108	mg/L				
MRL_CHK	Total phosphorus as P		0.02	0.0248	mg/L	124	(50-150)		
MS_202107090064	Total phosphorus as P	ND	0.4	0.434	mg/L	105	(90-110)		
MS2_202107010617	Total phosphorus as P	2.0	0.4	4.08	mg/L	103	(90-110)		
MSD_202107090064	Total phosphorus as P	ND	0.4	0.442	mg/L	107	(90-110)	20	1.7
MSD2_202107010617	Total phosphorus as P	2.0	0.4	4.16	mg/L	107	(90-110)	20	1.9

Spike recovery is already corrected for native results.

Spikes which exceed Limits and Method Blanks with positive results are highlighted by Underlining.

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RPD not calculated for LCS2 when different a concentration than LCS1 is used.

RPD not calculated for Duplicates when the result is not five times the MRL (Minimum Reporting Level).

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Laboratory Report

for

Tetra Tech
201 East Pine Street
Suite 1000
Orlando, FL 32801
Attention: James Christopher
Fax: 407-839-3790

Date of Issue

07/31/2021

Vanessa Berry

**EUROFINS EATON
ANALYTICAL, LLC**



Utah ELCP CA00006

ZIA8: Vanessa Berry
Project Manager

Report: 946504
Project: KALAMAZOO
Group: Lead Solubility Testing - Phase 2

* Accredited in accordance with TNI 2016 and ISO/IEC 17025:2017.

* Laboratory certifies that the test results meet all **TNI 2016 and ISO/IEC 17025:2017** requirements unless noted under the individual analysis.

* Following the cover page are State Certification List, ISO 17025 Accredited Method List, Acknowledgement of Samples Received, Comments, Hits Report, Data Report, QC Summary, QC Report and Regulatory Forms, as applicable.

* Test results relate only to the sample(s) tested.

* Test results apply to the sample(s) as received, unless otherwise noted in the comments report (ISO/IEC 17025:2017).

* This report shall not be reproduced except in full, without the written approval of the laboratory.

* This report includes ISO/IEC 17025 and non-ISO 17025 accredited methods.

STATE CERTIFICATION LIST

State	Certification Number	State	Certification Number
Alabama	41060	Montana	Cert 0035
Arizona	AZ0778	Nebraska	Certified
Arkansas	Certified	Nevada	CA000062018
California	2813	New Hampshire *	2959
Colorado	Certified	New Jersey *	CA 008
Connecticut	PH-0107	New Mexico	Certified
Delaware	CA 006	New York *	11320
Florida *	E871024	North Carolina	06701
Georgia	947	North Dakota	R-009
Guam	18-005R	Oregon *	CA200003-005
Hawaii	Certified	Pennsylvania *	68-565
Idaho	Certified	Puerto Rico	Certified
Illinois *	200033	Rhode Island	LAO00326
Indiana	C-CA-01	South Carolina	87016
Iowa - Asbestos	413	South Dakota	Certified
Kansas *	E-10268	Tennessee	TN02839
Kentucky	90107	Texas *	T104704230-18-15
Louisiana *	LA180000	Utah (Primary AB) *	CA00006
Maine	CA0006	Vermont	VT0114
Maryland	224	Virginia *	460260
Commonwealth of Northern Marianas Is.	MP0004	Washington	C838
Massachusetts	M-CA006	EPA Region 5	Certified
Michigan	9906	Los Angeles County Sanitation Districts	10264
Mississippi	Certified		

* NELAP/TNI Recognized Accreditation Bodies

ISO/IEC 17025 Accredited Method List

The tests listed below are accredited and meet the requirements of ISO/IEC 17025 as verified by the ANSI-ASQ National Accreditation Board/A2LA.
Refer to Certificate and scope of accreditation (5890) found at: <https://www.eurofinsus.com/Eaton>

SPECIFIC TESTS	METHOD OR TECHNIQUE USED	Environ-mental (Drinking Water)	Environ-mental (Waste Water)	Water as a Component of Food and Bev/Bev/ Bottled Water
1,2,3-TCP (5 PPT & 0.5 PPT)	CA SRL 524M-TCP	x		x
1,4-Dioxane	EPA 522	x		x
2,3,7,8-TCDD	Modified EPA 1613B	x		x
Acrylamide	In House Method (2440)	x		x
Algal Toxins/Microcystin	In House Method (3570)			
Alkalinity	SM 2320B	x	x	x
Ammonia	EPA 350.1		x	x
Ammonia	SM 4500-NH3 H		x	x
Anions and DBPs by IC	EPA 300.0	x	x	x
Anions and DBPs by IC	EPA 300.1	x		x
Asbestos	EPA 100.2	x	x	
BOD / CBOD	SM 5210B		x	x
Bromate	In House Method (2447)	x		x
Carbamates	EPA 531.2	x		x
Carbonate as CO3	SM 2330B	x	x	x
Carbonyls	EPA 556	x		x
COD	EPA 410.4 / SM 5220D		x	
Chloramines	SM 4500-CL G	x	x	x
Chlorinated Acids	EPA 515.4	x		x
Chlorinated Acids	EPA 555	x		x
Chlorine Dioxide	SM 4500-CLO2 D Palin Test	x		x
Chlorine -Total/Free/ Combined Residual	SM 4500-Cl G	x	x	x
Conductivity	EPA 120.1		x	
Conductivity	SM 2510B	x	x	x
Corrosivity (Langelier Index)	SM 2330B	x		x
Cyanide, Amenable	SM 4500-CN G	x	x	
Cyanide, Free	SM 4500CN F	x	x	x
Cyanide, Total	EPA 335.4	x	x	x
Cyanogen Chloride (screen)	In House Method (2470)	x		x
Diquat and Paraquat	EPA 549.2	x		x
DBP/HAA	SM 6251B	x		x
Dissolved Oxygen	SM 4500-O G		x	x
DOC	SM 5310C	x		x
E. Coli	(MTF/EC+MUG)	x		x
E. Coli	CFR 141.21(f)(6)(i)	x		x
E. Coli	SM 9223		x	
E. Coli (Enumeration)	SM 9221B.1/ SM 9221F	x		x
E. Coli (Enumeration)	SM 9223B	x		x
EDB/DCBP	EPA 504.1	x		
EDB/DBCP and DBP	EPA 551.1	x		x
EDTA and NTA	In House Method (2454)	x		x
Endothall	EPA 548.1	x		x
Endothall	In-house Method (2445)	x		x
Enterococci	SM 9230B	x	x	
Fecal Coliform	SM 9221 E (MTF/EC)	x		
Fecal Coliform	SM 9221C, E (MTF/EC)		x	
Fecal Coliform (Enumeration)	SM 9221E (MTF/EC)	x		x
Fecal Coliform with Chlorine Present	SM 9221E		x	
Fecal Streptococci	SM 9230B	x	x	
Fluoride	SM 4500-F C	x	x	x
Glyphosate	EPA 547	x		x
Glyphosate + AMPA	In House Method (3618)	x		x
Gross Alpha/Beta	EPA 900.0	x	x	x
Gross Alpha Coprecipitation	SM 7110 C	x	x	x
Hardness	SM 2340B	x	x	x
Heterotrophic Bacteria	In House Method (2439)	x		x
Heterotrophic Bacteria	SM 9215 B	x		x
Hexavalent Chromium	EPA 218.6	x	x	x

SPECIFIC TESTS	METHOD OR TECHNIQUE USED	Environ-mental (Drinking Water)	Environ-mental (Waste Water)	Water as a Component of Food and Bev/Bev/ Bottled Water
Hexavalent Chromium	EPA 218.7	x		x
Hexavalent Chromium	SM 3500-Cr B		x	
Hormones	EPA 539	x		x
Hydroxide as OH Calc.	SM 2330B	x		x
Kjeldahl Nitrogen	EPA 351.2		x	
Legionella	Legiolert	x		x
Mercury	EPA 200.8	x		x
Metals	EPA 200.7 / 200.8	x	x	x
Microcystin LR	ELISA (2360)	x		x
Microcystin, Total	EPA 546	x		x
NDMA	EEA/Agilent 521.1 In house method (2425)	x		x
Nitrate/Nitrite Nitrogen	EPA 353.2	x	x	x
OCL, Pesticides/PCB	EPA 505	x		x
Ortho Phosphate	EPA 365.1	x	x	x
Ortho Phosphorous	SM 4500P E	x		x
Oxyhalides Disinfection Byproducts	EPA 317.0	x		x
Perchlorate	EPA 331.0	x		x
Perchlorate (low and high)	EPA 314.0	x		x
Perfluorinated Alkyl Acids	EPA 537	x		x
Perfluorinated Pollutant	In house Method (2434)	x		x
pH	EPA 150.1	x		
pH	SM 4500-H+B	x	x	x
Phenylurea Pesticides/ Herbicides	In House Method, based on EPA 532 (2448)	x		x
Pseudomonas	IDEXX Pseudalert (2461)	x		x
Radium-226	GA Institute of Tech	x		x
Radium-228	GA Institute of Tech	x		x
Radon-222	SM 7500RN	x		x
Residue, Filterable	SM 2540C	x	x	x
Residue, Non-filterable	SM 2540D		x	
Residue, Total	SM 2540B		x	x
Residue, Volatile	EPA 160.4		x	
Semi-VOC	EPA 525.2	x		x
Silica	SM 4500-Si D	x	x	
Silica	SM 4500-SiO2 C	x	x	
Sulfide	SM 4500-S ⁻ D		x	
Sulfite	SM 4500-SO ³ B	x	x	x
Surfactants	SM 5540C	x	x	x
Taste and Odor Analytes	SM 6040E	x		x
Total Coliform (P/A)	SM 9221 A, B	x		x
Total Coliform (Enumeration)	SM 9221 A, B, C	x		x
Total Coliform / E. coli	Colisure SM 9223	x		x
Total Coliform	SM 9221B		x	
Total Coliform with Chlorine Present	SM 9221B		x	
Total Coliform / E.coli (P/A and Enumeration)	SM 9223	x		x
TOC	SM 5310C	x	x	x
TOX	SM 5320B		x	
Total Phenols	EPA 420.1		x	
Total Phenols	EPA 420.4	x	x	x
Total Phosphorous	SM 4500 P E		x	
Triazine Pesticides & Degradates	In House (3617)	x		x
Turbidity	EPA 180.1	x	x	x
Turbidity	SM 2130B	x	x	
Uranium by ICP/MS	EPA 200.8	x		x
UV 254	SM 5910B	x		
VOC	EPA 524.2	x		x
VOC	In House Method (2411)	x		x
Yeast and Mold	SM 9610	x		x
Field Sampling	N/A			

Acknowledgement of Samples Received

Addr: **Tetra Tech**
201 East Pine Street
Suite 1000
Orlando, FL 32801

Attn: James Christopher
Phone: 407-480-3907

Client ID: TETRATECH-ORLAN
Folder #: 946504
Project: KALAMAZOO
Sample Group: Lead Solubility Testing - Phase 2

Project Manager: Vanessa Berry
Phone: 503-310-3905

The following samples were received from you on **July 14, 2021 at 2128**. They have been scheduled for the tests listed below each sample. If this information is incorrect, please contact your service representative. Thank you for using Eurofins Eaton Analytical, LLC.

Sample #	Sample ID	Sample Date
<u>202107150476</u>	J-0, Day 16	07/10/2021 1030
	@ICPMS	
<u>202107150480</u>	J-1, Day 16	07/10/2021 1030
	@ICPMS	
<u>202107150481</u>	J-2, Day 16	07/10/2021 1030
	@ICPMS	
<u>202107150482</u>	J-3, Day 16	07/10/2021 1030
	@ICPMS	
<u>202107150483</u>	J-4, Day 16	07/10/2021 1030
	@ICPMS	
<u>202107150484</u>	J-5, Day 16	07/10/2021 1030
	@ICPMS	
<u>202107150485</u>	J-6, Day 16	07/10/2021 1030
	@ICPMS	
<u>202107150486</u>	J-7, Day 16	07/10/2021 1030
	@ICPMS	
<u>202107150487</u>	J-8, Day 16	07/10/2021 1030
	@ICPMS	
<u>202107150488</u>	J-9, Day 16	07/10/2021 1030
	@ICPMS	
<u>202107150489</u>	J-11, Day 16	07/10/2021 1030
	@ICPMS	
<u>202107150490</u>	J-12, Day 16	07/10/2021 1030
	@ICPMS	
<u>202107150491</u>	J-13, Day 16	07/10/2021 1030
	@ICPMS	

Acknowledgement of Samples Received

Addr: **Tetra Tech**
201 East Pine Street
Suite 1000
Orlando, FL 32801

Attn: James Christopher
Phone: 407-480-3907

Client ID: TETRATECH-ORLAN

Folder #: 946504

Project: KALAMAZOO

Sample Group: Lead Solubility Testing - Phase 2

Project Manager: Vanessa Berry

Phone: 503-310-3905

The following samples were received from you on **July 14, 2021** at **2128**. They have been scheduled for the tests listed below each sample. If this information is incorrect, please contact your service representative. Thank you for using Eurofins Eaton Analytical, LLC.

Sample #	Sample ID	Sample Date
<u>202107150492</u>	J-0, Day 14	07/01/2021 1155
	@ICPMS	
<u>202107150493</u>	J-1, Day 14	07/01/2021 1155
	@ICPMS	
<u>202107150494</u>	J-2, Day 14	07/01/2021 1155
	@ICPMS	
<u>202107150495</u>	J-3, Day 14	07/01/2021 1155
	@ICPMS	
<u>202107150496</u>	J-4, Day 14	07/01/2021 1155
	@ICPMS	
<u>202107150497</u>	J-5, Day 14	07/01/2021 1155
	@ICPMS	
<u>202107150498</u>	J-6, Day 14	07/01/2021 1155
	@ICPMS	
<u>202107150499</u>	J-7, Day 14	07/01/2021 1155
	@ICPMS	
<u>202107150500</u>	J-8, Day 14	07/01/2021 1155
	@ICPMS	
<u>202107150501</u>	J-9, Day 14	07/01/2021 1155
	@ICPMS	
<u>202107150502</u>	J-11, Day 14	07/01/2021 1155
	@ICPMS	
<u>202107150503</u>	J-12, Day 14	07/01/2021 1155
	@ICPMS	
<u>202107150504</u>	J-13, Day 14	07/01/2021 1155
	@ICPMS	

Acknowledgement of Samples Received

Addr: **Tetra Tech**
201 East Pine Street
Suite 1000
Orlando, FL 32801

Attn: James Christopher
Phone: 407-480-3907

Client ID: TETRATECH-ORLAN
Folder #: 946504
Project: KALAMAZOO
Sample Group: Lead Solubility Testing - Phase 2

Project Manager: Vanessa Berry
Phone: 503-310-3905

The following samples were received from you on **July 14, 2021** at **2128**. They have been scheduled for the tests listed below each sample. If this information is incorrect, please contact your service representative. Thank you for using Eurofins Eaton Analytical, LLC.

Sample #	Sample ID	Sample Date
<u>202107150505</u>	J-0, Day 16	07/08/2021 1330
	Total phosphorus as P	Total phosphorus as PO4- Calc.
<u>202107150506</u>	J-1, Day 16	07/08/2021 1330
	Total phosphorus as P	Total phosphorus as PO4- Calc.
<u>202107150507</u>	J-2, Day 16	07/08/2021 1330
	Total phosphorus as P	Total phosphorus as PO4- Calc.
<u>202107150508</u>	J-3, Day 16	07/08/2021 1330
	Total phosphorus as P	Total phosphorus as PO4- Calc.
<u>202107150509</u>	J-4, Day 16	07/08/2021 1330
	Total phosphorus as P	Total phosphorus as PO4- Calc.
<u>202107150510</u>	J-5, Day 16	07/08/2021 1330
	Total phosphorus as P	Total phosphorus as PO4- Calc.
<u>202107150511</u>	J-6, Day 16	07/08/2021 1330
	Total phosphorus as P	Total phosphorus as PO4- Calc.
<u>202107150512</u>	J-7, Day 16	07/08/2021 1330
	Total phosphorus as P	Total phosphorus as PO4- Calc.
<u>202107150513</u>	J-8, Day 16	07/08/2021 1330
	Total phosphorus as P	Total phosphorus as PO4- Calc.
<u>202107150514</u>	J-9, Day 16	07/08/2021 1330
	Total phosphorus as P	Total phosphorus as PO4- Calc.
<u>202107150515</u>	J-11, Day 16	07/08/2021 1330
	Total phosphorus as P	Total phosphorus as PO4- Calc.
<u>202107150516</u>	J-12, Day 16	07/08/2021 1330
	Total phosphorus as P	Total phosphorus as PO4- Calc.
<u>202107150517</u>	J-13, Day 16	07/08/2021 1330
	Total phosphorus as P	Total phosphorus as PO4- Calc.

Acknowledgement of Samples Received

Addr: **Tetra Tech**
201 East Pine Street
Suite 1000
Orlando, FL 32801

Attn: James Christopher
Phone: 407-480-3907

Client ID: TETRATECH-ORLAN

Folder #: 946504

Project: KALAMAZOO

Sample Group: Lead Solubility Testing - Phase 2

Project Manager: Vanessa Berry

Phone: 503-310-3905

The following samples were received from you on **July 14, 2021** at **2128**. They have been scheduled for the tests listed below each sample. If this information is incorrect, please contact your service representative. Thank you for using Eurofins Eaton Analytical, LLC.

Sample #	Sample ID	Sample Date
202107150518	J-0, Day 16	07/02/2021 1042
	Total phosphorus as P	Total phosphorus as PO4- Calc.
202107150519	J-1, Day 16	07/02/2021 1103
	Total phosphorus as P	Total phosphorus as PO4- Calc.
202107150520	J-2, Day 16	07/02/2021 1103
	Total phosphorus as P	Total phosphorus as PO4- Calc.
202107150521	J-3, Day 16	07/02/2021 1103
	Total phosphorus as P	Total phosphorus as PO4- Calc.
202107150522	J-4, Day 16	07/02/2021 1140
	Total phosphorus as P	Total phosphorus as PO4- Calc.
202107150523	J-5, Day 16	07/02/2021 1140
	Total phosphorus as P	Total phosphorus as PO4- Calc.
202107150524	J-6, Day 16	07/02/2021 1140
	Total phosphorus as P	Total phosphorus as PO4- Calc.
202107150525	J-7, Day 16	07/02/2021 1330
	Total phosphorus as P	Total phosphorus as PO4- Calc.
202107150526	J-8, Day 16	07/02/2021 1330
	Total phosphorus as P	Total phosphorus as PO4- Calc.
202107150527	J-9, Day 16	07/02/2021 1330
	Total phosphorus as P	Total phosphorus as PO4- Calc.
202107150528	J-11, Day 16	07/02/2021 1330
	Total phosphorus as P	Total phosphorus as PO4- Calc.
202107150529	J-12, Day 16	07/02/2021 1330
	Total phosphorus as P	Total phosphorus as PO4- Calc.
202107150530	J-13, Day 16	07/02/2021 1330
	Total phosphorus as P	Total phosphorus as PO4- Calc.

