

# City of Kalamazoo, Michigan Lead Solubility Testing

**PRESENTED TO** 

**City of Kalamazoo, MI** 415 Stockbridge Avenue Kalamazoo, MI 49001

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## **APPENDICES**

- Appendix A Bench-Scale Testing Results
- Appendix B Laboratory Water Quality Results Report
- Appendix C Coupon Weight Loss Report

## **1.0 INTRODUCTION**

#### **1.1 BACKGROUND**

The City of Kalamazoo (City) requested Tetra Tech to evaluate the liquid phosphate corrosion inhibitor that the City has begun using at a few stations and is intending to use at all of its pumping stations once design and construction of the liquid storage and feed systems and controls has been completed. The Michigan Department of Environment, Great Lakes, and Energy (EGLE) required 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 a 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.

Historically, the City has used hexametaphosphate for sequestering iron and as a corrosion inhibitor. 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. The lead solubility test was intended to study the current product versus other competing products to assess their corrosion control effectiveness.

#### **1.2 PURPOSE**

The purpose of this report is to present the bench-scale corrosion inhibitor test results 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 is more effective in treating the City's water and provides observational conclusions and recommendations to help the City decide how to proceed.

## 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 currently in use and additional products in which the percentage of orthophosphate varied. A total of ten water qualities were tested using different phosphate-blended products, the historic product, and the currently used product in this evaluation.

The test included one raw water sample to understand how the water would behave without the use of corrosion inhibitors, one sample with sodium hexametaphosphate (Sodium Hex.) to simulate historical trends in the system as a baseline of performance, two samples using the current Carus 8400 product at different doses, and two samples of each new inhibitor tested at different doses to assess their performance on corrosion control. *Table 2-1* summarizes the inhibitor products and their doses that were used in this study. A second dose of the inhibitor products was used to double the orthophosphate concentration and study the performance of a higher dose.

Description	Jar No.	Product	Poly:Ortho Ratio	Product Dose, mg/L	Orthophosphate Dose, mg/L PO₄/L	Polyphosphate Dose, mg/L PO₄/L
Blank	0	-	-	-	-	-
Historic	1	Sodium Hex.	100:0	0.88	0.00	1.50
Low Ortho	2	Carus 8400-L	60:40	1.50	1.50	2.25
High Ortho	3	Carus 8400-H	60:40	3.00	3.00	4.50
Low Ortho	4	Carus 8600-L	30:70	0.86	1.50	0.64
High Ortho	5	Carus 8600-H	30:70	1.72	3.00	1.29
Low Ortho	6	Carus 8700-L	15:85	0.70	1.50	0.26
High Ortho	7	Carus 8700-H	15:85	1.40	3.00	0.50
Low Ortho	8	Carus 3900-L	100:0	0.60	0.00	1.50
High Ortho	9	Carus 3900-H	100:0	1.20	0.00	3.00

#### Table 2-1. Lead Solubility Product Testing Matrix

## 2.2 TEST PROCEDURE

On October 27, 2020, a total of 30 gallons were collected during a site visit to Pump Station 14 (PS14) to complete various bench-scale tests over a period of 7 weeks. Ten (10) 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 in 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 allowed to sit for a 3- to 4-day period when a new set of fresh solution samples were prepared. 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 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 performed where Pump Station 14's source water was dosed with corrosion inhibitor products, chlorine, and hydrochloric acid over a 7 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.

		Sampling Fre	equency	
Parameter	PS 14 Source Water	Treated Sample Water	End of Each Exposure Period	End of Test Period
	Bench Labo	oratory Measurement	s	
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	
рН	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	e Laboratory Tests		
Lead	Each Change Out		Each Jar	
Total Phosphorus	Each Change Out	Each Jar		
Coupon Weight Loss	N/A			All Jars

#### Table 2-2. Solubility Test Sampling and Analysis

## 2.3 RESULTS

#### 2.3.1 Raw Water

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

Parameter	Average	Minimum	Maximum
рН	7.85	7.61	8.05
Temperature, °C	22.2	16.5	24.7
Total Chlorine, mg/L	0.01	0.01	0.02
Conductivity, µS/cm	1097	910	1216
Turbidity, NTU	9.22	2.13	25.5
Alkalinity, mg/L as CaCO <sub>3</sub>	290	284	300
Calcium, mg/L as CaCO <sub>3</sub>	155	118	174
Free Ammonia, mg/L	0.076	0.027	0.128
Iron, mg/L	0.97	0.17	2.66
Chloride, mg/L	38.0	3.78	82.0
Sulfate, mg/L	25.3	16.0	53.0
Color, Pt-Co	36.2	7.0	106
Orthophosphate, mg/L as PO <sub>4</sub> <sup>3-</sup>	0.35	0.03	1.72

Table 2-3. Raw Water Quality

Similar to the raw water, the test water after chemical addition was analyzed for the water quality parameters described in *Table 2-2*. Water quality results of fresh test water and spent solution measured in-house are presented in *Appendix B*. Lead and phosphate concentrations as tested by an accredited laboratory are summarized in *Appendix C*.

## 2.3.2 Total Phosphorus

Total phosphorus 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 had minimal total phosphorus levels (< 0.07 mg PO<sub>4</sub>/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 final 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 from dosing errors or sample labeling errors removed. The results also indicate that the sodium hexametaphosphate stock solution did not have a high enough concentration to provide any significant increase in total phosphorus concentration. This may have been a result of not properly understanding the concentration of the solution provided from the existing facilities. Therefore, the water quality in this jar was essentially the same as the raw water after chlorine addition.

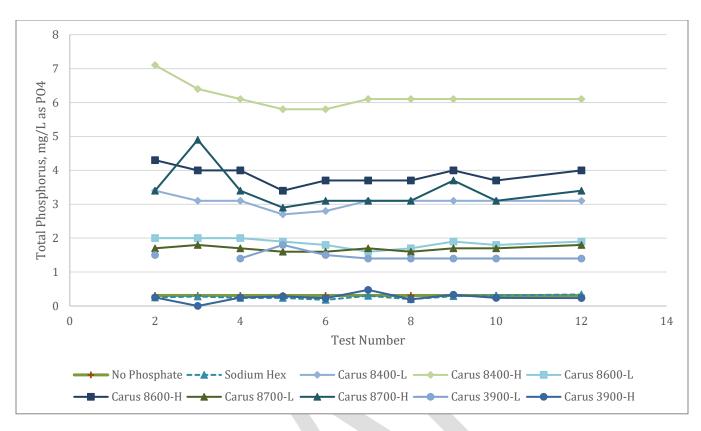


Figure 2-1. Total Phosphorus Concentration

## 2.3.3 Orthophosphate

The purpose of this study was to test different corrosion inhibitors at varying orthophosphate-to-polyphosphate ratios to determine which product provided better results for corrosion control in the distribution system. 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, excluding outliers, 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 the low dose of the Carus 6400, 8600 and 8700 provided an orthophosphate concentration of approximately 1.3 to 1.4 mg PO<sub>4</sub>/L and the higher dose provided an orthophosphate concentration of 2.5 to 3.0 mg PO<sub>4</sub>/L. The other jars without orthophosphate addition reflected much lower orthophosphate concentrations.

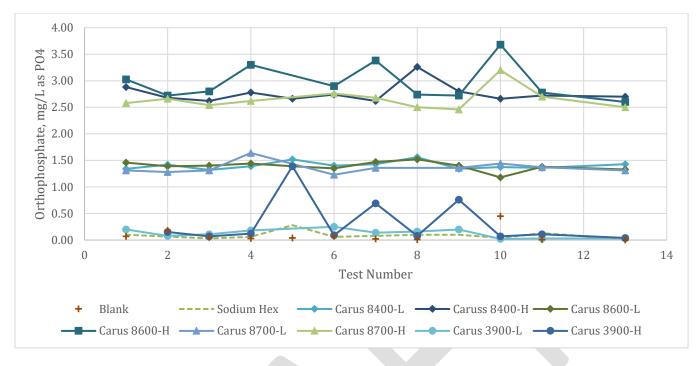


Figure 2-2. Measured Initial Orthophosphate Concentration

#### 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 the 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 3 to 4-day period. Chlorine residual exhibited a larger decay in the blank water sample and the Sodium Hex sample, especially in tests number 8 and 9. The remaining inhibitor products have an average chlorine residual that ranges between 1.18 and 1.47 mg/L, which is approximate to the target chlorine levels. In general the water with a corrosion inhibitor added maintained a higher chlorine residual.

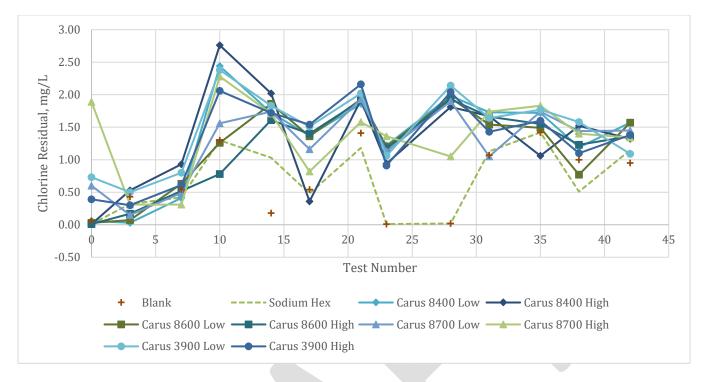


Figure 2-3. Chlorine Residual of Spent Solutions

#### 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 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.

Description		рН		Alkalin	ity, mg/L a	s CaCO₃	DIC, mg/L as C			
Description	Max	Min	Average	Мах	Min	Average	Max	Min	Average	
Raw	8.05	7.61	7.85	300	284	290	74	69	71	
Blank	8.11	7.48	7.88	300	270	282	74	65	69	
Sodium Hex	8.22	7.66	7.89	400	270	291	99	65	71	
8400L	8.25	7.55	7.89	300	268	280	74	65	68	
8400H	8.16	7.46	7.82	300	270	281	76	65	69	
8600L	8.24	7.57	7.86	300	274	285	74	67	70	
8600H	8.21	7.60	7.87	300	268	283	75	66	69	
8700L	8.25	7.57	7.84	300	274	284	74	67	70	
8700H	8.24	7.74	7.93	300	268	285	74	66	70	
3900L	8.33	7.70	7.96	400	270	295	99	66	72	
3900H	8.31	7.78	8.03	300	282	290	73	68	70	

Table 2-4. Initial Carbonate System Chemistry

#### Table 2-5. Final Carbonate System Chemistry

Description		рН		Alkalin	ity, mg/L a	s CaCO₃	DIC, mg/L as C			
Description	Max	Min	Average	Мах	Min	Average	Max	Min	Average	
Blank	8.16	7.65	7.88	300	270	282	74	66	69	
Sodium Hex	8.47	7.65	7.94	300	264	282	73	66	69	
8400L	8.10	7.43	7.87	288	250	278	73	61	68	
8400H	8.11	7.58	7.87	300	260	282	74	64	69	
8600L	8.13	7.62	7.91	300	266	283	74	66	69	
8600H	8.10	7.60	7.92	290	200	277	70	49	68	
8700L	8.15	7.62	7.92	288	250	280	70	61	68	
8700H	8.19	7.61	7.93	300	270	284	73	66	69	
3900L	8.30	7.73	8.01	298	274	288	72	67	70	
3900H	8.30	7.73	8.05	300	274	290	72	68	70	

#### 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. Average color concentrations range between 12.2 and 21.5 Pt-Co units in the spent solutions, with Carus 8700-L being at the low end and Carus 3900-H being at the high end of the range. The currently used product, Carus 8400-L, averaged a color concentration of 20.5 Pt-Co units. The average color of the raw water before any chemical addition (sodium hypochlorite or phosphate inhibitor) was 35 Pt-Co units. Therefore, even though the colors of the spent solutions were sometimes above the 15 Pt-Co units secondary standard, they were less than the average measured color of the raw water without chemical addition.

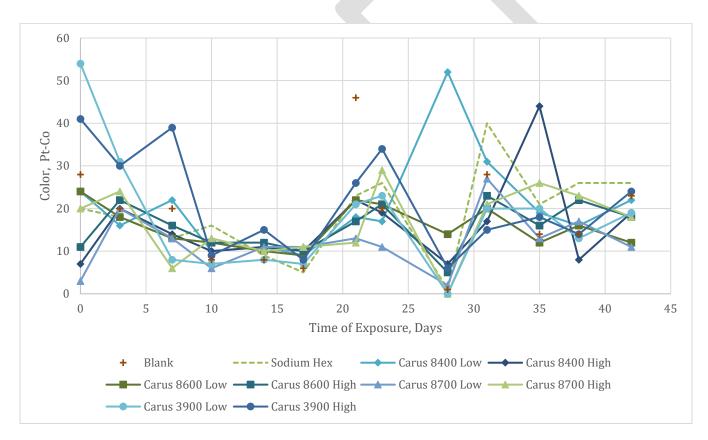


Figure 2-4. Color Levels in Spent Solutions

		-			-	-	-	-	-	-	-	-
Test	Time	Raw	Blank	Sodium	Carus							
	days	Water		Hex	8400	8400	8600	8600	8700	8700	3900	3900
	,				Low	High	Low	High	Low	High	Low	High
												<u>g</u>
		Jar #	0	1	2	3	4	5	6	7	8	9
1	Initial <sup>1</sup>	25	-1	-1	-3	-12	3	4	-1	1	-3	6
1	Final		24	0	-2	-11	4	5	0	2	-2	7
1	3 to 4		28	-23	-23	-23	-23	-23	-24	-23	-24	-23
-	Days											
5	Initial <sup>1</sup>	13	13	10	6	11	15	16	8	20	6	15
5	Final		8	-17	-15	-15	-16	-14	-15	-16	-18	-11
5	3 to 4		0.2	-26	-26	-25	-26	-26	-26	-26	-26	-26
	Days											
11	Initial <sup>1</sup>	64	7	4	4	151	12	58	29	6	7	8
	initia	04		-	7		12	00	20	Ŭ	'	Ŭ
11	Final		14	-50	-52	-27	-59	-55	-58	-45	-51	-53
11	3 to 4		5	-68	-62	-47	-69	-70	-68	-67	-69	-66
	Davs											

<sup>1</sup> Change in color after initial chemical addition compared to the untreated sample color.

<sup>2</sup> Change in color compared to the blank sample without inhibitor added (Jar 0) after the reaction period shown.

The data in the table above compares the color of the raw water without any chemicals added to the initial color values that were measured after the raw water was dosed with sodium hypochlorite and the corrosion inhibitor products. The table also presents a comparison of the color measured at the end of the exposure periods listed in the table to the color of the raw water that was dosed with sodium hypochlorite and to which no phosphate inhibitor was added. The variations in the raw water color are considered to be primarily related to the oxidation of iron in the raw water during storage after the sample containers were opened. The data for test 1 show that most of the samples exhibited an increase in color after the initial addition of the corrosion inhibitor chemical. The magnitude of the increase did not follow a distinct pattern from test to test in terms of which product provided more or less of an increase. Most of the samples that were treated with a corrosion inhibitor had significantly lower color compared to the blank after the coupons were removed from the solutions at the end of the holding period. All the solutions exhibited a much larger decrease in color after the solutions were held for an additional 3 to 4 days. The color appeared to be largely associated with iron in the water and whether the decreases in color were due to sequestering of iron, settling of large iron particles, another cause or a combination of these was not determined. However, the data indicate that phosphate inhibitor addition did not result in an increase in color with increasing exposure time.

#### 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 blank sample and the spent solutions is shown in *Figure 2-5*. Turbidity levels decreased as the water was allowed to sit for a 3 to 4-day period, thus, allowing larger, insoluble substances to settle. Starting with test 9 the water was gently stirred to allow lighter particles to be mixed with the water, but allowing larger particles to remain settled before turbidity samples were collected. This was considered to better replicate system conditions and so that settling of finer particles did not affect the turbidity results. Outliers in turbidity levels may be a result of the stirring procedure which might have caused large particles to mix with the water.

*Figure 2-5* exhibits how turbidity levels significantly decrease with the use of inhibitor products and with precipitation of solid particles. Turbidity levels after the addition of the inhibitor products are comparable as they range between 0.98 and 2.14 NTU, with the Carus 3900-L being at the low end and Carus 8400-H being at the high end of the

range. The currently used product, Carus 8400-L, averages a turbidity level of 2.01 NTU. Turbidities of the untreated water and the treated water without a phosphate inhibitor added were in most cases the same as or in several cases higher than the water after addition of the phosphate inhibitor.

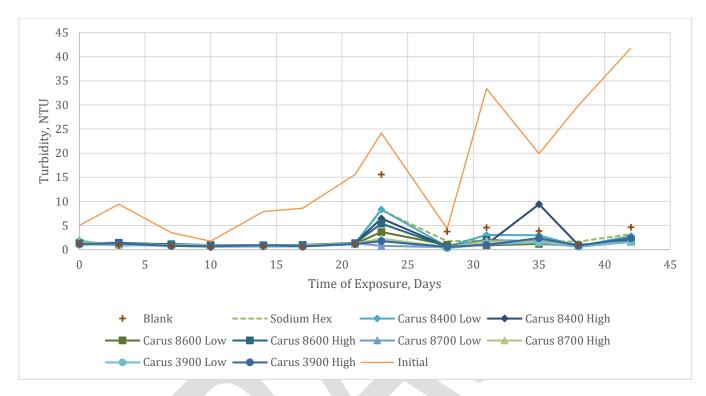


Figure 2-5. Final Turbidity Levels

**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 further decreased in concentration when the water was 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 lower with phosphate addition compared to the blank, except the Carus 3900 product which were significantly higher. In test 5 the final turbidities were all slightly higher than the blank except for the low dose of the Carus 3900 which was the same. The final turbidities were lower for the low doses of Carus 8600 and 8700 compared to the blank in Test 11 and all other samples had higher turbidities. All of the turbidities in test 11 were measured after gentle stirring. All of the turbidities were less than the corresponding turbidities measured prior to the additional 3 to 4 day holding period. The Carus 8600 product had the lowest turbidities after 3 to 4 days in test 11 and turbidities for the carus 8400 product were higher than the blank.

Inhibitor	Fi	nal Turbidity, N	TU	Final + 3-4 Days Turbidity, NTU				
Product	1	5	11	1	5	11		
Blank	28	8	14	0.70	0.18	5.39		
Sodium Hex	20	9	21	1.21	0.21	3.35		
8400L	24	11	19	0.57	0.21	8.89		
8400H	7	11	44	0.91	0.94	23.9		
8600L	24	10	12	0.72	0.38	1.76		
8600H	11	12	16	1.40	0.39	1.17		
8700L	3	11	13	0.26	0.17	3.21		
8700H	20	10	26	0.56	0.38	3.70		
3900L	54	8	20	0.35	0.24	2.30		
3900H	41	15	18	0.93	0.12	5.14		

Table 2-6. Turbidity Concentration with Time

## 2.3.8 Lead Solubility

The lead concentration versus exposure time is graphed in *Figure 2-6*. Virgin lead coupons experienced high initial corrosion rates for the first 10 days, resulting in an increased lead concentration in the water. Corrosion rates were then stabilized after an exposure period of approximately 30 days and reached a roughly steady-state condition thereafter.

The Carus 3900 product which was a zinc polyphosphate formulation produced lead concentrations that were significantly higher than the other products tested throughout the exposure period. The Carus 8700 product using the higher dose to provide 3.0 mg/L of orthophosphate provided the most consistently low concentrations over the duration of the test and the lowest lead concentrations once the release rate had stabilized at the end of the exposure period. The Carus 8600 product dosed to provide 3.0 mg/L as orthophosphate provided a similarly low lead concentration at the end of the exposure period, but exhibited more variation in lead concentration over the entire exposure period as compared to the Carus 8700 product. None of the products tested provided a significant reduction in lead concentration as compared to blank which was dosed with chlorine and to which no phosphate inhibitor was added.

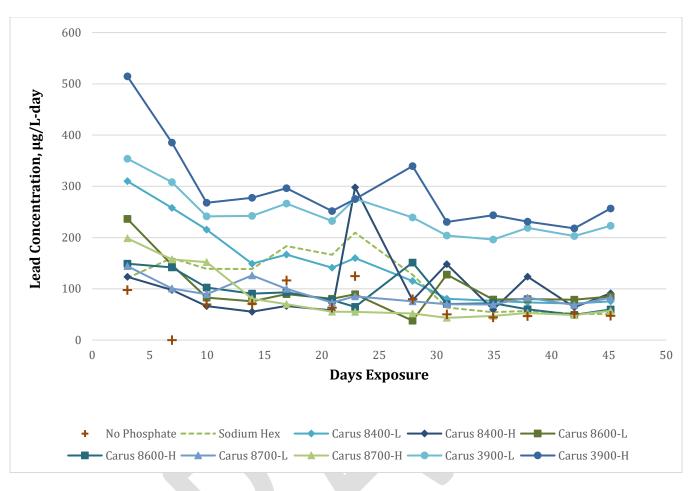


Figure 2-6. Lead Concentration vs. Time

## 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 Water Solutions Unlimited. 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, ten (10) 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 45 days, 3 hours and 22 minutes. Lead coupons were weighed prior to an\d following the bench-scale study to evaluate their rate of corrosion using *Equation 2-1*.

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

Where W is the weight loss in g, D is the density if the metal in g/cm<sup>3</sup>, A is the area of the test specimen in in<sup>2</sup>, T is the exposure time in hours, and K is a constant that equals to  $5.34 \times 10^{5}$ .

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 they were placed into their original envelopes and shipped off for cleaning and weighing. *Figure 2-7* shows the coupons at the end of the exposure period. 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 up of scale covering varying percentages of the surface area. Some of the scale build up is more brown in color indicating that some coprecipitation of iron may have occurred. Additional photos and information for the coupons is contained in the Water Solutions Unlimited report contained in *Appendix C*. Note that the coupon serial numbers corresponding to each jar number are correct in *Table 2-7 and Figure 2-7*. A couple of the coupons were not associated with the correct jars in the report in *Appendix C*.

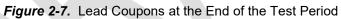
Jar #	Product	Lead Coupon Serial #	Initial Weight, g	Final Weight, g	Weight Loss, mg	Corrosion Rate, mpy
0	Blank	B5234	17.8668	17.845	21.8	0.41
1	Sodium Hex	A0274	16.51	16.476	34.0	0.63
2	Carus 8400L	B5236	17.9298	17.912	17.8	0.33
3	Carus 8400H	A0276	16.24	16.207	33.0	0.61
4	Carus 8600L	B5235	18.0691	18.046	23.1	0.43
5	Carus 8600H	B2841	19.0219	19.004	17.9	0.33
6	Carus 8700L	B5237	17.8592	17.837	22.2	0.41
7	Carus 8700H	B5252	1	17.88		
8	Carus 3900L	A0275	16.582	16.556	26.0	0.48
9	Carus 3900H	B2840	19.2359	19.209	26.9	0.50

 Table 2-7. Lead Coupon Corrosion Rates

<sup>1</sup>Initial weight not measured and recorded.

The corrosion rates for the products that had a lower concentration of polyphosphate present, 8400L, 8600L, 8600H and 8700L had the lowest corrosion rates compared to the blank. Unfortunately, the coupon for the 8700H with a high orthophosphate and low polyphosphate concentration was not weighed initially by the supplier and therefore a corrosion rate could not be determined.

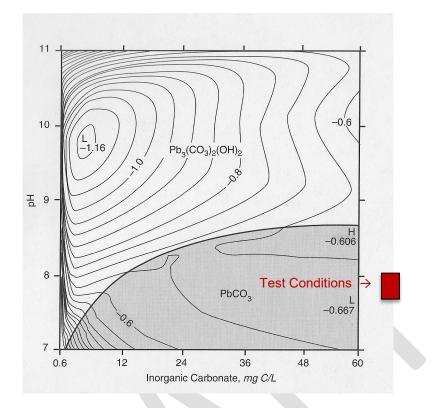




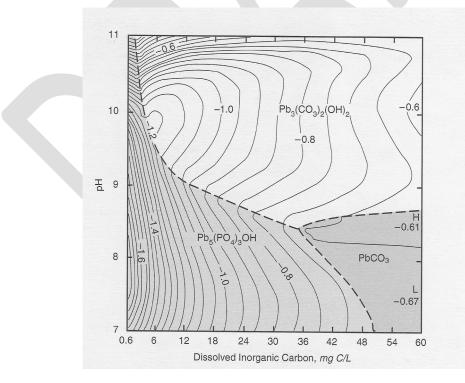
## 2.4 DISCUSSION AND RECOMMENDATIONS

The bench-scale test allowed to conduct a preliminary study of various corrosion inhibitor products to determine which product was more effective at controlling corrosion in the distribution system. Based on the results from this bench-scale study on the LS14 Pump Station water, observational conclusions are provided as follows:

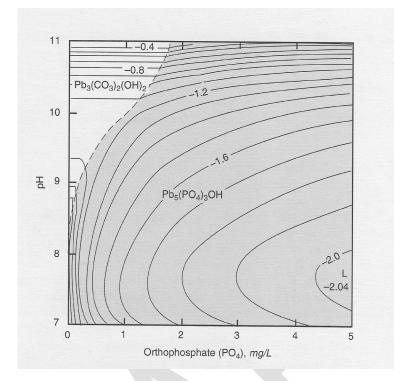
- Orthophosphate levels measured experimentally were approximate to target dosing levels.
- Chlorine residual was also approximate to target levels, which indicates an accurate experimental procedure.
- The pH, alkalinity, and DIC values are not within recommended range to protect the distribution system from metal release rate. Therefore, the use of a phosphate-based corrosion inhibitor product is necessary to minimize the concentration of metals in the bulk water by precipitating metallic solid compounds and forming a scale on the pipe walls.
- Color levels were below regulatory requirements, with product Carus 8700-L yielding the lowest average color values.
- Turbidity was considerably reduced with the use of inhibitor products and with precipitation of solid particles. This is consistent with the scale formation caused by the precipitation of metallic solid compounds. The product Carus 3900-L resulted in the lowest turbidity concentration.
- Lead coupons presented a high initial release rate, which is customary with virgin coupons. Once the release rate had stabilized, the concentration of lead in the water maintained a constant concentration in all test waters. The currently used product, Carus 8400-L and the product Carus 8700-H resulted in the lowest lead concentrations once stabilized. Because of familiarity with the product, Carus 8400-L takes precedence over Carus 8700-H.
- The addition of the phosphate corrosion inhibitors did not significantly reduce the lead solubility concentrations below the solubility of lead in the water without a corrosion inhibitor added. The DIC of the raw water is very high, over 60 mg C/L, which may partially explain the seeming lack of solubility control. The solubility of lead is likely controlled by cerussite, PbCO<sub>3</sub>, at a pH slightly below 8 and a DIC > 60 mg/L as shown in *Figure 2-8*. The addition of orthophosphate is intended to form a lower solubility lead compound such as hydroxypyromorphite, Pb<sub>5</sub>(PO<sub>4</sub>)<sub>3</sub>OH, to coat the surface and lower the release of lead into solution. Figure 2-9 shows how the addition of a small amount of orthophosphate, 0.5 mg/L, can change the solubility diagram so that hydroxypyromorphite becomes the compound controlling solubility in a pH range of 7.8 to 8.0 for DIC concentrations up to 40 mg/L. However, this figure shows that at higher DIC concentrations (>60 for the water tested in this study) the solubility is still controlled by cerussite, PbCO<sub>3</sub>. Higher concentrations of orthophosphate are required to make hydroxypyromorphite the compound controlling the solubility of lead as shown in Figure 2-10. This figure indicates that the theoretical lead solubility can be reduced from a log value of -0.667 at pH 7.6 to 8.0 when the solubility is controlled by PbCO<sub>3</sub> to a log value of -1.2 to -2.0 at this same pH range when the orthophosphate concentration is increased from 1 to 5 mg/L. This figure represents a DIC of only 6 mg/L so the solubility reduction at much higher DIC concentrations is expected to be less pronounced and higher dosages of orthophosphate may be required.



*Figure 2-8.* Lead Solubility Diagram with Varying pH and Inorganic Carbonate Concentrations at 25°C and I = 0.005 mol/L



*Figure 2-9.* Lead Solubility Diagram with Varying pH and Inorganic Carbonate Concentrations with 0.5 mg/L Orthophosphate at 25°C and I = 0.005 mol/L



*Figure 2-10.* Lead Solubility Diagram with Varying pH and Orthophosphate Concentration with DIC = 6 mg C/L at 25°C and I=0.005 mol/L<sup>1</sup>

<sup>1</sup>AWWA Research Foundation and DVG Technologiezentrum Wasser, 1996, *Internal Corrosion of Water Distribution Systems*, 2<sup>nd</sup> Ed. Denver, Colorado: American Water Works Association Research Foundation (pp. 178, 186)

#### 2.4.1 Recommendations

The results from this set of solubility tests indicate that an orthophosphate dose of up to 3 mg/L did not significantly affect the release of lead into solution during the testing as compared to a volume of the raw water to which no phosphate inhibitor was added. Information in the literature discussed above suggests that at higher levels of alkalinity and DIC in the water a larger orthophosphate dose is required to provide a level of control over lead solubility. Therefore, it is recommended that a second round of solubility tests be performed using a higher dose of orthophosphate to determine if the higher orthophosphate concentration will exert a significant influence over the lead solubility. To determine if there is a dose response for lead solubility an orthophosphate dose twice the highest dose used in this study and possibly one higher dose could be used. The raw water obtained from Station 14 contains both iron and calcium. Some polyphosphate should be dosed along with the orthophosphate to sequester these constituents. The polyphosphate dose for sequestration can vary with the chain length of polyphosphate component of the inhibitor, therefore the chemical supplier should be consulted relative to the minimum desirable polyphosphate dose for iron and calcium sequestration.

# **APPENDIX A – BENCH-SCALE TESTING RESULTS**

									, ,						
Test	Beaker No.	Product	рН	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	7.75	24.7	0.02	1216	2.13	292	0.037	174	0.17	5.45	22	25	0.23
	0	Blank	8.01	22.5	1.16	909	5.04	276	-	-	-	-	-	24	0.07
	1	Sodium Hex	7.93	22.3	0.28	900	2.77	280	-	-	-	-	-	24	0.10
	2	Carus 8400	7.83	22.4	1.41	912	2.61	278	-	-	-	-	-	22	1.34
	3	Carus 8400	7.78	22.3	0.33	878	2.73	274	-	-	-	-	-	13	2.88
	4	Carus 8600	7.71	23.4	0.74	924	2.85	286	-	-	-	-	-	28	1.46
	5	Carus 8600	7.76	23.6	0.94	905	2.95	280	-	-	-	-	-	29	3.03
	6	Carus 8700	7.71	23.7	2.54	939	2.77	288	-	-	-	-	-	24	1.31
	7	Carus 8700	7.80	23.6	4.13	944	2.68	300	-	-	-	-	-	26	2.58
	8	Carus 3900	7.86	24.1	1.04	939	3.33	-	-	-	-	-	-	22	0.20
	9	Carus 3900	7.98	23.7	2.30	918	2.80	300	-	-	-	-	-	31	2.46
2	-	Raw Water	7.73	23.9	0.02	923	8.16	300	0.059	128	1.26	0.00	18	48	0.09
	0	Blank	7.78	23.1	1.84	904	9.42	300	-	-	-	-	-	62	0.18
	1	Sodium Hex	7.73	22.9	1.48	905	9.60	400	-	-	-	-	-	61	1.22
	2	Carus 8400	7.55	22.5	2.17	901	9.61	300	-	-	-	-	-	49	1.42
	3	Carus 8400	7.46	22.7	1.94	937	7.84	300	-	-	-	-	-	49	2.68
	4	Carus 8600	7.72	22.2	1.97	912	8.83	300	-	-	-	-	-	58	1.39
	5	Carus 8600	7.68	22.4	2.02	922	9.82	300	-	-	-	-	-	47	2.72
	6	Carus 8700	7.84	22.3	2.17	916	14.70	300	-	-	-	-	-	60	1.28
	7	Carus 8700	7.79	22.3	2.25	911	17.90	300	-	-	-	-	-	47	2.66
	8	Carus 3900	7.74	24.0	1.45	945	9.14	400	-	-	-	-	-	42	0.08
	9	Carus 3900	7.86	24.7	1.78	950	9.40	300	-	-	-	-	-	42	0.15
3	-	Raw Water	7.61	23.2	0.01	916	3.50	294	0.035	118	0.30	4.58	21	20	0.05
	0	Blank	7.48	22.9	1.56	917	4.85	288	-	-	-	-	-	27	0.03
	1	Sodium Hex	7.76	22.8	1.73	925	4.64	280	-	-	-	-	-	26	0.03
	2	Carus 8400	7.82	22.9	1.90	922	4.19	276	-	-	-	-	-	33	1.32
	3	Carus 8400	7.74	22.8	2.03	911	3.57	286	-	-	-	-	-	32	2.62
	4	Carus 8600	7.83	22.8	2.06	912	3.96	288	-	-	-	-	-	31	1.40
	5	Carus 8600	8.02	22.9	2.05	901	4.25	288	-	-	-	-	-	26	2.80
	6	Carus 8700	7.76	22.9	1.97	900	3.39	284	-	-	-	-	-	26	1.31
	7	Carus 8700	7.95	22.9	2.05	865	5.22	288	-	-	-	-	-	29	2.54
	8	Carus 3900	7.70	23.0	1.97	915	3.76	286	-	-	-	-	-	36	0.11
	9	Carus 3900	7.83	22.9	1.95	928	3.40	296	-	-	-	-	-	44	0.07

Table A-1. Fresh Treated Samples Water Quality

#### Lead Solubility Testing

Test	Beaker No.	Product	рН	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
4	-	Raw Water	7.87	22.4	0.01	910	2.69	290	0.044	154	0.26	69.1	19	7	0.21
	0	Blank	7.86	22.6	3.72	866	1.76	286	-	-	-	-	-	15	0.03
	1	Sodium Hex	7.74	22.3	3.74	891	1.53	286	-	-	-	-	-	10	0.06
	2	Carus 8400	7.73	22.5	4.04	871	1.54	284	-	-	-	-	-	10	1.39
	3	Carus 8400	7.56	22.4	3.64	870	1.50	280	-	-	-	-	-	8	2.78
	4	Carus 8600	7.57	22.4	3.00	863	1.62	284	-	-	-	-	-	12	1.44
	5	Carus 8600	7.72	22.4	3.98	872	1.53	282	-	-	-	-	-	7	3.30
	6	Carus 8700	7.57	22.4	4.16	870	1.55	282	-	-	-	-	-	12	1.64
	7	Carus 8700	7.94	22.4	3.82	866	1.65	282	-	-	-	-	-	15	2.62
	8	Carus 3900	7.91	22.7	3.84	876	1.82	280	-	-	-	-	-	15	0.18
	9	Carus 3900	8.05	22.7	3.60	894	2.93	290	-	-	-	-	-	16	0.12
5	-	Raw Water	8.00	23.5	0.01	920	5.18	284	0.056	156	0.51	67.5	26	13	0.16
	0	Blank	7.81	23.0	2.64	869	7.90	288	-	-	-	-	-	26	0.04
	1	Sodium Hex	7.83	22.9	2.84	868	7.04	288	-	-	-	-	-	23	0.28
	2	Carus 8400	7.84	22.9	2.86	871	4.93	286	-	-	-	-	-	19	1.52
	3	Carus 8400	7.68	22.9	3.02	867	9.04	288	-	-	-	-	-	24	2.66
	4	Carus 8600	7.77	23.0	2.90	867	8.12	286	-	-	-	-	-	28	1.39
	5	Carus 8600	7.70	22.8	2.86	872	5.31	280	-	-	-	-	-	29	1.52
	6	Carus 8700	7.75	22.8	2.90	866	4.58	290	-	-	-	-	-	21	2.74
	7	Carus 8700	7.84	22.9	0.78	875	4.84	286	-	-	-	-	-	33	1.37
	8	Carus 3900	7.97	22.7	1.70	882	4.43	288	-	-	-	-	-	19	2.56
	9	Carus 3900	7.96	22.8	2.28	893	9.79	292	-	-	-	-	-	28	1.39
6	-	Raw Water	7.74	21.2	0.02	1129	9.79	290	0.100	174	0.58	48.2	22	13	0.03
	0	Blank	8.11	21.7	2.84	1152	8.59	284	-	-	-	-	-	27	0.07
	1	Sodium Hex	8.22	21.9	2.94	1131	10.9	284	-	-	-	-	-	29	0.06
	2	Carus 8400	8.14	21.9	2.98	1136	8.89	278	-	-	-	-	-	26	1.40
	3	Carus 8400	8.16	22.1	2.98	1139	13.7	272	-	-	-	-	-	38	2.74
	4	Carus 8600	8.18	21.9	3.08	1150	9.60	288	-	-	-	-	-	37	1.35
	5	Carus 8600	8.21	22.3	2.74	1159	9.97	288	-	-	-	-	-	33	2.90
	6	Carus 8700	8.25	22.1	3.00	1124	11.4	288	-	-	-	-	-	34	1.23
	7	Carus 8700	8.18	22.1	2.80	1129	11.3	288	-	-	-	-	-	36	2.76
	8	Carus 3900	8.24	22.3	2.04	1150	11.9	288	-	-	-	-	-	34	0.25
	9	Carus 3900	8.24	22.6	2.12	1155	7.70	288	-	-	-	-	-	34	0.09

#### Lead Solubility Testing

Test	Beaker No.	Product	рН	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	7.92	22.3	0.02	1171	6.51	290	0.079	160	2.66	46.8	22	29	0.08
	0	Blank	8.04	23.4	2.96	1150	15.6	286	-	-	-	-	-	47	0.02
	1	Sodium Hex	8.07	23.1	2.90	1141	14.4	284	-	-	-	-	-	41	0.08
	2	Carus 8400	8.14	23.0	2.80	1152	11.2	286	-	-	-	-	-	40	1.43
	3	Carus 8400	8.06	23.1	2.04	1135	12.9	282	-	-	-	-	-	25	2.62
	4	Carus 8600	8.05	23.2	2.96	1146	5.95	280	-	-	-	-	-	24	1.47
	5	Carus 8600	8.13	23.2	2.90	1147	4.91	284	-	-	-	-	-	26	3.38
	6	Carus 8700	8.18	23.1	2.82	1132	5.58	284	-	-	-	-	-	28	1.36
	7	Carus 8700	8.24	23.2	2.40	1151	5.29	282	-	-	-	-	-	27	2.68
	8	Carus 3900	8.33	23.2	2.16	1163	7.03	292	-	-	-	-	-	33	0.14
	9	Carus 3900	8.31	23.2	2.96	1161	5.69	286	-	-	-	-	-	28	0.69
8	-	Raw Water	7.95	22.1	0.01	1201	11.4	290	0.108	150	1.18	50.3	21	63	0.04
	0	Blank	8.03	22.3	0.66	1134	24.2	272	-	-	-	-	-	72	0.01
	1	Sodium Hex	8.05	22.4	2.44	1143	20.0	270	-	-	-	-	-	60	0.10
	2	Carus 8400	8.07	22.3	2.84	1142	13.6	270	-	-	-	-	-	51	1.56
	3	Carus 8400	8.13	22.5	2.70	1140	13.9	274	-	-	-	-	-	55	3.26
	4	Carus 8600	8.05	22.4	1.18	1137	12.5	284	-	-	-	-	-	59	1.52
	5	Carus 8600	7.98	22.4	2.18	1142	8.64	282	-	-	-	-	-	51	2.74
	6	Carus 8700	7.95	22.5	2.88	1142	9.61	280	-	-	-	-	-	49	3.90
	7	Carus 8700	8.05	22.5	2.48	1135	8.21	286	-	-	-	-	-	53	2.50
	8	Carus 3900	8.11	22.5	2.76	1163	7.20	290	-	-	-	-	-	53	0.16
	9	Carus 3900	8.18	22.7	2.44	1159	50.4	286	-	-	-	-	-	286	0.08
9	-	Raw Water	8.05	24.1	0.02	1208	5.52	294	0.027	156	0.26	82.0	44	15	1.72
	0	Blank	7.97	23.7	0.03	1157	4.33	276	-	-	-	-	-	17	1.44
	1	Sodium Hex	8.07	23.3	3.42	1155	5.40	290	-	-	-	-	-	13	0.10
	2	Carus 8400	8.25	23.3	3.10	1132	3.36	288	-	-	-	-	-	20	1.34
	3	Carus 8400	8.05	23.6	3.22	1146	2.64	286	-	-	-	-	-	26	2.80
	4	Carus 8600	8.24	23.8	3.04	1151	2.39	286	-	-	-	-	-	12	1.40
	5	Carus 8600	8.09	23.3	3.40	1151	2.44	284	-	-	-	-	-	10	2.72
	6	Carus 8700	8.05	23.5	3.34	1134	2.41	288	-	-	-	-	-	12	1.36
	7	Carus 8700	8.03	23.5	3.12	1157	2.23	290	-	-	-	-	-	10	2.46
	8	Carus 3900	8.12	23.5	2.92	1154	1.96	294	-	-	-	-	-	10	0.20
	9	Carus 3900	8.27	23.1	3.10	1165	2.56	292	-	-	-	-	-	40	0.76

Test	Beaker No.	Product	рН	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
10	-	Raw Water	7.74	21.3	0.02	1173	9.81	284	0.091	150	0.73	78.0	53	24	0.04
	0	Blank	8.03	21.6	2.51	1126	33.4	270	-	-	-	-	-	65	0.45
	1	Sodium Hex	7.88	21.4	2.52	1127	22.9	286	-	-	-	-	-	56	0.04
	2	Carus 8400	7.93	21.5	2.96	1114	16.4	268	-	-	-	-	-	24	1.38
	3	Carus 8400	7.90	21.8	2.67	1116	9.00	270	-	-	-	-	-	24	2.66
	4	Carus 8600	7.87	21.7	2.78	1140	7.82	274	-	-	-	-	-	16	1.18
	5	Carus 8600	7.82	21.7	2.52	1138	7.12	268	-	-	-	-	-	28	3.68
	6	Carus 8700	7.80	21.9	2.36	1102	7.54	274	-	-	-	-	-	32	1.44
	7	Carus 8700	7.83	21.7	2.34	1106	7.50	276	-	-	-	-	-	22	3.20
	8	Carus 3900	7.92	21.9	2.37	1148	7.19	276	-	-	-	-	-	32	0.02
	9	Carus 3900	8.02	22.2	1.66	1160	7.81	284	-	-	-	-	-	32	0.07
11	-	Raw Water	7.99	22.2	0.01	1193	20.6	290	0.128	170	2.22	32.6	19	64	0.78
	0	Blank	7.75	19.8	2.78	1151	19.9	272	-	-	-	-	-	71	0.01
	1	Sodium Hex	7.66	20.4	2.58	1138	25.9	276	-	-	-	-	-	68	0.13
	2	Carus 8400	7.67	18.8	2.58	1138	17.4	270	-	-	-	-	-	68	1.36
	3	Carus 8400	7.72	23.2	2.04	1129	73.4	278	-	-	-	-	-	215	2.72
	4	Carus 8600	7.63	21.6	2.30	1120	25.0	284	-	-	-	-	-	76	1.38
	5	Carus 8600	7.60	21.5	2.62	1130	35.5	274	-	-	-	-	-	122	2.78
	6	Carus 8700	7.63	21.6	2.74	1139	22.4	280	-	-	-	-	-	93	1.37
	7	Carus 8700	7.78	21.4	2.86	1130	13.8	278	-	-	-	-	-	70	2.70
	8	Carus 3900	7.76	21.4	2.16	1151	14.2	284	-	-	-	-	-	71	0.03
	9	Carus 3900	7.78	21.9	2.48	1158	14.7	286	-	-	-	-	-	72	0.11
12	-	Raw Water	7.83	20.9	0.01	1171	9.10	290	0.103	156	0.79	5.33	16	33	-
	0	Blank	7.86	21.5	2.62	1155	29.9	290	-	-	-	-	-	72	-
	1	Sodium Hex	7.87	21.3	2.68	1136	17.9	280	-	-	-	-	-	63	-
	2	Carus 8400	7.84	21.3	2.62	1104	21.1	288	-	-	-	-	-	50	-
	3	Carus 8400	7.77	21.6	2.74	1139	16.4	282	-	-	-	-	-	63	-
	4	Carus 8600	7.83	21.6	2.70	1135	15.0	286	-	-	-	-	-	41	-
	5	Carus 8600	7.85	21.5	2.44	1144	11.8	294	-	-	-	-	-	39	-
	6	Carus 8700	7.81	21.8	2.58	1165	12.4	286	-	-	-	-	-	41	-
	7	Carus 8700	7.95	21.7	2.48	1159	12.6	284	-	-	-	-	-	33	-
	8	Carus 3900	8.01	21.7	2.62	1171	10.3	290	-	-	-	-	-	34	-
	9	Carus 3900	8.04	21.9	2.86	1159	10.8	290	-	-	-	-	-	31	-

#### Lead Solubility Testing

Test	Beaker No.	Product	рН	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
	-	Raw Water	7.84	16.5	0.01	1134	25.50	284	0.118	166	1.67	3.78	-	106	0.73
	0	Blank	7.75	23.8	2.00	1213	41.8	274	-	-	-	-	-	80	0.00
	1	Sodium Hex	7.75	23.2	2.66	1199	41.3	276	-	-	-	-	-	101	0.02
	2	Carus 8400	7.76	22.1	2.60	1198	36.7	270	-	-	-	-	-	97	1.43
	3	Carus 8400	7.66	21.3	2.60	1199	26.3	276	-	-	-	-	-	98	2.70
13	4	Carus 8600	7.74	20.9	2.68	1196	30.1	276	-	-	-	-	-	96	1.33
	5	Carus 8600	7.73	18.7	2.48	1185	34.0	270	-	-	-	-	-	83	2.60
	6	Carus 8700	7.64	20.2	2.60	1192	27.4	274	-	-	-	-	-	104	1.31
	7	Carus 8700	7.74	19.6	2.58	1180	22.4	268	-	-	-	-	-	98	2.50
	8	Carus 3900	7.80	19.5	1.38	1207	24.3	270	-	-	-	-	-	86	0.03
	9	Carus 3900	7.90	20.2	2.48	1152	23.8	282	-	-	-	-	-	96	0.04

Table A- 2. Spent Solution	Water Quality
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Test	Beaker No.	Product	рН	Temp., °C	Total Cl2, mg/L	Conductivity, μS/ cm	Turbidity, NTU	Alkalinity, mg/L as CaCO3	Color, Pt-Co	Ortho P, mg/L
1	0	Blank	7.82	22.2	0.06	926	1.19	300	28	0.04
	1	Sodium Hex	7.92	22.1	0.01	930	1.08	300	20	0.06
	2	Carus 8400	7.97	21.9	0.06	932	1.86	250	24	1.39
	3	Carus 8400	7.85	22.1	0.01	930	1.14	300	7	2.70
	4	Carus 8600	7.84	22.3	0.03	933	1.32	300	24	1.54
	5	Carus 8600	7.84	22.4	0.01	820	1.36	200	11	2.76
	6	Carus 8700	7.94	22.4	0.60	937	1.48	250	3	1.26
	7	Carus 8700	7.87	22.5	1.89	944	1.52	300	20	2.41
	8	Carus 3900	7.98	22.7	0.73	938	1.02	800	54	0.05
	9	Carus 3900	-	-	0.39	934	1.20	300	41	0.10
2	0	Blank	8.08	22.6	0.43	871	0.86	292	20	0.13
	1	Sodium Hex	7.98	22.6	0.32	853	1.06	286	18	0.13
	2	Carus 8400	7.87	22.6	0.03	910	0.84	280	16	1.50
	3	Carus 8400	7.58	22.8	0.53	876	1.16	280	20	2.70
	4	Carus 8600	7.96	22.5	0.07	877	1.07	286	18	1.48
	5	Carus 8600	8.00	22.4	0.17	876	1.41	290	22	2.74
	6	Carus 8700	7.63	22.5	0.15	883	1.20	272	20	1.60
	7	Carus 8700	7.70	22.4	0.31	883	1.26	286	24	2.66
	8	Carus 3900	7.93	22.4	0.50	889	0.99	292	31	0.12
	9	Carus 3900	7.94	22.6	0.30	881	1.30	296	30	0.14

Test	Beaker No.	Product	рН	Temp., °C	Total Cl2, mg/L	Conductivity, μS/ cm	Turbidity, NTU	Alkalinity, mg/L as CaCO3	Color, Pt-Co	Ortho P, mg/L
3	0	Blank	7.87	22.3	0.54	927	0.77	282	20	0.06
	1	Sodium Hex	8.03	22.3	0.42	932	0.98	284	13	0.12
	2	Carus 8400	7.85	22.3	0.41	932	1.22	288	22	1.53
	3	Carus 8400	7.99	22.3	0.93	931	1.02	280	14	3.24
	4	Carus 8600	7.95	22.3	0.63	925	1.12	282	13	1.42
	5	Carus 8600	8.01	22.5	0.52	883	1.10	288	16	2.98
	6	Carus 8700	7.97	22.4	0.49	929	0.93	286	13	1.46
	7	Carus 8700	7.94	22.3	0.31	882	0.94	290	6	2.68
	8	Carus 3900	7.84	22.3	0.80	886	0.77	290	8	0.14
	9	Carus 3900	7.79	22.4	0.61	897	0.79	292	39	0.32
4	0	Blank	7.66	22.5	1.30	933	0.39	286	8	0.09
	1	Sodium Hex	7.76	22.8	1.30	932	0.79	286	16	0.14
	2	Carus 8400	7.43	22.4	2.44	895	0.88	286	10	1.60
	3	Carus 8400	7.73	22.7	2.76	936	0.86	288	10	2.80
	4	Carus 8600	7.86	22.7	1.26	891	0.84	286	12	1.48
	5	Carus 8600	7.96	22.8	0.78	894	0.97	288	12	2.94
	6	Carus 8700	7.96	22.7	1.56	896	0.99	288	6	2.03
	7	Carus 8700	7.99	22.7	2.28	897	0.84	290	13	2.80
	8	Carus 3900	8.05	22.7	2.38	900	0.58	294	7	0.11
	9	Carus 3900	8.08	22.7	2.06	905	0.69	292	9	0.12

Test	Beaker No.	Product	рН	Temp., °C	Total Cl2, mg/L	Conductivity, μS/ cm	Turbidity, NTU	Alkalinity, mg/L as CaCO3	Color, Pt-Co	Ortho P, mg/L
5	0	Blank	8.16	22.4	0.18	1170	0.59	278	8	0.08
	1	Sodium Hex	8.47	22.2	1.03	1216	0.78	282	9	0.25
	2	Carus 8400	8.10	22.4	1.72	1227	0.73	286	11	1.62
	3	Carus 8400	8.08	22.4	2.02	1205	0.85	288	11	2.94
	4	Carus 8600	7.96	22.4	1.86	1223	0.85	278	10	2.66
	5	Carus 8600	8.07	22.3	1.61	1168	0.89	286	12	2.86
	6	Carus 8700	8.15	22.3	1.74	1170	0.89	286	11	1.56
	7	Carus 8700	8.19	22.3	1.71	1170	0.76	284	10	2.76
	8	Carus 3900	8.30	22.3	1.83	1177	0.62	290	8	0.65
	9	Carus 3900	8.30	22.3	1.72	1183	0.91	294	15	0.15
6	0	Blank	7.85	2.3	0.54	1228	0.50	284	6	0.19
	1	Sodium Hex	8.06	22.9	0.48	1163	0.74	276	5	0.33
	2	Carus 8400	8.05	22.7	1.37	1168	0.79	282	9	1.66
	3	Carus 8400	8.05	22.7	0.36	1236	0.94	280	10	3.20
	4	Carus 8600	8.13	22.7	1.36	1241	0.78	284	9	3.26
	5	Carus 8600	8.10	22.6	1.40	1231	0.98	280	10	2.98
	6	Carus 8700	8.11	22.7	1.16	1241	0.88	284	11	1.74
	7	Carus 8700	8.12	22.6	0.82	1236	0.87	282	11	2.86
	8	Carus 3900	8.17	22.6	1.51	1248	0.65	286	7	0.15
	9	Carus 3900	8.17	22.5	1.54	1263	0.68	288	8	0.19

Test	Beaker No.	Product	рН	Temp., °C	Total Cl2, mg/L	Conductivity, μS/ cm	Turbidity, NTU	Alkalinity, mg/L as CaCO3	Color, Pt-Co	Ortho P, mg/L
7	0	Blank	7.95	22.8	1.41	1230	1.14	280	46	2.41
	1	Sodium Hex	8.07	22.7	1.18	1164	1.26	288	23	0.14
	2	Carus 8400	8.03	22.6	1.86	1166	1.29	280	18	1.54
	3	Carus 8400	7.98	22.8	1.92	1161	1.41	282	22	3.60
	4	Carus 8600	8.02	22.8	1.93	1164	1.24	286	22	1.62
	5	Carus 8600	7.98	22.8	1.91	1163	1.36	282	17	2.78
	6	Carus 8700	8.06	22.8	1.93	1168	1.31	288	13	2.26
	7	Carus 8700	8.02	22.7	1.58	1171	1.30	282	12	3.80
	8	Carus 3900	8.15	22.7	2.02	1177	1.10	294	21	0.09
	9	Carus 3900	8.22	22.9	2.16	1180	1.20	296	26	0.13
8	0	Blank	8.05	22.9	0.01	1148	15.6	294	20	0.12
	1	Sodium Hex	8.12	22.8	0.01	1120	8.21	284	26	0.84
	2	Carus 8400	8.10	22.6	1.22	1154	8.33	284	17	2.23
	3	Carus 8400	8.11	22.6	0.94	1158	6.45	286	19	4.12
	4	Carus 8600	8.06	22.7	1.20	1175	3.66	288	21	3.64
	5	Carus 8600	8.03	22.6	1.17	1175	5.41	284	21	4.42
	6	Carus 8700	8.08	22.6	1.13	1129	0.79	288	11	1.52
	7	Carus 8700	8.11	22.6	1.36	1165	2.27	286	29	2.74
	8	Carus 3900	8.18	22.5	1.06	1187	1.88	298	23	0.20
	9	Carus 3900	8.10	22.6	0.91	1191	17.5	288	34	0.24

Test	Beaker No.	Product	рН	Temp., °C	Total Cl2, mg/L	Conductivity, μS/ cm	Turbidity, NTU	Alkalinity, mg/L as CaCO3	Color, Pt-Co	Ortho P, mg/L
9	0	Blank	7.96	22.1	0.02	1166	3.73	276	1	0.55
	1	Sodium Hex	7.97	22.2	0.02	1169	1.77	288	1	0.14
	2	Carus 8400	8.01	22.2	1.98	1171	0.63	284	52	1.83
	3	Carus 8400	7.98	22.3	1.81	1154	0.64	286	7	3.42
	4	Carus 8600	8.01	22.3	1.95	1139	0.98	288	14	2.00
	5	Carus 8600	7.96	22.3	1.93	1161	0.60	284	5	3.26
	6	Carus 8700	8.01	22.3	1.90	1173	0.51	288	2	1.86
	7	Carus 8700	8.03	22.3	1.05	1169	0.55	286	0	3.06
	8	Carus 3900	8.13	22.4	2.14	1179	0.31	292	0	0.61
	9	Carus 3900	8.21	22.4	2.04	1178	0.57	296	6	0.46
10	0	Blank	7.70	22.4	1.07	1151	4.57	274	28	0.02
	1	Sodium Hex	7.65	22.4	1.13	1149	1.92	272	40	0.10
	2	Carus 8400	7.63	22.4	1.73	1156	3.04	274	31	2.01
	3	Carus 8400	7.60	22.4	1.67	1149	1.08	270	17	3.26
	4	Carus 8600	7.62	22.4	1.54	1153	0.89	270	20	1.66
	5	Carus 8600	7.60	22.4	1.66	1161	2.01	278	23	3.42
	6	Carus 8700	7.62	22.2	1.05	1150	1.88	272	27	1.49
	7	Carus 8700	7.61	22.3	1.74	1149	1.65	272	21	2.70
	8	Carus 3900	7.73	22.4	1.64	1157	1.14	274	20	0.15
	9	Carus 3900	7.73	22.7	1.43	1160	0.99	274	15	0.23

Test	Beaker No.	Product	рН	Temp., °C	Total Cl2, mg/L	Conductivity, μS/ cm	Turbidity, NTU	Alkalinity, mg/L as CaCO3	Color, Pt-Co	Ortho P, mg/L
11	0	Blank	7.80	22.4	1.42	1165	3.88	284	14	0.02
	1	Sodium Hex	7.80	22.4	1.42	1166	1.82	282	21	0.51
	2	Carus 8400	7.73	22.4	1.72	1162	2.99	278	19	1.64
	3	Carus 8400	7.80	22.6	1.06	1162	9.42	282	44	2.98
	4	Carus 8600	7.81	22.2	1.49	1166	1.18	280	12	1.42
	5	Carus 8600	7.81	22.6	1.55	1167	1.66	282	16	2.98
	6	Carus 8700	7.82	22.7	1.74	1166	1.81	282	13	1.32
	7	Carus 8700	7.83	22.7	1.83	1166	1.61	284	26	2.82
	8	Carus 3900	7.94	22.8	1.77	1179	1.47	284	20	0.13
	9	Carus 3900	8.06	22.7	1.60	1184	2.40	292	18	0.17
12	0	Blank	7.84	21.7	1.00	1166	1.07	270	14	0.25
	1	Sodium Hex	7.73	21.8	0.51	1172	1.64	280	26	1.04
	2	Carus 8400	7.80	21.8	1.19	1177	0.74	280	16	2.03
	3	Carus 8400	7.76	21.8	1.52	1175	0.96	282	8	4.30
	4	Carus 8600	7.79	21.8	0.77	1178	0.78	280	16	1.41
	5	Carus 8600	7.84	21.8	1.23	1170	0.86	284	22	2.98
	6	Carus 8700	7.85	21.8	1.44	1175	1.09	284	17	1.32
	7	Carus 8700	7.92	21.8	1.40	1169	0.82	282	23	2.64
	8	Carus 3900	7.81	21.8	1.58	1178	0.59	290	13	0.60
	9	Carus 3900	8.03	22.0	1.10	1250	0.81	290	14	0.18

Test	Beaker No.	Product	рН	Temp., °C	Total Cl2, mg/L	Conductivity, μS/ cm	Turbidity, NTU	Alkalinity, mg/L as CaCO3	Color, Pt-Co	Ortho P, mg/L
13	0	Blank	7.65	22.1	0.95	1133	4.65	270	23	0.36
	1	Sodium Hex	7.69	22.1	1.15	1140	3.23	264	26	0.15
	2	Carus 8400	7.73	22.1	1.57	1145	2.81	258	22	1.57
	3	Carus 8400	7.75	22.1	1.32	1143	1.90	260	19	3.10
	4	Carus 8600	7.77	22.1	1.57	1143	1.68	266	12	1.44
	5	Carus 8600	7.74	22.1	1.36	1141	2.07	270	18	2.90
	6	Carus 8700	7.77	22.1	1.45	1142	1.57	272	11	1.18
	7	Carus 8700	7.80	22.1	1.34	1139	1.56	270	18	2.74
	8	Carus 3900	7.86	22.2	1.09	1147	1.58	274	19	0.18
	9	Carus 3900	7.96	22.1	1.38	1157	2.39	278	24	0.18

# APPENDIX B – LABORATORY WATER QUALITY RESULTS REPORT

**Eaton Analytical** 

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** 11/22/2020 (1 mosh **EUROFINS EATON ANALYTICAL, LLC** 

ZIA8: Vanessa Berry

**Project Manager** 

Report: 902540 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

Eurofins Eaton Analytical, LLC

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#### 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

		Environ-	Environ-			-	Environ-	Environ-	
SPECIFIC TESTS	METHOD OR TECHNIQUE USED	mental (Drinking Water)	mental (Waste Water)	Water as a Component of Food and Bev/Bev/ Bottled Water	SPECIFIC TESTS	METHOD OR TECHNIQUE USED	mental (Drinking Water)	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	Hexavalent Chromium	EPA 218.7	x		x
1,4-Dioxane	EPA 522	х		x	Hexavalent Chromium	SM 3500-Cr B		х	
2.3.7.8-TCDD	Modified EPA 1613B	x		x	Hormones	EPA 539	х	~	x
Acrylamide	In House Method (2440)	x		x	Hydroxide as OH Calc.	SM 2330B	х		х
Algal Toxins/Microcystin	In House Method (3570)				Kjeldahl Nitrogen	EPA 351.2		х	
Alkalinity	SM 2320B	x	х	x	Legionella	Legiolert	х		х
Ammonia	EPA 350.1		х	х	Mercury	EPA 200.8	х		х
Ammonia	SM 4500-NH3 H		х	х	Metals	EPA 200.7 / 200.8	х	х	х
Anions and DBPs by IC	EPA 300.0	х	х	х	Microcystin LR	ELISA (2360)	х		х
Anions and DBPs by IC	EPA 300.1	х		х	Microcystin, Total	EPA 546	х		х
Asbestos	EPA 100.2	x	х		NDMA	EEA/Agilent 521.1	x		x
		~				In house method (2425)			
BOD / CBOD	SM 5210B		х	x	Nitrate/Nitrite Nitrogen	EPA 353.2	х	х	х
Bromate	In House Method (2447)	x		x	OCL, Pesticides/PCB	EPA 505	х		x
Carbamates	EPA 531.2	х		x	Ortho Phosphate	EPA 365.1	х	х	x
Carbonate as CO3	SM 2330B	х	х	x	Ortho Phosphorous Oxyhalides Disinfection	SM 4500P E	х		х
Carbonyls	EPA 556	x		x	Byproducts	EPA 317.0	х		x
COD	EPA 410.4 / SM 5220D	1	x		Perchlorate	EPA 331.0	x		x
Chloramines	SM 4500-CL G	x	x	x	Perchlorate (low and high)	EPA 314.0	x		x
Chlorinated Acids	EPA 515.4	x		x	Perfluorinated Alkyl Acids	EPA 537	x		x
Chlorinated Acids	EPA 555	x	1	x	Perfluorinated Polutant	In house Method (2434)	x		x
Chlorine Dioxide	SM 4500-CLO2 D Palin Test	x		x	рН	EPA 150.1	x		
Chlorine -Total/Free/ Combined Residual	SM 4500-Cl G	x	x	x	рН	SM 4500-H+B	x	x	x
Conductivity	EPA 120.1	1	x		Phenylurea Pesticides/ Herbicides	In House Method, based on EPA 532 (2448)	x		x
Conductivity	SM 2510B	x	x	x	Herbicides Pseudomonas	532 (2448) IDEXX Pseudalert (2461)	x		x
Corrosivity (Langelier Index)	SM 2330B	x	~	x	Radium-226	GA Institute of Tech	x		x
Cyanide, Amenable	SM 4500-CN G	x	x		Radium-228	GA Institute of Tech	x		x
Cyanide, Free	SM 4500-CN G	x	x	x	Radon-222	SM 7500RN	x		x
Cyanide, Total	EPA 335.4	x	x	x	Residue, Filterable	SM 2540C	x	x	x
Cyanogen Chloride (screen)	In House Method (2470)	x	~	x	Residue, Non-filterable	SM 2540D	~	x	~
Diquat and Paraquat	EPA 549.2	x		x	Residue, Total	SM 2540B		x	x
DBP/HAA	SM 6251B	x		x	Residue, Volatile	EPA 160.4		x	~
Dissolved Oxygen	SM 4500-O G		х	x	Semi-VOC	EPA 525.2	x		x
DOC	SM 5310C	x		х	Silica	SM 4500-Si D	х	х	
E. Coli	(MTF/EC+MUG)	х		х	Silica	SM 4500-SiO2 C	х	х	
	· · · · · ·						~		-
E. Coli	CFR 141.21(f)(6)(i)	x		x	Sulfide	SM 4500-S <sup>=</sup> D		х	
E. Coli	SM 9223		х		Sulfite	SM 4500-SO <sup>3</sup> B	х	х	x
E. Coli (Enumeration)	SM 9221B.1/ SM 9221F	х		х	Surfactants	SM 5540C	x	х	х
E. Coli (Enumeration)	SM 9223B	х		х	Taste and Odor Analytes	SM 6040E	х		х
EDB/DCBP	EPA 504.1	x			Total Coliform (P/A)	SM 9221 A, B	х		х
EDB/DBCP and DBP	EPA 551.1	x		x	Total Coliform (Enumeration)	SM 9221 A, B, C	x		x
EDTA and NTA	In House Method (2454)	x		x	Total Coliform / E. coli	Colisure SM 9223	x		x
Endothall	EPA 548.1	x		×	Total Coliform	SM 9221B	^	х	^
Endothall	In-house Method (2445)	x		х	Total Coliform with Chlorine Present	SM 9221B		x	
Enterococci	SM 9230B	x	х		Total Coliform / E.coli (P/A and Enumeration)	SM 9223	x		x
Fecal Coliform	SM 9221 E (MTF/EC)	х			TOC	SM 5310C	x	x	x
Fecal Coliform	SM 9221C, E (MTF/EC)		x		TOX	SM 5320B		x	1
Fecal Coliform	SM 9221E, E (MTF/EC)	x		x	Total Phenols	EPA 420.1		x	
(Enumeration) Fecal Coliform with	SM 9221E		x		Total Phenols	EPA 420.4	x	x	x
Chlorine Present Fecal Streptococci	SM 9221E	x	×		Total Phosphorous	SM 4500 P E	^	x	^
Fluoride	SM 4500-F C	x	x	x	Triazine Pesticides &	In House (3617)	x		x
Glyphosata	EPA 547	v		×	Degradates	EDA 190 1	v	v	v
Glyphosate   AMPA		x		×	Turbidity Turbidity	EPA 180.1	x	x	X
Glyphosate + AMPA Gross Alpha/Pata	In House Method (3618)	x	~	x	Turbidity	SM 2130B	X	х	~
Gross Alpha/Beta Gross Alpha Coprecipitation	EPA 900.0 SM 7110 C	x	x	x	Uranium by ICP/MS UV 254	EPA 200.8 SM 5910B	x		x
Hardness	SM 2340B	х	x	x	VOC	EPA 524.2	x		х
Heterotrophic Bacteria	In House Method (2439)	х		x	VOC	In House Method (2411)	х		x
Heterotrophic Bacteria	SM 9215 B	х		x	Yeast and Mold	SM 9610	х		х
Hexavalent Chromium	EPA 218.6	х	х	х	Field Sampling	N/A			1

750 Royal Oaks Dr., Ste 100, Monrovia, CA 91016 Tel (626) 386-1100 Fax (866) 988-3757 https://www.eurofinsus.com/Eaton Version 006 Issued: 05/04/20

	Eaton Analytical Acknowled	Igement of Samples Received
	Tetra Tech	Client ID: TETRATECH-ORLAN
	201 East Pine Street Suite 1000	Folder #: 902540 Project: KALAMAZOO
	Orlando, FL 32801	Sample Group: Lead Solubility Testing - Phase 1
	James Christopher 407-480-3907	Project Manager: Vanessa Berry Phone: 503-310-3905
tests list		<b>ovember 09, 2020</b> at <b>1207</b> . They have been scheduled for the incorrect, please contact your service representative. Thank you
Sample #	Sample ID	Sample Date
202011090106	Day 1 NO.0	11/05/2020 1357
	@ICPMS	
02011090107	Day 1 NO.1	11/05/2020 1400
	@ICPMS	
02011090108	Day 1 NO.2	11/05/2020 1402
	@ICPMS	
02011090109	Day 1 NO.3	11/05/2020 1402
		· · · · · · · · · · · · · · · · · · ·
02011090110	@ICPMS Day 1 NO.4	11/05/2020 1403
02011090110		11/03/2020 1403
	@ICPMS	
<u>02011090111</u>	Day 1 NO.5	11/05/2020 1403
	@ICPMS	
02011090112	Day 1 NO.6	11/05/2020 1405
	@ICPMS	
02011090113	Day 1 NO.7	11/05/2020 1405
	@ICPMS	
02011090114	Day 1 NO.8	11/05/2020 1408

@ICPMS 202011090115 Day 1 NO.9 11/05/2020 1408 @ICPMS

# **Test Description**

@ICPMS -- ICPMS Metals

		eurofins	CHAIN (	<b>DF CUST</b>	CHAIN OF CUSTODY RECORD		antun
		Eaton Analytical	EUROFINS EATON ANALYTICAL USE ONLY:				
			LOGIN COMMENTS:		SAMPLES CHEC	SAMPLES CHECKED AGAINST COC BY:	iY:
	Moni	750 Royal Oaks Drive, Suite 100 Monrovia. CA 91016-3629			SA	SAMPLES LOGGED IN BY:	UL :Y
			SAMPLE TEMP RECEIVED AT:		SAMPLES REC	SAMPLES REC'D DAY OF COLLECTION?	
	Fax:	Fax: 626 386 1101	(Other)	V6	on=°C) (Corr.Factor		°C)
	800	800 566 LABS (800 566 5227)		(Ubservation=	i	C) (Final =	<b>)</b>
	Web	Website: www.EatonAnalytical.com	TYPE OF ICE: Real Synthetic	No Ice CONDIT	CONDITION OF ICE: Frozen Par	Partially Frozen Th	Thawed N/A
			METHOD OF SHIPMENT: Pick-Up / V	/ Walk-In FedEx / U	FedEx / UPS / DHL / Area Fast / Top Line / Other:	ne / Other:	
	TO BE C	TO BE COMPLETED BY SAMPLER:			(check for yes)		(check for yes)
	COMPA	COMPANY/AGENCY NAME:	PROJECT CODE:	COMP		NON-COMPLIANCE SAMPLES	MPLES
	Tehn	TETTO TECH. 201 E PINE ST. ONUNDO	0	- Requires stat Type of samples (circle one)	e forms	REGULATION INVOLVED:	D: (en SDWA NDDES etc.)
	EFA CI	EFA CLIENT CODE: COC ID:	SAMPLE GROUP:	SEF ATTACHI	DER FOR		(check for ves) OR
	Tehn	VDL	Lead solubility Test- Phase 1		List ALL ANALYSES REQUIRED (enter number of bottles sent for each test for each sample)	r of bottles sent for eac	n test for each sample)
	TAT req	TAT requested: rush by adv notice only	STD 1 wk 3 day 2 day 1 day	5			
	AJAMA2 DATE	SAMPLE ID SAMPLE ID	CLIENT LAB ID MATRIX • пего оата	W())@			SAMPLER COMMENTS
	115	0 7 00N 7 NO. 7 0	-	1			preserved
	11/5						MIM
	-	14:03 DON 1 NO3 3					nitric
		14:00 DUN 1 NO.4 3					aud
		4	and the second se				5
		14:03 DUN 1 No.16 5					tend tech
	_	9 K ON T NOO 90: HI		-			
		14:05 DON 1 No & 7				2	
		14:08 DON 1 NO. 94 8					
	Þ	14:08 DON 1 NO. 8 0	3	4			
	* MAT	* MATRIX TYPES: RSW = Raw Surface Water RGW = Raw Ground Water	<b>CFW</b> = Chlor(am)inated Finished Water <b>FW</b> = Other Finished Water	SEAW = Sea Water WW = Waste Water	ter <b>BW</b> = Bottled Water ter <b>SW</b> = Storm Water	SO = Soil O = SL = Sludge	0 = Other - Please Identify
		SIGNATURE	PRINT NAME		COMPANY/TITLE	DATE	TIME
	SAMPLED BY:	M. AVEN	Martia Isabel At	Arenas	terra teun, project e	Engineer intelad	06:41
Pa	RELINQU	RELINQUISHED BY: N. ALPNOL				11	02:41
ge 5	RECEIVED BY:	)	P QUI Mal	5	FEA	·(~))	20 207
of	RELINQU	RELINQUISHED BY:		-1			
11 p	RECEIVED BY:	ED BY:					
bag	QA FO 00	QA FO 0029.2 (Version 2) (08/28/2014)					PAGE OF



Tetra Tech

Suite 1000 Orlando, FL 32801

James Christopher 201 East Pine Street

Eaton Analytical

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

Report: 902540 Project: KALAMAZOO Group: Lead Solubility Testing - Phase 1

The Comments Report may be blank if there are no comments for this report.