Acknowledgement of Samples Received

Addr: **Tetra Tech**
201 East Pine Street
Suite 1000
Orlando, FL 32801

Attn: James Christopher
Phone: 407-480-3907

Client ID: TETRATECH-ORLAN
Folder #: 946504
Project: KALAMAZOO
Sample Group: Lead Solubility Testing - Phase 2

Project Manager: Vanessa Berry
Phone: 503-310-3905

The following samples were received from you on **July 14, 2021 at 2128**. They have been scheduled for the tests listed below each sample. If this information is incorrect, please contact your service representative. Thank you for using Eurofins Eaton Analytical, LLC.

Sample #	Sample ID	Sample Date
<u>202107150531</u>	J-0, Day 17	07/13/2021 1055
	@ICPMS	
<u>202107150532</u>	J-1, Day 17	07/13/2021 1055
	@ICPMS	
<u>202107150533</u>	J-2, Day 17	07/13/2021 1055
	@ICPMS	
<u>202107150534</u>	J-3, Day 17	07/13/2021 1055
	@ICPMS	
<u>202107150535</u>	J-4, Day 17	07/13/2021 1055
	@ICPMS	
<u>202107150536</u>	J-5, Day 17	07/13/2021 1055
	@ICPMS	
<u>202107150537</u>	J-6, Day 17	07/13/2021 1055
	@ICPMS	
<u>202107150538</u>	J-7, Day 17	07/13/2021 1055
	@ICPMS	
<u>202107150539</u>	J-8, Day 17	07/13/2021 1055
	@ICPMS	
<u>202107150540</u>	J-9, Day 17	07/13/2021 1055
	@ICPMS	
<u>202107150541</u>	J-11, Day 17	07/13/2021 1055
	@ICPMS	
<u>202107150542</u>	J-12, Day 17	07/13/2021 1055
	@ICPMS	
<u>202107150543</u>	J-13, Day 17	07/13/2021 1055
	@ICPMS	

Acknowledgement of Samples Received

Addr: **Tetra Tech**
201 East Pine Street
Suite 1000
Orlando, FL 32801

Attn: James Christopher
Phone: 407-480-3907

Client ID: TETRATECH-ORLAN

Folder #: 946504

Project: KALAMAZOO

Sample Group: Lead Solubility Testing - Phase 2

Project Manager: Vanessa Berry

Phone: 503-310-3905

The following samples were received from you on **July 14, 2021 at 2128**. They have been scheduled for the tests listed below each sample. If this information is incorrect, please contact your service representative. Thank you for using Eurofins Eaton Analytical, LLC.

Sample #	Sample ID	Sample Date
Test Description		
@ICPMS -- ICPMS Metals		



Eaton Analytical

CHAIN OF CUSTODY RECORD

EUROFINS EATON ANALYTICAL USE ONLY:

750 Royal Oaks Drive, Suite 100
Monrovia, CA 91016-3629

Phone: 626 386 1100
Fax: 626 386 1101

800 566 LABS (800 566 5227)

Website: www.EatonAnalytical.com

LOGIN COMMENTS:

SAMPLES CHECKED AGAINST COC BY: 946504

SAMPLES LOGGED IN BY: CG

SAMPLE TEMP RECEIVED AT:

☐ (Other)

IR Gun ID = 6304

(Observation = 5.9 °C)

(check for yes)

☒ Monrovia

IR Gun ID = 6304

(Observation = 5.9 °C)

(check for yes)

Compliance Acceptance Criteria: (Chemistry: 4 ± 2 °C) (Microbiology: < 10 °C)

TYPE OF ICE: Real ☒ Synthetic

No Ice

CONDITION OF ICE: Frozen ☒ Partially Frozen

Thawed

N/A

METHOD OF SHIPMENT: Pick-Up / Walk-In / FedEx / UPS / DHL / Area Fast / Top Line / Other: Top Line

TO BE COMPLETED BY SAMPLER:

COMPANY/AGENCY NAME:

Tetra Tech

PROJECT CODE:

EEA CLIENT CODE:

Tetra Tech - orl

COC ID:

SAMPLE GROUP:

Lead Solubility Phase 2

TAT requested: rush by adv notice only

STD 1 wk 3 day 1 day

SAMPLE DATE	SAMPLE TIME	SAMPLE ID	CLIENT LAB ID	MATRIX *	FIELD DATA	FIELD DATA	ICPMS	SAMPLER COMMENTS
7/10	10:36	J-0, Day 16		FW			-	
		J-1					-	
		J-2					-	
		J-3					-	
		J-4					-	
		J-5					-	
		J-6					-	
		J-7					-	
		J-8					-	
		J-9					-	

* MATRIX TYPES: RSW = Raw Surface Water

RGW = Raw Ground Water

CFW = Chlor(am)inated Finished Water

FW = Other Finished Water

SEAW = Sea Water

WW = Waste Water

BW = Bottled Water

SW = Storm Water

SO = Soil

SL = Sludge

O = Other - Please Identify

SIGNATURE

PRINT NAME

COMPANY/TITLE

DATE

TIME

SAMPLED BY:

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

Isaac Seese

Tetra Tech

7-13-21

11:50

Isaac Seese

Tetra Tech

7-13-21

11:50

Isaac Seese

Tetra Tech

7-13-21

11:50

Isaac Seese

Tetra Tech

7-13-21

11:50



Eaton Analytical

CHAIN OF CUSTODY RECORD

EUROFINS EATON ANALYTICAL USE ONLY:

750 Royal Oaks Drive, Suite 100
Monrovia, CA 91016-3629
Phone: 626 386 1100
Fax: 626 386 1101
800 566 LABS (800 566 5227)
Website: www.EatonAnalytical.com

LOGIN COMMENTS:

SAMPLES CHECKED AGAINST COC BY: 946504

SAMPLE TEMP RECEIVED AT:
☐ (Other) IR Gun ID =
☒ Monrovia IR Gun ID = 630A

SAMPLES LOGGED IN BY: CG
SAMPLES REC'D DAY OF COLLECTION? ☐ (check for yes)
°C (Corr. Factor = 59) (Final = 57)
°C (Corr. Factor = 59) (Final = 57)
Compliance Acceptance Criteria: (Chemistry: $4 \pm 2^{\circ}\text{C}$) (Microbiology: $< 10^{\circ}\text{C}$)

TYPE OF ICE: Real ☒ Synthetic ☐ No Ice ☒
CONDITION OF ICE: Frozen ☒ Partially Frozen ☐ Thawed ☐
METHOD OF SHIPMENT: Pick-Up / Walk-In ☒ FedEx / UPS / DHL / Area Fast / Top Line / Other: N/A

TO BE COMPLETED BY SAMPLER:

COMPANY/AGENCY NAME: Tetra Tech		PROJECT CODE:		COMPLIANCE SAMPLES <input type="checkbox"/> NON-COMPLIANCE SAMPLES <input type="checkbox"/>		(check for yes)	
EEA CLIENT CODE: tetrattech - orl		COC ID:		Type of samples (circle one): ROUTINE SPECIAL CONFIRMATION		(eg. SDWA, NPDES, etc.)	
TAT requested: rush by adv notice only		SAMPLE GROUP: Lead Solubility Phase 2		SEE ATTACHED KIT ORDER FOR ANALYSES		(check for yes) <u>OR</u>	
SAMPLE DATE		SAMPLE ID		List ALL ANALYSES REQUIRED (enter number of bottles sent for each test for each sample)		SAMPLER COMMENTS	
7/11 11:55		J-7, Day 14		ICPMS			
J-8		J-9		J-10			
J-11		J-12		J-13			
J-14		J-15		J-16			
J-17		J-18		J-19			
J-20		J-21		J-22			
J-23		J-24		J-25			

* MATRIX TYPES: RSW = Raw Surface Water RGW = Raw Ground Water
CFW = Chlor(am)inated Finished Water FW = Other Finished Water
SEAW = Sea Water BW = Bottled Water SO = Soil
WW = Waste Water SW = Storm Water SL = Sludge
O = Other - Please Identify

SAMPLED BY:	PRINT NAME	COMPANY/TITLE	DATE	TIME
RELINQUISHED BY:	Isaac Seese	Tetra Tech	7-13-21	11:50
RECEIVED BY:	Isaac Seese	EEA	7-14-21	2:28
RELINQUISHED BY:				
RECEIVED BY:				



CHAIN OF CUSTODY RECORD

946504

SAMPLES CHECKED AGAINST COC BY:

SAMPLES LOGGED IN BY:

SAMPLE TEMP RECEIVED AT: _____

IR Gun ID = 10 (Observation=

Observation = 2.9

(Observation = 50 °C) (Corr. Factor = 0.6 °C) (Final = 57 °C)

Compliance Acceptance Criteria: (Chemistry: $4 \pm 2^\circ\text{C}$) (Microbiology: $< 10^\circ\text{C}$)

CONDITION OF ICE: FROST

[illegible]

METHOD OF SHIPMENT: Pick-Up / Walk-In / **FedEx** / UPS / DHL / Area Fast / Top Line / Other:

TO BE COMPLETED BY SAMPLER:

COMPANY/AGENCY NAME:		PROJECT CODE:		COMPLIANCE SAMPLES <input type="checkbox"/> NON-COMPLIANCE SAMPLES <input type="checkbox"/>		(check for yes)	
Tetra Tech				- Requires state forms <input type="checkbox"/>			
EEA CLIENT CODE:		COC ID:		Type of samples (circle one):		(eg. SDWA, NPDES, etc.)	
Tetrattech-001				ROUTINE <input type="checkbox"/> SPECIAL <input type="checkbox"/>			
TAT requested: rush by adv notice only				SEE ATTACHED KIT ORDER FOR ANALYSES			
STD 1 wk 3 day 1 day				List ALL ANALYSES REQUIRED (enter number of bottles sent for each test for each sample)			
SAMPLE DATE	SAMPLE TIME	SAMPLE ID	CLIENT LAB ID	MATRIX	FIELD DATA	FIELD DATA	SAMPLER COMMENTS
7/8	15:30	J-4	Day 16	FW			
		J-5					
		J-6					
		J-7					
		J-8					
		J-9					
		J-10					
		J-11					
		J-12					
		J-13					

* **MATRIX TYPES:** RSW = Raw Surface Water
RGW = Raw Ground Water

CFW = Chlor(am)inated Finished Water
FW = Other Finished Water

SEAW = Sea Water
WW = Waste Water

BW = Bottled Water
SW = Storm Water
SO = Soil
SL = Sludge

O = Other - Please Identify

SIGNATURE

PRINT NAME

COMPANY/TITLE

DATE _____

TIME

SAMPLED BY:

RELINQUISHED BY:

Same time

RECEIVED BY:

Isaac Seese
pocans

Tetra Tech

7-73-21	12:00
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RECEIVED 01.

पदक बनाइस

554

7-14-21 428

RECEIVED BY:

QA FO 0029.2 (Version 2) (08/28/2014)

PAGE OF



Eaton Analytical

750 Royal Oaks Drive, Suite 100
Monrovia, CA 91016-3629
Phone: 626 386 1100
Fax: 626 386 1101
800 566 LABS (800 566 5227)
Website: www.EatonAnalytical.com

CHAIN OF CUSTODY RECORD

EUROFINS EATON ANALYTICAL USE ONLY:

LOGIN COMMENTS:

SAMPLES CHECKED AGAINST COC BY: 946504

SAMPLES LOGGED IN BY: EG

SAMPLE TEMP RECEIVED AT:

☐ (Other) IR Gun ID = 630A (Observation = 5.9 °C) (check for yes)

☒ Monrovia IR Gun ID = 630A (Observation = 5.9 °C) (check for yes)

Compliance Acceptance Criteria: (Chemistry: 4 ± 2 °C) (Microbiology: < 10 °C)

TYPE OF ICE: Real ☒ Synthetic ☐ No Ice ☐

CONDITION OF ICE: Frozen ☒ Partially Frozen ☐ Thawed ☐

METHOD OF SHIPMENT: Pick-Up / Walk-In / FedEx / UPS / DHL / Area Fast / Top Line / Other: FedEx

TO BE COMPLETED BY SAMPLER:

COMPANY/AGENCY NAME:

Tetra Tech

EEA CLIENT CODE:

tetrattech-01

COC ID:

Day 16

TAT requested: rush by adv notice only

SAMPLE DATE

SAMPLE TIME

SAMPLE ID

CLIENT LAB ID

MATRIX

FIELD DATA

FIELD DATA

STD 1 wk 3 day 2 day 1 day

Total P

1

1

1

1

1

1

1

1

1

1

1

1

SAMPLER COMMENTS

(check for yes)

(check for yes)

PROJECT CODE:

COMPLIANCE SAMPLES

- Requires state forms

NON-COMPLIANCE SAMPLES

REGULATION INVOLVED:

(eg. SDWA, NPDES, etc.)

ROUTINE SPECIAL CONFIRMATION

SAMPLE GROUP:

Lead Solubility Phase 2

SEE ATTACHED KIT ORDER FOR ANALYSES

(check for yes) OR

List ALL ANALYSES REQUIRED (enter number of bottles sent for each test for each sample)

* MATRIX TYPES: RSW = Raw Surface Water

RGW = Raw Ground Water

CFW = Chlor(am)inated Finished Water

FW = Other Finished Water

SEAW = Sea Water

WW = Waste Water

BW = Bottled Water

SW = Storm Water

SO = Soil

SL = Sludge

O = Other - Please Identify

SIGNATURE

PRINT NAME

COMPANY/TITLE

DATE

TIME

SAMPLED BY:

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

Isaac Seese

Paul Wells

Tetra Tech

7-13-21

12:15

Paul Wells

Paul Wells

Paul Wells

7-14-21

2:28



Eaton Analytical

750 Royal Oaks Drive, Suite 100
Monrovia, CA 91016-3629

Phone: 626 386 1100
Fax: 626 386 1101

800 566 LABS (800 566 5227)

Website: www.EatonAnalytical.com

CHAIN OF CUSTODY RECORD

EUROFINS EATON ANALYTICAL USE ONLY:

LOGIN COMMENTS:

SAMPLES CHECKED AGAINST COC BY: kg

SAMPLES LOGGED IN BY: kg

SAMPLE TEMP RECEIVED AT:

☐ (Other)

IR Gun ID =

(Observation =

°C) (Corr. Factor

°C) (Final =

°C) (check for yes)

☒ Monrovia

IR Gun ID =

(Observation =

°C) (Corr. Factor

°C) (Final =

°C) (check for yes)

Compliance Acceptance Criteria: (Chemistry: 4 ± 2 °C) (Microbiology: < 10 °C)

TYPE OF ICE: Real ☒ Synthetic ☐ No Ice ☐

CONDITION OF ICE: Frozen ☒ Partially Frozen ☐ Thawed ☐

UPS / DHL / Area Fast / Top Line / Other:

METHOD OF SHIPMENT: Pick-Up / Walk-In / FedEx

N/A

TO BE COMPLETED BY SAMPLER:

COMPANY/AGENCY NAME:

Tetra Tech

PROJECT CODE:

EEA CLIENT CODE:

tetrattech-01

COC ID:

Lead Solubility Phase 2

TAT requested: rush by adv notice only

STD 1 wk 3 day 2 day 1 day

CLIENT LAB ID

MATRIX

FIELD DATA

FIELD DATA

SAMPLE ID

SAMPLE DATE

SAMPLE TIME

7/2 13:30

J-11, Day 16

J-12, ↓

J-13, ↓

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* MATRIX TYPES: RSW = Raw Surface Water

RGW = Raw Ground Water

CFW = Chlor(am)inated Finished Water

FW = Other Finished Water

SEAW = Sea Water

WW = Waste Water

BW = Bottled Water

SW = Storm Water

SO = Soil

SL = Sludge

O = Other - Please Identify

SIGNATURE

PRINT NAME

COMPANY/TITLE

DATE

TIME

SAMPLED BY:

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

Isaac Seese

Isaac Seese

Isaac Seese

Isaac Seese

Tetra Tech

Tetra Tech

Tetra Tech

Tetra Tech

7-13-21

7-13-21

7-13-21

7-13-21

12:15

12:15

12:15

12:15

CHAIN OF CUSTODY RECORD

EUROFINS EATON ANALYTICAL USE ONLY

Website: www.EatonAnalytical.com

LOGIN COMMENTS: _____
 SAMPLES CHECKED AGAINST COC BY: K
 SAMPLES LOGGED IN BY: CG
 SAMPLE TEMP RECEIVED AT:
☐ () IR Gun ID = _____ (Observation = _____ °C) (check for yes)
☒ (Monrovia) IR Gun ID = 6230A (Observation = 5.9 °C) (Final = _____ °C)
 Compliance Acceptance Criteria: (Chemistry: 4 ± 2 °C) (Microbiology: < 10 °C)
 TYPE OF ICE: Real ☒ Synthetic _____ No Ice _____
 CONDITION OF ICE: Frozen ☒ Partially Frozen _____ Thawed _____
 METHOD OF SHIPMENT: Pick-Up / Walk-In / FedEx / UPS / DHL / Area Fast / Top Line / Other: _____
 N/A

[illegible]

CFW = Chlor(am)inated Finished Water
FW = Other Finished Water
SEAW = Sea Water
WW = Waste Water
BW = Bottled Water
SW = Storm Water
SO = Soil
SL = Sludge
O = Other - Please Identify

PRINT NAME

COMPANY/TITLE

DATE _____

TIME

RECEIVED BY:

Isaac Seese
yachmarls

Tetra Tech

7-13-21
7-14-21

13:20
2428

Tel: (626) 386-1100
Fax: (866) 988-3757
1 800 566 LABS (1 800 566 5227)

Laboratory Comments**Report:** 946504**Project:** KALAMAZOO**Group:** Lead Solubility Testing - Phase 2

Tetra Tech
James Christopher
201 East Pine Street
Suite 1000
Orlando, FL 32801

Flags Legend:

- B4 - Target analyte detected in blank at or above method acceptance criteria.
- M1 - Matrix spike recovery was high; the associated blank spike recovery was acceptable.
- M3 - The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The associated blank spike recovery was acceptable.
- Q5 - Sample received with inadequate chemical preservation, but preserved by the laboratory.
- T6 - The reported result cannot be used for compliance purposes.

Tel: (626) 386-1100
Fax: (866) 988-3757
1 800 566 LABS (1 800 566 5227)

Laboratory Hits

Report: 946504
Project: KALAMAZOO
Group: Lead Solubility Testing - Phase 2

Tetra Tech
James Christopher
201 East Pine Street
Suite 1000
Orlando, FL 32801

Samples Received on:
07/14/2021 2128

Analyzed	Analyte	Sample ID	Result	Federal MCL	Units	MRL
07/17/2021 14:59	202107150476 Lead Total ICAP/MS	<u>J-0, Day 16</u>	200	15	ug/L	0.50
07/17/2021 14:59	202107150480 Lead Total ICAP/MS	<u>J-1, Day 16</u>	130	15	ug/L	0.50
07/17/2021 15:00	202107150481 Lead Total ICAP/MS	<u>J-2, Day 16</u>	170	15	ug/L	0.50
07/17/2021 15:02	202107150482 Lead Total ICAP/MS	<u>J-3, Day 16</u>	110	15	ug/L	0.50
07/17/2021 15:03	202107150483 Lead Total ICAP/MS	<u>J-4, Day 16</u>	300	15	ug/L	0.50
07/17/2021 15:04	202107150484 Lead Total ICAP/MS	<u>J-5, Day 16</u>	180	15	ug/L	0.50
07/17/2021 15:05	202107150485 Lead Total ICAP/MS	<u>J-6, Day 16</u>	170	15	ug/L	0.50
07/17/2021 15:07	202107150486 Lead Total ICAP/MS	<u>J-7, Day 16</u>	200	15	ug/L	0.50
07/17/2021 15:08	202107150487 Lead Total ICAP/MS	<u>J-8, Day 16</u>	1100	15	ug/L	0.50
07/17/2021 15:08	202107150488 Lead Total ICAP/MS	<u>J-9, Day 16</u>	480	15	ug/L	0.50
07/17/2021 15:09	202107150489 Lead Total ICAP/MS	<u>J-11, Day 16</u>	1400	15	ug/L	0.50
07/17/2021 15:10	202107150490 Lead Total ICAP/MS	<u>J-12, Day 16</u>	380	15	ug/L	0.50
07/17/2021 15:16	202107150491 Lead Total ICAP/MS	<u>J-13, Day 16</u>	310	15	ug/L	0.50
07/17/2021 15:18	202107150492 Lead Total ICAP/MS	<u>J-0, Day 14</u>	420	15	ug/L	0.50
07/17/2021 15:19	202107150493 Lead Total ICAP/MS	<u>J-1, Day 14</u>	310	15	ug/L	0.50
	202107150494	<u>J-2, Day 14</u>				

SUMMARY OF POSITIVE DATA ONLY

Tel: (626) 386-1100
Fax: (866) 988-3757
1 800 566 LABS (1 800 566 5227)

Laboratory Hits

Report: 946504
Project: KALAMAZOO
Group: Lead Solubility Testing - Phase 2

Tetra Tech
James Christopher
201 East Pine Street
Suite 1000
Orlando, FL 32801

Samples Received on:
07/14/2021 2128

Analyzed	Analyte	Sample ID	Result	Federal MCL	Units	MRL
07/17/2021 15:20	Lead Total ICAP/MS		560	15	ug/L	0.50
	202107150495	<u>J-3, Day 14</u>				
07/17/2021 15:23	Lead Total ICAP/MS		210	15	ug/L	0.50
	202107150496	<u>J-4, Day 14</u>				
07/17/2021 15:23	Lead Total ICAP/MS		240	15	ug/L	0.50
	202107150497	<u>J-5, Day 14</u>				
07/17/2021 15:24	Lead Total ICAP/MS		180	15	ug/L	0.50
	202107150498	<u>J-6, Day 14</u>				
07/17/2021 15:25	Lead Total ICAP/MS		480	15	ug/L	0.50
	202107150499	<u>J-7, Day 14</u>				
07/17/2021 15:26	Lead Total ICAP/MS		500	15	ug/L	0.50
	202107150500	<u>J-8, Day 14</u>				
07/17/2021 15:26	Lead Total ICAP/MS		310	15	ug/L	0.50
	202107150501	<u>J-9, Day 14</u>				
07/17/2021 15:27	Lead Total ICAP/MS		180	15	ug/L	0.50
	202107150502	<u>J-11, Day 14</u>				
07/17/2021 15:29	Lead Total ICAP/MS		1500	15	ug/L	0.50
	202107150503	<u>J-12, Day 14</u>				
07/17/2021 15:32	Lead Total ICAP/MS		220	15	ug/L	0.50
	202107150504	<u>J-13, Day 14</u>				
07/17/2021 15:33	Lead Total ICAP/MS		230	15	ug/L	0.50
	202107150506	<u>J-1, Day 16</u>				
07/27/2021 15:24	Total phosphorus as P		1.4		mg/L	0.10
07/27/2021 17:09	Total phosphorus as PO4- Calc.		4.3		mg/L	0.030
	202107150507	<u>J-2, Day 16</u>				
07/27/2021 15:25	Total phosphorus as P		2.1		mg/L	0.10
07/27/2021 17:09	Total phosphorus as PO4- Calc.		6.4		mg/L	0.030
	202107150508	<u>J-3, Day 16</u>				
07/27/2021 15:26	Total phosphorus as P		2.8		mg/L	0.10
07/27/2021 17:09	Total phosphorus as PO4- Calc.		8.6		mg/L	0.030
	202107150509	<u>J-4, Day 16</u>				

SUMMARY OF POSITIVE DATA ONLY

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Laboratory Hits

Report: 946504
Project: KALAMAZOO
Group: Lead Solubility Testing - Phase 2

Tetra Tech
James Christopher
201 East Pine Street
Suite 1000
Orlando, FL 32801

Samples Received on:
07/14/2021 2128

Analyzed	Analyte	Sample ID	Result	Federal MCL	Units	MRL
07/27/2021 15:27	Total phosphorus as P		1.3		mg/L	0.10
07/27/2021 17:09	Total phosphorus as PO4- Calc.		4.0		mg/L	0.030
	202107150510	<u>J-5, Day 16</u>				
07/27/2021 15:27	Total phosphorus as P		1.9		mg/L	0.10
07/27/2021 17:09	Total phosphorus as PO4- Calc.		5.8		mg/L	0.030
	202107150511	<u>J-6, Day 16</u>				
07/27/2021 15:28	Total phosphorus as P		2.5		mg/L	0.10
07/27/2021 17:09	Total phosphorus as PO4- Calc.		7.7		mg/L	0.030
	202107150512	<u>J-7, Day 16</u>				
07/27/2021 15:29	Total phosphorus as P		1.4		mg/L	0.10
07/27/2021 17:09	Total phosphorus as PO4- Calc.		4.3		mg/L	0.030
	202107150513	<u>J-8, Day 16</u>				
07/27/2021 16:36	Total phosphorus as P		4.4		mg/L	0.10
07/27/2021 17:16	Total phosphorus as PO4- Calc.		14		mg/L	0.030
	202107150514	<u>J-9, Day 16</u>				
07/27/2021 16:39	Total phosphorus as P		2.8		mg/L	0.10
07/27/2021 17:18	Total phosphorus as PO4- Calc.		8.6		mg/L	0.030
	202107150515	<u>J-11, Day 16</u>				
07/27/2021 16:40	Total phosphorus as P		0.97		mg/L	0.10
07/27/2021 17:18	Total phosphorus as PO4- Calc.		3.0		mg/L	0.030
	202107150516	<u>J-12, Day 16</u>				
07/27/2021 16:41	Total phosphorus as P		1.5		mg/L	0.10
07/27/2021 17:18	Total phosphorus as PO4- Calc.		4.6		mg/L	0.030
	202107150517	<u>J-13, Day 16</u>				
07/27/2021 16:44	Total phosphorus as P		2.2		mg/L	0.10
07/27/2021 17:18	Total phosphorus as PO4- Calc.		6.8		mg/L	0.030
	202107150519	<u>J-1, Day 16</u>				
07/21/2021 11:39	Total phosphorus as P		1.4		mg/L	0.10
07/21/2021 12:08	Total phosphorus as PO4- Calc.		4.3		mg/L	0.030
	202107150520	<u>J-2, Day 16</u>				
07/21/2021 11:40	Total phosphorus as P		2.2		mg/L	0.10
07/21/2021 12:08	Total phosphorus as PO4- Calc.		6.8		mg/L	0.030
	202107150521	<u>J-3, Day 16</u>				

SUMMARY OF POSITIVE DATA ONLY

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Laboratory Hits

Report: 946504
Project: KALAMAZOO
Group: Lead Solubility Testing - Phase 2

Tetra Tech
James Christopher
201 East Pine Street
Suite 1000
Orlando, FL 32801

Samples Received on:
07/14/2021 2128

Analyzed	Analyte	Sample ID	Result	Federal MCL	Units	MRL
07/27/2021 15:06	Total phosphorus as P		2.8		mg/L	0.10
07/27/2021 17:08	Total phosphorus as PO4- Calc.		8.6		mg/L	0.030
	202107150522	<u>J-4, Day 16</u>				
07/27/2021 15:07	Total phosphorus as P		1.2		mg/L	0.10
07/27/2021 17:08	Total phosphorus as PO4- Calc.		3.7		mg/L	0.030
	202107150523	<u>J-5, Day 16</u>				
07/27/2021 15:08	Total phosphorus as P		1.8		mg/L	0.10
07/27/2021 17:08	Total phosphorus as PO4- Calc.		5.5		mg/L	0.030
	202107150524	<u>J-6, Day 16</u>				
07/27/2021 15:11	Total phosphorus as P		2.5		mg/L	0.10
07/27/2021 17:08	Total phosphorus as PO4- Calc.		7.7		mg/L	0.030
	202107150525	<u>J-7, Day 16</u>				
07/27/2021 15:12	Total phosphorus as P		1.4		mg/L	0.10
07/27/2021 17:08	Total phosphorus as PO4- Calc.		4.3		mg/L	0.030
	202107150526	<u>J-8, Day 16</u>				
07/27/2021 15:13	Total phosphorus as P		2.1		mg/L	0.10
07/27/2021 17:08	Total phosphorus as PO4- Calc.		6.4		mg/L	0.030
	202107150527	<u>J-9, Day 16</u>				
07/27/2021 15:14	Total phosphorus as P		2.9		mg/L	0.10
07/27/2021 17:08	Total phosphorus as PO4- Calc.		8.9		mg/L	0.030
	202107150528	<u>J-11, Day 16</u>				
07/27/2021 15:15	Total phosphorus as P		0.96		mg/L	0.10
07/27/2021 17:09	Total phosphorus as PO4- Calc.		2.9		mg/L	0.030
	202107150529	<u>J-12, Day 16</u>				
07/27/2021 15:16	Total phosphorus as P		1.5		mg/L	0.10
07/27/2021 17:09	Total phosphorus as PO4- Calc.		4.6		mg/L	0.030
	202107150530	<u>J-13, Day 16</u>				
07/27/2021 15:20	Total phosphorus as P		2.0		mg/L	0.10
07/27/2021 17:09	Total phosphorus as PO4- Calc.		6.1		mg/L	0.030
	202107150531	<u>J-0, Day 17</u>				
07/17/2021 15:34	Lead Total ICAP/MS		480	15	ug/L	0.50
	202107150532	<u>J-1, Day 17</u>				

SUMMARY OF POSITIVE DATA ONLY



Eaton Analytical

Tel: (626) 386-1100
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1 800 566 LABS (1 800 566 5227)

Laboratory Hits

Report: 946504
Project: KALAMAZOO
Group: Lead Solubility Testing - Phase 2

Tetra Tech
James Christopher
201 East Pine Street
Suite 1000
Orlando, FL 32801

Samples Received on:
07/14/2021 2128

Analyzed	Analyte	Sample ID	Result	Federal MCL	Units	MRL
07/17/2021 15:34	Lead Total ICAP/MS		850	15	ug/L	0.50
	202107150533	<u>J-2, Day 17</u>				
07/17/2021 15:35	Lead Total ICAP/MS		460	15	ug/L	0.50
	202107150534	<u>J-3, Day 17</u>				
07/17/2021 15:36	Lead Total ICAP/MS		190	15	ug/L	0.50
	202107150535	<u>J-4, Day 17</u>				
07/17/2021 15:37	Lead Total ICAP/MS		390	15	ug/L	0.50
	202107150536	<u>J-5, Day 17</u>				
07/17/2021 15:37	Lead Total ICAP/MS		400	15	ug/L	0.50
	202107150537	<u>J-6, Day 17</u>				
07/17/2021 15:43	Lead Total ICAP/MS		1700	15	ug/L	0.50
	202107150538	<u>J-7, Day 17</u>				
07/17/2021 15:45	Lead Total ICAP/MS		970	15	ug/L	0.50
	202107150539	<u>J-8, Day 17</u>				
07/17/2021 15:46	Lead Total ICAP/MS		1500	15	ug/L	0.50
	202107150540	<u>J-9, Day 17</u>				
07/17/2021 16:18	Lead Total ICAP/MS		3200	15	ug/L	5.0
	202107150541	<u>J-11, Day 17</u>				
07/17/2021 15:48	Lead Total ICAP/MS		500	15	ug/L	0.50
	202107150542	<u>J-12, Day 17</u>				
07/17/2021 15:53	Lead Total ICAP/MS		300	15	ug/L	0.50
	202107150543	<u>J-13, Day 17</u>				
07/17/2021 16:20	Lead Total ICAP/MS		2300	15	ug/L	5.0

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Group: Lead Solubility Testing - Phase 2

Tetra Tech
 James Christopher
 201 East Pine Street
 Suite 1000
 Orlando, FL 32801

Samples Received on:
 07/14/2021 2128

Prepped	Analyzed	Prep Batch	Analytical Batch	Method	Analyte	Result	Units	MRL	Dilution
<u>J-0, Day 16 (202107150476)</u>						Sampled on 07/10/2021 1030			
EPA 200.8 - ICPMS Metals									
07/16/21	07/17/21 14:59	1341695	1341856	(EPA 200.8)	Lead Total ICAP/MS	200	ug/L	0.50	1
<u>J-1, Day 16 (202107150480)</u>						Sampled on 07/10/2021 1030			
EPA 200.8 - ICPMS Metals									
07/16/21	07/17/21 14:59	1341695	1341856	(EPA 200.8)	Lead Total ICAP/MS	130	ug/L	0.50	1
<u>J-2, Day 16 (202107150481)</u>						Sampled on 07/10/2021 1030			
EPA 200.8 - ICPMS Metals									
07/16/21	07/17/21 15:00	1341695	1341856	(EPA 200.8)	Lead Total ICAP/MS	170	ug/L	0.50	1
<u>J-3, Day 16 (202107150482)</u>						Sampled on 07/10/2021 1030			
EPA 200.8 - ICPMS Metals									
07/16/21	07/17/21 15:02	1341695	1341856	(EPA 200.8)	Lead Total ICAP/MS	110	ug/L	0.50	1
<u>J-4, Day 16 (202107150483)</u>						Sampled on 07/10/2021 1030			
EPA 200.8 - ICPMS Metals									
07/16/21	07/17/21 15:03	1341695	1341856	(EPA 200.8)	Lead Total ICAP/MS	300	ug/L	0.50	1
<u>J-5, Day 16 (202107150484)</u>						Sampled on 07/10/2021 1030			
EPA 200.8 - ICPMS Metals									
07/16/21	07/17/21 15:04	1341695	1341856	(EPA 200.8)	Lead Total ICAP/MS	180	ug/L	0.50	1
<u>J-6, Day 16 (202107150485)</u>						Sampled on 07/10/2021 1030			
EPA 200.8 - ICPMS Metals									
07/16/21	07/17/21 15:05	1341695	1341856	(EPA 200.8)	Lead Total ICAP/MS	170	ug/L	0.50	1
<u>J-7, Day 16 (202107150486)</u>						Sampled on 07/10/2021 1030			
EPA 200.8 - ICPMS Metals									
07/16/21	07/17/21 15:07	1341695	1341856	(EPA 200.8)	Lead Total ICAP/MS	200	ug/L	0.50	1
<u>J-8, Day 16 (202107150487)</u>						Sampled on 07/10/2021 1030			
EPA 200.8 - ICPMS Metals									
07/16/21	07/17/21 15:08	1341695	1341856	(EPA 200.8)	Lead Total ICAP/MS	1100	ug/L	0.50	1
<u>J-9, Day 16 (202107150488)</u>						Sampled on 07/10/2021 1030			
EPA 200.8 - ICPMS Metals									

Rounding on totals after summation.
 (c) - indicates calculated results. Analysis is a calculated result. Reported results are not rounded until the final step before reporting. Therefore methods that use a test result with further calculation may have slight differences in final result than the component analyses.