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

## Laboratory Hits

Report: 902540 Project: KALAMAZOO Group: Lead Solubility Testing - Phase 1

Samples Received on:

11/09/2020 1207

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

Analyzed	Analyte	Sample ID	Result	Federal MCL	Units	MRL
11/14/2020 13:53	202011090106 Lead Total ICAP/MS	<u>Day 1 NO.0</u>	290	15	ug/L	0.50
11/14/2020 13:54	202011090107 Lead Total ICAP/MS	<u>Day 1 NO.1</u>	360	15	ug/L	0.50
11/14/2020 13:55	202011090108 Lead Total ICAP/MS	<u>Day 1 NO.2</u>	930	15	ug/L	0.50
11/14/2020 13:58	202011090109 Lead Total ICAP/MS	<u>Day 1 NO.3</u>	370	15	ug/L	0.50
11/14/2020 14:03	202011090110 Lead Total ICAP/MS	<u>Day 1 NO.4</u>	730	15	ug/L	0.50
11/18/2020 17:07	202011090111 Lead Total ICAP/MS	<u>Day 1 NO.5</u>	460	15	ug/L	0.50
11/18/2020 17:09	202011090112 Lead Total ICAP/MS	<u>Day 1 NO.6</u>	450	15	ug/L	0.50
11/14/2020 14:05	202011090113 Lead Total ICAP/MS	<u>Day 1 NO.7</u>	620	15	ug/L	0.50
11/14/2020 14:07	202011090114 Lead Total ICAP/MS	<u>Day 1 NO.8</u>	1100	15	ug/L	0.50
11/14/2020 14:08	202011090115 Lead Total ICAP/MS	<u>Day 1 NO.9</u>	1600	15	ug/L	0.50

ļ	Day	1	NO.8	(202011	090114)

11/10/20	11/14/20 14.07	1200901	1200242	(EPA 200.6)	Leau Tolai ICAF/IVIS	
Day 1 N	NO.9 (202011090	115)				

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

Fax: (866) 988-3757
1 800 566 LABS (1 800 566 5227)

Prep Batch Analytical Batch

EPA 200.8 - ICPMS Metals

1288241

1286981

Method

(EPA 200.8)

aboratory Data

Result

290

Report: 902540 Project: KALAMAZOO Group: Lead Solubility Testing - Phase 1

> Samples Received on: 11/09/2020 1207

> > Units

ug/L

Sampled on 11/05/2020 1357

Sampled on 11/05/2020 1400

MRL

0.50

Page 8 of 11 pages

Dilution

1

EPA 200.8	- ICPMS Metals						
11/10/20 11/14/20 13:54 1286981	1288241	(EPA 200.8)	Lead Total ICAP/MS	360	ug/L	0.50	1
<u>Day 1 NO.2 (202011090108)</u>				Samp	led on 11/05	/2020 1402	
EPA 200.8	- ICPMS Metals						
11/10/20 11/14/20 13:55 1286981	1288241	(EPA 200.8)	Lead Total ICAP/MS	930	ug/L	0.50	1
<u>Day 1 NO.3 (202011090109)</u>				Samp	led on 11/05	/2020 1402	
EDA 200 0							
EPA 200.8 11/10/20 11/14/20 13:58 1286981	ICPMS Metals 1288241	(EPA 200.8)	Lead Total ICAP/MS	370	ug/L	0.50	1
Day 1 NO.4 (202011090110)		(217120010)			led on 11/05		
				<b>-</b>			
	- ICPMS Metals			700		0.50	4
11/10/20 11/14/20 14:03 1286981	1288242	(EPA 200.8)	Lead Total ICAP/MS	730	ug/L	0.50	1
<u>Day 1 NO.5 (202011090111)</u>				Samp	led on 11/05	/2020 1403	
EPA 200.8	- ICPMS Metals						
11/10/20 11/18/20 17:07 1286981	1288326	(EPA 200.8)	Lead Total ICAP/MS	460	ug/L	0.50	1
<u>Day 1 NO.6 (202011090112)</u>				Samp	led on 11/05	/2020 1405	
EPA 200.8	- ICPMS Metals						
11/10/20 11/18/20 17:09 1286981	1288326	(EPA 200.8)	Lead Total ICAP/MS	450	ug/L	0.50	1
<u>Day 1 NO.7 (202011090113)</u>				Samp	led on 11/05	/2020 1405	
ED7 200 8	- ICPMS Metals						
11/10/20 11/14/20 14:05 1286981		(EPA 200.8)	Lead Total ICAP/MS	620	ug/L	0.50	1
<u>Day 1 NO.8 (202011090114)</u>				Samp	led on 11/05	/2020 1408	
EPA 200.8 11/10/20 11/14/20 14:07 1286981	ICPMS Metals 1288242	(EPA 200.8)	Lead Total ICAP/MS	1100	ug/L	0.50	1
Day 1 NO.9 (202011090115)		(0000)			oled on 11/05		
				Camp			
EPA 200.8	- ICPMS Metals						

Analyte

Lead Total ICAP/MS

**Tetra Tech** James Christopher

201 East Pine Street

Suite 1000 Orlando, FL 32801

Analyzed

Day 1 NO.0 (202011090106)

Day 1 NO.1 (202011090107)

11/10/20 11/14/20 13:53

Prepped

Tel: (626) 386-1100

🛟 eurofins

**Eaton Analytical** 



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

Report: 902540 Project: KALAMAZOO Group: Lead Solubility Testing - Phase 1

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

Samples Received on: 11/09/2020 1207

Prepped	Analyzed	Prep Batch	Analytical Batch	Method	Analyte	Result	Units	MRL	Dilution
11/10/20	11/14/20 14:08	1286981	1288242	(EPA 200.8)	Lead Total ICAP/MS	1600	ug/L	0.50	1



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Tetra Tech

#### **ICPMS Metals**

Prep Batch: 1286981	Analytical Batch: 1288241						
202011090106	Day 1 NO.0						
202011090107	Day 1 NO.1						
202011090108	Day 1 NO.2						
202011090109	Day 1 NO.3						
ICPMS Metals							

#### Prep Batch: 1286981 Analytical Batch: 1288242

202011090110	Day 1 NO.4
202011090113	Day 1 NO.7
202011090114	Day 1 NO.8
202011090115	Day 1 NO.9

#### **ICPMS Metals**

# Prep Batch: 1286981 Analytical Batch: 1288326 202011090111 Day 1 NO 5

202011090111	Day 1 NO.5
202011090112	Day 1 NO.6

Report: 902540 Project: KALAMAZOO Group: Lead Solubility Testing - Phase 1

## Analysis Date: 11/14/2020

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

## Analysis Date: 11/14/2020

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

#### Analysis Date: 11/18/2020

Analyzed by: DHX7 Analyzed by: DHX7



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

Report: 902540 Project: KALAMAZOO Group: Lead Solubility Testing - Phase 1

Tetra Tec	n							DDD	
QC Туре	Analyte	Native	Spiked	Recovered	Units	Yield(%)	Limits (%)	RPD Limit(%)	RPD%
ICPMS Metals by	EPA 200.8								
Analytical B	atch: 1288241					Analysis D	ate: 11/14/	2020	
LCS1	Lead Total ICAP/MS		50	50.6	ug/L	101	(85-115)		
LCS2	Lead Total ICAP/MS		50	50.6	ug/L	101	(85-115)	20	0.20
MBLK	Lead Total ICAP/MS			<0.25	ug/L				
MRL_CHK	Lead Total ICAP/MS		0.5	0.496	ug/L	99	(50-150)		
MS_202011050420	Lead Total ICAP/MS	ND	50	51.2	ug/L	102	(70-130)		
MS2_202011070020	Lead Total ICAP/MS	110	50	160	ug/L	100	(70-130)		
MSD_202011050420	Lead Total ICAP/MS	ND	50	49.7	ug/L	99	(70-130)	20	3.0
MSD2_202011070020	Lead Total ICAP/MS	110	50	158	ug/L	94	(70-130)	20	1.6
ICPMS Metals by	EPA 200.8								
Analytical B	atch: 1288242					Analysis D	ate: 11/14/	/2020	
LCS1	Lead Total ICAP/MS		50	51.3	ug/L	103	(85-115)		
LCS2	Lead Total ICAP/MS		50	51.6	ug/L	103	(85-115)	20	0.58
MBLK	Lead Total ICAP/MS			<0.25	ug/L				
MRL_CHK	Lead Total ICAP/MS		0.5	0.612	ug/L	122	(50-150)		
MS_202011090110	Lead Total ICAP/MS	730	50	786	ug/L	107	(70-130)		
MS2_202011110352	Lead Total ICAP/MS	710	50	763	ug/L	104	(70-130)		
MSD_202011090110	Lead Total ICAP/MS	730	50	782	ug/L	99	(70-130)	20	0.44
MSD2_202011110352	Lead Total ICAP/MS	710	50	769	ug/L	117	(70-130)	20	0.83
ICPMS Metals by									
Analytical B	atch: 1288326					Analysis D	ate: 11/18/	2020	
LCS1	Lead Total ICAP/MS		50	49.6	ug/L	99	(85-115)		
LCS2	Lead Total ICAP/MS		50	49.9	ug/L	100	(85-115)	20	0.60
MBLK	Lead Total ICAP/MS			<0.25	ug/L				
MRL_CHK	Lead Total ICAP/MS		0.5	0.506	ug/L	101	(50-150)		
MS_202011180702	Lead Total ICAP/MS	ND	50	49.3	ug/L	98	(70-130)		
MS2_202011110335	Lead Total ICAP/MS	ND	50	48.8	ug/L	97	(70-130)		
MSD_202011180702	Lead Total ICAP/MS	ND	50	49.3	ug/L	98	(70-130)	20	0.057
MSD2_202011110335	Lead Total ICAP/MS	ND	50	47.9	ug/L	96	(70-130)	20	1.8

Spike recovery is already corrected for native results. Spikes which exceed Limits and Method Blanks with positive results are highlighted by <u>Underlining.</u> 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.

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** 11/24/2020 (1 mosa **EUROFINS EATON ANALYTICAL, LLC** 

ZIA8: Vanessa Berry

Project Manager

Report: 903756 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

Eurofins Eaton Analytical, LLC

750 Royal Oaks Drive, Suite 100 Monrovia, CA 91016-3629 T | 626-386-1100 F | 866-988-3757 www.EurofinsUS.com/Eaton

#### 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

		Environ-	Environ-			-	Environ-	Environ-	
SPECIFIC TESTS	METHOD OR TECHNIQUE USED	mental (Drinking Water)	mental (Waste Water)	Water as a Component of Food and Bev/Bev/ Bottled Water	SPECIFIC TESTS	METHOD OR TECHNIQUE USED	mental (Drinking Water)	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	Hexavalent Chromium	EPA 218.7	x		x
1,4-Dioxane	EPA 522	х		x	Hexavalent Chromium	SM 3500-Cr B		х	
2.3.7.8-TCDD	Modified EPA 1613B	x		x	Hormones	EPA 539	х	~	x
Acrylamide	In House Method (2440)	x		x	Hydroxide as OH Calc.	SM 2330B	х		х
Algal Toxins/Microcystin	In House Method (3570)				Kjeldahl Nitrogen	EPA 351.2		х	
Alkalinity	SM 2320B	x	х	x	Legionella	Legiolert	х		х
Ammonia	EPA 350.1		х	х	Mercury	EPA 200.8	х		х
Ammonia	SM 4500-NH3 H		х	х	Metals	EPA 200.7 / 200.8	х	х	х
Anions and DBPs by IC	EPA 300.0	х	х	х	Microcystin LR	ELISA (2360)	x		х
Anions and DBPs by IC	EPA 300.1	х		х	Microcystin, Total	EPA 546	х		х
Asbestos	EPA 100.2	x	х		NDMA	EEA/Agilent 521.1	x		x
		~				In house method (2425)			
BOD / CBOD	SM 5210B		х	x	Nitrate/Nitrite Nitrogen	EPA 353.2	х	х	х
Bromate	In House Method (2447)	x		x	OCL, Pesticides/PCB	EPA 505	х		x
Carbamates	EPA 531.2	х		x	Ortho Phosphate	EPA 365.1	х	х	x
Carbonate as CO3	SM 2330B	х	х	x	Ortho Phosphorous Oxyhalides Disinfection	SM 4500P E	х		х
Carbonyls	EPA 556	x		x	Byproducts	EPA 317.0	х		x
COD	EPA 410.4 / SM 5220D	1	x		Perchlorate	EPA 331.0	x		x
Chloramines	SM 4500-CL G	x	x	x	Perchlorate (low and high)	EPA 314.0	x		x
Chlorinated Acids	EPA 515.4	x		x	Perfluorinated Alkyl Acids	EPA 537	x		x
Chlorinated Acids	EPA 555	x	1	x	Perfluorinated Polutant	In house Method (2434)	x		x
Chlorine Dioxide	SM 4500-CLO2 D Palin Test	x		x	рН	EPA 150.1	x		
Chlorine -Total/Free/ Combined Residual	SM 4500-Cl G	x	x	x	рН	SM 4500-H+B	x	x	x
Conductivity	EPA 120.1	1	x		Phenylurea Pesticides/ Herbicides	In House Method, based on EPA 532 (2448)	x		x
Conductivity	SM 2510B	x	x	x	Herbicides Pseudomonas	532 (2448) IDEXX Pseudalert (2461)	x		x
Corrosivity (Langelier Index)	SM 2330B	x	~	x	Radium-226	GA Institute of Tech	x		x
Cyanide, Amenable	SM 4500-CN G	x	x		Radium-228	GA Institute of Tech	x		x
Cyanide, Free	SM 4500-CN G	x	x	x	Radon-222	SM 7500RN	x		x
Cyanide, Total	EPA 335.4	x	x	x	Residue, Filterable	SM 2540C	x	x	x
Cyanogen Chloride (screen)	In House Method (2470)	x	~	x	Residue, Non-filterable	SM 2540D	~	x	~
Diquat and Paraquat	EPA 549.2	x		x	Residue, Total	SM 2540B		x	x
DBP/HAA	SM 6251B	x		x	Residue, Volatile	EPA 160.4		x	~
Dissolved Oxygen	SM 4500-O G		х	x	Semi-VOC	EPA 525.2	x		x
DOC	SM 5310C	x		х	Silica	SM 4500-Si D	х	х	
E. Coli	(MTF/EC+MUG)	х		х	Silica	SM 4500-SiO2 C	х	х	
	· · · · · ·						~		-
E. Coli	CFR 141.21(f)(6)(i)	x		x	Sulfide	SM 4500-S <sup>=</sup> D		х	
E. Coli	SM 9223		х		Sulfite	SM 4500-SO <sup>3</sup> B	х	х	x
E. Coli (Enumeration)	SM 9221B.1/ SM 9221F	х		х	Surfactants	SM 5540C	x	х	х
E. Coli (Enumeration)	SM 9223B	х		х	Taste and Odor Analytes	SM 6040E	х		х
EDB/DCBP	EPA 504.1	х			Total Coliform (P/A)	SM 9221 A, B	х		х
EDB/DBCP and DBP	EPA 551.1	x		x	Total Coliform (Enumeration)	SM 9221 A, B, C	x		x
EDTA and NTA	In House Method (2454)	x		x	Total Coliform / E. coli	Colisure SM 9223	x		x
Endothall	EPA 548.1	x		×	Total Coliform	SM 9221B	^	х	^
Endothall	In-house Method (2445)	x		х	Total Coliform with Chlorine Present	SM 9221B		x	
Enterococci	SM 9230B	x	х		Total Coliform / E.coli (P/A and Enumeration)	SM 9223	x		x
Fecal Coliform	SM 9221 E (MTF/EC)	х			TOC	SM 5310C	x	x	x
Fecal Coliform	SM 9221C, E (MTF/EC)		x		TOX	SM 5320B		x	1
Fecal Coliform	SM 9221E, E (MTF/EC)	x		x	Total Phenols	EPA 420.1		x	
(Enumeration) Fecal Coliform with	SM 9221E		x		Total Phenols	EPA 420.4	x	x	x
Chlorine Present Fecal Streptococci	SM 9221E	x	×		Total Phosphorous	SM 4500 P E	^	x	^
Fluoride	SM 4500-F C	x	x	x	Triazine Pesticides &	In House (3617)	x		x
Glyphosata	EPA 547	v		×	Degradates	EDA 190 1	v	v	v
Glyphosate   AMPA		x		×	Turbidity Turbidity	EPA 180.1	x	x	X
Glyphosate + AMPA Gross Alpha/Pata	In House Method (3618)	x	~	x	Turbidity	SM 2130B	X	х	~
Gross Alpha/Beta Gross Alpha Coprecipitation	EPA 900.0 SM 7110 C	x	x	x	Uranium by ICP/MS UV 254	EPA 200.8 SM 5910B	x		x
Hardness	SM 2340B	х	x	x	VOC	EPA 524.2	x		х
Heterotrophic Bacteria	In House Method (2439)	х		x	VOC	In House Method (2411)	х		х
Heterotrophic Bacteria	SM 9215 B	х		x	Yeast and Mold	SM 9610	х		х
Hexavalent Chromium	EPA 218.6	х	х	х	Field Sampling	N/A			1

750 Royal Oaks Dr., Ste 100, Monrovia, CA 91016 Tel (626) 386-1100 Fax (866) 988-3757 https://www.eurofinsus.com/Eaton Version 006 Issued: 05/04/20

🔅 eurofin		
	Eaton Analytical Acknowle	dgement of Samples Received
Addr:	Tetra Tech	Client ID: TETRATECH-ORLAN
	201 East Pine Street	Folder #: 903756
	Suite 1000	Project: KALAMAZOO
	Orlando, FL 32801	Sample Group: Lead Solubility Testing - Phase 1
Attn:	James Christopher	Project Manager: Vanessa Berry
	407-480-3907	Phone: 503-310-3905
	g Eurofins Eaton Analytical, LLC.	incorrect, please contact your service representative. Thank you Sample Date
202011160172	C.O.2 #1	11/09/2020 0812
	@ICPMS	
202011160173	C.O.2 #2	11/09/2020 0812
	@ICPMS	
202011160174	C.O.2 #3	11/09/2020 0813
	@ICPMS	
<u>202011160175</u>	C.O.2 #4	11/09/2020 0814
	@ICPMS	
000044400470		44/00/0000 0040
202011160176	C.O.2 #5	11/09/2020 0816
	@ICPMS	
202011160177	C.O.2 #6	11/09/2020 0816
	@ICPMS	
202011160178	C.O.2 #7	11/09/2020 0817

202011160178	C.O.2 #7	11/09/2020 0817
	@ICPMS	
202011160179	C.O.2 #8	11/09/2020 0818
	@ICPMS	
202011160180	C.O.2 #9	11/09/2020 0819
	@ICPMS	

# **Test Description**

@ICPMS -- ICPMS Metals

Controfins	CHAIN C	IAIN OF CUSTODY RECORD	Y RECORD	dense	
	EUROFINS EATON ANALYTICAL USE ONLY:			4	
750 Royal Oaks Drive, Suite 100			SAMPLES CHECKEU AGAINST COC BT: SAMPLES CHECKEU AGAINST COC BT:	CED IN EV.	
Monrovia, CA 91016-3629			SAMPLES LOG	1	
Phone: 626 386 1100	SAMPLE TEMP RECEIVED AT:	(Observation=	SAMPLES REC'D DAY OF COLLECTION?	DLLECTION? (check for yes)	
Fax: 626 386 1101			510		
800 566 LABS (800 566 5227)	Accentance Criteria: (Chemistry: 4	1	Ĩ.		
Website: www.EatonAnalytical.com	TYPE OF ICE: Real X Synthetic 7	No Ice CONDITION OF ICE:	FICE: Frozen Partially Frozen	Thawed N/A	
	METHOD OF SHIPMENT: Pick-Up / V	Pick-Up / Walk-In / HedEx UPS /	-		
L TO RE COMPLETED BY SAMPLER	22221120220		(check for ves)	(check for ves)	
COMPANY/AGENCY NAME:	PROJECT CODE:	COMPLIANC		17	
TOPPLY TOPPLY E DIAS IS NOT NOT		- Require	te forms	NOLVED:	
		Type or samples (circle one).	TODET FOR ANALYOFT		
TENOLECH- NYIAN	LEOLD SOLUDITITY TELT - PHOSE	/	SEE ALLACHED KIT ORDER FOR ANALYSES Concert for yes). <u>OR</u> List ALL ANALYSES REQUIRED (enter number of bottles sent for each test for each sample)	t for each test for each sample)	
TAT requested: rush by adv notice only	2 day	- ~			
SAMPLE ID SAMPLE ID SAMPLE	CLIENT LAB ID	MDI		SAMPLER COMMENTS	
∀S □	נופר	0			07
119 8:10 CO. 2 # 0	fw			Preserved with	.91
1 8:13 6.0.2 # 1				nitric acid by	11-2
8:10 C.O.2 #2				tetro rech	212
8:13 C.O.2 # 3			<b>#</b>	iu/51	Fund
8:14 C-0.2 # H				1 4	CID
8:16 C.O.2 # 5					
8:16 C.O.2 # 6					
8:19 C.O.2 # 7					
8:18 C-0.2 # 8	100 Mar				
V 8:19 C.O.2 #9	4	4		4	
* MATRIX TYPES: RSW = Raw Surface Water RGW = Raw Ground Water	er <b>CFW</b> = Chlor(am)inated Finished Water er <b>FW</b> = Other Finished Water	SEAW = Sea Water WW = Waste Water	BW = Bottled WaterSO = SoilSW = Storm WaterSL = Sludge	<b>O</b> = Other - Please Identify	
SIGNATURE	PRINT NAME		COMPANY/TITLE	DATE TIME	
SAMPLED BY: M. ARCAUS (MIGINIO . QUENOS O PEHOHECH-KOM	SQ PETROPECHICOM) MORTO ISCIDEI	Arenos Tehio	TECH, Project Engineer	11/13/20 15:30	
RELINQUISHED BY: M. APONGS	=		2	11 11	
RECEIVED BY: UNIN BOUL	Chrill Bee	m	FCA	11-16-20 1306	
RECEIVED BY:					
QA FO 0029.2 (Version 2) (08/28/2014)			-	PAGE OF	



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

Sample C.O.2 #0 was received with sulfuric acid preservation and was unable to be analyzed. VHB 11-17-20



Laboratory Hits

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

Samples Received on: 11/16/2020 1306

Analyzed	Analyte	Sample ID	Result	Federal MCL	Units	MRL
11/21/2020 16:21	202011160172 Lead Total ICAP/MS	<u>C.O.2 #1</u>	620	15	ug/L	0.50
11/21/2020 16:21	202011160173 Lead Total ICAP/MS	<u>C.O.2 #2</u>	1000	15	ug/L	0.50
11/21/2020 16:22	202011160174 Lead Total ICAP/MS	<u>C.O.2 #3</u>	380	15	ug/L	0.50
11/21/2020 16:23	202011160175 Lead Total ICAP/MS	<u>C.O.2 #4</u>	570	15	ug/L	0.50
11/21/2020 16:24	202011160176 Lead Total ICAP/MS	<u>C.O.2 #5</u>	550	15	ug/L	0.50
11/21/2020 16:29	202011160177 Lead Total ICAP/MS	<u>C.O.2 #6</u>	390	15	ug/L	0.50
11/21/2020 16:31	202011160178 Lead Total ICAP/MS	<u>C.O.2 #7</u>	610	15	ug/L	0.50
11/21/2020 16:32	202011160179 Lead Total ICAP/MS	<u>C.O.2 #8</u>	1200	15	ug/L	0.50
11/20/2020 17:56	202011160180 Lead Total ICAP/MS	<u>C.O.2 #9</u>	1500	15	ug/L	5.0

(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

C.O.2 #1 (202011160172)			Samp	led on 11/09	/2020 0812	
EPA 200.8 - ICPMS Metals 11/17/20 11/21/20 16:21 1288619 1289903 C.O.2 #2 (202011160173)	(EPA 200.8)	Lead Total ICAP/MS	620 Samp	ug/L led on 11/09	0.50 <b>/2020 0812</b>	1
EPA 200.8 - ICPMS Metals 11/17/20 11/21/20 16:21 1288619 1289903 C.O.2 #3 (202011160174)	(EPA 200.8)	Lead Total ICAP/MS	1000 Samp	ug/L led on 11/09	0.50 / <b>2020 0813</b>	1
EPA 200.8 - ICPMS Metals 11/17/20 11/21/20 16:22 1288619 1289903 C.O.2 #4 (202011160175)	(EPA 200.8)	Lead Total ICAP/MS	380 Samp	ug/L led on 11/09	0.50 / <b>2020 0814</b>	1
EPA 200.8 - ICPMS Metals 11/21/20 16:23 1288619 1289903 C.O.2 #5 (202011160176)	(EPA 200.8)	Lead Total ICAP/MS	570 Samp	ug/L led on 11/09	0.50 / <b>2020 0816</b>	1
EPA 200.8 - ICPMS Metals 11/17/20 11/21/20 16:24 1288619 1289903 C.O.2 #6 (202011160177)	(EPA 200.8)	Lead Total ICAP/MS	550 Samp	ug/L led on 11/09	0.50 / <b>2020 0816</b>	1
EPA 200.8 - ICPMS Metals 11/17/20 11/21/20 16:29 1288619 1289904 C.O.2 #7 (202011160178)	(EPA 200.8)	Lead Total ICAP/MS	390 <b>Samp</b>	ug/L led on 11/09	0.50 <b>/2020 0817</b>	1
EPA 200.8 - ICPMS Metals 11/17/20 11/21/20 16:31 1288619 1289904 <u>C.O.2 #8 (202011160179)</u>	(EPA 200.8)	Lead Total ICAP/MS	610 <b>Samp</b>	ug/L led on 11/09	0.50 / <b>2020 0818</b>	1
EPA 200.8 - ICPMS Metals 11/17/20 11/21/20 16:32 1288619 1289904 C.O.2 #9 (202011160180)	(EPA 200.8)	Lead Total ICAP/MS	1200 <b>Samp</b>	ug/L led on 11/09	0.50 / <b>2020 0819</b>	1
<b>EPA 200.8 - ICPMS Metals</b> 11/17/20 11/20/20 17:56 1288619 1289026	(EPA 200.8)	Lead Total ICAP/MS	1500	ug/L	5.0	10

Analyte

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

Analyzed

🛟 eurofins

Prepped

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**Eaton Analytical** 

Prep Batch Analytical Batch

Method

# Laboratory Data

Report: 903756 Project: KALAMAZOO Group: Lead Solubility Testing - Phase 1

Result

Samples Received on: 11/16/2020 1306

Units

MRL

Dilution

Page 8 of 10 pages



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

Tetra Tech

ICPMS	Metal	S
_		

Prep Batch: 1288619	Analytical Batch: 1289026
202011160180	C.O.2 #9
ICPMS Metals	
Prep Batch: 1288619	Analytical Batch: 1289903
202011160172	C.O.2 #1
202011160173	
202011100175	C.O.2 #2
202011160173	C.O.2 #2 C.O.2 #3

# **ICPMS Metals**

202011160176

# Prep Batch: 1288619 Analytical Batch: 1289904

C.O.2 #5

202011160177	C.O.2 #6
202011160178	C.O.2 #7
202011160179	C.O.2 #8

Report: 903756 Project: KALAMAZOO Group: Lead Solubility Testing - Phase 1

# Analysis Date: 11/20/2020 Analyzed by: DHX7

analyzed by: Driva

### Analysis Date: 11/21/2020

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

## Analysis Date: 11/21/2020

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



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Report: 903756 Project: KALAMAZOO Group: Lead Solubility Testing - Phase 1

QC Type	Analyte	Native	Spiked	Recovered	Units	Yield(%)	Limits (%)	RPD	RPD%
	Анаую	Native	Opikeu	Recovered	Onits		Linits (70)	Limit(%)	
ICPMS Metals by									
Analytical E	Batch: 1289026					Analysis D	ate: 11/20/	2020	
LCS1	Lead Total ICAP/MS		50	51.2	ug/L	102	(85-115)		
LCS2	Lead Total ICAP/MS		50	50.6	ug/L	101	(85-115)	20	0.98
MBLK	Lead Total ICAP/MS			<0.25	ug/L				
MRL_CHK	Lead Total ICAP/MS		0.5	0.510	ug/L	102	(50-150)		
MS_202011100281	Lead Total ICAP/MS	ND	50	49.0	ug/L	98	(70-130)		
MS2_202011170169	Lead Total ICAP/MS	ND	50	53.6	ug/L	107	(70-130)		
MSD_202011100281	Lead Total ICAP/MS	ND	50	48.3	ug/L	96	(70-130)	20	1.4
MSD2_202011170169	Lead Total ICAP/MS	ND	50	51.0	ug/L	102	(70-130)	20	5.0
ICPMS Metals by	EPA 200.8								
Analytical E	Batch: 1289903					Analysis D	ate: 11/21/	2020	
LCS1	Lead Total ICAP/MS		50	51.6	ug/L	103	(85-115)		
LCS2	Lead Total ICAP/MS		50	51.9	ug/L	104	(85-115)	20	0.58
MBLK	Lead Total ICAP/MS			<0.25	ug/L				
MRL_CHK	Lead Total ICAP/MS		0.5	0.504	ug/L	101	(50-150)		
MS_202011140040	Lead Total ICAP/MS	64	50	112	ug/L	96	(70-130)		
MS2_202011140050	Lead Total ICAP/MS	5.9	50	53.1	ug/L	95	(70-130)		
MSD_202011140040	Lead Total ICAP/MS	64	50	114	ug/L	99	(70-130)	20	1.4
MSD2_202011140050	Lead Total ICAP/MS	5.9	50	52.1	ug/L	92	(70-130)	20	1.9
ICPMS Metals by	EPA 200.8								
Analytical E	Batch: 1289904					Analysis D	ate: 11/21/	2020	
LCS1	Lead Total ICAP/MS		50	53.0	ug/L	106	(85-115)		
LCS2	Lead Total ICAP/MS		50	52.5	ug/L	105	(85-115)	20	0.95
MBLK	Lead Total ICAP/MS			<0.25	ug/L				
MRL_CHK	Lead Total ICAP/MS		0.5	0.510	ug/L	102	(50-150)		
MS_202011160177	Lead Total ICAP/MS	390	50	443	ug/L	101	(70-130)		
MS2_202011160196	Lead Total ICAP/MS	460	50	502	ug/L	90	(70-130)		
MSD_202011160177	Lead Total ICAP/MS	390	50	445	ug/L	106	(70-130)	20	0.51
MSD2_202011160196	Lead Total ICAP/MS	460	50	511	ug/L	109	(70-130)	20	1.8

Spike recovery is already corrected for native results. Spikes which exceed Limits and Method Blanks with positive results are highlighted by <u>Underlining.</u> 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.

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** 11/24/2020 (1 mosa **EUROFINS EATON ANALYTICAL, LLC** 

ZIA8: Vanessa Berry

Project Manager

Report: 903757 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	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

Eurofins Eaton Analytical, LLC

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#### 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

		Environ-	Environ-			-	Environ-	Environ-	
SPECIFIC TESTS	METHOD OR TECHNIQUE USED	mental (Drinking Water)	mental (Waste Water)	Water as a Component of Food and Bev/Bev/ Bottled Water	SPECIFIC TESTS	METHOD OR TECHNIQUE USED	mental (Drinking Water)	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	Hexavalent Chromium	romium EPA 218.7			x
1,4-Dioxane	EPA 522	х		x	Hexavalent Chromium	SM 3500-Cr B		х	
2.3.7.8-TCDD	Modified EPA 1613B	x		x	Hormones	EPA 539	х	~	x
Acrylamide	In House Method (2440)	x		x	Hydroxide as OH Calc.	SM 2330B	х		х
Algal Toxins/Microcystin	In House Method (3570)				Kjeldahl Nitrogen	EPA 351.2		х	
Alkalinity	SM 2320B	x	х	x	Legionella	Legiolert	х		х
Ammonia	EPA 350.1		х	х	Mercury	EPA 200.8	х		х
Ammonia	SM 4500-NH3 H		х	х	Metals	EPA 200.7 / 200.8	х	х	х
Anions and DBPs by IC	EPA 300.0	х	х	х	Microcystin LR	ELISA (2360)	x		х
Anions and DBPs by IC	EPA 300.1	х		х	Microcystin, Total	EPA 546	х		х
Asbestos	EPA 100.2	x	х		NDMA	EEA/Agilent 521.1	x		x
		~				In house method (2425)			
BOD / CBOD	SM 5210B		х	x	Nitrate/Nitrite Nitrogen	EPA 353.2	х	х	х
Bromate	In House Method (2447)	x		x	OCL, Pesticides/PCB	EPA 505	х		x
Carbamates	EPA 531.2	х		x	Ortho Phosphate	EPA 365.1	х	х	x
Carbonate as CO3	SM 2330B	х	х	x	Ortho Phosphorous Oxyhalides Disinfection	SM 4500P E	х		х
Carbonyls	EPA 556	x		x	Byproducts	EPA 317.0	х		x
COD	EPA 410.4 / SM 5220D	1	x		Perchlorate	EPA 331.0	x		x
Chloramines	SM 4500-CL G	x	x	x	Perchlorate (low and high)	EPA 314.0	x		x
Chlorinated Acids	EPA 515.4	x		x	Perfluorinated Alkyl Acids	EPA 537	x		x
Chlorinated Acids	EPA 555	x	1	x	Perfluorinated Polutant	In house Method (2434)	x		x
Chlorine Dioxide	SM 4500-CLO2 D Palin Test	x		x	рН	EPA 150.1	x		
Chlorine -Total/Free/ Combined Residual	SM 4500-Cl G	x	x	x	рН	SM 4500-H+B	x	x	x
Conductivity	EPA 120.1	1	x		Phenylurea Pesticides/ Herbicides	In House Method, based on EPA 532 (2448)	x		x
Conductivity	SM 2510B	x	x	x	Herbicides Pseudomonas	532 (2448) IDEXX Pseudalert (2461)	x		x
Corrosivity (Langelier Index)	SM 2330B	x	~	x	Radium-226	GA Institute of Tech	x		x
Cyanide, Amenable	SM 4500-CN G	x	x		Radium-228	GA Institute of Tech	x		x
Cyanide, Free	SM 4500-CN G	x	x	x	Radon-222	SM 7500RN	x		x
Cyanide, Total	EPA 335.4	x	x	x	Residue, Filterable	SM 2540C	x	x	x
Cyanogen Chloride (screen)	In House Method (2470)	x	~	x	Residue, Non-filterable	SM 2540D	~	x	~
Diquat and Paraquat	EPA 549.2	x		x	Residue, Total	SM 2540B		x	x
DBP/HAA	SM 6251B	x		x	Residue, Volatile	EPA 160.4		x	~
Dissolved Oxygen	SM 4500-O G		х	x	Semi-VOC	EPA 525.2	x		x
DOC	SM 5310C	x		х	Silica	SM 4500-Si D	х	х	
E. Coli	(MTF/EC+MUG)	х		х	Silica	SM 4500-SiO2 C	х	х	
	· · · · · ·						~		-
E. Coli	CFR 141.21(f)(6)(i)	x		x	Sulfide	SM 4500-S <sup>=</sup> D		х	
E. Coli	SM 9223		х		Sulfite	SM 4500-SO <sup>3</sup> B	х	х	x
E. Coli (Enumeration)	SM 9221B.1/ SM 9221F	х		х	Surfactants	SM 5540C	x	х	х
E. Coli (Enumeration)	SM 9223B	х		х	Taste and Odor Analytes	SM 6040E	х		х
EDB/DCBP	EPA 504.1	x			Total Coliform (P/A)	SM 9221 A, B	х		х
EDB/DBCP and DBP	EPA 551.1	x		x	Total Coliform (Enumeration)	SM 9221 A, B, C	x		x
EDTA and NTA	In House Method (2454)	x		x	Total Coliform / E. coli	Colisure SM 9223	x		x
Endothall	EPA 548.1	x		×	Total Coliform	SM 9221B	^	х	^
Endothall	In-house Method (2445)	x		х	Total Coliform with Chlorine Present	SM 9221B		x	
Enterococci	SM 9230B	x	х		Total Coliform / E.coli (P/A and Enumeration)	SM 9223	x		x
Fecal Coliform	SM 9221 E (MTF/EC)	х			TOC	SM 5310C	x	x	x
Fecal Coliform	SM 9221C, E (MTF/EC)		x		TOX	SM 5320B		x	1
Fecal Coliform	SM 9221E, E (MTF/EC)	x		x	Total Phenols	EPA 420.1		x	
(Enumeration) Fecal Coliform with	SM 9221E		x		Total Phenols	EPA 420.4	x	x	x
Chlorine Present Fecal Streptococci	SM 9221E	x	×		Total Phosphorous	SM 4500 P E	^	x	^
Fluoride	SM 4500-F C	x	x	x	Triazine Pesticides &	In House (3617)	x		x
Glyphosata	EPA 547	v		×	Degradates	EDA 190 1	v	v	v
Glyphosate   AMPA		x		×	Turbidity Turbidity	EPA 180.1	x	x	X
Glyphosate + AMPA Gross Alpha/Pata	In House Method (3618)	x	~	x	Turbidity	SM 2130B	X	х	~
Gross Alpha/Beta Gross Alpha Coprecipitation	EPA 900.0 SM 7110 C	x	x	x	Uranium by ICP/MS UV 254	EPA 200.8 SM 5910B	x		x
Hardness	SM 2340B	х	x	x	VOC	EPA 524.2	x		х
Heterotrophic Bacteria	In House Method (2439)	х		x	VOC	In House Method (2411)	х		х
Heterotrophic Bacteria	SM 9215 B	х		x	Yeast and Mold	SM 9610	х		х
Hexavalent Chromium	EPA 218.6	х	х	х	Field Sampling	N/A			1

750 Royal Oaks Dr., Ste 100, Monrovia, CA 91016 Tel (626) 386-1100 Fax (866) 988-3757 https://www.eurofinsus.com/Eaton Version 006 Issued: 05/04/20

🍪 eurofin	s	
Sector Curonni	Eaton Analytical	
		nowledgement of Samples Received
	<b>Tetra Tech</b> 201 East Pine Street Suite 1000	Client ID: TETRATECH-ORLAN Folder #: 903757 Project: KALAMAZOO
	Orlando, FL 32801	Sample Group: Lead Solubility Testing - Phase 1
	James Christopher 407-480-3907	Project Manager: Vanessa Berry Phone: 503-310-3905
tests liste	÷	ou on <b>November 16, 2020</b> at <b>1306</b> . They have been scheduled for the nation is incorrect, please contact your service representative. Thank you
Sample #	Sample ID	Sample Date
202011160189	Test 3 #0	11/13/2020 0818
	@ICPMS	
<u>202011160190</u>	Test 3 #1	11/13/2020 0819
	@ICPMS	
<u>202011160191</u>	Test 3 #2	11/13/2020 0820
	@ICPMS	
<u>202011160192</u>	Test 3 #3	11/13/2020 0821
	@ICPMS	
202011160193	Test 3 #4	11/13/2020 0823
	@ICPMS	
<u>202011160194</u>	Test 3 #5	11/13/2020 0824
	@ICPMS	
<u>202011160195</u>	Test 3 #6	11/13/2020 0825
	@ICPMS	
202011160196	Test 3 #7	11/13/2020 0826

**Test Description** 

202011160197

202011160198

@ICPMS

Test 3 #8

@ICPMS

Test 3 #9

@ICPMS

@ICPMS -- ICPMS Metals

11/13/2020 0827

11/13/2020 0828

👬 eurofins		CH	<b>AIN OF</b>	CUSTOD	CHAIN OF CUSTODY RECORD		0	LJUND
	Eaton Analytical	EUROFINS EATON ANALYTICAL USE ONLY:	SE ONLY:					ICICA
750 Roval	Oaks Drive. Suite 100	LOGIN COMMENTS:			SAMPLES CHECKED AGAINST COC BY:	CKED AGAINS	T COC BY:	0
Monrovia,	Monrovia, CA 91016-3629				Ñ	SAMPLES LOGGED IN BY:	SED IN BY:	0
Phone: 620	6 386 1100	3			SAMPLES RE	SAMPLES REC'D DAY OF COLLECTION?		(check for yes)
Fax: 626 3	Fax: 626 386 1101	(Other)	D =	(Observation=	°C) (Corr.Factor	1	V V	
800 566 L	800 566 LABS (800 566 5227)	$\int Complexed Accordance Criteria: (Chamters)$	$ID = \underbrace{0  10}_{\text{mistry} 4+2  \text{°C}} M$	(Observation= <u>U</u>	C) (Corr.Factor	°C) (Final =	$a = \frac{0}{0}$	
Website: <u>w</u>	Website: www.EatonAnalytical.com	TYPE OF ICE: Real X Synthetic		A 1 C (Microbiology: < 10 C ) No Ice CONDITION OF ICE:	Frozen	Partially Frozen	Thawed	N/A
		METHOD OF SHIPMENT: Pick-Up / Walk-In /	Pick-Up / Walk-		Area Fast / To	Line / Other:		
TO BE COMPLE	TO BE COMPLETED BY SAMPLER:	0128451/1	6248h		(check for yes)		(cheo	(check for ves)
COMPANY/AGENCY NAME:	ENCY NAME:			COMPLIANC		NON-COMPLIAI		
TEHO TEC	TETO TRUN : JOA E AND St. Orlando, AL	0,11	T T	<ul> <li>Requires stat</li> <li>Type of samples (circle one):</li> </ul>	e forms	REGULATION INVOLVED: SPECIAL CONFIRMATION	IVOLVED:	(eg. SDWA, NPDES, etc.)
EEA CLIENT CODE:	:ODE: COC ID:	SAMPLE GROUP:		EE ATTACHED K	DER FOR	.YSES	(checl	s), <u>OR</u>
TRANCI TR	tetici tech- orlan	LEOU SOLUDIITY TEST	the test-though	LIST ALL ANALYSES	List ALL ANALYSES REQUIRED (enter number of bottles sent for each test for each sample)	er of bottles sent	t for each test for	each sample)
TAT requested	TAT requested: rush by adv notice only	STD 1 wk 3 day 2 day		C				
ajamar Dtad Diamar Jimar Jime	SAMPLE ID	CLIENT LAB ID	ATAD DATA ATAD DATA	ଜ୍ୟୁ) ତି			SANCON	SAMPLER COMMENTS
11/13 8.18	Test 3 #0	fw	1				Preser	Preserved with
1 8.19	Test 3 # 1						NHUIC	hitric ocid by
07:8	T&H3#2		1				Tetto	TRUM
12.8	Test 3 # 3							
8:3	1651 3#H							
P.24	7ESH 3 # 5							
GU:8	7PSH 3 # 6							
8:26	Test 3#7							
F1:8	Test 3#8							
\$1.8 A	TP24 3 # 9	4		7				2
* MATRIX 1	* MATRIX TYPES: RSW = Raw Surface Water RGW = Raw Ground Water	<b>CFW</b> = Chlor(am)ina <b>FW</b> = Other Finished	ted Finished Water SI Water W	SEAW = Sea Water WW = Waste Water	<b>BW</b> = Bottled Water <b>SW</b> = Storm Water	SO = Soil SL = Sludge	0 = Other - F	0 = Other - Please Identify
CAMPLED BV:	SIGNATURE		<b>Z</b>				DATE	TIME
RELINOUISHED BY:	N.P		MULTIC ISUIDER	ISUIDEI ARENOS TEMO.	TENCITELA, Project Engineer	Ineer	11/13/20	15:30
	1 O CHURLINN	Ċ	2=0				H	11
RELINQUISHED BY:	Sr. CAL BOUN	(thur	Beech		FCB		07.91.11	1306
RECEIVED BY:								
QA FO 0029.2 (Ve	QA FO 0029.2 (Version 2) (08/28/2014)						PAGE	OF



Tetra Tech

Suite 1000 Orlando, FL 32801

James Christopher 201 East Pine Street

**Eaton Analytical** 

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

Report: 903757 Project: KALAMAZOO Group: Lead Solubility Testing - Phase 1

The Comments Report may be blank if there are no comments for this report.

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

## Laboratory Hits

Report: 903757 Project: KALAMAZOO Group: Lead Solubility Testing - Phase 1

Samples Received on:

11/16/2020 1306

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

Analyzed	Analyte	Sample ID	Result	Federal MCL	Units	MRL
11/21/2020 16:32	202011160189 Lead Total ICAP/MS	<u>Test 3 #0</u>	210	15	ug/L	0.50
11/21/2020 16:34	202011160190 Lead Total ICAP/MS	<u>Test 3 #1</u>	420	15	ug/L	0.50
11/21/2020 16:35	202011160191 Lead Total ICAP/MS	<u>Test 3 #2</u>	650	15	ug/L	0.50
11/21/2020 16:36	<b>202011160192</b> Lead Total ICAP/MS	<u>Test 3 #3</u>	200	15	ug/L	0.50
11/21/2020 16:37	202011160193 Lead Total ICAP/MS	<u>Test 3 #4</u>	250	15	ug/L	0.50
11/21/2020 16:37	202011160194 Lead Total ICAP/MS	<u>Test 3 #5</u>	310	15	ug/L	0.50
11/21/2020 16:38	202011160195 Lead Total ICAP/MS	<u>Test 3 #6</u>	270	15	ug/L	0.50
11/21/2020 16:39	202011160196 Lead Total ICAP/MS	<u>Test 3 #7</u>	460	15	ug/L	0.50
11/21/2020 16:41	202011160197 Lead Total ICAP/MS	<u>Test 3 #8</u>	730	15	ug/L	0.50
11/21/2020 16:43	202011160198 Lead Total ICAP/MS	<u>Test 3 #9</u>	810	15	ug/L	0.50

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.

<u>Test 3 #0 (20201116</u>	<u>60189)</u>					Sampled on 11/13	/2020 0818	
11/17/20 11/21/20 16:32 Test 3 #1 (20201116	2 1288619	ICPMS Metals 1289904	(EPA 200.8)	Lead Total ICAP/MS	210	ug/L Sampled on 11/13	0.50 6 <b>/2020 0819</b>	1
11/17/20 11/21/20 16:34 Test 3 #2 (20201116	1288619	ICPMS Metals 1289904	(EPA 200.8)	Lead Total ICAP/MS	420	ug/L Sampled on 11/13	0.50 6 <b>/2020 0820</b>	1
11/17/20 11/21/20 16:39 Test 3 #3 (20201116	5 1288619	ICPMS Metals 1289904	(EPA 200.8)	Lead Total ICAP/MS	650	ug/L Sampled on 11/13	0.50 2/2020 0821	1
11/17/20 11/21/20 16:30 Test 3 #4 (20201116	6 1288619	ICPMS Metals 1289904	(EPA 200.8)	Lead Total ICAP/MS	200	<sup>ug/L</sup> Sampled on 11/13	0.50 6 <b>/2020 0823</b>	1
11/17/20 11/21/20 16:33 Test 3 #5 (20201116	7 1288619	ICPMS Metals 1289904	(EPA 200.8)	Lead Total ICAP/MS	250	ug/L Sampled on 11/13	0.50 6 <b>/2020 0824</b>	1
11/17/20 11/21/20 16:37 Test 3 #6 (20201116	7 1288619	ICPMS Metals 1289904	(EPA 200.8)	Lead Total ICAP/MS	310	ug/L Sampled on 11/13	0.50 6 <b>/2020 0825</b>	1
11/17/20 11/21/20 16:38 Test 3 #7 (20201116	3 1288619	ICPMS Metals 1289904	(EPA 200.8)	Lead Total ICAP/MS	270	ug/L Sampled on 11/13	0.50 6 <b>/2020 0826</b>	1
11/17/20 11/21/20 16:39 Test 3 #8 (20201116	9 1288619	ICPMS Metals 1289904	(EPA 200.8)	Lead Total ICAP/MS	460	ug/L Sampled on 11/13	0.50 6 <b>/2020 0827</b>	1
11/17/20 11/21/20 16:4 <sup>.</sup> Test 3 #9 (20201116	1 1288619	ICPMS Metals 1289904	(EPA 200.8)	Lead Total ICAP/MS	730	ug/L Sampled on 11/13	0.50 2020 0828	1
	EPA 200.8 -	ICPMS Metals						

Analyte

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

Analyzed

Prepped

🛟 eurofins

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

**Eaton Analytical** 

Prep Batch Analytical Batch

Method

Report: 903757 Project: KALAMAZOO Group: Lead Solubility Testing - Phase 1

Result

Page 8 of 11 pages

Samples Received on: 11/16/2020 1306

Units

MRL

Dilution



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

Report: 903757 Project: KALAMAZOO Group: Lead Solubility Testing - Phase 1

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

Samples Received on: 11/16/2020 1306

Prepped	Analyzed	Prep Batch	Analytical Batch	Method	Analyte	Result	Units	MRL	Dilution
11/17/20	11/21/20 16:43	1288619	1289904	(EPA 200.8)	Lead Total ICAP/MS	810	ug/L	0.50	1



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

Tetra Tech

#### **ICPMS Metals**

Prep Batch: 1288619	Analytical Batch: 1289904
202011160189	Test 3 #0
202011160190	Test 3 #1
202011160191	Test 3 #2
202011160192	Test 3 #3
202011160193	Test 3 #4
202011160194	Test 3 #5
202011160195	Test 3 #6
202011160196	Test 3 #7
202011160197	Test 3 #8
202011160198	Test 3 #9

#### Laboratory QC Summary

Report: 903757 Project: KALAMAZOO Group: Lead Solubility Testing - Phase 1

#### Analysis Date: 11/21/2020

Analyzed by: URDE Analyzed by: URDE



Tetra Tech

**Eaton Analytical** 

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

Report: 903757 Project: KALAMAZOO Group: Lead Solubility Testing - Phase 1

QC Type	Analyte	Native	Spiked	Recovered	Units	Yield(%)	Limits (%)	RPD Limit(%)	RPD%
ICPMS Metals by	EPA 200.8								
Analytical B	atch: 1289904					Analysis D	ate: 11/21/	2020	
LCS1	Lead Total ICAP/MS		50	53.0	ug/L	106	(85-115)		
LCS2	Lead Total ICAP/MS		50	52.5	ug/L	105	(85-115)	20	0.95
MBLK	Lead Total ICAP/MS			<0.25	ug/L				
MRL_CHK	Lead Total ICAP/MS		0.5	0.510	ug/L	102	(50-150)		
MS_202011160177	Lead Total ICAP/MS	390	50	443	ug/L	101	(70-130)		
MS2_202011160196	Lead Total ICAP/MS	460	50	502	ug/L	90	(70-130)		
MSD_202011160177	Lead Total ICAP/MS	390	50	445	ug/L	106	(70-130)	20	0.51
MSD2_202011160196	Lead Total ICAP/MS	460	50	511	ug/L	109	(70-130)	20	1.8

Spike recovery is already corrected for native results. Spikes which exceed Limits and Method Blanks with positive results are highlighted by <u>Underlining.</u> 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.

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** 11/30/2020 (1 mosa **EUROFINS EATON ANALYTICAL, LLC** 

ZIA8: Vanessa Berry

**Project Manager** 

Report: 905131 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	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

Eurofins Eaton Analytical, LLC

750 Royal Oaks Drive, Suite 100 Monrovia, CA 91016-3629 T | 626-386-1100 F | 866-988-3757 www.EurofinsUS.com/Eaton

#### 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

		Environ-	Environ-			-	Environ-	Environ-	
SPECIFIC TESTS	METHOD OR TECHNIQUE USED	mental (Drinking Water)	mental (Waste Water)	Water as a Component of Food and Bev/Bev/ Bottled Water	SPECIFIC TESTS	METHOD OR TECHNIQUE USED	mental (Drinking Water)	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	Hexavalent Chromium	EPA 218.7	x		x
1,4-Dioxane	EPA 522	х		x	Hexavalent Chromium	SM 3500-Cr B		х	
2.3.7.8-TCDD	Modified EPA 1613B	x		x	Hormones	EPA 539	х	~	x
Acrylamide	In House Method (2440)	x		x	Hydroxide as OH Calc.	SM 2330B	х		x
Algal Toxins/Microcystin	In House Method (3570)				Kjeldahl Nitrogen	EPA 351.2		х	
Alkalinity	SM 2320B	x	х	х	Legionella	Legiolert	х		x
Ammonia	EPA 350.1		х	х	Mercury	EPA 200.8	х		х
Ammonia	SM 4500-NH3 H		х	х	Metals	EPA 200.7 / 200.8	х	х	х
Anions and DBPs by IC	EPA 300.0	х	х	х	Microcystin LR	ELISA (2360)	x		х
Anions and DBPs by IC	EPA 300.1	х		х	Microcystin, Total	EPA 546	х		х
Asbestos	EPA 100.2	x	х		NDMA	EEA/Agilent 521.1	x		x
		~				In house method (2425)			
BOD / CBOD	SM 5210B		х	x	Nitrate/Nitrite Nitrogen	EPA 353.2	х	х	x
Bromate	In House Method (2447)	x		x	OCL, Pesticides/PCB	EPA 505	х		x
Carbamates	EPA 531.2	х		x	Ortho Phosphate	EPA 365.1	х	х	x
Carbonate as CO3	SM 2330B	х	х	x	Ortho Phosphorous Oxyhalides Disinfection	SM 4500P E	х		x
Carbonyls	EPA 556	x		x	Byproducts	EPA 317.0	х		x
COD	EPA 410.4 / SM 5220D	1	x		Perchlorate	EPA 331.0	x	-	x
Chloramines	SM 4500-CL G	x	x	x	Perchlorate (low and high)	EPA 314.0	x		x
Chlorinated Acids	EPA 515.4	x		x	Perfluorinated Alkyl Acids	EPA 537	x		x
Chlorinated Acids	EPA 555	x	1	x	Perfluorinated Polutant	In house Method (2434)	x	-	x
Chlorine Dioxide	SM 4500-CLO2 D Palin Test	x		x	рН	EPA 150.1	x		
Chlorine -Total/Free/ Combined Residual	SM 4500-Cl G	x	x	x	рН	SM 4500-H+B	x	x	x
Conductivity	EPA 120.1	1	x		Phenylurea Pesticides/ Herbicides	In House Method, based on EPA 532 (2448)	x		x
Conductivity	SM 2510B	x	x	x	Pseudomonas	IDEXX Pseudalert (2461)	х		x
Corrosivity (Langelier Index)	SM 2330B	x	~	x	Radium-226	GA Institute of Tech	x		x
Cyanide, Amenable	SM 4500-CN G	x	x		Radium-228	GA Institute of Tech	x		x
Cyanide, Free	SM 4500-CN G	x	x	x	Radon-222	SM 7500RN	x		x
Cyanide, Total	EPA 335.4	x	x	x	Residue, Filterable	SM 2540C	x	x	x
Cyanogen Chloride (screen)	In House Method (2470)	x	~	x	Residue, Non-filterable	SM 2540D	~	x	~
Diquat and Paraquat	EPA 549.2	x		x	Residue, Total	SM 2540B		x	x
DBP/HAA	SM 6251B	x		x	Residue, Volatile	EPA 160.4		x	~
Dissolved Oxygen	SM 4500-O G		х	x	Semi-VOC	EPA 525.2	x		x
DOC	SM 5310C	x		х	Silica	SM 4500-Si D	х	х	
E. Coli	(MTF/EC+MUG)	х		х	Silica	SM 4500-SiO2 C	х	х	
	· · · · · ·						~		-
E. Coli	CFR 141.21(f)(6)(i)	x		x	Sulfide	SM 4500-S <sup>=</sup> D		х	
E. Coli	SM 9223		х		Sulfite	SM 4500-SO <sup>3</sup> B	х	х	x
E. Coli (Enumeration)	SM 9221B.1/ SM 9221F	x		х	Surfactants	SM 5540C	х	х	х
E. Coli (Enumeration)	SM 9223B	x		х	Taste and Odor Analytes	SM 6040E	х		х
EDB/DCBP	EPA 504.1	x			Total Coliform (P/A)	SM 9221 A, B	х		x
EDB/DBCP and DBP	EPA 551.1	x		x	Total Coliform (Enumeration)	SM 9221 A, B, C	x		x
EDTA and NTA	In House Method (2454)	x		x	Total Coliform / E. coli	Colisure SM 9223	x		x
Endothall	EPA 548.1	x		×	Total Coliform	SM 9221B	^	x	^
Endothall	In-house Method (2445)	x		х	Total Coliform with Chlorine Present	SM 9221B		x	
Enterococci	SM 9230B	x	х		Total Coliform / E.coli (P/A and Enumeration)	SM 9223	x		x
Fecal Coliform	SM 9221 E (MTF/EC)	х			TOC	SM 5310C	x	х	x
Fecal Coliform	SM 9221C, E (MTF/EC)		x		TOX	SM 5320B		x	1
Fecal Coliform	SM 9221E, E (MTF/EC)	x		x	Total Phenols	EPA 420.1		x	
(Enumeration) Fecal Coliform with	SM 9221E		x		Total Phenols	EPA 420.4	x	x	x
Chlorine Present Fecal Streptococci	SM 9221E	x	×		Total Phosphorous	SM 4500 P E	^	x	^
Fluoride	SM 4500-F C	x	x	x	Triazine Pesticides &	In House (3617)	x		x
Glyphosate	EPA 547	v		v	Degradates	EDA 100 1	v	v	~
Glyphosate   AMPA		x		×	Turbidity Turbidity	EPA 180.1	x	x	x
Glyphosate + AMPA Gross Alpha/Pata	In House Method (3618)	x	~	x	Turbidity	SM 2130B	X	X	~
Gross Alpha/Beta Gross Alpha Coprecipitation	EPA 900.0 SM 7110 C	x	x	x	Uranium by ICP/MS UV 254	EPA 200.8 SM 5910B	x		x
Hardness	SM 2340B	х	x	x	VOC	EPA 524.2	x		x
Heterotrophic Bacteria	In House Method (2439)	х		x	VOC	In House Method (2411)	х		x
Heterotrophic Bacteria	SM 9215 B	х		x	Yeast and Mold	SM 9610	х		x
Hexavalent Chromium	EPA 218.6	х	х	х	Field Sampling	N/A			1

750 Royal Oaks Dr., Ste 100, Monrovia, CA 91016 Tel (626) 386-1100 Fax (866) 988-3757 https://www.eurofinsus.com/Eaton Version 006 Issued: 05/04/20

Exten Analytical       Acknowledgement of Samples Received         Add:       Teta Toch 201 East Pine Street 201 East Pine	💸 eurofin		
201 Easr Pine Street Suite 100     Project #4.043M2CO Sample Group: Lead Solubility Testing - Phase 1       Attr: James Christopher Phone: 407-480-3907     Project Manager: Vanesa Berry Phone: 503-310-3905       The following samples were received from you on November 23, 2020 at 1022. 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 1D       Sample #     Sample D       202011230240     Test 4 No.0 Final       @ICPMS     11/17/2020 0805       @ICPMS     11/17/2020 0806       202011230241     Test 4 No.3 Final       @ICPMS     11/17/2020 0807       @ICPMS     11/17/2020 0808       @ICPMS     11/17/2020 0810       @ICPMS     11/17/2020 0811       @ICPMS     11/17/2020 0811       @ICPMS     11/17/2020 0811       @ICPMS     11/17/2020 0815			Acknowledgement of Samples Received
Phone: 407-480-3907         Phone: 503-310-3905           The following samples were received from you on November 23, 2020 at 1022. 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 D         Sample Date           202011230240         Test 4 No.0 Final         11/17/2020 0803           202011230241         Test 4 No.1 Final         11/17/2020 0805           202011230242         Test 4 No.1 Final         11/17/2020 0806           202011230242         Test 4 No.3 Final         11/17/2020 0806           202011230243         Test 4 No.3 Final         11/17/2020 0806           202011230244         Test 4 No.3 Final         11/17/2020 0806           202011230242         Test 4 No.3 Final         11/17/2020 0806           202011230244         Test 4 No.3 Final         11/17/2020 0807           202011230245         Test 4 No.4 Final         11/17/2020 0808           202011230246         Test 4 No.5 Final         11/17/2020 0810           202011230247         Test 4 No.6 Final         11/17/2020 0812           202011230248         Test 4 No.6 Final         11/17/2020 0812           202011230249         Test 4 No.6 Final         11/17/2020 0812           202		201 East Pine Street Suite 1000 Orlando, FL 32801	Folder #: 905131 Project: KALAMAZOO Sample Group: Lead Solubility Testing - Phase 1
tests listed below each sample. If this information is incorrect, please contact your service representative. Thank you for using Eurofins Eaton Analytical, LLC.         Sample ID         Sample D           Sample #         Sample ID         Sample Date         11/17/2020 0803           202011230240         Test 4 No. 0 Final         11/17/2020 0805         11/17/2020 0805           202011230241         Test 4 No. 1 Final         11/17/2020 0805         11/17/2020 0805           202011230242         Test 4 No. 2 Final         11/17/2020 0806         11/17/2020 0806           202011230243         Test 4 No. 3 Final         11/17/2020 0806         11/17/2020 0806           202011230244         Test 4 No. 3 Final         11/17/2020 0806         11/17/2020 0806           202011230245         Test 4 No. 4 Final         11/17/2020 0806         11/17/2020 0808           202011230244         Test 4 No. 5 Final         11/17/2020 0808         11/17/2020 0808           202011230245         Test 4 No. 6 Final         11/17/2020 0811         11/17/2020 0811           202011230245         Test 4 No. 6 Final         11/17/2020 0812         11/17/2020 0812           202011230247         Test 4 No. 7 Final         11/17/2020 0814         11/17/2020 0814           202011230247         Test 4 No. 7 Final         11/17/2020 0814         11/17/2020 0814 <th></th> <th></th> <th></th>			
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арсемя         11/17/2020 0805           202011230241         Test 4 No.1 Final         11/17/2020 0805           202011230242         Test 4 No.2 Final         11/17/2020 0806           202011230243         Test 4 No.3 Final         11/17/2020 0807           202011230244         Test 4 No.3 Final         11/17/2020 0807           202011230244         Test 4 No.4 Final         11/17/2020 0808           202011230245         Test 4 No.5 Final         11/17/2020 0808           202011230245         Test 4 No.5 Final         11/17/2020 0810           202011230245         Test 4 No.5 Final         11/17/2020 0811           202011230246         Test 4 No.7 Final         11/17/2020 0811           202011230247         Test 4 No.7 Final         11/17/2020 0812           202011230247         Test 4 No.7 Final         11/17/2020 0812           202011230247         Test 4 No.7 Final         11/17/2020 0812           202011230248         Test 4 No.8 Final         11/17/2020 0814           202011230249         Test 4 No.9 Final         11/17/2020 0814           202011230249         Test 4 No.9 Final         11/17/2020 0815           202011230249         Test 4 No.9 Final         11/17/2020 0815	Sample #	Sample ID	Sample Date
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@ICPMS		@ICPMS	
	202011230249	Test 4 No.9 Final	11/17/2020 0815
		@ICPMS	

# **Test Description**

@ICPMS -- ICPMS Metals

🐝 eurofins	Eaton Analytical			AIN	OF CUS	ξτοργ	CHAIN OF CUSTODY RECORD	0		14-12-1
	L	EUROFINS EATON ANALY		TICAL USE ONLY:						0 1
750 Royal	750 Royal Oaks Drive, Suite 100	LOGIN COMMENTS:					SAMPLES CF	SAMPLES CHECKED AGAINST COC BY: SAMPLES I OGGED IN BY:	GGFD IN BY:	20
Monrovia,	Monrovia, CA 91016-3629			- Salar						Charle for the
Phone: 626	00		IR Gun ID =	= 01	(Obs	(Observation=	°C) (Corr.Factor			°C)
Fax: 626 360 1101	1011 00	Monrovia			621 19 (Obs	(Observation= $2.7$	°C) (Corr.Factor	2.0	2.5	°C)
800 566 L/	800 566 LABS (800 566 5227)	Compliance Acceptance Criteria: (Chemistry: 4 ± 2 °C) (Microbiology: < 10°C)	Criteria: (Ch	iemistry: 4 ± 2	2 °C ) (Microbiology: <	10°C )				
Website: <u>w</u>	Website: www.EatonAnalytical.com	TYPE OF ICE: Real	Synthetic	etic	No Ice	CONDITION OF ICE:	ICE: Frozen	Partially Frozen	Thawed	N/A
		METHOD OF SHIPMENT: Pick-Up / Walk-In /	IPMENT:	Pick-Up /		A UPS / DI	FedEx / UPS / DHL / Area Fast / Top Line / Other.	p Line / Other		
TO BE COMPLE	TED BY SAMPLER:						(check for yes)	(\$	0)	(check for yes)
COMPANY/AG	COMPANY/AGENCY NAME:	PROJECT CODE:				COMPLIANCE SAMPLES	SAMPLES		NON-COMPLIANCE SAMPLES	S
TEHIOI TEC	Temos Tech 201 E Ang St Orlando				Type of sam	<ul> <li>Requires stat Type of samples (circle one):</li> </ul>	e forms ROUTINE	REGULATION IN SPECIAL CONFIRMATION	IVOLVED:	(eg. SDWA, NPDES, etc.)
EEA CLIENT CODE: TETICITECUN-ONICIN	ODE: COCID:	SAMPLE GROUP: LECICI CUIVIDITY		Test-Phose 1	0,	ACHED KIT ANALYSES R	UIRED (ente	AL YSES	check f ient for each test	(check for yes), <u>OR</u> ch test for each sample)
TAT requested	TAT requested: rush by adv notice only	STD1 wk3 day	/ 2 day	1 day	5					
IPLE TE ME	SAMPLEID		* XIA	ATAG ATAG	WD1				" ō	SAMPLER
AQ MA2			TAM							
NI17 8:03	TRSH 4 No.0 FINCI		FW						Pres	Preserved with
1 8:05	No.4		1	_					NITTIC	n acid
90:8	No.2								5	TRHO TRUM
£0:8	No.3		-							
80:8	No.4									
8:10	No.5									
11:8	N0.6			E.						
8:12	F.ON									
HI:8	No.8									
4 8:15	4 NO.9 4		A		4					4
* MATRIX T	* MATRIX TYPES: RSW = Raw Surface Water RGW = Raw Ground Water	<b>CFW</b> = Chlor(am)inated Finished Water <b>FW</b> = Other Finished Water	ated Finis d Water	hed Water	SEAW = Sea Water WW = Waste Water	a Water e Water	<b>BW</b> = Bottled Water <b>SW</b> = Storm Water	er SO = Soil		0 = Other - Please Identify
and the second second	SIGNATURE	and the second se		PRINT NAME		- Contraction	COMPANY/TITLE		DATE	TIME
SAMPLED BY:	SAMPLED BY: M. OKENOIS (MOLTI OI. OKENOIS @ PETROHECH-WM.	_	MUNICI	ISCIDEI	ARCHOGS	TRANOL TE	FRUM, Project En	Engineer	n 120 120	4:00 PM
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Tel: (626) 386-1100 Fax: (866) 988-3757 1 800 566 LABS (1 800 566 5227) Report: 905131 Project: KALAMAZOO Group: Lead Solubility Testing - Phase 1

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: 905131 Project: KALAMAZOO Group: Lead Solubility Testing - Phase 1

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

Samples Received on: 11/23/2020 1022

Analyzed	Analyte	Sample ID	Result	Federal MCL	Units	MRL
11/27/2020 15:06	202011230240 Lead Total ICAP/MS	Test 4 No.0 Final	280	15	ug/L	0.50
11/27/2020 15:12	202011230241 Lead Total ICAP/MS	Test 4 No.1 Final	550	15	ug/L	0.50
11/27/2020 15:15	202011230242 Lead Total ICAP/MS	<u>Test 4 No.2 Final</u>	590	15	ug/L	0.50
11/27/2020 15:16	202011230243 Lead Total ICAP/MS	<u>Test 4 No.3 Final</u>	220	15	ug/L	0.50
11/27/2020 15:17	202011230244 Lead Total ICAP/MS	<u>Test 4 No.4 Final</u>	300	15	ug/L	0.50
11/27/2020 15:17	202011230245 Lead Total ICAP/MS	<u>Test 4 No.5 Final</u>	360	15	ug/L	0.50
11/27/2020 15:18	202011230246 Lead Total ICAP/MS	<u>Test 4 No.6 Final</u>	500	15	ug/L	0.50
11/27/2020 15:21	202011230247 Lead Total ICAP/MS	<u>Test 4 No.7 Final</u>	320	15	ug/L	0.50
11/27/2020 15:21	202011230248 Lead Total ICAP/MS	<u>Test 4 No.8 Final</u>	960	15	ug/L	0.50
11/27/2020 15:22	202011230249 Lead Total ICAP/MS	Test 4 No.9 Final	1100	15	ug/L	0.50

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

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# Eaton Analytical

Tel: (626) 386-1100 Fax: (866) 988-3757 1 800 566 LABS (1 800 566 5227) Report: 905131 Project: KALAMAZOO Group: Lead Solubility Testing - Phase 1

Samples Received on: 11/23/2020 1022

Prepped	Analyzed	Prep Batch	Analytical Batch	Method	Analyte	Result	Units	MRL	Dilution
Test 4 No	5.0 Final (20	2011230240	)			Samp	led on 11/17	/2020 080	3
	11/27/20 15:06 <b>5.1 Final (20</b>	1290246	ICPMS Metals 1290931 )	(EPA 200.8)	Lead Total ICAP/MS	280 Samp	ug/L bled on 11/17	0.50 <b>/2020 080</b>	1 5
	11/27/20 15:12 5 <b>.2 Final (20</b>	1290246	ICPMS Metals 1290932	(EPA 200.8)	Lead Total ICAP/MS	550 (M3) Samp	ug/L Died on 11/17	0.50 <b>/2020 080</b>	1 6
	11/27/20 15:15 <b>5.3 Final (20</b>	1290246	ICPMS Metals 1290932	(EPA 200.8)	Lead Total ICAP/MS	590 Samp	ug/L Died on 11/17	0.50 <b>/2020 080</b>	1 <b>7</b>
	11/27/20 15:16 <b>5.4 Final (20</b>	1290246	ICPMS Metals 1290932	(EPA 200.8)	Lead Total ICAP/MS	220 Samp	ug/L Died on 11/17	0.50 / <b>2020 080</b>	1 <b>8</b>
	11/27/20 15:17 <b>5.5 Final (20</b>	1290246	ICPMS Metals 1290932	(EPA 200.8)	Lead Total ICAP/MS	300 Samp	ug/L Iled on 11/17	0.50 <b>/2020 081</b>	1 <b>0</b>
	11/27/20 15:17 <b>5.6 Final (20</b>	1290246	ICPMS Metals 1290932 )	(EPA 200.8)	Lead Total ICAP/MS	360 <b>Samp</b>	ug/L bled on 11/17	0.50 / <b>2020 081</b>	1 <b>1</b>
	11/27/20 15:18 <b>5.7 Final (20</b>	1290246	ICPMS Metals 1290932	(EPA 200.8)	Lead Total ICAP/MS	500 Samp	ug/L bled on 11/17	0.50 <b>/2020 081</b>	1 <b>2</b>
	11/27/20 15:21 <b>5.8 Final (20</b>	1290246	ICPMS Metals 1290932	(EPA 200.8)	Lead Total ICAP/MS	320 <b>Sam</b> p	ug/L bled on 11/17	0.50 / <b>2020 081</b>	1 <b>4</b>
	11/27/20 15:21 <b>5.9 Final (20</b>	1290246	ICPMS Metals 1290932 )	(EPA 200.8)	Lead Total ICAP/MS	960 Samp	ug/L Died on 11/17	0.50 / <b>2020 081</b>	1 5

#### 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.



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

Report: 905131 Project: KALAMAZOO Group: Lead Solubility Testing - Phase 1

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

Samples Received on: 11/23/2020 1022

Prepped	Analyzed	Prep Batch	Analytical Batch	Method	Analyte	Result	Units	MRL	Dilution
11/24/20	11/27/20 15:22	1290246	1290932	(EPA 200.8)	Lead Total ICAP/MS	1100	ug/L	0.50	1



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

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ICPMS Metals	
Prep Batch: 1290246	Analytical Batch: 1290931
202011230240	Test 4 No.0 Final
ICPMS Metals	
Prep Batch: 1290246	Analytical Batch: 1290932
202011230241	Test 4 No.1 Final
202011230242	Test 4 No.2 Final
202011230243	Test 4 No.3 Final
202011230244	Test 4 No.4 Final
202011230245	Test 4 No.5 Final
202011230246	Test 4 No.6 Final
202011230247	Test 4 No.7 Final
202011230248	Test 4 No.8 Final
202011230249	Test 4 No.9 Final

Report: 905131 Project: KALAMAZOO Group: Lead Solubility Testing - Phase 1

> Analysis Date: 11/27/2020 Analyzed by: URDE

#### Analysis Date: 11/27/2020

Analyzed by: URDE Analyzed by: URDE



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

Report: 905131 Project: KALAMAZOO Group: Lead Solubility Testing - Phase 1

Tetra Tec	h								
QC Type	Analyte	Native	Spiked	Recovered	Units	Yield(%)	Limits (%)	RPD Limit(%)	RPD%
ICPMS Metals by	EPA 200.8								
Analytical B	atch: 1290931					Analysis D	ate: 11/27/	2020	
LCS1	Lead Total ICAP/MS		50	51.0	ug/L	102	(85-115)		
LCS2	Lead Total ICAP/MS		50	50.4	ug/L	101	(85-115)	20	1.2
MBLK	Lead Total ICAP/MS			<0.25	ug/L				
MRL_CHK	Lead Total ICAP/MS		0.5	0.496	ug/L	99	(50-150)		
MS_202011240133	Lead Total ICAP/MS	ND	50	48.6	ug/L	97	(70-130)		
MS2_202011190431	Lead Total ICAP/MS	0.88	50	47.9	ug/L	94	(70-130)		
MSD_202011240133	Lead Total ICAP/MS	ND	50	46.8	ug/L	94	(70-130)	20	3.7
MSD2_202011190431	Lead Total ICAP/MS	0.88	50	48.7	ug/L	96	(70-130)	20	1.6
ICPMS Metals by	EPA 200.8								
Analytical B	atch: 1290932				Analysis Date: 11/27/2020				
LCS1	Lead Total ICAP/MS		50	50.3	ug/L	101	(85-115)		
LCS2	Lead Total ICAP/MS		50	50.0	ug/L	100	(85-115)	20	0.60
MBLK	Lead Total ICAP/MS			<0.25	ug/L				
MRL_CHK	Lead Total ICAP/MS		0.5	0.508	ug/L	102	(50-150)		
MS_202011230241	Lead Total ICAP/MS	550	50	599	ug/L	106	(70-130)		
MS2_202011230253	Lead Total ICAP/MS	550	50	586	ug/L	72	(70-130)		
MSD_202011230241	Lead Total ICAP/MS	550	50	614	ug/L	<u>136</u>	(70-130)	20	2.4
MSD2_202011230253	Lead Total ICAP/MS	550	50	592	ug/L	85	(70-130)	20	1.2

Spike recovery is already corrected for native results. Spikes which exceed Limits and Method Blanks with positive results are highlighted by <u>Underlining.</u> 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.

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** 12/08/2020 (1 MOSA **EUROFINS EATON ANALYTICAL, LLC** 

ZIA8: Vanessa Berry

**Project Manager** 

Report: 905134 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

Eurofins Eaton Analytical, LLC

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#### 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

		Environ-	Environ-			-	Environ-	Environ-	
SPECIFIC TESTS	METHOD OR TECHNIQUE USED	mental (Drinking Water)	mental (Waste Water)	Water as a Component of Food and Bev/Bev/ Bottled Water	SPECIFIC TESTS	METHOD OR TECHNIQUE USED	mental (Drinking Water)	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	Hexavalent Chromium	EPA 218.7	x		x
1,4-Dioxane	EPA 522	х		x	Hexavalent Chromium	SM 3500-Cr B		х	
2.3.7.8-TCDD	Modified EPA 1613B	x		x	Hormones	EPA 539	х	~	x
Acrylamide	In House Method (2440)	x		x	Hydroxide as OH Calc.	SM 2330B	х		х
Algal Toxins/Microcystin	In House Method (3570)				Kjeldahl Nitrogen	EPA 351.2		х	
Alkalinity	SM 2320B	x	х	х	Legionella	Legiolert	х		x
Ammonia	EPA 350.1		x	х	Mercury	EPA 200.8	х		х
Ammonia	SM 4500-NH3 H		х	х	Metals	EPA 200.7 / 200.8	х	х	х
Anions and DBPs by IC	EPA 300.0	х	х	х	Microcystin LR	ELISA (2360)	x		х
Anions and DBPs by IC	EPA 300.1	х		х	Microcystin, Total	EPA 546	х		х
Asbestos	EPA 100.2	x	х		NDMA	EEA/Agilent 521.1	x		x
		~				In house method (2425)			
BOD / CBOD	SM 5210B		х	x	Nitrate/Nitrite Nitrogen	EPA 353.2	х	х	х
Bromate	In House Method (2447)	x		x	OCL, Pesticides/PCB	EPA 505	х		x
Carbamates	EPA 531.2	х		x	Ortho Phosphate	EPA 365.1	х	х	x
Carbonate as CO3	SM 2330B	х	х	x	Ortho Phosphorous Oxyhalides Disinfection	SM 4500P E	х		х
Carbonyls	EPA 556	x		x	Byproducts	EPA 317.0	х		x
COD	EPA 410.4 / SM 5220D	t	x		Perchlorate	EPA 331.0	x		x
Chloramines	SM 4500-CL G	x	x	x	Perchlorate (low and high)	EPA 314.0	x		x
Chlorinated Acids	EPA 515.4	x		x	Perfluorinated Alkyl Acids	EPA 537	x		x
Chlorinated Acids	EPA 555	x	1	x	Perfluorinated Polutant	In house Method (2434)	x		x
Chlorine Dioxide	SM 4500-CLO2 D Palin Test	x		x	рН	EPA 150.1	x		
Chlorine -Total/Free/ Combined Residual	SM 4500-Cl G	x	x	x	рН	SM 4500-H+B	x	x	x
Conductivity	EPA 120.1	1	x		Phenylurea Pesticides/ Herbicides	In House Method, based on EPA 532 (2448)	x		x
Conductivity	SM 2510B	x	x	x	Herbicides Pseudomonas	532 (2448) IDEXX Pseudalert (2461)	x		x
Corrosivity (Langelier Index)	SM 2330B	x	~	x	Radium-226	GA Institute of Tech	x		x
Cyanide, Amenable	SM 4500-CN G	x	x		Radium-228	GA Institute of Tech	x		x
Cyanide, Free	SM 4500-CN G	x	x	x	Radon-222	SM 7500RN	x		x
Cyanide, Total	EPA 335.4	x	x	x	Residue, Filterable	SM 2540C	x	x	x
Cyanogen Chloride (screen)	In House Method (2470)	x	~	x	Residue, Non-filterable	SM 2540D	~	x	~
Diquat and Paraquat	EPA 549.2	x		x	Residue, Total	SM 2540B		x	x
DBP/HAA	SM 6251B	x		x	Residue, Volatile	EPA 160.4		x	~
Dissolved Oxygen	SM 4500-O G		х	x	Semi-VOC	EPA 525.2	x		x
DOC	SM 5310C	x		х	Silica	SM 4500-Si D	х	х	
E. Coli	(MTF/EC+MUG)	х		х	Silica	SM 4500-SiO2 C	х	х	
	· · · · · ·						~		-
E. Coli	CFR 141.21(f)(6)(i)	x		x	Sulfide	SM 4500-S <sup>=</sup> D		х	
E. Coli	SM 9223		х		Sulfite	SM 4500-SO <sup>3</sup> B	х	х	x
E. Coli (Enumeration)	SM 9221B.1/ SM 9221F	х		х	Surfactants	SM 5540C	x	х	х
E. Coli (Enumeration)	SM 9223B	х		х	Taste and Odor Analytes	SM 6040E	х		х
EDB/DCBP	EPA 504.1	х			Total Coliform (P/A)	SM 9221 A, B	х		х
EDB/DBCP and DBP	EPA 551.1	x		x	Total Coliform (Enumeration)	SM 9221 A, B, C	x		x
EDTA and NTA	In House Method (2454)	x		x	Total Coliform / E. coli	Colisure SM 9223	x		x
Endothall	EPA 548.1	x		×	Total Coliform	SM 9221B	^	х	^
Endothall	In-house Method (2445)	x		х	Total Coliform with Chlorine Present	SM 9221B		x	
Enterococci	SM 9230B	x	х		Total Coliform / E.coli (P/A and Enumeration)	SM 9223	x		x
Fecal Coliform	SM 9221 E (MTF/EC)	x			TOC	SM 5310C	x	x	x
Fecal Coliform	SM 9221C, E (MTF/EC)		x		TOX	SM 5320B		x	1
Fecal Coliform	SM 9221E, E (MTF/EC)	x		x	Total Phenols	EPA 420.1		x	
(Enumeration) Fecal Coliform with	SM 9221E		x		Total Phenols	EPA 420.4	x	x	x
Chlorine Present Fecal Streptococci	SM 9221E	x	×		Total Phosphorous	SM 4500 P E	^	x	^
Fluoride	SM 4500-F C	x	x	x	Triazine Pesticides &	In House (3617)	x		x
Glyphosata	EPA 547	v		× ×	Degradates	EDA 190 1	v	v	v
Glyphosate   AMPA		x		×	Turbidity Turbidity	EPA 180.1	x	x	X
Glyphosate + AMPA Gross Alpha/Pata	In House Method (3618)	x	~	x	Turbidity	SM 2130B	X	х	~
Gross Alpha/Beta Gross Alpha Coprecipitation	EPA 900.0 SM 7110 C	x	x	x	Uranium by ICP/MS UV 254	EPA 200.8 SM 5910B	x		x
Hardness	SM 2340B	х	x	x	VOC	EPA 524.2	x		х
Heterotrophic Bacteria	In House Method (2439)	х		x	VOC	In House Method (2411)	х		x
Heterotrophic Bacteria	SM 9215 B	х		x	Yeast and Mold	SM 9610	х		х
Hexavalent Chromium	EPA 218.6	х	х	х	Field Sampling	N/A			1

750 Royal Oaks Dr., Ste 100, Monrovia, CA 91016 Tel (626) 386-1100 Fax (866) 988-3757 https://www.eurofinsus.com/Eaton Version 006 Issued: 05/04/20

🔅 eurofin	S Eaton Analytical					
		Acknowledgement of Samples Received				
	<b>Tetra Tech</b> 201 East Pine Street Suite 1000 Orlando, FL 32801	Client ID: TETRATECH-ORLAN Folder #: 905134 Project: KALAMAZOO Sample Group: Lead Solubility Testing - Phase 1				
	James Christopher 407-480-3907	Project Manager: Vanessa Berry Phone: 503-310-3905				
tests list		ed from you on <b>November 23, 2020</b> at <b>1022</b> . They have been scheduled for the his information is incorrect, please contact your service representative. Thank you LLC.				
Sample #	Sample ID	Sample Date				
202011230252	Test 5 No.0 Final	11/20/2020 0804				
	@ICPMS					
202011230253	Test 5 No.1 Final	11/20/2020 0804				
	@ICPMS					
202011230254	Test 5 No.2 Final	11/20/2020 0805				
	@ICPMS					
202011230255	Test 5 No.3 Final	11/20/2020 0806				
	@ICPMS					
202011230256	Test 5 No.4 Final	11/20/2020 0807				
	@ICPMS					
202011230257	Test 5 No.5 Final	11/20/2020 0808				
	@ICPMS					
202011230258	Test 5 No.6 Final	11/20/2020 0808				
	@ICPMS					
202011230259	Test 5 No.7 Final	11/20/2020 0809				
	@ICPMS					
202011230260	Test 5 No.8 Final	11/20/2020 0810				
	@ICPMS					
202011230261	Test 5 No.9 Final	11/20/2020 0811				
	@ICPMS					

### **Test Description**

@ICPMS -- ICPMS Metals

	ans 🖧	🐝 eurofins	CHA	IN OF	CHAIN OF CUSTODY RECORD	
ч ц	÷	Eaton Analytical	EUROFINS EATON ANALYTICAL USE ONLY:	:YINC	hcicol,	
			LOGIN COMMENTS:		SAMPLES CHECKED AGAINST COC BY:	
	750 Roya Monrovia	750 Royal Oaks Drive, Suite 100 Monrovia CA 91016-3629	146		SAMPLES LOGGED IN BY: (0)	
			SAMPLE TEMP RECEIVED AT:		SAMPLES REC'D DAY OF COLLECTION? (check for ves)	or ves)
	Fax: 626	Phone: 626 386 1100 Fax: 626 386 1101	(Other) IR Gun ID =	-	°C) (Corr.Factor °C) (Final = °C	
	800 566 1	800 566 LABS (800 566 5227)	Monrovia IR Gun ID =	4150 =	(Observation= → ↑ °C) (Corr.Factor ∪ ↓ °C) (Final = → S °C)	
	Website:	Website: www.EatonAnalytical.com	TYPE OF ICE: Real V/ Synthetic		No loe CONDITION OF ICE: Frozen Partially Frozen Thawed N/A	
		Fed fix.	METHOD OF SHIPM	-Up / Walk-Ir	FedEx) UPS / DHL / Area Fast / Top Line / Other.	
TO	BE COMPL	TO BE COMPLETED BY SI 0221 9284 5115 4859	0		(check for yes) (check for yes)	(S
ö	MPANYA	COMPANY/AGENCY NAME:	PROJECT CODE:	Contraction of the second	NON-COMPLIANCE SAMPL	
013	TPACI	TETTO TETA JON & PINE & ON LONDON	0	T.	te forms REGULATION INVOLVED:	
Ш	EEA CLIENT CODE:	CODE: COC ID:	ŝ	-	SEE ATTACHED KIT ORDER FOR ANALYSES (check for yes), OR	ES, etc.)
	TEHU T	tetici teun - Orlan	lead solubility test-phase 1	_	List ALL ANALYSES REQUIRED (enter number of bottles sent for each test for each sample)	mple)
TA	T requeste	TAT requested: rush by adv notice only	STD 1 wk 3 day 2 day	1 day		
<b>3</b> 19MA2	TAD ETAD BAMAS EMIT	SAMPLE ID	CLIENT LAB ID матяіх •			~ 50
=	HO:8 02/11	H TEST 5 No.0 FINOI	fW		Weserved with	ith
	10:8	4 No. 1 1			nitric acid by	K
	50:8	1 2.0N		1.40	Tehra Tech	
	90:8	6 No.3		24		
	FO:8					
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*	MATRIX	* MATRIX TYPES: RSW = Raw Surface Water RGW = Raw Ground Water	<b>CFW</b> = Chlor(am)inated Finished Water <b>FW</b> = Other Finished Water		SEAW = Sea Water     BW = Bottled Water     SO = Soil     O = Other - Please Identify       WW = Waste Water     SW = Storm Water     SL = Sludge	dentify
		SIGNATURE	PRIN	PRINT NAME	COMPANY/TITLE DATE TIME	ш
-	SAMPLED BY:	M. OKENOIS	NUM ISOPEI	I Arenois	TETRO TEUN, Propert Engineer "Prolou 4:00	M (
₩ Pag	RELINQUISHED BY:	JBY: II	0 0 1		11 N N N N N N N N N N N N N N N N N N	
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	RECEIVED BY:					
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Page 5 of 11 pages



Tetra Tech

Suite 1000 Orlando, FL 32801

James Christopher 201 East Pine Street

**Eaton Analytical** 

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

Report: 905134 Project: KALAMAZOO Group: Lead Solubility Testing - Phase 1

The Comments Report may be blank if there are no comments for this report.

**Tetra Tech** 

Suite 1000 Orlando, FL 32801

James Christopher

201 East Pine Street

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

#### Laboratory Hits

Report: 905134 Project: KALAMAZOO Group: Lead Solubility Testing - Phase 1

Samples Received on: 11/23/2020 1022

Analyte Sample ID Result Federal MCL Units MRL Analyzed 202011230252 Test 5 No.0 Final 11/27/2020 15:23 Lead Total ICAP/MS 350 15 0.50 ug/L 202011230253 Test 5 No.1 Final 11/27/2020 15:24 Lead Total ICAP/MS 550 15 0.50 ug/L 202011230254 Test 5 No.2 Final 11/27/2020 15:26 Lead Total ICAP/MS 500 15 ug/L 0.50 202011230255 Test 5 No.3 Final 11/27/2020 15:27 Lead Total ICAP/MS 200 0.50 15 ug/L 202011230256 Test 5 No.4 Final 11/27/2020 15:28 Lead Total ICAP/MS 270 15 0.50 ug/L 202011230257 Test 5 No.5 Final 11/27/2020 15:30 Lead Total ICAP/MS 280 15 ug/L 0.50 202011230258 Test 5 No.6 Final 11/27/2020 15:31 Lead Total ICAP/MS 300 15 ug/L 0.50 202011230259 Test 5 No.7 Final 11/27/2020 15:32 Lead Total ICAP/MS 210 15 ug/L 0.50 202011230260 Test 5 No.8 Final Lead Total ICAP/MS 11/27/2020 15:33 800 15 0.50 ug/L 202011230261 Test 5 No.9 Final Lead Total ICAP/MS 890 15 0.50 12/06/2020 16:19 ug/L

	E	PA 200.8 - I	CPMS Metal					
11/24/20	11/27/20 15:33	1290246	1290932	(EPA 200.8)	Lead Total ICAP/MS	800	ug/L	0.50
Test 5 N	No.9 Final (2020	<u>)11230261)</u>				Samp	led on 11/20	/2020 0811

#### Test 5 No.9 Final (202011230261)

#### EPA 200.8 - ICPMS Metals

Ro

ounding on totals after summat	ion.
- indicates calculated results	Analysis is a calculated

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

**Eaton Analytical** 

Prep Batch Analytical Batch

EPA 200.8 - ICPMS Metals

1290932

1290932

1290932

1290932

1290932

1290932

1290932

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1290246

1290246

1290246

1290246

1290246

1290246

1290246

1290246

Method

(EPA 200.8)

🛟 eurofins

**Tetra Tech** 

Suite 1000 Orlando, FL 32801

Analyzed

11/24/20 11/27/20 15:23

11/24/20 11/27/20 15:24

11/24/20 11/27/20 15:26

11/24/20 11/27/20 15:27

11/24/20 11/27/20 15:28

11/24/20 11/27/20 15:30

11/24/20 11/27/20 15:31

11/24/20 11/27/20 15:32

Test 5 No.0 Final (202011230252)

Test 5 No.1 Final (202011230253)

Test 5 No.2 Final (202011230254)

Test 5 No.3 Final (202011230255)

Test 5 No.4 Final (202011230256)

Test 5 No.5 Final (202011230257)

Test 5 No.6 Final (202011230258)

Test 5 No.7 Final (202011230259)

Test 5 No.8 Final (202011230260)

Prepped

James Christopher

201 East Pine Street

Report: 905134 Project: KALAMAZOO Group: Lead Solubility Testing - Phase 1

> Samples Received on: 11/23/2020 1022

> > Units

ua/L

ug/L

ug/L

ug/L

ug/L

ug/L

ug/L

ug/L

Sampled on 11/20/2020 0804

Sampled on 11/20/2020 0804

Sampled on 11/20/2020 0805

Sampled on 11/20/2020 0806

Sampled on 11/20/2020 0807

Sampled on 11/20/2020 0808

Sampled on 11/20/2020 0808

Sampled on 11/20/2020 0809

Sampled on 11/20/2020 0810

MRL

0.50

0.50

0.50

0.50

0.50

0.50

0.50

0.50

Dilution

1

1

1

1

1

1

1

1

1

Laboratory Data

Result

350

550

500

200

270

280

300

210

Analyte

Lead Total ICAP/MS

(C) ed 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 Fax: (866) 988-3757 1 800 566 LABS (1 800 566 5227) Laboratory Data

Report: 905134 Project: KALAMAZOO Group: Lead Solubility Testing - Phase 1

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

Samples Received on: 11/23/2020 1022

Prepped	Analyzed	Prep Batch	Analytical Batch	Method	Analyte	Result	Units	MRL	Dilution
11/24/20	12/06/20 16:19	1290246	1290471	(EPA 200.8)	Lead Total ICAP/MS	890	ug/L	0.50	1

Rounding on totals after summation.



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Tetra Tech

ICPMS Metals	
Prep Batch: 1290246	Analytical Batch: 1290471
202011230261	Test 5 No.9 Final
ICPMS Metals	
Prep Batch: 1290246	Analytical Batch: 1290932
202011230252	Test 5 No.0 Final
202011230253	Test 5 No.1 Final
202011230254	Test 5 No.2 Final
202011230255	Test 5 No.3 Final
202011230256	Test 5 No.4 Final
202011230257	Test 5 No.5 Final
202011230258	Test 5 No.6 Final
202011230259	Test 5 No.7 Final
202011230260	Test 5 No.8 Final

Report: 905134 Project: KALAMAZOO Group: Lead Solubility Testing - Phase 1

> Analysis Date: 12/06/2020 Analyzed by: DHX7

#### Analysis Date: 11/27/2020

Analyzed by: URDE Analyzed by: URDE



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Report: 905134 Project: KALAMAZOO Group: Lead Solubility Testing - Phase 1

ı								
Analyte	Native	Spiked	Recovered	Units	Yield(%)	Limits (%)	RPD Limit(%)	RPD%
EPA 200.8								
atch: 1290471					Analysis D	ate: 12/06/	2020	
Lead Total ICAP/MS		50	51.4	ug/L	103	(85-115)		
Lead Total ICAP/MS		50	51.5	ug/L	103	(85-115)	20	0.19
Lead Total ICAP/MS			<0.25	ug/L				
Lead Total ICAP/MS		0.5	0.523	ug/L	105	(50-150)		
Lead Total ICAP/MS	ND	50	51.4	ug/L	103	(70-130)		
Lead Total ICAP/MS	ND	50	51.4	ug/L	102	(70-130)		
Lead Total ICAP/MS	ND	50	52.1	ug/L	104	(70-130)	20	1.3
Lead Total ICAP/MS	ND	50	51.2	ug/L	102	(70-130)	20	0.38
EPA 200.8								
Analytical Batch: 1290932				A	Analysis D	ate: 11/27/	2020	
Lead Total ICAP/MS		50	50.3	ug/L	101	(85-115)		
Lead Total ICAP/MS		50	50.0	ug/L	100	(85-115)	20	0.60
Lead Total ICAP/MS			<0.25	ug/L				
Lead Total ICAP/MS		0.5	0.508	ug/L	102	(50-150)		
Lead Total ICAP/MS	550	50	599	ug/L	106	(70-130)		
Lead Total ICAP/MS	550	50	586	ug/L	72	(70-130)		
Lead Total ICAP/MS	550	50	614	ug/L	<u>136</u>	(70-130)	20	2.4
Lead Total ICAP/MS	550	50	592	ug/L	85	(70-130)	20	1.2
	EPA 200.8 atch: 1290471 Lead Total ICAP/MS Lead Total ICAP/MS EPA 200.8 atch: 1290932 Lead Total ICAP/MS Lead Total ICAP/MS	AnalyteNativeEPA 200.8 atch: 1290471	AnalyteNativeSpikedEPA 200.8 atch: 129047150Lead Total ICAP/MS50Lead Total ICAP/MS50Lead Total ICAP/MS0.5Lead Total ICAP/MS0.5Lead Total ICAP/MSNDLead Total ICAP/MSS0Lead Total ICAP/MS50Lead Total ICAP/MS50Lead Total ICAP/MS50Lead Total ICAP/MS50Lead Total ICAP/MS50Lead Total ICAP/MS50Lead Total ICAP/MS550Lead Total ICAP/MS550	Analyte         Native         Spiked         Recovered           EPA 200.8	Analyte         Native         Spiked         Recovered         Units           EPA 200.8 atch: 1290471         50         51.4         ug/L           Lead Total ICAP/MS         50         51.4         ug/L           Lead Total ICAP/MS         50         51.5         ug/L           Lead Total ICAP/MS         0.5         0.523         ug/L           Lead Total ICAP/MS         0.5         0.523         ug/L           Lead Total ICAP/MS         0.5         51.4         ug/L           Lead Total ICAP/MS         0.5         0.523         ug/L           Lead Total ICAP/MS         ND         50         51.4         ug/L           Lead Total ICAP/MS         ND         50         51.4         ug/L           Lead Total ICAP/MS         ND         50         51.4         ug/L           Lead Total ICAP/MS         ND         50         51.2         ug/L           Lead Total ICAP/MS         ND         50         50.3         ug/L           Lead Total ICAP/MS         50         50.0         ug/L         ug/L           Lead Total ICAP/MS         50         50.0         ug/L         ug/L           Lead Total ICAP/MS         0.5         0.	Analyte         Native         Spiked         Recovered         Units         Yield(%)           EPA 200.8 atch: 1290471         Analysis D         Analysis D           Lead Total ICAP/MS         50         51.4         ug/L         103           Lead Total ICAP/MS         50         51.5         ug/L         103           Lead Total ICAP/MS         50         51.5         ug/L         103           Lead Total ICAP/MS         0.5         0.523         ug/L         105           Lead Total ICAP/MS         0.5         0.523         ug/L         103           Lead Total ICAP/MS         ND         50         51.4         ug/L         103           Lead Total ICAP/MS         ND         50         51.4         ug/L         102           Lead Total ICAP/MS         ND         50         51.4         ug/L         102           Lead Total ICAP/MS         ND         50         51.2         ug/L         104           Lead Total ICAP/MS         ND         50         50.0         ug/L         101           Lead Total ICAP/MS         50         50.0         ug/L         100         ug/L         100           Lead Total ICAP/MS         0.5	Analyte         Native         Spiked         Recovered         Units         Yield(%)         Limits (%)           EPA 200.8 atch: 1290471         Analysis Date: 12/06/         Analysis Date: 12/06/         Manalysis Date: 12/06/           Lead Total ICAP/MS         50         51.4         ug/L         103         (85-115)           Lead Total ICAP/MS         50         51.5         ug/L         103         (85-115)           Lead Total ICAP/MS         50         51.5         ug/L         103         (85-115)           Lead Total ICAP/MS         0.5         0.523         ug/L         105         (50-150)           Lead Total ICAP/MS         ND         50         51.4         ug/L         103         (70-130)           Lead Total ICAP/MS         ND         50         51.4         ug/L         102         (70-130)           Lead Total ICAP/MS         ND         50         51.4         ug/L         102         (70-130)           Lead Total ICAP/MS         ND         50         51.2         ug/L         102         (70-130)           Lead Total ICAP/MS         ND         50         50.3         ug/L         100         (85-115)           Lead Total ICAP/MS         50         <	Analyte         Native         Spiked         Recovered         Units         Yield(%)         Limits (%)         RPD Limit(%)           EPA 200.8 atch: 1290471         Analysis Date: 12/06/2020           Lead Total ICAP/MS         50         51.4         ug/L         103         (85-115)         20           Lead Total ICAP/MS         50         51.5         ug/L         103         (85-115)         20           Lead Total ICAP/MS         50         51.4         ug/L         103         (85-115)         20           Lead Total ICAP/MS         50         51.5         ug/L         103         (85-115)         20           Lead Total ICAP/MS         0.5         0.523         ug/L         103         (70-130)         100           Lead Total ICAP/MS         ND         50         51.4         ug/L         102         (70-130)         20           Lead Total ICAP/MS         ND         50         51.2         ug/L         104         (70-130)         20           Lead Total ICAP/MS         ND         50         51.2         ug/L         102         (70-130)         20           Lead Total ICAP/MS         ND         50         50.0         ug/L         102         (5

Spike recovery is already corrected for native results. Spikes which exceed Limits and Method Blanks with positive results are highlighted by <u>Underlining.</u> 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.

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** 12/11/2020 (1 mosa **EUROFINS EATON ANALYTICAL, LLC** 

ZIA8: Vanessa Berry

**Project Manager** 

Report: 906151 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

Eurofins Eaton Analytical, LLC

750 Royal Oaks Drive, Suite 100 Monrovia, CA 91016-3629 T | 626-386-1100 F | 866-988-3757 www.EurofinsUS.com/Eaton

#### 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

		Environ-	Environ-			-	Environ-	Environ-	
SPECIFIC TESTS	METHOD OR TECHNIQUE USED	mental (Drinking Water)	mental (Waste Water)	Water as a Component of Food and Bev/Bev/ Bottled Water	SPECIFIC TESTS	METHOD OR TECHNIQUE USED	mental (Drinking Water)	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	Hexavalent Chromium	EPA 218.7	x		x
1,4-Dioxane	EPA 522	х		x	Hexavalent Chromium	SM 3500-Cr B		х	
2.3.7.8-TCDD	Modified EPA 1613B	x		x	Hormones	EPA 539	х	~	x
Acrylamide	In House Method (2440)	x		x	Hydroxide as OH Calc.				х
Algal Toxins/Microcystin	In House Method (3570)				Kjeldahl Nitrogen	EPA 351.2	x	х	
Alkalinity	SM 2320B	x	х	х	Legionella	Legiolert	х		x
Ammonia	EPA 350.1		x	х	Mercury	EPA 200.8	х		х
Ammonia	SM 4500-NH3 H		х	х	Metals	EPA 200.7 / 200.8	х	х	х
Anions and DBPs by IC	EPA 300.0	х	х	х	Microcystin LR	ELISA (2360)	x		х
Anions and DBPs by IC	EPA 300.1	х		х	Microcystin, Total	EPA 546	х		х
Asbestos	EPA 100.2	x	х		NDMA	EEA/Agilent 521.1	x		x
		~				In house method (2425)			
BOD / CBOD	SM 5210B		х	x	Nitrate/Nitrite Nitrogen	EPA 353.2	х	х	х
Bromate	In House Method (2447)	x		x	OCL, Pesticides/PCB	EPA 505	х		x
Carbamates	EPA 531.2	х		x	Ortho Phosphate	EPA 365.1	х	х	x
Carbonate as CO3	SM 2330B	х	х	x	Ortho Phosphorous Oxyhalides Disinfection	SM 4500P E	х		х
Carbonyls	EPA 556	x		x	Byproducts	EPA 317.0	х		x
COD	EPA 410.4 / SM 5220D	1	x		Perchlorate	EPA 331.0	x		x
Chloramines	SM 4500-CL G	x	x	x	Perchlorate (low and high)	EPA 314.0	x		x
Chlorinated Acids	EPA 515.4	x		x	Perfluorinated Alkyl Acids	EPA 537	x		x
Chlorinated Acids	EPA 555	x	1	x	Perfluorinated Polutant	In house Method (2434)	x		x
Chlorine Dioxide	SM 4500-CLO2 D Palin Test	x		x	рН	EPA 150.1	x		
Chlorine -Total/Free/ Combined Residual	SM 4500-Cl G	x	x	x	рН	SM 4500-H+B	x	x	x
Conductivity	EPA 120.1	1	x		Phenylurea Pesticides/ Herbicides	In House Method, based on EPA 532 (2448)	x		x
Conductivity	SM 2510B	x	x	x	Herbicides Pseudomonas	532 (2448) IDEXX Pseudalert (2461)	x		x
Corrosivity (Langelier Index)	SM 2330B	x	~	x	Radium-226	GA Institute of Tech	x		x
Cyanide, Amenable	SM 4500-CN G	x	x		Radium-228	GA Institute of Tech	x		x
Cyanide, Free	SM 4500-CN G	x	x	x	Radon-222	SM 7500RN	x		x
Cyanide, Total	EPA 335.4	x	x	x	Residue, Filterable	SM 2540C	x	x	x
Cyanogen Chloride (screen)	In House Method (2470)	x	~	x	Residue, Non-filterable	SM 2540D	~	x	~
Diquat and Paraquat	EPA 549.2	x		x	Residue, Total	SM 2540B		x	x
DBP/HAA	SM 6251B	x		x	Residue, Volatile	EPA 160.4		x	~
Dissolved Oxygen	SM 4500-O G		х	x	Semi-VOC	EPA 525.2	x		x
DOC	SM 5310C	x		х	Silica	SM 4500-Si D	х	х	
E. Coli	(MTF/EC+MUG)	х		х	Silica	SM 4500-SiO2 C	х	х	
	· · · · · ·						~		-
E. Coli	CFR 141.21(f)(6)(i)	x		x	Sulfide	SM 4500-S <sup>=</sup> D		х	
E. Coli	SM 9223		х		Sulfite	SM 4500-SO <sup>3</sup> B	х	х	x
E. Coli (Enumeration)	SM 9221B.1/ SM 9221F	х		х	Surfactants	SM 5540C	x	х	х
E. Coli (Enumeration)	SM 9223B	х		х	Taste and Odor Analytes	SM 6040E	х		х
EDB/DCBP	EPA 504.1	х			Total Coliform (P/A)	SM 9221 A, B	х		х
EDB/DBCP and DBP	EPA 551.1	x		x	Total Coliform (Enumeration)	SM 9221 A, B, C	x		x
EDTA and NTA	In House Method (2454)	x		x	Total Coliform / E. coli	Colisure SM 9223	x		x
Endothall	EPA 548.1	x		×	Total Coliform	SM 9221B	^	х	^
Endothall	In-house Method (2445)	x		х	Total Coliform with Chlorine Present	SM 9221B		x	
Enterococci	SM 9230B	x	х		Total Coliform / E.coli (P/A and Enumeration)	SM 9223	x		x
Fecal Coliform	SM 9221 E (MTF/EC)	x			TOC	SM 5310C	x	x	x
Fecal Coliform	SM 9221C, E (MTF/EC)		x		TOX	SM 5320B		x	1
Fecal Coliform	SM 9221E, E (MTF/EC)	x		x	Total Phenols	EPA 420.1		x	
(Enumeration) Fecal Coliform with	SM 9221E		x		Total Phenols	EPA 420.4	x	x	x
Chlorine Present Fecal Streptococci	SM 9221E	x	×		Total Phosphorous	SM 4500 P E	^	x	^
Fluoride	SM 4500-F C	x	x	x	Triazine Pesticides &	In House (3617)	x		x
Glyphosata	EPA 547	v		×	Degradates	EDA 190 1	v	v	v
Glyphosate   AMPA		x		×	Turbidity Turbidity	EPA 180.1	x	x	X
Glyphosate + AMPA Gross Alpha/Pata	In House Method (3618)	x	~	x	Turbidity	SM 2130B	X	х	~
Gross Alpha/Beta Gross Alpha Coprecipitation	EPA 900.0 SM 7110 C	x	x	x	Uranium by ICP/MS UV 254	EPA 200.8 SM 5910B	x		x
Hardness	SM 2340B	х	x	x	VOC	EPA 524.2	x		х
Heterotrophic Bacteria	In House Method (2439)	х		x	VOC	In House Method (2411)	х		х
Heterotrophic Bacteria	SM 9215 B	х		x	Yeast and Mold	SM 9610	х		х
Hexavalent Chromium	EPA 218.6	х	х	х	Field Sampling	N/A			1

750 Royal Oaks Dr., Ste 100, Monrovia, CA 91016 Tel (626) 386-1100 Fax (866) 988-3757 https://www.eurofinsus.com/Eaton Version 006 Issued: 05/04/20

🔅 eurofin	S Eaton Analytical	
		Acknowledgement of Samples Received
Addr: <b>Tetra Tech</b> 201 East Pine Street Suite 1000 Orlando, FL 32801 Attn: James Christopher Phone: 407-480-3907		Client ID: TETRATECH-ORLAN Folder #: 906151 Project: KALAMAZOO Sample Group: Lead Solubility Testing - Phase 1
		Project Manager: Vanessa Berry Phone: 503-310-3905
tests liste		ed from you on <b>December 01, 2020</b> at <b>1128</b> . They have been scheduled for the this information is incorrect, please contact your service representative. Thank you LLC.
Sample #	Sample ID	Sample Date
202012010640	Test 6 No.0 Final	11/24/2020 0802
202012010641	@ICPMS Test 6 No.1 Final	11/24/2020 0803
	@ICPMS	
202012010642	Test 6 No.2 Final	11/24/2020 0804
	,	1
202012010642	©ICPMS Test 6 No.3 Final	11/24/2020 0205
<u>202012010643</u>	,	11/24/2020 0805
	@ICPMS	
<u>202012010644</u>	Test 6 No.4 Final	11/24/2020 0806
	@ICPMS	
<u>202012010645</u>	Test 6 No.5 Final	11/24/2020 0807
	@ICPMS	
202012010646	Test 6 No.6 Final	11/24/2020 0808
	@ICPMS	
202012010647	Test 6 No.7 Final	11/24/2020 0809
	@ICPMS	
202012010648	Test 6 No.8 Final	11/24/2020 0810
	@ICPMS	
<u>202012010649</u>	: Test 6 No.9 Final	11/24/2020 0811
	@ICPMS	

### **Test Description**

@ICPMS -- ICPMS Metals

	eur	🛟 eurofins		CHA	VIN O	F CUST	CHAIN OF CUSTODY RECORD	ORD			6.5
	đ	Eaton Analytical	EUROFINS EATON ANALYTICAL USE ONLY:	TICAL USE	: A TINO		11			00	15/901
751	EVON C	I Oaks Drive Suite 100	LOGIN COMMENTS:				SAM	SAMPLES CHECKED AGAINST COC BY:	D AGAINST	COC BY: Ut	
2 M	inrovia,	Monrovia, CA 91016-3629						SAMP	SAMPLES LOGGED IN BY:	ED IN BY: UL	
d	Sher 62	26.386.1100	5	ED AT:				SAMPLES REC'D DAY OF COLLECTION?	JAY OF COLI	-	(check for yes)
ЦЦ	x: 626	Fax: 626 386 1101	(Other)	IR Gun ID =	= 10210	-	10	°C) (Corr.Factor		11	
80	0 566 L	800 566 LABS (800 566 5227)	✓ Monrovia	IR Gun ID = $U^{2}$ UN	= 001	(Observation=	on= (- 8	°C) (Corr.Factor	_ °C) (Final =		
We	sbsite: \	com	Compliance Acceptance Criteria: (Chemistry: 4 ± 2 °C ) (Microbiology: < 10°C	iteria: (Chem	istry: 4 ± 2 °C	:) (Microbiology: < 10	(	`			
			TYPE OF ICE: Real	Synthetic			CONDITION OF ICE: Frozen	en 🖌 Partiall	Partially Frozen	Thawed	N/A
			METHOD OF SHIPMENT: Pick-Up / Walk-In	MENT: PIG	w / dn-x	-	FedEx / UPS / DHL / Area Fast / Top Line / Other:	ast / Top Line	/ Other:		
TO BE	COMPL	TO BE COMPLETED BY SAMPLER:	NZZh	SIULA	222		(che	(check for yes)		(chec	(check for yes)
COM	ANYIA	COMPANY/AGENCY NAME:	PROJECT CODE:			CO	COMPLIANCE SAMPLES		-COMPLIAN	NON-COMPLIANCE SAMPLES	
tet	VO TE	TEARON TEULA 201 E PINE ST ONOUNDO				Type of sample	- Requires state forms Type of samples (circle one): ROUTINE	NE SPECIAL	L CONFIRMATION INVOLVED:	1000	(ea. SDWA. NPDES. etc.)
EEA (	EEA CLIENT CODE:	CODE: COCID:		4		SEE ATTAC		OR ANALYSE	SI	(check for yes),	s), <u>OR</u>
4	that	retratecur-origin	LEOD SOLUDINITY	1254-M	Phoise 1	List ALL AN	List ALL ANALYSES REQUIRED (enter number of bottles sent for each test for each sample)	enter number of I	bottles sent t	for each test for	each sample)
TAT	equeste	TAT requested: rush by adv notice only	STD 1 wk 3 day	2 day	_ 1 day	21					
SAMPLE DATE	AMPLE TIME	SAMPLE ID	CLIENT LAB ID	• XIATAM	АТАО ОАТА АТАО ОЭЭ	NADI 🗃				SANCOM	SAMPLER COMMENTS
1	8:02	2 TEST 6 NO. 0 FINCI		FW "	-	1				anthed with	d with
-	_	1 NO. 1		-		eije				nitric ocid	oud
	H0:8	N0.2				24				HAT IN	MI TENCI TECH
52	8:05	NO. 3								- 	r.
	90:8	н									
	RU:8	5									
	80:8	9								14	
	0:0	E									
	01:8	3			-						
-0	11:8	A O A		-		4					
* MA	TRIX	* MATRIX TYPES: RSW = Raw Surface Water RGW = Raw Ground Water	<b>CFW</b> = Chlor(am)inated Finished Water <b>FW</b> = Other Finished Water	ed Finished Nater	d Water	SEAW = Sea Water WW = Waste Water		L.	SO = Soil SL = Sludge	O = Other - F	O = Other - Please Identify
		SIGNATURE		PRI	PRINT NAME		8	-		DATE	TIME
NAMPL	EU BY:	M- RICENCIS	MUNO	1501bel Arena	Arenas		TEHIOI TEUN, PII	Project Engineer		11 30 20	4:30 PM
KELIN	KELINQUISHED BY:			11			11	5		11	11
RECE	RECEIVED BY:	11	Joe S	Sanche	27		ten		(2)	11/20 1	128
RELIN	RELINQUISHED BY:	) BY:			N.						
RECEI	RECEIVED BY:				al al a						100
QA FO	V) 2.6200	QA FO 0029.2 (Version 2) (08/28/2014)								PAGE	OF



Tel: (626) 386-1100 Fax: (866) 988-3757 1 800 566 LABS (1 800 566 5227) Report: 906151 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.

**Tetra Tech** 

Suite 1000 Orlando, FL 32801

James Christopher

201 East Pine Street

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

#### Laboratory Hits

Report: 906151 Project: KALAMAZOO Group: Lead Solubility Testing - Phase 1

Samples Received on: 12/01/2020 1128

Analyte Sample ID Result Federal MCL Units MRL Analyzed 202012010640 Test 6 No.0 Final 12/06/2020 11:55 Lead Total ICAP/MS 250 15 0.50 ug/L 202012010641 Test 6 No.1 Final 12/06/2020 11:56 Lead Total ICAP/MS 660 15 0.50 ug/L 202012010642 Test 6 No.2 Final 12/06/2020 11:57 Lead Total ICAP/MS 560 15 ug/L 0.50 202012010643 Test 6 No.3 Final Lead Total ICAP/MS 230 0.50 12/08/2020 18:14 15 ug/L 202012010644 Test 6 No.4 Final 12/06/2020 11:57 Lead Total ICAP/MS 320 15 0.50 ug/L 202012010645 Test 6 No.5 Final 12/08/2020 18:16 Lead Total ICAP/MS 310 15 ug/L 0.50 202012010646 Test 6 No.6 Final 12/06/2020 11:58 Lead Total ICAP/MS 290 15 ug/L 0.50 202012010647 Test 6 No.7 Final 12/08/2020 18:18 Lead Total ICAP/MS 220 15 ug/L 0.50 202012010648 Test 6 No.8 Final Lead Total ICAP/MS 12/06/2020 11:59 920 15 0.50 ug/L 202012010649 Test 6 No.9 Final Lead Total ICAP/MS 1000 5.0 12/08/2020 18:34 15 ug/L

#### 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

Group: Lead Solubility Testing - Phase 1

Result

Report: 906151

Analyte

Project: KALAMAZOO

Samples Received on: 12/01/2020 1128

Units

Sampled on 11/24/2020 0802

MRL

Dilution

Laboratory Data

**Eaton Analytical** 

Prep Batch Analytical Batch

Method

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

🛟 eurofins

**Tetra Tech** 

Suite 1000 Orlando, FL 32801

Analyzed

Test 6 No.0 Final (202012010640)

Prepped

James Christopher

201 East Pine Street

2012010040]				Jamp			
				250	ug/l	0.50	1
	1292319	(EPA 200.0)					1
2012010041)				Samp		2020 0003	
	1292379	(EPA 200.8)	Lead Total ICAP/MS		•		1
2012010642)				Samp	ed on 11/24	/2020 0804	
EPA 200.8 - ICP	MS Metals						
1291502 1	1292379	(EPA 200.8)	Lead Total ICAP/MS	560	ug/L	0.50	1
<u>2012010643)</u>				Samp	ed on 11/24	/2020 0805	
EPA 200.8 - ICP	MS Metals						
1291502 1	1291550	(EPA 200.8)	Lead Total ICAP/MS	230 (B4)	ug/L	0.50	1
<u>2012010644)</u>				Samp	ed on 11/24	/2020 0806	
FPA 200 8 - ICP	MS Metals						
		(EPA 200.8)	Lead Total ICAP/MS	320	ug/L	0.50	1
<u>2012010645)</u>				Samp	ed on 11/24	/2020 0807	
	MC Matala						
		(EPA 200.8)	Lead Total ICAP/MS	310 (B4)	ug/L	0.50	1
<u>2012010646)</u>		. ,		Samp	ed on 11/24	/2020 0808	
		(EPA 200 8)	Lead Total ICAP/MS	290	ug/l	0.50	1
	1202010						
<u></u>				Cump			
						0.50	
	1291550	(EPA 200.8)	Lead Total ICAP/MS				1
2012010648)				Samp	ed on 11/24	/2020 0810	
EPA 200.8 - ICP	MS Metals						
	1292379	(EPA 200.8)	Lead Total ICAP/MS		ug/L	0.50	1
<u>2012010649)</u>				Samp	ed on 11/24	/2020 0811	
EPA 200.8 - ICP	MS Metals						
	EPA 200.8 - ICP 1291502 2012010641) EPA 200.8 - ICP 1291502 2012010642) EPA 200.8 - ICP 1291502 2012010643) EPA 200.8 - ICP 1291502 2012010644) EPA 200.8 - ICP 1291502 2012010645) EPA 200.8 - ICP 1291502 2012010647) EPA 200.8 - ICP 1291502 2012010647) EPA 200.8 - ICP 1291502 2012010647) EPA 200.8 - ICP 1291502 2012010648) EPA 200.8 - ICP 1291502 2012010648) EPA 200.8 - ICP	2012010641) EPA 200.8 - ICPMS Metals 1291502 1292379 2012010642) EPA 200.8 - ICPMS Metals 1291502 1292379 2012010643) EPA 200.8 - ICPMS Metals 1291502 1292379 2012010644) EPA 200.8 - ICPMS Metals 1291502 1291550 2012010645) EPA 200.8 - ICPMS Metals 1291502 1292379 2012010646) EPA 200.8 - ICPMS Metals 1291502 1292379 2012010647) EPA 200.8 - ICPMS Metals 1291502 1291550 2012010647) EPA 200.8 - ICPMS Metals 1291502 1291550	EPA 200.8 - ICPMS Metals 1291502       (EPA 200.8)         2012010641)       EPA 200.8 - ICPMS Metals 1291502       (EPA 200.8)         2012010642)       EPA 200.8 - ICPMS Metals 1291502       (EPA 200.8)         2012010642)       EPA 200.8 - ICPMS Metals 1291502       (EPA 200.8)         2012010643)       EPA 200.8 - ICPMS Metals 1291502       (EPA 200.8)         2012010644)       (EPA 200.8)         20120106445)       (EPA 200.8)         20120106445)       (EPA 200.8)         20120106445)       (EPA 200.8)         20120106445)       (EPA 200.8)         2012010645)       (EPA 200.8)         2012010645)       (EPA 200.8)         2012010646)       (EPA 200.8)         2012010647)       (EPA 200.8)         2012010648)       (EPA 200.8)	EPA 200.8 - ICPMS Metals       1291502       1292379       (EPA 200.8)       Lead Total ICAP/MS         2012010641)       EPA 200.8 - ICPMS Metals       1291502       1292379       (EPA 200.8)       Lead Total ICAP/MS         2012010642)       EPA 200.8 - ICPMS Metals       1291502       1292379       (EPA 200.8)       Lead Total ICAP/MS         2012010642)       EPA 200.8 - ICPMS Metals       1291502       1292379       (EPA 200.8)       Lead Total ICAP/MS         2012010643)       EPA 200.8 - ICPMS Metals       1291502       1291503       (EPA 200.8)       Lead Total ICAP/MS         2012010644)       EPA 200.8 - ICPMS Metals       1291502       1292379       (EPA 200.8)       Lead Total ICAP/MS         2012010645)       EPA 200.8 - ICPMS Metals       1291502       1292379       (EPA 200.8)       Lead Total ICAP/MS         2012010645)       EPA 200.8 - ICPMS Metals       1291502       1292379       (EPA 200.8)       Lead Total ICAP/MS         2012010645)       EPA 200.8 - ICPMS Metals       1291502       1292379       (EPA 200.8)       Lead Total ICAP/MS         2012010647)       EPA 200.8 - ICPMS Metals       1291502       1292379       (EPA 200.8)       Lead Total ICAP/MS         2012010647)       EPA 200.8 - ICPMS Metals       1291502       1291503 <td< td=""><td>EPA 200.8 - ICPMS Metals 1291502         (EPA 200.8)         Lead Total ICAP/MS         250           2012010641)         Sampi           EPA 200.8 - ICPMS Metals 1291502         (EPA 200.8)         Lead Total ICAP/MS         660           2012010642)         Sampi           EPA 200.8 - ICPMS Metals 1291502         (EPA 200.8)         Lead Total ICAP/MS         660           2012010642)         Sampi           EPA 200.8 - ICPMS Metals 1291502         (EPA 200.8)         Lead Total ICAP/MS         560           2012010643)         Sampi           EPA 200.8 - ICPMS Metals 1291502         (EPA 200.8)         Lead Total ICAP/MS         230 (B4)           2012010644)         Sampi         Sampi           EPA 200.8 - ICPMS Metals 1291502         (EPA 200.8)         Lead Total ICAP/MS         320           2012010645)         Sampi         Sampi         Sampi           EPA 200.8 - ICPMS Metals 1291502         (EPA 200.8)         Lead Total ICAP/MS         320           2012010645)         Sampi         Sampi         Sampi           2012010645)         Sampi         Sampi           2012010645)         (EPA 200.8)         Lead Total ICAP/MS         320           2012010646)         Sampi         Sampi         Sampi     <td>EPA 200.8 - ICPMS Metals 1291502       (EPA 200.8)       Lead Total ICAP/MS       250       ug/L         2012010641)       Sampled on 11/24         EPA 200.8 - ICPMS Metals 1291502       (EPA 200.8)       Lead Total ICAP/MS       660       ug/L         2012010642)       Sampled on 11/24         EPA 200.8 - ICPMS Metals 1291502       (EPA 200.8)       Lead Total ICAP/MS       660       ug/L         2012010642)       Sampled on 11/24         EPA 200.8 - ICPMS Metals 1291502       (EPA 200.8)       Lead Total ICAP/MS       560       ug/L         2012010643)       Sampled on 11/24         EPA 200.8 - ICPMS Metals 1291502       (EPA 200.8)       Lead Total ICAP/MS       230 (B4)       ug/L         2012010644)       Sampled on 11/24       Sampled on 11/24       Sampled on 11/24         EPA 200.8 - ICPMS Metals 1291502       (EPA 200.8)       Lead Total ICAP/MS       320       ug/L         2012010645)       Sampled on 11/24       Sampled on 11/24       Sampled on 11/24         EPA 200.8 - ICPMS Metals 1291502       (EPA 200.8)       Lead Total ICAP/MS       320       ug/L         2012010645)       Sampled on 11/24       Sampled on 11/24       Sampled on 11/24         EPA 200.8 - ICPMS Metals 1291502       (EPA 200.8)       Lead Total ICAP/MS</td><td>EPA 200.5 · ICPMS Metais 1291502       1292379       (EPA 200.8)       Lead Total ICAP/MS       250       ug/L       0.50         2012010641)       1292379       (EPA 200.8)       Lead Total ICAP/MS       660       ug/L       0.50         2012010642)       1292379       (EPA 200.8)       Lead Total ICAP/MS       660       ug/L       0.50         2012010642)       1292379       (EPA 200.8)       Lead Total ICAP/MS       560       ug/L       0.50         2012010643)       1292379       (EPA 200.8)       Lead Total ICAP/MS       560       ug/L       0.50         2012010643)       1292379       (EPA 200.8)       Lead Total ICAP/MS       560       ug/L       0.50         2012010643)       1292379       (EPA 200.8)       Lead Total ICAP/MS       230 (B4)       ug/L       0.50         20120106443       1291502       1291500       (EPA 200.8)       Lead Total ICAP/MS       320       ug/L       0.50         20120106443       1291502       1292379       (EPA 200.8)       Lead Total ICAP/MS       320       ug/L       0.50         20120106451       1291502       1292379       (EPA 200.8)       Lead Total ICAP/MS       310 (B4)       ug/L       0.50         20120106451       <t< td=""></t<></td></td></td<>	EPA 200.8 - ICPMS Metals 1291502         (EPA 200.8)         Lead Total ICAP/MS         250           2012010641)         Sampi           EPA 200.8 - ICPMS Metals 1291502         (EPA 200.8)         Lead Total ICAP/MS         660           2012010642)         Sampi           EPA 200.8 - ICPMS Metals 1291502         (EPA 200.8)         Lead Total ICAP/MS         660           2012010642)         Sampi           EPA 200.8 - ICPMS Metals 1291502         (EPA 200.8)         Lead Total ICAP/MS         560           2012010643)         Sampi           EPA 200.8 - ICPMS Metals 1291502         (EPA 200.8)         Lead Total ICAP/MS         230 (B4)           2012010644)         Sampi         Sampi           EPA 200.8 - ICPMS Metals 1291502         (EPA 200.8)         Lead Total ICAP/MS         320           2012010645)         Sampi         Sampi         Sampi           EPA 200.8 - ICPMS Metals 1291502         (EPA 200.8)         Lead Total ICAP/MS         320           2012010645)         Sampi         Sampi         Sampi           2012010645)         Sampi         Sampi           2012010645)         (EPA 200.8)         Lead Total ICAP/MS         320           2012010646)         Sampi         Sampi         Sampi <td>EPA 200.8 - ICPMS Metals 1291502       (EPA 200.8)       Lead Total ICAP/MS       250       ug/L         2012010641)       Sampled on 11/24         EPA 200.8 - ICPMS Metals 1291502       (EPA 200.8)       Lead Total ICAP/MS       660       ug/L         2012010642)       Sampled on 11/24         EPA 200.8 - ICPMS Metals 1291502       (EPA 200.8)       Lead Total ICAP/MS       660       ug/L         2012010642)       Sampled on 11/24         EPA 200.8 - ICPMS Metals 1291502       (EPA 200.8)       Lead Total ICAP/MS       560       ug/L         2012010643)       Sampled on 11/24         EPA 200.8 - ICPMS Metals 1291502       (EPA 200.8)       Lead Total ICAP/MS       230 (B4)       ug/L         2012010644)       Sampled on 11/24       Sampled on 11/24       Sampled on 11/24         EPA 200.8 - ICPMS Metals 1291502       (EPA 200.8)       Lead Total ICAP/MS       320       ug/L         2012010645)       Sampled on 11/24       Sampled on 11/24       Sampled on 11/24         EPA 200.8 - ICPMS Metals 1291502       (EPA 200.8)       Lead Total ICAP/MS       320       ug/L         2012010645)       Sampled on 11/24       Sampled on 11/24       Sampled on 11/24         EPA 200.8 - ICPMS Metals 1291502       (EPA 200.8)       Lead Total ICAP/MS</td> <td>EPA 200.5 · ICPMS Metais 1291502       1292379       (EPA 200.8)       Lead Total ICAP/MS       250       ug/L       0.50         2012010641)       1292379       (EPA 200.8)       Lead Total ICAP/MS       660       ug/L       0.50         2012010642)       1292379       (EPA 200.8)       Lead Total ICAP/MS       660       ug/L       0.50         2012010642)       1292379       (EPA 200.8)       Lead Total ICAP/MS       560       ug/L       0.50         2012010643)       1292379       (EPA 200.8)       Lead Total ICAP/MS       560       ug/L       0.50         2012010643)       1292379       (EPA 200.8)       Lead Total ICAP/MS       560       ug/L       0.50         2012010643)       1292379       (EPA 200.8)       Lead Total ICAP/MS       230 (B4)       ug/L       0.50         20120106443       1291502       1291500       (EPA 200.8)       Lead Total ICAP/MS       320       ug/L       0.50         20120106443       1291502       1292379       (EPA 200.8)       Lead Total ICAP/MS       320       ug/L       0.50         20120106451       1291502       1292379       (EPA 200.8)       Lead Total ICAP/MS       310 (B4)       ug/L       0.50         20120106451       <t< td=""></t<></td>	EPA 200.8 - ICPMS Metals 1291502       (EPA 200.8)       Lead Total ICAP/MS       250       ug/L         2012010641)       Sampled on 11/24         EPA 200.8 - ICPMS Metals 1291502       (EPA 200.8)       Lead Total ICAP/MS       660       ug/L         2012010642)       Sampled on 11/24         EPA 200.8 - ICPMS Metals 1291502       (EPA 200.8)       Lead Total ICAP/MS       660       ug/L         2012010642)       Sampled on 11/24         EPA 200.8 - ICPMS Metals 1291502       (EPA 200.8)       Lead Total ICAP/MS       560       ug/L         2012010643)       Sampled on 11/24         EPA 200.8 - ICPMS Metals 1291502       (EPA 200.8)       Lead Total ICAP/MS       230 (B4)       ug/L         2012010644)       Sampled on 11/24       Sampled on 11/24       Sampled on 11/24         EPA 200.8 - ICPMS Metals 1291502       (EPA 200.8)       Lead Total ICAP/MS       320       ug/L         2012010645)       Sampled on 11/24       Sampled on 11/24       Sampled on 11/24         EPA 200.8 - ICPMS Metals 1291502       (EPA 200.8)       Lead Total ICAP/MS       320       ug/L         2012010645)       Sampled on 11/24       Sampled on 11/24       Sampled on 11/24         EPA 200.8 - ICPMS Metals 1291502       (EPA 200.8)       Lead Total ICAP/MS	EPA 200.5 · ICPMS Metais 1291502       1292379       (EPA 200.8)       Lead Total ICAP/MS       250       ug/L       0.50         2012010641)       1292379       (EPA 200.8)       Lead Total ICAP/MS       660       ug/L       0.50         2012010642)       1292379       (EPA 200.8)       Lead Total ICAP/MS       660       ug/L       0.50         2012010642)       1292379       (EPA 200.8)       Lead Total ICAP/MS       560       ug/L       0.50         2012010643)       1292379       (EPA 200.8)       Lead Total ICAP/MS       560       ug/L       0.50         2012010643)       1292379       (EPA 200.8)       Lead Total ICAP/MS       560       ug/L       0.50         2012010643)       1292379       (EPA 200.8)       Lead Total ICAP/MS       230 (B4)       ug/L       0.50         20120106443       1291502       1291500       (EPA 200.8)       Lead Total ICAP/MS       320       ug/L       0.50         20120106443       1291502       1292379       (EPA 200.8)       Lead Total ICAP/MS       320       ug/L       0.50         20120106451       1291502       1292379       (EPA 200.8)       Lead Total ICAP/MS       310 (B4)       ug/L       0.50         20120106451 <t< td=""></t<>



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

Report: 906151 Project: KALAMAZOO Group: Lead Solubility Testing - Phase 1

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

Samples Received on: 12/01/2020 1128

Prepped	Analyzed	Prep Batch	Analytical Batch	Method	Analyte	Result	Units	MRL	Dilution
12/02/20	12/08/20 18:34	1291502	1291550	(EPA 200.8)	Lead Total ICAP/MS	1000 (B4)	ug/L	5.0	10

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.