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Laboratory Data

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Tetra Tech
 James Christopher
 201 East Pine Street
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Samples Received on:
 07/14/2021 2128

Prepped	Analyzed	Prep Batch	Analytical Batch	Method	Analyte	Result	Units	MRL	Dilution
07/16/21	07/17/21 15:08	1341695	1341856	(EPA 200.8)	Lead Total ICAP/MS	480	ug/L	0.50	1
<u>J-11, Day 16 (202107150489)</u>						Sampled on 07/10/2021 1030			
EPA 200.8 - ICPMS Metals									
07/16/21	07/17/21 15:09	1341695	1341856	(EPA 200.8)	Lead Total ICAP/MS	1400	ug/L	0.50	1
<u>J-12, Day 16 (202107150490)</u>						Sampled on 07/10/2021 1030			
EPA 200.8 - ICPMS Metals									
07/16/21	07/17/21 15:10	1341695	1341856	(EPA 200.8)	Lead Total ICAP/MS	380	ug/L	0.50	1
<u>J-13, Day 16 (202107150491)</u>						Sampled on 07/10/2021 1030			
EPA 200.8 - ICPMS Metals									
07/16/21	07/17/21 15:16	1341695	1341857	(EPA 200.8)	Lead Total ICAP/MS	310 (B4)	ug/L	0.50	1
<u>J-0, Day 14 (202107150492)</u>						Sampled on 07/01/2021 1155			
EPA 200.8 - ICPMS Metals									
07/16/21	07/17/21 15:18	1341695	1341857	(EPA 200.8)	Lead Total ICAP/MS	420 (B4)	ug/L	0.50	1
<u>J-1, Day 14 (202107150493)</u>						Sampled on 07/01/2021 1155			
EPA 200.8 - ICPMS Metals									
07/16/21	07/17/21 15:19	1341695	1341857	(EPA 200.8)	Lead Total ICAP/MS	310 (B4)	ug/L	0.50	1
<u>J-2, Day 14 (202107150494)</u>						Sampled on 07/01/2021 1155			
EPA 200.8 - ICPMS Metals									
07/16/21	07/17/21 15:20	1341695	1341857	(EPA 200.8)	Lead Total ICAP/MS	560 (B4)	ug/L	0.50	1
<u>J-3, Day 14 (202107150495)</u>						Sampled on 07/01/2021 1155			
EPA 200.8 - ICPMS Metals									
07/16/21	07/17/21 15:23	1341695	1341857	(EPA 200.8)	Lead Total ICAP/MS	210 (B4)	ug/L	0.50	1
<u>J-4, Day 14 (202107150496)</u>						Sampled on 07/01/2021 1155			
EPA 200.8 - ICPMS Metals									
07/16/21	07/17/21 15:23	1341695	1341857	(EPA 200.8)	Lead Total ICAP/MS	240 (B4)	ug/L	0.50	1
<u>J-5, Day 14 (202107150497)</u>						Sampled on 07/01/2021 1155			
EPA 200.8 - ICPMS Metals									
07/16/21	07/17/21 15:24	1341695	1341857	(EPA 200.8)	Lead Total ICAP/MS	180 (B4)	ug/L	0.50	1
<u>J-6, Day 14 (202107150498)</u>						Sampled on 07/01/2021 1155			

Rounding on totals after summation.
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Laboratory Data

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Group: Lead Solubility Testing - Phase 2

Tetra Tech
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Samples Received on:
07/14/2021 2128

Prepped	Analyzed	Prep Batch	Analytical Batch	Method	Analyte	Result	Units	MRL	Dilution
EPA 200.8 - ICPMS Metals									
07/16/21	07/17/21 15:25	1341695	1341857	(EPA 200.8)	Lead Total ICAP/MS	480 (B4)	ug/L	0.50	1
J-7, Day 14 (202107150499)						Sampled on 07/01/2021 1155			
EPA 200.8 - ICPMS Metals									
07/16/21	07/17/21 15:26	1341695	1341857	(EPA 200.8)	Lead Total ICAP/MS	500 (B4)	ug/L	0.50	1
J-8, Day 14 (202107150500)						Sampled on 07/01/2021 1155			
EPA 200.8 - ICPMS Metals									
07/16/21	07/17/21 15:26	1341695	1341857	(EPA 200.8)	Lead Total ICAP/MS	310 (B4)	ug/L	0.50	1
J-9, Day 14 (202107150501)						Sampled on 07/01/2021 1155			
EPA 200.8 - ICPMS Metals									
07/16/21	07/17/21 15:27	1341695	1341857	(EPA 200.8)	Lead Total ICAP/MS	180 (B4)	ug/L	0.50	1
J-11, Day 14 (202107150502)						Sampled on 07/01/2021 1155			
EPA 200.8 - ICPMS Metals									
07/16/21	07/17/21 15:29	1341695	1341857	(EPA 200.8)	Lead Total ICAP/MS	1500 (B4)	ug/L	0.50	1
J-12, Day 14 (202107150503)						Sampled on 07/01/2021 1155			
EPA 200.8 - ICPMS Metals									
07/16/21	07/17/21 15:32	1341695	1341857	(EPA 200.8)	Lead Total ICAP/MS	220 (B4)	ug/L	0.50	1
J-13, Day 14 (202107150504)						Sampled on 07/01/2021 1155			
EPA 200.8 - ICPMS Metals									
07/16/21	07/17/21 15:33	1341695	1341857	(EPA 200.8)	Lead Total ICAP/MS	230 (B4)	ug/L	0.50	1
J-0, Day 16 (202107150505)						Sampled on 07/08/2021 1330			
SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.									
	07/27/21 17:09			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	ND (c)	mg/L	0.030	1
SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)									
	07/29/21 18:49		1344715	(SM4500-PE/EPA 365.1)	Total phosphorus as P	ND	mg/L	0.020	1
J-1, Day 16 (202107150506)						Sampled on 07/08/2021 1330			
SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.									
	07/27/21 17:09			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	4.3 (c)	mg/L	0.030	1
SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)									

Rounding on totals after summation.

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1 800 566 LABS (1 800 566 5227)

Laboratory Data

Report: 946504
Project: KALAMAZOO
Group: Lead Solubility Testing - Phase 2

Tetra Tech
James Christopher
201 East Pine Street
Suite 1000
Orlando, FL 32801

Samples Received on:
07/14/2021 2128

Prepped	Analyzed	Prep Batch	Analytical Batch	Method	Analyte	Result	Units	MRL	Dilution
	07/27/21 15:24		1343869	(SM4500-PE/EPA 365.1)	Total phosphorus as P	1.4	mg/L	0.10	5
<u>J-2, Day 16 (202107150507)</u>						Sampled on 07/08/2021 1330			
SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.									
	07/27/21 17:09			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	6.4 (c)	mg/L	0.030	1
SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)									
	07/27/21 15:25		1343869	(SM4500-PE/EPA 365.1)	Total phosphorus as P	2.1	mg/L	0.10	5
<u>J-3, Day 16 (202107150508)</u>						Sampled on 07/08/2021 1330			
SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.									
	07/27/21 17:09			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	8.6 (c)	mg/L	0.030	1
SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)									
	07/27/21 15:26		1343869	(SM4500-PE/EPA 365.1)	Total phosphorus as P	2.8	mg/L	0.10	5
<u>J-4, Day 16 (202107150509)</u>						Sampled on 07/08/2021 1330			
SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.									
	07/27/21 17:09			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	4.0 (c)	mg/L	0.030	1
SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)									
	07/27/21 15:27		1343869	(SM4500-PE/EPA 365.1)	Total phosphorus as P	1.3	mg/L	0.10	5
<u>J-5, Day 16 (202107150510)</u>						Sampled on 07/08/2021 1330			
SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.									
	07/27/21 17:09			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	5.8 (c)	mg/L	0.030	1
SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)									
	07/27/21 15:27		1343869	(SM4500-PE/EPA 365.1)	Total phosphorus as P	1.9	mg/L	0.10	5
<u>J-6, Day 16 (202107150511)</u>						Sampled on 07/08/2021 1330			
SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.									
	07/27/21 17:09			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	7.7 (c)	mg/L	0.030	1
SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)									
	07/27/21 15:28		1343869	(SM4500-PE/EPA 365.1)	Total phosphorus as P	2.5	mg/L	0.10	5
<u>J-7, Day 16 (202107150512)</u>						Sampled on 07/08/2021 1330			

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Report: 946504
Project: KALAMAZOO
Group: Lead Solubility Testing - Phase 2

Tetra Tech
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Suite 1000
Orlando, FL 32801

Samples Received on:
07/14/2021 2128

Prepped	Analyzed	Prep Batch	Analytical Batch	Method	Analyte	Result	Units	MRL	Dilution
SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.									
07/27/21	17:09			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	4.3 (c)	mg/L	0.030	1
SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)									
07/27/21	15:29	1343869		(SM4500-PE/EPA 365.1)	Total phosphorus as P	1.4	mg/L	0.10	5
J-8, Day 16 (202107150513)						Sampled on 07/08/2021 1330			
SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.									
07/27/21	17:16			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	14 (c)	mg/L	0.030	1
SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)									
07/27/21	16:36	1343870		(SM4500-PE/EPA 365.1)	Total phosphorus as P	4.4	mg/L	0.10	5
J-9, Day 16 (202107150514)						Sampled on 07/08/2021 1330			
SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.									
07/27/21	17:18			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	8.6 (c)	mg/L	0.030	1
SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)									
07/27/21	16:39	1343870		(SM4500-PE/EPA 365.1)	Total phosphorus as P	2.8	mg/L	0.10	5
J-11, Day 16 (202107150515)						Sampled on 07/08/2021 1330			
SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.									
07/27/21	17:18			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	3.0 (c)	mg/L	0.030	1
SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)									
07/27/21	16:40	1343870		(SM4500-PE/EPA 365.1)	Total phosphorus as P	0.97	mg/L	0.10	5
J-12, Day 16 (202107150516)						Sampled on 07/08/2021 1330			
SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.									
07/27/21	17:18			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	4.6 (c)	mg/L	0.030	1
SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)									
07/27/21	16:41	1343870		(SM4500-PE/EPA 365.1)	Total phosphorus as P	1.5	mg/L	0.10	5
J-13, Day 16 (202107150517)						Sampled on 07/08/2021 1330			
SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.									

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Group: Lead Solubility Testing - Phase 2

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James Christopher
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Samples Received on:
07/14/2021 2128

Prepped	Analyzed	Prep Batch	Analytical Batch	Method	Analyte	Result	Units	MRL	Dilution
	07/27/21 17:18			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	6.8 (c)	mg/L	0.030	1
	SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)								
	07/27/21 16:44		1343870	(SM4500-PE/EPA 365.1)	Total phosphorus as P	2.2	mg/L	0.10	5
J-0, Day 16 (202107150518)						Sampled on 07/02/2021 1042			
					SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.				
	07/21/21 12:08			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	ND (c)	mg/L	0.030	1
					SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)				
	07/27/21 15:04		1343869	(SM4500-PE/EPA 365.1)	Total phosphorus as P	ND (M1)	mg/L	0.020	1
J-1, Day 16 (202107150519)						Sampled on 07/02/2021 1103			
					SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.				
	07/21/21 12:08			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	4.3 (c)	mg/L	0.030	1
					SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)				
	07/21/21 11:39		1342581	(SM4500-PE/EPA 365.1)	Total phosphorus as P	1.4	mg/L	0.10	5
J-2, Day 16 (202107150520)						Sampled on 07/02/2021 1103			
					SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.				
	07/21/21 12:08			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	6.8 (c)	mg/L	0.030	1
					SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)				
	07/21/21 11:40		1342581	(SM4500-PE/EPA 365.1)	Total phosphorus as P	2.2	mg/L	0.10	5
J-3, Day 16 (202107150521)						Sampled on 07/02/2021 1103			
					SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.				
	07/27/21 17:08			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	8.6 (c)	mg/L	0.030	1
					SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)				
	07/27/21 15:06		1343869	(SM4500-PE/EPA 365.1)	Total phosphorus as P	2.8	mg/L	0.10	5
J-4, Day 16 (202107150522)						Sampled on 07/02/2021 1140			
					SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.				
	07/27/21 17:08			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	3.7 (c)	mg/L	0.030	1
					SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)				

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Samples Received on:
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Prepped	Analyzed	Prep Batch	Analytical Batch	Method	Analyte	Result	Units	MRL	Dilution
	07/27/21 15:07		1343869	(SM4500-PE/EPA 365.1)	Total phosphorus as P	1.2	mg/L	0.10	5
<u>J-5, Day 16 (202107150523)</u>						Sampled on 07/02/2021 1140			
SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.									
	07/27/21 17:08			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	5.5 (c)	mg/L	0.030	1
SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)									
	07/27/21 15:08		1343869	(SM4500-PE/EPA 365.1)	Total phosphorus as P	1.8	mg/L	0.10	5
<u>J-6, Day 16 (202107150524)</u>						Sampled on 07/02/2021 1140			
SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.									
	07/27/21 17:08			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	7.7 (c)	mg/L	0.030	1
SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)									
	07/27/21 15:11		1343869	(SM4500-PE/EPA 365.1)	Total phosphorus as P	2.5	mg/L	0.10	5
<u>J-7, Day 16 (202107150525)</u>						Sampled on 07/02/2021 1330			
SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.									
	07/27/21 17:08			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	4.3 (c)	mg/L	0.030	1
SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)									
	07/27/21 15:12		1343869	(SM4500-PE/EPA 365.1)	Total phosphorus as P	1.4	mg/L	0.10	5
<u>J-8, Day 16 (202107150526)</u>						Sampled on 07/02/2021 1330			
SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.									
	07/27/21 17:08			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	6.4 (c)	mg/L	0.030	1
SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)									
	07/27/21 15:13		1343869	(SM4500-PE/EPA 365.1)	Total phosphorus as P	2.1 (Q5,T6)	mg/L	0.10	5
<u>J-9, Day 16 (202107150527)</u>						Sampled on 07/02/2021 1330			
SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.									
	07/27/21 17:08			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	8.9 (c)	mg/L	0.030	1
SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)									
	07/27/21 15:14		1343869	(SM4500-PE/EPA 365.1)	Total phosphorus as P	2.9	mg/L	0.10	5
<u>J-11, Day 16 (202107150528)</u>						Sampled on 07/02/2021 1330			

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Report: 946504
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Group: Lead Solubility Testing - Phase 2

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Samples Received on:
07/14/2021 2128

Prepped	Analyzed	Prep Batch	Analytical Batch	Method	Analyte	Result	Units	MRL	Dilution
SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.									
	07/27/21 17:09			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	2.9 (c)	mg/L	0.030	1
SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)									
	07/27/21 15:15	1343869		(SM4500-PE/EPA 365.1)	Total phosphorus as P	0.96	mg/L	0.10	5
J-12, Day 16 (202107150529)						Sampled on 07/02/2021 1330			
SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.									
	07/27/21 17:09			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	4.6 (c)	mg/L	0.030	1
SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)									
	07/27/21 15:16	1343869		(SM4500-PE/EPA 365.1)	Total phosphorus as P	1.5	mg/L	0.10	5
J-13, Day 16 (202107150530)						Sampled on 07/02/2021 1330			
SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.									
	07/27/21 17:09			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	6.1 (c)	mg/L	0.030	1
SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)									
	07/27/21 15:20	1343869		(SM4500-PE/EPA 365.1)	Total phosphorus as P	2.0	mg/L	0.10	5
J-0, Day 17 (202107150531)						Sampled on 07/13/2021 1055			
EPA 200.8 - ICPMS Metals									
07/16/21	07/17/21 15:34	1341695	1341857	(EPA 200.8)	Lead Total ICAP/MS	480 (B4)	ug/L	0.50	1
J-1, Day 17 (202107150532)						Sampled on 07/13/2021 1055			
EPA 200.8 - ICPMS Metals									
07/16/21	07/17/21 15:34	1341695	1341857	(EPA 200.8)	Lead Total ICAP/MS	850 (B4)	ug/L	0.50	1
J-2, Day 17 (202107150533)						Sampled on 07/13/2021 1055			
EPA 200.8 - ICPMS Metals									
07/16/21	07/17/21 15:35	1341695	1341857	(EPA 200.8)	Lead Total ICAP/MS	460 (B4)	ug/L	0.50	1
J-3, Day 17 (202107150534)						Sampled on 07/13/2021 1055			
EPA 200.8 - ICPMS Metals									
07/16/21	07/17/21 15:36	1341695	1341857	(EPA 200.8)	Lead Total ICAP/MS	190 (B4)	ug/L	0.50	1
J-4, Day 17 (202107150535)						Sampled on 07/13/2021 1055			
EPA 200.8 - ICPMS Metals									

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Samples Received on:
07/14/2021 2128

Prepped	Analyzed	Prep Batch	Analytical Batch	Method	Analyte	Result	Units	MRL	Dilution
07/16/21	07/17/21 15:37	1341695	1341857	(EPA 200.8)	Lead Total ICAP/MS	390 (B4)	ug/L	0.50	1
<u>J-5, Day 17 (202107150536)</u>						Sampled on 07/13/2021 1055			
EPA 200.8 - ICPMS Metals									
07/16/21	07/17/21 15:37	1341695	1341857	(EPA 200.8)	Lead Total ICAP/MS	400 (B4)	ug/L	0.50	1
<u>J-6, Day 17 (202107150537)</u>						Sampled on 07/13/2021 1055			
EPA 200.8 - ICPMS Metals									
07/16/21	07/17/21 15:43	1341695	1341858	(EPA 200.8)	Lead Total ICAP/MS	1700 (M3)	ug/L	0.50	1
<u>J-7, Day 17 (202107150538)</u>						Sampled on 07/13/2021 1055			
EPA 200.8 - ICPMS Metals									
07/16/21	07/17/21 15:45	1341695	1341858	(EPA 200.8)	Lead Total ICAP/MS	970	ug/L	0.50	1
<u>J-8, Day 17 (202107150539)</u>						Sampled on 07/13/2021 1055			
EPA 200.8 - ICPMS Metals									
07/16/21	07/17/21 15:46	1341695	1341858	(EPA 200.8)	Lead Total ICAP/MS	1500	ug/L	0.50	1
<u>J-9, Day 17 (202107150540)</u>						Sampled on 07/13/2021 1055			
EPA 200.8 - ICPMS Metals									
07/16/21	07/17/21 16:18	1341695	1341859	(EPA 200.8)	Lead Total ICAP/MS	3200	ug/L	5.0	10
<u>J-11, Day 17 (202107150541)</u>						Sampled on 07/13/2021 1055			
EPA 200.8 - ICPMS Metals									
07/16/21	07/17/21 15:48	1341695	1341858	(EPA 200.8)	Lead Total ICAP/MS	500	ug/L	0.50	1
<u>J-12, Day 17 (202107150542)</u>						Sampled on 07/13/2021 1055			
EPA 200.8 - ICPMS Metals									
07/16/21	07/17/21 15:53	1341695	1341858	(EPA 200.8)	Lead Total ICAP/MS	300	ug/L	0.50	1
<u>J-13, Day 17 (202107150543)</u>						Sampled on 07/13/2021 1055			
EPA 200.8 - ICPMS Metals									
07/16/21	07/17/21 16:20	1341695	1341859	(EPA 200.8)	Lead Total ICAP/MS	2300	ug/L	5.0	10

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Report: 946504

Project: KALAMAZOO

Group: Lead Solubility Testing - Phase 2

Tetra Tech

ICPMS Metals

Prep Batch: 1341695 Analytical Batch: 1341856

202107150476	J-0, Day 16
202107150480	J-1, Day 16
202107150481	J-2, Day 16
202107150482	J-3, Day 16
202107150483	J-4, Day 16
202107150484	J-5, Day 16
202107150485	J-6, Day 16
202107150486	J-7, Day 16
202107150487	J-8, Day 16
202107150488	J-9, Day 16
202107150489	J-11, Day 16
202107150490	J-12, Day 16

Analysis Date: 07/17/2021

Analyzed by: URDE
Analyzed by: URDE
Analyzed by: URDE
Analyzed by: URDE
Analyzed by: URDE
Analyzed by: URDE
Analyzed by: URDE
Analyzed by: URDE
Analyzed by: URDE
Analyzed by: URDE
Analyzed by: URDE
Analyzed by: URDE

ICPMS Metals

Prep Batch: 1341695 Analytical Batch: 1341857

202107150491	J-13, Day 16
202107150492	J-0, Day 14
202107150493	J-1, Day 14
202107150494	J-2, Day 14
202107150495	J-3, Day 14
202107150496	J-4, Day 14
202107150497	J-5, Day 14
202107150498	J-6, Day 14
202107150499	J-7, Day 14
202107150500	J-8, Day 14
202107150501	J-9, Day 14
202107150502	J-11, Day 14
202107150503	J-12, Day 14
202107150504	J-13, Day 14
202107150531	J-0, Day 17
202107150532	J-1, Day 17
202107150533	J-2, Day 17
202107150534	J-3, Day 17
202107150535	J-4, Day 17
202107150536	J-5, Day 17

Analysis Date: 07/17/2021

Analyzed by: URDE
Analyzed by: URDE
Analyzed by: URDE
Analyzed by: URDE
Analyzed by: URDE
Analyzed by: URDE
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Analyzed by: URDE
Analyzed by: URDE
Analyzed by: URDE