Test 6 No.3 Final

Test 6 No.5 Final

Test 6 No.7 Final

Test 6 No.9 Final

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

Tetra Tech

#### **ICPMS Metals**

## Prep Batch: 1291502 Analytical Batch: 1291550

202012010643	
202012010645	
202012010647	
202012010649	

#### **ICPMS Metals**

#### Prep Batch: 1291502 Analytical Batch: 1292379

202012010640	Test 6 No.0 Final
202012010641	Test 6 No.1 Final
202012010642	Test 6 No.2 Final
202012010644	Test 6 No.4 Final
202012010646	Test 6 No.6 Final
202012010648	Test 6 No.8 Final

#### Laboratory QC Summary

Report: 906151 Project: KALAMAZOO Group: Lead Solubility Testing - Phase 1

#### Analysis Date: 12/08/2020

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

#### Analysis Date: 12/06/2020

Analyzed by: URDE Analyzed by: URDE



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

Report: 906151 Project: KALAMAZOO Group: Lead Solubility Testing - Phase 1

Tetra Tec	h								
QC Туре	Analyte	Native	Spiked	Recovered	Units	Yield(%)	Limits (%)	RPD Limit(%)	RPD%
ICPMS Metals by	EPA 200.8								
Analytical B	atch: 1291550					Analysis D	ate: 12/08/	2020	
LCS1	Lead Total ICAP/MS		50	51.1	ug/L	102	(85-115)		
LCS2	Lead Total ICAP/MS		50	49.1	ug/L	98	(85-115)	20	4.0
MBLK	Lead Total ICAP/MS			<0.25	ug/L				
MRL_CHK	Lead Total ICAP/MS		0.5	0.513	ug/L	103	(50-150)		
MS_202002070534	Lead Total ICAP/MS	ND	50	48.0	ug/L	96	(70-130)		
MS2_202011300341	Lead Total ICAP/MS	ND	50	50.9	ug/L	102	(70-130)		
MSD_202002070534	Lead Total ICAP/MS	ND	50	47.9	ug/L	96	(70-130)	20	0.29
MSD2_202011300341	Lead Total ICAP/MS	ND	50	49.7	ug/L	99	(70-130)	20	2.5
ICPMS Metals by	EPA 200.8								
Analytical Batch: 1292379						Analysis D	ate: 12/06/	2020	
LCS1	Lead Total ICAP/MS		50	51.0	ug/L	102	(85-115)		
LCS2	Lead Total ICAP/MS		50	49.8	ug/L	100	(85-115)	20	2.4
MBLK	Lead Total ICAP/MS			<0.25	ug/L				
MRL_CHK	Lead Total ICAP/MS		0.5	0.499	ug/L	100	(50-150)		
MS_202012010060	Lead Total ICAP/MS	190	50	223	ug/L	<u>66</u>	(70-130)		
MS2_202012010381	Lead Total ICAP/MS	ND	50	48.2	ug/L	96	(70-130)		
MSD_202012010060	Lead Total ICAP/MS	190	50	223	ug/L	<u>65</u>	(70-130)	20	0.20
MSD2_202012010381	Lead Total ICAP/MS	ND	50	47.1	ug/L	94	(70-130)	20	2.3

Spike recovery is already corrected for native results. Spikes which exceed Limits and Method Blanks with positive results are highlighted by <u>Underlining.</u> 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.

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** 12/11/2020 (1 mosa **EUROFINS EATON ANALYTICAL, LLC** 

ZIA8: Vanessa Berry

**Project Manager** 

Report: 906153 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

Eurofins Eaton Analytical, LLC

750 Royal Oaks Drive, Suite 100 Monrovia, CA 91016-3629 T | 626-386-1100 F | 866-988-3757 www.EurofinsUS.com/Eaton

#### 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

		Environ-	Environ-			-	Environ-	Environ-	
SPECIFIC TESTS	METHOD OR TECHNIQUE USED	mental (Drinking Water)	mental (Waste Water)	Water as a Component of Food and Bev/Bev/ Bottled Water	SPECIFIC TESTS	METHOD OR TECHNIQUE USED	mental (Drinking Water)	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	Hexavalent Chromium	EPA 218.7	x		x
1,4-Dioxane	EPA 522	х		x	Hexavalent Chromium	SM 3500-Cr B		х	
2.3.7.8-TCDD	Modified EPA 1613B	x		x	Hormones	EPA 539	х	~	x
Acrylamide	In House Method (2440)	x		x	Hydroxide as OH Calc.	SM 2330B	x		x
Algal Toxins/Microcystin	In House Method (3570)				Kjeldahl Nitrogen	EPA 351.2		х	
Alkalinity	SM 2320B	x	х	х	Legionella	Legiolert	х		x
Ammonia	EPA 350.1		х	х	Mercury	EPA 200.8	х		х
Ammonia	SM 4500-NH3 H		х	х	Metals	EPA 200.7 / 200.8	х	х	х
Anions and DBPs by IC	EPA 300.0	х	х	х	Microcystin LR	ELISA (2360)	х		х
Anions and DBPs by IC	EPA 300.1	х		х	Microcystin, Total	EPA 546	х		х
Asbestos	EPA 100.2	x	х		NDMA	EEA/Agilent 521.1	x		x
		~				In house method (2425)			
BOD / CBOD	SM 5210B		х	x	Nitrate/Nitrite Nitrogen	EPA 353.2	х	х	x
Bromate	In House Method (2447)	x		x	OCL, Pesticides/PCB	EPA 505	х		x
Carbamates	EPA 531.2	х		x	Ortho Phosphate	EPA 365.1	х	х	x
Carbonate as CO3	SM 2330B	х	х	x	Ortho Phosphorous Oxyhalides Disinfection	SM 4500P E	х		x
Carbonyls	EPA 556	x		x	Byproducts	EPA 317.0	х		x
COD	EPA 410.4 / SM 5220D	1	x		Perchlorate	EPA 331.0	x	-	x
Chloramines	SM 4500-CL G	x	x	x	Perchlorate (low and high)	EPA 314.0	x		×
Chlorinated Acids	EPA 515.4	x		x	Perfluorinated Alkyl Acids	EPA 537	x		x
Chlorinated Acids	EPA 555	x		x	Perfluorinated Polutant	In house Method (2434)	x		x
Chlorine Dioxide	SM 4500-CLO2 D Palin Test	x		x	pH	EPA 150.1	x		
Chlorine -Total/Free/ Combined Residual	SM 4500-Cl G	x	x	x	рН	SM 4500-H+B	x	x	x
Conductivity	EPA 120.1		x		Phenylurea Pesticides/ Herbicides	In House Method, based on EPA 532 (2448)	x		x
Conductivity	SM 2510B	x	x	x	Pseudomonas	IDEXX Pseudalert (2461)	x		x
Corrosivity (Langelier Index)	SM 2310B	x	^	x	Radium-226	GA Institute of Tech	x		x
Cyanide, Amenable	SM 4500-CN G	x	x		Radium-228	GA Institute of Tech	x		x
Cyanide, Free	SM 4500CN F	x	x	x	Radon-222	SM 7500RN	x		x
Cyanide, Total	EPA 335.4	x	x	x	Residue, Filterable	SM 2540C	x	x	x
Cyanogen Chloride (screen)	In House Method (2470)	x	^	x	Residue, Non-filterable	SM 2540C	^	x	^
Diquat and Paraquat	EPA 549.2	x		x	Residue, Total	SM 2540B		x	x
DBP/HAA	SM 6251B	x		x	Residue, Volatile	EPA 160.4		x	^
Dissolved Oxygen	SM 4500-O G	X	x	x	Semi-VOC	EPA 525.2	x	~	x
DOC	SM 5310C	x	~	x	Silica	SM 4500-Si D	x	х	~
E. Coli	(MTF/EC+MUG)	x		x	Silica	SM 4500-SiO2 C	х	x	
	· · · · ·						~		
E. Coli	CFR 141.21(f)(6)(i)	х		x	Sulfide	SM 4500-S <sup>=</sup> D		х	
E. Coli	SM 9223		х		Sulfite	SM 4500-SO <sup>3</sup> B	х	х	x
E. Coli (Enumeration)	SM 9221B.1/ SM 9221F	x		х	Surfactants	SM 5540C	х	х	х
E. Coli (Enumeration)	SM 9223B	x		х	Taste and Odor Analytes	SM 6040E	х		х
EDB/DCBP	EPA 504.1	x			Total Coliform (P/A)	SM 9221 A, B	х		x
EDB/DBCP and DBP	EPA 551.1	x		x	Total Coliform (Enumeration)	SM 9221 A, B, C	x		x
EDTA and NTA	In House Method (2454)	x		x	Total Coliform / E. coli	Colisure SM 9223	x		x
Endothall	EPA 548.1	x		×	Total Coliform	SM 9221B	^	x	^
Endothall	In-house Method (2445)	x		х	Total Coliform with Chlorine Present	SM 9221B		x	
Enterococci	SM 9230B	x	х		Total Coliform / E.coli (P/A and Enumeration)	SM 9223	x		x
Fecal Coliform	SM 9221 E (MTF/EC)	х			TOC	SM 5310C	x	x	x
Fecal Coliform	SM 9221C, E (MTF/EC)		x		TOX	SM 5320B		x	1
Fecal Coliform	SM 9221E (MTF/EC)	x		x	Total Phenols	EPA 420.1		x	
(Enumeration) Fecal Coliform with	SM 9221E		x		Total Phenols	EPA 420.4	x	x	x
Chlorine Present Fecal Streptococci	SM 9230B	x	×		Total Phosphorous	SM 4500 P E	^	x	^
Fluoride	SM 4500-F C	x	x	x	Triazine Pesticides &	In House (3617)	x		x
Glumbosata	EDA 547	v		v	Degradates	EDA 100 1	v	v	~
Glyphosate   AMPA	EPA 547 In House Method (3618)	x		×	Turbidity Turbidity	EPA 180.1	x	x	X
Glyphosate + AMPA Gross Alpha/Pata	In House Method (3618)	x	~	x	Turbidity	SM 2130B	x	X	~
Gross Alpha/Beta Gross Alpha Coprecipitation	EPA 900.0 SM 7110 C	x	x	x	Uranium by ICP/MS UV 254	EPA 200.8 SM 5910B	x		x
Hardness	SM 2340B	х	x	x	VOC	EPA 524.2	х		x
Heterotrophic Bacteria	In House Method (2439)	х		x	VOC	In House Method (2411)	х		x
Heterotrophic Bacteria	SM 9215 B	х		x	Yeast and Mold	SM 9610	х		x
Hexavalent Chromium	EPA 218.6	х	х	х	Field Sampling	N/A			1

750 Royal Oaks Dr., Ste 100, Monrovia, CA 91016 Tel (626) 386-1100 Fax (866) 988-3757 https://www.eurofinsus.com/Eaton Version 006 Issued: 05/04/20

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	Eaton Analytical	Acknowledgement of Samples Received
Addr: <b>Tetra Tech</b> 201 East Pine Street Suite 1000 Orlando, FL 32801 Attn: James Christopher Phone: 407-480-3907		Client ID: TETRATECH-ORLAN Folder #: 906153 Project: KALAMAZOO Sample Group: Lead Solubility Testing - Phase 1
		Project Manager: Vanessa Berry Phone: 503-310-3905
tests list		ved from you on <b>December 01, 2020</b> at <b>1127</b> . They have been scheduled for the this information is incorrect, please contact your service representative. Thank you I, LLC.
Sample #	Sample ID	Sample Date
202012010662	Test 7 No.0 Final	11/26/2020 0843
	@ICPMS	
202012010663	Test 7 No.1 Final	11/26/2020 0844
	@ICPMS	
202012010664	Test 7 No.2 Final	11/26/2020 0846
	@ICPMS	
202012010665	Test 7 No.3 Final	11/26/2020 0848
	@ICPMS	
202012010666	Test 7 No.4 Final	11/26/2020 0850
	@ICPMS	
202012010667	Test 7 No.5 Final	11/26/2020 0852
	@ICPMS	
202012010668	Test 7 No.6 Final	11/26/2020 0853
	@ICPMS	
202012010669	Test 7 No.7 Final	11/26/2020 0855
	@ICPMS	
202012010670	Test 7 No.8 Final	11/26/2020 0856
	@ICPMS	
<u>202012010671</u>	Test 7 No.9 Final	11/26/2020 0858
	@ICPMS	

### **Test Description**

@ICPMS -- ICPMS Metals

🛟 eurofins		CHAIN O	<b>JF CUSTOD</b>	CHAIN OF CUSTODY RECORD		
	Eaton Analytical	EUROFINS EATON ANALYTICAL USE ONLY:	A stress		01	406153
750 Roval Oaks Drive. Suite 10	00	LOGIN COMMENTS:	Reg e	SAMPLES CHECKED AGAINST COC BY:	INST COC BY:	
Monrovia, CA 91016-3629				- SAMPLES LC	SAMPLES LOGGED IN BY:	R
Phone: 626 386 1100		5		EC'D DA		(check for yes)
Fax: 626 386 1101		(Other)		0 0		
800 566 LABS (800 566 5227)			(Observation=	'C) (Corr.Factor		
Website: www.EatonAnalytical.com		TYPE OF ICF: Real Southetic Unemary: 4 1 2 () (witcourougy: 10 0)	No Ice CONDITION OF ICE:	OF ICE: Frozen 🗸 Partially Frozen	Thawed	N/A
		HIPMENT: Pick-Up /	FedEx /	Area Fast / To		
TO BE COMPLETED BY SAMPLER:		928451141252		(check for ves)	(check for ves)	for ves)
COMPANY/AGENCY NAME:		PROJECT CODE:	COMPLIAN		NON-COMPLIANCE SAMPLES	
Tetra teun 201 Pine St Orlando	ovlando		- Requires stat		NOLVED:	CONTRACTOR OF CONTRACTOR
EEA CLIENT CODE: COC ID:	ë	SAMPLE GROUP:	SEE ATTACHED K	DER FOF	(chec	OR OR
-orlan		Lead solubility test-phase 1	List	ALL ANALYSES REQUIRED (enter number of bottles sent for each test for each sample)	sent for each test for ea	ch sample)
TAT requested: rush by adv notice only	nly	STD 1 wk 3 day 2 day 1 day				
SAMPLE DATE DATE SAMPLE TIME SAMPLE	Q	CLIENT LAB ID MATRIX ·	Waji D		SAMPLER COMMENTS	PLER
019 8:43 TEXET NO.()	Final	+			ntim hererved with	I with
V 1 Hh-8		-			men aud	NOLD DY
8:46 2					Teho T	Tech .
8:4k 3						
H 09:8						
8:51 5						
8:53 b						
F (75:8						
8 9:54						
\$ 8:58 \$ d	4	4	4			
* MATRIX TYPES: RSW = Raw Surface Water RGW = Raw Ground Water	<b>RSW</b> = Raw Surface Water <b>RGW</b> = Raw Ground Water	<b>CFW</b> = Chlor(am)inated Finished Water <b>FW</b> = Other Finished Water	SEAW = Sea Water WW = Waste Water	<b>BW</b> = Bottled Water <b>SO</b> = Soil <b>SW</b> = Storm Water <b>SL</b> = Sludge	I <b>O</b> = Other - Please Identify dge	ase Identify
SIGNATURE	RE	PRINT NAME		COMPANY/TITLE	DATE	TIME
SAMPLED BY: M. OY CMOIS RELINQUISHED BY:		MOTION LODER ARENO	as tena	(1) Tech, Project Engineer	11   30   20 1	MG OE:H
RECEIVED BY:		Joe Enchez		REA	12/1/20 1	121
RELINQUISHED BY:						
RECEIVED BY:						
QA FO 0029.2 (Version 2) (08/28/2014)					PAGE	QF

¥.

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Tel: (626) 386-1100 Fax: (866) 988-3757 1 800 566 LABS (1 800 566 5227) Report: 906153 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.

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#### Laboratory Hits

Report: 906153 Project: KALAMAZOO Group: Lead Solubility Testing - Phase 1

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

Samples Received on: 12/01/2020 1127

Analyzed	Analyte	Sample ID	Result	Federal MCL	Units	MRL
12/06/2020 12:00	202012010662 Lead Total ICAP/MS	Test 7 No.0 Final	250	15	ug/L	0.50
12/05/2020 19:28	202012010663 Lead Total ICAP/MS	Test 7 No.1 Final	420	15	ug/L	0.50
12/05/2020 19:30	202012010664 Lead Total ICAP/MS	<u>Test 7 No.2 Final</u>	320	15	ug/L	0.50
12/08/2020 18:27	202012010665 Lead Total ICAP/MS	<u>Test 7 No.3 Final</u>	600	15	ug/L	0.50
12/05/2020 19:31	202012010666 Lead Total ICAP/MS	Test 7 No.4 Final	180	15	ug/L	0.50
12/05/2020 19:32	202012010667 Lead Total ICAP/MS	Test 7 No.5 Final	130	15	ug/L	0.50
12/05/2020 19:32	202012010668 Lead Total ICAP/MS	<u>Test 7 No.6 Final</u>	170	15	ug/L	0.50
12/05/2020 19:35	202012010669 Lead Total ICAP/MS	Test 7 No.7 Final	110	15	ug/L	0.50
12/05/2020 19:35	202012010670 Lead Total ICAP/MS	<u>Test 7 No.8 Final</u>	550	15	ug/L	0.50
12/05/2020 19:36	<b>202012010671</b> Lead Total ICAP/MS	Test 7 No.9 Final	550	15	ug/L	0.50

#### 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

**Eaton Analytical** 

Prep Batch Analytical Batch

Method

🛟 eurofins

**Tetra Tech** 

Suite 1000 Orlando, FL 32801

Analyzed

Prepped

James Christopher

201 East Pine Street

Report: 906153 Project: KALAMAZOO Group: Lead Solubility Testing - Phase 1

Result

Samples Received on: 12/01/2020 1127

Units

MRL

Dilution

Test 7 No.0 Final (202012010662)	Sampled on 11/26/2020 0843					
EPA 200.8 - ICPMS Me	tals					
12/02/20 12/06/20 12:00 1291502 1292379	(EPA 200.8)	Lead Total ICAP/MS	250	ug/L	0.50	1
<u>Test 7 No.1 Final (202012010663)</u>			Sampled on 11/26/2020 0844			
EPA 200.8 - ICPMS Me	tals					
12/02/20 12/05/20 19:28 1291502 1292380	(EPA 200.8)	Lead Total ICAP/MS	420	ug/L	0.50	1
<u>Test 7 No.2 Final (202012010664)</u>			Samp	led on 11/26	/2020 0846	
EPA 200.8 - ICPMS Me						
12/02/20 12/05/20 19:30 1291502 1292380	(EPA 200.8)	Lead Total ICAP/MS	320	ug/L	0.50	1
<u>Test 7 No.3 Final (202012010665)</u>			Samp	led on 11/26	/2020 0848	
EPA 200.8 - ICPMS Me					0.50	
12/02/20 12/08/20 18:27 1291502 1291550	(EPA 200.8)	Lead Total ICAP/MS	600 (B4)	ug/L	0.50	1
<u>Test 7 No.4 Final (202012010666)</u>			Samp	led on 11/26	2020 0850	
EPA 200.8 - ICPMS Me	tals					
12/02/20 12/05/20 19:31 1291502 1292380	(EPA 200.8)	Lead Total ICAP/MS	180	ug/L	0.50	1
<u>Test 7 No.5 Final (202012010667)</u>			Samp	led on 11/26	/2020 0852	
EPA 200.8 - ICPMS Me	tals					
12/02/20 12/05/20 19:32 1291502 1292380	(EPA 200.8)	Lead Total ICAP/MS	130	ug/L	0.50	1
<u>Test 7 No.6 Final (202012010668)</u>			Samp	led on 11/26	/2020 0853	
EPA 200.8 - ICPMS Me	tals					
12/02/20 12/05/20 19:32 1291502 1292380	(EPA 200.8)	Lead Total ICAP/MS	170	ug/L	0.50	1
<u>Test 7 No.7 Final (202012010669)</u>			Samp	led on 11/26	/2020 0855	
EPA 200.8 - ICPMS Me	tals					
12/02/20 12/05/20 19:35 1291502 1292380	(EPA 200.8)	Lead Total ICAP/MS	110	ug/L	0.50	1
<u>Test 7 No.8 Final (202012010670)</u>			Samp	led on 11/26	/2020 0856	
EPA 200.8 - ICPMS Me	tals					
12/02/20 12/05/20 19:35 1291502 1292380	(EPA 200.8)	Lead Total ICAP/MS	550	ug/L	0.50	1
<u>Test 7 No.9 Final (202012010671)</u>			Samp	led on 11/26	/2020 0858	

Analyte



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

Report: 906153 Project: KALAMAZOO Group: Lead Solubility Testing - Phase 1

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

Samples Received on: 12/01/2020 1127

Prepped	Analyzed	Prep Batch	Analytical Batch	Method	Analyte	Result	Units	MRL	Dilution
12/02/20	12/05/20 19:36	1291502	1292380	(EPA 200.8)	Lead Total ICAP/MS	550	ug/L	0.50	1

Rounding on totals after summation.



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

Tetra Tech

202012010670

202012010671

ICPMS Metals	
Prep Batch: 1291502	Analytical Batch: 1291550
202012010665	Test 7 No.3 Final
ICPMS Metals	
Prep Batch: 1291502	Analytical Batch: 1292379
202012010662	Test 7 No.0 Final
ICPMS Metals	
Prep Batch: 1291502	Analytical Batch: 1292380
202012010663	Test 7 No.1 Final
202012010664	Test 7 No.2 Final
202012010666	Test 7 No.4 Final
202012010667	Test 7 No.5 Final
202012010668	Test 7 No.6 Final
202012010669	Test 7 No.7 Final

Test 7 No.8 Final

Test 7 No.9 Final

Report: 906153 Project: KALAMAZOO Group: Lead Solubility Testing - Phase 1

Analysis Date: 12/08/2020
Analyzed by: DHX7

Analysis Date: 12/06/2020 Analyzed by: URDE

# Analysis Date: 12/05/2020

Analyzed by: URDE Analyzed by: URDE



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

Report: 906153 Project: KALAMAZOO Group: Lead Solubility Testing - Phase 1

LCS1 LCS2 MBLK	Analyte EPA 200.8 atch: 1291550 Lead Total ICAP/MS Lead Total ICAP/MS	Native	Spiked	Recovered	Units	Yield(%)	Limits (%)	RPD Limit(%)	RPD%
Analytical B LCS1 LCS2 MBLK	atch: 1291550 Lead Total ICAP/MS								
LCS1 LCS2 MBLK	Lead Total ICAP/MS								
LCS2 MBLK						Analysis D	ate: 12/08/	2020	
MBLK	Lead Total ICAP/MS		50	51.1	ug/L	102	(85-115)		
			50	49.1	ug/L	98	(85-115)	20	4.0
	Lead Total ICAP/MS			<0.25	ug/L				
MRL_CHK	Lead Total ICAP/MS		0.5	0.513	ug/L	103	(50-150)		
MS_202002070534	Lead Total ICAP/MS	ND	50	48.0	ug/L	96	(70-130)		
MS2_202011300341	Lead Total ICAP/MS	ND	50	50.9	ug/L	102	(70-130)		
MSD_202002070534	Lead Total ICAP/MS	ND	50	47.9	ug/L	96	(70-130)	20	0.29
MSD2_202011300341	Lead Total ICAP/MS	ND	50	49.7	ug/L	99	(70-130)	20	2.5
ICPMS Metals by	EPA 200.8								
Analytical B	atch: 1292379				1	Analysis D	ate: 12/06/	2020	
LCS1	Lead Total ICAP/MS		50	51.0	ug/L	102	(85-115)		
LCS2	Lead Total ICAP/MS		50	49.8	ug/L	100	(85-115)	20	2.4
MBLK	Lead Total ICAP/MS			<0.25	ug/L				
MRL_CHK	Lead Total ICAP/MS		0.5	0.499	ug/L	100	(50-150)		
MS_202012010060	Lead Total ICAP/MS	190	50	223	ug/L	<u>66</u>	(70-130)		
MS2_202012010381	Lead Total ICAP/MS	ND	50	48.2	ug/L	96	(70-130)		
MSD_202012010060	Lead Total ICAP/MS	190	50	223	ug/L	<u>65</u>	(70-130)	20	0.20
MSD2_202012010381	Lead Total ICAP/MS	ND	50	47.1	ug/L	94	(70-130)	20	2.3
ICPMS Metals by I	EPA 200.8								
Analytical B	atch: 1292380					Analysis D	ate: 12/05/	2020	
LCS1	Lead Total ICAP/MS		50	52.8	ug/L	106	(85-115)		
LCS2	Lead Total ICAP/MS		50	52.9	ug/L	106	(85-115)	20	0.19
MBLK	Lead Total ICAP/MS			<0.25	ug/L				
MRL_CHK	Lead Total ICAP/MS		0.5	0.502	ug/L	101	(50-150)		
MS_202012010663	Lead Total ICAP/MS	420	50	475	ug/L	100	(70-130)		
MS2_202012030039	Lead Total ICAP/MS	ND	50	45.0	ug/L	90	(70-130)		
MSD_202012010663	Lead Total ICAP/MS	420	50	472	ug/L	95	(70-130)	20	0.61
MSD2_202012030039	Lead Total ICAP/MS	ND	50	46.4	ug/L	93	(70-130)	20	3.0

Spike recovery is already corrected for native results. Spikes which exceed Limits and Method Blanks with positive results are highlighted by <u>Underlining.</u> 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.

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

**Date of Issue** 12/17/2020 anosa t DENIY **EUROFINS EATON ANALYTICAL, LLC** 

ZIA8: Vanessa Berry

**Project Manager** 

Report:906979 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.





# 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

Eurofins Eaton Analytical, LLC

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## 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

		Environ-	Environ-			-	Environ-	Environ-	
SPECIFIC TESTS	METHOD OR TECHNIQUE USED	mental (Drinking Water)	mental (Waste Water)	Water as a Component of Food and Bev/Bev/ Bottled Water	SPECIFIC TESTS	METHOD OR TECHNIQUE USED	mental (Drinking Water)	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	Hexavalent Chromium	EPA 218.7	x		x
1,4-Dioxane	EPA 522	х		x	Hexavalent Chromium	SM 3500-Cr B		х	
2.3.7.8-TCDD	Modified EPA 1613B	x		x	Hormones	EPA 539	х	~	x
Acrylamide	In House Method (2440)	x		x	Hydroxide as OH Calc.	SM 2330B	х		х
Algal Toxins/Microcystin	In House Method (3570)				Kjeldahl Nitrogen	EPA 351.2		х	
Alkalinity	SM 2320B	x	х	x	Legionella	Legiolert	х		х
Ammonia	EPA 350.1		х	х	Mercury	EPA 200.8	х		х
Ammonia	SM 4500-NH3 H		х	х	Metals	EPA 200.7 / 200.8	х	х	х
Anions and DBPs by IC	EPA 300.0	х	х	х	Microcystin LR	ELISA (2360)	x		х
Anions and DBPs by IC	EPA 300.1	х		х	Microcystin, Total	EPA 546	х		х
Asbestos	EPA 100.2	x	х		NDMA	EEA/Agilent 521.1	x		x
		~				In house method (2425)			
BOD / CBOD	SM 5210B		х	x	Nitrate/Nitrite Nitrogen	EPA 353.2	х	х	х
Bromate	In House Method (2447)	x		x	OCL, Pesticides/PCB	EPA 505	х		x
Carbamates	EPA 531.2	х		x	Ortho Phosphate	EPA 365.1	х	х	x
Carbonate as CO3	SM 2330B	х	х	x	Ortho Phosphorous Oxyhalides Disinfection	SM 4500P E	х		х
Carbonyls	EPA 556	x		x	Byproducts	EPA 317.0	х		x
COD	EPA 410.4 / SM 5220D	t	x		Perchlorate	EPA 331.0	x		x
Chloramines	SM 4500-CL G	x	x	x	Perchlorate (low and high)	EPA 314.0	x		x
Chlorinated Acids	EPA 515.4	x		x	Perfluorinated Alkyl Acids	EPA 537	x		x
Chlorinated Acids	EPA 555	x	1	x	Perfluorinated Polutant	In house Method (2434)	x		x
Chlorine Dioxide	SM 4500-CLO2 D Palin Test	x		x	рН	EPA 150.1	x		
Chlorine -Total/Free/ Combined Residual	SM 4500-Cl G	x	x	x	рН	SM 4500-H+B	x	x	x
Conductivity	EPA 120.1	1	x		Phenylurea Pesticides/ Herbicides	In House Method, based on EPA 532 (2448)	x		x
Conductivity	SM 2510B	x	x	x	Herbicides Pseudomonas	532 (2448) IDEXX Pseudalert (2461)	x		x
Corrosivity (Langelier Index)	SM 2330B	x	~	x	Radium-226	GA Institute of Tech	x		x
Cyanide, Amenable	SM 4500-CN G	x	x		Radium-228	GA Institute of Tech	x		x
Cyanide, Free	SM 4500-CN G	x	x	x	Radon-222	SM 7500RN	x		x
Cyanide, Total	EPA 335.4	x	x	x	Residue, Filterable	SM 2540C	x	x	x
Cyanogen Chloride (screen)	In House Method (2470)	x	~	x	Residue, Non-filterable	SM 2540D	~	x	~
Diquat and Paraquat	EPA 549.2	x		x	Residue, Total	SM 2540B		x	x
DBP/HAA	SM 6251B	x		x	Residue, Volatile	EPA 160.4		x	~
Dissolved Oxygen	SM 4500-O G		х	x	Semi-VOC	EPA 525.2	x		x
DOC	SM 5310C	x		х	Silica	SM 4500-Si D	х	х	
E. Coli	(MTF/EC+MUG)	х		х	Silica	SM 4500-SiO2 C	х	х	
	· · · · · ·						~		-
E. Coli	CFR 141.21(f)(6)(i)	x		x	Sulfide	SM 4500-S <sup>=</sup> D		х	
E. Coli	SM 9223		х		Sulfite	SM 4500-SO <sup>3</sup> B	х	х	x
E. Coli (Enumeration)	SM 9221B.1/ SM 9221F	х		х	Surfactants	SM 5540C	x	х	х
E. Coli (Enumeration)	SM 9223B	х		х	Taste and Odor Analytes	SM 6040E	х		х
EDB/DCBP	EPA 504.1	х			Total Coliform (P/A)	SM 9221 A, B	х		х
EDB/DBCP and DBP	EPA 551.1	x		x	Total Coliform (Enumeration)	SM 9221 A, B, C	x		x
EDTA and NTA	In House Method (2454)	x		x	Total Coliform / E. coli	Colisure SM 9223	x		x
Endothall	EPA 548.1	x		×	Total Coliform	SM 9221B	^	х	^
Endothall	In-house Method (2445)	x		х	Total Coliform with Chlorine Present	SM 9221B		x	
Enterococci	SM 9230B	x	х		Total Coliform / E.coli (P/A and Enumeration)	SM 9223	x		x
Fecal Coliform	SM 9221 E (MTF/EC)	x			TOC	SM 5310C	x	x	x
Fecal Coliform	SM 9221C, E (MTF/EC)		x		TOX	SM 5320B		x	1
Fecal Coliform	SM 9221E, E (MTF/EC)	x		x	Total Phenols	EPA 420.1		x	
(Enumeration) Fecal Coliform with	SM 9221E		x		Total Phenols	EPA 420.4	x	x	x
Chlorine Present Fecal Streptococci	SM 9221E	x	×		Total Phosphorous	SM 4500 P E	^	x	^
Fluoride	SM 4500-F C	x	x	x	Triazine Pesticides &	In House (3617)	x		x
Glyphosata	EPA 547	v		× ×	Degradates	EDA 190 1	v	v	v
Glyphosate   AMPA		x		×	Turbidity Turbidity	EPA 180.1	x	x	X
Glyphosate + AMPA Gross Alpha/Pata	In House Method (3618)	x	~	x	Turbidity	SM 2130B	X	х	~
Gross Alpha/Beta Gross Alpha Coprecipitation	EPA 900.0 SM 7110 C	x	x	x	Uranium by ICP/MS UV 254	EPA 200.8 SM 5910B	x		x
Hardness	SM 2340B	х	x	x	VOC	EPA 524.2	x		х
Heterotrophic Bacteria	In House Method (2439)	х		x	VOC	In House Method (2411)	х		x
Heterotrophic Bacteria	SM 9215 B	х		x	Yeast and Mold	SM 9610	х		х
Hexavalent Chromium	EPA 218.6	х	х	х	Field Sampling	N/A			1

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

**Eaton Analytical** 

Attn: James Christopher Phone: 407-480-3907

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Client ID: TETRATECH-ORLAN Folder #: 906979 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 **December 05, 2020** at **1202**. 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
202012050020	Test 8 No. 0 Final	12/01/2020 0805
	@ICPMS	
202012050021	Test 8 No. 1 Final	12/01/2020 0808
	@ICPMS	
02012050022	Test 8 No. 2 Final	12/01/2020 0809
	@ICPMS	
202012050023	Test 8 No. 3 Final	12/01/2020 0810
	@ICPMS	
202012050024	Test 8 No. 4 Final	12/01/2020 0812
	@ICPMS	
202012050025	Test 8 No. 5 Final	12/01/2020 0814
	@ICPMS	
202012050026	Test 8 No. 6 Final	12/01/2020 0815
	@ICPMS	
202012050027	Test 8 No. 7 Final	12/01/2020 0816
	@ICPMS	
202012050028	Test 8 No. 8 Final	12/01/2020 0817
	@ICPMS	
02012050029	Test 8 No. 9 Final	12/01/2020 0818
	@ICPMS	
202012050030	Test 9 No. 0 Final	12/04/2020 0810
	@ICPMS	
02012050031	Test 9 No. 1 Final	12/04/2020 0812
	@ICPMS	
02012050032	Test 9 No. 2 Final	12/04/2020 0814
	@ICPMS	

Reported: 12/17/2020

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

**Eaton Analytical** 

Attn: James Christopher Phone: 407-480-3907

🔅 eurofins

Client ID: TETRATECH-ORLAN Folder #: 906979 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 **December 05, 2020** at **1202**. 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
202012050033	Test 9 No. 3 Final		12/04/2020 0815
	@ICPMS		
202012050034	Test 9 No. 4 Final		12/04/2020 0816
	@ICPMS		
202012050035	Test 9 No. 5 Final		12/04/2020 0817
	@ICPMS		
202012050036	Test 9 No. 6 Final		12/04/2020 0819
	@ICPMS		
<u>202012050037</u>	Test 9 No. 7 Final		12/04/2020 0820
	@ICPMS		
202012050038	Test 9 No. 8 Final		12/04/2020 0821
	@ICPMS		
202012050039	Test 9 No. 9 Final		12/04/2020 0822
	@ICPMS		
202012050040	Test 9 No. 0 Initial		11/30/2020 0815
	Total phosphorus as P	Total phosphorus as PO4- Calc.	
202012050041	Test 9 No. 1 Initial		11/30/2020 0818
	Total phosphorus as P	Total phosphorus as PO4- Calc.	
202012050042	Test 9 No. 2 Initial		11/30/2020 0820
	,	Tatal abaarbarus as PO4. Cala	1100/2020 0020
202012050043	Total phosphorus as P Test 9 No. 3 Initial	Total phosphorus as PO4- Calc.	11/30/2020 0847
202012030043	,		11/30/2020 0847
202012050044	Total phosphorus as P	Total phosphorus as PO4- Calc.	44/00/0000 0050
<u>202012050044</u>	Test 9 No. 4 Initial		11/30/2020 0850
	Total phosphorus as P	Total phosphorus as PO4- Calc.	
<u>202012050045</u>	Test 9 No. 5 Initial		11/30/2020 0852
	Total phosphorus as P	Total phosphorus as PO4- Calc.	

Reported: 12/17/2020

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

**Eaton Analytical** 

Attn: James Christopher Phone: 407-480-3907

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Client ID: TETRATECH-ORLAN Folder #: 906979 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 **December 05, 2020** at **1202**. 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
202012050046	Test 9 No. 6 Initial		11/30/2020 0920
	Total phosphorus as P	Total phosphorus as PO4- Calc.	
202012050047	Test 9 No. 7 Initial		11/30/2020 0922
	Total phosphorus as P	Total phosphorus as PO4- Calc.	
202012050048	Test 9 No. 8 Initial		11/30/2020 0925
	Total phosphorus as P	Total phosphorus as PO4- Calc.	
202012050049	Test 9 No. 9 Initial		11/30/2020 0950
	Total phosphorus as P	Total phosphorus as PO4- Calc.	
202012050050	Test 10 No. 0 Initial		12/03/2020 0804
	Total phosphorus as P	Total phosphorus as PO4- Calc.	
202012050051	Test 10 No. 1 Initial		12/03/2020 0806
	Total phosphorus as P	Total phosphorus as PO4- Calc.	
202012050052	Test 10 No. 2 Initial		12/03/2020 0809
	Total phosphorus as P	Total phosphorus as PO4- Calc.	
202012050053	Test 10 No. 3 Initial		12/03/2020 0835
	Total phosphorus as P	Total phosphorus as PO4- Calc.	
202012050054	Test 10 No. 4 Initial		12/03/2020 0838
	Total phosphorus as P	Total phosphorus as PO4- Calc.	
202012050055	Test 10 No. 5 Initial		12/03/2020 0840
	Total phosphorus as P	Total phosphorus as PO4- Calc.	
202012050056	Test 10 No. 6 Initial		12/03/2020 0907
	Total phosphorus as P	Total phosphorus as PO4- Calc.	
202012050057	Test 10 No. 7 Initial		12/03/2020 0910
	Total phosphorus as P	Total phosphorus as PO4- Calc.	
202012050058	Test 10 No. 8 Initial		12/03/2020 0913
	Total phosphorus as P	Total phosphorus as PO4- Calc.	

Reported: 12/17/2020

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	Client ID: TETRATECH-ORLAN
201 East Pine Street	Folder #: 906979
Suite 1000	Project: KALAMAZOO
Orlando, FL 32801	Sample Group: Lead Solubility Testing - Phase 1
Attn: James Christopher	Project Manager: Vanessa Berry
hone: 407-480-3907	Phone: 503-310-3905

Sample #	Sample ID		Sample Date
202012050059	Test 10 No. 9 Initial		12/03/2020 0938
	Total phosphorus as P	Total phosphorus as PO4- Calc.	

# **Test Description**

@ICPMS -- ICPMS Metals

Page 4 of 4

🐝 eurofins	ofins Eaton Analytical	CHAIN EUROFINS EATON ANALYTICAL USE ONLY:	CH.	AIN (	CHAIN OF CUSTODY RECORD		r reco	ORD		606979	346
750 Royal	750 Royal Oaks Drive, Suite 100	LOGIN COMMENTS:					SAMPI	LES CHECK	ED AGAIN: PI ES LOG	SAMPLES CHECKED AGAINST COC BY:	
Monrovia, CA 91016- Phone: 626 386 1100 Fax: 626 386 1101	CA 91016-3629 3 386 1100 36 1101	SAMPLE TEMP RECEIVED AT:	EIVED AT: IR Gun ID =	.   = _		(Observation=	SAMPLES F 		DAY OF COLLE		C) (check for yes)
800 566 LA	800 566 LABS (800 566 5227)	$\mathbf{V} = \mathbf{V} + $	IR Gun I	IR Gun ID = $\frac{2J}{4}$	(Obse	(Observation= <u>/(  )</u>	Corr.Factor	Factor	<u>(</u>	6	°C)
Website: <u>w</u>	Website: www.EatonAnalytical.com	TYPE OF ICE: Real <u>METHOD OF SH</u>	Synthetic Synthetic	tic	OF ICE: Real Synthetic No loc CONDITION OF ICE: Frozen Partially Frozen METHOD OF SHIPMENT: Pick-Up / Walk-In / Fedex/JUPS / DHL / Area Fast / Top Line / Other:	CONDITION OF ICE:	: ICE: Frozen <u>··</u> HL / Area Fast /	St / Top Line	Partially Frozen _	Thawed	N/A
TO BE COMPLET	LL To be completed by sampler:						(check	(check for ves)			(check for ves)
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Tetta Teun 201	ch zog e Rinest Orlando				Type of sam	<ul> <li>Requires stat</li> <li>Type of samples (circle one):</li> </ul>	- Requires state forms s (circle one): ROUTINE		GULATION ONFIRMATIC	NOLVED:	(eg. SDWA, NPDES, etc.)
EEA CLIENT CODE: TPARA TRUM-OVIDA	ODE: COC ID: M-CN/CIV	SAMPLE GROUP:	GROUP: Multity TP(f-DM1(01	ONCLE	5	CHED KIT	SEE ATTACHED KIT ORDER FOR ANALYSES	R ANALYS	SES 6 hottles se	for each te	(check for yes), <u>OR</u> ch teet for each campa)
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	SIGNATURE		đ	PRINT NAME			COMPANY/TITLE	тпле		DATE	TIME
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	i Eaton Analytical <u>E</u>	EUROFINS EATON ANAL YTIC	YTICAL USE ONLY:				111006	1 1 1
750 Roya	te 100	LOGIN COMMENTS:		-	SAMPLES CHECK	SAMPLES CHECKED AGAINST COC BY: samples I occep in BV:	BY:	
Monrovia	Monrovia, CA 91016-3629		ž	_				(check for ves)
Phone: 6	Phone: 626 386 1100	P RECEIVE (Other)	VED A1: IR Gun ID =	(Observation=	) ()	°C) (Final =	ا ْ	cerv ioi yes)
800 566 I	66 5227)	Monrovia / IR	IR Gun ID = (03/14	(Observation= /	$n = \frac{1}{2} \circ C$ (Corr. Factor $O \cdot C$	°C) (Final <del>∫</del>	<u>)، کی د</u> (	
Website:	COM	Real	riteria: (Chemistry: 4 ± 2 °C Sunthetic	°C) (Microbiology: < 10°C ) No Ice CONDIT	ION OF ICE: Frozen	Partially Frozen	Thawed	, A/N
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TO BE COMPL	TO BE COMPLETED BY SAMPLER:			)	(check for yes)		(check for yes)	or yes)
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Tehro	TEATOR TECH 201 EPINEST UNLONDO			- Requires stat Type of samples (circle one):		REGULATION INVOLVED: SPECIAL CONFIRMATION	•	(eg. SDWA, NPDES, etc.)
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* MATRIX	* MATRIX TYPES: RSW = Raw Surface Water RGW = Raw Ground Water	<b>CFW</b> = Chlor(am)inated Fini <b>FW</b> = Other Finished Water	ted Finished Water Water	SEAW = Sea Water WW = Waste Water	er <b>BW</b> = Bottled Water er <b>SW</b> = Storm Water	SO = Soil O SL = Sludge	0 = Other - Please Identify	ase Identify
	SIGNATURE		PRINT NAME	-	COMPANY/TITLE	DA		TIME
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QA FO 0029.2 (V	QA FO 0029.2 (Version 2) (08/28/2014)						PAGE	- Ч

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	HEADA		SAMPLES LOGGED IN BY:				F	rozen Thawed N/A	Other:	(check for yes)	NON-COMPLIANCE SAMPLES	IRMATION (eg. SDWA, NPDES, etc.)	(check for yes), <u>OR</u>	ttles sent for each test for each sample)		COMMENTS											SO = Soil O = Other - Please Identify SL = Sludge	DATE TIME	N 12 12 12 12 12 12 12 12 12 12 12 12 12			12.5.20 1200	PAGE OF
CHAIN OF CUSTODY RECORD		SAMPLES CHECKED AGAINST COC BY:	SAMPLE	SAMPLES REC'D DAY OF COLLECTION?	C) (Corr.Factor	/_/=u	/	CONDITION OF ICE: Frozen Partially Frozen	FedEx UPS / DHL / Area Fast / Top Line / Other.	ick for yes)	COMPLIANCE SAMPLES NON-CC	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)													<b>BW</b> = Bottled Water <b>SW</b> = Storm Water	COMPANY/TITLE	Tehra tean			Cen	
CHAIN OF CUS	EUROFINS EATON ANALYTICAL USE ONLY:	LOGIN COMMENTS:		SAMPLE TEMP RECEIVED AT:		OMonrovia ' IR Gun ID = $(-2)$ (Obser	riteria: (Chemistry: 4 ± 2 °C ) (Microbiolog		METHOD OF SHIPMENT: Pick-Up / Walk-In (FedEx		PROJECT CODE: CC	Type of samp	SAMPLE GROUP: SAMPLE GROUP:	List ALL A	STD 1 wk 3 day 2 day 1 day	СLIENT LAB ID матяях • FIELD DATA FIELD DATA FIELD DATA	fw 1										CFW = Chlor(am)inated Finished Water SEAW = Sea Water FW = Other Finished Water WW = Waste Water	PRINT NAME	MULTICI ACTIVEL ALENAS			Uched~ Mon	
🖧 eurofins	Eaton Analytical	l	/ ou royal Uaks Drive, Suite 100 Monrovia CA 91016-3629		Phone: 626 386 1100 Fax: 626 386 1101	0 566 5227)				TO BE COMPLETED BY SAMPLER:	COMPANY/AGENCY NAME:		CODE: COC ID:		TAT requested: rush by adv notice only	SAMPLE ID	test a no.0 initial				0					A 4 0	* MATRIX TYPES: RSW = Raw Surface Water RGW = Raw Ground Water	SIGNATURE	AL ALDIN'IS		DBY:		QA FO 0029.2 (Version 2) (08/28/2014)
ះះ ខុ		760 0 200	Vou Roya Monrovia		Phone: 6 Fax: 626	800 566 1	Waheita.	wensite.		TO BE COMPL	COMPANY/A		EEA CLIENT CODE:		TAT requests	ajamar Datag Dample Time	1130 8-15	Si S	07:8	th:گ	<u>5:8</u>	<b>C</b> 5:8	9:50	9:D	G2:P	0;50	* MATRIX		SAMPLED BY:			RECEIVED BY:	<b>04 FO 0029.2 (V</b>

	🐝 eurofins	us	CHAIN	CHAIN OF CUSTODY RECORD	<b>DY RECORD</b>		
		Eaton Analytical	EUROFINS EATON ANAL YTICAL USE ONLY:			2	70 L 579
750	Royal Oak	750 Royal Oaks Drive, Suite 100	LOGIN COMMENTS:		SAMPLES CHECKED AGAINST COC BY: SAMPLES IN BY:	ECKED AGAINST COC BY:	
Mon	Irovia, CA 5	81016-3629	SAMPLE TEMP RECEIVED AT:		SAMPIES REC'D DAY OF COLLECTION		(check for ves)
Phoi Fax:	Phone: 626 386 1100 Fax: 626 386 1101	6 1100 101	(Other) IR Gun ID =	(Observation=	°C) (Corr.Factor°C) (F		
800	566 LABS	800 566 LABS (800 566 5227)		<u> ) ) 4</u> (Observation= /	ر) - °C) (Corr.Factor <u>۲۰</u> °C) (Final الم	Final =(), <u>}</u> °C)	
Web	site: <u>www.l</u>	Website: <u>www.EatonAnalytical.com</u>	TYPE OF ICE: Real Synthetic No Ice CONDIT	2 °C) (Microbiology: < 10°C ) No Ice CONDITION OF ICE:	OF ICE: Frozen Partially Frozen	n Thawed	N/A
			HPN		Area Fast / To		
TO BE C	OMPLETED E	TO BE COMPLETED BY SAMPLER:		)	(check for yes)	(chec	(check for yes)
COMPA	COMPANY/AGENCY NAME:	:Y NAME:	PROJECT CODE:	COMPLIAN - Requi	COMPLIANCE SAMPLES NON-COMPL - Requires state forms REGULATIO	NON-COMPLIANCE SAMPLES	_
				Type of samples (circle one):	e one): ROUTINE SPECIAL CONFIRMATION		(eg. SDWA, NPDES, etc.)
EEA CL	EEA CLIENT CODE:	:: COC ID:	SAMPLE GROUP:	SEE ATTACHED I	SEE ATTACHED KIT ORDER FOR ANALYSES (check for yes), <u>OR</u> List ALL ANALYSES BEOLINED (enter number of hothles cant for each test for each semille)	check for yes), <u>OR</u> cent for each test for each se	is), <u>OR</u> each samnla)
TAT red	uested: rus	TAT requested: rush bv adv notice onlv	L STD 1 wk 3 day 2 day 1 day				
	in i noiseat			П			
AJAMA2 Date	SAMPLE TIME	SAMPLE ID	CLIENT LAB ID MATRIX • FIELD DATA	атад дізія ртбт		COM	SAMPLEK COMMENTS
1213	34 HO:8	test to No. U Mithal	M				
	90:8						
	8:04	1					
	6:35	3					
	g:38	н					
	04:8	5					
	<u> </u>	و.					
	9:10	<b>~</b>					
	9:B	δ					
	9 :3 <u>8</u>	v 9 5	۹				
* MAT	RIX TYPE	* MATRIX TYPES: RSW = Raw Surface Water RGW = Raw Ground Water	er <b>CFW</b> = Chlor(am)inated Finished Water er <b>FW</b> = Other Finished Water	r <b>SEAW</b> = Sea Water <b>WW</b> = Waste Water	<b>BW</b> = Bottled Water <b>SO</b> = Soil <b>SW</b> = Storm Water <b>SL</b> = Sludge		O = Other - Please Identify
		SIGNATURE	PRINT NAME		COMPANY/TITLE	DATE	TIME
SAMPLED BY:		M. Arenas	AUCICI ISOLDER P	Arenas ter	tema teun onlando	02/11/21	H-30 PM
RELINQU	RELINQUISHED BY:						
RECEIVED BY	ED BY:						
	relinquished BY:		·     / 8 /				
RECEIVED BY:	ED BY:		- [[]a/Valu /	いて	Ger	12-5-20	1202
QA FO 00	29.2 (Version	QA FO 0029.2 (Version 2) (08/28/2014)				PAGE	5 5

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🐝 eurofins			Kit Order for Tetra Tech Inc.			Page 1 of 1
Eaton A	Eaton Analytical	/anessa Berry is	Vanessa Berry is your Eurofins Eaton Analytical, LLC Service Manager	rvice Manager		
750 Royal Oaks Drive, Suite 100 Monrovia, California 91016-3629 (626) 386-1100 FAX (866) 988-3757		Note: Sampler PI	er Please return this paper with your samples		Created Date & Time: 10/24/2020 12:10:38AM	24/2020 12:10:38AM
Kit #: 275596	Kit #: 275596	Ε.				
Deliver By: 1/123/2020 Deliver By: 11/23/2020 STG: Bottle Orders Ice Type: W	location 2		Group Name: Lead Solubility lesting - Phase 1 PO#/JOB#: Description: Every 1 week on Mon	- 995		
	Ship Sample Kits to Tetra Tech 201 East Pine Street Suite 1000 Orlando, FL 32801		Send Report to Tetra Tech 201 East Pine Street Suite 1000 Orlando, FL 32801	Billing Address Tetra Tech 201 East Pine Street Suite 1000 Orlando, FL 32801		
	Attn: James Christopher Phone: 407-480-3907 Fax: 407-839-3790		Attn. James Christopher Phone: 407-480-3907 Fax: 407-839-3790	Attr: James Christopher Phone: 407-480-3907 Fax: 407-839-3790	Ler	
# of Sample Tests		Bottle Qty - 1	ty - Type [ preservative information ]	Total	UN DOT #	
20 Total phosphorus as P		1 - 250n	1 - 250ml poly [ 0.5 ml H2SO4 (50%) ]	20	UN1830	
20 @ICPMS		1 - 250n	1 - 250ml poly [ no preservative ]	20		
Sum Tests: 40 Comments				Sum Bottles: 40		
include return shipping labels ship in one cooler COCs			9284 5115 4820			
Total lead containers are preserved with nitric acid by the client	n nitric acid by the client.					

Via

· · ·



Tel: (626) 386-1100 Fax: (866) 988-3757 1 800 566 LABS (1 800 566 5227) Report: 906979 Project: KALAMAZOO Group: Lead Solubility Testing - Phase 1

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.

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

# Laboratory Hits

Report: 906979 Project: KALAMAZOO Group: Lead Solubility Testing - Phase 1

Samples Received on:

12/05/2020 1202

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

Analyzed	Analyte	Sample ID	Result	Federal MCL	Units	MRL
12/12/2020 15:24	202012050020 Lead Total ICAP/MS	<u>Test 8 No. 0 Final</u>	400	15	ug/L	0.50
12/12/2020 15:25	202012050021 Lead Total ICAP/MS	<u>Test 8 No. 1 Final</u>	640	15	ug/L	0.50
12/08/2020 21:59	202012050022 Lead Total ICAP/MS	<u>Test 8 No. 2 Final</u>	580	15	ug/L	0.50
12/08/2020 22:01	202012050023 Lead Total ICAP/MS	<u>Test 8 No. 3 Final</u>	390	15	ug/L	0.50
12/12/2020 15:26	202012050024 Lead Total ICAP/MS	<u>Test 8 No. 4 Final</u>	190	15	ug/L	0.50
12/12/2020 15:26	202012050025 Lead Total ICAP/MS	<u>Test 8 No. 5 Final</u>	760	15	ug/L	0.50
12/12/2020 15:27	202012050026 Lead Total ICAP/MS	<u>Test 8 No. 6 Final</u>	380	15	ug/L	0.50
12/12/2020 15:28	202012050027 Lead Total ICAP/MS	<u>Test 8 No. 7 Final</u>	260	15	ug/L	0.50
12/12/2020 15:29	202012050028 Lead Total ICAP/MS	<u>Test 8 No. 8 Final</u>	1200	15	ug/L	0.50
12/08/2020 22:16	202012050029 Lead Total ICAP/MS	<u>Test 8 No. 9 Final</u>	1700	15	ug/L	5.0
12/12/2020 15:39	<b>202012050030</b> Lead Total ICAP/MS	<u>Test 9 No. 0 Final</u>	150	15	ug/L	0.50
12/12/2020 15:41	202012050031 Lead Total ICAP/MS	<u>Test 9 No. 1 Final</u>	190	15	ug/L	0.50
12/12/2020 15:42	202012050032 Lead Total ICAP/MS	<u>Test 9 No. 2 Final</u>	240	15	ug/L	0.50
12/12/2020 15:43	202012050033 Lead Total ICAP/MS	<u>Test 9 No. 3 Final</u>	440	15	ug/L	0.50
12/08/2020 22:05	202012050034 Lead Total ICAP/MS	<u>Test 9 No. 4 Final</u>	380	15	ug/L	0.50
	202012050035	Test 9 No. 5 Final				

SUMMARY OF POSITIVE DATA ONLY

Laboratory Hits

**Eaton Analytical** 

Tel: (626) 386-1100 Fax: (866) 988-3757 1 800 566 LABS (1 800 566 5227) Report: 906979 Project: KALAMAZOO Group: Lead Solubility Testing - Phase 1

Samples Received on:

12/05/2020 1202

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

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Analyzed	Analyte	Sample ID	Result	Federal MCL	Units	MRL
12/12/2020 15:44	Lead Total ICAP/MS		210	15	ug/L	0.50
12/12/2020 15:46	202012050036 Lead Total ICAP/MS	<u>Test 9 No. 6 Final</u>	210	15	ug/L	0.50
12/12/2020 15:47	202012050037 Lead Total ICAP/MS	<u>Test 9 No. 7 Final</u>	130	15	ug/L	0.50
12/12/2020 15:48	202012050038 Lead Total ICAP/MS	<u>Test 9 No. 8 Final</u>	610	15	ug/L	0.50
12/12/2020 15:49	202012050039 Lead Total ICAP/MS	<u>Test 9 No. 9 Final</u>	690	15	ug/L	0.50
12/14/2020 12:25 12/15/2020 06:57	<b>202012050041</b> Total phosphorus as P Total phosphorus as PO	Test 9 No. 1 Initial	0.096 0.29		mg/L mg/L	0.020 0.030
12/14/2020 12:28 12/15/2020 06:57	<b>202012050042</b> Total phosphorus as P Total phosphorus as PO	Test 9 No. 2 Initial 4- Calc.	1.0 3.1		mg/L mg/L	0.040 0.030
12/16/2020 09:10 12/15/2020 06:57	<b>202012050043</b> Total phosphorus as P Total phosphorus as PO	Test 9 No. 3 Initial 4- Calc.	2.0 6.1		mg/L mg/L	0.10 0.030
12/14/2020 12:30 12/15/2020 06:57	<b>202012050044</b> Total phosphorus as P Total phosphorus as PO	<u>Test 9 No. 4 Initial</u> 4- Calc.	0.61 1.9		mg/L mg/L	0.040 0.030
12/14/2020 12:31 12/15/2020 06:57	<b>202012050045</b> Total phosphorus as P Total phosphorus as PO	<u>Test 9 No. 5 Initial</u>	1.3 4.0		mg/L mg/L	0.040 0.030
12/14/2020 12:31	<b>202012050046</b> Total phosphorus as P	<u>Test 9 No. 6 Initial</u>	0.55		mg/L	0.040
12/15/2020 06:57 12/14/2020 12:32	Total phosphorus as PO- 202012050047 Total phosphorus as P	4- Calc. Test 9 No. 7 Initial	1.7		mg/L mg/L	0.030 0.040
12/15/2020 06:58 12/14/2020 12:33	Total phosphorus as PO- 202012050048 Total phosphorus as P	4- Calc. <u>Test 9 No. 8 Initial</u>	3.7 0.46		mg/L	0.030

Laboratory Hits

Samples Received on:

12/05/2020 1202

Report: 906979 Project: KALAMAZOO Group: Lead Solubility Testing - Phase 1

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

**Eaton Analytical** 

	201 Eas Suite 10	st Pine Street 000 p, FL 32801	
Analyzed		Analyte	Sample ID
12/15/2020	06:58	Total phosphorus as PO4	4- Calc.
		202012050049	<u>Test 9 No. 9 Ini</u>
12/14/2020	12:34	Total phosphorus as P	
12/15/2020	06:58	Total phosphorus as PO4	4- Calc.
		202012050051	<u>Test 10 No. 1 In</u>

# **Tetra Tech**

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James Christopher

Analyzed	Analyte	Sample ID	Result	Federal MCL	Units	MRL
12/15/2020 06:58	Total phosphorus as P	04- Calc.	1.4		mg/L	0.030
	202012050049	Test 9 No. 9 Initial				
12/14/2020 12:34	Total phosphorus as P		1.0		mg/L	0.040
12/15/2020 06:58	Total phosphorus as P	D4- Calc.	3.1		mg/L	0.030
	202012050051	Test 10 No. 1 Initial				
12/16/2020 09:11	Total phosphorus as P		0.10		mg/L	0.020
12/16/2020 14:01	Total phosphorus as P	D4- Calc.	0.31		mg/L	0.030
	202012050052	Test 10 No. 2 Initial				
12/16/2020 09:12	Total phosphorus as P		1.0		mg/L	0.040
12/16/2020 14:04	Total phosphorus as P	04- Calc.	3.1		mg/L	0.030
	202012050053	Test 10 No. 3 Initial				
12/16/2020 09:30	Total phosphorus as P		1.0		mg/L	0.040
2/16/2020 14:04	Total phosphorus as P	04- Calc.	3.1		mg/L	0.030
	202012050054	Test 10 No. 4 Initial				
2/16/2020 09:31	Total phosphorus as P		0.58		mg/L	0.040
12/16/2020 14:05	Total phosphorus as P	04- Calc.	1.8		mg/L	0.030
	202012050055	Test 10 No. 5 Initial				
2/16/2020 09:32	Total phosphorus as P		1.2		mg/L	0.040
2/16/2020 14:05	Total phosphorus as P	D4- Calc.	3.7		mg/L	0.030
	202012050056	<u>Test 10 No. 6 Initial</u>				
2/16/2020 09:33	Total phosphorus as P		0.55		mg/L	0.040
2/16/2020 14:05	Total phosphorus as P	D4- Calc.	1.7		mg/L	0.030
	202012050057	<u>Test 10 No. 7 Initial</u>				
2/16/2020 09:34	Total phosphorus as P		1.0		mg/L	0.040
2/16/2020 14:05	Total phosphorus as P	D4- Calc.	3.1		mg/L	0.030
	202012050058	<u>Test 10 No. 8 Initial</u>				
2/16/2020 09:35	Total phosphorus as P		0.46		mg/L	0.040
2/16/2020 14:05	Total phosphorus as P	04- Calc.	1.4		mg/L	0.030
	202012050059	<u>Test 10 No. 9 Initial</u>				
2/16/2020 09:36	Total phosphorus as P		0.95		mg/L	0.040
12/16/2020 14:05	Total phosphorus as P	O4- Calc.	2.9		mg/L	0.030

Samples Received on:

Units

Sampled on 12/01/2020 0805

MRL

Dilution

12/05/2020 1202

Report: 906979 Project: KALAMAZOO

Analyte

Group: Lead Solubility Testing - Phase 1

Result

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

# EPA 200.8 - ICPMS Metals

201 East Pine Street Suite 1000 Orlando, FL 32801

Test 8 No. 0 Final (202012050020)

Analyzed

Prepped

EPA 200.8 - ICPMS Me 12/07/20 12/12/20 15:24 1292485 1293889 Test 8 No. 1 Final (202012050021)	tals (EPA 200.8)	Lead Total ICAP/MS	400 Sample	ug/L ed on 12/01/	0.50 <b>/2020 0808</b>	1
EPA 200.8 - ICPMS Me 12/07/20 12/12/20 15:25 1292485 1293889 Test 8 No. 2 Final (202012050022)	tals (EPA 200.8)	Lead Total ICAP/MS	640 Sample	ug/L ed on 12/01/	0.50 <b>/2020 0809</b>	1
EPA 200.8 - ICPMS Me 12/07/20 12/08/20 21:59 1292485 1292499 Test 8 No. 3 Final (202012050023)	tals (EPA 200.8)	Lead Total ICAP/MS	580 Sample	ug/L ed on 12/01	0.50 <b>/2020 0810</b>	1
EPA 200.8 - ICPMS Me 12/07/20 12/08/20 22:01 1292485 1292499 Test 8 No. 4 Final (202012050024)	tals (EPA 200.8)	Lead Total ICAP/MS	390 Sample	ug/L ed on 12/01/	0.50 <b>/2020 0812</b>	1
EPA 200.8 - ICPMS Me 12/07/20 12/12/20 15:26 1292485 1293889 Test 8 No. 5 Final (202012050025)	tals (EPA 200.8)	Lead Total ICAP/MS	190 Sample	ug/L ed on 12/01/	0.50 <b>/2020 0814</b>	1
EPA 200.8 - ICPMS Me 12/07/20 12/12/20 15:26 1292485 1293889 Test 8 No. 6 Final (202012050026)	tals (EPA 200.8)	Lead Total ICAP/MS	760 Sample	ug/L ed on 12/01/	0.50 <b>/2020 0815</b>	1
EPA 200.8 - ICPMS Me 12/07/20 12/12/20 15:27 1292485 1293889 Test 8 No. 7 Final (202012050027)	tals (EPA 200.8)	Lead Total ICAP/MS	380 Sample	ug/L ed on 12/01	0.50 <b>/2020 0816</b>	1
EPA 200.8 - ICPMS Me 12/07/20 12/12/20 15:28 1292485 1293889 <u>Test 8 No. 8 Final (202012050028)</u>	tals (EPA 200.8)	Lead Total ICAP/MS	260 Sample	ug/L ed on 12/01	0.50 <b>/2020 0817</b>	1
EPA 200.8 - ICPMS Me 12/07/20 12/12/20 15:29 1292485 1293889 Test 8 No. 9 Final (202012050029)	tals (EPA 200.8)	Lead Total ICAP/MS	1200 Sample	ug/L ed on 12/01/	0.50 <b>/2020 0818</b>	1

**Tetra Tech** James Christopher

Tel: (626) 386-1100

Fax: (866) 988-3757

1 800 566 LABS (1 800 566 5227)

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**Eaton Analytical** 

Prep Batch Analytical Batch

Method

Laboratory Data

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

Laboratory Data

Report: 906979

Samples Received on:

Units

MRL

Dilution

12/05/2020 1202

Project: KALAMAZOO Group: Lead Solubility Testing - Phase 1

Result

**Tetra Tech** 

1 800 566 LABS (1 800 566 5227)

Prep Batch Analytical Batch

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

Analyzed

Prepped

Prepped	Analyzed	Prep Batch	Analytical Batch	Method	Analyte	Result	Units	MRL	Dilution
12/07/20	12/08/20 22:16	1292485	1292499	(EPA 200.8)	Lead Total ICAP/MS	1700	ug/L	5.0	10
<u>Test 9 N</u>	lo. 0 Final (20	201205003	<u>0)</u>			Sam	oled on 12/04	/2020 081	0
		EDA 200 9	- ICPMS Metals						
12/07/20	12/12/20 15:39	1292485	1293890	(EPA 200.8)	Lead Total ICAP/MS	150	ug/L	0.50	1
Test 9 N	lo. 1 Final (20	201205003	1)	( , , , , , , , , , , , , , , , , , , ,		Samı	oled on 12/04	/2020 081;	2
10/07/00	12/12/20 15:41	EPA 200.8 1292485	- ICPMS Metals 1293890		Load Tatal ICAD/MC	190		0.50	1
				(EPA 200.8)	Lead Total ICAP/MS		ug/L		
Testan	lo. 2 Final (20	201205005	<u>52)</u>			Sam	oled on 12/04	2020 081	4
		EPA 200.8	- ICPMS Metals						
12/07/20	12/12/20 15:42	1292485	1293890	(EPA 200.8)	Lead Total ICAP/MS	240	ug/L	0.50	1
<u>Test 9 N</u>	lo. 3 Final (20	201205003	<u>3)</u>			Sam	oled on 12/04	/2020 081	5
		EPA 200.8	- ICPMS Metals						
12/07/20	12/12/20 15:43	1292485	1293890	(EPA 200.8)	Lead Total ICAP/MS	440	ug/L	0.50	1
<u>Test 9 N</u>	lo. 4 Final (20	201205003	<u>4)</u>			Sam	oled on 12/04	/2020 081	6
		EDA 200 9	- ICPMS Metals						
12/07/20	12/08/20 22:05	1292485	1292499	(EPA 200.8)	Lead Total ICAP/MS	380	ug/L	0.50	1
Test 9 N	lo. 5 Final (20	201205003	5)	ζ ,		Samı	oled on 12/04	/2020 081	7
	12/12/20 15:44	EPA 200.8 1292485	- ICPMS Metals 1293890		Lead Total ICAP/MS	210		0.50	1
	lo. 6 Final (20			(EPA 200.8)	Leau Tolai ICAP/MS		ug/L bled on 12/04		
<u>1621 2 10</u>	10. 0 Fillal (20	201205005	<u>(0)</u>			Sam		2020 001	9
		EPA 200.8	- ICPMS Metals						
	12/12/20 15:46	1292485	1293890	(EPA 200.8)	Lead Total ICAP/MS	210	ug/L	0.50	1
<u>Test 9 N</u>	lo. 7 Final (20	201205003	<u>57)</u>			Sam	oled on 12/04	/2020 082	0
		EPA 200.8	- ICPMS Metals						
12/07/20	12/12/20 15:47	1292485	1293890	(EPA 200.8)	Lead Total ICAP/MS	130	ug/L	0.50	1
<u>Test 9 N</u>	lo. 8 Final (20	201205003	<u>8)</u>			Sam	oled on 12/04	/2020 082	1
			- ICPMS Metals						
12/07/20	12/12/20 15:48	1292485	1293890	(EPA 200.8)	Lead Total ICAP/MS	610	ug/L	0.50	1
Test 9 N	lo. 9 Final (20	201205003	9)	. ,		Samı	oled on 12/04	/2020 082	2
	•						-		

Analyte

Method

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Tel: (626) 386-1100

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🔅 eurofins

**Tetra Tech** 

Suite 1000 Orlando, FL 32801

James Christopher

201 East Pine Street

**Eaton Analytical** 

Tel: (626) 386-1100 Fax: (866) 988-3757 1 800 566 LABS (1 800 566 5227) Report: 906979 Project: KALAMAZOO Group: Lead Solubility Testing - Phase 1

Samples Received on: 12/05/2020 1202

Prepped	Analyzed	Prep Batch	Analytical Batch	Method	Analyte	Result	Units	MRL	Dilution
		EPA 200.8	- ICPMS Metals	6					
12/07/20	12/12/20 15:49	1292485	1293890	(EPA 200.8)	Lead Total ICAP/MS	690	ug/L	0.50	1
Test 9 No	o. 0 Initial (2	0201205004	<u>40)</u>			Sam	oled on 11/30	/2020 081	5
		SM4500-PE	E/EPA 365.1 - T	otal phosphoru	is as PO4- Calc.				
	12/15/20 06:57			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	ND (c)	mg/L	0.030	1
		SM4500-PE		otal phosphoru					
	12/14/20 12:22		1294151	(SM4500-PE/EPA 365.1)	Total phosphorus as P	ND (M1)	mg/L	0.020	1
est 9 N	o. 1 Initial (2	0201205004	<u>41)</u>			Sam	oled on 11/30	/2020 081	8
		SM4500-PE	E/EPA 365.1 - T	otal phosphoru	ıs as PO4- Calc.				
	12/15/20 06:57			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	0.29 (c)	mg/L	0.030	1
		SM4500-PE	E/EPA 365.1 - T	otal phosphoru	ıs as P (T-P)				
	12/14/20 12:25		1294151	(SM4500-PE/EPA 365.1)	Total phosphorus as P	0.096	mg/L	0.020	1
est 9 No	o. 2 Initial (2	0201205004	<u>42)</u>			Sam	oled on 11/30	/2020 082	0
		SM4500-PE	E/EPA 365.1 - T	otal phosphoru	is as PO4- Calc.				
	12/15/20 06:57			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	3.1 (c)	mg/L	0.030	1
		SM4500-PE	E/EPA 365.1 - T	otal phosphoru	ıs as P (T-P)				
	12/14/20 12:28		1294151	(SM4500-PE/EPA 365.1)	Total phosphorus as P	1.0	mg/L	0.040	2
est 9 No	o. 3 Initial (2	0201205004	<u>43)</u>			Sam	oled on 11/30	/2020 084	7
		SM4500-PE	E/EPA 365.1 - T	otal phosphoru	ıs as PO4- Calc.				
	12/15/20 06:57			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	6.1 (c)	mg/L	0.030	1
		SM4500-PE	E/EPA 365.1 - T	otal phosphoru	ıs as P (T-P)				
	12/16/20 09:10		1294580	(SM4500-PE/EPA 365.1)	Total phosphorus as P	2.0	mg/L	0.10	5
est 9 No	o. 4 Initial (2	0201205004	<u>44)</u>			Samp	oled on 11/30	/2020 085	0
		SM4500-PE	E/EPA 365.1 - T	otal phosphoru	ıs as PO4- Calc.				
	12/15/20 06:57			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	1.9 (c)	mg/L	0.030	1
		SM4500-PE	E/EPA 365.1 - T	otal phosphoru	ıs as P (T-P)				
	12/14/20 12:30		1294151	(SM4500-PE/EPA 365.1)	Total phosphorus as P	0.61	mg/L	0.040	2
est 9 N	o. 5 Initial (2	0201205004	<u>45)</u>			Sam	oled on 11/30	/2020 085	2
ounding on to	tals after summation								



**Tetra Tech** 

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James Christopher

201 East Pine Street

Eaton Analytical

Tel: (626) 386-1100 Fax: (866) 988-3757 1 800 566 LABS (1 800 566 5227) Report: 906979 Project: KALAMAZOO Group: Lead Solubility Testing - Phase 1

Samples Received on:

12/05/2020 1202

Prepped Method MRL Analyzed Prep Batch Analytical Batch Analyte Result Units Dilution SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc. 12/15/20 06:57 (SM4500-PE/EPA Total phosphorus as PO4- Calc. 4.0 (c) 0.030 mg/L 1 365.1) SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P) 12/14/20 12:31 1294151 (SM4500-PE/EPA Total phosphorus as P 1.3 mg/L 0.040 2 365.1) Test 9 No. 6 Initial (202012050046) Sampled on 11/30/2020 0920 SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc. 12/15/20 06:57 (SM4500-PE/EPA Total phosphorus as PO4- Calc. 1.7 (c) 0.030 ma/L 1 365.1) SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P) 12/14/20 12:31 1294151 (SM4500-PE/EPA Total phosphorus as P 0.55 0.040 2 ma/L 365.1) Test 9 No. 7 Initial (202012050047) Sampled on 11/30/2020 0922 SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc. (SM4500-PE/EPA Total phosphorus as PO4- Calc. 12/15/20 06:58 3.7 (c) 0.030 mg/L 1 365.1) SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P) 12/14/20 12:32 (SM4500-PE/EPA Total phosphorus as P 1294151 1.2 mg/L 0.040 2 365.1) Test 9 No. 8 Initial (202012050048) Sampled on 11/30/2020 0925 SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc. (SM4500-PE/EPA Total phosphorus as PO4- Calc. 12/15/20 06:58 1.4 (c) mg/L 0.030 1 365.1) SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P) 12/14/20 12:33 1294151 (SM4500-PE/EPA Total phosphorus as P 0.46 ma/L 0.040 2 365.1) Test 9 No. 9 Initial (202012050049) Sampled on 11/30/2020 0950 SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc. 12/15/20 06:58 (SM4500-PE/EPA Total phosphorus as PO4- Calc. 3.1 (c) 0.030 mg/L 1 365.1) SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P) 12/14/20 12:34 1294151 (SM4500-PE/EPA Total phosphorus as P 1.0 mg/L 0.040 2 365.1) Test 10 No. 0 Initial (202012050050) Sampled on 12/03/2020 0804

#### SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.

Rounding on totals after summation.

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**Eaton Analytical** 

Tel: (626) 386-1100 Fax: (866) 988-3757 1 800 566 LABS (1 800 566 5227) Report: 906979 Project: KALAMAZOO Group: Lead Solubility Testing - Phase 1

Samples Received on:

12/05/2020 1202

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

Prepped	Analyzed	Prep Batch	Analytical Batch	Method	Analyte	Result	Units	MRL	Dilution
	12/16/20 14:00			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	ND (c)	mg/L	0.030	1
		SM4500-PI	E/EPA 365.1 - T	Total phosphoru	is as P (T-P)				
	12/16/20 09:07		1294580	(SM4500-PE/EPA 365.1)	Total phosphorus as P	ND	mg/L	0.020	1
<u>Test 10</u>	No. 1 Initial	(202012050	<u>051)</u>			Sam	pled on 12/03	/2020 080	6
		SM4500-DF	=/EPA 365 1 - T	Cotal phosphoru	is as PO4- Calc.				
	12/16/20 14:01				Total phosphorus as PO4- Calc.	0.31 (c)	mg/L	0.030	1
		SM4500-PE	E/EPA 365.1 - T	Total phosphoru	is as P (T-P)				
	12/16/20 09:11		1294580	(SM4500-PE/EPA 365.1)	Total phosphorus as P	0.10	mg/L	0.020	1
<u>Test 10</u>	No. 2 Initial	(202012050	<u>052)</u>	,		Sam	pled on 12/03	/2020 080	9
		SM4500-PI	E/EPA 365.1 - T	lotal phosphoru	ıs as PO4- Calc.				
	12/16/20 14:04			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	3.1 (c)	mg/L	0.030	1
		SM4500-PE	E/EPA 365.1 - T	Total phosphoru	is as P (T-P)				
	12/16/20 09:12		1294580	(SM4500-PE/EPA 365.1)	Total phosphorus as P	1.0	mg/L	0.040	2
<u>Test 10</u>	No. 3 Initial	(202012050	<u>053)</u>			Sam	pled on 12/03	/2020 083	5
		SM4500-PF	=/FPA 365 1 - T	otal phosphoru	ıs as PO4- Calc.				
	12/16/20 14:04		_/_  A 000.1 - 1		Total phosphorus as PO4- Calc.	3.1 (c)	mg/L	0.030	1
		SM4500-PE	E/EPA 365.1 - T	Total phosphoru	is as P (T-P)				
	12/16/20 09:30		1294580	(SM4500-PE/EPA 365.1)	Total phosphorus as P	1.0	mg/L	0.040	2
<u>Test 10</u>	No. 4 Initial	(202012050	<u>054)</u>	,		Sam	pled on 12/03	/2020 083	8
		SM4500-PF	=/EPA 365 1 - T	Cotal phosphoru	ıs as PO4- Calc.				
	12/16/20 14:05	SWI4500-F1	_/EFA 303.1 - 1	(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	1.8 (c)	mg/L	0.030	1
		SM4500-PE	E/EPA 365.1 - T	Total phosphoru	is as P (T-P)				
	12/16/20 09:31		1294580	(SM4500-PE/EPA 365.1)	Total phosphorus as P	0.58	mg/L	0.040	2
<u>Test 10</u>	No. 5 Initial	(202012050	<u>055)</u>	,		Sam	pled on 12/03	/2020 084	0
		SM4500-PF	=/EPA 365 1 - T	Cotal phosphoru	ıs as PO4- Calc.				
	12/16/20 14:05	JINHJUU-PI	_/ EFA J03.1 - 1		Total phosphorus as PO4- Calc.	3.7 (c)	mg/L	0.030	1
	12/10/20 14:00			365.1)		0.7 (0)	mg/L	0.050	ı
		SM4500-PI	E/EPA 365.1 - T	Total phosphoru	is as P (T-P)				

Rounding on totals after summation.

**Tetra Tech** 

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James Christopher

201 East Pine Street

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Laboratory	Data
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Report: 906979 Project: KALAMAZOO Group: Lead Solubility Testing - Phase 1

Samples Received on: 12/05/2020 1202

Prepped	Analyzed	Prep Batch	Analytical Batch	Method	Analyte	Result	Units	MRL	Dilution
	12/16/20 09:32		1294580	(SM4500-PE/EPA 365.1)	Total phosphorus as P	1.2	mg/L	0.040	2
<u>Test 10 N</u>	lo. 6 Initial (	2020120500	<u>056)</u>			Sam	pled on 12/03	/2020 090	7
		SM4500-PE	E/EPA 365.1 - <sup>-</sup>	Total phosphoru	ıs as PO4- Calc.				
	12/16/20 14:05			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	1.7 (c)	mg/L	0.030	1
		SM4500-PE	E/EPA 365.1 - <sup>-</sup>	Total phosphoru	ıs as P (T-P)				
	12/16/20 09:33		1294580	(SM4500-PE/EPA 365.1)	Total phosphorus as P	0.55	mg/L	0.040	2
<u>Test 10 N</u>	lo. 7 Initial (	2020120500	<u>057)</u>			Sam	pled on 12/03	/2020 091	0
		SM4500-PE	E/EPA 365.1 - <sup>-</sup>	Total phosphoru	ıs as PO4- Calc.				
	12/16/20 14:05			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	3.1 (c)	mg/L	0.030	1
		SM4500-PE	E/EPA 365.1 - <sup>-</sup>	Total phosphoru	is as P (T-P)				
	12/16/20 09:34		1294580	(SM4500-PE/EPA 365.1)	Total phosphorus as P	1.0	mg/L	0.040	2
<u>Test 10 N</u>	lo. 8 Initial (	202012050	<u>058)</u>			Sam	pled on 12/03	/2020 091	3
		SM4500-PE	E/EPA 365.1 - <sup>-</sup>	Total phosphoru	ıs as PO4- Calc.				
	12/16/20 14:05			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	1.4 (c)	mg/L	0.030	1
		SM4500-PE	E/EPA 365.1 - <sup>-</sup>	Total phosphoru	ıs as P (T-P)				
	12/16/20 09:35		1294580	(SM4500-PE/EPA 365.1)	Total phosphorus as P	0.46	mg/L	0.040	2
<u>Test 10 N</u>	lo. 9 Initial (	2020120500	<u>059)</u>			Sam	pled on 12/03	/2020 093	8
		SM4500-PE	E/EPA 365.1 - <sup>-</sup>	Total phosphoru	ıs as PO4- Calc.				
	12/16/20 14:05			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	2.9 (c)	mg/L	0.030	1
		SM4500-PE	E/EPA 365.1 - <sup>-</sup>	Total phosphoru	ıs as P (T-P)				
	12/16/20 09:36		1294580	(SM4500-PE/EPA 365.1)	Total phosphorus as P	0.95	mg/L	0.040	2



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#### **ICPMS Metals**

Prep Batch: 1292485	Analytical Batch: 1292499
202012050022	Test 8 No. 2 Final
202012050023	Test 8 No. 3 Final
202012050029	Test 8 No. 9 Final
202012050034	Test 9 No. 4 Final
ICPMS Metals	
Prep Batch: 1292485	Analytical Batch: 1293889
202012050020	Test 8 No. 0 Final
202012050021	Test 8 No. 1 Final
202012050024	Test 8 No. 4 Final
202012050025	Test 8 No. 5 Final
202012050026	Test 8 No. 6 Final
202012050027	Test 8 No. 7 Final
202012050028	Test 8 No. 8 Final
ICPMS Metals	
Prep Batch: 1292485	Analytical Batch: 1293890
202012050030	Test 9 No. 0 Final
202012050031	Test 9 No. 1 Final
202012050032	Test 9 No. 2 Final
202012050033	Test 9 No. 3 Final
202012050035	Test 9 No. 5 Final
202012050036	Test 9 No. 6 Final
202012050037	Test 9 No. 7 Final
202012050038	Test 9 No. 8 Final
202012050039	Test 9 No. 9 Final
Total phosphorus as P (T-	P)
Analytical Batch: 1294	4151
202012050040	Test 9 No. 0 Initial
202012050041	Test 9 No. 1 Initial
202012050042	Test 9 No. 2 Initial
202012050044	Test 9 No. 4 Initial
202012050045	Test 9 No. 5 Initial
202012050046	Test 9 No. 6 Initial

Test 9 No. 6 Initial Test 9 No. 7 Initial Test 9 No. 8 Initial Test 9 No. 9 Initial

#### Total phosphorus as P (T-P)

202012050047 202012050048

202012050049

#### Analytical Batch: 1294580

202012050043	Test 9 No. 3 Initial
202012050050	Test 10 No. 0 Initial
202012050051	Test 10 No. 1 Initial
202012050052	Test 10 No. 2 Initial
202012050053	Test 10 No. 3 Initial

Report: 906979 Project: KALAMAZOO Group: Lead Solubility Testing - Phase 1

#### Analysis Date: 12/08/2020

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

#### Analysis Date: 12/12/2020

Analyzed by: URDE Analyzed by: URDE

#### Analysis Date: 12/12/2020

Analyzed by: URDE Analyzed by: URDE

#### Analysis Date: 12/14/2020

Analyzed by: H5VG Analyzed by: H5VG

#### Analysis Date: 12/16/2020

Analyzed by: H5VG Analyzed by: H5VG Analyzed by: H5VG Analyzed by: H5VG Analyzed by: H5VG



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202012050054	Test 10 No. 4 Initial	Analyzed by: H5VG
202012050055	Test 10 No. 5 Initial	Analyzed by: H5VG
202012050056	Test 10 No. 6 Initial	Analyzed by: H5VG
202012050057	Test 10 No. 7 Initial	Analyzed by: H5VG
202012050058	Test 10 No. 8 Initial	Analyzed by: H5VG
202012050059	Test 10 No. 9 Initial	Analyzed by: H5VG

# Laboratory QC Summary

Report: 906979 Project: KALAMAZOO Group: Lead Solubility Testing - Phase 1

Page 24 of 26 pages



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Report: 906979 Project: KALAMAZOO Group: Lead Solubility Testing - Phase 1

Tetra Tec	h								
QC Туре	Analyte	Native	Spiked	Recovered	Units	Yield(%)	Limits (%)	RPD Limit(%)	RPD%
ICPMS Metals by	EPA 200.8								
Analytical B	atch: 1292499					Analysis D	ate: 12/08/	2020	
LCS1	Lead Total ICAP/MS		50	52.3	ug/L	105	(85-115)		
LCS2	Lead Total ICAP/MS		50	52.0	ug/L	104	(85-115)	20	0.57
MBLK	Lead Total ICAP/MS			<0.25	ug/L				
MRL_CHK	Lead Total ICAP/MS		0.5	0.552	ug/L	110	(50-150)		
MS_202012020254	Lead Total ICAP/MS	ND	50	49.7	ug/L	99	(70-130)		
MS2_202012040143	Lead Total ICAP/MS	ND	50	48.9	ug/L	98	(70-130)		
MSD_202012020254	Lead Total ICAP/MS	ND	50	49.2	ug/L	98	(70-130)	20	1.1
MSD2_202012040143	Lead Total ICAP/MS	ND	50	49.3	ug/L	98	(70-130)	20	0.84
ICPMS Metals by	EPA 200.8								
Analytical B	atch: 1293889					Analysis D	ate: 12/12/	2020	
LCS1	Lead Total ICAP/MS		50	50.8	ug/L	102	(85-115)		
LCS2	Lead Total ICAP/MS		50	51.4	ug/L	103	(85-115)	20	1.2
MBLK	Lead Total ICAP/MS			<0.25	ug/L				
MRL_CHK	Lead Total ICAP/MS		0.5	0.491	ug/L	98	(50-150)		
MS_202012030654	Lead Total ICAP/MS	1300	50	1310	ug/L	88	(70-130)		
MS2_202012030664	Lead Total ICAP/MS	880	50	922	ug/L	91	(70-130)		
MSD_202012030654	Lead Total ICAP/MS	1300	50	1320	ug/L	108	(70-130)	20	0.77
MSD2_202012030664	Lead Total ICAP/MS	880	50	922	ug/L	90	(70-130)	20	0.052
ICPMS Metals by	EPA 200.8								
-	atch: 1293890					Analysis D	ate: 12/12/	2020	
LCS1	Lead Total ICAP/MS		50	51.8	ug/L	104	(85-115)		
LCS2	Lead Total ICAP/MS		50	51.3	ug/L	103	(85-115)	20	1.2
MBLK	Lead Total ICAP/MS			<0.25	ug/L				
MRL_CHK	Lead Total ICAP/MS		0.5	0.480	ug/L	96	(50-150)		
MS_202012050030	Lead Total ICAP/MS	150	50	199	ug/L	102	(70-130)		
MS2_202012080203	Lead Total ICAP/MS	ND	50	44.1	ug/L	88	(70-130)		
MSD_202012050030	Lead Total ICAP/MS	150	50	197	ug/L	98	(70-130)	20	1.2
MSD2_202012080203	Lead Total ICAP/MS	ND	50	44.1	ug/L	88	(70-130)	20	0.084
Total phosphorus	as P (T-P) by SM4500-PE/EPA 365.	1							
Analytical B	atch: 1294151					Analysis D	ate: 12/14/	2020	
LCS1	Total phosphorus as P		0.4	0.414	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			<0.01	mg/L	-	/		

Spike recovery is already corrected for native results. Spikes which exceed Limits and Method Blanks with positive results are highlighted by <u>Underlining.</u> 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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Report: 906979 Project: KALAMAZOO Group: Lead Solubility Testing - Phase 1

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QC Туре	Analyte	Native	Spiked	Recovered	Units	Yield(%)	Limits (%)	RPD Limit(%)	RPD%
MRL_CHK	Total phosphorus as P		0.02	0.0212	mg/L	106	(50-150)		
MS_202012030370	Total phosphorus as P	0.075	0.4	0.504	mg/L	107	(90-110)		
MS_202012050040	Total phosphorus as P	ND	0.4	0.404	mg/L	101	(90-110)		
MSD_202012030370	Total phosphorus as P	0.075	0.4	0.499	mg/L	106	(90-110)	20	1
MSD_202012050040	Total phosphorus as P	ND	0.4	0.536	mg/L	<u>134</u>	(90-110)	20	<u>28</u>
Total phosphorus	as P (T-P) by SM4500-PE/EPA 365.1								
Analytical B	atch: 1294580				A	Analysis D	ate: 12/16/	2020	
LCS1	Total phosphorus as P		0.4	0.416	mg/L	104	(90-110)		
LCS2	Total phosphorus as P		0.4	0.409	mg/L	102	(90-110)	20	1.7
MBLK	Total phosphorus as P			<0.01	mg/L				
MRL_CHK	Total phosphorus as P		0.02	0.0206	mg/L	103	(50-150)		
MS_202012050050	Total phosphorus as P	ND	0.4	0.423	mg/L	103	(90-110)		
MS_202012050059	Total phosphorus as P	0.95	0.8	1.78	mg/L	104	(90-110)		
MSD_202012050050	Total phosphorus as P	ND	0.4	0.421	mg/L	102	(90-110)	20	0.43
MSD_202012050059	Total phosphorus as P	0.95	0.8	1.78	mg/L	104	(90-110)	20	0.21

Spike recovery is already corrected for native results. Spikes which exceed Limits and Method Blanks with positive results are highlighted by <u>Underlining.</u> 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.

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** 12/21/2020 (1 mosa **EUROFINS EATON ANALYTICAL, LLC** 

ZIA8: Vanessa Berry

Project Manager

Report: 908292 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

Eurofins Eaton Analytical, LLC

750 Royal Oaks Drive, Suite 100 Monrovia, CA 91016-3629 T | 626-386-1100 F | 866-988-3757 www.EurofinsUS.com/Eaton

## 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

		Environ-	Environ-			-	Environ-	Environ-	
SPECIFIC TESTS	METHOD OR TECHNIQUE USED	mental (Drinking Water)	mental (Waste Water)	Water as a Component of Food and Bev/Bev/ Bottled Water	SPECIFIC TESTS	METHOD OR TECHNIQUE USED	mental (Drinking Water)	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	Hexavalent Chromium	EPA 218.7	x		x
1,4-Dioxane	EPA 522	х		x	Hexavalent Chromium	SM 3500-Cr B		х	
2.3.7.8-TCDD	Modified EPA 1613B	x		x	Hormones	EPA 539	х	~	x
Acrylamide	In House Method (2440)	x		x	Hydroxide as OH Calc.	SM 2330B	х		х
Algal Toxins/Microcystin	In House Method (3570)				Kjeldahl Nitrogen	EPA 351.2		х	
Alkalinity	SM 2320B	x	х	х	Legionella	Legiolert	х		х
Ammonia	EPA 350.1		х	х	Mercury	EPA 200.8	х		х
Ammonia	SM 4500-NH3 H		х	х	Metals	EPA 200.7 / 200.8	х	х	х
Anions and DBPs by IC	EPA 300.0	х	х	х	Microcystin LR	ELISA (2360)	x		х
Anions and DBPs by IC	EPA 300.1	х		х	Microcystin, Total	EPA 546	х		х
Asbestos	EPA 100.2	x	х		NDMA	EEA/Agilent 521.1	x		x
		~				In house method (2425)			
BOD / CBOD	SM 5210B		х	x	Nitrate/Nitrite Nitrogen	EPA 353.2	х	х	х
Bromate	In House Method (2447)	x		x	OCL, Pesticides/PCB	EPA 505	х		x
Carbamates	EPA 531.2	х		x	Ortho Phosphate	EPA 365.1	х	х	x
Carbonate as CO3	SM 2330B	х	х	x	Ortho Phosphorous Oxyhalides Disinfection	SM 4500P E	х		х
Carbonyls	EPA 556	x		x	Byproducts	EPA 317.0	х		x
COD	EPA 410.4 / SM 5220D	t	x		Perchlorate	EPA 331.0	x		x
Chloramines	SM 4500-CL G	x	x	x	Perchlorate (low and high)	EPA 314.0	x		x
Chlorinated Acids	EPA 515.4	x		x	Perfluorinated Alkyl Acids	EPA 537	x		x
Chlorinated Acids	EPA 555	x	1	x	Perfluorinated Polutant	In house Method (2434)	x		x
Chlorine Dioxide	SM 4500-CLO2 D Palin Test	x		x	рН	EPA 150.1	x		
Chlorine -Total/Free/ Combined Residual	SM 4500-Cl G	x	x	x	рН	SM 4500-H+B	x	x	x
Conductivity	EPA 120.1	1	x		Phenylurea Pesticides/ Herbicides	In House Method, based on EPA 532 (2448)	x		x
Conductivity	SM 2510B	x	x	x	Herbicides Pseudomonas	532 (2448) IDEXX Pseudalert (2461)	x		x
Corrosivity (Langelier Index)	SM 2330B	x	~	x	Radium-226	GA Institute of Tech	x		x
Cyanide, Amenable	SM 4500-CN G	x	x		Radium-228	GA Institute of Tech	x		x
Cyanide, Free	SM 4500-CN G	x	x	x	Radon-222	SM 7500RN	x		x
Cyanide, Total	EPA 335.4	x	x	x	Residue, Filterable	SM 2540C	x	x	x
Cyanogen Chloride (screen)	In House Method (2470)	x	~	x	Residue, Non-filterable	SM 2540D	~	x	~
Diquat and Paraquat	EPA 549.2	x		x	Residue, Total	SM 2540B		x	x
DBP/HAA	SM 6251B	x		x	Residue, Volatile	EPA 160.4		x	~
Dissolved Oxygen	SM 4500-O G		х	x	Semi-VOC	EPA 525.2	x		x
DOC	SM 5310C	x		х	Silica	SM 4500-Si D	х	х	
E. Coli	(MTF/EC+MUG)	х		х	Silica	SM 4500-SiO2 C	х	х	
	· · · · · ·						~		-
E. Coli	CFR 141.21(f)(6)(i)	x		x	Sulfide	SM 4500-S <sup>=</sup> D		х	
E. Coli	SM 9223		х		Sulfite	SM 4500-SO <sup>3</sup> B	х	х	x
E. Coli (Enumeration)	SM 9221B.1/ SM 9221F	х		х	Surfactants	SM 5540C	x	х	х
E. Coli (Enumeration)	SM 9223B	х		х	Taste and Odor Analytes	SM 6040E	х		х
EDB/DCBP	EPA 504.1	х			Total Coliform (P/A)	SM 9221 A, B	х		х
EDB/DBCP and DBP	EPA 551.1	x		x	Total Coliform (Enumeration)	SM 9221 A, B, C	x		x
EDTA and NTA	In House Method (2454)	x		x	Total Coliform / E. coli	Colisure SM 9223	x		x
Endothall	EPA 548.1	x		×	Total Coliform	SM 9221B	^	х	^
Endothall	In-house Method (2445)	x		х	Total Coliform with Chlorine Present	SM 9221B		x	
Enterococci	SM 9230B	x	х		Total Coliform / E.coli (P/A and Enumeration)	SM 9223	x		x
Fecal Coliform	SM 9221 E (MTF/EC)	x			TOC	SM 5310C	x	x	x
Fecal Coliform	SM 9221C, E (MTF/EC)		x		TOX	SM 5320B		x	1
Fecal Coliform	SM 9221E, E (MTF/EC)	x		x	Total Phenols	EPA 420.1		x	
(Enumeration) Fecal Coliform with	SM 9221E		x		Total Phenols	EPA 420.4	x	x	x
Chlorine Present Fecal Streptococci	SM 9221E	x	×		Total Phosphorous	SM 4500 P E	^	x	^
Fluoride	SM 4500-F C	x	x	x	Triazine Pesticides &	In House (3617)	x		x
Glyphosata	EPA 547	v		×	Degradates	EDA 190 1	v	v	v
Glyphosate   AMPA		x		×	Turbidity Turbidity	EPA 180.1	x	x	X
Glyphosate + AMPA Gross Alpha/Pata	In House Method (3618)	x	~	x	Turbidity	SM 2130B	X	х	~
Gross Alpha/Beta Gross Alpha Coprecipitation	EPA 900.0 SM 7110 C	x	x	x	Uranium by ICP/MS UV 254	EPA 200.8 SM 5910B	x		x
Hardness	SM 2340B	х	x	x	VOC	EPA 524.2	x		х
Heterotrophic Bacteria	In House Method (2439)	х		x	VOC	In House Method (2411)	х		x
Heterotrophic Bacteria	SM 9215 B	х		x	Yeast and Mold	SM 9610	х		х
Hexavalent Chromium	EPA 218.6	х	х	х	Field Sampling	N/A			1

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🔅 eurofins	Eaton Analytical	
-		dgement of Samples Received
2	<b>Fetra Tech</b> 201 East Pine Street Suite 1000	Client ID: TETRATECH-ORLAN Folder #: 908292 Project: KALAMAZOO
	Drlando, FL 32801	Sample Group: Lead Solubility Testing - Phase
	James Christopher 407-480-3907	Project Manager: Vanessa Berry Phone: 503-310-3905
tests liste		ecember 14, 2020 at 10:43. They have been scheduled for the incorrect, please contact your service representative. Thank you
Sample #	Sample ID	Sample Date
02012140050	Test 10 No. 0 Final	12/08/2020 0807
	@ICPMS	
02012140051	Test 10 No. 1 Final	12/08/2020 0808
	@ICPMS	
02012140052	Test 10 No. 2 Final	12/08/2020 0809
	@ICPMS	
02012140053	Test 10 No. 3 Final	12/08/2020 0810
	@ICPMS	
<u>02012140054</u>	Test 10 No. 4 Final	12/08/2020 0811
	@ICPMS	
02012140055	Test 10 No. 5 Final	12/08/2020 0812
	@ICPMS	
02012140056	Test 10 No. 6 Final	12/08/2020 0813
	@ICPMS	
02012140057	Test 10 No. 7 Final	12/08/2020 0814

**Test Description** 

202012140058

202012140059

@ICPMS

@ICPMS

@ICPMS

Test 10 No. 8 Final

Test 10 No. 9 Final

@ICPMS -- ICPMS Metals

12/08/2020 0815

12/08/2020 0816

al Galas Dive, Saule 100     a. CA 91016-5829     SamPLES CHECKED AGAINST CO       2005 Sale 100     a. CA 91016-5829     samPLES CHECKED AT:     samPLES CHECKED AT:       2005 Sale 100     a. CA 91016-5829     samPLES CHECKED AT:     samPLES CHECKED AT:       2005 Sale 100     a. CA 91016-5829     a. CA 91016-5829     samPLES CHECKED AT:     samPLES CHECKED AT:       2005 Sale 100     a. CA 91016-71000     a. Can D = 100     (Desrvotions 2)     (D) (Confrador 3)     (D) (Falar 3)       2005 Sale 100     a. Can D = 100     (Desrvotions 2)     (D) (Confrador 3)     (D) (Falar 3)     (D) (Falar 3)       2005 Sale 220     a. Can D = 100     (D) (Confrador 3)     (D) (Falar 3)     (D) (Falar 3)     (D) (Falar 3)       2005 Sale 220     a. Can D = 100     (D) (Confrador 3)     (D) (Falar 3)     (D) (Falar 3)       2005 Sale 220     a. Can D = 100     (D) (Confrador 3)     (D) (Falar 3)     (D) (Falar 3)       2005 Sale 220     a. Can D = 100     (D) (Confrador 3)     (D) (Falar 3)     (D) (Falar 3)       2005 Sale 220     a. Can D = 100     (D) (Confrador 3)     (D) (Falar 3)     (D) (Falar 3)       2005 Sale 220     a. Can D = 100     (D) (Falar 3)     (D) (Falar 3)     (D) (Falar 3)       2005 Sale 220     a. Can D = 100     (D)	Eaton Analytical	ELIBORINS EATON ANALYTICAL LISE ONLY.		
AMPLE TEMP RECEVED T:       SAMPLES LOGGED         Station of the state of the sta		LOGIN COMMENTS:	SAMPLES CHECKED AGAIN	VST COC BY:
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338 3100		SAMPI E TEMP RECEIVED AT	SAMPLES REC'D DAY OF C	COLLECTION? Check for ves)
I. AND LAND THE OF ICE. IS AND LAND LAND LAND LAND LAND LAND LAND	Phone: 626 386 1100 Fax: 626 386 1101		) (O	]°
Compatibility of the contract	800 566 L ABS (800 566 5337)		5.7	52
TWE OF ICE: Real X_Synthetic     No lea     CONDITION OF ICE: Frozen     Partially Frozen       RETHOD OF SHIPHIENT: Pro-Up / Vask.in / GeES. UPS / DHL / Aras Fast / Top Line / Other.     RETHOD OF SHIPHIENT: Pro-Up / Vask.in / GeES. UPS / DHL / Aras Fast / Top Line / Other.       RETEND SAME     RETHOD OF SHIPHIENT: Pro-Up / Vask.in / GeES. UPS / DHL / Aras Fast / Top Line / Other.       RETEND SAME     REQUEST NOME       RETEND SAME     REQUEST NOME       RETEND SAME     REQUEST NOME       RETEND SAME     REQUEST NOME       RED 201 E ATA ZATER DIRES SAME     REQUIST NOME       RED - OYULIN     Same Le GROUP:       RED - OYULIN     CODE:       RED - OYULIN     Same Le GROUP:       RED - OYULIN     Same Le GROUP:   <		N	(Microbiology: < 10°C )	
METHOD OF SHIPMENT: Pick-Up / Walch / GelEX, UPS / DH. / Area Fast / Top Line / Other- ACTOR 201 E Rine St On/Undo     Concert conce:       CONCLOST CONCE:     CONPLANCE SETURATES TO DIANT SET ON INVOCE CON. 201 E Rine St On/Undo       CONCLOST CONCE:       CONPLANCE ST ONE SPECIAL CONFLANCE SET ON INVOCE CON. 201 E Rine St On/Undo       CONCLOST CONCE:       CONPLANCE ST ONE SPECIAL CONFLANCE RECULATION INVOCE CON:       CONCLOST CONCLOST CONCLAST ON EXPECTION INVOCE CONCLAST ON ST ON INVOCE CONCLAST ON EAST FOR ANALYSES       CONCLAST ONE SPECIAL CONFLANCE RECULATION INVOCE CONCLAST ON CONCLAST ON EXPECTION INVOCE RECULATION INVOCE R	Website: <u>www.EatonAnalytical.com</u>	Synth	olce CONDITION OF ICE: Frozen Partially Frozen	
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Curry Construction       Construction       FEE ATTACHED KIT ONDER POR MALYSES       FEE ULATION INVOL         FCOUD:       SAMPLE GROUP:       SAMPLE GROUP:       SAMPLE GROUP:       Tope of samples circle one):       Rectine setate one       Rectine setate one       Rectine setate one         RCM - OV(UN       COCID:       LeCUD SUMULH TES PhORY 1 sty.       List ALL ANALYSES RECURRED feater number of bottles sent for the rectine set for th	DMPANY/AGENCY NAME:	PROJECT CODE:		IANCE SAMPLES
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TCODE     EXAMPLE ID	TN		ROUTINE	
Ref     Sample only     STD_1 w_ 3 dwp_rd     dwp     Hard Andread       Ref     Sample only     STD_1 w_ 3 dwp_rd     StD_1 w_ 3 dwp_rd     StD_1 w_ 3 dwp_rd       Ref     Sample only     STD_1 w_ 3 dwp_rd     StD_1 w_ 3 dwp_rd     StD_1 w_ 3 dwp_rd       Ref     Ref     Ref     Ref     Ref     Ref       Ref     Ref     Ref     Ref     Ref     Sein Water       Ref     Ref     Ref     Ref     Ref     Sein Water       Ref     Ref     Ref     Ref	ONUN	1 PI TOG	SEE ATTACHED KIT ORDER FOR ANALYSES	(check for yes), <u>OR</u>
Rest AD Als O FINUL     CLIENT LAB ID     KATRK       R     TEST AD Als O FINUL     FRULD DATA       R     1     1       R     1       R </td <td>Trequested: rush by adv notice only</td> <td>1 wk 3 day 2 day</td> <td></td> <td></td>	Trequested: rush by adv notice only	1 wk 3 day 2 day		
Reference     Cuent LAB ID     Reference     Dat       R     Fresh AD AD O Find I     Reference     MARTEN       R     1     1     1     1       R     1     1     1     1     1       R     1     1     1     1     1       R     1     1     1     1     1       R     1     1     1     1     1       R     1     1     1     1     1       R     1     1     1     1     1       R     1     1     1     1     1       R     1     1     1     1     1       R     1     1     1     1     1       R     1     1     1     1     1       R     1     1     1     1     1       R     1     1     1     1     1       R     1     1     1     1     1       R     1     1     1     1     1       R     1     1     1     1     1       R     1     1     1     1     1       R     1     1     1 </td <td></td> <td>· ↓ ↓ ↓ ↓</td> <td></td> <td>SAMPLER</td>		· ↓ ↓ ↓ ↓		SAMPLER
II       TESH AD AD. 0 FINAL       FW	atad Sample Jmit	• XIATAM • XIATAM	ροσι	COMMENTS
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CTYPES: 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       SEAW = Sea Water       BW = Bottled Water       SO = Soil         RGW = Raw Ground Water       FW = Other Finished Water       WW = Water       BW = Bottled Water       SO = Soil         RGW = Raw Ground Water       FW = Other Finished Water       BAW = Water       BW = Bottled Water       SO = Soil         Interval       M. MrcNOS       M. MrcNOS       Ref Not KODEI ArcenOS       TeFrO TRUL, PrOJECH FINITE       E         DBY:       M. MrcNOS       M. MrcNOS       TeFrO TRUL, PrOJECH FINITE       Interval         DBY:       M. MrcNOS       M. MrCNOS       TeFrO TRUL, PrOJECH FINITE       Interval         DBY:       M. MrcNOS       M. MrCNOS       TeFrO TRUL, PrOJECH FINITE       Interval         DBY:       M. MrcNOS       M. MrCNOS       TeFrO TRUL, PrOJECH FINITE       Interval         DBY:       M. MrcNOS       M. MrCNOS       TeFrO TRUL, PrOJECH FINITE       Interval         DBY:       M. MrCNOS       M. MrCNOS       M. MrCNOS       MrCNOS       MrCNOS	A	P	4	
SIGNATURE     PRINT NAME     COMPANYITILE     DATE       M. ATENOIS     M. ATENOIS     MOTIO ISODEI ATENOIS     TEFTOI TEUL, PLOJECH ENGINEER     12/11/20       DBY:     ULUL BOCLUS     Chuic Bouch     Bouch     ECB     12/11/20       DBY:     ULUL BOCLUS     Chuic Bouch     ECB     12/11/20     1	MATRIX TYPES: RSW = Raw Surface Wate RGW = Raw Ground Wate	114	<b>BW</b> = Bottled Water <b>SW</b> = Storm Water	<b>O</b> = Other - Please Identify ge
M. Arenois Dev. Oluve Bacher Arenois Tetroi Teur, Project Engineer 12/11/20 " " " " " " " " " " " " " " " " " " "	14	PRINT NAME	COMPANY/TITLE	DATE TIME
Oluve Bactur Chuic Brocher HB 12-1420 1	M. Aren	iscibei	TEPTO TECH, Project	12/11/20 4:30 PM
White Doctor Chuck Joolu CCB 12-1420 1				
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	RECEIVED BY:			

Dogo	F	of	4.4	
Page	0	UI	11	pages



Tetra Tech

Suite 1000 Orlando, FL 32801

James Christopher 201 East Pine Street

Eaton Analytical

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

Report: 908292 Project: KALAMAZOO Group: Lead Solubility Testing - Phase 1

The Comments Report may be blank if there are no comments for this report.

**Tetra Tech** 

Suite 1000 Orlando, FL 32801

James Christopher

201 East Pine Street

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

#### Laboratory Hits

Report: 908292 Project: KALAMAZOO Group: Lead Solubility Testing - Phase 1

Samples Received on: 12/14/2020 10:43

Sample ID Result Federal MCL Units MRL Analyzed Analyte 202012140050 Test 10 No. 0 Final 12/17/2020 15:40 Lead Total ICAP/MS 180 15 0.50 ug/L 202012140051 Test 10 No. 1 Final 12/17/2020 15:42 Lead Total ICAP/MS 220 15 0.50 ug/L 202012140052 Test 10 No. 2 Final 12/17/2020 15:43 Lead Total ICAP/MS 310 15 ug/L 0.50 202012140053 Test 10 No. 3 Final 12/17/2020 15:45 Lead Total ICAP/MS 0.50 240 15 ug/L 202012140054 Test 10 No. 4 Final 12/17/2020 15:47 Lead Total ICAP/MS 320 15 0.50 ug/L 202012140055 Test 10 No. 5 Final 12/17/2020 15:53 Lead Total ICAP/MS 290 15 ug/L 0.50 202012140056 Test 10 No. 6 Final 12/19/2020 14:18 Lead Total ICAP/MS 280 15 ug/L 0.50 202012140057 Test 10 No. 7 Final 12/17/2020 15:55 Lead Total ICAP/MS 190 15 ug/L 0.50 202012140058 Test 10 No. 8 Final Lead Total ICAP/MS 12/19/2020 14:21 790 15 0.50 ug/L 202012140059 Test 10 No. 9 Final 12/17/2020 16:24 Lead Total ICAP/MS 980 5.0 15 ug/L

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.

**Eaton Analytical** 

Prep Batch Analytical Batch

Method

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

🛟 eurofins

**Tetra Tech** 

Suite 1000 Orlando, FL 32801

Analyzed

Prepped

James Christopher

201 East Pine Street

Report: 908292 Project: KALAMAZOO Group: Lead Solubility Testing - Phase 1

Result

Samples Received on: 12/14/2020 10:43

Units

MRL

Dilution

Page 8 of 11 pages

<u>Test 10 No. 0 Final (202012140050)</u>				Sampled on 12/08/2020 0807	
EPA 200.8 - ICPMS Metals					
12/14/20 12/17/20 15:40 1294033 1294416 (E	EPA 200.8)	Lead Total ICAP/MS	180	ug/L 0.50	1
<u>Test 10 No. 1 Final (202012140051)</u>				Sampled on 12/08/2020 0808	
EPA 200.8 - ICPMS Metals					
12/14/20 12/17/20 15:42 1294033 1294416 (E	EPA 200.8)	Lead Total ICAP/MS	220	ug/L 0.50	1
<u>Test 10 No. 2 Final (202012140052)</u>				Sampled on 12/08/2020 0809	
EPA 200.8 - ICPMS Metals					
· · · · · · · · · · · · · · · · · · ·	EPA 200.8)	Lead Total ICAP/MS	310	ug/L 0.50	1
<u>Test 10 No. 3 Final (202012140053)</u>				Sampled on 12/08/2020 0810	
EPA 200.8 - ICPMS Metals					
· ·	EPA 200.8)	Lead Total ICAP/MS	240	ug/L 0.50	1
<u>Test 10 No. 4 Final (202012140054)</u>				Sampled on 12/08/2020 0811	
EPA 200.8 - ICPMS Metals					
· · · · · · · · · · · · · · · · · · ·	EPA 200.8)	Lead Total ICAP/MS	320	ug/L 0.50	1
<u>Test 10 No. 5 Final (202012140055)</u>				Sampled on 12/08/2020 0812	
EPA 200.8 - ICPMS Metals					
12/14/20 12/17/20 15:53 1294033 1294416 (E	EPA 200.8)	Lead Total ICAP/MS	290	ug/L 0.50	1
<u>Test 10 No. 6 Final (202012140056)</u>				Sampled on 12/08/2020 0813	
EPA 200.8 - ICPMS Metals					
· ·	EPA 200.8)	Lead Total ICAP/MS	280	ug/L 0.50	1
<u>Test 10 No. 7 Final (202012140057)</u>				Sampled on 12/08/2020 0814	
EPA 200.8 - ICPMS Metals					
12/14/20 12/17/20 15:55 1294033 1294416 (E	EPA 200.8)	Lead Total ICAP/MS	190	ug/L 0.50	1
<u>Test 10 No. 8 Final (202012140058)</u>				Sampled on 12/08/2020 0815	
EPA 200.8 - ICPMS Metals					
12/14/20 12/19/20 14:21 1294033 1295227 (E	EPA 200.8)	Lead Total ICAP/MS	790	ug/L 0.50	1
<u>Test 10 No. 9 Final (202012140059)</u>				Sampled on 12/08/2020 0816	

Analyte

<u>40059)</u>

## EPA 200.8 - ICPMS Metals



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

Report: 908292 Project: KALAMAZOO Group: Lead Solubility Testing - Phase 1

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

Samples Received on: 12/14/2020 10:43

Prepped	Analyzed	Prep Batch	Analytical Batch	Method	Analyte	Result	Units	MRL	Dilution
12/14/20	12/17/20 16:24	1294033	1294416	(EPA 200.8)	Lead Total ICAP/MS	980	ug/L	5.0	10



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

Tetra Tech

## **ICPMS Metals**

Prep Batch: 1294033	Analytical Batch: 1294416
202012140050	Test 10 No. 0 Final
202012140051	Test 10 No. 1 Final
202012140052	Test 10 No. 2 Final
202012140053	Test 10 No. 3 Final
202012140054	Test 10 No. 4 Final
202012140055	Test 10 No. 5 Final
202012140057	Test 10 No. 7 Final
202012140059	Test 10 No. 9 Final

## **ICPMS Metals**

## Prep Batch: 1294033 Analytical Batch: 1295227

202012140056	Test 10 No. 6 Final
202012140058	Test 10 No. 8 Final

Report: 908292 Project: KALAMAZOO Group: Lead Solubility Testing - Phase 1

## Analysis Date: 12/17/2020

Analyzed by: DHX7 Analyzed by: DHX7

## Analysis Date: 12/19/2020

Analyzed by: URDE Analyzed by: URDE



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

Report: 908292 Project: KALAMAZOO Group: Lead Solubility Testing - Phase 1

Tetra Tec	h								
QC Туре	Analyte	Native	Spiked	Recovered	Units	Yield(%)	Limits (%)	RPD Limit(%)	RPD%
ICPMS Metals by	EPA 200.8								
Analytical B	atch: 1294416					Analysis D	ate: 12/17/	2020	
LCS1	Lead Total ICAP/MS		50	51.8	ug/L	104	(85-115)		
LCS2	Lead Total ICAP/MS		50	51.6	ug/L	103	(85-115)	20	0.39
MBLK	Lead Total ICAP/MS			<0.25	ug/L				
MRL_CHK	Lead Total ICAP/MS		0.5	0.534	ug/L	107	(50-150)		
MS_202012150315	Lead Total ICAP/MS	ND	50	50.6	ug/L	101	(70-130)		
MS2_202012151087	Lead Total ICAP/MS	ND	50	49.9	ug/L	100	(70-130)		
MSD_202012150315	Lead Total ICAP/MS	ND	50	50.7	ug/L	101	(70-130)	20	0.19
MSD2_202012151087	Lead Total ICAP/MS	ND	50	50.2	ug/L	100	(70-130)	20	0.61
ICPMS Metals by	EPA 200.8								
Analytical B	atch: 1295227					Analysis D	ate: 12/19/	2020	
LCS1	Lead Total ICAP/MS		50	51.2	ug/L	102	(85-115)		
LCS2	Lead Total ICAP/MS		50	50.5	ug/L	101	(85-115)	20	1.4
MBLK	Lead Total ICAP/MS			<0.25	ug/L				
MRL_CHK	Lead Total ICAP/MS		0.5	0.538	ug/L	108	(50-150)		
MS_202012140056	Lead Total ICAP/MS	280	50	322	ug/L	82	(70-130)		
MS2_202012150405	Lead Total ICAP/MS	ND	50	48.2	ug/L	96	(70-130)		
MSD_202012140056	Lead Total ICAP/MS	280	50	339	ug/L	115	(70-130)	20	5.0
MSD2_202012150405	Lead Total ICAP/MS	ND	50	47.5	ug/L	95	(70-130)	20	1.6

Spike recovery is already corrected for native results. Spikes which exceed Limits and Method Blanks with positive results are highlighted by <u>Underlining.</u> 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.

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** 12/21/2020 (1 mosa **EUROFINS EATON ANALYTICAL, LLC** 

ZIA8: Vanessa Berry

**Project Manager** 

Report: 908293 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

Eurofins Eaton Analytical, LLC

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## 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

		Environ-	Environ-			-	Environ-	Environ-	
SPECIFIC TESTS	METHOD OR TECHNIQUE USED	mental (Drinking Water)	mental (Waste Water)	Water as a Component of Food and Bev/Bev/ Bottled Water	SPECIFIC TESTS	METHOD OR TECHNIQUE USED	mental (Drinking Water)	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	Hexavalent Chromium	EPA 218.7	x		x
1,4-Dioxane	EPA 522	х		x	Hexavalent Chromium	SM 3500-Cr B		х	
2.3.7.8-TCDD	Modified EPA 1613B	x		x	Hormones	EPA 539	х	~	x
Acrylamide	In House Method (2440)	x		x	Hydroxide as OH Calc.	SM 2330B	х		х
Algal Toxins/Microcystin	In House Method (3570)				Kjeldahl Nitrogen	EPA 351.2		х	
Alkalinity	SM 2320B	x	х	х	Legionella	Legiolert	х		х
Ammonia	EPA 350.1		х	х	Mercury	EPA 200.8	х		х
Ammonia	SM 4500-NH3 H		х	х	Metals	EPA 200.7 / 200.8	х	х	х
Anions and DBPs by IC	EPA 300.0	х	х	х	Microcystin LR	ELISA (2360)	х		х
Anions and DBPs by IC	EPA 300.1	х		х	Microcystin, Total	EPA 546	х		х
Asbestos	EPA 100.2	x	х		NDMA	EEA/Agilent 521.1	x		x
		~				In house method (2425)			
BOD / CBOD	SM 5210B		х	x	Nitrate/Nitrite Nitrogen	EPA 353.2	х	х	х
Bromate	In House Method (2447)	x		x	OCL, Pesticides/PCB	EPA 505	х		x
Carbamates	EPA 531.2	х		x	Ortho Phosphate	EPA 365.1	х	х	x
Carbonate as CO3	SM 2330B	х	х	x	Ortho Phosphorous Oxyhalides Disinfection	SM 4500P E	х		х
Carbonyls	EPA 556	x		x	Byproducts	EPA 317.0	х		x
COD	EPA 410.4 / SM 5220D	t	x		Perchlorate	EPA 331.0	x		x
Chloramines	SM 4500-CL G	x	x	x	Perchlorate (low and high)	EPA 314.0	x		x
Chlorinated Acids	EPA 515.4	x		x	Perfluorinated Alkyl Acids	EPA 537	x		x
Chlorinated Acids	EPA 555	x	1	x	Perfluorinated Polutant	In house Method (2434)	x		x
Chlorine Dioxide	SM 4500-CLO2 D Palin Test	x		x	рН	EPA 150.1	x		
Chlorine -Total/Free/ Combined Residual	SM 4500-Cl G	x	x	x	рН	SM 4500-H+B	x	x	x
Conductivity	EPA 120.1	1	x		Phenylurea Pesticides/ Herbicides	In House Method, based on EPA 532 (2448)	x		x
Conductivity	SM 2510B	x	x	x	Herbicides Pseudomonas	532 (2448) IDEXX Pseudalert (2461)	x		x
Corrosivity (Langelier Index)	SM 2330B	x	~	x	Radium-226	GA Institute of Tech	x		x
Cyanide, Amenable	SM 4500-CN G	x	x		Radium-228	GA Institute of Tech	x		x
Cyanide, Free	SM 4500-CN G	x	x	x	Radon-222	SM 7500RN	x		x
Cyanide, Total	EPA 335.4	x	x	x	Residue, Filterable	SM 2540C	x	x	x
Cyanogen Chloride (screen)	In House Method (2470)	x	~	x	Residue, Non-filterable	SM 2540D	~	x	~
Diquat and Paraquat	EPA 549.2	x		x	Residue, Total	SM 2540B		x	x
DBP/HAA	SM 6251B	x		x	Residue, Volatile	EPA 160.4		x	~
Dissolved Oxygen	SM 4500-O G		х	x	Semi-VOC	EPA 525.2	x		x
DOC	SM 5310C	x		х	Silica	SM 4500-Si D	х	х	
E. Coli	(MTF/EC+MUG)	х		х	Silica	SM 4500-SiO2 C	х	х	
	· · · · · ·						~		-
E. Coli	CFR 141.21(f)(6)(i)	x		x	Sulfide	SM 4500-S <sup>=</sup> D		х	
E. Coli	SM 9223		х		Sulfite	SM 4500-SO <sup>3</sup> B	х	х	x
E. Coli (Enumeration)	SM 9221B.1/ SM 9221F	х		х	Surfactants	SM 5540C	x	х	х
E. Coli (Enumeration)	SM 9223B	х		х	Taste and Odor Analytes	SM 6040E	х		х
EDB/DCBP	EPA 504.1	х			Total Coliform (P/A)	SM 9221 A, B	х		х
EDB/DBCP and DBP	EPA 551.1	x		x	Total Coliform (Enumeration)	SM 9221 A, B, C	x		x
EDTA and NTA	In House Method (2454)	x		x	Total Coliform / E. coli	Colisure SM 9223	x		x
Endothall	EPA 548.1	x		×	Total Coliform	SM 9221B	^	х	^
Endothall	In-house Method (2445)	x		х	Total Coliform with Chlorine Present	SM 9221B		x	
Enterococci	SM 9230B	x	х		Total Coliform / E.coli (P/A and Enumeration)	SM 9223	x		x
Fecal Coliform	SM 9221 E (MTF/EC)	x			TOC	SM 5310C	x	x	x
Fecal Coliform	SM 9221C, E (MTF/EC)		x		TOX	SM 5320B		x	1
Fecal Coliform	SM 9221E, E (MTF/EC)	x		x	Total Phenols	EPA 420.1		x	
(Enumeration) Fecal Coliform with	SM 9221E		x		Total Phenols	EPA 420.4	x	x	x
Chlorine Present Fecal Streptococci	SM 9221E	x	×		Total Phosphorous	SM 4500 P E	^	x	^
Fluoride	SM 4500-F C	x	x	x	Triazine Pesticides &	In House (3617)	x		x
Glyphosata	EPA 547	v		×	Degradates	EDA 190 1	v	v	v
Glyphosate   AMPA		x		×	Turbidity Turbidity	EPA 180.1	x	x	X
Glyphosate + AMPA Gross Alpha/Pata	In House Method (3618)	x	~	x	Turbidity	SM 2130B	X	х	~
Gross Alpha/Beta Gross Alpha Coprecipitation	EPA 900.0 SM 7110 C	x	x	x	Uranium by ICP/MS UV 254	EPA 200.8 SM 5910B	x		x
Hardness	SM 2340B	х	x	x	VOC	EPA 524.2	x		х
Heterotrophic Bacteria	In House Method (2439)	х		x	VOC	In House Method (2411)	х		х
Heterotrophic Bacteria	SM 9215 B	х		x	Yeast and Mold	SM 9610	х		х
Hexavalent Chromium	EPA 218.6	х	х	х	Field Sampling	N/A			1

750 Royal Oaks Dr., Ste 100, Monrovia, CA 91016 Tel (626) 386-1100 Fax (866) 988-3757 https://www.eurofinsus.com/Eaton Version 006 Issued: 05/04/20

	Eaton Analytical Acknowled	dgement of Samples Received
Addr:	Tetra Tech	Client ID: TETRATECH-ORLAN
	201 East Pine Street	Folder #: 908293
	Suite 1000 Orlando, FL 32801	Project: KALAMAZOO Sample Group: Lead Solubility Testing - Phase
Attn: James Christopher Phone: 407-480-3907		Project Manager: Vanessa Berry Phone: 503-310-3905
tests liste		ecember 14, 2020 at 10:43. They have been scheduled for the incorrect, please contact your service representative. Thank you
Sample #	Sample ID	Sample Date
02012140060	Test 11 No. 0 Final	12/11/2020 0801
	@ICPMS	
02012140061	Test 11 No. 1 Final	12/11/2020 0802
	@ICPMS	
02012140062	Test 11 No. 2 Final	12/11/2020 0803
	@ICPMS	
02012140063	Test 11 No. 3 Final	12/11/2020 0804
	@ICPMS	
02012140064	Test 11 No. 4 Final	12/11/2020 0804
	@ICPMS	
02012140065	Test 11 No. 5 Final	12/11/2020 0805
	@ICPMS	
02012140066	Test 11 No. 6 Final	12/11/2020 0806
	@ICPMS	
02012140067	Test 11 No. 7 Final	12/11/2020 0807
	@ICPMS	
02012140068	Test 11 No. 8 Final	12/11/2020 0808

## **Test Description**

@ICPMS -- ICPMS Metals

🐝 eurofins	CHAI	CHAIN OF CUSTODY RECORD	DY RECORD	01000
Eaton Analytical	EUROFINS EATON ANALYTICAL USE ONLY:	:VLY:		212001
750 Royal Oaks Drive, Suite 100	LOGIN COMMENTS:		SAMPLES CHECKED AGAINST COC BY: SAMPLES LOGGED IN BY:	VST COC BY: (1℃ GGED IN BY: 35
MONTOVIA, CA 91010-3029 Phone: 626 386 1100	' "			
Fax: 626 386 1101	(Other)	616	°C) (Corr.Factor °C) (Final =	7.5
800 566 LABS (800 566 5227)	Monrovia IK Gun IU = $0.00$ (Observation Compliance Acceptance Criteria: (Chemistry: $4 \pm 2.00$ ) (Microbiology: < 10°C)	$(0.00 \times 10^{\circ} \text{C})$ (Ubservation= v: 4±2°C) (Microbiology: < 10°C)	i	
Website: www.EatonAnalytical.com	TYPE OF ICE: Real X Synthetic	No Ice CONDITIO	CONDITION OF ICE: Frozen Partially Frozen	Thawed X N/A
	METHOD OF SHIPMENT: Pick-	-Up / Walk-In / EedEx / UPS	METHOD OF SHIPMENT: Pick-Up / Walk-In / EedEx/ UPS / DHL / Area Fast / Top Line / Other:	
TO BE COMPLETED BY SAMPLER:	0284SIN 64L	131	(check for yes)	(check for yes)
COMPANY/AGENCY NAME:	PROJECT CODE:	COMPLIA		NON-COMPLIANCE SAMPLES
Tetra teur jui Pine Si Orlando	0	- Requires stat Type of samples (circle one):	e forms	L CONFIRMATION INVOLVED: (eq. SDWA, NPDES, etc.)
EEA CLIENT CODE: COC ID:	SAMPLE GROUP:	SEE ATTACHED	SEE ATTACHED KIT ORDER FOR ANALYSES	(chec
Tehortech-Orbun	LEOLD SOLUDINAN TEST - PI	PhOSe4 List ALL ANALYS	List ALL ANALYSES REQUIRED (enter number of bottles sent for each test for each sample)	ent for each test for each sample)
TAT requested: rush by adv notice only	1 wk 3 day 2 day	1 day		
DATE DATE DATE SAMPLE TIME SAMPLE ID	CLIENT LAB ID MATRIX *	ата рата 0091		SAMPLER COMMENTS
12/11 8:01 TEST 11 NO.0 FINOI	- M			Preserved with
K				nitric and by
2 8:03		10 A		Tetro Teun
8:04 3		N N		1
H H0:8		.0		
6:02 P				
8:0h				
		A CONTRACTOR OF		
8 80.8	100 miles			
1 b A b0:8 1	4	4		
* MATRIX TYPES: RSW = Raw Surface Water RGW = Raw Ground Water	<b>CFW</b> = Chlor(am)inated Finished Water <b>FW</b> = Other Finished Water	Water SEAW = Sea Water WW = Waste Water	BW = Bottled Water SO = Soil SW = Storm Water SL = Sludge	<b>O</b> = Other - Please Identify ge
SIGNATURE	PRINT	PRINT NAME	COMPANY/TITLE	DATE TIME
SAMPLED BY: M. PACPAUS	MORIO ISOIDEI	ISOLDEI Arenois Te	Tetra teun, pouru Engineer	12/11/20 4:30
	=		II NOT	
RECEIVED BY: UNANAL STOCOLOGY RELINQUISHED BY:	- Chuch	NUCH	the state	12-14,20 1043
RECEIVED BY:			N.	A A A A A A A A A A A A A A A A A A A
QA FO 0029.2 (Version 2) (08/28/2014)				PAGE OF

Page 5 of 11 pages



Tetra Tech

Suite 1000 Orlando, FL 32801

James Christopher 201 East Pine Street

Eaton Analytical

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

Report: 908293 Project: KALAMAZOO Group: Lead Solubility Testing - Phase 1

The Comments Report may be blank if there are no comments for this report.

**Tetra Tech** 

Suite 1000 Orlando, FL 32801

James Christopher

201 East Pine Street

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

## Laboratory Hits

Report: 908293 Project: KALAMAZOO Group: Lead Solubility Testing - Phase 1

Samples Received on: 12/14/2020 10:43

Sample ID Result Federal MCL Units MRL Analyzed Analyte 202012140060 Test 11 No. 0 Final 12/19/2020 14:23 Lead Total ICAP/MS 140 15 0.50 ug/L 202012140061 Test 11 No. 1 Final 12/17/2020 15:58 Lead Total ICAP/MS 170 15 0.50 ug/L 202012140062 Test 11 No. 2 Final 12/17/2020 16:00 Lead Total ICAP/MS 220 15 ug/L 0.50 202012140063 Test 11 No. 3 Final 12/17/2020 16:02 Lead Total ICAP/MS 370 0.50 15 ug/L 202012140064 Test 11 No. 4 Final 12/17/2020 16:04 Lead Total ICAP/MS 240 15 0.50 ug/L 202012140065 Test 11 No. 5 Final 12/17/2020 16:06 Lead Total ICAP/MS 180 15 ug/L 0.50 202012140066 Test 11 No. 6 Final 12/17/2020 16:07 Lead Total ICAP/MS 250 15 ug/L 0.50 202012140067 Test 11 No. 7 Final 12/17/2020 16:09 Lead Total ICAP/MS 160 15 ug/L 0.50 202012140068 Test 11 No. 8 Final Lead Total ICAP/MS 12/19/2020 14:24 660 15 0.50 ug/L 202012140069 Test 11 No. 9 Final Lead Total ICAP/MS 690 0.50 12/17/2020 16:15 15 ug/L

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

EPA 200.8 - ICPMS Metals

#### differences in final result than the component analyses

Method

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

Report: 908293 Project: KALAMAZOO Group: Lead Solubility Testing - Phase 1

Result

Samples Received on: 12/14/2020 10:43

Units

Sampled on 12/11/2020 0801

MRL

Dilution

<u>rest 11 No. 01 mai (202012140000)</u>			Samp		2020 0001	
EPA 200.8 - ICPMS Metals						
12/14/20 12/19/20 14:23 1294033 1295227	(EPA 200.8)	Lead Total ICAP/MS	140	ug/L	0.50	1
<u>Test 11 No. 1 Final (202012140061)</u>			Sampl	led on 12/11	/2020 0802	
EPA 200.8 - ICPMS Metals						
12/14/20 12/17/20 15:58 1294033 1294416	(EPA 200.8)	Lead Total ICAP/MS	170	ug/L	0.50	1
<u>Test 11 No. 2 Final (202012140062)</u>			Samp	led on 12/11	/2020 0803	
EPA 200.8 - ICPMS Metals 12/14/20 12/17/20 16:00 1294033 1294416		Lood Total ICAD/MC	220		0.50	1
	(EPA 200.8)	Lead Total ICAP/MS		ug/L		I
<u>Test 11 No. 3 Final (202012140063)</u>			Sampi	led on 12/11	/2020 0804	
EPA 200.8 - ICPMS Metals						
12/14/20 12/17/20 16:02 1294033 1294416	(EPA 200.8)	Lead Total ICAP/MS	370	ug/L	0.50	1
<u>Test 11 No. 4 Final (202012140064)</u>			Sampl	led on 12/11	/2020 0804	
EPA 200.8 - ICPMS Metals						
12/14/20 12/17/20 16:04 1294033 1294416	(EPA 200.8)	Lead Total ICAP/MS	240	ug/L	0.50	1
Test 11 No. 5 Final (202012140065)	()			led on 12/11		
·····			Camp			
EPA 200.8 - ICPMS Metals						
12/14/20 12/17/20 16:06 1294033 1294416	(EPA 200.8)	Lead Total ICAP/MS	180	ug/L	0.50	1
<u>Test 11 No. 6 Final (202012140066)</u>			Sampl	led on 12/11	/2020 0806	
EPA 200.8 - ICPMS Metals						
12/14/20 12/17/20 16:07 1294033 1294416	(EPA 200.8)	Lead Total ICAP/MS	250	ug/L	0.50	1
<u>Test 11 No. 7 Final (202012140067)</u>			Samp	led on 12/11	/2020 0807	
EPA 200.8 - ICPMS Metals 12/14/20 12/17/20 16:09 1294033 1294416	(EPA 200.8)	Lead Total ICAP/MS	160	ug/L	0.50	1
	(EPA 200.6)			0		I
<u>Test 11 No. 8 Final (202012140068)</u>			Sampi	led on 12/11	2020 0808	
EPA 200.8 - ICPMS Metals						
12/14/20 12/19/20 14:24 1294033 1295227	(EPA 200.8)	Lead Total ICAP/MS	660	ug/L	0.50	1
<u>Test 11 No. 9 Final (202012140069)</u>			Sampl	led on 12/11	/2020 0809	

Analyte

**Eaton Analytical** 

Prep Batch Analytical Batch

Fax: (866) 988-3757

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**Tetra Tech** 

Suite 1000 Orlando, FL 32801

Analyzed

Test 11 No. 0 Final (202012140060)

Prepped

James Christopher

201 East Pine Street



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

Report: 908293 Project: KALAMAZOO Group: Lead Solubility Testing - Phase 1

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

Samples Received on: 12/14/2020 10:43

Prepped	Analyzed	Prep Batch	Analytical Batch	Method	Analyte	Result	Units	MRL	Dilution
12/14/20	12/17/20 16:15	1294033	1294416	(EPA 200.8)	Lead Total ICAP/MS	690	ug/L	0.50	1



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Tetra Tech

## **ICPMS Metals**

Prep Batch: 1294033	Analytical Batch: 1294416
202012140061	Test 11 No. 1 Final
202012140062	Test 11 No. 2 Final
202012140063	Test 11 No. 3 Final
202012140064	Test 11 No. 4 Final
202012140065	Test 11 No. 5 Final
202012140066	Test 11 No. 6 Final
202012140067	Test 11 No. 7 Final
202012140069	Test 11 No. 9 Final

## **ICPMS Metals**

## Prep Batch: 1294033 Analytical Batch: 1295227

202012140060	Test 11 No. 0 Final
202012140068	Test 11 No. 8 Final

Report: 908293 Project: KALAMAZOO Group: Lead Solubility Testing - Phase 1

## Analysis Date: 12/17/2020

Analyzed by: DHX7 Analyzed by: DHX7

## Analysis Date: 12/19/2020

Analyzed by: URDE Analyzed by: URDE



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Report: 908293 Project: KALAMAZOO Group: Lead Solubility Testing - Phase 1

Tetra Tec	h								
QC Туре	Analyte	Native	Spiked	Recovered	Units	Yield(%)	Limits (%)	RPD Limit(%)	RPD%
ICPMS Metals by	EPA 200.8								
Analytical B	atch: 1294416					Analysis D	ate: 12/17/	2020	
LCS1	Lead Total ICAP/MS		50	51.8	ug/L	104	(85-115)		
LCS2	Lead Total ICAP/MS		50	51.6	ug/L	103	(85-115)	20	0.39
MBLK	Lead Total ICAP/MS			<0.25	ug/L				
MRL_CHK	Lead Total ICAP/MS		0.5	0.534	ug/L	107	(50-150)		
MS_202012150315	Lead Total ICAP/MS	ND	50	50.6	ug/L	101	(70-130)		
MS2_202012151087	Lead Total ICAP/MS	ND	50	49.9	ug/L	100	(70-130)		
MSD_202012150315	Lead Total ICAP/MS	ND	50	50.7	ug/L	101	(70-130)	20	0.19
MSD2_202012151087	Lead Total ICAP/MS	ND	50	50.2	ug/L	100	(70-130)	20	0.61
ICPMS Metals by	EPA 200.8								
Analytical Batch: 1295227						Analysis D	ate: 12/19/	2020	
LCS1	Lead Total ICAP/MS		50	51.2	ug/L	102	(85-115)		
LCS2	Lead Total ICAP/MS		50	50.5	ug/L	101	(85-115)	20	1.4
MBLK	Lead Total ICAP/MS			<0.25	ug/L				
MRL_CHK	Lead Total ICAP/MS		0.5	0.538	ug/L	108	(50-150)		
MS_202012140056	Lead Total ICAP/MS	280	50	322	ug/L	82	(70-130)		
MS2_202012150405	Lead Total ICAP/MS	ND	50	48.2	ug/L	96	(70-130)		
MSD_202012140056	Lead Total ICAP/MS	280	50	339	ug/L	115	(70-130)	20	5.0
MSD2_202012150405	Lead Total ICAP/MS	ND	50	47.5	ug/L	95	(70-130)	20	1.6

Spike recovery is already corrected for native results. Spikes which exceed Limits and Method Blanks with positive results are highlighted by <u>Underlining.</u> 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.