ICPMS Metals

Prep Batch: 1341695 Analytical Batch: 1341858

202107150537	J-6, Day 17
202107150538	J-7, Day 17
202107150539	J-8, Day 17
202107150541	J-11, Day 17
202107150542	J-12, Day 17

Analysis Date: 07/17/2021

Analyzed by: URDE
Analyzed by: URDE
Analyzed by: URDE
Analyzed by: URDE
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Laboratory QC Summary

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Project: KALAMAZOO

Group: Lead Solubility Testing - Phase 2

Tetra Tech

ICPMS Metals

Prep Batch: 1341695 Analytical Batch: 1341859

202107150540 J-9, Day 17
202107150543 J-13, Day 17

Analysis Date: 07/17/2021

Analyzed by: URDE
Analyzed by: URDE

Total phosphorus as P (T-P)

Analytical Batch: 1342581

202107150519 J-1, Day 16
202107150520 J-2, Day 16

Analysis Date: 07/21/2021

Analyzed by: LQ3M
Analyzed by: LQ3M

Total phosphorus as P (T-P)

Analytical Batch: 1343869

202107150506 J-1, Day 16
202107150507 J-2, Day 16
202107150508 J-3, Day 16
202107150509 J-4, Day 16
202107150510 J-5, Day 16
202107150511 J-6, Day 16
202107150512 J-7, Day 16
202107150518 J-0, Day 16
202107150521 J-3, Day 16
202107150522 J-4, Day 16
202107150523 J-5, Day 16
202107150524 J-6, Day 16
202107150525 J-7, Day 16
202107150526 J-8, Day 16
202107150527 J-9, Day 16
202107150528 J-11, Day 16
202107150529 J-12, Day 16
202107150530 J-13, Day 16

Analysis Date: 07/27/2021

Analyzed by: LQ3M
Analyzed by: LQ3M
Analyzed by: LQ3M
Analyzed by: LQ3M
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Analyzed by: LQ3M
Analyzed by: LQ3M
Analyzed by: LQ3M

Total phosphorus as P (T-P)

Analytical Batch: 1343870

202107150513 J-8, Day 16
202107150514 J-9, Day 16
202107150515 J-11, Day 16
202107150516 J-12, Day 16
202107150517 J-13, Day 16

Analysis Date: 07/27/2021

Analyzed by: LQ3M
Analyzed by: LQ3M
Analyzed by: LQ3M
Analyzed by: LQ3M
Analyzed by: LQ3M

Total phosphorus as P (T-P)

Analytical Batch: 1344715

202107150505 J-0, Day 16

Analysis Date: 07/29/2021

Analyzed by: LQ3M

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1 800 566 LABS (1 800 566 5227)

Laboratory QC

Report: 946504
Project: KALAMAZOO
Group: Lead Solubility Testing - Phase 2

Tetra Tech

QC Type	Analyte	Native	Spiked	Recovered	Units	Yield(%)	Limits (%)	RPD Limit(%)	RPD%
ICPMS Metals by EPA 200.8									
Analytical Batch: 1341856					Analysis Date: 07/17/2021				
LCS1	Lead Total ICAP/MS		50	52.2	ug/L	104	(85-115)		
LCS2	Lead Total ICAP/MS		50	52.2	ug/L	104	(85-115)	20	0.0
MBLK	Lead Total ICAP/MS			<0.0608	ug/L				
MRL_CHK	Lead Total ICAP/MS		0.5	0.500	ug/L	100	(50-150)		
MS_202107150331	Lead Total ICAP/MS	ND	50	42.8	ug/L	85	(70-130)		
MS2_202107150481	Lead Total ICAP/MS	170	50	220	ug/L	104	(70-130)		
MSD_202107150331	Lead Total ICAP/MS	ND	50	42.0	ug/L	84	(70-130)	20	1.8
MSD2_202107150481	Lead Total ICAP/MS	170	50	211	ug/L	86	(70-130)	20	4.2
ICPMS Metals by EPA 200.8									
Analytical Batch: 1341857					Analysis Date: 07/17/2021				
LCS1	Lead Total ICAP/MS		50	52.6	ug/L	105	(85-115)		
LCS2	Lead Total ICAP/MS		50	52.5	ug/L	105	(85-115)	20	0.19
MBLK	Lead Total ICAP/MS			<u>0.0837</u>	ug/L				
MRL_CHK	Lead Total ICAP/MS		0.5	0.513	ug/L	103	(50-150)		
MS_202107150491	Lead Total ICAP/MS	310	50	361	ug/L	96	(70-130)		
MS2_202107150501	Lead Total ICAP/MS	180	50	227	ug/L	97	(70-130)		
MSD_202107150491	Lead Total ICAP/MS	310	50	355	ug/L	82	(70-130)	20	1.8
MSD2_202107150501	Lead Total ICAP/MS	180	50	228	ug/L	98	(70-130)	20	0.26
ICPMS Metals by EPA 200.8									
Analytical Batch: 1341858					Analysis Date: 07/17/2021				
LCS1	Lead Total ICAP/MS		50	53.2	ug/L	107	(85-115)		
LCS2	Lead Total ICAP/MS		50	54.3	ug/L	109	(85-115)	20	1.9
MBLK	Lead Total ICAP/MS			<0.0608	ug/L				
MRL_CHK	Lead Total ICAP/MS		0.5	0.512	ug/L	102	(50-150)		
MS_202107150537	Lead Total ICAP/MS	1700	50	1710	ug/L	<u>31</u>	(70-130)		
MS2_202107081095	Lead Total ICAP/MS	ND	50	44.2	ug/L	88	(70-130)		
MSD_202107150537	Lead Total ICAP/MS	1700	50	1720	ug/L	<u>46</u>	(70-130)	20	0.66
MSD2_202107081095	Lead Total ICAP/MS	ND	50	45.6	ug/L	91	(70-130)	20	3.1
ICPMS Metals by EPA 200.8									
Analytical Batch: 1341859					Analysis Date: 07/17/2021				
LCS1	Lead Total ICAP/MS		50	55.0	ug/L	110	(85-115)		
LCS2	Lead Total ICAP/MS		50	54.9	ug/L	110	(85-115)	20	0.18
MBLK	Lead Total ICAP/MS			<0.0608	ug/L				

Spike recovery is already corrected for native results.

Spikes which exceed Limits and Method Blanks with positive results are highlighted by Underlining.

Criteria for MS and Dup are advisory only, batch control is based on LCS. Criteria for duplicates are advisory only, unless otherwise specified in the method.

RPD not calculated for LCS2 when different a concentration than LCS1 is used.

RPD not calculated for Duplicates when the result is not five times the MRL (Minimum Reporting Level).

(S) - Indicates surrogate compound.

(I) - Indicates internal standard compound.

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1 800 566 LABS (1 800 566 5227)

Laboratory QC

Report: 946504
Project: KALAMAZOO
Group: Lead Solubility Testing - Phase 2

Tetra Tech

QC Type	Analyte	Native	Spiked	Recovered	Units	Yield(%)	Limits (%)	RPD Limit(%)	RPD%
MRL_CHK	Lead Total ICAP/MS		0.5	0.527	ug/L	105	(50-150)		
MS_202107081135	Lead Total ICAP/MS	ND	50	43.9	ug/L	88	(70-130)		
MSD_202107081135	Lead Total ICAP/MS	ND	50	42.7	ug/L	85	(70-130)	20	2.9

Total phosphorus as P (T-P) by SM4500-PE/EPA 365.1

Analytical Batch: 1342581

Analysis Date: 07/21/2021

LCS1	Total phosphorus as P		0.4	0.430	mg/L	108	(90-110)		
LCS2	Total phosphorus as P		0.4	0.429	mg/L	107	(90-110)	20	0.23
MBLK	Total phosphorus as P			<0.0108	mg/L				
MRL_CHK	Total phosphorus as P		0.02	0.0158	mg/L	79	(50-150)		
MS_202107090825	Total phosphorus as P	0.047	0.4	0.475	mg/L	107	(90-110)		
MS2_202107160756	Total phosphorus as P	ND	0.4	0.419	mg/L	105	(90-110)		
MSD_202107090825	Total phosphorus as P	0.047	0.4	0.483	mg/L	109	(90-110)	20	1.7
MSD2_202107160756	Total phosphorus as P	ND	0.4	0.426	mg/L	106	(90-110)	20	1.6

Total phosphorus as P (T-P) by SM4500-PE/EPA 365.1

Analytical Batch: 1343869

Analysis Date: 07/27/2021

LCS1	Total phosphorus as P		0.4	0.424	mg/L	106	(90-110)		
LCS2	Total phosphorus as P		0.4	0.426	mg/L	106	(90-110)	20	0.47
MBLK	Total phosphorus as P			<0.0108	mg/L				
MRL_CHK	Total phosphorus as P		0.02	0.0119	mg/L	60	(50-150)		
MS_202107150518	Total phosphorus as P	ND	0.4	0.466	mg/L	<u>112</u>	(90-110)		
MS2_202107070773	Total phosphorus as P	ND	0.4	0.429	mg/L	107	(90-110)		
MSD_202107150518	Total phosphorus as P	ND	0.4	0.451	mg/L	108	(90-110)	20	3.3
MSD2_202107070773	Total phosphorus as P	ND	0.4	0.420	mg/L	105	(90-110)	20	2.0

Total phosphorus as P (T-P) by SM4500-PE/EPA 365.1

Analytical Batch: 1343870

Analysis Date: 07/27/2021

LCS1	Total phosphorus as P		0.4	0.439	mg/L	110	(90-110)		
LCS2	Total phosphorus as P		0.4	0.427	mg/L	107	(90-110)	20	2.8
MBLK	Total phosphorus as P			<0.0108	mg/L				
MRL_CHK	Total phosphorus as P		0.02	0.0140	mg/L	70	(50-150)		
MS_202107150513	Total phosphorus as P	4.4	0.4	3.42	mg/L	<u>-48.2</u>	(90-110)		
MS2_202107150466	Total phosphorus as P	0.40	0.4	0.683	mg/L	<u>71</u>	(90-110)		
MSD_202107150513	Total phosphorus as P	4.4	0.4	3.43	mg/L	<u>-47.6</u>	(90-110)	20	0.34
MSD2_202107150466	Total phosphorus as P	0.40	0.4	0.607	mg/L	<u>52</u>	(90-110)	20	12

Total phosphorus as P (T-P) by SM4500-PE/EPA 365.1

Analytical Batch: 1344715

Analysis Date: 07/29/2021

Spike recovery is already corrected for native results.

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Laboratory QC

Report: 946504
Project: KALAMAZOO
Group: Lead Solubility Testing - Phase 2

Tetra Tech

QC Type	Analyte	Native	Spiked	Recovered	Units	Yield(%)	Limits (%)	RPD Limit(%)	RPD%
LCS1	Total phosphorus as P		0.4	0.422	mg/L	105	(90-110)		
LCS2	Total phosphorus as P		0.4	0.422	mg/L	106	(90-110)	20	0.0
MBLK	Total phosphorus as P			<0.0108	mg/L				
MRL_CHK	Total phosphorus as P		0.02	0.0171	mg/L	86	(50-150)		
MS_202107150505	Total phosphorus as P	ND	0.4	0.410	mg/L	103	(90-110)		
MS2_202107120289	Total phosphorus as P	ND	0.4	0.420	mg/L	105	(90-110)		
MSD_202107150505	Total phosphorus as P	ND	0.4	0.429	mg/L	107	(90-110)	20	4.5
MSD2_202107120289	Total phosphorus as P	ND	0.4	0.409	mg/L	102	(90-110)	20	2.7

Spike recovery is already corrected for native results.

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RPD not calculated for LCS2 when different a concentration than LCS1 is used.

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Monrovia, California 91016-3629
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Laboratory Report

for

Tetra Tech
201 East Pine Street
Suite 1000
Orlando, FL 32801
Attention: James Christopher
Fax: 407-839-3790

Date of Issue
08/09/2021

Vanessa Berry

EUROFINS EATON
ANALYTICAL, LLC



Utah ELCP CA00006

ZIA8: Vanessa Berry
Project Manager

Report: 948220
Project: KALAMAZOO
Group: Lead Solubility Testing - Phase 2

* Accredited in accordance with TNI 2016 and ISO/IEC 17025:2017.

* Laboratory certifies that the test results meet all **TNI 2016 and ISO/IEC 17025:2017** requirements unless noted under the individual analysis.

* Following the cover page are State Certification List, ISO 17025 Accredited Method List, Acknowledgement of Samples Received, Comments, Hits Report, Data Report, QC Summary, QC Report and Regulatory Forms, as applicable.

* Test results relate only to the sample(s) tested.

* Test results apply to the sample(s) as received, unless otherwise noted in the comments report (ISO/IEC 17025:2017).

* This report shall not be reproduced except in full, without the written approval of the laboratory.

* This report includes ISO/IEC 17025 and non-ISO 17025 accredited methods.

STATE CERTIFICATION LIST

State	Certification Number	State	Certification Number
Alabama	41060	Montana	Cert 0035
Arizona	AZ0778	Nebraska	Certified
Arkansas	Certified	Nevada	CA000062018
California	2813	New Hampshire *	2959
Colorado	Certified	New Jersey *	CA 008
Connecticut	PH-0107	New Mexico	Certified
Delaware	CA 006	New York *	11320
Florida *	E871024	North Carolina	06701
Georgia	947	North Dakota	R-009
Guam	18-005R	Oregon *	CA200003-005
Hawaii	Certified	Pennsylvania *	68-565
Idaho	Certified	Puerto Rico	Certified
Illinois *	200033	Rhode Island	LAO00326
Indiana	C-CA-01	South Carolina	87016
Iowa - Asbestos	413	South Dakota	Certified
Kansas *	E-10268	Tennessee	TN02839
Kentucky	90107	Texas *	T104704230-18-15
Louisiana *	LA180000	Utah (Primary AB) *	CA00006
Maine	CA0006	Vermont	VT0114
Maryland	224	Virginia *	460260
Commonwealth of Northern Marianas Is.	MP0004	Washington	C838
Massachusetts	M-CA006	EPA Region 5	Certified
Michigan	9906	Los Angeles County Sanitation Districts	10264
Mississippi	Certified		

* NELAP/TNI Recognized Accreditation Bodies

ISO/IEC 17025 Accredited Method List

The tests listed below are accredited and meet the requirements of ISO/IEC 17025 as verified by the ANSI-ASQ National Accreditation Board/A2LA.
Refer to Certificate and scope of accreditation (5890) found at: <https://www.eurofinsus.com/Eaton>

SPECIFIC TESTS	METHOD OR TECHNIQUE USED	Environ-mental (Drinking Water)	Environ-mental (Waste Water)	Water as a Component of Food and Bev/Bev/ Bottled Water
1,2,3-TCP (5 PPT & 0.5 PPT)	CA SRL 524M-TCP	x		x
1,4-Dioxane	EPA 522	x		x
2,3,7,8-TCDD	Modified EPA 1613B	x		x
Acrylamide	In House Method (2440)	x		x
Algal Toxins/Microcystin	In House Method (3570)			
Alkalinity	SM 2320B	x	x	x
Ammonia	EPA 350.1		x	x
Ammonia	SM 4500-NH3 H		x	x
Anions and DBPs by IC	EPA 300.0	x	x	x
Anions and DBPs by IC	EPA 300.1	x		x
Asbestos	EPA 100.2	x	x	
BOD / CBOD	SM 5210B		x	x
Bromate	In House Method (2447)	x		x
Carbamates	EPA 531.2	x		x
Carbonate as CO3	SM 2330B	x	x	x
Carbonyls	EPA 556	x		x
COD	EPA 410.4 / SM 5220D		x	
Chloramines	SM 4500-CL G	x	x	x
Chlorinated Acids	EPA 515.4	x		x
Chlorinated Acids	EPA 555	x		x
Chlorine Dioxide	SM 4500-CLO2 D Palin Test	x		x
Chlorine -Total/Free/ Combined Residual	SM 4500-Cl G	x	x	x
Conductivity	EPA 120.1		x	
Conductivity	SM 2510B	x	x	x
Corrosivity (Langelier Index)	SM 2330B	x		x
Cyanide, Amenable	SM 4500-CN G	x	x	
Cyanide, Free	SM 4500CN F	x	x	x
Cyanide, Total	EPA 335.4	x	x	x
Cyanogen Chloride (screen)	In House Method (2470)	x		x
Diquat and Paraquat	EPA 549.2	x		x
DBP/HAA	SM 6251B	x		x
Dissolved Oxygen	SM 4500-O G		x	x
DOC	SM 5310C	x		x
E. Coli	(MTF/EC+MUG)	x		x
E. Coli	CFR 141.21(f)(6)(i)	x		x
E. Coli	SM 9223		x	
E. Coli (Enumeration)	SM 9221B.1/ SM 9221F	x		x
E. Coli (Enumeration)	SM 9223B	x		x
EDB/DCBP	EPA 504.1	x		
EDB/DBCP and DBP	EPA 551.1	x		x
EDTA and NTA	In House Method (2454)	x		x
Endothall	EPA 548.1	x		x
Endothall	In-house Method (2445)	x		x
Enterococci	SM 9230B	x	x	
Fecal Coliform	SM 9221 E (MTF/EC)	x		
Fecal Coliform	SM 9221C, E (MTF/EC)		x	
Fecal Coliform (Enumeration)	SM 9221E (MTF/EC)	x		x
Fecal Coliform with Chlorine Present	SM 9221E		x	
Fecal Streptococci	SM 9230B	x	x	
Fluoride	SM 4500-F C	x	x	x
Glyphosate	EPA 547	x		x
Glyphosate + AMPA	In House Method (3618)	x		x
Gross Alpha/Beta	EPA 900.0	x	x	x
Gross Alpha Coprecipitation	SM 7110 C	x	x	x
Hardness	SM 2340B	x	x	x
Heterotrophic Bacteria	In House Method (2439)	x		x
Heterotrophic Bacteria	SM 9215 B	x		x
Hexavalent Chromium	EPA 218.6	x	x	x