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** 01/12/2021 anosa t **EUROFINS EATON ANALYTICAL, LLC** 

ZIA8: Vanessa Berry

Project Manager

Report: 910145 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

Eurofins Eaton Analytical, LLC

750 Royal Oaks Drive, Suite 100 Monrovia, CA 91016-3629 T | 626-386-1100 F | 866-988-3757 www.EurofinsUS.com/Eaton

## 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

		Environ-	Environ-			-	Environ-	Environ-	
SPECIFIC TESTS	METHOD OR TECHNIQUE USED	mental (Drinking Water)	mental (Waste Water)	Water as a Component of Food and Bev/Bev/ Bottled Water	SPECIFIC TESTS	METHOD OR TECHNIQUE USED	mental (Drinking Water)	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	Hexavalent Chromium	EPA 218.7	x		x
1,4-Dioxane	EPA 522	х		x	Hexavalent Chromium	SM 3500-Cr B		х	
2.3.7.8-TCDD	Modified EPA 1613B	x		x	Hormones	EPA 539	х	~	x
Acrylamide	In House Method (2440)	x		x	Hydroxide as OH Calc.	SM 2330B	х		х
Algal Toxins/Microcystin	In House Method (3570)				Kjeldahl Nitrogen	EPA 351.2		х	
Alkalinity	SM 2320B	x	х	х	Legionella	Legiolert	х		х
Ammonia	EPA 350.1		х	х	Mercury	EPA 200.8	х		х
Ammonia	SM 4500-NH3 H		х	х	Metals	EPA 200.7 / 200.8	х	х	х
Anions and DBPs by IC	EPA 300.0	х	х	х	Microcystin LR	ELISA (2360)	x		х
Anions and DBPs by IC	EPA 300.1	х		х	Microcystin, Total	EPA 546	х		х
Asbestos	EPA 100.2	x	х		NDMA	EEA/Agilent 521.1	x		x
		~				In house method (2425)			
BOD / CBOD	SM 5210B		х	x	Nitrate/Nitrite Nitrogen	EPA 353.2	х	х	х
Bromate	In House Method (2447)	x		x	OCL, Pesticides/PCB	EPA 505	х		x
Carbamates	EPA 531.2	х		x	Ortho Phosphate	EPA 365.1	х	х	x
Carbonate as CO3	SM 2330B	х	х	x	Ortho Phosphorous Oxyhalides Disinfection	SM 4500P E	х		х
Carbonyls	EPA 556	x		x	Byproducts	EPA 317.0	х		x
COD	EPA 410.4 / SM 5220D	1	x		Perchlorate	EPA 331.0	x		x
Chloramines	SM 4500-CL G	x	x	x	Perchlorate (low and high)	EPA 314.0	x		x
Chlorinated Acids	EPA 515.4	x		x	Perfluorinated Alkyl Acids	EPA 537	x		x
Chlorinated Acids	EPA 555	x	1	x	Perfluorinated Polutant	In house Method (2434)	x		x
Chlorine Dioxide	SM 4500-CLO2 D Palin Test	x		x	рН	EPA 150.1	x		
Chlorine -Total/Free/ Combined Residual	SM 4500-Cl G	x	x	x	рН	SM 4500-H+B	x	x	x
Conductivity	EPA 120.1	1	x		Phenylurea Pesticides/ Herbicides	In House Method, based on EPA 532 (2448)	x		x
Conductivity	SM 2510B	x	x	x	Herbicides Pseudomonas	532 (2448) IDEXX Pseudalert (2461)	x		x
Corrosivity (Langelier Index)	SM 2330B	x	~	x	Radium-226	GA Institute of Tech	x		x
Cyanide, Amenable	SM 4500-CN G	x	x		Radium-228	GA Institute of Tech	x		x
Cyanide, Free	SM 4500-CN G	x	x	x	Radon-222	SM 7500RN	x		x
Cyanide, Total	EPA 335.4	x	x	x	Residue, Filterable	SM 2540C	x	x	x
Cyanogen Chloride (screen)	In House Method (2470)	x	~	x	Residue, Non-filterable	SM 2540D	~	x	~
Diquat and Paraquat	EPA 549.2	x		x	Residue, Total	SM 2540B		x	x
DBP/HAA	SM 6251B	x		x	Residue, Volatile	EPA 160.4		x	~
Dissolved Oxygen	SM 4500-O G		х	x	Semi-VOC	EPA 525.2	x		x
DOC	SM 5310C	x		х	Silica	SM 4500-Si D	х	х	
E. Coli	(MTF/EC+MUG)	х		х	Silica	SM 4500-SiO2 C	х	х	
	· · · · · ·						~		-
E. Coli	CFR 141.21(f)(6)(i)	x		x	Sulfide	SM 4500-S <sup>=</sup> D		х	
E. Coli	SM 9223		х		Sulfite	SM 4500-SO <sup>3</sup> B	х	х	x
E. Coli (Enumeration)	SM 9221B.1/ SM 9221F	х		х	Surfactants	SM 5540C	x	х	х
E. Coli (Enumeration)	SM 9223B	х		х	Taste and Odor Analytes	SM 6040E	х		х
EDB/DCBP	EPA 504.1	x			Total Coliform (P/A)	SM 9221 A, B	х		х
EDB/DBCP and DBP	EPA 551.1	x		x	Total Coliform (Enumeration)	SM 9221 A, B, C	x		x
EDTA and NTA	In House Method (2454)	x		x	Total Coliform / E. coli	Colisure SM 9223	x		x
Endothall	EPA 548.1	x		×	Total Coliform	SM 9221B	^	х	^
Endothall	In-house Method (2445)	x		х	Total Coliform with Chlorine Present	SM 9221B		x	
Enterococci	SM 9230B	x	х		Total Coliform / E.coli (P/A and Enumeration)	SM 9223	x		x
Fecal Coliform	SM 9221 E (MTF/EC)	x			TOC	SM 5310C	x	x	x
Fecal Coliform	SM 9221C, E (MTF/EC)		x		TOX	SM 5320B		x	1
Fecal Coliform	SM 9221E, E (MTF/EC)	x		x	Total Phenols	EPA 420.1		x	
(Enumeration) Fecal Coliform with	SM 9221E		x		Total Phenols	EPA 420.4	x	x	x
Chlorine Present Fecal Streptococci	SM 9221E	x	×		Total Phosphorous	SM 4500 P E	^	x	^
Fluoride	SM 4500-F C	x	x	x	Triazine Pesticides &	In House (3617)	x		x
Glyphosata	EPA 547	v		×	Degradates	EDA 190 1	v	v	v
Glyphosate   AMPA		x		×	Turbidity Turbidity	EPA 180.1	x	x	X
Glyphosate + AMPA Gross Alpha/Pata	In House Method (3618)	x	~	x	Turbidity	SM 2130B	X	х	~
Gross Alpha/Beta Gross Alpha Coprecipitation	EPA 900.0 SM 7110 C	x	x	x	Uranium by ICP/MS UV 254	EPA 200.8 SM 5910B	x		x
Hardness	SM 2340B	х	x	х	VOC	EPA 524.2	x		х
Heterotrophic Bacteria	In House Method (2439)	х		x	VOC	In House Method (2411)	х		х
Heterotrophic Bacteria	SM 9215 B	х		х	Yeast and Mold	SM 9610	х		х
Hexavalent Chromium	EPA 218.6	х	х	х	Field Sampling	N/A			1

750 Royal Oaks Dr., Ste 100, Monrovia, CA 91016 Tel (626) 386-1100 Fax (866) 988-3757 https://www.eurofinsus.com/Eaton Version 006 Issued: 05/04/20

🔅 eurofin	S Eaton Analytical			
		Acknowledgement of Samples Received		
	<b>Tetra Tech</b> 201 East Pine Street Suite 1000 Orlando, FL 32801	Client ID: TETRATECH-ORLAN Folder #: 910145 Project: KALAMAZOO Sample Group: Lead Solubility Testing - Phase 1		
Attn: James Christopher Phone: 407-480-3907		Project Manager: Vanessa Berry Phone: 503-310-3905		
tests liste		from you on <b>December 23, 2020</b> at <b>1725</b> . They have been scheduled for the information is incorrect, please contact your service representative. Thank you C.		
Sample #	Sample ID	Sample Date		
202012230687	Test 12 No. 0 Final	12/15/2020 0745		
	@ICPMS			
202012230688	: Test 12 No. 1 Final	12/15/2020 0746		
	@ICPMS			
202012230689	Test 12 No. 2 Final	12/15/2020 0747		
	@ICPMS			
202012230690	Test 12 No. 3 Final	12/15/2020 0748		
	@ICPMS			
202012230691	Test 12 No. 4 Final	12/15/2020 0749		
	@ICPMS			
202012230692	Test 12 No. 5 Final	12/15/2020 0750		
	@ICPMS			
202012230693	Test 12 No. 6 Final	12/15/2020 0751		
	@ICPMS			
202012230694	Test 12 No. 7 Final	12/15/2020 0752		
202012230695	@ICPMS Test 12 No. 8 Final	12/15/2020 0753		
202012230093	,	12/10/2020 0/35		
	@ICPMS			
<u>202012230696</u>	Test 12 No. 9 Final	12/15/2020 0754		
	@ICPMS			

## **Test Description**

@ICPMS -- ICPMS Metals

🛟 eurofins		CHAIN O	CHAIN OF CUSTODY RECORD	
	Eaton Analytical	EUROFINS EATON ANALYTICAL USE ONLY:		71015
750 Royal	750 Royal Oaks Drive, Suite 100	LOGIN COMMENTS:	SAMPLES CHECKED AGAINST COC BY	1.12
Monrovia,	CA 91016-3629	SAMDI E TEMD DECENTED AT.		)[
Phone: 62 Fax: 626 3	Phone: 626 386 1100 Fax: 626 386 1101	= OI r	(Observation= °C) (0	
800 566 L	800 566 LABS (800 566 5227)	Wonrovia IR Gun ID = 616A	on= U·b °C) (Corr.Factor -0.2	°C) (Final = <u>0.4</u> °C)
Website: <u>v</u>	Website: www.EatonAnalytical.com	TYPE OF ICE: Real Variation Contention, Contention, 4.1.2. Contraction (2000) (	No Ice CONDITION OF ICE: Frozen V Partially Frozen	nThawedN/A
		METHOD OF SHIPMENT: Pick-Up / Walk-In /	alk-In / FedEx / UPS / DHL / Area Fast / Top Line / Other:	
TO BE COMPLE	TO BE COMPLETED BY SAMPLER:	and the second se	(check for yes)	(check for yes)
COMPANY/AGENCY NAME:	BENCY NAME:	PROJECT CODE:	Т	
TehruTt	TEARGTECH 201 E RIPE St Orlando	do	Type of samples (circle one): ROUTINE SPECIAL CONFIRMATION	CONFIRMATION INVOLVEU: CONFIRMATION (eg. SDWA, NPDES, etc.)
EEA CLIENT CODE	CODE: COC ID:		SEE ATTACHED KIT ORDER FOR ANALYSES	(check for yes), OR
Tehu le	teha lean Orlan	lead solutionity test phase a	List ALL ANALYSES REQUIRED (enter number of bottles sent for each test for each sample)	sent for each test for each sample)
TAT requester	TAT requested: rush by adv notice only	STD 1 wk 3 day 2 day 1 day	5	
ajamaz date date date date date time	SAMPLE ID	CLIENT LAB ID MATRIX • FIELD DATA	Wଧୀ ଚ	SAMPLER COMMENTS
H:F 21/17	Test 12 No. 0 FINOI	fw		preserved with
9h:F	" 1			which and by
th:E	2 "			tehro tech
Sh:E	3 "			
bh:E	ч H			
05:E	4 G			
15:F	" 9			
75:E	- t			
5:E	- 0			
HG:L A	" b 4	4	4	
* MATRIX 1	* MATRIX TYPES: RSW = Raw Surface Water RGW = Raw Ground Water	<b>CFW</b> = Chlor(am)inated Finished Water <b>FW</b> = Other Finished Water	SEAW = Sea WaterBW = Bottled WaterSO = SoilWW = Waste WaterSW = Storm WaterSL = Sludge	<b>O</b> = Other - Please Identify dge
	SIGNATURE		COMPANY/TITLE	DATE TIME
SAMPLED BY:	M. Arengis	MULTICI ISCHORT APPRICAS	unas terratean, traject Engineer	12/22/20 4:30 PM
RECEIVED BY.		2	11	11 11
RELINQUISHED BY:	BY: by al	(ter) ele-	(Eg)	11/2/20 (24)
RECEIVED BY:	Λ.			
QA FO 0029.2 (Ve	QA FO 0029.2 (Version 2) (08/28/2014)			PAGE OF



## After printing this label:

1. Use the 'Print' button on this page to print your label to your laser or inkjet printer.

Fold the printed page along the horizontal line.
 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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Tetra Tech

Suite 1000 Orlando, FL 32801

James Christopher 201 East Pine Street

Eaton Analytical

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

Report: 910145 Project: KALAMAZOO Group: Lead Solubility Testing - Phase 1

The Comments Report may be blank if there are no comments for this report.

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

## Laboratory Hits

Report: 910145 Project: KALAMAZOO Group: Lead Solubility Testing - Phase 1

Samples Received on:

12/23/2020 1725

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

Analyzed	Analyte	Sample ID	Result	Federal MCL	Units	MRL
12/30/2020 15:01	202012230687 Lead Total ICAP/MS	<u>Test 12 No. 0 Final</u>	210	15	ug/L	0.50
12/30/2020 15:03	202012230688 Lead Total ICAP/MS	<u>Test 12 No. 1 Final</u>	210	15	ug/L	0.50
01/08/2021 15:33	202012230689 Lead Total ICAP/MS	<u>Test 12 No. 2 Final</u>	290	15	ug/L	0.50
01/08/2021 15:34	202012230690 Lead Total ICAP/MS	<u>Test 12 No. 3 Final</u>	260	15	ug/L	0.50
01/08/2021 15:40	202012230691 Lead Total ICAP/MS	<u>Test 12 No. 4 Final</u>	320	15	ug/L	0.50
01/08/2021 15:42	202012230692 Lead Total ICAP/MS	<u>Test 12 No. 5 Final</u>	200	15	ug/L	0.50
12/30/2020 15:05	202012230693 Lead Total ICAP/MS	<u>Test 12 No. 6 Final</u>	280	15	ug/L	0.50
01/08/2021 15:44	202012230694 Lead Total ICAP/MS	<u>Test 12 No. 7 Final</u>	200	15	ug/L	0.50
01/08/2021 15:46	202012230695 Lead Total ICAP/MS	Test 12 No. 8 Final	830	15	ug/L	0.50
01/08/2021 15:47	202012230696 Lead Total ICAP/MS	Test 12 No. 9 Final	900	15	ug/L	0.50

12/29/20 12/30/20 15:03 1296562 1296870 (EPA 200.8) Lead Total ICAP/MS 210 ug/L 0.50 Test 12 No. 2 Final (202012230689) Sampled on 12/15/2020 0747 EPA 200.8 - ICPMS Metals 12/29/20 01/08/21 15:33 1296562 1297562 290 (EPA 200.8) Lead Total ICAP/MS ug/L 0 50 Test 12 No. 3 Final (202012230690) Sampled on 12/15/2020 0748 EPA 200.8 - ICPMS Metals 12/29/20 01/08/21 15:34 1297562 Lead Total ICAP/MS 260 1296562 (EPA 200.8) ug/L 0.50 Test 12 No. 4 Final (202012230691) Sampled on 12/15/2020 0749 EPA 200.8 - ICPMS Metals 12/29/20 01/08/21 15:40 1296562 1297562 (EPA 200.8) Lead Total ICAP/MS 320 ug/L 0.50 Test 12 No. 5 Final (202012230692) Sampled on 12/15/2020 0750 EPA 200.8 - ICPMS Metals 200 12/29/20 01/08/21 15:42 1296562 1297562 (EPA 200.8) Lead Total ICAP/MS ug/L 0.50 Test 12 No. 6 Final (202012230693) Sampled on 12/15/2020 0751 EPA 200.8 - ICPMS Metals ug/L 12/29/20 12/30/20 15:05 1296562 1296870 Lead Total ICAP/MS 280 0 50 (EPA 200.8) Test 12 No. 7 Final (202012230694) Sampled on 12/15/2020 0752 EPA 200.8 - ICPMS Metals 12/29/20 01/08/21 15:44 1296562 1297562 (EPA 200.8) Lead Total ICAP/MS 200 ug/L 0.50 Test 12 No. 8 Final (202012230695) EPA 200.8 - ICPMS Metals 12/29/20 01/08/21 15:46 1296562 1297562 Lead Total ICAP/MS 830 0.50 (EPA 200.8) ug/L

Test 12 No. 9 Final (202012230696)

#### 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

# Tel: (626) 386-1100

Report: 910145 Project: KALAMAZOO Group: Lead Solubility Testing - Phase 1

> Samples Received on: 12/23/2020 1725

> > Units

ua/L

Sampled on 12/15/2020 0745

Sampled on 12/15/2020 0746

MRL

0.50

Dilution

1

1

1

1

1

1

1

1

1

Laboratory Data

Result

210

**Eaton Analytical** 

Prep Batch Analytical Batch

EPA 200.8 - ICPMS Metals

EPA 200.8 - ICPMS Metals

1296870

1296562

Method

(EPA 200.8)

Analyte

Lead Total ICAP/MS

Fax: (866) 988-3757 1 800 566 LABS (1 800 566 5227)



**Tetra Tech** 

Suite 1000 Orlando, FL 32801

Analyzed

12/29/20 12/30/20 15:01

Test 12 No. 0 Final (202012230687)

Test 12 No. 1 Final (202012230688)

Prepped

James Christopher

201 East Pine Street

Sampled on 12/15/2020 0753

Sampled on 12/15/2020 0754



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

Report: 910145 Project: KALAMAZOO Group: Lead Solubility Testing - Phase 1

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

Samples Received on: 12/23/2020 1725

Prepped	Analyzed	Prep Batch	Analytical Batch	Method	Analyte	Result	Units	MRL	Dilution
12/29/20	01/08/21 15:47	1296562	1297562	(EPA 200.8)	Lead Total ICAP/MS	900	ug/L	0.50	1



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

Tetra Tech

## **ICPMS Metals**

Prep Batch: 1296562	Analytical Batch: 1296870
202012230687	Test 12 No. 0 Final
202012230688	Test 12 No. 1 Final
202012230693	Test 12 No. 6 Final

## **ICPMS Metals**

202012230689	Test 12 No. 2 Final
202012230690	Test 12 No. 3 Final
202012230691	Test 12 No. 4 Final
202012230692	Test 12 No. 5 Final
202012230694	Test 12 No. 7 Final
202012230695	Test 12 No. 8 Final
202012230696	Test 12 No. 9 Final

Report: 910145 Project: KALAMAZOO Group: Lead Solubility Testing - Phase 1

## Analysis Date: 12/30/2020

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

## Analysis Date: 01/08/2021

Analyzed by: LUPE Analyzed by: LUPE



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Report: 910145 Project: KALAMAZOO Group: Lead Solubility Testing - Phase 1

h								
Analyte	Native	Spiked	Recovered	Units	Yield(%)	Limits (%)	RPD Limit(%)	RPD%
EPA 200.8								
atch: 1296870					Analysis D	ate: 12/30/	2020	
Lead Total ICAP/MS		50	50.7	ug/L	101	(85-115)		
Lead Total ICAP/MS		50	51.3	ug/L	103	(85-115)	20	1.2
Lead Total ICAP/MS			<0.25	ug/L				
Lead Total ICAP/MS		0.5	0.526	ug/L	105	(50-150)		
Lead Total ICAP/MS	ND	50	48.6	ug/L	96	(70-130)		
Lead Total ICAP/MS	ND	50	50.0	ug/L	100	(70-130)		
Lead Total ICAP/MS	ND	50	48.3	ug/L	96	(70-130)	20	0.63
Lead Total ICAP/MS	ND	50	49.1	ug/L	98	(70-130)	20	1.9
EPA 200.8								
Analytical Batch: 1297562					Analysis D	ate: 01/08/	2021	
Lead Total ICAP/MS		50	50.8	ug/L	102	(85-115)		
Lead Total ICAP/MS		50	50.7	ug/L	101	(85-115)	20	0.20
Lead Total ICAP/MS			<0.25	ug/L				
Lead Total ICAP/MS		0.5	0.536	ug/L	107	(50-150)		
Lead Total ICAP/MS	ND	50	51.2	ug/L	102	(70-130)		
Lead Total ICAP/MS	ND	50	45.2	ug/L	90	(70-130)		
Lead Total ICAP/MS	ND	50	50.8	ug/L	101	(70-130)	20	0.86
Lead Total ICAP/MS	ND	50	44.1	ug/L	88	(70-130)	20	2.4
	Analyte EPA 200.8 atch: 1296870 Lead Total ICAP/MS Lead Total ICAP/MS	Analyte       Native         EPA 200.8	AnalyteNativeSpikedEPA 200.8 atch: 129687050Lead Total ICAP/MS50Lead Total ICAP/MS50Lead Total ICAP/MS0.5Lead Total ICAP/MS0.5Lead Total ICAP/MS0.5Lead Total ICAP/MSNDLead Total ICAP/MSS0Lead Total ICAP/MSS0Lead Total ICAP/MS50Lead Total ICAP/MS50Lead Total ICAP/MS50Lead Total ICAP/MS50Lead Total ICAP/MS50Lead Total ICAP/MS50Lead Total ICAP/MS0.5Lead Total ICAP/MS50Lead Total ICAP/MS50	Analyte         Native         Spiked         Recovered           EPA 200.8 atch: 1296870         50         50.7           Lead Total ICAP/MS         50         51.3           Lead Total ICAP/MS         0.5         0.526           Lead Total ICAP/MS         ND         50         48.6           Lead Total ICAP/MS         ND         50         48.3           Lead Total ICAP/MS         ND         50         48.3           Lead Total ICAP/MS         ND         50         49.1           EPA 200.8 atch: 1297562         50         50.7         50.7           Lead Total ICAP/MS         0.5         0.536         50.7           L	Analyte         Native         Spiked         Recovered         Units           EPA 200.8 atch: 1296870         50         50.7         ug/L           Lead Total ICAP/MS         50         51.3         ug/L           Lead Total ICAP/MS         50         51.3         ug/L           Lead Total ICAP/MS         0.5         0.526         ug/L           Lead Total ICAP/MS         0.5         0.526         ug/L           Lead Total ICAP/MS         ND         50         48.6         ug/L           Lead Total ICAP/MS         ND         50         48.6         ug/L           Lead Total ICAP/MS         ND         50         48.3         ug/L           Lead Total ICAP/MS         ND         50         49.1         ug/L           Lead Total ICAP/MS         ND         50         49.1         ug/L           Lead Total ICAP/MS         ND         50         50.7         ug/L           Lead Total ICAP/MS         ND         50         50.8         ug/L           Lead Total ICAP/MS         50         50.7         ug/L         ug/L           Lead Total ICAP/MS         50         50.7         ug/L         ug/L           Lead Total ICAP/MS <td>Analyte         Native         Spiked         Recovered         Units         Yield(%)           EPA 200.8 atch: 1296870         Analysis D         Analysis D           Lead Total ICAP/MS         50         50.7         ug/L         101           Lead Total ICAP/MS         50         51.3         ug/L         103           Lead Total ICAP/MS         0.5         0.526         ug/L         105           Lead Total ICAP/MS         0.5         0.526         ug/L         105           Lead Total ICAP/MS         0.5         0.526         ug/L         105           Lead Total ICAP/MS         ND         50         48.6         ug/L         96           Lead Total ICAP/MS         ND         50         48.3         ug/L         96           Lead Total ICAP/MS         ND         50         49.1         ug/L         98           EPA 200.8         atch: 1297562         Ead Total ICAP/MS         50         50.7         ug/L         102           Lead Total ICAP/MS         50         50.7         ug/L         101         102           Lead Total ICAP/MS         50         50.7         ug/L         102           Lead Total ICAP/MS         0.5         5</td> <td>Analyte         Native         Spiked         Recovered         Units         Yield(%)         Limits (%)           EPA 200.8 atch: 1296870         Analysis Date: 12/30/         Analysis Date: 12/30/         Manalysis Date: 12/30/           Lead Total ICAP/MS         50         50.7         ug/L         101         (85-115)           Lead Total ICAP/MS         50         51.3         ug/L         103         (85-115)           Lead Total ICAP/MS         0.5         0.526         ug/L         105         (50-150)           Lead Total ICAP/MS         0.5         0.526         ug/L         100         (70-130)           Lead Total ICAP/MS         ND         50         48.6         ug/L         96         (70-130)           Lead Total ICAP/MS         ND         50         48.3         ug/L         96         (70-130)           Lead Total ICAP/MS         ND         50         48.3         ug/L         98         (70-130)           Lead Total ICAP/MS         ND         50         48.3         ug/L         98         (70-130)           Lead Total ICAP/MS         ND         50         50.7         ug/L         101         (85-115)           Lead Total ICAP/MS         S0         <td< td=""><td>Analyte         Native         Spiked         Recovered         Units         Yield(%)         Limits (%)         RPD Limit(%)           EPA 200.8 atch: 1296870         Analysis Date: 12/30/2020           Lead Total ICAP/MS         50         50.7         ug/L         101         (85-115)         20           Lead Total ICAP/MS         50         51.3         ug/L         103         (85-115)         20           Lead Total ICAP/MS         50         51.3         ug/L         105         (50-150)         100           Lead Total ICAP/MS         0.5         0.526         ug/L         105         (50-150)         100           Lead Total ICAP/MS         ND         50         48.6         ug/L         96         (70-130)         100           Lead Total ICAP/MS         ND         50         48.3         ug/L         98         (70-130)         20           Lead Total ICAP/MS         ND         50         48.3         ug/L         98         (70-130)         20           Lead Total ICAP/MS         ND         50         48.3         ug/L         98         (70-130)         20           Lead Total ICAP/MS         ND         50         50.7         ug/L         101<!--</td--></td></td<></td>	Analyte         Native         Spiked         Recovered         Units         Yield(%)           EPA 200.8 atch: 1296870         Analysis D         Analysis D           Lead Total ICAP/MS         50         50.7         ug/L         101           Lead Total ICAP/MS         50         51.3         ug/L         103           Lead Total ICAP/MS         0.5         0.526         ug/L         105           Lead Total ICAP/MS         0.5         0.526         ug/L         105           Lead Total ICAP/MS         0.5         0.526         ug/L         105           Lead Total ICAP/MS         ND         50         48.6         ug/L         96           Lead Total ICAP/MS         ND         50         48.3         ug/L         96           Lead Total ICAP/MS         ND         50         49.1         ug/L         98           EPA 200.8         atch: 1297562         Ead Total ICAP/MS         50         50.7         ug/L         102           Lead Total ICAP/MS         50         50.7         ug/L         101         102           Lead Total ICAP/MS         50         50.7         ug/L         102           Lead Total ICAP/MS         0.5         5	Analyte         Native         Spiked         Recovered         Units         Yield(%)         Limits (%)           EPA 200.8 atch: 1296870         Analysis Date: 12/30/         Analysis Date: 12/30/         Manalysis Date: 12/30/           Lead Total ICAP/MS         50         50.7         ug/L         101         (85-115)           Lead Total ICAP/MS         50         51.3         ug/L         103         (85-115)           Lead Total ICAP/MS         0.5         0.526         ug/L         105         (50-150)           Lead Total ICAP/MS         0.5         0.526         ug/L         100         (70-130)           Lead Total ICAP/MS         ND         50         48.6         ug/L         96         (70-130)           Lead Total ICAP/MS         ND         50         48.3         ug/L         96         (70-130)           Lead Total ICAP/MS         ND         50         48.3         ug/L         98         (70-130)           Lead Total ICAP/MS         ND         50         48.3         ug/L         98         (70-130)           Lead Total ICAP/MS         ND         50         50.7         ug/L         101         (85-115)           Lead Total ICAP/MS         S0 <td< td=""><td>Analyte         Native         Spiked         Recovered         Units         Yield(%)         Limits (%)         RPD Limit(%)           EPA 200.8 atch: 1296870         Analysis Date: 12/30/2020           Lead Total ICAP/MS         50         50.7         ug/L         101         (85-115)         20           Lead Total ICAP/MS         50         51.3         ug/L         103         (85-115)         20           Lead Total ICAP/MS         50         51.3         ug/L         105         (50-150)         100           Lead Total ICAP/MS         0.5         0.526         ug/L         105         (50-150)         100           Lead Total ICAP/MS         ND         50         48.6         ug/L         96         (70-130)         100           Lead Total ICAP/MS         ND         50         48.3         ug/L         98         (70-130)         20           Lead Total ICAP/MS         ND         50         48.3         ug/L         98         (70-130)         20           Lead Total ICAP/MS         ND         50         48.3         ug/L         98         (70-130)         20           Lead Total ICAP/MS         ND         50         50.7         ug/L         101<!--</td--></td></td<>	Analyte         Native         Spiked         Recovered         Units         Yield(%)         Limits (%)         RPD Limit(%)           EPA 200.8 atch: 1296870         Analysis Date: 12/30/2020           Lead Total ICAP/MS         50         50.7         ug/L         101         (85-115)         20           Lead Total ICAP/MS         50         51.3         ug/L         103         (85-115)         20           Lead Total ICAP/MS         50         51.3         ug/L         105         (50-150)         100           Lead Total ICAP/MS         0.5         0.526         ug/L         105         (50-150)         100           Lead Total ICAP/MS         ND         50         48.6         ug/L         96         (70-130)         100           Lead Total ICAP/MS         ND         50         48.3         ug/L         98         (70-130)         20           Lead Total ICAP/MS         ND         50         48.3         ug/L         98         (70-130)         20           Lead Total ICAP/MS         ND         50         48.3         ug/L         98         (70-130)         20           Lead Total ICAP/MS         ND         50         50.7         ug/L         101 </td

Spike recovery is already corrected for native results. Spikes which exceed Limits and Method Blanks with positive results are highlighted by <u>Underlining.</u> 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.

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** 01/12/2021 anosa t **EUROFINS EATON ANALYTICAL, LLC** 

ZIA8: Vanessa Berry

Project Manager

Report: 910169 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

Eurofins Eaton Analytical, LLC

750 Royal Oaks Drive, Suite 100 Monrovia, CA 91016-3629 T | 626-386-1100 F | 866-988-3757 www.EurofinsUS.com/Eaton

## 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

		Environ-	Environ-			-	Environ-	Environ-	
SPECIFIC TESTS	METHOD OR TECHNIQUE USED	mental (Drinking Water)	mental (Waste Water)	Water as a Component of Food and Bev/Bev/ Bottled Water	SPECIFIC TESTS	METHOD OR TECHNIQUE USED	mental (Drinking Water)	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	Hexavalent Chromium	EPA 218.7	x		x
1,4-Dioxane	EPA 522	х		x	Hexavalent Chromium	SM 3500-Cr B		х	
2.3.7.8-TCDD	Modified EPA 1613B	x		x	Hormones	EPA 539	х	~	x
Acrylamide	In House Method (2440)	x		x	Hydroxide as OH Calc.	SM 2330B	x		x
Algal Toxins/Microcystin	In House Method (3570)				Kjeldahl Nitrogen	EPA 351.2		х	
Alkalinity	SM 2320B	x	х	х	Legionella	Legiolert	х		x
Ammonia	EPA 350.1		х	х	Mercury	EPA 200.8	х		х
Ammonia	SM 4500-NH3 H		х	х	Metals	EPA 200.7 / 200.8	х	х	х
Anions and DBPs by IC	EPA 300.0	х	х	х	Microcystin LR	ELISA (2360)	х		х
Anions and DBPs by IC	EPA 300.1	х		х	Microcystin, Total	EPA 546	х		х
Asbestos	EPA 100.2	x	х		NDMA	EEA/Agilent 521.1	x		x
		~				In house method (2425)			
BOD / CBOD	SM 5210B		х	x	Nitrate/Nitrite Nitrogen	EPA 353.2	х	х	x
Bromate	In House Method (2447)	x		x	OCL, Pesticides/PCB	EPA 505	х		x
Carbamates	EPA 531.2	х		x	Ortho Phosphate	EPA 365.1	х	х	x
Carbonate as CO3	SM 2330B	х	х	x	Ortho Phosphorous Oxyhalides Disinfection	SM 4500P E	х		x
Carbonyls	EPA 556	x		x	Byproducts	EPA 317.0	х		x
COD	EPA 410.4 / SM 5220D	1	x		Perchlorate	EPA 331.0	х	-	x
Chloramines	SM 4500-CL G	x	x	x	Perchlorate (low and high)	EPA 314.0	x		×
Chlorinated Acids	EPA 515.4	x		x	Perfluorinated Alkyl Acids	EPA 537	x		x
Chlorinated Acids	EPA 555	x		x	Perfluorinated Polutant	In house Method (2434)	x		x
Chlorine Dioxide	SM 4500-CLO2 D Palin Test	x		x	pH	EPA 150.1	x		
Chlorine -Total/Free/ Combined Residual	SM 4500-Cl G	x	x	x	рН	SM 4500-H+B	x	x	x
Conductivity	EPA 120.1		x		Phenylurea Pesticides/ Herbicides	In House Method, based on EPA 532 (2448)	x		x
Conductivity	SM 2510B	x	x	x	Pseudomonas	IDEXX Pseudalert (2461)	x		x
Corrosivity (Langelier Index)	SM 2310B	x	^	x	Radium-226	GA Institute of Tech	x		x
Cyanide, Amenable	SM 4500-CN G	x	x		Radium-228	GA Institute of Tech	x		x
Cyanide, Free	SM 4500CN F	x	x	x	Radon-222	SM 7500RN	x		x
Cyanide, Total	EPA 335.4	x	x	x	Residue, Filterable	SM 2540C	x	x	×
Cyanogen Chloride (screen)	In House Method (2470)	x	^	x	Residue, Non-filterable	SM 2540C	^	x	^
Diquat and Paraquat	EPA 549.2	x		x	Residue, Total	SM 2540B		x	x
DBP/HAA	SM 6251B	x		x	Residue, Volatile	EPA 160.4		x	^
Dissolved Oxygen	SM 4500-O G	X	x	x	Semi-VOC	EPA 525.2	x	~	x
DOC	SM 5310C	x	~	x	Silica	SM 4500-Si D	x	х	~
E. Coli	(MTF/EC+MUG)	x		x	Silica	SM 4500-SiO2 C	х	x	
	· · · · ·						~		
E. Coli	CFR 141.21(f)(6)(i)	х		x	Sulfide	SM 4500-S <sup>=</sup> D		х	
E. Coli	SM 9223		х		Sulfite	SM 4500-SO <sup>3</sup> B	х	х	x
E. Coli (Enumeration)	SM 9221B.1/ SM 9221F	x		х	Surfactants	SM 5540C	х	х	х
E. Coli (Enumeration)	SM 9223B	x		х	Taste and Odor Analytes	SM 6040E	х		х
EDB/DCBP	EPA 504.1	x			Total Coliform (P/A)	SM 9221 A, B	х		x
EDB/DBCP and DBP	EPA 551.1	x		x	Total Coliform (Enumeration)	SM 9221 A, B, C	x		x
EDTA and NTA	In House Method (2454)	x		x	Total Coliform / E. coli	Colisure SM 9223	x		x
Endothall	EPA 548.1	x		×	Total Coliform	SM 9221B	^	x	^
Endothall	In-house Method (2445)	x		х	Total Coliform with Chlorine Present	SM 9221B		x	
Enterococci	SM 9230B	x	х		Total Coliform / E.coli (P/A and Enumeration)	SM 9223	x		x
Fecal Coliform	SM 9221 E (MTF/EC)	х			TOC	SM 5310C	x	х	x
Fecal Coliform	SM 9221C, E (MTF/EC)		x		TOX	SM 5320B		x	1
Fecal Coliform	SM 9221E (MTF/EC)	x		x	Total Phenols	EPA 420.1		x	
(Enumeration) Fecal Coliform with	SM 9221E		x		Total Phenols	EPA 420.4	x	x	x
Chlorine Present Fecal Streptococci	SM 9230B	x	×		Total Phosphorous	SM 4500 P E	^	x	^
Fluoride	SM 4500-F C	x	x	x	Triazine Pesticides &	In House (3617)	x		x
Glumbosata	EDA 547	v		v	Degradates	EDA 100 1	v	v	~
Glyphosate   AMPA	EPA 547 In House Method (3618)	x		×	Turbidity Turbidity	EPA 180.1	x	x	X
Glyphosate + AMPA Gross Alpha/Pata	In House Method (3618)	x	~	x	Turbidity	SM 2130B	x	X	~
Gross Alpha/Beta Gross Alpha Coprecipitation	EPA 900.0 SM 7110 C	x	x	x	Uranium by ICP/MS UV 254	EPA 200.8 SM 5910B	x		x
Hardness	SM 2340B	х	x	x	VOC	EPA 524.2	х		x
Heterotrophic Bacteria	In House Method (2439)	х		x	VOC	In House Method (2411)	х		x
Heterotrophic Bacteria	SM 9215 B	х		x	Yeast and Mold	SM 9610	х		x
Hexavalent Chromium	EPA 218.6	х	х	х	Field Sampling	N/A			1

750 Royal Oaks Dr., Ste 100, Monrovia, CA 91016 Tel (626) 386-1100 Fax (866) 988-3757 https://www.eurofinsus.com/Eaton Version 006 Issued: 05/04/20

🔅 eurofin	S Eaton Analytical	
		Acknowledgement of Samples Received
Addr: <b>Tetra Tech</b> 201 East Pine Street Suite 1000 Orlando, FL 32801		Client ID: TETRATECH-ORLAN Folder #: 910169 Project: KALAMAZOO Sample Group: Lead Solubility Testing - Phase 1
	James Christopher 407-480-3907	Project Manager: Vanessa Berry Phone: 503-310-3905
tests list		from you on <b>December 23, 2020</b> at <b>1337</b> . They have been scheduled for the s information is incorrect, please contact your service representative. Thank you LC.
Sample #	Sample ID	Sample Date
202012230779	Test 13 No. 0 Final	12/17/2020 0812
	@ICPMS	
202012230780	Test 13 No. 1 Final	12/17/2020 0816
	@ICPMS	
202012230781	Test 13 No. 2 Final	12/17/2020 0817
	@ICPMS	
<u>202012230782</u>	Test 13 No. 3 Final	12/17/2020 0818
	@ICPMS	
202012230783	Test 13 No. 4 Final	12/17/2020 0819
	@ICPMS	:
<u>202012230784</u>	Test 13 No. 5 Final	12/17/2020 0820
	@ICPMS	
202012230785	Test 13 No. 6 Final	12/17/2020 0821
	@ICPMS	:
202012230786	Test 13 No. 7 Final	12/17/2020 0822
	@ICPMS	
202012230787	Test 13 No. 8 Final	12/17/2020 0823
	@ICPMS	
202012230788	Test 13 No. 9 Final	12/17/2020 0824
	@ICPMS	

## **Test Description**

@ICPMS -- ICPMS Metals

🐝 eurofins	CHAIN O	HAIN OF CUSTODY RECORD
Eaton Analytical	EUROFINS EATON ANALYTICAL USE ONLY:	710164
750 Royal Oaks Drive, Suite 100	LOGIN COMMENTS:	SAMPLES CHECKED AGAINST COC BY:
Monrovia, CA 91010-3029 Phone: 626 386 1100 Fax: 626 386 1101	SAMPLE TEMP RECEIVED AT:	SAMPLES REC'D DAY OF COLLECTION? (check for yes)
800 566 LABS (800 566 5227)	$\mathbf{X}_{\text{Monrovia}} \text{ IR Gun ID} = \underbrace{\mathcal{OS}}_{\text{Microtishows}} (\text{Observation}) $	$\frac{1}{10000000000000000000000000000000000$
Website: www.EatonAnalytical.com	TYPE OF ICE: Real Synthetic No Ice	No loc <u>CONDITION OF ICE</u> : Frozen <u>V</u> Partially Frozen Thawed N/A Walk-In / ForEv / UPS / DHI / Area Fast / Ton Line / Other
TO BE COMPLETED BY SAMPLER:		
COMPANY/AGENCY NAME:	PROJECT CODE:	NON-COMPLIANCE SAMPL
TEARD TELM 201 E PINE SI ON UNDO	ndo	- Requires state forms REGULATION INVOLVED: Type of samples (circle one): ROUTINE SPECIAL CONFIRMATION (eg. SDWA, NPDES, etc.)
EEA CLIENT CODE: COC ID: TEATO, TECIA-OY ION	sample group: Lead Solubility Test-Phase 1	SEE ATTACHED KIT ORDER FOR ANALYSES       [check for yes), <u>OR</u> List ALL ANALYSES REQUIRED (enter number of bottles sent for each test for each sample)
TAT requested: rush by adv notice only	STD 1 wk 3 day 2 day 1 day	
SAMPLE ID SAMPLE ID SAMPLE ID	CLIENT LAB ID MATRIX • FIELD DATA FIELD DATA	SAMPLER
12/17 8:12 Test 13 No. 0 FINOI	FW	1 Preserved with
1 8:19 1 4		nitric acid by
2 41:8		Tehra Teur
8:18 3		
h b1:8		
8:20 5		
F 12:3		
8 8		
b 4 ht 8	۵	
* MATRIX TYPES: RSW = Raw Surface Water RGW = Raw Ground Water	rr CFW = Chlor(am)inated Finished Water rr FW = Other Finished Water	SEAW = Sea WaterBW = Bottled WaterSO = SoilO = Other - Please IdentifyWW = Waste WaterSW = Storm WaterSL = Sludge
	- 1	
SAMPLED BY: M. ARPNOS	MOLICI ISCIDICI ARCHOIS	105 Tetha Teun, Project Engineer 12122/20 4:30 f
RELINQUISHED BY: MONIG J. M.P.N.O.S.	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	ר ר
RECEIVED BY:	Jalled MU	K CW 1223W 1333
RELINQUISHED BY:		
RECEIVED BY:		
QA FO 0029.2 (Version 2) (08/28/2014)		PAGE OF

Page	25	of	12	pac	ies

🐝 eurofins		Kit Order for Tetra Tech Inc.	Tech Inc.		Page 1 of 1
Eaton A	Eaton Analytical	Vanessa Berry is your Eurofins Eaton Analytical, LLC Service Manager	alytical, LLC Service M	anager	
750 Royal Oaks Drive, Suite 100 Monrovia, California 91016-3629 (626) 386-1100 FAX (866) 988-3757	00 29 ⊦3757	Note: Sampler Please return this paper with your samples	oaper with your sar	Created Date & Time: 12/15/2020 9:21:18AM <b>nples</b>	0 9:21:18AM
Kit #: 278808 Will Will Will Will Will Will Created By: Vanessa Berry - [ZIA8] Deliver By: 12/21/2020 STG: Bottle Orders Ice Type: W	Kit #: 278808 [[[[]]] [[]]] [[]] [[]] [[]] [[]] [	Client ID: TETRATECH Project Code: KALAMAZOC Group Name: Lead Solubili PO#/JOB#: Description: No Schedule	Client ID: TETRATECH-ORLAN iect Code: KaLaMaZOO Bottle Orders up Name: Lead Solubility Testing - Phase 1 O#/JOB#: scription: No Schedule		
	Ship Sample Kits to Tetra Tech 201 East Pine Street Suite 1000 Orlando, FL 32801	Send Report to Tetra Tech 201 East Pine Street Suite 1000 Orlando, FL 32801		Billing Address Tetra Tech 201 East Pine Street Suite 1000 Orlando, FL 32801	
	Attn: James Christopher Phone: 407-480-3907 Fax: 407-839-3790	Attn: James Christopher Phone: 407-480-3907 Fax: 407-839-3790	her 7	Attn: James Christopher Phone: 407-480-3907 Fax: 407-839-3790	
# of Sample Tests		Bottle Qty - Type [preservative information]	formation ]	Total UN DOT #	
20 @ICPMS		1 - 250ml poly [ no preservative ]		20	
Sum Tests: 20 Comments			Sum	Sum Bottles: 20	
include return shiping labels COCs					

Page 1 of 1

Via

Date Shipped

Status

Code

Tracking #

# of Coolers

Prepared By

Page 6 of 12 pages



Tetra Tech

Suite 1000 Orlando, FL 32801

James Christopher 201 East Pine Street

Eaton Analytical

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

Report: 910169 Project: KALAMAZOO Group: Lead Solubility Testing - Phase 1

The Comments Report may be blank if there are no comments for this report.

**Tetra Tech** 

Suite 1000 Orlando, FL 32801

James Christopher

201 East Pine Street

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

## Laboratory Hits

Report: 910169 Project: KALAMAZOO Group: Lead Solubility Testing - Phase 1

Samples Received on: 12/23/2020 1337

Sample ID Result Federal MCL Units MRL Analyzed Analyte 202012230779 Test 13 No. 0 Final Lead Total ICAP/MS 150 15 0.50 12/30/2020 15:07 ug/L 202012230780 Test 13 No. 1 Final 12/30/2020 15:08 Lead Total ICAP/MS 160 15 0.50 ug/L 202012230781 Test 13 No. 2 Final 01/08/2021 15:49 Lead Total ICAP/MS 240 15 ug/L 0.50 202012230782 Test 13 No. 3 Final 01/08/2021 15:51 Lead Total ICAP/MS 0.50 290 15 ug/L 202012230783 Test 13 No. 4 Final 01/08/2021 15:53 Lead Total ICAP/MS 270 15 0.50 ug/L 202012230784 Test 13 No. 5 Final 01/08/2021 15:55 Lead Total ICAP/MS 190 15 ug/L 0.50 202012230785 Test 13 No. 6 Final 12/30/2020 15:14 Lead Total ICAP/MS 260 15 ug/L 0.50 202012230786 Test 13 No. 7 Final 01/08/2021 15:57 Lead Total ICAP/MS 180 15 ug/L 0.50 202012230787 Test 13 No. 8 Final 12/30/2020 15:16 Lead Total ICAP/MS 700 15 0.50 ug/L 202012230788 Test 13 No. 9 Final Lead Total ICAP/MS 800 0.50 01/08/2021 16:02 15 ug/L

Test 13 No. 9 Final (202012230788)

## 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

12/29/20 12/30/20 15:07	1296562	1296870	(EPA 200.8)	Lead Total ICAP/MS	150	ug/L	0.50
<u> Test 13 No. 1 Final (20</u>	2012230780)					Sampled on 12/17	/2020 0816
-	PA 200.8 - IC	DMS Motols					
L 12/29/20 12/30/20 15:08	1296562	1296870	(EPA 200.8)	Lead Total ICAP/MS	160	ug/L	0.50
<u>Test 13 No. 2 Final (20</u>	2012230781)		χ <i>γ</i>			Sampled on 12/17	/2020 0817
_							
E 12/29/20 01/08/21 15:49	PA 200.8 - IC 1296562	1297562	(EPA 200.8)	Lead Total ICAP/MS	240	ug/L	0.50
<u>Test 13 No. 3 Final (20</u>			(EPA 200.0)	Leau Total ICAP/MIS	240	Sampled on 12/17	
<u>1651 15 NO. 5 Filldi (20</u>	2012230702)					Sampled on 12/17	/2020 0010
E	PA 200.8 - IC	PMS Metals					
12/29/20 01/08/21 15:51	1296562	1297562	(EPA 200.8)	Lead Total ICAP/MS	290	ug/L	0.50
<u>Test 13 No. 4 Final (20</u>	<u>2012230783)</u>					Sampled on 12/17	/2020 0819
E	PA 200.8 - IC	PMS Metals					
12/29/20 01/08/21 15:53	1296562	1297562	(EPA 200.8)	Lead Total ICAP/MS	270	ug/L	0.50
<u>Test 13 No. 5 Final (20</u>	2012230784)					Sampled on 12/17	/2020 0820
-	PA 200.8 - IC	DMC Metale					
□ 12/29/20 01/08/21 15:55	1296562	1297562	(EPA 200.8)	Lead Total ICAP/MS	190	ug/L	0.50
Test 13 No. 6 Final (20	2012230785)		(			Sampled on 12/17	/2020 0821
	PA 200.8 - IC						0.50
12/29/20 12/30/20 15:14	1296562	1296870	(EPA 200.8)	Lead Total ICAP/MS	260	ug/L	0.50
<u>Test 13 No. 7 Final (20</u>	2012230786)					Sampled on 12/17	/2020 0822
E	PA 200.8 - IC	PMS Metals					
12/29/20 01/08/21 15:57	1296562	1297562	(EPA 200.8)	Lead Total ICAP/MS	180	ug/L	0.50
<u> Test 13 No. 8 Final (20</u>	2012230787)					Sampled on 12/17	/2020 0823
F	PA 200.8 - IC	PMS Motale					
12/29/20 12/30/20 15:16	1296562	1296870	(EPA 200.8)	Lead Total ICAP/MS	700	ug/L	0.50

Analyte

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

Analyzed

Test 13 No. 0 Final (202012230779)

🛟 eurofins

Prepped

## Tel: (626) 386-1100 Fax: (866) 988-3757

Report: 910169 Project: KALAMAZOO Group: Lead Solubility Testing - Phase 1

Result

Samples Received on: 12/23/2020 1337

Units

Sampled on 12/17/2020 0812

MRL

Dilution

1

1

1

1

1

1

1

1

1

Page 9 of 12 pages

Sampled on 12/17/2020 0824

## Laboratory Data

**Eaton Analytical** 

Prep Batch Analytical Batch

EPA 200.8 - ICPMS Metals

Method

1 800 566 LABS (1 800 566 5227)



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

Report: 910169 Project: KALAMAZOO Group: Lead Solubility Testing - Phase 1

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

Samples Received on: 12/23/2020 1337

Prepped	Analyzed	Prep Batch	Analytical Batch	Method	Analyte	Result	Units	MRL	Dilution
12/29/20	01/08/21 16:02	1296562	1297562	(EPA 200.8)	Lead Total ICAP/MS	800	ug/L	0.50	1



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Tetra Tech

### **ICPMS Metals**

Prep Batch: 1296562	Analytical Batch: 1296870
202012230779	Test 13 No. 0 Final
202012230780	Test 13 No. 1 Final
202012230785	Test 13 No. 6 Final
202012230787	Test 13 No. 8 Final

### **ICPMS Metals**

### Prep Batch: 1296562 Analytical Batch: 1297562

202012230781	Test 13 No. 2 Final
202012230782	Test 13 No. 3 Final
202012230783	Test 13 No. 4 Final
202012230784	Test 13 No. 5 Final
202012230786	Test 13 No. 7 Final
202012230788	Test 13 No. 9 Final

Report: 910169 Project: KALAMAZOO Group: Lead Solubility Testing - Phase 1

### Analysis Date: 12/30/2020

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

### Analysis Date: 01/08/2021

Analyzed by: LUPE Analyzed by: LUPE



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Report: 910169 Project: KALAMAZOO Group: Lead Solubility Testing - Phase 1

Tetra Tecl	'n								
QC Type	Analyte	Native	Spiked	Recovered	Units	Yield(%)	Limits (%)	RPD Limit(%)	RPD%
ICPMS Metals by E	EPA 200.8								
Analytical Ba	atch: 1296870					Analysis D	ate: 12/30/	2020	
LCS1	Lead Total ICAP/MS		50	50.7	ug/L	101	(85-115)		
LCS2	Lead Total ICAP/MS		50	51.3	ug/L	103	(85-115)	20	1.2
MBLK	Lead Total ICAP/MS			<0.25	ug/L				
MRL_CHK	Lead Total ICAP/MS		0.5	0.526	ug/L	105	(50-150)		
MS_202012280230	Lead Total ICAP/MS	ND	50	48.6	ug/L	96	(70-130)		
MS2_202012230733	Lead Total ICAP/MS	ND	50	50.0	ug/L	100	(70-130)		
MSD_202012280230	Lead Total ICAP/MS	ND	50	48.3	ug/L	96	(70-130)	20	0.63
MSD2_202012230733	Lead Total ICAP/MS	ND	50	49.1	ug/L	98	(70-130)	20	1.9
ICPMS Metals by E	EPA 200.8								
Analytical Ba	atch: 1297562				,	Analysis D	ate: 01/08/	2021	
LCS1	Lead Total ICAP/MS		50	50.8	ug/L	102	(85-115)		
LCS2	Lead Total ICAP/MS		50	50.7	ug/L	101	(85-115)	20	0.20
MBLK	Lead Total ICAP/MS			<0.25	ug/L				
MRL_CHK	Lead Total ICAP/MS		0.5	0.536	ug/L	107	(50-150)		
MS_202012300161	Lead Total ICAP/MS	ND	50	51.2	ug/L	102	(70-130)		
MS2_202012230985	Lead Total ICAP/MS	ND	50	45.2	ug/L	90	(70-130)		
MSD_202012300161	Lead Total ICAP/MS	ND	50	50.8	ug/L	101	(70-130)	20	0.86
MSD2_202012230985	Lead Total ICAP/MS	ND	50	44.1	ug/L	88	(70-130)	20	2.4

Spike recovery is already corrected for native results. Spikes which exceed Limits and Method Blanks with positive results are highlighted by <u>Underlining.</u> 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.

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** 11/16/2020 anosa t **EUROFINS EATON ANALYTICAL, LLC** 

ZIA8: Vanessa Berry

**Project Manager** 

Report: 902542 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

Eurofins Eaton Analytical, LLC

750 Royal Oaks Drive, Suite 100 Monrovia, CA 91016-3629 T | 626-386-1100 F | 866-988-3757 www.EurofinsUS.com/Eaton

### 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

		Environ-	Environ-			-	Environ-	Environ-	
SPECIFIC TESTS	METHOD OR TECHNIQUE USED	mental (Drinking Water)	mental (Waste Water)	Water as a Component of Food and Bev/Bev/ Bottled Water	SPECIFIC TESTS	METHOD OR TECHNIQUE USED	mental (Drinking Water)	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	Hexavalent Chromium	EPA 218.7	x		x
1,4-Dioxane	EPA 522	х		x	Hexavalent Chromium	SM 3500-Cr B		х	
2.3.7.8-TCDD	Modified EPA 1613B	x		x	Hormones	EPA 539	х	~	x
Acrylamide	In House Method (2440)	x		x	Hydroxide as OH Calc.	SM 2330B	х		х
Algal Toxins/Microcystin	In House Method (3570)				Kjeldahl Nitrogen	EPA 351.2		х	
Alkalinity	SM 2320B	x	х	x	Legionella	Legiolert	х		х
Ammonia	EPA 350.1		х	х	Mercury	EPA 200.8	х		х
Ammonia	SM 4500-NH3 H		х	х	Metals	EPA 200.7 / 200.8	х	х	х
Anions and DBPs by IC	EPA 300.0	х	х	х	Microcystin LR	ELISA (2360)	х		х
Anions and DBPs by IC	EPA 300.1	х		х	Microcystin, Total	EPA 546	х		х
Asbestos	EPA 100.2	х	х		NDMA	EEA/Agilent 521.1	x		x
		~				In house method (2425)			
BOD / CBOD	SM 5210B		х	x	Nitrate/Nitrite Nitrogen	EPA 353.2	х	х	х
Bromate	In House Method (2447)	x		x	OCL, Pesticides/PCB	EPA 505	х		x
Carbamates	EPA 531.2	х		x	Ortho Phosphate	EPA 365.1	х	х	x
Carbonate as CO3	SM 2330B	х	х	x	Ortho Phosphorous Oxyhalides Disinfection	SM 4500P E	х		х
Carbonyls	EPA 556	x		x	Byproducts	EPA 317.0	х		x
COD	EPA 410.4 / SM 5220D	1	x		Perchlorate	EPA 331.0	x		x
Chloramines	SM 4500-CL G	x	x	x	Perchlorate (low and high)	EPA 314.0	x		x
Chlorinated Acids	EPA 515.4	x		x	Perfluorinated Alkyl Acids	EPA 537	x		x
Chlorinated Acids	EPA 555	x	1	x	Perfluorinated Polutant	In house Method (2434)	x		x
Chlorine Dioxide	SM 4500-CLO2 D Palin Test	x		x	рН	EPA 150.1	x		
Chlorine -Total/Free/ Combined Residual	SM 4500-Cl G	x	x	x	рН	SM 4500-H+B	x	x	x
Conductivity	EPA 120.1		x		Phenylurea Pesticides/ Herbicides	In House Method, based on EPA 532 (2448)	x		x
Conductivity	SM 2510B	x	x	x	Herbicides Pseudomonas	532 (2448) IDEXX Pseudalert (2461)	x		x
Corrosivity (Langelier Index)	SM 2330B	x	~	x	Radium-226	GA Institute of Tech	x		x
Cyanide, Amenable	SM 4500-CN G	x	x		Radium-228	GA Institute of Tech	x		x
Cyanide, Free	SM 4500-CN G	x	x	x	Radon-222	SM 7500RN	x		x
Cyanide, Total	EPA 335.4	x	x	x	Residue, Filterable	SM 2540C	x	x	x
Cyanogen Chloride (screen)	In House Method (2470)	x	~	x	Residue, Non-filterable	SM 2540D	~	x	~
Diquat and Paraquat	EPA 549.2	x		x	Residue, Total	SM 2540B		x	x
DBP/HAA	SM 6251B	x		x	Residue, Volatile	EPA 160.4		x	~
Dissolved Oxygen	SM 4500-O G		х	x	Semi-VOC	EPA 525.2	x		x
DOC	SM 5310C	x		х	Silica	SM 4500-Si D	х	х	
E. Coli	(MTF/EC+MUG)	х		х	Silica	SM 4500-SiO2 C	х	х	
	· · · · · ·						~		-
E. Coli	CFR 141.21(f)(6)(i)	x		x	Sulfide	SM 4500-S <sup>=</sup> D		х	
E. Coli	SM 9223		х		Sulfite	SM 4500-SO <sup>3</sup> B	х	х	x
E. Coli (Enumeration)	SM 9221B.1/ SM 9221F	х		х	Surfactants	SM 5540C	x	х	х
E. Coli (Enumeration)	SM 9223B	х		х	Taste and Odor Analytes	SM 6040E	х		х
EDB/DCBP	EPA 504.1	х			Total Coliform (P/A)	SM 9221 A, B	х		х
EDB/DBCP and DBP	EPA 551.1	x		x	Total Coliform (Enumeration)	SM 9221 A, B, C	x		x
EDTA and NTA	In House Method (2454)	x		x	Total Coliform / E. coli	Colisure SM 9223	x		x
Endothall	EPA 548.1	x		×	Total Coliform	SM 9221B	^	х	^
Endothall	In-house Method (2445)	x		х	Total Coliform with Chlorine Present	SM 9221B		x	
Enterococci	SM 9230B	x	х		Total Coliform / E.coli (P/A and Enumeration)	SM 9223	x		x
Fecal Coliform	SM 9221 E (MTF/EC)	x			TOC	SM 5310C	x	x	x
Fecal Coliform	SM 9221C, E (MTF/EC)		x		TOX	SM 5320B		x	1
Fecal Coliform	SM 9221E, E (MTF/EC)	x		x	Total Phenols	EPA 420.1		x	
(Enumeration) Fecal Coliform with	SM 9221E		x		Total Phenols	EPA 420.4	x	x	x
Chlorine Present Fecal Streptococci	SM 9221E	x	×		Total Phosphorous	SM 4500 P E	^	x	^
Fluoride	SM 4500-F C	x	x	x	Triazine Pesticides &	In House (3617)	x		x
Glyphosata	EPA 547	v		×	Degradates	EDA 190 1	v	v	v
Glyphosate   AMPA		x		×	Turbidity Turbidity	EPA 180.1	x	x	X
Glyphosate + AMPA Gross Alpha/Pata	In House Method (3618)	x	~	x	Turbidity	SM 2130B	X	х	~
Gross Alpha/Beta Gross Alpha Coprecipitation	EPA 900.0 SM 7110 C	x	x	x	Uranium by ICP/MS UV 254	EPA 200.8 SM 5910B	x		x
Hardness	SM 2340B	х	x	x	VOC	EPA 524.2	x		х
Heterotrophic Bacteria	In House Method (2439)	х		x	VOC	In House Method (2411)	х		x
Heterotrophic Bacteria	SM 9215 B	х		x	Yeast and Mold	SM 9610	х		х
Hexavalent Chromium	EPA 218.6	х	х	х	Field Sampling	N/A			1

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🔅 eurofin	S Eaton Analytical					
		Acknowledgement of Samples Received				
Addr: <b>Tetra Tech</b> 201 East Pine Street Suite 1000 Orlando, FL 32801 Attn: James Christopher Phone: 407-480-3907		Client ID: TETRATECH-ORLAN Folder #: 902542 Project: KALAMAZOO Sample Group: Lead Solubility Testing - Phase 1				
		Project Manager Phone	: Vanessa Berry : 503-310-3905			
tests liste		ed from you on <b>November 09, 2020</b> at <b>1207</b> . They have l this information is incorrect, please contact your service re , LLC.				
ample #	Sample ID		Sample Date			
02011090118	Day 1 NO.0		11/02/2020 1424			
	Total phosphorus as P	Total phosphorus as PO4- Calc.				
02011090121	Day 1 NO.1		11/02/2020 1424			
	Total phosphorus as P	Total phosphorus as PO4- Calc.				
02011090122	Day 1 NO.2		11/02/2020 1350			
	Total phosphorus as P	Total phosphorus as PO4- Calc.				
02011090123	Day 1 NO.3		11/02/2020 1346			
	Total phosphorus as P	Total phosphorus as PO4- Calc.				
02011090124	Day 1 NO.4		11/02/2020 1146			
	Total phosphorus as P	Total phosphorus as PO4- Calc.				
02011090125	Day 1 NO.5		11/02/2020 1145			
	Total phosphorus as P	Total phosphorus as PO4- Calc.				
02011090126	Day 1 NO.6		11/02/2020 1108			
	Total phosphorus as P	Total phosphorus as PO4- Calc.				
02011090127	Day 1 NO.7	· ·	11/02/2020 1100			
	Total phosphorus as P	Total phosphorus as PO4- Calc.				
02011090128	Day 1 NO.8		11/02/2020 1015			
	Total phosphorus as P	Total phosphorus as PO4. Colo				
02011090129	Day 1 NO.9	Total phosphorus as PO4- Calc.	11/02/2020 1008			
02011030129	Bay HIO.3		11/02/2020 1000			
	Total phosphorus as P	Total phosphorus as PO4- Calc.				

**Test Description** 

Page 5 of 12 pages

င့်နှံ eurofins		Kit Order for Tetra Tech Inc.	Page 1 of 1
Eaton	Eaton Analytical	Vanessa Berry is your Eurofins Eaton Analytical, LLC Service Manager	ervice Manager
750 Royal Oaks Drive, Suite 100 Monrova, Catifornia 91016-3629	100 3629 3627	Note: Samuler Please return this naner with vour samules	Created Date & Time: 10/22/2020 1:01:20PM
(626) 386-1100 FAX (866) 90	98-3757		
Kit #: 275417	Kit #: 275417	Client ID: TETRATECH-ORLAN INNUMBRANDING Project Code: Kal AMAZOO Bottle Orders	
Created By: - [AutoGenerated] Deliver By: 11/02/2020 STG: Bottle Orders Ice Type: W	Generated] 220 hrders		hase 1
	Ship Sample Kits to Tetra Tech 201 East Pine Street Suite 1000 Orlando, FL 32801	Send Report to Tetra Tech 201 East Pine Street Suite 1000 Orlando, FL 32801	Billing Address Tetra Tech 201 East Pine Street Suite 1000 Orlando, FL 32801
	Attn: James Christopher Phone: 407-480-3907 Fax: 407-839-3790	Attri: James Christopher Phone: 407-480-3907 Fax: 407-839-3790	Attri: James Christopher Phone: 407-480-3907 Fax: 407-839-3790
# of Sample Tests		Bottle Qty - Type [ preservative information ]	Total UN DOT #
20 Total phosphorus as P		1 - 250ml poly [ 0.5 ml H2SO4 (50%) ]	20 UN1830
20 @ICPMS		1 - 250ml poly [ no preservative ]	20
Sum Tests: 40			Sum Bottles: 40
Comments			
inctude return shipping labels COCs			
Total lead containers are preserved with nitric acid by the client.	with nitric acid by the client.		

Status

Code

Prepared By



Tel: (626) 386-1100 Fax: (866) 988-3757 1 800 566 LABS (1 800 566 5227) Report: 902542 Project: KALAMAZOO Group: Lead Solubility Testing - Phase 1

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.

Laboratory Hits

**Eaton Analytical** 

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

🛟 eurofins

**Tetra Tech** 

Suite 1000 Orlando, FL 32801

James Christopher

201 East Pine Street

Report: 902542 Project: KALAMAZOO Group: Lead Solubility Testing - Phase 1

Samples Received on: 11/09/2020 1207

Analyzed Analyte Sample ID Result Federal MCL Units MRL Day 1 NO.1 202011090121 11/12/2020 11:51 Total phosphorus as P 0.083 0.020 mg/L 0.25 0.030 11/13/2020 08:36 Total phosphorus as PO4- Calc. mg/L 202011090122 Day 1 NO.2 11/12/2020 12:37 1.1 0.040 Total phosphorus as P mg/L 11/13/2020 08:37 Total phosphorus as PO4- Calc. 3.4 mg/L 0.030 202011090123 Day 1 NO.3 2.3 0.10 11/12/2020 12:38 Total phosphorus as P mg/L Total phosphorus as PO4- Calc. 0.030 11/13/2020 08:38 7.1 mg/L 202011090124 Day 1 NO.4 11/12/2020 11:56 Total phosphorus as P 0.64 0.020 mg/L 11/13/2020 08:37 Total phosphorus as PO4- Calc. 2.0 mg/L 0.030 202011090125 Day 1 NO.5 0.040 11/12/2020 12:38 Total phosphorus as P 1.4 mg/L Total phosphorus as PO4- Calc. 11/13/2020 08:38 0.030 4.3 mg/L 202011090126 Day 1 NO.6 11/12/2020 11:58 Total phosphorus as P 0.56 mg/L 0.020 11/13/2020 08:37 Total phosphorus as PO4- Calc. 1.7 mg/L 0.030 202011090127 Day 1 NO.7 11/12/2020 12:39 Total phosphorus as P 0.040 1.1 mg/L 11/13/2020 08:38 Total phosphorus as PO4- Calc. 3.4 mg/L 0.030 202011090128 Day 1 NO.8 11/12/2020 12:00 Total phosphorus as P 0.48 mg/L 0.020 11/13/2020 08:37 Total phosphorus as PO4- Calc. 1.5 mg/L 0.030 202011090129 Day 1 NO.9 0.98 0.020 11/12/2020 12:03 Total phosphorus as P mg/L 11/13/2020 08:37 Total phosphorus as PO4- Calc. 3.0 mg/L 0.030



Tel: (626) 386-1100 Fax: (866) 988-3757 1 800 566 LABS (1 800 566 5227) Report: 902542 Project: KALAMAZOO Group: Lead Solubility Testing - Phase 1

Samples Received on:

11/09/2020 1207

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

Prepped	Analyzed	Prep Batch	Analytical Batch	Method	Analyte	Result	Units	MRL	Dilution
Day 1 N	0.0 (202011	<u>090118)</u>				Samp	oled on 11/02	/2020 142	4
		SM4500-PI	E/EPA 365.1 - <sup>-</sup>	Total phosphoru	s as PO4- Calc.				
	11/13/20 08:36			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	ND (c)	mg/L	0.030	1
		SM4500-PE	E/EPA 365.1 - <sup>-</sup>	Total phosphoru	s as P (T-P)				
	11/12/20 11:50	)	1287640	(SM4500-PE/EPA 365.1)	Total phosphorus as P	ND	mg/L	0.020	1
<u>Day 1 N</u>	0.1 (202011	<u>090121)</u>				Samp	oled on 11/02	/2020 142	4
		SM4500-PI	E/EPA 365.1 - <sup>-</sup>	Total phosphoru	s as PO4- Calc.				
	11/13/20 08:36			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	0.25 (c)	mg/L	0.030	1
		SM4500-PI	E/EPA 365.1 - <sup>-</sup>	Total phosphoru	s as P (T-P)				
	11/12/20 11:57	1	1287640	(SM4500-PE/EPA 365.1)	Total phosphorus as P	0.083	mg/L	0.020	1
<u>Day 1 N</u>	0.2 (202011	<u>090122)</u>				Samp	oled on 11/02	/2020 135	0
		SM4500-PI	=/EPA 365 1 - <sup>-</sup>	Total phosphoru	is as PO4- Calc				
	11/13/20 08:37			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	3.4 (c)	mg/L	0.030	1
		SM4500-PI	E/EPA 365.1 - <sup>-</sup>	Total phosphoru	is as P (T-P)				
	11/12/20 12:37	7	1287640	(SM4500-PE/EPA 365.1)	Total phosphorus as P	1.1	mg/L	0.040	2
<u>Day 1 N</u>	0.3 (202011	<u>090123)</u>				Samp	oled on 11/02	/2020 134	6
		SM4500-PE	E/EPA 365.1 - <sup>-</sup>	Total phosphoru	s as PO4- Calc.				
	11/13/20 08:38			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	7.1 (c)	mg/L	0.030	1
		SM4500-PE	E/EPA 365.1 - <sup>-</sup>	Total phosphoru	s as P (T-P)				
	11/12/20 12:38	3	1287640	(SM4500-PE/EPA 365.1)	Total phosphorus as P	2.3	mg/L	0.10	5
<u>Day 1 N</u>	0.4 (202011	<u>090124)</u>				Samp	oled on 11/02	/2020 114	6
		SM4500-PI	E/EPA 365.1 - <sup>-</sup>	Total phosphoru	s as PO4- Calc.				
	11/13/20 08:37			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	2.0 (c)	mg/L	0.030	1
		SM4500-PE	E/EPA 365.1 - <sup>-</sup>	Total phosphoru	s as P (T-P)				
	11/12/20 11:56	3	1287640	(SM4500-PE/EPA 365.1)	Total phosphorus as P	0.64	mg/L	0.020	1
<u>Day 1 N</u>	0.5 (202011	<u>090125)</u>				Samp	oled on 11/02	/2020 114	5

### 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.

201 East Pine Street

**Tetra Tech** 

🛟 eurofins

Suite 1000 Orlando, FL 32801

James Christopher

Prepped	Analyzed	Prep Batch	Analytical Batch	Method	Analyte	Result	Units	MRL	Dilution
	11/13/20 08:38			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	4.3 (c)	mg/L	0.030	1
		SM4500-PE	E/EPA 365.1 - 1	Fotal phosphoru	s as P (T-P)				
	11/12/20 12:38		1287640	(SM4500-PE/EPA 365.1)	Total phosphorus as P	1.4	mg/L	0.040	2
Day 1 N	IO.6 (2020110	<u>90126)</u>				Samp	led on 11/02	2/2020 110	В
		SM4500-PE	E/EPA 365.1 - 1	Fotal phosphoru	s as PO4- Calc.				
	11/13/20 08:37			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	1.7 (c)	mg/L	0.030	1
		SM4500-PE	E/EPA 365.1 - 1	Fotal phosphoru	s as P (T-P)				
	11/12/20 11:58		1287640	(SM4500-PE/EPA 365.1)	Total phosphorus as P	0.56	mg/L	0.020	1
Day 1 N	IO.7 (2020110	<u>90127)</u>				Samp	led on 11/02	2/2020 110	0
		SM4500-PE	E/EPA 365.1 - 1	Fotal phosphoru	s as PO4- Calc.				
	11/13/20 08:38			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	3.4 (c)	mg/L	0.030	1
		SM4500-PE	E/EPA 365.1 - 1	Fotal phosphoru	s as P (T-P)				
	11/12/20 12:39		1287640	(SM4500-PE/EPA 365.1)	Total phosphorus as P	1.1	mg/L	0.040	2
Day 1 N	IO.8 (2020110	<u>90128)</u>				Samp	led on 11/02	2/2020 101	5
		SM4500-PE	E/EPA 365.1 - 1	Fotal phosphoru	s as PO4- Calc.				
	11/13/20 08:37			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	1.5 (c)	mg/L	0.030	1
		SM4500-PE	E/EPA 365.1 - 1	Fotal phosphoru	s as P (T-P)				
	11/12/20 12:00		1287640	(SM4500-PE/EPA 365.1)	Total phosphorus as P	0.48 (M1)	mg/L	0.020	1
Day 1 N	IO.9 (2020110	<u>90129)</u>				Samp	led on 11/02	2/2020 100	В
		SM4500-PE	E/EPA 365.1 - 1	Fotal phosphoru	s as PO4- Calc.				
	11/13/20 08:37			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	3.0 (c)	mg/L	0.030	1
		SM4500-PE	E/EPA 365.1 - 1	Fotal phosphoru	s as P (T-P)				
	11/12/20 12:03		1287640	(SM4500-PE/EPA 365.1)	Total phosphorus as P	0.98	mg/L	0.020	1

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

Laboratory Data

Group: Lead Solubility Testing - Phase 1

Samples Received on:

11/09/2020 1207

Report: 902542 Project: KALAMAZOO

**Eaton Analytical** 

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



Day 1 NO.0

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

Tetra Tech

## Total phosphorus as P (T-P) Analytical Batch: 1287640 202011090118 202011090121

202011090121	Day 1 NO.1
202011090122	Day 1 NO.2
202011090123	Day 1 NO.3
202011090124	Day 1 NO.4
202011090125	Day 1 NO.5
202011090126	Day 1 NO.6
202011090127	Day 1 NO.7
202011090128	Day 1 NO.8
202011090129	Day 1 NO.9

### Laboratory QC Summary

Report: 902542 Project: KALAMAZOO Group: Lead Solubility Testing - Phase 1

### Analysis Date: 11/12/2020

Analyzed by: KA9B Analyzed by: KA9B



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

Report: 902542 Project: KALAMAZOO Group: Lead Solubility Testing - Phase 1

Tetra Tec	h								
QC Type	Analyte	Native	Spiked	Recovered	Units	Yield(%)	Limits (%)	RPD Limit(%)	RPD%
• •	as P (T-P) by SM4500-PE/EPA 365.1 atch: 1287640					Analysis D	ate: 11/12/	2020	
LCS1	Total phosphorus as P		0.4	0.429	mg/L	107	(90-110)		
LCS2	Total phosphorus as P		0.4	0.421	mg/L	105	(90-110)	20	1.9
MBLK	Total phosphorus as P			<0.01	mg/L				
MRL_CHK	Total phosphorus as P		0.02	0.0220	mg/L	110	(50-150)		
MS_202011060345	Total phosphorus as P	0.17	0.4	0.589	mg/L	105	(90-110)		
MS_202011090128	Total phosphorus as P	0.48	0.4	0.890	mg/L	102	(90-110)		
MSD_202011060345	Total phosphorus as P	0.17	0.4	0.573	mg/L	101	(90-110)	20	2.8
MSD_202011090128	Total phosphorus as P	0.48	0.4	0.927	mg/L	<u>111</u>	(90-110)	20	4.1

Spike recovery is already corrected for native results. Spikes which exceed Limits and Method Blanks with positive results are highlighted by <u>Underlining.</u> 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.

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** 11/16/2020 anosa t **EUROFINS EATON ANALYTICAL, LLC** 

ZIA8: Vanessa Berry

Project Manager

Report: 902548 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

Eurofins Eaton Analytical, LLC

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### 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

		Environ-	Environ-			-	Environ-	Environ-	
SPECIFIC TESTS	METHOD OR mental mental Water as a		SPECIFIC TESTS	METHOD OR TECHNIQUE USED	mental (Drinking Water)	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	Hexavalent Chromium	EPA 218.7	x		x
1,4-Dioxane	EPA 522	х		x	Hexavalent Chromium	SM 3500-Cr B		х	
2.3.7.8-TCDD	Modified EPA 1613B	x		x	Hormones	EPA 539	х	~	x
Acrylamide	In House Method (2440)	x		x	Hydroxide as OH Calc.	SM 2330B	х		х
Algal Toxins/Microcystin	In House Method (3570)				Kjeldahl Nitrogen	EPA 351.2		х	
Alkalinity	SM 2320B	x	х	x	Legionella	Legiolert	х		x
Ammonia	EPA 350.1		х	х	Mercury	EPA 200.8	х		х
Ammonia	SM 4500-NH3 H		х	х	Metals	EPA 200.7 / 200.8	х	х	х
Anions and DBPs by IC	EPA 300.0	х	х	х	Microcystin LR	ELISA (2360)	х		х
Anions and DBPs by IC	EPA 300.1	х		х	Microcystin, Total	EPA 546	х		х
Asbestos	EPA 100.2	x	х		NDMA	EEA/Agilent 521.1	x		x
		~				In house method (2425)			
BOD / CBOD	SM 5210B		х	x	Nitrate/Nitrite Nitrogen	EPA 353.2	х	х	х
Bromate	In House Method (2447)	x		x	OCL, Pesticides/PCB	EPA 505	х		x
Carbamates	EPA 531.2	х		x	Ortho Phosphate	EPA 365.1	х	х	x
Carbonate as CO3	SM 2330B	х	х	x	Ortho Phosphorous Oxyhalides Disinfection	SM 4500P E	х		х
Carbonyls	EPA 556	x		x	Byproducts	EPA 317.0	х		x
COD	EPA 410.4 / SM 5220D	1	x		Perchlorate	EPA 331.0	x		x
Chloramines	SM 4500-CL G	x	x	x	Perchlorate (low and high)	EPA 314.0	x		x
Chlorinated Acids	EPA 515.4	x		x	Perfluorinated Alkyl Acids	EPA 537	x		x
Chlorinated Acids	EPA 555	x	1	x	Perfluorinated Polutant	In house Method (2434)	x		x
Chlorine Dioxide	SM 4500-CLO2 D Palin Test	x		x	рН	EPA 150.1	x		
Chlorine -Total/Free/ Combined Residual	SM 4500-Cl G	x	x	x	рН	SM 4500-H+B	x	x	x
Conductivity	EPA 120.1	1	x		Phenylurea Pesticides/ Herbicides	In House Method, based on EPA 532 (2448)	x		x
Conductivity	SM 2510B	x	x	x	Herbicides Pseudomonas	532 (2448) IDEXX Pseudalert (2461)	x		x
Corrosivity (Langelier Index)	SM 2330B	x	~	x	Radium-226	GA Institute of Tech	x		x
Cyanide, Amenable	SM 4500-CN G	x	x		Radium-228	GA Institute of Tech	x		x
Cyanide, Free	SM 4500-CN G	x	x	x	Radon-222	SM 7500RN	x		x
Cyanide, Total	EPA 335.4	x	x	x	Residue, Filterable	SM 2540C	x	x	x
Cyanogen Chloride (screen)	In House Method (2470)	x	~	x	Residue, Non-filterable	SM 2540D	~	x	~
Diquat and Paraquat	EPA 549.2	x		x	Residue, Total	SM 2540B		x	x
DBP/HAA	SM 6251B	x		x	Residue, Volatile	EPA 160.4		x	~
Dissolved Oxygen	SM 4500-O G		х	x	Semi-VOC	EPA 525.2	x		x
DOC	SM 5310C	x		х	Silica	SM 4500-Si D	х	х	
E. Coli	(MTF/EC+MUG)	х		х	Silica	SM 4500-SiO2 C	х	х	
	· · · · · ·						~		-
E. Coli	CFR 141.21(f)(6)(i)	x		x	Sulfide	SM 4500-S <sup>=</sup> D		х	
E. Coli	SM 9223		х		Sulfite	SM 4500-SO <sup>3</sup> B	х	х	x
E. Coli (Enumeration)	SM 9221B.1/ SM 9221F	х		х	Surfactants	SM 5540C	x	х	х
E. Coli (Enumeration)	SM 9223B	х		х	Taste and Odor Analytes	SM 6040E	х		х
EDB/DCBP	EPA 504.1	х			Total Coliform (P/A)	SM 9221 A, B	х		х
EDB/DBCP and DBP	EPA 551.1	x		x	Total Coliform (Enumeration)	SM 9221 A, B, C	x		x
EDTA and NTA	In House Method (2454)	x		x	Total Coliform / E. coli	Colisure SM 9223	x		x
Endothall	EPA 548.1	x		×	Total Coliform	SM 9221B	^	х	^
Endothall	In-house Method (2445)	x		х	Total Coliform with Chlorine Present	SM 9221B		x	
Enterococci	SM 9230B	x	х		Total Coliform / E.coli (P/A and Enumeration)	SM 9223	x		x
Fecal Coliform	SM 9221 E (MTF/EC)	x			TOC	SM 5310C	x	x	x
Fecal Coliform	SM 9221C, E (MTF/EC)		x		TOX	SM 5320B		x	1
Fecal Coliform	SM 9221E, E (MTF/EC)	x		x	Total Phenols	EPA 420.1		x	
(Enumeration) Fecal Coliform with	SM 9221E		x		Total Phenols	EPA 420.4	x	x	x
Chlorine Present Fecal Streptococci	SM 9221E	x	×		Total Phosphorous	SM 4500 P E	^	x	^
Fluoride	SM 4500-F C	x	x	x	Triazine Pesticides &	In House (3617)	x		x
Glyphosata	EPA 547	v		× ×	Degradates	EDA 190 1	v	v	v
Glyphosate   AMPA		x		×	Turbidity Turbidity	EPA 180.1	x	x	X
Glyphosate + AMPA Gross Alpha/Pata	In House Method (3618)	x	~	x	Turbidity	SM 2130B	X	х	~
Gross Alpha/Beta Gross Alpha Coprecipitation	EPA 900.0 SM 7110 C	x	x	x	Uranium by ICP/MS UV 254	EPA 200.8 SM 5910B	x		x
Hardness	SM 2340B	х	x	x	VOC	EPA 524.2	x		х
Heterotrophic Bacteria	In House Method (2439)	х		x	VOC	In House Method (2411)	х		x
Heterotrophic Bacteria	SM 9215 B	х		x	Yeast and Mold	SM 9610	х		х
Hexavalent Chromium	EPA 218.6	х	х	х	Field Sampling	N/A			1

750 Royal Oaks Dr., Ste 100, Monrovia, CA 91016 Tel (626) 386-1100 Fax (866) 988-3757 https://www.eurofinsus.com/Eaton Version 006 Issued: 05/04/20

		Acknowledgement of Samples Receive	d				
	<b>Tetra Tech</b> 201 East Pine Street Suite 1000 Orlando, FL 32801	Folde Pro	t ID: TETRATECH-ORLAN er #: 902548 ject: KALAMAZOO oup: Lead Solubility Testing - Phase 1				
	James Christopher 407-480-3907	Project Manager: Vanessa Berry Phone: 503-310-3905					
tests liste		from you on <b>November 09, 2020</b> at <b>1207</b> . They ha information is incorrect, please contact your servic C.					
Sample #	Sample ID		Sample Date				
202011090147	Day 2 NO.1		11/05/2020 0955				
	Total phosphorus as P	Total phosphorus as PO4- Calc.					
202011090148	Day 2 NO.2		11/05/2020 1030				
	Total phosphorus as P	Total phosphorus as PO4- Calc.					
02011090149	Day 2 NO.3		11/05/2020 1025				
	Total phosphorus as P	Total phosphorus as PO4- Calc.					
202011090150	Day 2 NO.4		11/05/2020 1057				
	Total phosphorus as P	Total phosphorus as PO4- Calc.					
202011090151	Day 2 NO.5		11/05/2020 1100				
	Total phosphorus as P	Total phosphorus as PO4- Calc.					
202011090152	Day 2 NO.6		11/05/2020 1128				
	Total phosphorus as P	Total phosphorus as PO4- Calc.					
202011090153	Day 2 NO.7		11/05/2020 1132				
	Total phosphorus as P	Total phosphorus as PO4- Calc.					
	Day 2 NO.0		11/05/2020 0958				
02011090154							

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Eaton Analytical	EUROFINS EATON ANALYTICAL USE ONLY:		
750 Royal Oaks Drive, Suite 100	LOGIN COMMENTS:	SAMPLES CHECKED AGAINST COC BY:	P
Monrovia, CA 91016-3629		7	
Phone: 626 386 1100 Fax: 626 386 1101	SAMPLE TEMP RECEIVED AT:	CTION?	(check for yes)
800 566 LABS (800 566 5227)	Monrovia IR Gun ID = $U = U$	(Observation=C) (Gorr.Factor	
Website: www.EatonAnalytical.com	TYPE OF ICE: Real Synthetic No	(Microbiology: < 10°C.) Ice CONDITION OF ICE: Frozen Partially Frozen Thawed	N/A
	METHOD OF SHIPMENT: Pick-Up / Walk-In	/alk-In FedEx / UPS / DHL / Area Fast / Top Line / Other:	
TO BE COMPLETED BY SAMPLER:	<ul> <li>Total Activity</li> <li>Total Activity</li> <li>Total Activity</li> </ul>	sck for yes)	rr yes)
COMPANY/AGENCY NAME:	PROJECT CODE:	Т	1
TETTO TEUM 201 EPINE St. Onlando	qo	- Requires state forms REGULATION INVOLVED: Type of samples (circle one): ROUTINE SPECIAL CONFIRMATION (eg. SDWA, NPDES, etc.)	NPDES, etc.)
EEA CLIENT CODE: COC ID:	SAMPLE GROUP: LECKI CNUMINY TRY-PINCICR A	for each te	<u>OR</u> 1 sample)
TAT requested: rush by adv notice only	2 day 1 day		10-1-10-1
SAMPLE ID SAMPLE ID SAMPLE ID	CLIENT LAB ID	SAMPLER	LER
A2	נופו		
1. CN & NOO 64:40 21 11	fw	Preserved	0
1 1030 DON 2 No. 2		HOSEHIM	-
10:35 DCM & NO.3		by Europhus	Suns.
10:57 DON 2 No.4			
11:00 D(N & NO. 5			
11:28 DUN 2 NO.6			
11:32 DOM & No.7			
4 9:48 DON 2 NO.0	- Þ	4	
* MATRIX TYPES: RSW = Raw Surface Water RGW = Raw Ground Water	<b>CFW</b> = Chlor(am)inated Finished Water <b>FW</b> = Other Finished Water	SEAW = Sea Water     BW = Bottled Water     SO = Soil     O = Other - Please Identify       WW = Waster     SW = Storm Water     SL = Sludge	se Identify
	M	COMPANYTITLE DATE	TIME
SAMPLED BY: M- ALROOS	MOLTICI ISOLDEI AT	Arenois Tremon Trean, Pridect Engineer 116/20 14:	14:30
RELINQUISHED BY: M- ACCINOLS	"	11 C C II	14:30
RECEIVED BY:	four meril	15/12 251 20 120	07
RELINQUISHED BY:			
RECEIVED BY:	The second se		
2A FO 0029.2 (Version 2) (08/28/2014)		PAGEC	

0

2



Tetra Tech

Suite 1000 Orlando, FL 32801

James Christopher 201 East Pine Street

**Eaton Analytical** 

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

Report: 902548 Project: KALAMAZOO Group: Lead Solubility Testing - Phase 1

The Comments Report may be blank if there are no comments for this report.

Laboratory Hits

**Eaton Analytical** 

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

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Tetra Tech

Suite 1000 Orlando, FL 32801

James Christopher

201 East Pine Street

Report: 902548 Project: KALAMAZOO Group: Lead Solubility Testing - Phase 1

Samples Received on: 11/09/2020 1207

Analyzed	Analyte	Sample ID	Result	Federal MCL	Units	MRL
	202011090147	<u>Day 2 NO.1</u>				
11/12/2020 12:06	Total phosphorus as P		0.090		mg/L	0.020
11/13/2020 08:37	Total phosphorus as PO	4- Calc.	0.28		mg/L	0.030
	202011090148	<u>Day 2 NO.2</u>				
11/12/2020 12:40	Total phosphorus as P		1.0		mg/L	0.040
11/13/2020 08:38	Total phosphorus as PO	4- Calc.	3.1		mg/L	0.030
	202011090149	Day 2 NO.3				
11/12/2020 12:41	Total phosphorus as P		2.1		mg/L	0.10
11/13/2020 08:38	Total phosphorus as PO	4- Calc.	6.4		mg/L	0.030
	202011090150	<u>Day 2 NO.4</u>				
11/12/2020 12:08	Total phosphorus as P		0.67		mg/L	0.020
11/13/2020 08:37	Total phosphorus as PO	4- Calc.	2.0		mg/L	0.030
	202011090151	<u>Day 2 NO.5</u>				
11/12/2020 12:42	Total phosphorus as P		1.3		mg/L	0.040
11/13/2020 08:38	Total phosphorus as PO	4- Calc.	4.0		mg/L	0.030
	202011090152	Day 2 NO.6				
11/12/2020 12:10	Total phosphorus as P		0.60		mg/L	0.020
11/13/2020 08:37	Total phosphorus as PO	4- Calc.	1.8		mg/L	0.030
	202011090153	<u>Day 2 NO.7</u>				
11/12/2020 12:43	Total phosphorus as P		1.6		mg/L	0.040
11/13/2020 08:38	Total phosphorus as PO	4- Calc.	4.9		mg/L	0.030



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

Report: 902548 Project: KALAMAZOO Group: Lead Solubility Testing - Phase 1

Samples Received on:

11/09/2020 1207

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

Prepped	Analyzed	Prep Batch	Analytical Batch	Method	Analyte	Result	Units	MRL	Dilution
Day 2 N	IO.1 (202011	<u>090147)</u>				Samj	oled on 11/05	/2020 095	5
		SM4500-PI	E/EPA 365.1 - <sup>-</sup>	Total phosphoru	is as PO4- Calc.				
	11/13/20 08:37			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	0.28 (c)	mg/L	0.030	1
		SM4500-PI	E/EPA 365.1 -	Total phosphoru	ıs as P (T-P)				
	11/12/20 12:06	i	1287640	(SM4500-PE/EPA 365.1)	Total phosphorus as P	0.090	mg/L	0.020	1
Day 2 N	IO.2 (202011	<u>090148)</u>				Samj	oled on 11/05	/2020 103	0
		SM4500-PB	E/EPA 365.1 - <sup>-</sup>	Total phosphoru	is as PO4- Calc.				
	11/13/20 08:38	5		(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	3.1 (c)	mg/L	0.030	1
		SM4500-PE	E/EPA 365.1 - <sup>-</sup>	Total phosphoru	ıs as P (T-P)				
	11/12/20 12:40	)	1287640	(SM4500-PE/EPA 365.1)	Total phosphorus as P	1.0	mg/L	0.040	2
Day 2 N	IO.3 (202011	<u>090149)</u>		,		Samj	oled on 11/05	/2020 102	5
		SM4500 DI		Total phaapharu	a an RO4 Cala				
	11/13/20 08:38		-/EFA 303.1 -	Total phosphoru (SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	6.4 (c)	mg/L	0.030	1
		SM4500-PE	E/EPA 365.1 - <sup>-</sup>	Total phosphoru	is as P (T-P)				
	11/12/20 12:41		1287640	(SM4500-PE/EPA 365.1)	Total phosphorus as P	2.1	mg/L	0.10	5
Day 2 N	IO.4 (202011	<u>090150)</u>		·		Samj	oled on 11/05	/2020 105	7
		SM4500-PE	E/EPA 365.1 - <sup>-</sup>	Total phosphoru	ıs as PO4- Calc.				
	11/13/20 08:37			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	2.0 (c)	mg/L	0.030	1
		SM4500-PE	E/EPA 365.1 - <sup>-</sup>	Total phosphoru	is as P (T-P)				
	11/12/20 12:08	i	1287640	(SM4500-PE/EPA 365.1)	Total phosphorus as P	0.67	mg/L	0.020	1
<u>Day 2 N</u>	IO.5 (202011	<u>090151)</u>				Samj	oled on 11/05	/2020 110	0
		SM4500-PI	E/EPA 365.1 - '	Total phosphoru	is as PO4- Calc.				
	11/13/20 08:38			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	4.0 (c)	mg/L	0.030	1
		SM4500-PI	E/EPA 365.1 - <sup>-</sup>	Total phosphoru	ıs as P (T-P)				
	11/12/20 12:42		1287640	(SM4500-PE/EPA 365.1)	Total phosphorus as P	1.3	mg/L	0.040	2
<u>Day 2 N</u>	IO.6 (202011	<u>090152)</u>		,		Samj	oled on 11/05	/2020 112	8

### 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.

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

Samples Received on:

Units

mg/L

MRL

0.030

Dilution

1

11/09/2020 1207

Report: 902548 Project: KALAMAZOO Group: Lead Solubility Testing - Phase 1

Result

1.8 (c)

Prepped Analyzed Prep Batch Analytical Batch 11/13/20 08:37 SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P) 11/12/20 12.10

Orlando, FL 32801

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11/12/20 12:10	1287640	(SM4500-PE/EPA 365.1)	Total phosphorus as P	0.60	mg/L	0.020	1
Day 2 NO.7 (20201109	<u>90153)</u>			Sam	oled on 11/05	/2020 1132	
;	SM4500-PE/EPA 365.1	- Total phosphoru	s as PO4- Calc.				
11/13/20 08:38		(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	4.9 (c)	mg/L	0.030	1
5	SM4500-PE/EPA 365.1 ·	- Total phosphoru	s as P (T-P)				
11/12/20 12:43	1287640	(SM4500-PE/EPA 365.1)	Total phosphorus as P	1.6	mg/L	0.040	2
Day 2 NO.0 (20201109	<u>90154)</u>			Sam	oled on 11/05	/2020 0958	
:	SM4500-PE/EPA 365.1	- Total phosphoru	s as PO4- Calc.				
11/13/20 08:37		(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	ND (c)	mg/L	0.030	1
5	SM4500-PE/EPA 365.1 ·	- Total phosphoru	s as P (T-P)				
11/12/20 12:12	1287640	(SM4500-PE/EPA 365.1)	Total phosphorus as P	ND	mg/L	0.020	1

Analyte

Total phosphorus as PO4- Calc.

Method

(SM4500-PE/EPA

365.1)

**Tetra Tech** James Christopher 201 East Pine Street Suite 1000

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## Total phosphorus as P (T-P) Analytical Batch: 1287640

•	
202011090147	Day 2 NO.1
202011090148	Day 2 NO.2
202011090149	Day 2 NO.3
202011090150	Day 2 NO.4
202011090151	Day 2 NO.5
202011090152	Day 2 NO.6
202011090153	Day 2 NO.7
202011090154	Day 2 NO.0

Report: 902548 Project: KALAMAZOO Group: Lead Solubility Testing - Phase 1

### Analysis Date: 11/12/2020

Analyzed by: KA9B Analyzed by: KA9B



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Report: 902548 Project: KALAMAZOO Group: Lead Solubility Testing - Phase 1

Tetra Tec	h								
QC Type	Analyte	Native	Spiked	Recovered	Units	Yield(%)	Limits (%)	RPD Limit(%)	RPD%
• •	as P (T-P) by SM4500-PE/EPA 365.1 atch: 1287640					Analysis D	ate: 11/12/	2020	
LCS1	Total phosphorus as P		0.4	0.429	mg/L	107	(90-110)		
LCS2	Total phosphorus as P		0.4	0.421	mg/L	105	(90-110)	20	1.9
MBLK	Total phosphorus as P			<0.01	mg/L				
MRL_CHK	Total phosphorus as P		0.02	0.0220	mg/L	110	(50-150)		
MS_202011060345	Total phosphorus as P	0.17	0.4	0.589	mg/L	105	(90-110)		
MS_202011090128	Total phosphorus as P	0.48	0.4	0.890	mg/L	102	(90-110)		
MSD_202011060345	Total phosphorus as P	0.17	0.4	0.573	mg/L	101	(90-110)	20	2.8
MSD_202011090128	Total phosphorus as P	0.48	0.4	0.927	mg/L	<u>111</u>	(90-110)	20	4.1

Spike recovery is already corrected for native results. Spikes which exceed Limits and Method Blanks with positive results are highlighted by <u>Underlining.</u> 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.

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** 11/27/2020 anosa t **EUROFINS EATON ANALYTICAL, LLC** 

ZIA8: Vanessa Berry

**Project Manager** 

Report: 903743 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

Eurofins Eaton Analytical, LLC

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### 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

		Environ-	Environ-			-	Environ-	Environ-	
SPECIFIC TESTS	METHOD OR mental mental Water as a		SPECIFIC TESTS	METHOD OR TECHNIQUE USED	mental (Drinking Water)	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	Hexavalent Chromium	EPA 218.7	x		x
1,4-Dioxane	EPA 522	х		x	Hexavalent Chromium	SM 3500-Cr B		х	
2.3.7.8-TCDD	Modified EPA 1613B	x		x	Hormones	EPA 539	х	~	x
Acrylamide	In House Method (2440)	x		x	Hydroxide as OH Calc.	SM 2330B	х		х
Algal Toxins/Microcystin	In House Method (3570)				Kjeldahl Nitrogen	EPA 351.2		х	
Alkalinity	SM 2320B	x	х	х	Legionella	Legiolert	х		x
Ammonia	EPA 350.1		х	х	Mercury	EPA 200.8	х		х
Ammonia	SM 4500-NH3 H		х	х	Metals	EPA 200.7 / 200.8	х	х	х
Anions and DBPs by IC	EPA 300.0	х	х	х	Microcystin LR	ELISA (2360)	х		х
Anions and DBPs by IC	EPA 300.1	х		х	Microcystin, Total	EPA 546	х		х
Asbestos	EPA 100.2	x	х		NDMA	EEA/Agilent 521.1	x		x
		~				In house method (2425)			
BOD / CBOD	SM 5210B		х	x	Nitrate/Nitrite Nitrogen	EPA 353.2	х	х	х
Bromate	In House Method (2447)	x		x	OCL, Pesticides/PCB	EPA 505	х		x
Carbamates	EPA 531.2	х		x	Ortho Phosphate	EPA 365.1	х	х	x
Carbonate as CO3	SM 2330B	х	х	x	Ortho Phosphorous Oxyhalides Disinfection	SM 4500P E	х		х
Carbonyls	EPA 556	x		x	Byproducts	EPA 317.0	х		x
COD	EPA 410.4 / SM 5220D	t	x		Perchlorate	EPA 331.0	x		x
Chloramines	SM 4500-CL G	x	x	x	Perchlorate (low and high)	EPA 314.0	x		x
Chlorinated Acids	EPA 515.4	x		x	Perfluorinated Alkyl Acids	EPA 537	x		x
Chlorinated Acids	EPA 555	x	1	x	Perfluorinated Polutant	In house Method (2434)	x		x
Chlorine Dioxide	SM 4500-CLO2 D Palin Test	x		x	рН	EPA 150.1	x		
Chlorine -Total/Free/ Combined Residual	SM 4500-Cl G	x	x	x	рН	SM 4500-H+B	x	x	x
Conductivity	EPA 120.1	1	x		Phenylurea Pesticides/ Herbicides	In House Method, based on EPA 532 (2448)	x		x
Conductivity	SM 2510B	x	x	x	Herbicides Pseudomonas	532 (2448) IDEXX Pseudalert (2461)	x		x
Corrosivity (Langelier Index)	SM 2330B	x	~	x	Radium-226	GA Institute of Tech	x		x
Cyanide, Amenable	SM 4500-CN G	x	x		Radium-228	GA Institute of Tech	x		x
Cyanide, Free	SM 4500-CN G	x	x	x	Radon-222	SM 7500RN	x		x
Cyanide, Total	EPA 335.4	x	x	x	Residue, Filterable	SM 2540C	x	x	x
Cyanogen Chloride (screen)	In House Method (2470)	x	~	x	Residue, Non-filterable	SM 2540D	~	x	~
Diquat and Paraquat	EPA 549.2	x		x	Residue, Total	SM 2540B		x	x
DBP/HAA	SM 6251B	x		x	Residue, Volatile	EPA 160.4		x	~
Dissolved Oxygen	SM 4500-O G		х	x	Semi-VOC	EPA 525.2	x		x
DOC	SM 5310C	x		х	Silica	SM 4500-Si D	х	х	
E. Coli	(MTF/EC+MUG)	х		х	Silica	SM 4500-SiO2 C	х	х	
	· · · · · ·						~		-
E. Coli	CFR 141.21(f)(6)(i)	x		x	Sulfide	SM 4500-S <sup>=</sup> D		х	
E. Coli	SM 9223		х		Sulfite	SM 4500-SO <sup>3</sup> B	х	х	x
E. Coli (Enumeration)	SM 9221B.1/ SM 9221F	х		х	Surfactants	SM 5540C	x	х	х
E. Coli (Enumeration)	SM 9223B	х		х	Taste and Odor Analytes	SM 6040E	х		х
EDB/DCBP	EPA 504.1	x			Total Coliform (P/A)	SM 9221 A, B	х		х
EDB/DBCP and DBP	EPA 551.1	x		x	Total Coliform (Enumeration)	SM 9221 A, B, C	x		x
EDTA and NTA	In House Method (2454)	x		x	Total Coliform / E. coli	Colisure SM 9223	x		x
Endothall	EPA 548.1	x		×	Total Coliform	SM 9221B	^	х	^
Endothall	In-house Method (2445)	x		х	Total Coliform with Chlorine Present	SM 9221B		x	
Enterococci	SM 9230B	x	х		Total Coliform / E.coli (P/A and Enumeration)	SM 9223	x		x
Fecal Coliform	SM 9221 E (MTF/EC)	х			TOC	SM 5310C	x	x	x
Fecal Coliform	SM 9221C, E (MTF/EC)		x		TOX	SM 5320B		x	1
Fecal Coliform	SM 9221E, E (MTF/EC)	x		x	Total Phenols	EPA 420.1		x	
(Enumeration) Fecal Coliform with	SM 9221E		x		Total Phenols	EPA 420.4	x	x	x
Chlorine Present Fecal Streptococci	SM 9221E	x	×		Total Phosphorous	SM 4500 P E	^	x	^
Fluoride	SM 4500-F C	x	x	x	Triazine Pesticides &	In House (3617)	x		x
Glyphosata	EPA 547	v		× ×	Degradates	EDA 190 1	v	v	v
Glyphosate   AMPA		x		×	Turbidity Turbidity	EPA 180.1	x	x	X
Glyphosate + AMPA Gross Alpha/Pata	In House Method (3618)	x	~	x	Turbidity	SM 2130B	X	х	~
Gross Alpha/Beta Gross Alpha Coprecipitation	EPA 900.0 SM 7110 C	x	x	x	Uranium by ICP/MS UV 254	EPA 200.8 SM 5910B	x		x
Hardness	SM 2340B	х	x	x	VOC	EPA 524.2	x		х
Heterotrophic Bacteria	In House Method (2439)	х		x	VOC	In House Method (2411)	х		x
Heterotrophic Bacteria	SM 9215 B	х		x	Yeast and Mold	SM 9610	х		х
Hexavalent Chromium	EPA 218.6	х	х	х	Field Sampling	N/A			1

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🔅 eurofins						
	Eaton Analytical	Acknowledgement of Samples Received				
Attn:	<b>Tetra Tech</b> 201 East Pine Street Suite 1000 Orlando, FL 32801 James Christopher	Client ID: TETRATECH-ORLAN Folder #: 903743 Project: KALAMAZOO Sample Group: Lead Solubility Testing - Phase 1 Project Manager: Vanessa Berry				
Phone:	407-480-3907	Phone	e: 503-310-3905			
tests liste		ed from you on <b>November 16, 2020</b> at <b>13:06</b> . They have his information is incorrect, please contact your service r LLC.				
Sample #	Sample ID		Sample Date			
202011160122	C.O.3 #0		11/09/2020 0802			
	Total phosphorus as P	Total phosphorus as PO4- Calc.				
202011160128	C.O.3 #1		11/09/2020 0805			
	Total phosphorus as P	Total phosphorus as PO4- Calc.				
02011160129	C.O.3 #2		11/09/2020 0845			
	Total phosphorus as P	Total phosphorus as PO4- Calc.				
<u>202011160130</u>	C.O.3 #3		11/09/2020 0849			
	Total phosphorus as P	Total phosphorus as PO4- Calc.				
202011160131	C.O.3 #4		11/09/2020 0853			
	Total phosphorus as P	Total phosphorus as PO4- Calc.				
02011160132	C.O.3 #5		11/09/2020 0934			
	@ICPMS					
202011160133	C.O.3 #6		11/09/2020 0928			
	Total phosphorus as P	Total phosphorus as PO4- Calc.				
02011160134	C.O.3 #7	· · · · · · · · · · · · · · · · · · ·	11/09/2020 0930			
	Total phosphorus as P	Total phosphorus as PO4- Calc.				
02011160135	C.O.3 #8		11/09/2020 1000			
	Total phosphorus as P	Total phosphorus as PO4- Calc.				
<u>02011160136</u>	C.O.3 #9		11/09/2020 1002			
		Total phoenborus as PO4 Colo				
	Total phosphorus as P	Total phosphorus as PO4- Calc.				

# **Test Description**

@ICPMS -- ICPMS Metals

eu	🛟 eurofins	U	HAIN C	<b>JF CUSTC</b>	CHAIN OF CUSTODY RECORD	D	du	SULTUR
	Eaton Analytical	EUROFINS EATON ANAL YTICAL USE ONLY:	T USE ONLY:					CLIC
750 Roy:	750 Royal Oaks Drive, Suite 100 Monrovia CA 91016-3629	LOGIN COMMENTS:			SAMPLES CI	SAMPLES CHECKED AGAINST COC BY: SAMPLES LOGGED IN BY:	COC BY: C	
Phone: 6		SAMPLE TEMP RECEIVED AT:	ED AT: IR Gun ID =	(Ohservation=	ري ا	SAMPLES REC'D DAY OF COLLECTION?	J.	(check for yes)
Fax: 626 800 566	Fax: 626 386 1101		IR Gun ID = $0$	(Observation=018		1 1		
Website:	.com	Compliance Acceptance Criteria: (Chemistry: 4 ± 2 °C ) (Microbiology: < 10°C )	Chemistry: 4 ± 2 °C	() (Microbiology: < 10°C )	ļ	1 :: :		
			T: Pick-Up / W	Walk-In / RedEx / UP	WETHOD OF SHIPMENT: Pick-Up / Walk-In / RedEx / UPS / DHL / Area Fast / Top Line / Other:	p Line / Other:	Inawed	N/A
TO BE COMPI	TO BE COMPLETED BY SAMPLER:	0184211	EZyshi		(check for yes)	(s)	(chec	(check for yes)
COMPANY	COMPANY/AGENCY NAME:	PROJECT CODE:		COMPL	COMPLIANCE SAMPLES		ICE SAMPLES	
TICHON T	TENCITEUN : and E Pine St. Orlando	do		- Requires stat Type of samples (circle one):	e forms ROUTINE	REGULATION INVOLVED: SPECIAL CONFIRMATION		(eg. SDWA, NPDES, etc.)
EEA CLIENT CODE:	CODE: COCID:	SAMPLE GROUP:	CL DIATEAA	0	SEE ATTACHED KIT ORDER FOR ANALYSES	ALYSES	(check for yes), OR	s), <u>OR</u>
TAT request	TAT requested: rush by adv notice only	STD 1 wk 3 day 2	2 day 1 day	_	LIST ALL ANALYSES REQUIRED (enter number of bottles sent for each test for each sample)	mber of bottles sent	for each test for	each sample)
combo		-		9				
ajamaz etad atamaz emple emit	SAMPLE ID	CLIENT LAB ID	אדפרס סאדא אדאס סאדא	112401		5	COM	SAMPLER COMMENTS
eo:8 bin	0 + 0.03 + 0	AN	2	1			Preserved	rved
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GH:8	6 (0.3 # 2				1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1			
hh:8	4 C.O.3 # 3							
8:53	3 CO3 # 4			_			A THE A	
9:3H	4 C.O.3 # 5					4	AN CLUSH	sy tepms
86:0	8 (.0.3 # 6							N. C.
9:30	0 (.0.3 #7	and the second se						
10:00	0 (03 #8							
R0:01	B CO.3 # 9		4	4	A head		A	
* MATRIX	* MATRIX TYPES: RSW = Raw Surface Water RGW = Raw Ground Water	<b>CFW</b> = Chlor(am)inated Fini <b>FW</b> = Other Finished Water	ted Finished Water Water	SEAW = Sea Water WW = Waste Water	r BW = Bottled Water SW = Storm Water	er SO = Soil if SL = Sludge	O = Other - F	<b>O</b> = Other - Please Identify
	SIGNATURE		PRINT NAME		COMPANY/TITLE		DATE	TIME
SAMPLED BY:	ARRAOS	CHOHECH-LOM) MULTION	120121	Arenois Te	TEMO TECH, PROJECT	Engineer	113120	02:51
	M. Areads	=	0	3	=	,	=	11
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			Eaton Analytical	EUROFINS EATON ANALYTICAL USE ONLY:	ONLY:				< 11 <
	75(		Ocke Drive Suite 100	LOGIN COMMENTS:	-		SAMPLES CHECKED AGAINST COC BY:	NST COC BY:	
	ωW	o royal onrovia, C	Monrovia, CA 91016-3629		20		SAMPLES LOGGED IN BY:	GGED IN BY:	_
	Ph	one: 626	Phone: 626 386 1100	5			REC'D DA	G	(check for yes)
	Fax	Fax: 626 386 1101	86 1101	(Other)	-111	(Observation=	°C) (Corr.Factor	50	
	80(	0 566 LA	800 566 LABS (800 566 5227)	Monrovia IR Gun ID =	= 0110	(01/0 (Observation=010)		-inal = $\frac{U_{0}}{U_{0}}$ °C)	
	We	ebsite: <u>w</u>	Website: www.EatonAnalytical.com	TYPE OF ICE: Real X Synthetic	No Ice	e CONDITION OF ICE:	OF ICE: Frozen Partially Frozen X	Thawed	N/A
				METHOD OF SHIPMENT: Pick	-Up / Walk-	In / Redex / UPS	Area Fast / To		
	TO BE	COMPLET	TO BE COMPLETED BY SAMPLER:	9284112h820	53		(check for ves)	(check	(check for ves)
1	COMF	PANY/AGE	COMPANY/AGENCY NAME:	PROJECT CODE:		COMPLIA	10000		
	Tel	TEHOI TEUM.	Un and E Pine St. Orlando	do	<u> </u>	- Requires stat Type of samples (circle one):	te forms	IVOLVED:	(eg. SDWA, NPDES, etc.)
	EEA C	EEA CLIENT CODE	-	SAMPLE GROUP:		EE ATTACHED I	IDER FOF	(chec	s), <u>OR</u>
	Tet	MOTEUL	tetatech-oricum	Lead solubility test-pholse 1	_	List ALL ANALYSE	List ALL ANALYSES REQUIRED (enter number of bottles sent for each test for each sample)	sent for each test for e	each sample)
	TAT re	equested:	TAT requested: rush by adv notice only	STD 1 wk 3 day 2 day	1 day —	9			
	ajqmaz Tad	ajamaz amit	SAMPLE ID	CLIENT LAB ID MATRIX ·	АТАО ОТЭГЭ	10401		SAM	SAMPLER COMMENTS
	6/11	e0:8	0.03 # 0	AW	-			Preserved	rved
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		5h:8	(.0.3 # 2						in the second
ar)		6:HO	C-0-3 # 3						
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		80:08	C-0-3 # 6						
		9:30	(.0.3 #7						
4		10:00	(03 #8						
1	->	R0:01	C-0.3 # 9	4		2		۵	1.2.1
- 2009 	* MA	TRIX T	* MATRIX TYPES: RSW = Raw Surface Water RGW = Raw Ground Water	<b>CFW</b> = Chlor(am)inated Finished Water <b>FW</b> = Other Finished Water	The state	SEAW = Sea Water WW = Waste Water	<b>BW</b> = Bottled Water <b>SO</b> = Soil <b>SW</b> = Storm Water <b>SL</b> = Sludge		0 = Other - Please Identify
			SIGNATURE	PRIN	PRINT NAME		COMPANY/TITLE	DATE	TIME
	SAMPL	ED BY: M.	Arenois (mortioi.	genose tehotech. com) Maria Ucupel	bel Aren Dis	is Teho	a tech, propert Engineer	113120	06:51
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je 6 d	RELINO	RELINQUISHED BY:	" UNADOUN	Churl B	ecul		tra	11/6,20	1206
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Page 6 of 12 pages



Tetra Tech

Suite 1000 Orlando, FL 32801

James Christopher 201 East Pine Street

**Eaton Analytical** 

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

Report: 903743 Project: KALAMAZOO Group: Lead Solubility Testing - Phase 1

The Comments Report may be blank if there are no comments for this report.

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

**Eaton Analytical** 

## Laboratory Hits

Report: 903743 Project: KALAMAZOO Group: Lead Solubility Testing - Phase 1

Samples Received on:

11/16/2020 13:06

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

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Analyzed	Analyte	Sample ID	Result	Federal MCL	Units	MRL
	202011160122	<u>C.O.3 #0</u>				
11/19/2020 09:29	Total phosphorus as P		0.025		mg/L	0.020
11/19/2020 10:49	Total phosphorus as PO	4- Calc.	0.077		mg/L	0.030
	202011160128	<u>C.O.3 #1</u>				
11/19/2020 09:38	Total phosphorus as P		0.10		mg/L	0.020
11/19/2020 10:50	Total phosphorus as PO	4- Calc.	0.31		mg/L	0.030
	202011160129	<u>C.O.3 #2</u>				
11/19/2020 10:23	Total phosphorus as P		1.0		mg/L	0.040
11/19/2020 10:51	Total phosphorus as PO	4- Calc.	3.1		mg/L	0.030
	202011160130	<u>C.O.3 #3</u>				
11/19/2020 10:24	Total phosphorus as P		2.3		mg/L	0.10
11/19/2020 10:51	Total phosphorus as PO	4- Calc.	7.1		mg/L	0.030
	202011160131	<u>C.O.3 #4</u>				
11/19/2020 09:41	Total phosphorus as P		0.61		mg/L	0.020
11/19/2020 10:50	Total phosphorus as PO	4- Calc.	1.9		mg/L	0.030
	202011160133	<u>C.O.3 #6</u>				
11/19/2020 09:42	Total phosphorus as P		0.54		mg/L	0.020
11/19/2020 10:50	Total phosphorus as PO	4- Calc.	1.6		mg/L	0.030
	202011160134	<u>C.O.3 #7</u>				
11/19/2020 10:25	Total phosphorus as P		1.1		mg/L	0.040
11/19/2020 10:51	Total phosphorus as PO	4- Calc.	3.4		mg/L	0.030
	202011160135	<u>C.O.3 #8</u>				
11/19/2020 09:46	Total phosphorus as P		0.46		mg/L	0.020
11/19/2020 10:51	Total phosphorus as PO	4- Calc.	1.4		mg/L	0.030
	202011160136	<u>C.O.3 #9</u>				
11/20/2020 10:47	Total phosphorus as P		0.94		mg/L	0.020
11/24/2020 07:23	Total phosphorus as PO	4- Calc.	2.9		mg/L	0.030



Tel: (626) 386-1100 Fax: (866) 988-3757 1 800 566 LABS (1 800 566 5227) Report: 903743 Project: KALAMAZOO Group: Lead Solubility Testing - Phase 1

Samples Received on:

11/16/2020 13:06

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

Prepped	Analyzed	Prep Batch	Analytical Batch	Method	Analyte	Result	Units	MRL	Dilution
C.O.3 #0	0 (20201116	01 <u>22)</u>				Samp	led on 11/09	/2020 080	2
		SM4500-PF	=/FPΔ 365 1 - <sup>-</sup>	Total phosphoru	is as PO4- Calc				
	11/19/20 10:49			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	0.077 (c)	mg/L	0.030	1
		SM4500-PI	E/EPA 365.1 - <sup>-</sup>	Total phosphoru	is as P (T-P)				
	11/19/20 09:29	)	1289154	(SM4500-PE/EPA 365.1)	Total phosphorus as P	0.025	mg/L	0.020	1
<u>C.O.3 #</u>	1 (20201116	<u>0128)</u>				Samp	led on 11/09	/2020 080	5
		SM4500-PE	E/EPA 365.1 - <sup>-</sup>	Total phosphoru	is as PO4- Calc.				
	11/19/20 10:50	)		(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	0.31 (c)	mg/L	0.030	1
		SM4500-PI	E/EPA 365.1 -	Total phosphoru	is as P (T-P)				
	11/19/20 09:38	3	1289154	(SM4500-PE/EPA 365.1)	Total phosphorus as P	0.10	mg/L	0.020	1
<u>C.O.3 #2</u>	2 (20201116	<u>0129)</u>				Samp	led on 11/09	/2020 084	5
		SM4500-PE	E/EPA 365.1 - <sup>-</sup>	Total phosphoru	is as PO4- Calc.				
	11/19/20 10:51			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	3.1 (c)	mg/L	0.030	1
		SM4500-PI	E/EPA 365.1 - <sup>-</sup>	Total phosphoru	is as P (T-P)				
	11/19/20 10:23	3	1289154	(SM4500-PE/EPA 365.1)	Total phosphorus as P	1.0	mg/L	0.040	2
<u>C.O.3 #</u> 3	3 (20201116	<u>0130)</u>				Samp	led on 11/09	/2020 084	9
		SM4500-PE	E/EPA 365.1 - <sup>-</sup>	Total phosphoru	is as PO4- Calc.				
	11/19/20 10:51			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	7.1 (c)	mg/L	0.030	1
		SM4500-PE	E/EPA 365.1 - <sup>-</sup>	Total phosphoru	is as P (T-P)				
	11/19/20 10:24	Ļ	1289154	(SM4500-PE/EPA 365.1)	Total phosphorus as P	2.3	mg/L	0.10	5
<u>C.O.3 #4</u>	4 (20201116	<u>0131)</u>				Samp	led on 11/09	/2020 085	3
		SM4500-PE	E/EPA 365.1 - <sup>-</sup>	Total phosphoru	is as PO4- Calc.				
	11/19/20 10:50			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	1.9 (c)	mg/L	0.030	1
		SM4500-PI	E/EPA 365.1 - <sup>-</sup>	Total phosphoru	is as P (T-P)				
	11/19/20 09:41		1289154	(SM4500-PE/EPA 365.1)	Total phosphorus as P	0.61	mg/L	0.020	1

C.O.3 #5 (202011160132)

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.

Sampled on 11/09/2020 0934

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Prepped	Analyzed	Prep Batch	Analytical Batch	Method	Analyte	Result	Units	MRL	Dilution
11/18/20	11/21/20 16:20	1288897	1289903	(EPA 200.8)	Lead Total ICAP/MS	ND	ug/L	0.50	1
<u>C.O.3 #6</u>	<u>6 (202011160</u>	<u>133)</u>				Sam	pled on 11/09	/2020 092	8
		SM4500-PI	E/EPA 365.1 - 1	Total phosphoru	is as PO4- Calc.				
	11/19/20 10:50			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	1.6 (c)	mg/L	0.030	1
		SM4500-PE	E/EPA 365.1 - 1	Total phosphoru	ıs as P (T-P)				
	11/19/20 09:42		1289154	(SM4500-PE/EPA 365.1)	Total phosphorus as P	0.54	mg/L	0.020	1
<u>C.O.3 #7</u>	7 (202011160	<u>134)</u>				Sam	pled on 11/09	/2020 093	0
		SM4500-PI	E/EPA 365.1 - 1	Total phosphoru	is as PO4- Calc.				
	11/19/20 10:51			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	3.4 (c)	mg/L	0.030	1
		SM4500-PE	E/EPA 365.1 - 1	Total phosphoru	is as P (T-P)				
	11/19/20 10:25		1289154	(SM4500-PE/EPA 365.1)	Total phosphorus as P	1.1	mg/L	0.040	2
<u>C.O.3 #8</u>	8 (202011160	<u>135)</u>				Sam	pled on 11/09	/2020 100	0
		SM4500-PI	E/EPA 365.1 - 1	Total phosphoru	is as PO4- Calc.				
	11/19/20 10:51			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	1.4 (c)	mg/L	0.030	1
		SM4500-PE	E/EPA 365.1 - 1	Total phosphoru	is as P (T-P)				
	11/19/20 09:46		1289154	(SM4500-PE/EPA 365.1)	Total phosphorus as P	0.46	mg/L	0.020	1
<u>C.O.3 #</u> 9	9 (202011160	<u>136)</u>				Sam	pled on 11/09	/2020 100	2
		SM4500-PE	E/EPA 365.1 - 1	Total phosphoru	is as PO4- Calc.				
	11/24/20 07:23			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	2.9 (c)	mg/L	0.030	1
		SM4500-PE	E/EPA 365.1 - 1	Total phosphoru	is as P (T-P)				
	11/20/20 10:47		1289614	(SM4500-PE/EPA 365.1)	Total phosphorus as P	0.94	mg/L	0.020	1

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

**Tetra Tech** 

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

**Eaton Analytical** 

Report: 903743 Project: KALAMAZOO Group: Lead Solubility Testing - Phase 1

> Samples Received on: 11/16/2020 13:06



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

Tetra Tech

Total phosphorus as P (T	-P)	
Analytical Batch: 128	9154	Analysis Date: 11/19/2020
202011160122	C.O.3 #0	Analyzed by: KA9B
202011160128	C.O.3 #1	Analyzed by: KA9B
202011160129	C.O.3 #2	Analyzed by: KA9B
202011160130	C.O.3 #3	Analyzed by: KA9B
202011160131	C.O.3 #4	Analyzed by: KA9B
202011160133	C.O.3 #6	Analyzed by: KA9B
202011160134	C.O.3 #7	Analyzed by: KA9B
202011160135	C.O.3 #8	Analyzed by: KA9B
Total phosphorus as P (T	-P)	
Analytical Batch: 128	9614	Analysis Date: 11/20/2020
202011160136	C.O.3 #9	Analyzed by: KA9B
ICPMS Metals		
Prep Batch: 1288897	Analytical Batch: 1289903	Analysis Date: 11/21/2020
202011160132	C.O.3 #5	Analyzed by: URDE

#### Laboratory QC Summary

Report: 903743 Project: KALAMAZOO Group: Lead Solubility Testing - Phase 1



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

Report: 903743 Project: KALAMAZOO Group: Lead Solubility Testing - Phase 1

Tetra Tec	h								
QC Туре	Analyte	Native	Spiked	Recovered	Units	Yield(%)	Limits (%)	RPD Limit(%)	RPD%
Total phosphorus	as P (T-P) by SM4500-PE/EPA 365.1								
Analytical B	atch: 1289154				A	Analysis D	ate: 11/19/	2020	
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			<0.01	mg/L				
MRL_CHK	Total phosphorus as P		0.02	0.0242	mg/L	121	(50-150)		
MS_202011160122	Total phosphorus as P	0.025	0.4	0.402	mg/L	94	(90-110)		
MS_202011160134	Total phosphorus as P	1.1	0.8	ND	mg/L				
MSD_202011160122	Total phosphorus as P	0.025	0.4	0.405	mg/L	95	(90-110)	20	0.62
MSD_202011160134	Total phosphorus as P	1.1	0.8	ND	mg/L				
Total phosphorus	as P (T-P) by SM4500-PE/EPA 365.1								
Analytical B	atch: 1289614				ŀ	Analysis D	ate: 11/20/	2020	
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			<0.01	mg/L				
MRL_CHK	Total phosphorus as P		0.02	0.0265	mg/L	133	(50-150)		
MS_202011110648	Total phosphorus as P	ND	0.4	0.410	mg/L	103	(90-110)		
MS_202011140057	Total phosphorus as P	1.2	0.8	ND	mg/L	99	(90-110)		
MSD_202011110648	Total phosphorus as P	ND	0.4	0.406	mg/L	102	(90-110)	20	0.78
MSD_202011140057	Total phosphorus as P	1.2	0.8	ND	mg/L				
ICPMS Metals by	EPA 200.8								
Analytical B	atch: 1289903				A	Analysis D	ate: 11/21/	2020	
LCS1	Lead Total ICAP/MS		50	51.6	ug/L	103	(85-115)		
LCS2	Lead Total ICAP/MS		50	51.9	ug/L	104	(85-115)	20	0.58
MBLK	Lead Total ICAP/MS			<0.25	ug/L				
MRL_CHK	Lead Total ICAP/MS		0.5	0.504	ug/L	101	(50-150)		
MS_202011140040	Lead Total ICAP/MS	64	50	112	ug/L	96	(70-130)		
MS2_202011140050	Lead Total ICAP/MS	5.9	50	53.1	ug/L	95	(70-130)		
MSD_202011140040	Lead Total ICAP/MS	64	50	114	ug/L	99	(70-130)	20	1.4
MSD2_202011140050	Lead Total ICAP/MS	5.9	50	52.1	ug/L	92	(70-130)	20	1.9

Spike recovery is already corrected for native results. Spikes which exceed Limits and Method Blanks with positive results are highlighted by <u>Underlining.</u> 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.

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** 11/27/2020 anosa t **EUROFINS EATON ANALYTICAL, LLC** 

ZIA8: Vanessa Berry

**Project Manager** 

Report: 903759 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

Eurofins Eaton Analytical, LLC

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#### 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

		Environ-	Environ-			-	Environ-	Environ-	
SPECIFIC TESTS	METHOD OR TECHNIQUE USED	mental (Drinking Water)	mental (Waste Water)	Water as a Component of Food and Bev/Bev/ Bottled Water	SPECIFIC TESTS	METHOD OR TECHNIQUE USED	mental (Drinking Water)	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	Hexavalent Chromium	EPA 218.7	x		x
1,4-Dioxane	EPA 522	х		x	Hexavalent Chromium	SM 3500-Cr B		х	
2.3.7.8-TCDD	Modified EPA 1613B	x		x	Hormones	EPA 539	х	~	x
Acrylamide	In House Method (2440)	x		x	Hydroxide as OH Calc.	SM 2330B	х		х
Algal Toxins/Microcystin	In House Method (3570)				Kjeldahl Nitrogen	EPA 351.2		х	
Alkalinity	SM 2320B	x	х	x	Legionella	Legiolert	х		х
Ammonia	EPA 350.1		х	х	Mercury	EPA 200.8	х		х
Ammonia	SM 4500-NH3 H		х	х	Metals	EPA 200.7 / 200.8	х	х	х
Anions and DBPs by IC	EPA 300.0	х	х	х	Microcystin LR	ELISA (2360)	x		х
Anions and DBPs by IC	EPA 300.1	х		х	Microcystin, Total	EPA 546	х		х
Asbestos	EPA 100.2	x	х		NDMA	EEA/Agilent 521.1	x		x
		~				In house method (2425)			
BOD / CBOD	SM 5210B		х	x	Nitrate/Nitrite Nitrogen	EPA 353.2	х	х	х
Bromate	In House Method (2447)	x		x	OCL, Pesticides/PCB	EPA 505	х		x
Carbamates	EPA 531.2	х		x	Ortho Phosphate	EPA 365.1	х	х	x
Carbonate as CO3	SM 2330B	х	х	x	Ortho Phosphorous Oxyhalides Disinfection	SM 4500P E	х		х
Carbonyls	EPA 556	x		x	Byproducts	EPA 317.0	х		x
COD	EPA 410.4 / SM 5220D	1	x		Perchlorate	EPA 331.0	x		x
Chloramines	SM 4500-CL G	x	x	x	Perchlorate (low and high)	EPA 314.0	x		x
Chlorinated Acids	EPA 515.4	x		x	Perfluorinated Alkyl Acids	EPA 537	x		x
Chlorinated Acids	EPA 555	x	1	x	Perfluorinated Polutant	In house Method (2434)	x		x
Chlorine Dioxide	SM 4500-CLO2 D Palin Test	x		x	рН	EPA 150.1	x		
Chlorine -Total/Free/ Combined Residual	SM 4500-Cl G	x	x	x	рН	SM 4500-H+B	x	x	x
Conductivity	EPA 120.1	1	x		Phenylurea Pesticides/ Herbicides	In House Method, based on EPA 532 (2448)	x		x
Conductivity	SM 2510B	x	x	x	Herbicides Pseudomonas	532 (2448) IDEXX Pseudalert (2461)	x		x
Corrosivity (Langelier Index)	SM 2330B	x	~	x	Radium-226	GA Institute of Tech	x		x
Cyanide, Amenable	SM 4500-CN G	x	x		Radium-228	GA Institute of Tech	x		x
Cyanide, Free	SM 4500-CN G	x	x	x	Radon-222	SM 7500RN	x		x
Cyanide, Total	EPA 335.4	x	x	x	Residue, Filterable	SM 2540C	x	x	x
Cyanogen Chloride (screen)	In House Method (2470)	x	~	x	Residue, Non-filterable	SM 2540D	~	x	~
Diquat and Paraquat	EPA 549.2	x		x	Residue, Total	SM 2540B		x	x
DBP/HAA	SM 6251B	x		x	Residue, Volatile	EPA 160.4		x	~
Dissolved Oxygen	SM 4500-O G		х	x	Semi-VOC	EPA 525.2	x		x
DOC	SM 5310C	x		х	Silica	SM 4500-Si D	х	х	
E. Coli	(MTF/EC+MUG)	х		х	Silica	SM 4500-SiO2 C	х	х	
	· · · · · ·						~		-
E. Coli	CFR 141.21(f)(6)(i)	x		x	Sulfide	SM 4500-S <sup>=</sup> D		х	
E. Coli	SM 9223		х		Sulfite	SM 4500-SO <sup>3</sup> B	х	х	x
E. Coli (Enumeration)	SM 9221B.1/ SM 9221F	х		х	Surfactants	SM 5540C	x	х	х
E. Coli (Enumeration)	SM 9223B	х		х	Taste and Odor Analytes	SM 6040E	х		х
EDB/DCBP	EPA 504.1	х			Total Coliform (P/A)	SM 9221 A, B	х		х
EDB/DBCP and DBP	EPA 551.1	x		x	Total Coliform (Enumeration)	SM 9221 A, B, C	x		x
EDTA and NTA	In House Method (2454)	x		x	Total Coliform / E. coli	Colisure SM 9223	x		x
Endothall	EPA 548.1	x		×	Total Coliform	SM 9221B	^	х	^
Endothall	In-house Method (2445)	x		х	Total Coliform with Chlorine Present	SM 9221B		x	
Enterococci	SM 9230B	x	х		Total Coliform / E.coli (P/A and Enumeration)	SM 9223	x		x
Fecal Coliform	SM 9221 E (MTF/EC)	х			TOC	SM 5310C	x	x	x
Fecal Coliform	SM 9221C, E (MTF/EC)		x		TOX	SM 5320B		x	1
Fecal Coliform	SM 9221E, E (MTF/EC)	x		x	Total Phenols	EPA 420.1		x	
(Enumeration) Fecal Coliform with	SM 9221E		x		Total Phenols	EPA 420.4	x	x	x
Chlorine Present Fecal Streptococci	SM 9221E	x	×		Total Phosphorous	SM 4500 P E	^	x	^
Fluoride	SM 4500-F C	x	x	x	Triazine Pesticides &	In House (3617)	x		x
Glyphosata	EPA 547	v		×	Degradates	EDA 190 1	v	v	v
Glyphosate   AMPA		x		×	Turbidity Turbidity	EPA 180.1	x	x	X
Glyphosate + AMPA Gross Alpha/Pata	In House Method (3618)	x	~	x	Turbidity	SM 2130B	x	х	~
Gross Alpha/Beta Gross Alpha Coprecipitation	EPA 900.0 SM 7110 C	x	x	x	Uranium by ICP/MS UV 254	EPA 200.8 SM 5910B	x		x
Hardness	SM 2340B	х	x	x	VOC	EPA 524.2	x		х
Heterotrophic Bacteria	In House Method (2439)	х		x	VOC	In House Method (2411)	х		х
Heterotrophic Bacteria	SM 9215 B	х		x	Yeast and Mold	SM 9610	х		х
Hexavalent Chromium	EPA 218.6	х	х	х	Field Sampling	N/A			1

750 Royal Oaks Dr., Ste 100, Monrovia, CA 91016 Tel (626) 386-1100 Fax (866) 988-3757 https://www.eurofinsus.com/Eaton Version 006 Issued: 05/04/20

below each sample. If this Eurofins Eaton Analytical, LLC Sample ID Test 4 #0 Total phosphorus as P Test 4 #1	Folder Proje Sample Gro Project Manag Pho rom you on <b>November 16, 2020</b> at <b>1306</b> . They hav information is incorrect, please contact your service	ID: TETRATECH-ORLAN r #: 903759 ect: KALAMAZOO up: Lead Solubility Testing - Phase 1 ger: Vanessa Berry ne: 503-310-3905 re been scheduled for the
01 East Pine Street uite 1000 orlando, FL 32801 ames Christopher 07-480-3907 ing samples were received find below each sample. If this Eurofins Eaton Analytical, LLC Sample ID Test 4 #0 Total phosphorus as P Test 4 #1	Folder Proje Sample Gro Project Manag Phot from you on <b>November 16, 2020</b> at <b>1306</b> . They hav information is incorrect, please contact your service C. Total phosphorus as PO4- Calc.	r #: 903759 ect: KALAMAZOO up: Lead Solubility Testing - Phase 1 ger: Vanessa Berry ne: 503-310-3905 re been scheduled for the e representative. Thank you Sample Date
07-480-3907 ing samples were received fr below each sample. If this Eurofins Eaton Analytical, LLC Sample ID Test 4 #0 Total phosphorus as P Test 4 #1	Pho from you on <b>November 16, 2020</b> at <b>1306</b> . They hav information is incorrect, please contact your service C. Total phosphorus as PO4- Calc.	ne: 503-310-3905 re been scheduled for the e representative. Thank you Sample Date
below each sample. If this Eurofins Eaton Analytical, LLC Sample ID Test 4 #0 Total phosphorus as P Test 4 #1	information is incorrect, please contact your service C. Total phosphorus as PO4- Calc.	e representative. Thank you Sample Date
Test 4 #0 Total phosphorus as P Test 4 #1		
Total phosphorus as P Test 4 #1		11/12/2020 0812
Test 4 #1		
Total phoophorus D		11/12/2020 0814
Total phosphorus as P	Total phosphorus as PO4- Calc.	
Test 4 #2		11/12/2020 0816
Total phosphorus as P	Total phosphorus as PO4- Calc.	
Test 4 #3		11/12/2020 0940
Total phosphorus as P	Total phosphorus as PO4- Calc.	
Test 4 #4		11/12/2020 0944
Total phosphorus as P	Total phosphorus as PO4- Calc.	
Test 4 #5		11/12/2020 0947
Total phosphorus as P	Total phosphorus as PO4- Calc.	
Test 4 #6		11/12/2020 1015
Total phosphorus as P	Total phosphorus as PO4- Calc.	
Test 4 #7		11/12/2020 1018
Total phosphorus as P	Total phosphorus as PO4- Calc	
		11/12/2020 1022
	Tatal abaarbarra as 204, 0.1	
	rotal prosphorus as PO4- Calc.	11/12/2020 10/0
10314 #3		11/12/2020 1048
	Total phosphorus as P Test 4 #3 Total phosphorus as P Test 4 #4 Total phosphorus as P Test 4 #5 Total phosphorus as P Test 4 #6 Total phosphorus as P	Test 4 #2Total phosphorus as PTotal phosphorus as PO4- Calc.Test 4 #3Total phosphorus as PTotal phosphorus as PTotal phosphorus as PO4- Calc.Test 4 #4Total phosphorus as PTotal phosphorus as PTotal phosphorus as PO4- Calc.Test 4 #5Total phosphorus as PO4- Calc.Test 4 #6Total phosphorus as PO4- Calc.Test 4 #6Total phosphorus as PO4- Calc.Test 4 #7Total phosphorus as PO4- Calc.Test 4 #8Total phosphorus as PO4- Calc.Test 4 #8Total phosphorus as PO4- Calc.Test 4 #9Total phosphorus as PO4- Calc.