SPECIFIC TESTS	METHOD OR TECHNIQUE USED	Environ-mental (Drinking Water)	Environ-mental (Waste Water)	Water as a Component of Food and Bev/Bev/ Bottled Water
Hexavalent Chromium	EPA 218.7	x		x
Hexavalent Chromium	SM 3500-Cr B		x	
Hormones	EPA 539	x		x
Hydroxide as OH Calc.	SM 2330B	x		x
Kjeldahl Nitrogen	EPA 351.2		x	
Legionella	Legiolert	x		x
Mercury	EPA 200.8	x		x
Metals	EPA 200.7 / 200.8	x	x	x
Microcystin LR	ELISA (2360)	x		x
Microcystin, Total	EPA 546	x		x
NDMA	EEA/Agilent 521.1 In house method (2425)	x		x
Nitrate/Nitrite Nitrogen	EPA 353.2	x	x	x
OCL, Pesticides/PCB	EPA 505	x		x
Ortho Phosphate	EPA 365.1	x	x	x
Ortho Phosphorous	SM 4500P E	x		x
Oxyhalides Disinfection Byproducts	EPA 317.0	x		x
Perchlorate	EPA 331.0	x		x
Perchlorate (low and high)	EPA 314.0	x		x
Perfluorinated Alkyl Acids	EPA 537	x		x
Perfluorinated Pollutant	In house Method (2434)	x		x
pH	EPA 150.1	x		
pH	SM 4500-H+B	x	x	x
Phenylurea Pesticides/ Herbicides	In House Method, based on EPA 532 (2448)	x		x
Pseudomonas	IDEXX Pseudalart (2461)	x		x
Radium-226	GA Institute of Tech	x		x
Radium-228	GA Institute of Tech	x		x
Radon-222	SM 7500RN	x		x
Residue, Filterable	SM 2540C	x	x	x
Residue, Non-filterable	SM 2540D		x	
Residue, Total	SM 2540B		x	x
Residue, Volatile	EPA 160.4		x	
Semi-VOC	EPA 525.2	x		x
Silica	SM 4500-Si D	x	x	
Silica	SM 4500-SiO2 C	x	x	
Sulfide	SM 4500-S ⁻ D		x	
Sulfite	SM 4500-SO ³ B	x	x	x
Surfactants	SM 5540C	x	x	x
Taste and Odor Analytes	SM 6040E	x		x
Total Coliform (P/A)	SM 9221 A, B	x		x
Total Coliform (Enumeration)	SM 9221 A, B, C	x		x
Total Coliform / E. coli	Colisure SM 9223	x		x
Total Coliform	SM 9221B		x	
Total Coliform with Chlorine Present	SM 9221B		x	
Total Coliform / E.coli (P/A and Enumeration)	SM 9223	x		x
TOC	SM 5310C	x	x	x
TOX	SM 5320B		x	
Total Phenols	EPA 420.1		x	
Total Phenols	EPA 420.4	x	x	x
Total Phosphorous	SM 4500 P E		x	
Triazine Pesticides & Degradates	In House (3617)	x		x
Turbidity	EPA 180.1	x	x	x
Turbidity	SM 2130B	x	x	
Uranium by ICP/MS	EPA 200.8	x		x
UV 254	SM 5910B	x		
VOC	EPA 524.2	x		x
VOC	In House Method (2411)	x		x
Yeast and Mold	SM 9610	x		x
Field Sampling	N/A			

Acknowledgement of Samples Received

Addr: **Tetra Tech**
201 East Pine Street
Suite 1000
Orlando, FL 32801

Attn: James Christopher
Phone: 407-480-3907

Client ID: TETRATECH-ORLAN
Folder #: 948220
Project: KALAMAZOO
Sample Group: Lead Solubility Testing - Phase 2

Project Manager: Vanessa Berry
Phone: 503-310-3905

The following samples were received from you on **July 22, 2021 at 1825**. They have been scheduled for the tests listed below each sample. If this information is incorrect, please contact your service representative. Thank you for using Eurofins Eaton Analytical, LLC.

Sample #	Sample ID	Sample Date
<u>202107220631</u>	J-0, Day 16	07/03/2021 1114
	@ICPMS	
<u>202107220632</u>	J-1, Day 16	07/03/2021 1115
	@ICPMS	
<u>202107220633</u>	J-2, Day 16	07/03/2021 1116
	@ICPMS	
<u>202107220634</u>	J-3, Day 16	07/03/2021 1117
	@ICPMS	
<u>202107220635</u>	J-4, Day 16	07/03/2021 1118
	@ICPMS	
<u>202107220636</u>	J-5, Day 16	07/03/2021 1119
	@ICPMS	
<u>202107220637</u>	J-6, Day 16	07/03/2021 1120
	@ICPMS	
<u>202107220638</u>	J-7, Day 16	07/03/2021 1121
	@ICPMS	
<u>202107220639</u>	J-8, Day 16	07/03/2021 1121
	@ICPMS	
<u>202107220640</u>	J-9, Day 16	07/03/2021 1122
	@ICPMS	
<u>202107220641</u>	J-11, Day 16	07/03/2021 1123
	@ICPMS	
<u>202107220642</u>	J-12, Day 16	07/03/2021 1124
	@ICPMS	
<u>202107220643</u>	J-13, Day 16	07/03/2021 1126
	@ICPMS	

Acknowledgement of Samples Received

Addr: **Tetra Tech**
201 East Pine Street
Suite 1000
Orlando, FL 32801

Attn: James Christopher
Phone: 407-480-3907

Client ID: TETRATECH-ORLAN
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Project: KALAMAZOO
Sample Group: Lead Solubility Testing - Phase 2

Project Manager: Vanessa Berry
Phone: 503-310-3905

The following samples were received from you on **July 22, 2021** at **1825**. They have been scheduled for the tests listed below each sample. If this information is incorrect, please contact your service representative. Thank you for using Eurofins Eaton Analytical, LLC.

Sample #	Sample ID	Sample Date
<u>202107220644</u>	J-0, Day 17	07/09/2021 1400
	Total phosphorus as P	Total phosphorus as PO4- Calc.
<u>202107220645</u>	J-1, Day 17	07/09/2021 1400
	Total phosphorus as P	Total phosphorus as PO4- Calc.
<u>202107220646</u>	J-2, Day 17	07/09/2021 1400
	Total phosphorus as P	Total phosphorus as PO4- Calc.
<u>202107220647</u>	J-3, Day 17	07/09/2021 1400
	Total phosphorus as P	Total phosphorus as PO4- Calc.
<u>202107220648</u>	J-4, Day 17	07/09/2021 1400
	Total phosphorus as P	Total phosphorus as PO4- Calc.
<u>202107220649</u>	J-5, Day 17	07/09/2021 1400
	Total phosphorus as P	Total phosphorus as PO4- Calc.
<u>202107220650</u>	J-6, Day 17	07/09/2021 1400
	Total phosphorus as P	Total phosphorus as PO4- Calc.
<u>202107220651</u>	J-7, Day 17	07/09/2021 1400
	Total phosphorus as P	Total phosphorus as PO4- Calc.
<u>202107220652</u>	J-8, Day 17	07/09/2021 1400
	Total phosphorus as P	Total phosphorus as PO4- Calc.
<u>202107220653</u>	J-9, Day 17	07/09/2021 1400
	Total phosphorus as P	Total phosphorus as PO4- Calc.
<u>202107220654</u>	J-11, Day 17	07/09/2021 1400
	Total phosphorus as P	Total phosphorus as PO4- Calc.
<u>202107220655</u>	J-12, Day 17	07/09/2021 1400
	Total phosphorus as P	Total phosphorus as PO4- Calc.
<u>202107220656</u>	J-13, Day 17	07/09/2021 1400
	Total phosphorus as P	Total phosphorus as PO4- Calc.

Acknowledgement of Samples Received

Addr: **Tetra Tech**
201 East Pine Street
Suite 1000
Orlando, FL 32801

Attn: James Christopher
Phone: 407-480-3907

Client ID: TETRATECH-ORLAN
Folder #: 948220
Project: KALAMAZOO
Sample Group: Lead Solubility Testing - Phase 2

Project Manager: Vanessa Berry
Phone: 503-310-3905

The following samples were received from you on **July 22, 2021 at 1825**. They have been scheduled for the tests listed below each sample. If this information is incorrect, please contact your service representative. Thank you for using Eurofins Eaton Analytical, LLC.

Sample #	Sample ID	Sample Date
<u>202107220657</u>	J-0, Day 15	07/08/2021 1255
	@ICPMS	
<u>202107220658</u>	J-1, Day 15	07/08/2021 1255
	@ICPMS	
<u>202107220659</u>	J-2, Day 15	07/08/2021 1255
	@ICPMS	
<u>202107220660</u>	J-3, Day 15	07/08/2021 1255
	@ICPMS	
<u>202107220661</u>	J-4, Day 15	07/08/2021 1255
	@ICPMS	
<u>202107220662</u>	J-5, Day 15	07/08/2021 1255
	@ICPMS	
<u>202107220663</u>	J-6, Day 15	07/08/2021 1255
	@ICPMS	
<u>202107220664</u>	J-7, Day 15	07/08/2021 1255
	@ICPMS	
<u>202107220665</u>	J-8, Day 15	07/08/2021 1255
	@ICPMS	
<u>202107220666</u>	J-9, Day 15	07/08/2021 1255
	@ICPMS	
<u>202107220667</u>	J-11, Day 15	07/08/2021 1255
	@ICPMS	
<u>202107220668</u>	J-12, Day 15	07/08/2021 1255
	@ICPMS	
<u>202107220669</u>	J-13, Day 15	07/08/2021 1255
	@ICPMS	

Acknowledgement of Samples Received

Addr: **Tetra Tech**
201 East Pine Street
Suite 1000
Orlando, FL 32801

Attn: James Christopher
Phone: 407-480-3907

Client ID: TETRATECH-ORLAN

Folder #: 948220

Project: KALAMAZOO

Sample Group: Lead Solubility Testing - Phase 2

Project Manager: Vanessa Berry

Phone: 503-310-3905

The following samples were received from you on **July 22, 2021 at 1825**. They have been scheduled for the tests listed below each sample. If this information is incorrect, please contact your service representative. Thank you for using Eurofins Eaton Analytical, LLC.

Sample #	Sample ID	Sample Date
Test Description		
	@ICPMS -- ICPMS Metals	

CHAIN OF CUSTODY RECORD

EUROFINS EATON ANALYTICAL USE ONLY:

750 Royal Oaks Drive, Suite 100
Monrovia, CA 91016-3629
Phone: 626 386 1100
Fax: 626 386 1101
800 566 LABS (800 566 5227)
Website: www.EatonAnalytical.com

FA872118806

LOGIN COMMENTS: _____

SAMPLES CHECKED AGAINST COC BY: _____

SAMPLES LOGGED IN BY: 4

SAMPLE TEMP RECEIVED AT:
☐ (Other) IR Gun ID = _____ (check for yes)
☒ Monrovia IR Gun ID = 61884 (check for yes)
Compliance Acceptance Criteria: (Chemistry 4 ± 2 °C) (Microbiology: < 10 °C)

Observation = 3.6 °C (Corr. Factor = 0.2 °C) (Final = 3.4 °C)
Observation = 3.6 °C (Corr. Factor = 0.2 °C) (Final = 3.4 °C)

TYPE OF ICE: Real ☒ Synthetic ☐ No Ice ☐ CONDITION OF ICE: Frozen ☒ Partially Frozen ☐ Thawed ☐ N/A

METHOD OF SHIPMENT: Pick-Up / Walk-In / FedEx / UPS / DHL / Area Fast / Top Line / Other: _____

TO BE COMPLETED BY SAMPLER:

COMPANY/AGENCY NAME: <u>TetraTech</u>		PROJECT CODE:	COMPLIANCE SAMPLES <input type="checkbox"/> (check for yes)		NON-COMPLIANCE SAMPLES <input type="checkbox"/> (check for yes)	
EEA CLIENT CODE: <u>tetrattech-orl</u>		COC ID:	Type of samples (circle one): ROUTINE SPECIAL CONFIRMATION		REGULATION INVOLVED: (eg. SDWA, NPDES, etc.)	
TAT requested: rush by adv notice only		SAMPLE GROUP: <u>Lead Solubility Phase 2</u>	SEE ATTACHED KIT ORDER FOR ANALYSES		List ALL ANALYSES REQUIRED (enter number of bottles sent for each test for each sample)	
SAMPLE DATE	SAMPLE TIME	SAMPLE ID	CLIENT LAB ID	MATRIX	FIELD DATA	FIELD DATA
7/3	11:14	J-0	Day 16	FW		
	11:15	J-1				
	11:16	J-2				
	11:17	J-3				
	11:18	J-4				
	11:19	J-5				
	11:20	J-6				
	11:21	J-7				
	11:21	J-8				
	11:22	J-9				
		J-10				

INITIAL ASSESSMENT LABEL VERIFICATION: 293691

* MATRIX TYPES: RSW = Raw Surface Water RGW = Raw Ground Water
CFW = Chlor(aminated) Finished Water FW = Other Finished Water
SEAW = Sea Water WW = Waste Water
BW = Bottled Water SW = Storm Water
SO = Soil SL = Sludge
O = Other - Please Identify

SAMPLED BY: [Signature] SIGNATURE DATE 7/15/21 TIME 12:55

RELINQUISHED BY: Isaac Seese

RECEIVED BY: Peter H.

RELINQUISHED BY: [Signature]

RECEIVED BY: [Signature]

QA FO 0029.2 (Version 2) (08/28/2014)

PAGE 8 OF 26 pages

750 Royal Oaks Drive, Suite 100
Monrovia, CA 91016-3629

Phone: 626 386 1100
Fax: 626 386 1101

800 566 LABS (800 566 5227)

Website: www.EatonAnalytical.com

CHAIN OF CUSTODY RECORD

EUROFINS EATON ANALYTICAL USE ONLY:

FA87211

LOGIN COMMENTS: _____

SAMPLES CHECKED AGAINST COC BY: L

SAMPLES LOGGED IN BY: D

SAMPLES REC'D DAY OF COLLECTION? ☐ (check for yes)

IR Gun ID = 688A (Observation = 3.6 °C) (Corr. Factor = 0.2 °C) (Final = 3.4 °C)

IR Gun ID = 688A (Observation = 3.6 °C) (Corr. Factor = 0.2 °C) (Final = 3.4 °C)

Compliance Acceptance Criteria: (Chemistry 4 ± 2 °C) (Microbiology: < 10 °C)

TYPE OF ICE: Real 2 Synthetic _____ No Ice _____

CONDITION OF ICE: Frozen 2 Partially Frozen _____ Thawed _____

METHOD OF SHIPMENT: Pick-Up / Walk-In / FedEx / UPS / DHL / Area Fast / Top Line / Other: _____

TO BE COMPLETED BY SAMPLER:

COMPANY/AGENCY NAME:		PROJECT CODE:	COMPLIANCE SAMPLES		NON-COMPLIANCE SAMPLES		(check for yes)	
Tetra Tech			- Requires state forms		REGULATION INVOLVED:			
EEA CLIENT CODE:		COC ID:	Type of samples (circle one):		ROUTINE SPECIAL CONFIRMATION		(eg. SDWA, NPDES, etc.)	
tetratech-orl			SEE ATTACHED KIT ORDER FOR ANALYSES				(check for yes), OR	
TAT requested: rush by adv notice only		STD	1 wk	3 day	2 day	1 day	List ALL ANALYSES REQUIRED (enter number of bottles sent for each test for each sample)	
SAMPLE DATE	SAMPLE TIME	SAMPLE ID	CLIENT LAB ID	MATRIX	FIELD DATA	FIELD DATA	SAMPLER COMMENTS	
7/3	11:23	J-11	Day 16	FW				
↓	11:24	J-12	↓					
↓	11:26	J-13	↓					
7/9	14:00	J-0	Day 17					
↓		J-1						
↓		J-2						
↓		J-3						
↓		J-4						
↓		J-5						
↓		J-6						

INITIAL ASSESSMENT LABEL VERIFICATION

293691
295016

*** MATRIX TYPES:** RSW = Raw Surface Water, RGW = Raw Ground Water, CFW = Chlor(am)inated Finished Water, FW = Other Finished Water

SEAW = Sea Water, WW = Waste Water, BW = Bottled Water, SW = Storm Water, SO = Soil, SL = Sludge

PRINT NAME: Isaac Seese

SIGNATURE: [Signature]

DATE: 7/13/21 **TIME:** 18:25

SAMPLED BY:	RELINQUISHED BY:	COMPANY/TITLE:	DATE:	TIME:
<u>[Signature]</u>	<u>Isaac Seese</u>	<u>Tetra Tech</u>	<u>7-13-21</u>	<u>12:55</u>
RECEIVED BY:	RELINQUISHED BY:			
<u>[Signature]</u>	<u>Peter H.</u>	<u>SGS</u>	<u>7/15/21</u>	<u>9:20</u>

CHAIN OF CUSTODY RECORD

EUROFINS EATON ANALYTICAL USE ONLY

FA87211

750 Royal Oaks Drive, Suite 100
Monrovia, CA 91016-3629
Phone: 626 386 1100
Fax: 626 386 1101
800 566 LABS (800 566 5227)
Website: www.EatonAnalytical.com

LOGIN COMMENTS: _____

SAMPLES CHECKED AGAINST COC BY: _____

SAMPLES LOGGED IN BY: _____

SAMPLE TEMP RECEIVED AT: _____

☐ (Other) IR Gun ID = _____ (Observation = _____ °C) (check for yes)

☒ Monrovia IR Gun ID = 618A (Observation = 3.6 °C) (check for yes)

☒ Compliance Acceptance Criteria: (Chemistry: 4 ± 2 °C) (Microbiology: < 10 °C)

TYPE OF ICE: Real ☒ Synthetic ☐ No Ice ☐ CONDITION OF ICE: Frozen ☒ Partially Frozen ☐ Thawed ☐ N/A ☐

METHOD OF SHIPMENT: Pick-Up / Walk-In / FedEx / UPS / DHL / Area Fast / Top Line / Other: _____

TO BE COMPLETED BY SAMPLER:

COMPANY/AGENCY NAME:		PROJECT CODE:		COMPLIANCE SAMPLES		NON-COMPLIANCE SAMPLES		(check for yes)	
Tetra Tech				- Requires state forms		REGULATION INVOLVED:		(check for yes)	
EEA CLIENT CODE:		COC ID:		Type of samples (circle one):		ROUTINE SPECIAL CONFIRMATION		(eg. SDWA, NPDES, etc.)	
tetra tech - orl				SEE ATTACHED KIT ORDER FOR ANALYSES				(check for yes), OR	
TAT requested: rush by adv notice only		STD		1 wk		3 day		2 day	
SAMPLE DATE	SAMPLE TIME	SAMPLE ID	CLIENT LAB ID	MATRIX	FIELD DATA	FIELD DATA	FIELD DATA	SAMPLER COMMENTS	
7/9	14:00	J-7, Day 17		FW					
21		J-8							
22		J-9							
23		J-11							
24		J-12							
25		J-13							
26		J-6, Day 15							
27	12:35	J-1							
28		J-2							
29		J-3							
30									

INITIAL ASSESSMENT LABEL VERIFICATION

295016

*** MATRIX TYPES:** RSW = Raw Surface Water, RGW = Raw Ground Water, CFW = Chlor(am)inated Finished Water, FW = Other Finished Water, SEAW = Sea Water, WW = Waste Water, BW = Bottled Water, SW = Storm Water, SO = Soil, SL = Sludge, O = Other - Please Identify

SAMPLED BY: _____ **SIGNATURE:** [Signature] **PRINT NAME:** Isaac Seese **COMPANY/TITLE:** Tetra Tech **DATE:** 7/13/21 **TIME:** 13:00

RELINQUISHED BY: _____ **RECEIVED BY:** _____ **RELINQUISHED BY:** _____ **RECEIVED BY:** _____

QA FO 0029.2 (Version 2) (08/28/2014)

CHAIN OF CUSTODY RECORD

FA872M

Eaton Analytical

750 Royal Oaks Drive, Suite 100
Monrovia, CA 91016-3629

Phone: 626 386 1100
Fax: 626 386 1101

800 566 LABS (800 566 5227)

Website: www.EatonAnalytical.com

EUROFINS EATON ANALYTICAL USE ONLY:

LOGIN COMMENTS:

SAMPLES CHECKED AGAINST COC BY: h

SAMPLE TEMP RECEIVED AT:
☐ (Other) IR Gun ID = _____ (Observation = _____ °C)
☒ Monrovia IR Gun ID = 604 (Observation = 3.6 °C) (Final = 3.4 °C)

SAMPLES LOGGED IN BY: h

SAMPLES REC'D DAY OF COLLECTION? ☐ (check for yes)

(Corr. Factor _____ °C) (Final = _____ °C)

(Corr. Factor 2.2 °C) (Final = 3.4 °C)

Compliance Acceptance Criteria: (Chemistry: $4 \pm 2^\circ\text{C}$) (Microbiology: $< 10^\circ\text{C}$)

TYPE OF ICE: Real ☒ Synthetic _____

CONDITION OF ICE: Frozen _____

Partially Frozen _____

Thawed _____

METHOD OF SHIPMENT: Pick-Up / Walk-In / FedEx / UPS / DHL / Area Fast / Top Line / Other: _____

TO BE COMPLETED BY SAMPLER:

COMPANY/AGENCY NAME:

Tetra Tech

PROJECT CODE:

EEA CLIENT CODE: Tetrattech-orl

SAMPLE GROUP: Lead Solubility Phase 2

COMPLIANCE SAMPLES

NON-COMPLIANCE SAMPLES

(check for yes)

REGULATION INVOLVED: _____

Type of samples (circle one): ROUTINE SPECIAL CONFIRMATION

(eg. SDWA, NPDES, etc.)

SEE ATTACHED KIT ORDER FOR ANALYSES

List ALL ANALYSES REQUIRED (enter number of bottles sent for each test for each sample)

SAMPLE DATE	SAMPLE TIME	SAMPLE ID	CLIENT LAB ID	MATRIX	FIELD DATA	FIELD DATA	ICPMS	SAMPLER COMMENTS
7/8	12:55	J-4, Day 15		FW				
		J-5						
		J-6						
		J-7						
		J-8						
		J-9						
		J-10						
		J-11						
		J-12						
		J-13						

MATRIX TYPES: RSW = Raw Surface Water

RGW = Raw Ground Water

CFW = Chlor(am)inated Finished Water

FW = Other Finished Water

SEAW = Sea Water

WW = Waste Water

BW = Bottled Water

SW = Storm Water

SO = Soil

SL = Sludge

O = Other - Please Identify

SIGNATURE

PRINT NAME

COMPANY/TITLE

DATE

TIME

SAMPLED BY:

RELINQUISHED BY:

RECEIVED BY:

RECEIVED BY:

RECEIVED BY:

QA FO 0029.2 (Version 2) (08/28/2014)

ORIGIN ID: ORLA (407) 490-3907
 JAMES CHRISTOPHER
 TETRATECH
 201 EAST PINE STREET
 SUITE 1000
 ORLANDO, FL 32801
 UNITED STATES US

SHIP TO
 AC
 CAL
 DIMC
 BILL SENDER

TO JOE SANCHEZ

EUROFINS EATON ANALYTICAL
 750 ROYAL OAKS, STE 100

MONROVIA CA 91016

(626) 386-1100 REF OTHER

INV PO DEPT



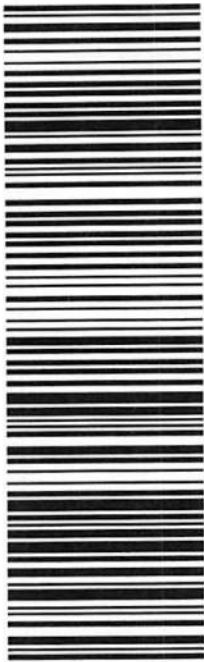
J212021070901uv

TRK# 7743 1090 9918
 0201

WED - 21 JUL 10:30A
 PRIORITY OVERNIGHT

NH WHPA

91016
 CA-US BUR



56DJ20265IFE4A



After printing this label:

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2. Fold the printed page along the horizontal line.
3. Place label in shipping pouch and affix it to your shipment so that the barcode portion of the label can be read and scanned.

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Use of this system constitutes your agreement to the service conditions in the current FedEx Service Guide, available on fedex.com. FedEx will not be responsible for any claim in excess of \$100 per package, whether the result of loss, damage, delay, non-delivery, misdelivery, or misinformation, unless you declare a higher value, pay an additional charge, document your actual loss and file a timely claim. Limitations found in the current FedEx Service Guide apply. Your right to recover from FedEx for any loss, including intrinsic value of the package, loss of sales, income interest, profit, attorney's fees, costs, and other forms of damage whether direct, incidental, consequential, or special is limited to the greater of \$100 or the authorized declared value. Recovery cannot exceed actual documented loss. Maximum for items of extraordinary value is \$1,000, e.g. jewelry, precious metals, negotiable instruments and other items listed in our Service Guide. Written claims must be filed within strict time limits, see current FedEx Service Guide.

Tel: (626) 386-1100
Fax: (866) 988-3757
1 800 566 LABS (1 800 566 5227)

Laboratory Comments**Report:** 948220**Project:** KALAMAZOO**Group:** Lead Solubility Testing - Phase 2

Tetra Tech
James Christopher
201 East Pine Street
Suite 1000
Orlando, FL 32801

Flags Legend:

B4 - Target analyte detected in blank at or above method acceptance criteria.

M3 - The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The associated blank spike recovery was acceptable.

Tel: (626) 386-1100
Fax: (866) 988-3757
1 800 566 LABS (1 800 566 5227)

Laboratory Hits

Report: 948220
Project: KALAMAZOO
Group: Lead Solubility Testing - Phase 2

Tetra Tech
James Christopher
201 East Pine Street
Suite 1000
Orlando, FL 32801

Samples Received on:
07/22/2021 1825

Analyzed	Analyte	Sample ID	Result	Federal MCL	Units	MRL
07/29/2021 19:57	202107220631 Lead Total ICAP/MS	<u>J-0, Day 16</u>	350	15	ug/L	0.50
07/29/2021 19:58	202107220632 Lead Total ICAP/MS	<u>J-1, Day 16</u>	200	15	ug/L	0.50
07/31/2021 12:51	202107220633 Lead Total ICAP/MS	<u>J-2, Day 16</u>	240	15	ug/L	0.50
07/31/2021 12:53	202107220634 Lead Total ICAP/MS	<u>J-3, Day 16</u>	120	15	ug/L	0.50
07/31/2021 12:55	202107220635 Lead Total ICAP/MS	<u>J-4, Day 16</u>	180	15	ug/L	0.50
07/31/2021 12:56	202107220636 Lead Total ICAP/MS	<u>J-5, Day 16</u>	99	15	ug/L	0.50
07/31/2021 12:56	202107220637 Lead Total ICAP/MS	<u>J-6, Day 16</u>	330	15	ug/L	0.50
07/31/2021 12:57	202107220638 Lead Total ICAP/MS	<u>J-7, Day 16</u>	660	15	ug/L	0.50
07/31/2021 12:58	202107220639 Lead Total ICAP/MS	<u>J-8, Day 16</u>	140	15	ug/L	0.50
07/31/2021 12:58	202107220640 Lead Total ICAP/MS	<u>J-9, Day 16</u>	140	15	ug/L	0.50
07/31/2021 14:54	202107220641 Lead Total ICAP/MS	<u>J-11, Day 16</u>	2200	15	ug/L	5.0
07/31/2021 13:00	202107220642 Lead Total ICAP/MS	<u>J-12, Day 16</u>	180	15	ug/L	0.50
07/31/2021 13:00	202107220643 Lead Total ICAP/MS	<u>J-13, Day 16</u>	410	15	ug/L	0.50
07/29/2021 21:43	202107220645 Total phosphorus as P	<u>J-1, Day 17</u>	1.4		mg/L	0.10
07/30/2021 16:04	Total phosphorus as PO4- Calc.		4.3		mg/L	0.030
07/29/2021 21:43	202107220646 Total phosphorus as P	<u>J-2, Day 17</u>	2.2		mg/L	0.10

SUMMARY OF POSITIVE DATA ONLY

Tel: (626) 386-1100
Fax: (866) 988-3757
1 800 566 LABS (1 800 566 5227)

Laboratory Hits

Report: 948220
Project: KALAMAZOO
Group: Lead Solubility Testing - Phase 2

Tetra Tech
James Christopher
201 East Pine Street
Suite 1000
Orlando, FL 32801

Samples Received on:
07/22/2021 1825

Analyzed	Analyte	Sample ID	Result	Federal MCL	Units	MRL
07/30/2021 16:04	Total phosphorus as PO4- Calc.		6.8		mg/L	0.030
	202107220647	<u>J-3, Day 17</u>				
07/29/2021 21:44	Total phosphorus as P		2.9		mg/L	0.10
07/30/2021 16:04	Total phosphorus as PO4- Calc.		8.9		mg/L	0.030
	202107220648	<u>J-4, Day 17</u>				
07/29/2021 21:45	Total phosphorus as P		1.3		mg/L	0.10
07/30/2021 16:04	Total phosphorus as PO4- Calc.		4.0		mg/L	0.030
	202107220649	<u>J-5, Day 17</u>				
07/29/2021 21:46	Total phosphorus as P		1.8		mg/L	0.10
07/30/2021 16:04	Total phosphorus as PO4- Calc.		5.5		mg/L	0.030
	202107220650	<u>J-6, Day 17</u>				
08/05/2021 17:59	Total phosphorus as P		2.3		mg/L	0.10
08/05/2021 19:12	Total phosphorus as PO4- Calc.		7.1		mg/L	0.030
	202107220651	<u>J-7, Day 17</u>				
08/05/2021 18:02	Total phosphorus as P		1.4		mg/L	0.10
08/05/2021 19:12	Total phosphorus as PO4- Calc.		4.3		mg/L	0.030
	202107220652	<u>J-8, Day 17</u>				
08/05/2021 18:03	Total phosphorus as P		2.0		mg/L	0.10
08/05/2021 19:12	Total phosphorus as PO4- Calc.		6.1		mg/L	0.030
	202107220653	<u>J-9, Day 17</u>				
08/05/2021 18:04	Total phosphorus as P		2.6		mg/L	0.10
08/05/2021 19:12	Total phosphorus as PO4- Calc.		8.0		mg/L	0.030
	202107220654	<u>J-11, Day 17</u>				
08/05/2021 18:05	Total phosphorus as P		1.7		mg/L	0.10
08/05/2021 19:12	Total phosphorus as PO4- Calc.		5.2		mg/L	0.030
	202107220655	<u>J-12, Day 17</u>				
08/05/2021 18:06	Total phosphorus as P		1.3		mg/L	0.10
08/05/2021 19:12	Total phosphorus as PO4- Calc.		4.0		mg/L	0.030
	202107220656	<u>J-13, Day 17</u>				
08/05/2021 18:07	Total phosphorus as P		1.8		mg/L	0.10
08/05/2021 19:12	Total phosphorus as PO4- Calc.		5.5		mg/L	0.030
	202107220657	<u>J-0, Day 15</u>				
07/31/2021 13:04	Lead Total ICAP/MS		200	15	ug/L	0.50

SUMMARY OF POSITIVE DATA ONLY



Eaton Analytical

Tel: (626) 386-1100
Fax: (866) 988-3757
1 800 566 LABS (1 800 566 5227)

Laboratory Hits

Report: 948220
Project: KALAMAZOO
Group: Lead Solubility Testing - Phase 2

Tetra Tech
James Christopher
201 East Pine Street
Suite 1000
Orlando, FL 32801

Samples Received on:
07/22/2021 1825

Analyzed	Analyte	Sample ID	Result	Federal MCL	Units	MRL
	202107220658	<u>J-1, Day 15</u>				
07/31/2021 13:04	Lead Total ICAP/MS		270	15	ug/L	0.50
	202107220659	<u>J-2, Day 15</u>				
07/31/2021 13:05	Lead Total ICAP/MS		190	15	ug/L	0.50
	202107220660	<u>J-3, Day 15</u>				
07/31/2021 13:06	Lead Total ICAP/MS		180	15	ug/L	0.50
	202107220661	<u>J-4, Day 15</u>				
07/31/2021 13:06	Lead Total ICAP/MS		140	15	ug/L	0.50
	202107220662	<u>J-5, Day 15</u>				
07/31/2021 13:07	Lead Total ICAP/MS		110	15	ug/L	0.50
	202107220663	<u>J-6, Day 15</u>				
07/31/2021 13:08	Lead Total ICAP/MS		170	15	ug/L	0.50
	202107220664	<u>J-7, Day 15</u>				
07/31/2021 13:08	Lead Total ICAP/MS		480	15	ug/L	0.50
	202107220665	<u>J-8, Day 15</u>				
07/31/2021 13:09	Lead Total ICAP/MS		300	15	ug/L	0.50
	202107220666	<u>J-9, Day 15</u>				
07/31/2021 13:14	Lead Total ICAP/MS		360	15	ug/L	0.50
	202107220667	<u>J-11, Day 15</u>				
07/31/2021 14:55	Lead Total ICAP/MS		1000	15	ug/L	5.0
	202107220668	<u>J-12, Day 15</u>				
07/31/2021 13:16	Lead Total ICAP/MS		430	15	ug/L	0.50
	202107220669	<u>J-13, Day 15</u>				
07/31/2021 13:17	Lead Total ICAP/MS		300	15	ug/L	0.50

SUMMARY OF POSITIVE DATA ONLY

Tel: (626) 386-1100
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1 800 566 LABS (1 800 566 5227)

Laboratory Data

Report: 948220
Project: KALAMAZOO
Group: Lead Solubility Testing - Phase 2

Tetra Tech
James Christopher
201 East Pine Street
Suite 1000
Orlando, FL 32801

Samples Received on:
07/22/2021 1825

Prepped	Analyzed	Prep Batch	Analytical Batch	Method	Analyte	Result	Units	MRL	Dilution
<u>J-0, Day 16 (202107220631)</u>						Sampled on 07/03/2021 1114			
EPA 200.8 - ICPMS Metals									
07/23/21	07/29/21 19:57	1343168	1344504	(EPA 200.8)	Lead Total ICAP/MS	350	ug/L	0.50	1
<u>J-1, Day 16 (202107220632)</u>						Sampled on 07/03/2021 1115			
EPA 200.8 - ICPMS Metals									
07/23/21	07/29/21 19:58	1343168	1344504	(EPA 200.8)	Lead Total ICAP/MS	200	ug/L	0.50	1
<u>J-2, Day 16 (202107220633)</u>						Sampled on 07/03/2021 1116			
EPA 200.8 - ICPMS Metals									
07/23/21	07/31/21 12:51	1343168	1344795	(EPA 200.8)	Lead Total ICAP/MS	240 (M3)	ug/L	0.50	1
<u>J-3, Day 16 (202107220634)</u>						Sampled on 07/03/2021 1117			
EPA 200.8 - ICPMS Metals									
07/23/21	07/31/21 12:53	1343168	1344795	(EPA 200.8)	Lead Total ICAP/MS	120	ug/L	0.50	1
<u>J-4, Day 16 (202107220635)</u>						Sampled on 07/03/2021 1118			
EPA 200.8 - ICPMS Metals									
07/23/21	07/31/21 12:55	1343168	1344795	(EPA 200.8)	Lead Total ICAP/MS	180	ug/L	0.50	1
<u>J-5, Day 16 (202107220636)</u>						Sampled on 07/03/2021 1119			
EPA 200.8 - ICPMS Metals									
07/23/21	07/31/21 12:56	1343168	1344795	(EPA 200.8)	Lead Total ICAP/MS	99	ug/L	0.50	1
<u>J-6, Day 16 (202107220637)</u>						Sampled on 07/03/2021 1120			
EPA 200.8 - ICPMS Metals									
07/23/21	07/31/21 12:56	1343168	1344795	(EPA 200.8)	Lead Total ICAP/MS	330	ug/L	0.50	1
<u>J-7, Day 16 (202107220638)</u>						Sampled on 07/03/2021 1121			
EPA 200.8 - ICPMS Metals									
07/23/21	07/31/21 12:57	1343168	1344795	(EPA 200.8)	Lead Total ICAP/MS	660	ug/L	0.50	1
<u>J-8, Day 16 (202107220639)</u>						Sampled on 07/03/2021 1121			
EPA 200.8 - ICPMS Metals									
07/23/21	07/31/21 12:58	1343168	1344795	(EPA 200.8)	Lead Total ICAP/MS	140	ug/L	0.50	1
<u>J-9, Day 16 (202107220640)</u>						Sampled on 07/03/2021 1122			
EPA 200.8 - ICPMS Metals									

Rounding on totals after summation.
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Report: 948220
Project: KALAMAZOO
Group: Lead Solubility Testing - Phase 2

Tetra Tech
James Christopher
201 East Pine Street
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Orlando, FL 32801

Samples Received on:
07/22/2021 1825

Prepped	Analyzed	Prep Batch	Analytical Batch	Method	Analyte	Result	Units	MRL	Dilution
07/23/21	07/31/21 12:58	1343168	1344795	(EPA 200.8)	Lead Total ICAP/MS	140	ug/L	0.50	1
<u>J-11, Day 16 (202107220641)</u>						Sampled on 07/03/2021 1123			
EPA 200.8 - ICPMS Metals									
07/23/21	07/31/21 14:54	1343168	1344800	(EPA 200.8)	Lead Total ICAP/MS	2200	ug/L	5.0	10
<u>J-12, Day 16 (202107220642)</u>						Sampled on 07/03/2021 1124			
EPA 200.8 - ICPMS Metals									
07/23/21	07/31/21 13:00	1343168	1344795	(EPA 200.8)	Lead Total ICAP/MS	180	ug/L	0.50	1
<u>J-13, Day 16 (202107220643)</u>						Sampled on 07/03/2021 1126			
EPA 200.8 - ICPMS Metals									
07/23/21	07/31/21 13:00	1343168	1344795	(EPA 200.8)	Lead Total ICAP/MS	410 (M3)	ug/L	0.50	1
<u>J-0, Day 17 (202107220644)</u>						Sampled on 07/09/2021 1400			
SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.									
	07/30/21 16:04			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	ND (c)	mg/L	0.030	1
SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)									
	08/03/21 14:38		1344719	(SM4500-PE/EPA 365.1)	Total phosphorus as P	ND	mg/L	0.10	5
<u>J-1, Day 17 (202107220645)</u>						Sampled on 07/09/2021 1400			
SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.									
	07/30/21 16:04			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	4.3 (c)	mg/L	0.030	1
SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)									
	07/29/21 21:43		1344719	(SM4500-PE/EPA 365.1)	Total phosphorus as P	1.4	mg/L	0.10	5
<u>J-2, Day 17 (202107220646)</u>						Sampled on 07/09/2021 1400			
SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.									
	07/30/21 16:04			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	6.8 (c)	mg/L	0.030	1
SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)									
	07/29/21 21:43		1344719	(SM4500-PE/EPA 365.1)	Total phosphorus as P	2.2	mg/L	0.10	5
<u>J-3, Day 17 (202107220647)</u>						Sampled on 07/09/2021 1400			
SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.									
	07/30/21 16:04			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	8.9 (c)	mg/L	0.030	1

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Report: 948220
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James Christopher
201 East Pine Street
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Samples Received on:
07/22/2021 1825

Prepped	Analyzed	Prep Batch	Analytical Batch	Method	Analyte	Result	Units	MRL	Dilution
SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)									
	07/29/21 21:44		1344719	(SM4500-PE/EPA 365.1)	Total phosphorus as P	2.9	mg/L	0.10	5
J-4, Day 17 (202107220648)					Sampled on 07/09/2021 1400				
SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.									
	07/30/21 16:04			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	4.0 (c)	mg/L	0.030	1
SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)									
	07/29/21 21:45		1344719	(SM4500-PE/EPA 365.1)	Total phosphorus as P	1.3	mg/L	0.10	5
J-5, Day 17 (202107220649)					Sampled on 07/09/2021 1400				
SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.									
	07/30/21 16:04			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	5.5 (c)	mg/L	0.030	1
SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)									
	07/29/21 21:46		1344719	(SM4500-PE/EPA 365.1)	Total phosphorus as P	1.8	mg/L	0.10	5
J-6, Day 17 (202107220650)					Sampled on 07/09/2021 1400				
SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.									
	08/05/21 19:12			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	7.1 (c)	mg/L	0.030	1
SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)									
	08/05/21 17:59		1346107	(SM4500-PE/EPA 365.1)	Total phosphorus as P	2.3	mg/L	0.10	5
J-7, Day 17 (202107220651)					Sampled on 07/09/2021 1400				
SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.									
	08/05/21 19:12			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	4.3 (c)	mg/L	0.030	1
SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)									
	08/05/21 18:02		1346107	(SM4500-PE/EPA 365.1)	Total phosphorus as P	1.4	mg/L	0.10	5
J-8, Day 17 (202107220652)					Sampled on 07/09/2021 1400				
SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.									
	08/05/21 19:12			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	6.1 (c)	mg/L	0.030	1
SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)									
	08/05/21 18:03		1346107	(SM4500-PE/EPA 365.1)	Total phosphorus as P	2.0	mg/L	0.10	5

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Report: 948220
Project: KALAMAZOO
Group: Lead Solubility Testing - Phase 2

Tetra Tech
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Samples Received on:
07/22/2021 1825

Prepped	Analyzed	Prep Batch	Analytical Batch	Method	Analyte	Result	Units	MRL	Dilution
<u>J-9, Day 17 (202107220653)</u>						Sampled on 07/09/2021 1400			
SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.									
08/05/21 19:12				(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	8.0 (c)	mg/L	0.030	1
SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)									
08/05/21 18:04		1346107		(SM4500-PE/EPA 365.1)	Total phosphorus as P	2.6	mg/L	0.10	5
<u>J-11, Day 17 (202107220654)</u>						Sampled on 07/09/2021 1400			
SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.									
08/05/21 19:12				(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	5.2 (c)	mg/L	0.030	1
SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)									
08/05/21 18:05		1346107		(SM4500-PE/EPA 365.1)	Total phosphorus as P	1.7	mg/L	0.10	5
<u>J-12, Day 17 (202107220655)</u>						Sampled on 07/09/2021 1400			
SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.									
08/05/21 19:12				(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	4.0 (c)	mg/L	0.030	1
SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)									
08/05/21 18:06		1346107		(SM4500-PE/EPA 365.1)	Total phosphorus as P	1.3	mg/L	0.10	5
<u>J-13, Day 17 (202107220656)</u>						Sampled on 07/09/2021 1400			
SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.									
08/05/21 19:12				(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	5.5 (c)	mg/L	0.030	1
SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P)									
08/05/21 18:07		1346107		(SM4500-PE/EPA 365.1)	Total phosphorus as P	1.8	mg/L	0.10	5
<u>J-0, Day 15 (202107220657)</u>						Sampled on 07/08/2021 1255			
EPA 200.8 - ICPMS Metals									
07/23/21	07/31/21 13:04	1343168	1344795	(EPA 200.8)	Lead Total ICAP/MS	200	ug/L	0.50	1
<u>J-1, Day 15 (202107220658)</u>						Sampled on 07/08/2021 1255			
EPA 200.8 - ICPMS Metals									
07/23/21	07/31/21 13:04	1343168	1344795	(EPA 200.8)	Lead Total ICAP/MS	270	ug/L	0.50	1
<u>J-2, Day 15 (202107220659)</u>						Sampled on 07/08/2021 1255			

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Laboratory Data

Report: 948220
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Tetra Tech
James Christopher
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Samples Received on:
07/22/2021 1825

Prepped	Analyzed	Prep Batch	Analytical Batch	Method	Analyte	Result	Units	MRL	Dilution
EPA 200.8 - ICPMS Metals									
07/23/21	07/31/21 13:05	1343168	1344795	(EPA 200.8)	Lead Total ICAP/MS	190	ug/L	0.50	1
J-3, Day 15 (202107220660)						Sampled on 07/08/2021 1255			
EPA 200.8 - ICPMS Metals									
07/23/21	07/31/21 13:06	1343168	1344795	(EPA 200.8)	Lead Total ICAP/MS	180	ug/L	0.50	1
J-4, Day 15 (202107220661)						Sampled on 07/08/2021 1255			
EPA 200.8 - ICPMS Metals									
07/23/21	07/31/21 13:06	1343168	1344795	(EPA 200.8)	Lead Total ICAP/MS	140	ug/L	0.50	1
J-5, Day 15 (202107220662)						Sampled on 07/08/2021 1255			
EPA 200.8 - ICPMS Metals									
07/23/21	07/31/21 13:07	1343168	1344795	(EPA 200.8)	Lead Total ICAP/MS	110	ug/L	0.50	1
J-6, Day 15 (202107220663)						Sampled on 07/08/2021 1255			
EPA 200.8 - ICPMS Metals									
07/23/21	07/31/21 13:08	1343168	1344795	(EPA 200.8)	Lead Total ICAP/MS	170	ug/L	0.50	1
J-7, Day 15 (202107220664)						Sampled on 07/08/2021 1255			
EPA 200.8 - ICPMS Metals									
07/23/21	07/31/21 13:08	1343168	1344795	(EPA 200.8)	Lead Total ICAP/MS	480	ug/L	0.50	1
J-8, Day 15 (202107220665)						Sampled on 07/08/2021 1255			
EPA 200.8 - ICPMS Metals									
07/23/21	07/31/21 13:09	1343168	1344795	(EPA 200.8)	Lead Total ICAP/MS	300	ug/L	0.50	1
J-9, Day 15 (202107220666)						Sampled on 07/08/2021 1255			
EPA 200.8 - ICPMS Metals									
07/23/21	07/31/21 13:14	1343168	1344796	(EPA 200.8)	Lead Total ICAP/MS	360 (B4)	ug/L	0.50	1
J-11, Day 15 (202107220667)						Sampled on 07/08/2021 1255			
EPA 200.8 - ICPMS Metals									
07/23/21	07/31/21 14:55	1343168	1344800	(EPA 200.8)	Lead Total ICAP/MS	1000	ug/L	5.0	10
J-12, Day 15 (202107220668)						Sampled on 07/08/2021 1255			
EPA 200.8 - ICPMS Metals									
07/23/21	07/31/21 13:16	1343168	1344796	(EPA 200.8)	Lead Total ICAP/MS	430 (B4)	ug/L	0.50	1
J-13, Day 15 (202107220669)						Sampled on 07/08/2021 1255			

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Eaton Analytical

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Tetra Tech

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Samples Received on:
07/22/2021 1825

Prepped	Analyzed	Prep Batch	Analytical Batch	Method	Analyte	Result	Units	MRL	Dilution
EPA 200.8 - ICPMS Metals									
07/23/21	07/31/21 13:17	1343168	1344796	(EPA 200.8)	Lead Total ICAP/MS	300 (B4)	ug/L	0.50	1

Rounding on totals after summation.

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Laboratory QC Summary

Report: 948220
Project: KALAMAZOO
Group: Lead Solubility Testing - Phase 2

Tetra Tech

ICPMS Metals

Prep Batch: 1343168 Analytical Batch: 1344504

202107220631 J-0, Day 16
202107220632 J-1, Day 16

Analysis Date: 07/29/2021

Analyzed by: DHX7
Analyzed by: DHX7

Total phosphorus as P (T-P)

Analytical Batch: 1344719

202107220644 J-0, Day 17
202107220645 J-1, Day 17
202107220646 J-2, Day 17
202107220647 J-3, Day 17
202107220648 J-4, Day 17
202107220649 J-5, Day 17

Analysis Date: 08/03/2021

Analyzed by: LQ3M
Analyzed by: LQ3M
Analyzed by: LQ3M
Analyzed by: LQ3M
Analyzed by: LQ3M
Analyzed by: LQ3M

ICPMS Metals

Prep Batch: 1343168 Analytical Batch: 1344795

202107220633 J-2, Day 16
202107220634 J-3, Day 16
202107220635 J-4, Day 16
202107220636 J-5, Day 16
202107220637 J-6, Day 16
202107220638 J-7, Day 16
202107220639 J-8, Day 16
202107220640 J-9, Day 16
202107220642 J-12, Day 16
202107220643 J-13, Day 16
202107220657 J-0, Day 15
202107220658 J-1, Day 15
202107220659 J-2, Day 15
202107220660 J-3, Day 15
202107220661 J-4, Day 15
202107220662 J-5, Day 15
202107220663 J-6, Day 15
202107220664 J-7, Day 15
202107220665 J-8, Day 15

Analysis Date: 07/31/2021

Analyzed by: URDE
Analyzed by: URDE
Analyzed by: URDE
Analyzed by: URDE
Analyzed by: URDE
Analyzed by: URDE
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Analyzed by: URDE
Analyzed by: URDE

ICPMS Metals

Prep Batch: 1343168 Analytical Batch: 1344796

202107220666 J-9, Day 15
202107220668 J-12, Day 15
202107220669 J-13, Day 15

Analysis Date: 07/31/2021

Analyzed by: URDE
Analyzed by: URDE
Analyzed by: URDE

ICPMS Metals

Prep Batch: 1343168 Analytical Batch: 1344800

202107220641 J-11, Day 16
202107220667 J-11, Day 15

Analysis Date: 07/31/2021

Analyzed by: URDE
Analyzed by: URDE

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Laboratory QC Summary

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Tetra Tech

Total phosphorus as P (T-P)

Analytical Batch: 1346107

202107220650	J-6, Day 17
202107220651	J-7, Day 17
202107220652	J-8, Day 17
202107220653	J-9, Day 17
202107220654	J-11, Day 17
202107220655	J-12, Day 17
202107220656	J-13, Day 17

Analysis Date: 08/05/2021

Analyzed by: LQ3M
Analyzed by: LQ3M
Analyzed by: LQ3M
Analyzed by: LQ3M
Analyzed by: LQ3M
Analyzed by: LQ3M
Analyzed by: LQ3M

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Laboratory QC

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Tetra Tech

QC Type	Analyte	Native	Spiked	Recovered	Units	Yield(%)	Limits (%)	RPD Limit(%)	RPD%
ICPMS Metals by EPA 200.8									
Analytical Batch: 1344504					Analysis Date: 07/29/2021				
LCS1	Lead Total ICAP/MS		50	49.3	ug/L	99	(85-115)		
LCS2	Lead Total ICAP/MS		50	51.2	ug/L	102	(85-115)	20	3.8
MBLK	Lead Total ICAP/MS			<0.0608	ug/L				
MRL_CHK	Lead Total ICAP/MS		0.5	0.406	ug/L	81	(50-150)		
MS_202107211301	Lead Total ICAP/MS	ND	50	47.6	ug/L	95	(70-130)		
MS2_202107211315	Lead Total ICAP/MS	ND	50	50.6	ug/L	101	(70-130)		
MSD_202107211301	Lead Total ICAP/MS	ND	50	45.9	ug/L	92	(70-130)	20	3.6
MSD2_202107211315	Lead Total ICAP/MS	ND	50	51.5	ug/L	103	(70-130)	20	1.8
Total phosphorus as P (T-P) by SM4500-PE/EPA 365.1									
Analytical Batch: 1344719					Analysis Date: 07/29/2021				
LCS1	Total phosphorus as P		0.4	0.437	mg/L	109	(90-110)		
LCS2	Total phosphorus as P		0.4	0.430	mg/L	108	(90-110)	20	1.6
MBLK	Total phosphorus as P			<0.0108	mg/L				
MRL_CHK	Total phosphorus as P		0.02	0.0197	mg/L	99	(50-150)		
MS_202107211023	Total phosphorus as P	ND	0.4	0.404	mg/L	101	(90-110)		
MS2_202107211044	Total phosphorus as P	ND	0.4	0.420	mg/L	105	(90-110)		
MSD_202107211023	Total phosphorus as P	ND	0.4	0.422	mg/L	106	(90-110)	20	4.2
MSD2_202107211044	Total phosphorus as P	ND	0.4	0.424	mg/L	106	(90-110)	20	0.90
ICPMS Metals by EPA 200.8									
Analytical Batch: 1344795					Analysis Date: 07/31/2021				
LCS1	Lead Total ICAP/MS		50	53.6	ug/L	107	(85-115)		
LCS2	Lead Total ICAP/MS		50	52.5	ug/L	105	(85-115)	20	2.1
MBLK	Lead Total ICAP/MS			<0.0608	ug/L				
MRL_CHK	Lead Total ICAP/MS		0.5	0.524	ug/L	105	(50-150)		
MS_202107220633	Lead Total ICAP/MS	240	50	276	ug/L	81	(70-130)		
MS2_202107220643	Lead Total ICAP/MS	410	50	435	ug/L	<u>54</u>	(70-130)		
MSD_202107220633	Lead Total ICAP/MS	240	50	270	ug/L	<u>69</u>	(70-130)	20	2.3
MSD2_202107220643	Lead Total ICAP/MS	410	50	463	ug/L	109	(70-130)	20	6.1
ICPMS Metals by EPA 200.8									
Analytical Batch: 1344796					Analysis Date: 07/31/2021				
LCS1	Lead Total ICAP/MS		50	54.1	ug/L	108	(85-115)		
LCS2	Lead Total ICAP/MS		50	54.2	ug/L	108	(85-115)	20	0.19
MBLK	Lead Total ICAP/MS			<0.0608	ug/L				

Spike recovery is already corrected for native results.

Spikes which exceed Limits and Method Blanks with positive results are highlighted by Underlining.

Criteria for MS and Dup are advisory only, batch control is based on LCS. Criteria for duplicates are advisory only, unless otherwise specified in the method.

RPD not calculated for LCS2 when different a concentration than LCS1 is used.

RPD not calculated for Duplicates when the result is not five times the MRL (Minimum Reporting Level).

(S) - Indicates surrogate compound.

(I) - Indicates internal standard compound.

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Laboratory QC

Report: 948220
Project: KALAMAZOO
Group: Lead Solubility Testing - Phase 2

Tetra Tech

QC Type	Analyte	Native	Spiked	Recovered	Units	Yield(%)	Limits (%)	RPD Limit(%)	RPD%
MRL_CHK	Lead Total ICAP/MS		0.5	0.528	ug/L	106	(50-150)		
MS_202107220666	Lead Total ICAP/MS	360	50	416	ug/L	110	(70-130)		
MS2_202107270196	Lead Total ICAP/MS	ND	50	45.6	ug/L	91	(70-130)		
MSD_202107220666	Lead Total ICAP/MS	360	50	402	ug/L	82	(70-130)	20	3.3
MSD2_202107270196	Lead Total ICAP/MS	ND	50	45.5	ug/L	91	(70-130)	20	0.29

ICPMS Metals by EPA 200.8

Analytical Batch: 1344800

Analysis Date: 07/31/2021

LCS1	Lead Total ICAP/MS		50	51.4	ug/L	103	(85-115)		
LCS2	Lead Total ICAP/MS		50	54.3	ug/L	109	(85-115)	20	5.5
MBLK	Lead Total ICAP/MS			<0.0608	ug/L				
MRL_CHK	Lead Total ICAP/MS		0.5	0.513	ug/L	103	(50-150)		
MS_202107280693	Lead Total ICAP/MS	67	50	117	ug/L	101	(70-130)		
MSD_202107280693	Lead Total ICAP/MS	67	50	118	ug/L	102	(70-130)	20	0.72

Total phosphorus as P (T-P) by SM4500-PE/EPA 365.1

Analytical Batch: 1346107

Analysis Date: 08/05/2021

LCS1	Total phosphorus as P		0.4	0.412	mg/L	103	(90-110)		
LCS2	Total phosphorus as P		0.4	0.405	mg/L	101	(90-110)	20	1.7
MBLK	Total phosphorus as P			<0.0108	mg/L				
MRL_CHK	Total phosphorus as P		0.02	0.0212	mg/L	106	(50-150)		
MS_202107280360	Total phosphorus as P	2.0	0.4	NR	mg/L		(90-110)		
MS2_202107151028	Total phosphorus as P	0.31	0.4	0.760	mg/L	<u>111</u>	(90-110)		
MSD_202107280360	Total phosphorus as P	2.0	0.4	NR	mg/L				
MSD2_202107151028	Total phosphorus as P	0.31	0.4	0.760	mg/L	<u>112</u>	(90-110)	20	0.066

Spike recovery is already corrected for native results.

Spikes which exceed Limits and Method Blanks with positive results are highlighted by Underlining.

Criteria for MS and Dup are advisory only, batch control is based on LCS. Criteria for duplicates are advisory only, unless otherwise specified in the method.

RPD not calculated for LCS2 when different a concentration than LCS1 is used.

RPD not calculated for Duplicates when the result is not five times the MRL (Minimum Reporting Level).

(S) - Indicates surrogate compound.

(I) - Indicates internal standard compound.