**Test Description** 

🐝 eurofins		CHAIN OF CUSTODY RECORD	9 MATCA
Eaton Analytical			
750 Royal Oaks Drive, Suite 100 Monrovia CA 91016-3629	LOGIN COMMENTS:	SAMPLES CHECKED AGAINST COC BY: SAMPLES LOGGED IN BY:	3
Phone: 626 386 1100	SAMPLE TEMP RECEIVED AT:	SAMPLES REC'D DAY OF COLLECTION?	(check for yes)
Fax: 626 386 1101		0,8 °C) (Corr. Factor 0.3	1 1
Website: www FatonAnalytical com	÷	X	
	TYPE OF ICE: Real A Synthetic No Ice METHOD OF SHIPMENT: Pick-Up / Walk-In	FedEx UPS / DHL / Area Fast / Top Line / Other.	edNA
TO BE COMPLETED BY SAMPLER:	G76451148923	(check for yes)	(check for yes)
COMPANY/AGENCY NAME:	PROJECT CODE:		, LES
TETO THEN JON & PINE SI. UNLONDO	Orlando	- Requires state forms REGULATION INVOLVED: Type of samples (circle one): ROUTINE SPECIAL CONFIRMATION	(eg. SDWA, NPDES, etc.)
ш	SAMPLE GROUP: LOUN CONUNITY TEST-PHILE 1	SEE ATTACHED KIT ORDER FOR ANALYSES	(check for yes), <u>OR</u> ch test for each samnle)
TAT requested: rush by adv notice only	STD1 wk3 day2 day1 day	-	
SAMPLE DATE SAMPLE TIME SAMPLE D	CLIENT LAB ID MATRIX *	) (10)40)T	SAMPLER COMMENTS
0 # H 1531 E1:8 E1111	FW		Preserved
1 8:14 + 1521 HI:8 1			WITH Hasoy
8:16 TRSH 4 + 2			
9:40 Test 4 # 3			
q:44 Tect 4 # 4			
9:47 Test 4 # 5			
10:15 Test 4 # b			
F# H +237 81:01			
8 # h +521 ee:01			All second se
10:48 TEST 4 #9	4		-0
* MATRIX TYPES: RSW = Raw Surface Water RGW = Raw Ground Water	<b>CFW</b> = Chlor(am)inated Finis <b>FW</b> = Other Finished Water	ater <b>SO</b> = Soil er <b>SL</b> = Sludge	0 = Other - Please Identify
SAMPLED BY: M. ALPINDS ( MICHIN. CILPADS COLECTION COM)	PRINT NAME PRINT NOT OLD VOLDEL	ALENOIS TEATION POUNDER FORMADE WISTAD	TIME ()
RELINQUISHED BY: M. ALCAOS		Carolin II	11
RECEIVED BY: UMMAYDOO	mr Chuch Bac	ch 22B 11.16.20	1306
RECEIVED BY:			
QA FO 0029.2 (Version 2) (08/28/2014)	÷		PAGE OF



Tetra Tech

Suite 1000 Orlando, FL 32801

James Christopher 201 East Pine Street

**Eaton Analytical** 

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

Report: 903759 Project: KALAMAZOO Group: Lead Solubility Testing - Phase 1

The Comments Report may be blank if there are no comments for this report.

Laboratory Hits

**Eaton Analytical** 

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

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Tetra Tech

Suite 1000 Orlando, FL 32801

James Christopher

201 East Pine Street

Report: 903759 Project: KALAMAZOO Group: Lead Solubility Testing - Phase 1

Samples Received on: 11/16/2020 1306

nalyzed	Analyte	Sample ID	Result	Federal MCL	Units	MRL
	202011160201	<u>Test 4 #1</u>				
1/20/2020 10:42	Total phosphorus as P		0.079		mg/L	0.020
1/24/2020 07:23	Total phosphorus as PO4	4- Calc.	0.24		mg/L	0.030
	202011160202	<u>Test 4 #2</u>				
1/20/2020 11:25	Total phosphorus as P		1.0		mg/L	0.040
1/24/2020 07:23	Total phosphorus as PO4	4- Calc.	3.1		mg/L	0.030
	202011160203	<u>Test 4 #3</u>				
1/24/2020 13:14	Total phosphorus as P		2.0		mg/L	0.10
1/25/2020 11:50	Total phosphorus as PO4	4- Calc.	6.1		mg/L	0.030
	202011160204	<u>Test 4 #4</u>				
1/24/2020 12:30	Total phosphorus as P		0.64		mg/L	0.020
1/25/2020 11:49	Total phosphorus as PO4	4- Calc.	2.0		mg/L	0.030
	202011160205	<u>Test 4 #5</u>				
1/24/2020 13:15	Total phosphorus as P		1.3		mg/L	0.040
1/25/2020 11:50	Total phosphorus as PO4	4- Calc.	4.0		mg/L	0.030
	202011160206	<u>Test 4 #6</u>				
1/24/2020 12:34	Total phosphorus as P		0.57		mg/L	0.020
1/25/2020 11:49	Total phosphorus as PO4	4- Calc.	1.7		mg/L	0.030
	202011160207	<u>Test 4 #7</u>				
1/24/2020 13:15	Total phosphorus as P		1.1		mg/L	0.040
1/25/2020 11:50	Total phosphorus as PO4	4- Calc.	3.4		mg/L	0.030
	202011160208	<u>Test 4 #8</u>				
1/24/2020 12:36	Total phosphorus as P		0.46		mg/L	0.020
1/25/2020 11:49	Total phosphorus as PO4	4- Calc.	1.4		mg/L	0.030
	202011160209	<u>Test 4 #9</u>				
1/24/2020 12:37	Total phosphorus as P		0.98		mg/L	0.020
1/25/2020 11:49	Total phosphorus as PO4	4- Calc.	3.0		mg/L	0.030



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Samples Received on:

11/16/2020 1306

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

Prepped	Analyzed	Prep Batch	Analytical Batch	Method	Analyte	Result	Units	MRL	Dilution
<u>Test 4 #</u>	0 (20201116	0200)				Samp	oled on 11/12	/2020 081	2
		SM4500-PF		otal phosphoru	is as PO4- Calc.				
	11/24/20 07:24			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	ND (c)	mg/L	0.030	1
		SM4500-PE	E/EPA 365.1 - T	otal phosphoru	is as P (T-P)				
	11/20/20 11:32	2	1289614	(SM4500-PE/EPA 365.1)	Total phosphorus as P	ND	mg/L	0.020	1
<u>Test 4 #</u>	1 (20201116	0201)				Samp	oled on 11/12	/2020 081	4
		SM4500-PE	E/EPA 365.1 - T	otal phosphoru	is as PO4- Calc.				
	11/24/20 07:23			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	0.24 (c)	mg/L	0.030	1
		SM4500-PE	E/EPA 365.1 - T	otal phosphoru	is as P (T-P)				
	11/20/20 10:42	2	1289614	(SM4500-PE/EPA 365.1)	Total phosphorus as P	0.079	mg/L	0.020	1
<u>Test 4 #</u> 2	2 (20201116	0202)				Samp	oled on 11/12	/2020 081	6
		SM4500-PF		otal phosphoru	is as PO4- Calc.				
	11/24/20 07:23			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	3.1 (c)	mg/L	0.030	1
		SM4500-PE	E/EPA 365.1 - T	otal phosphoru	is as P (T-P)				
	11/20/20 11:25	5	1289614	(SM4500-PE/EPA 365.1)	Total phosphorus as P	1.0	mg/L	0.040	2
<u>Test 4 #</u>	3 (20201116	0203)				Samp	oled on 11/12	/2020 094	0
		SM4500-PE	E/EPA 365.1 - T	otal phosphoru	is as PO4- Calc.				
	11/25/20 11:50			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	6.1 (c)	mg/L	0.030	1
		SM4500-PE	E/EPA 365.1 - T	otal phosphoru	is as P (T-P)				
	11/24/20 13:14	ŀ	1290652	(SM4500-PE/EPA 365.1)	Total phosphorus as P	2.0	mg/L	0.10	5
<u>Test 4 #</u>	4 (20201116	0204)				Samp	oled on 11/12	/2020 094	4
		SM4500-PE	E/EPA 365.1 - T	otal phosphoru	is as PO4- Calc.				
	11/25/20 11:49			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	2.0 (c)	mg/L	0.030	1
		SM4500-PE	E/EPA 365.1 - T	otal phosphoru	is as P (T-P)				
	11/24/20 12:30	)	1290652	(SM4500-PE/EPA 365.1)	Total phosphorus as P	0.64	mg/L	0.020	1
<u>Test 4 #</u>	<u>5 (20201116</u>	0205)				Samp	oled on 11/12	/2020 094	7

#### 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.

:	SM4500-PE/EPA 365.1	<ul> <li>Total phosphoru</li> </ul>	s as P (T-P)			
11/24/20 12:37	1290652	(SM4500-PE/EPA 365.1)	Total phosphorus as P	0.98	mg/L	0.020

Total phosphorus as PO4- Calc.

Rounding on totals after summation

**Tetra Tech** James Christopher 201 East Pine Street Suite 1000

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Orlando, FL 32801

Analyzed

11/25/20 11:50

11/24/20 13:15

11/25/20 11:49

11/24/20 12:34

11/25/20 11:50

11/24/20 13:15

11/25/20 11:49

11/24/20 12:36

11/25/20 11:49

Test 4 #9 (202011160209)

Test 4 #8 (202011160208)

Test 4 #7 (202011160207)

Test 4 #6 (202011160206)

Prepped

Method

(SM4500-PE/EPA

365.1)

(SM4500-PE/EPA

365.1)

365.1)

365.1)

365.1)

(SM4500-PE/EPA

365.1)

365.1)

365.1)

(SM4500-PE/EPA

365.1)

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

SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.

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

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

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

Analyte

Total phosphorus as PO4- Calc.

Total phosphorus as P

(SM4500-PE/EPA Total phosphorus as PO4- Calc.

(SM4500-PE/EPA Total phosphorus as PO4- Calc.

(SM4500-PE/EPA Total phosphorus as PO4- Calc.

(SM4500-PE/EPA Total phosphorus as P

Total phosphorus as P

(SM4500-PE/EPA Total phosphorus as P

Report: 903759 Project: KALAMAZOO Group: Lead Solubility Testing - Phase 1

Result

4.0 (c)

1.3

1.7 (c)

0.57

3.4 (c)

1.1

1.4 (c)

0 46

3.0 (c)

Samples Received on: 11/16/2020 1306

Units

mg/L

mg/L

mg/L

mg/L

mg/L

mg/L

ma/L

ma/L

ma/L

Sampled on 11/12/2020 1048

Sampled on 11/12/2020 1022

Sampled on 11/12/2020 1018

Sampled on 11/12/2020 1015

MRL

0.030

0.040

0.030

0.020

0.030

0.040

0.030

0.020

0.030

Dilution

1

2

1

1

1

2

1

1

1

1

**Eaton Analytical** 

Prep Batch Analytical Batch

1290652

1290652

1290652

1290652

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

Tetra Tech

#### Total phosphorus as P (T-P) Analytical Batch: 1289614 202011160200 Test 4 #0 Test 4 #1 202011160201 202011160202 Test 4 #2 Total phosphorus as P (T-P) Analytical Batch: 1290652 202011160203 Test 4 #3 202011160204 Test 4 #4 202011160205 Test 4 #5 Test 4 #6 202011160206

202011100200	1031 4 #0
202011160207	Test 4 #7
202011160208	Test 4 #8
202011160209	Test 4 #9

Report: 903759 Project: KALAMAZOO Group: Lead Solubility Testing - Phase 1

#### Analysis Date: 11/20/2020

Analyzed by: KA9B Analyzed by: KA9B Analyzed by: KA9B

#### Analysis Date: 11/24/2020

Analyzed by: KA9B Analyzed by: KA9B



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Report: 903759 Project: KALAMAZOO Group: Lead Solubility Testing - Phase 1

Tetra Tec	h								
QC Туре	Analyte	Native	Spiked	Recovered	Units	Yield(%)	Limits (%)	RPD Limit(%)	RPD%
• •	as P (T-P) by SM4500-PE/EPA 365.1								
Analytical B	atch: 1289614				A	Analysis D	ate: 11/20/	2020	
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			<0.01	mg/L				
MRL_CHK	Total phosphorus as P		0.02	0.0265	mg/L	133	(50-150)		
MS_202011110648	Total phosphorus as P	ND	0.4	0.410	mg/L	103	(90-110)		
MS_202011140057	Total phosphorus as P	1.2	0.8	ND	mg/L	99	(90-110)		
MSD_202011110648	Total phosphorus as P	ND	0.4	0.406	mg/L	102	(90-110)	20	0.78
MSD_202011140057	Total phosphorus as P	1.2	0.8	ND	mg/L				
Total phosphorus	as P (T-P) by SM4500-PE/EPA 365.1								
Analytical B	atch: 1290652				A	Analysis D	ate: 11/24/	2020	
LCS1	Total phosphorus as P		0.4	0.408	mg/L	102	(90-110)		
LCS2	Total phosphorus as P		0.4	0.396	mg/L	99	(90-110)	20	2.7
MBLK	Total phosphorus as P			<0.01	mg/L				
MRL_CHK	Total phosphorus as P		0.02	0.0229	mg/L	115	(50-150)		
MS_202011100283	Total phosphorus as P	ND	0.4	0.416	mg/L	104	(90-110)		
MS_202011110651	Total phosphorus as P	ND	0.4	0.397	mg/L	95	(90-110)		
MSD_202011100283	Total phosphorus as P	ND	0.4	0.406	mg/L	101	(90-110)	20	2.5
MSD_202011110651	Total phosphorus as P	ND	0.4	0.397	mg/L	95	(90-110)	20	0.0

Spike recovery is already corrected for native results. Spikes which exceed Limits and Method Blanks with positive results are highlighted by <u>Underlining.</u> 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.

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** 12/09/2020 (1 MOSA **EUROFINS EATON ANALYTICAL, LLC** 

ZIA8: Vanessa Berry

**Project Manager** 

Report: 905128 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

Eurofins Eaton Analytical, LLC

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#### 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

		Environ-	Environ-			-	Environ-	Environ-	
SPECIFIC TESTS	METHOD OR TECHNIQUE USED	mental (Drinking Water)	mental (Waste Water)	Water as a Component of Food and Bev/Bev/ Bottled Water	SPECIFIC TESTS	METHOD OR TECHNIQUE USED	mental (Drinking Water)	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	Hexavalent Chromium	EPA 218.7	x		x
1,4-Dioxane	EPA 522	х		x	Hexavalent Chromium	SM 3500-Cr B		х	
2.3.7.8-TCDD	Modified EPA 1613B	x		x	Hormones	EPA 539	х	~	x
Acrylamide	In House Method (2440)	x		x	Hydroxide as OH Calc.	SM 2330B	х		х
Algal Toxins/Microcystin	In House Method (3570)				Kjeldahl Nitrogen	EPA 351.2		х	
Alkalinity	SM 2320B	x	х	х	Legionella	Legiolert	х		x
Ammonia	EPA 350.1		х	х	Mercury	EPA 200.8	х		х
Ammonia	SM 4500-NH3 H		х	х	Metals	EPA 200.7 / 200.8	х	х	х
Anions and DBPs by IC	EPA 300.0	х	х	х	Microcystin LR	ELISA (2360)	x		х
Anions and DBPs by IC	EPA 300.1	х		х	Microcystin, Total	EPA 546	х		х
Asbestos	EPA 100.2	x	х		NDMA	EEA/Agilent 521.1	x		x
		~				In house method (2425)			
BOD / CBOD	SM 5210B		х	x	Nitrate/Nitrite Nitrogen	EPA 353.2	х	х	х
Bromate	In House Method (2447)	x		x	OCL, Pesticides/PCB	EPA 505	х		x
Carbamates	EPA 531.2	х		x	Ortho Phosphate	EPA 365.1	х	х	x
Carbonate as CO3	SM 2330B	х	х	x	Ortho Phosphorous Oxyhalides Disinfection	SM 4500P E	х		х
Carbonyls	EPA 556	x		x	Byproducts	EPA 317.0	х		x
COD	EPA 410.4 / SM 5220D	1	x		Perchlorate	EPA 331.0	x		x
Chloramines	SM 4500-CL G	x	x	x	Perchlorate (low and high)	EPA 314.0	x		x
Chlorinated Acids	EPA 515.4	x		x	Perfluorinated Alkyl Acids	EPA 537	x		x
Chlorinated Acids	EPA 555	x	1	x	Perfluorinated Polutant	In house Method (2434)	x		x
Chlorine Dioxide	SM 4500-CLO2 D Palin Test	x		x	рН	EPA 150.1	x		
Chlorine -Total/Free/ Combined Residual	SM 4500-Cl G	x	x	x	рН	SM 4500-H+B	x	x	x
Conductivity	EPA 120.1	1	x		Phenylurea Pesticides/ Herbicides	In House Method, based on EPA 532 (2448)	x		x
Conductivity	SM 2510B	x	x	x	Herbicides Pseudomonas	532 (2448) IDEXX Pseudalert (2461)	x		x
Corrosivity (Langelier Index)	SM 2330B	x	~	x	Radium-226	GA Institute of Tech	x		x
Cyanide, Amenable	SM 4500-CN G	x	x		Radium-228	GA Institute of Tech	x		x
Cyanide, Free	SM 4500-CN G	x	x	x	Radon-222	SM 7500RN	x		x
Cyanide, Total	EPA 335.4	x	x	x	Residue, Filterable	SM 2540C	x	x	x
Cyanogen Chloride (screen)	In House Method (2470)	x	~	x	Residue, Non-filterable	SM 2540D	~	x	~
Diquat and Paraquat	EPA 549.2	x		x	Residue, Total	SM 2540B		x	x
DBP/HAA	SM 6251B	x		x	Residue, Volatile	EPA 160.4		x	~
Dissolved Oxygen	SM 4500-O G		х	x	Semi-VOC	EPA 525.2	x		x
DOC	SM 5310C	x		х	Silica	SM 4500-Si D	х	х	
E. Coli	(MTF/EC+MUG)	х		х	Silica	SM 4500-SiO2 C	х	х	
	· · · · ·						~		-
E. Coli	CFR 141.21(f)(6)(i)	x		x	Sulfide	SM 4500-S <sup>=</sup> D		х	
E. Coli	SM 9223		х		Sulfite	SM 4500-SO <sup>3</sup> B	х	х	x
E. Coli (Enumeration)	SM 9221B.1/ SM 9221F	х		х	Surfactants	SM 5540C	x	х	х
E. Coli (Enumeration)	SM 9223B	х		х	Taste and Odor Analytes	SM 6040E	х		х
EDB/DCBP	EPA 504.1	х			Total Coliform (P/A)	SM 9221 A, B	х		х
EDB/DBCP and DBP	EPA 551.1	x		x	Total Coliform (Enumeration)	SM 9221 A, B, C	x		x
EDTA and NTA	In House Method (2454)	x		x	Total Coliform / E. coli	Colisure SM 9223	x		x
Endothall	EPA 548.1	x		×	Total Coliform	SM 9221B	^	х	^
Endothall	In-house Method (2445)	x		х	Total Coliform with Chlorine Present	SM 9221B		x	
Enterococci	SM 9230B	x	х		Total Coliform / E.coli (P/A and Enumeration)	SM 9223	x		x
Fecal Coliform	SM 9221 E (MTF/EC)	x			TOC	SM 5310C	x	x	x
Fecal Coliform	SM 9221C, E (MTF/EC)		x		TOX	SM 5320B		x	1
Fecal Coliform	SM 9221E, E (MTF/EC)	x		x	Total Phenols	EPA 420.1		x	
(Enumeration) Fecal Coliform with	SM 9221E		x		Total Phenols	EPA 420.4	x	x	x
Chlorine Present Fecal Streptococci	SM 9221E	x	×		Total Phosphorous	SM 4500 P E	^	x	^
Fluoride	SM 4500-F C	x	x	x	Triazine Pesticides &	In House (3617)	x		x
Glyphosata	EPA 547	v		× ×	Degradates	EDA 190 1	v	v	v
Glyphosate   AMPA		x		×	Turbidity Turbidity	EPA 180.1	x	x	X
Glyphosate + AMPA Gross Alpha/Pata	In House Method (3618)	x	~	x	Turbidity	SM 2130B	X	х	~
Gross Alpha/Beta Gross Alpha Coprecipitation	EPA 900.0 SM 7110 C	x	x	x	Uranium by ICP/MS UV 254	EPA 200.8 SM 5910B	x		x
Hardness	SM 2340B	х	x	x	VOC	EPA 524.2	x		х
Heterotrophic Bacteria	In House Method (2439)	х		x	VOC	In House Method (2411)	х		x
Heterotrophic Bacteria	SM 9215 B	х		x	Yeast and Mold	SM 9610	х		х
Hexavalent Chromium	EPA 218.6	х	х	х	Field Sampling	N/A			1

750 Royal Oaks Dr., Ste 100, Monrovia, CA 91016 Tel (626) 386-1100 Fax (866) 988-3757 https://www.eurofinsus.com/Eaton Version 006 Issued: 05/04/20

🔅 eurofin	S Eaton Analytical		
		Acknowledgement of Samples Receive	d
	<b>Tetra Tech</b> 201 East Pine Street Suite 1000 Orlando, FL 32801	Folde Proj	t ID: TETRATECH-ORLAN er #: 905128 ject: KALAMAZOO oup: Lead Solubility Testing - Phase 1
	James Christopher 407-480-3907		iger: Vanessa Berry one: 503-310-3905
tests liste	÷ .	from you on <b>November 23, 2020</b> at <b>1022</b> . They ha information is incorrect, please contact your servic .C.	
Sample #	Sample ID		Sample Date
202011230219	Test 6 No.0 Initial		11/19/2020 0822
	Total phosphorus as P	Total phosphorus as PO4- Calc.	
202011230220	Test 6 No.1 Initial		11/19/2020 0824
	Total phosphorus as P	Total phosphorus as PO4- Calc.	
<u>202011230221</u>	Test 6 No.2 Initial		11/19/2020 0826
	Total phosphorus as P	Total phosphorus as PO4- Calc.	
202011230222	Test 6 No.3 Initial		11/19/2020 0858
	Total phosphorus as P	Total phosphorus as PO4- Calc.	
202011230223	Test 6 No.4 Initial		11/19/2020 0856
	Total phosphorus as P	Total phosphorus as PO4- Calc.	
202011230224	Test 6 No.5 Initial		11/19/2020 0900
	Total phosphorus as P	Total phosphorus as PO4- Calc.	
202011230225	Test 6 No.6 Initial		11/19/2020 0926
	Total phosphorus as P	Total phosphorus as PO4- Calc.	
202011230226	Test 6 No.7 Initial		11/19/2020 0928
	Total phosphorus as P	Total phosphorus as PO4- Calc.	
202011230227	Test 6 No.8 Initial		11/19/2020 0930
	Total phosphorus as P	Total phosphorus as PO4- Calc.	
202011230228	Test 6 No.9 Initial		11/19/2020 0955
	,		

**Test Description** 

Total phosphorus as P

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Total phosphorus as PO4- Calc.

🐝 eurofins Eaton Analytical		CHAI	IN OI	= CUST	ODY F	CHAIN OF CUSTODY RECORD		Cho	6105175
	EUROFINS EATON ANALYTICAL USE ONLY: LOGIN COMMENTS:	ICAL USE C	NLLY:			SAMPLES CHECKED AGAINST COC BY:	CKED AGAIN	IST COC BY:	-4
750 Royal Oaks Drive, Suite 100 Monrovia, CA 91016-3629						Ś	SAMPLES LOGGED IN BY:	GGED IN BY:	11
Phone: 626 386 1100 Fax: 626 386 1101	SAMPLE TEMP RECEIVED AT:	ED AT: IR Gun ID =		(Observation=	tion=	°C) (Corr.Factor	SAMPLES REC'D DAY OF COLLECTION?		(check for yes)
800 566 LABS (800 566 5227)	Monrovia IR Gun ID = $\left(\rho \frac{1}{2}\right)W$ (Observatic Compliance Acceptance Criteria: (Chemistry: 4+2 °C) (Microbiology < 10°C)	IR Gun ID =	= (03/W	M (Observation=	tion= 7-7	°C) (Corr.Factor- <u>C</u>	$O \cdot \mathcal{L}^{\circ} C$ (Final =	inal = $\frac{1}{2} \cdot \frac{1}{2} \circ C$	, f
Website: www.EatonAnalytical.com	TYPE OF ICE: Real Synthetic No Ice CONDITION OF ICE: Frozen Partially Frozen	Synthetic_	No Ice	Ice COND	CONDITION OF ICE: Frozen	: Frozen Pa	Partially Frozen	Thawed	N/A
TO BE COMPLETED BY SAMPLER.					22	(check for ves)		(che	- check for ves)
COMPANY/AGENCY NAME:	PROJECT CODE:			COM	COMPLIANCE SAMPLES		NON-COMPL		
TEPTION TECHN 2021 & PLINE ST OMONO	0		ee!	<ul> <li>Requires stat Type of samples (circle one):</li> </ul>	Requires state forms (circle one): ROUTI	NE SPECIAL	L CONFIRMATION INVOLVED:	IVOLVED:	(eg. SDWA, NPDES, etc.)
TEATODE: CODE: COC ID: TEATO FECTA-OVI CUA	LEON SUNDINAT	Test-Phose 1	181	SEE ATTACH	HED KIT OR	SEE ATTACHED KIT ORDER FOR ANALYSES       (check for yes), <u>OR</u> List ALL ANALYSES REQUIRED (enter number of bottles sent for each test for each sample)	.YSES er of bottles se	(check for yes), <u>OR</u> ent for each test for each se	ss), <u>OR</u> each sample)
TAT requested: rush by adv notice only	STD1 wk3 day	2 day	1 day	8-1					-
SAMPLE DATE SAMPLE TIME SAMPLE	CLIENT LAB ID	* XIRTAM ATAO OJEIR	ATAO OJEIF	intot				SAI	SAMPLER COMMENTS
11/19 8:22 Test 6 No.0 11/1901		fw		_				preserv	preserved with
1 T.ON   HI:8 1		_						HZ	H2504
_								_	
8:58 NO.3									
_			~						
G.0N 00:0									
		_							
_									
A HON A GGIA A		D						5	
* MATRIX TYPES: RSW = Raw Surface Water RGW = Raw Ground Water	<b>CFW</b> = Chlor(am)inat <b>FW</b> = Other Finished	ed Finished / Water		SEAW = Sea Water WW = Waste Water		BW = Bottled Water SW = Storm Water	SO = Soil SL = Sludge		0 = Other - Please Identify
	The second s	PRINT	PRINT NAME			<b>OMPANY/TITLE</b>		DATE	TIME
REFINOUISHED BY: M. CARCHOLS	MON	O ISOMALI ARENOIS	1 Aren		Tehu Teuh	Project	Engineer	1120120	MJ NO:H
RECEIVED BY:			=			11		2	
RELINQUISHED BY:	1.0	V							
RECEIVED BY:	1000	13	M	7		100		il calo	5
A FO AND 2 Minimum V MBDBIDD111	1/1~1/	M.	n la l	-0		5			110
QA FO 0029.2 (Version 2) (08/28/2014)								PAGE	OF

Created By: - f/utoGenerated)     Group Name: Lead Solubility Testing - Phase 1       Deliver By: 1/16/2020     PO#J/00E#:       Deliver By: 1/16/2020     PO#J/00E#:       StG: Buttle Orders     Description: Every 1 week on Mon       Ice Type: W     Description: Every 1 week on Mon       StG: East Pine Street     Send Report to       Tetra Tech     Tetra Tech       Tetra Tech     Tetra Tech       Soit East Pine Street     Soit East Pine Street       Soit Cast Pine Street     Soit East Pine Street       Attru James Christopher     Attru James Christopher       Phone: 407-480-3907     Fax: 407-639-3790       Fax: 407-639-3790     Attru James Christopher       Phone: 407-480-3907     Fax: 407-639-3790       Fax: 407-639-3790     Fax: 407-639-3790       Solutus as P     1 - 2.50m Job/ I.o. Preservative information J       Solutus as P     <
Send Report to     Billing Address       Tetra Tech     Tetra Tech       201 East Pine Street     201 East Pine Street       Suite 1000     Orlando, FL 32801       Prime Street     Suite 1000       Orlando, FL 32801     Attr. James Christopher       Phone: 407-480-3907     Attr. James Christopher       Phone: 407-480-3907     Fax: 407-839-3790       Fax: 407-839-3790     Tetra Tech       Datte Qty - Type [ preservative information ]     Total       1 - 250ml poly [ 0.5 ml H2SO4 (50%) ]     20       1 - 250ml poly [ no preservative ]     20       1 - 250ml poly [ no preservative ]     20
Attr. James Christopher         Attr. James Christopher           Phone: 407-480-3907         Attr. James Christopher           Phone: 407-480-3907         Fax: 407-480-3907           Fax: 407-480-3907         Fax: 407-480-3907           Fax: 407-480-3907         Fax: 407-480-3907           Bottle Qty - Type [ preservative information ]         Total           1 - 250ml poly [ no preservative ]         20           1 - 250ml poly [ no preservative ]         20
ype     Total       Iy     [0.5 ml H2SO4 (50%)]       20       Iy     [no preservative]]       20       Sum Bottles: 40
] 20 20 Sum Bottles: 40
Sum Bottles:
Sum Bottles: 40

Prepared By

# of Coolers

Tracking #

Via

Date Shipped

Status

Code



Tetra Tech

Suite 1000 Orlando, FL 32801

James Christopher 201 East Pine Street

**Eaton Analytical** 

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

Report: 905128 Project: KALAMAZOO Group: Lead Solubility Testing - Phase 1

The Comments Report may be blank if there are no comments for this report.

Laboratory Hits

**Eaton Analytical** 

Tel: (626) 386-1100 Fax: (866) 988-3757 1 800 566 LABS (1 800 566 5227) Report: 905128 Project: KALAMAZOO Group: Lead Solubility Testing - Phase 1

Samples Received on:

11/23/2020 1022

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

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202011230220         Test 6 No.1 Initial         0.059         mg/L         0.040           1201/2020         11.44         Total phosphorus as PO4- Calc.         0.18         mg/L         0.030           1201/2020         11.44         Total phosphorus as PO4- Calc.         0.91         mg/L         0.040           1201/2020         11.45         Total phosphorus as PO4- Calc.         2.8         mg/L         0.040           1201/2020         11.45         Total phosphorus as PO4- Calc.         2.8         mg/L         0.040           1201/2020         11.45         Total phosphorus as PO4- Calc.         5.8         mg/L         0.040           1201/2020         11.45         Total phosphorus as PO4- Calc.         5.8         mg/L         0.040           1201/2020         11.45         Total phosphorus as PO4- Calc.         1.8         mg/L         0.040           1201/2020         11.45         Total phosphorus as PO4- Calc.         1.8         mg/L         0.040           1201/2020         11.45         Total phosphorus as PO4- Calc.         1.8         mg/L         0.040           1201/2020         11.45         Total phosphorus as PO4- Calc.         1.6         mg/L         0.040           1201/2020         11.45 <th>Analyzed</th> <th>Analyte</th> <th>Sample ID</th> <th>Result</th> <th>Federal MCL</th> <th>Units</th> <th>MRL</th>	Analyzed	Analyte	Sample ID	Result	Federal MCL	Units	MRL
12/04/2020       11.48       Total phosphorus as PO4-Calc.       0.18       mgl.       0.030         12/03/2020       16.54       Total phosphorus as P       0.91       mgl.       0.040         12/03/2020       16.55       Total phosphorus as PO4-Calc.       2.8       mgl.       0.030         12/03/2020       16.55       Total phosphorus as PO4-Calc.       2.8       mgl.       0.040         12/03/2020       16.56       Total phosphorus as PO4-Calc.       5.8       mgl.       0.040         12/03/2020       16.56       Total phosphorus as PO4-Calc.       1.8       mgl.       0.040         12/03/2020       16.56       Total phosphorus as PO4-Calc.       1.8       mgl.       0.040         12/03/2020       16.57       Total phosphorus as PO4-Calc.       1.8       mgl.       0.040         12/03/2020       16.57       Total phosphorus as PO4-Calc.       1.8       mgl.       0.040         12/04/2020       11.57       Total phosphorus as PO4-Calc.       3.7       mgl.       0.040         12/04/2020       11.57       Total phosphorus as PO4-Calc.       3.6       mgl.       0.040         12/04/2020       11.57       Total phosphorus as PO4-Calc.       3.1       mgl.       0.040 <td></td> <td>202011230220</td> <td>Test 6 No.1 Initial</td> <td></td> <td></td> <td></td> <td></td>		202011230220	Test 6 No.1 Initial				
Number of the second	12/03/2020 16:54	Total phosphorus as P		0.059		mg/L	0.040
12/03/2020       16:54       Total phosphorus as PO4- Calc.       0.91       mg/L       0.040         12/04/2020       11:48       Total phosphorus as PO4- Calc.       2.8       mg/L       0.030         12/04/2020       16:55       Total phosphorus as PO4- Calc.       5.8       mg/L       0.040         12/04/2020       11:48       Total phosphorus as PO4- Calc.       5.8       mg/L       0.040         12/04/2020       11:48       Total phosphorus as PO4- Calc.       5.8       mg/L       0.040         12/04/2020       16:56       Total phosphorus as PO4- Calc.       1.8       mg/L       0.040         12/04/2020       16:57       Total phosphorus as PO4- Calc.       1.8       mg/L       0.040         12/04/2020       16:57       Total phosphorus as PO4- Calc.       1.8       mg/L       0.040         12/04/2020       16:57       Total phosphorus as PO4- Calc.       3.7       mg/L       0.040         12/04/2020       11:48       Total phosphorus as PO4- Calc.       3.6       mg/L       0.040         12/04/2020       11:58       Total phosphorus as PO4- Calc.       3.7       mg/L       0.040         12/04/2020       11:58       Total phosphorus as PO4- Calc.       1.6       mg/L	12/04/2020 11:48	Total phosphorus as PO	4- Calc.	0.18		mg/L	0.030
1204/202       1148       Total phosphorus as PO - Calc.       2.8       mg/L       0.030         1203/202       16.55       Total phosphorus as PO - Calc.       5.8       mg/L       0.040         1203/202       11.48       Total phosphorus as PO - Calc.       5.8       mg/L       0.040         1203/202       15.56       Total phosphorus as PO - Calc.       5.8       mg/L       0.040         1203/202       16.56       Total phosphorus as PO - Calc.       1.8       mg/L       0.040         1203/202       16.57       Total phosphorus as PO - Calc.       1.8       mg/L       0.040         1203/202       16.57       Total phosphorus as PO - Calc.       1.8       mg/L       0.040         1203/202       16.57       Total phosphorus as PO - Calc.       3.7       mg/L       0.040         1203/202       16.57       Total phosphorus as PO - Calc.       3.7       mg/L       0.040         1204/202       12.8       Total phosphorus as PO - Calc.       0.51       mg/L       0.040         1204/202       12.8       Total phosphorus as PO - Calc.       0.51       mg/L       0.400         1204/202       12.8       Total phosphorus as PO - Calc.       1.6       mg/L       0.400 </td <td></td> <td>202011230221</td> <td>Test 6 No.2 Initial</td> <td></td> <td></td> <td></td> <td></td>		202011230221	Test 6 No.2 Initial				
12/03/202       16:5       20201123022       Test 6 No.3 Initial       1.9       mg/L       0.040         12/04/202       11:48       Total phosphorus as PO - Calc.       5.8       mg/L       0.030         12/03/202       16:56       Total phosphorus as PO - Calc.       1.8       mg/L       0.040         12/04/202       11:48       Total phosphorus as PO - Calc.       1.8       mg/L       0.040         12/04/202       11:48       Total phosphorus as PO - Calc.       1.8       mg/L       0.040         12/04/202       11:48       Total phosphorus as PO - Calc.       3.7       mg/L       0.040         12/04/202       11:48       Total phosphorus as PO - Calc.       3.7       mg/L       0.040         12/04/202       11:48       Total phosphorus as PO - Calc.       3.7       mg/L       0.040         12/04/202       11:58       Total phosphorus as PO - Calc.       1.6       mg/L       0.040         12/04/202       11:58       Total phosphorus as PO - Calc.       1.6       mg/L       0.040         12/04/202       11:58       Total phosphorus as PO - Calc.       1.6       mg/L       0.040         12/04/202       11:58       Total phosphorus as PO - Calc.       1.6       mg/L <td>12/03/2020 16:54</td> <td>Total phosphorus as P</td> <td></td> <td>0.91</td> <td></td> <td>mg/L</td> <td>0.040</td>	12/03/2020 16:54	Total phosphorus as P		0.91		mg/L	0.040
12/03/202       16:55       Total phosphorus as P - 1.9       mg/L       0.040         12/04/202       11:48       Total phosphorus as P04 - Calc.       5.8       mg/L       0.030         12/03/202       16:56       Total phosphorus as P       0.58       mg/L       0.040         12/04/202       11:48       Total phosphorus as P - 0.58       mg/L       0.040         12/04/202       11:48       Total phosphorus as P - 0.58       mg/L       0.040         12/04/202       11:48       Total phosphorus as P - 1.2       mg/L       0.040         12/04/202       11:48       Total phosphorus as P - 1.2       mg/L       0.040         12/04/202       11:48       Total phosphorus as P - 0.51       mg/L       0.040         12/04/202       11:48       Total phosphorus as P - 0.51       mg/L       0.040         12/04/202       12:33       Test 6 No.6 Initial       mg/L       0.040         12/04/202       11:58       Total phosphorus as P - 1.6       mg/L       0.040         12/04/202       11:58       Total phosphorus as P - 1.6       mg/L       0.040         12/04/202       11:58       Total phosphorus as P - 1.0       mg/L       0.040         12/04/202       11:58 <td< td=""><td>12/04/2020 11:48</td><td>Total phosphorus as PO</td><td>4- Calc.</td><td>2.8</td><td></td><td>mg/L</td><td>0.030</td></td<>	12/04/2020 11:48	Total phosphorus as PO	4- Calc.	2.8		mg/L	0.030
1204/2021148Total phosphorus as PO- Calc.5.8mg/L0.301203/20216.66 $2021123023$ Test 6 No.4 Initial Total phosphorus as PO- Calc.0.58mg/L0.0401204/20211.48Total phosphorus as PO- Calc.1.8mg/L0.0401204/20211.48Test 6 No.5 Initial Total phosphorus as PO- Calc.1.2mg/L0.0401204/20211.48Test 6 No.5 Initial Total phosphorus as PO- Calc.1.2mg/L0.0401204/20211.48Test 6 No.5 Initial Total phosphorus as PO- Calc.3.7mg/L0.0401204/20211.48Test 6 No.6 Initial Total phosphorus as PO- Calc.0.51mg/L0.0401204/20211.58Test 6 No.7 Initial Total phosphorus as PO- Calc.0.51mg/L0.0401204/20212.49Total phosphorus as PO- Calc.1.6mg/L0.0401204/20212.49Total phosphorus as PO- Calc.1.6mg/L0.040 <td></td> <td>202011230222</td> <td>Test 6 No.3 Initial</td> <td></td> <td></td> <td></td> <td></td>		202011230222	Test 6 No.3 Initial				
No. 1         No. 1         Test 6 No. 4 Initial         No. 4           12/03/2020         16:56         Total phosphorus as P         0.58         mg/L         0.040           12/04/202         11:48         Total phosphorus as PO4- Calc.         1.8         mg/L         0.030           12/03/202         16:57         Total phosphorus as PO4- Calc.         1.8         mg/L         0.040           12/03/202         16:57         Total phosphorus as PO4- Calc.         3.7         mg/L         0.040           12/04/202         11:48         Total phosphorus as PO4- Calc.         3.7         mg/L         0.040           12/03/202         12:37         Total phosphorus as PO4- Calc.         0.51         mg/L         0.040           12/03/202         12:37         Total phosphorus as PO4- Calc.         1.6         mg/L         0.040           12/04/202         11:8         Total phosphorus as PO4- Calc.         1.6         mg/L         0.040           12/04/202         12:49         Total phosphorus as PO4- Calc.         1.0         mg/L         0.040           12/04/202         12:49         Total phosphorus as PO4- Calc.         3.1         mg/L         0.040           12/04/202         12:49         Total phosphorus as PO4	12/03/2020 16:55	Total phosphorus as P		1.9		mg/L	0.040
12/03/2020       16:56       Total phosphorus as PO4- Calc.       0.58       mg/L       0.040         12/04/2020       11:48       Total phosphorus as PO4- Calc.       1.8       mg/L       0.030         12/03/2020       16:57       Total phosphorus as PO4- Calc.       1.2       mg/L       0.040         12/04/2020       11:48       Total phosphorus as PO4- Calc.       3.7       mg/L       0.040         12/03/2020       12:37       Total phosphorus as PO4- Calc.       3.7       mg/L       0.040         12/04/2020       11:38       Total phosphorus as PO4- Calc.       1.6       mg/L       0.040         12/04/2020       12:37       Total phosphorus as PO4- Calc.       1.6       mg/L       0.040         12/04/2020       12:38       Total phosphorus as PO4- Calc.       1.6       mg/L       0.040         12/04/2020       12:49       Total phosphorus as PO4- Calc.       1.0       mg/L       0.040         12/04/2020       12:49       Total phosphorus as PO4- Calc.       3.1       mg/L       0.040         12/03/2020       12:49       Total phosphorus as PO4- Calc.       3.1       mg/L       0.040         12/03/2020       12:41       Total phosphorus as PO4- Calc.       3.1       mg/L	12/04/2020 11:48	Total phosphorus as PO	4- Calc.	5.8		mg/L	0.030
12/04/2021.48mg/L0.03012/04/20216.67 $202011230224$ $Test 6 No.5 InitialTotal phosphorus as P1.2mg/L0.04012/04/20211.48Total phosphorus as P1.2mg/L0.04012/04/20211.48202011230225Test 6 No.6 InitialTotal phosphorus as P0.51mg/L0.04012/04/20211.58Total phosphorus as P0.51mg/L0.04012/04/20211.58Total phosphorus as P0.51mg/L0.04012/04/20211.58Total phosphorus as P1.6mg/L0.04012/04/20211.58Total phosphorus as P1.0mg/L0.04012/04/20211.59Total phosphorus as P1.0mg/L0.04012/04/20211.59Total phosphorus as P1.0mg/L0.04012/04/20211.59Total phosphorus as P1.0mg/L0.04012/04/20211.59Total phosphorus as P0.48mg/L0.04012/04/20211.59Total phosphorus as P0.48mg/L0.04012/04/20211.59Total phosphorus as P0.0300.03012/04/20212.41Total phosphorus as P0.48mg/L0.04012/04/20211.59Total phosphorus as P0.0300.03012/04/20212.41Total phosphorus as P0.48mg/L0.04012/04/20211.59Total phosphorus as P0.0300.03012/04/20$		202011230223	Test 6 No.4 Initial				
202011230224       Test 6 No.5 Initial         12/03/2020       1657       Total phosphorus as P       1.2       0.40         12/04/2020       1148       Total phosphorus as P       3.7       mg/L       0.30         12/03/2020       12:37       Total phosphorus as P       0.51       mg/L       0.40         12/03/2020       12:37       Total phosphorus as P       0.51       mg/L       0.40         12/04/2020       11:58       Total phosphorus as P       0.51       mg/L       0.40         12/04/2020       11:58       Total phosphorus as P       0.51       mg/L       0.400         12/04/2020       11:58       Total phosphorus as P       1.6       mg/L       0.400         12/04/202       11:58       Total phosphorus as P       1.0       mg/L       0.400         12/04/202       11:58       Total phosphorus as P       1.0       mg/L       0.400         12/04/202       12:49       Total phosphorus as P       0.48       mg/L       0.400         12/04/202       12:49       Total phosphorus as P       0.48       mg/L       0.400         12/04/202       12:49       Total phosphorus as P       1.5       mg/L       0.400         12/	12/03/2020 16:56	Total phosphorus as P		0.58		mg/L	0.040
12/03/2020       16:57       Total phosphorus as P       1.2       mg/L       0.040         12/04/2020       11:48       Total phosphorus as PO4- Calc.       3.7       mg/L       0.030 <b>202011230225</b> Test 6 No.6 Initial         12/03/2020       12:37       Total phosphorus as P       0.51       mg/L       0.040         12/04/2020       11:58       Total phosphorus as PO4- Calc.       1.6       mg/L       0.030         12/03/2020       12:40       Total phosphorus as PO4- Calc.       1.6       mg/L       0.040         12/03/2020       12:40       Total phosphorus as PO4- Calc.       1.0       mg/L       0.040         12/03/2020       12:40       Total phosphorus as PO4- Calc.       3.1       mg/L       0.040         12/03/2020       12:41       Total phosphorus as PO4- Calc.       3.1       mg/L       0.040         12/04/2020       11:58       Total phosphorus as PO4- Calc.       0.48       mg/L       0.040         12/04/2020       11:58       Total phosphorus as PO4- Calc.       1.5       mg/L       0.030         12/04/2020       11:58       Total phosphorus as PO4- Calc.       1.5       mg/L       0.040         12/04/2020       11:58       Total phosp	12/04/2020 11:48	Total phosphorus as PO	4- Calc.	1.8		mg/L	0.030
12/04/2020       11:48       Total phosphorus as PO4- Calc.       3.7       mg/L       0.030         12/03/2020       12:37       Total phosphorus as P       0.51       mg/L       0.040         12/04/2020       11:58       Total phosphorus as PO4- Calc.       1.6       mg/L       0.030         12/03/2020       12:37       Total phosphorus as PO4- Calc.       1.6       mg/L       0.040         12/03/2020       12:48       Total phosphorus as PO4- Calc.       1.0       mg/L       0.040         12/03/2020       12:49       Total phosphorus as PO4- Calc.       3.1       mg/L       0.040         12/03/2020       12:58       Total phosphorus as PO4- Calc.       3.1       mg/L       0.040         12/03/2020       12:58       Total phosphorus as PO4- Calc.       3.1       mg/L       0.040         12/03/2020       12:58       Total phosphorus as PO4- Calc.       3.1       mg/L       0.040         12/03/2020       12:54       Total phosphorus as PO4- Calc.       0.48       mg/L       0.040         12/04/2020       11:58       Total phosphorus as PO4- Calc.       1.5       mg/L       0.030         12/04/2020       11:58       Total phosphorus as PO4- Calc.       1.5       mg/L       <		202011230224	Test 6 No.5 Initial				
202011230225       Test 6 No.6 Initial         12/03/2020       12:37         12/03/2020       12:37         12/04/2020       11:58         202011230226       Test 6 No.7 Initial         12/03/2020       12:40         12/03/2020       12:40         12/03/2020       12:40         12/03/2020       12:40         12/03/2020       12:40         12/03/2020       12:40         12/03/2020       11:58         702011230226       Test 6 No.7 Initial         12/03/2020       11:58         702011230227       Test 6 No.8 Initial         12/03/2020       12:44         702011230227       Test 6 No.8 Initial         12/03/2020       12:44         702011230227       Test 6 No.8 Initial         12/03/2020       12:44         702011230228       Test 6 No.9 Initial         12/04/2020       11:58         702011230228       Test 6 No.9 Initial	12/03/2020 16:57	Total phosphorus as P		1.2		mg/L	0.040
12/03/2020       12:37       Total phosphorus as P       0.51       mg/L       0.040         12/04/2020       11:58       Total phosphorus as PO+ Calc.       1.6       mg/L       0.030 <b>202011230226</b> Test 6 No.7 Initial         12/03/2020       12:40       Total phosphorus as P       1.0       mg/L       0.040         12/04/2020       11:58       Total phosphorus as P       1.0       mg/L       0.040         12/04/2020       11:58       Total phosphorus as PO+ Calc.       3.1       mg/L       0.040         12/03/2020       12:41       Total phosphorus as PO+ Calc.       0.48       mg/L       0.040         12/04/2020       11:58       Total phosphorus as PO+ Calc.       0.48       mg/L       0.040         12/04/2020       11:58       Total phosphorus as PO+ Calc.       1.5       mg/L       0.040         12/04/2020       11:58       Total phosphorus as PO+ Calc.       1.5       mg/L       0.030	12/04/2020 11:48	Total phosphorus as PO	4- Calc.	3.7		mg/L	0.030
12/04/2020       11:58       Total phosphorus as PO4- Calc.       1.6       mg/L       0.030         12/03/2020       12:40       Total phosphorus as P       1.0       mg/L       0.040         12/04/2020       11:58       Total phosphorus as P       1.0       mg/L       0.040         12/04/2020       11:58       Total phosphorus as P       202011230227       Test 6 No.8 Initial       mg/L       0.040         12/03/2020       12:41       Total phosphorus as P       Test 6 No.8 Initial       mg/L       0.040         12/03/2020       12:41       Total phosphorus as P       Test 6 No.8 Initial       mg/L       0.040         12/03/2020       11:58       Total phosphorus as P       Calc.       1.5       mg/L       0.040         12/04/2020       11:58       Total phosphorus as PO+ Calc.       1.5       mg/L       0.040         12/04/2020       11:58       Total phosphorus as PO+ Calc.       1.5       mg/L       0.040         12/04/2020       11:58       Test 6 No.9 Initial       1.5       mg/L       0.040		202011230225	Test 6 No.6 Initial				
202011230226       Test 6 No.7 Initial         12/03/2020 12:40       Total phosphorus as P       1.0       mg/L       0.040         12/04/2020 11:58       Total phosphorus as PO-L Calc.       3.1       mg/L       0.030         12/03/2020 12:41       Total phosphorus as PO-L Calc.       0.48       mg/L       0.040         12/04/2020 11:58       Total phosphorus as PO-L Calc.       1.5       mg/L       0.040         12/04/2020 11:58       Total phosphorus as PO-L Calc.       1.5       mg/L       0.040         12/04/2020 11:58       Total phosphorus as PO-L Calc.       1.5       mg/L       0.040	12/03/2020 12:37	Total phosphorus as P		0.51		mg/L	0.040
12/03/2020       12:40       Total phosphorus as P       1.0       mg/L       0.040         12/04/2020       11:58       Total phosphorus as PO4- Calc.       3.1       mg/L       0.030 <b>202011230227</b> Test 6 No.8 Initial         12/03/2020       12:41       Total phosphorus as PO4- Calc.       0.48       mg/L       0.040         12/04/2020       11:58       Total phosphorus as PO4- Calc.       1.5       mg/L       0.040         12/04/2020       11:58       Total phosphorus as PO4- Calc.       1.5       mg/L       0.030	12/04/2020 11:58	Total phosphorus as PO	4- Calc.	1.6		mg/L	0.030
12/04/2020       11:58       Total phosphorus as PO4- Calc.       3.1       mg/L       0.030         12/03/2020       12:41       Total phosphorus as PO4- Calc.       0.48       mg/L       0.040         12/04/2020       11:58       Total phosphorus as PO4- Calc.       1.5       mg/L       0.030         12/04/2020       11:58       Total phosphorus as PO4- Calc.       1.5       mg/L       0.040         12/04/2020       11:58       Test 6 No.9 Initial       1.5       mg/L       0.030		202011230226	Test 6 No.7 Initial				
202011230227       Test 6 No.8 Initial         12/03/2020       12:41       Total phosphorus as P         12/04/2020       11:58       Total phosphorus as PO4- Calc.         202011230228       Test 6 No.9 Initial	12/03/2020 12:40	Total phosphorus as P		1.0		mg/L	0.040
12/03/2020       12:41       Total phosphorus as P       0.48       mg/L       0.040         12/04/2020       11:58       Total phosphorus as PO4- Calc.       1.5       mg/L       0.030 <b>202011230228</b> Test 6 No.9 Initial	12/04/2020 11:58	Total phosphorus as PO	4- Calc.	3.1		mg/L	0.030
12/04/2020     11:58     Total phosphorus as PO4- Calc.     1.5     mg/L     0.030 <b>202011230228</b>		202011230227	Test 6 No.8 Initial				
202011230228 <u>Test 6 No.9 Initial</u>	12/03/2020 12:41	Total phosphorus as P		0.48		mg/L	0.040
	12/04/2020 11:58	Total phosphorus as PO	4- Calc.	1.5		mg/L	0.030
		202011230228	Test 6 No.9 Initial				
12/05/2020 12.42 Total prosphorus as P 0.91 mg/L 0.040	12/03/2020 12:42	Total phosphorus as P		0.91		mg/L	0.040
12/04/2020 11:58 Total phosphorus as PO4- Calc. 2.8 mg/L 0.030	12/04/2020 11:58	Total phosphorus as PO	4- Calc.	2.8		mg/L	0.030



Tel: (626) 386-1100 Fax: (866) 988-3757 1 800 566 LABS (1 800 566 5227) Report: 905128 Project: KALAMAZOO Group: Lead Solubility Testing - Phase 1

Samples Received on:

11/23/2020 1022

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

Prepped Analyzed	Prep Batch	Analytical Batch	Method	Analyte	Result	Units	MRL	Dilution
Test 6 No.0 Initial	20201123021	9)			Samı	oled on 11/19	/2020 082	2
	SM4500-PI	E/EPA 365.1 - T	otal phosphoru	ıs as PO4- Calc.				
12/04/20 11:4			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	ND (c)	mg/L	0.030	1
	SM4500-PI	E/EPA 365.1 - T	Total phosphoru	ıs as P (T-P)				
12/08/20 12:	51	1292531	(SM4500-PE/EPA 365.1)	Total phosphorus as P	ND	mg/L	0.020	1
Test 6 No.1 Initial	20201123022	<u>20)</u>			Samp	oled on 11/19	/2020 082	4
	SM4500-PI	E/EPA 365.1 - T	otal phosphoru	ıs as PO4- Calc.				
12/04/20 11:4			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	0.18 (c)	mg/L	0.030	1
	SM4500-PI	E/EPA 365.1 - T	Total phosphoru	ıs as P (T-P)				
12/03/20 16:	54	1291544	(SM4500-PE/EPA 365.1)	Total phosphorus as P	0.059	mg/L	0.040	2
Test 6 No.2 Initial	20201123022	<u>21)</u>			Samp	oled on 11/19	/2020 082	6
	SM4500-PI	E/EPA 365 1 - T	otal phosphoru	ıs as PO4- Calc.				
12/04/20 11:4			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	2.8 (c)	mg/L	0.030	1
	SM4500-PI	E/EPA 365.1 - T	Total phosphoru	ıs as P (T-P)				
12/03/20 16:	54	1291544	(SM4500-PE/EPA 365.1)	Total phosphorus as P	0.91	mg/L	0.040	2
Test 6 No.3 Initial	20201123022	<u>22)</u>			Samp	oled on 11/19	/2020 085	8
	SM4500-PI	E/EPA 365.1 - T	Total phosphoru	is as PO4- Calc.				
12/04/20 11:4			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	5.8 (c)	mg/L	0.030	1
	SM4500-PI	E/EPA 365.1 - T	Total phosphoru	ıs as P (T-P)				
12/03/20 16:	55	1291544	(SM4500-PE/EPA 365.1)	Total phosphorus as P	1.9	mg/L	0.040	2
Test 6 No.4 Initial	20201123022	<u>23)</u>			Samp	oled on 11/19	/2020 085	6
	SM4500-PI	E/EPA 365.1 - T	otal phosphoru	ıs as PO4- Calc.				
12/04/20 11:4			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	1.8 (c)	mg/L	0.030	1
	SM4500-PI	E/EPA 365.1 - T	Total phosphoru	ıs as P (T-P)				
12/03/20 16:	56	1291544	(SM4500-PE/EPA 365.1)	Total phosphorus as P	0.58	mg/L	0.040	2
Test 6 No.5 Initial	20201123022	<u>24)</u>			Samp	oled on 11/19	/2020 090	0

#### 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.

Tel: (626) 386-1100 Fax: (866) 988-3757 1 800 566 LABS (1 800 566 5227) Report: 905128 Project: KALAMAZOO Group: Lead Solubility Testing - Phase 1

Samples Received on:

11/23/2020 1022

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

Prepped	Analyzed	Prep Batch	Analytical Batch	Method	Analyte	Result	Units	MRL	Dilution
	12/04/20 11:48			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	3.7 (c)	mg/L	0.030	1
		SM4500-PI	E/EPA 365.1 - T	otal phosphoru	is as P (T-P)				
	12/03/20 16:57		1291544	(SM4500-PE/EPA 365.1)	Total phosphorus as P	1.2	mg/L	0.040	2
<u>Test 6 I</u>	No.6 Initial (2	0201123022	<u>(5)</u>			Sam	pled on 11/19	/2020 092	6
		SM4500-PE	E/EPA 365.1 - T	otal phosphoru	is as PO4- Calc.				
	12/04/20 11:58	i -		(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	1.6 (c)	mg/L	0.030	1
		SM4500-PE	E/EPA 365.1 - T	otal phosphoru	is as P (T-P)				
	12/03/20 12:37		1291545	(SM4500-PE/EPA 365.1)	Total phosphorus as P	0.51	mg/L	0.040	2
<u>Test 6 I</u>	No.7 Initial (2	0201123022	<u>(6)</u>			Sam	pled on 11/19	/2020 092	8
		SM4500-PI	E/EPA 365.1 - T	otal phosphoru	is as PO4- Calc.				
	12/04/20 11:58	i		(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	3.1 (c)	mg/L	0.030	1
		SM4500-PE	E/EPA 365.1 - T	otal phosphoru	is as P (T-P)				
	12/03/20 12:40	I	1291545	(SM4500-PE/EPA 365.1)	Total phosphorus as P	1.0	mg/L	0.040	2
<u>Test 6 I</u>	No.8 Initial (2	0201123022	7)			Sam	pled on 11/19	/2020 093	0
		SM4500-PE	E/EPA 365.1 - T	otal phosphoru	is as PO4- Calc.				
	12/04/20 11:58	i		(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	1.5 (c)	mg/L	0.030	1
		SM4500-PE	E/EPA 365.1 - T	otal phosphoru	is as P (T-P)				
	12/03/20 12:41		1291545	(SM4500-PE/EPA 365.1)	Total phosphorus as P	0.48	mg/L	0.040	2
<u>Test 6 I</u>	No.9 Initial (2	0201123022	<u>(8)</u>			Sam	pled on 11/19	/2020 095	5
		SM4500-PE	E/EPA 365.1 - T	otal phosphoru	is as PO4- Calc.				
	12/04/20 11:58	i		(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	2.8 (c)	mg/L	0.030	1
		SM4500-PE	E/EPA 365.1 - T	otal phosphoru	is as P (T-P)				
	12/03/20 12:42		1291545	(SM4500-PE/EPA 365.1)	Total phosphorus as P	0.91	mg/L	0.040	2

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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#### Tetra Tech

# Total phosphorus as P (T-P)

### Analytical Batch: 1291544

202011230220	
202011230221	
202011230222	
202011230223	
202011230224	

#### Total phosphorus as P (T-P)

#### Analytical Batch: 1291545

202011230225 202011230226 202011230227 202011230228

#### Total phosphorus as P (T-P)

#### Analytical Batch: 1292531

202011230219

Test 6 No.0 Initial

Test 6 No.1 Initial

Test 6 No.2 Initial

Test 6 No.3 Initial

Test 6 No.4 Initial Test 6 No.5 Initial

Test 6 No.6 Initial

Test 6 No.7 Initial

Test 6 No.8 Initial

Test 6 No.9 Initial

#### Laboratory QC Summary

Report: 905128 Project: KALAMAZOO Group: Lead Solubility Testing - Phase 1

#### Analysis Date: 12/03/2020

Analyzed by: H5VG Analyzed by: H5VG Analyzed by: H5VG Analyzed by: H5VG Analyzed by: H5VG

#### Analysis Date: 12/03/2020

Analyzed by: H5VG Analyzed by: H5VG Analyzed by: H5VG Analyzed by: H5VG

Analysis Date: 12/08/2020

Analyzed by: LQ3M



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

Report: 905128 Project: KALAMAZOO Group: Lead Solubility Testing - Phase 1

Tetra Tec	h								
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 B	atch: 1291544				A	Analysis D	ate: 12/03/	2020	
LCS1	Total phosphorus as P		0.4	0.383	mg/L	96	(90-110)		
LCS2	Total phosphorus as P		0.4	0.371	mg/L	93	(90-110)	20	3.2
MBLK	Total phosphorus as P			<0.01	mg/L				
MRL_CHK	Total phosphorus as P		0.02	0.0129	mg/L	65	(50-150)		
MS_202011210084	Total phosphorus as P	1.1	0.8	1.83	mg/L	94	(90-110)		
MS_202011230237	Total phosphorus as P	0.58	0.8	1.15	mg/L	<u>72</u>	(90-110)		
MSD_202011210084	Total phosphorus as P	1.1	0.8	1.79	mg/L	<u>89</u>	(90-110)	20	2.1
MSD_202011230237	Total phosphorus as P	0.58	0.8	1.14	mg/L	<u>71</u>	(90-110)	20	0.35
Total phosphorus	as P (T-P) by SM4500-PE/EPA 365.1								
Analytical B	atch: 1291545				4	Analysis D	ate: 12/03/	2020	
LCS1	Total phosphorus as P		0.4	0.391	mg/L	98	(90-110)		
LCS2	Total phosphorus as P		0.4	0.390	mg/L	97	(90-110)	20	0.26
MBLK	Total phosphorus as P			<0.01	mg/L				
MRL_CHK	Total phosphorus as P		0.02	0.0178	mg/L	89	(50-150)		
MS_202011170201	Total phosphorus as P	0.11	0.4	0.326	mg/L	<u>55</u>	(90-110)		
MS_202011230225	Total phosphorus as P	0.51	0.8	1.23	mg/L	90	(90-110)		
MSD_202011170201	Total phosphorus as P	0.11	0.4	0.347	mg/L	<u>60</u>	(90-110)	20	6.2
MSD_202011230225	Total phosphorus as P	0.51	0.8	1.30	mg/L	99	(90-110)	20	5.2
Total phosphorus	as P (T-P) by SM4500-PE/EPA 365.1								
Analytical B	atch: 1292531				4	Analysis D	ate: 12/08/	2020	
LCS1	Total phosphorus as P		0.4	0.395	mg/L	99	(90-110)		
LCS2	Total phosphorus as P		0.4	0.384	mg/L	96	(90-110)	20	2.8
MBLK	Total phosphorus as P			<0.01	mg/L				
MRL_CHK	Total phosphorus as P		0.02	0.0262	mg/L	131	(50-150)		
MS_202011130113	Total phosphorus as P	0.060	0.4	0.408	mg/L	<u>87</u>	(90-110)		
MS_202011170303	Total phosphorus as P	0.048	0.4	0.424	mg/L	94	(90-110)		
MSD_202011130113	Total phosphorus as P	0.060	0.4	0.482	mg/L	106	(90-110)	20	17
MSD_202011170303	Total phosphorus as P	0.048	0.4	0.411	mg/L	91	(90-110)	20	3.1

Spike recovery is already corrected for native results. Spikes which exceed Limits and Method Blanks with positive results are highlighted by <u>Underlining.</u> 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.

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** 12/09/2020 (1 MOSA **EUROFINS EATON ANALYTICAL, LLC** 

ZIA8: Vanessa Berry

**Project Manager** 

Report: 905129 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

Eurofins Eaton Analytical, LLC

750 Royal Oaks Drive, Suite 100 Monrovia, CA 91016-3629 T | 626-386-1100 F | 866-988-3757 www.EurofinsUS.com/Eaton

#### 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

		Environ-	Environ-			-	Environ-	Environ-	
SPECIFIC TESTS	METHOD OR TECHNIQUE USED	mental (Drinking Water)	mental (Waste Water)	Water as a Component of Food and Bev/Bev/ Bottled Water	SPECIFIC TESTS	METHOD OR TECHNIQUE USED	mental (Drinking Water)	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	Hexavalent Chromium	EPA 218.7	x		x
1,4-Dioxane	EPA 522	х		x	Hexavalent Chromium	SM 3500-Cr B		х	
2.3.7.8-TCDD	Modified EPA 1613B	x		x	Hormones	EPA 539	х	~	x
Acrylamide	In House Method (2440)	x		x	Hydroxide as OH Calc.	SM 2330B	х		х
Algal Toxins/Microcystin	In House Method (3570)				Kjeldahl Nitrogen	EPA 351.2		х	
Alkalinity	SM 2320B	x	х	х	Legionella	Legiolert	х		x
Ammonia	EPA 350.1		х	х	Mercury	EPA 200.8	х		х
Ammonia	SM 4500-NH3 H		х	х	Metals	EPA 200.7 / 200.8	х	х	х
Anions and DBPs by IC	EPA 300.0	х	х	х	Microcystin LR	ELISA (2360)	x		х
Anions and DBPs by IC	EPA 300.1	х		х	Microcystin, Total	EPA 546	х		х
Asbestos	EPA 100.2	x	х		NDMA	EEA/Agilent 521.1	x		x
		~				In house method (2425)			
BOD / CBOD	SM 5210B		х	x	Nitrate/Nitrite Nitrogen	EPA 353.2	х	х	х
Bromate	In House Method (2447)	x		x	OCL, Pesticides/PCB	EPA 505	х		x
Carbamates	EPA 531.2	х		x	Ortho Phosphate	EPA 365.1	х	х	x
Carbonate as CO3	SM 2330B	х	х	x	Ortho Phosphorous Oxyhalides Disinfection	SM 4500P E	х		х
Carbonyls	EPA 556	x		x	Byproducts	EPA 317.0	х		x
COD	EPA 410.4 / SM 5220D	1	x		Perchlorate	EPA 331.0	x		x
Chloramines	SM 4500-CL G	x	x	x	Perchlorate (low and high)	EPA 314.0	x		x
Chlorinated Acids	EPA 515.4	x		x	Perfluorinated Alkyl Acids	EPA 537	x		x
Chlorinated Acids	EPA 555	x	1	x	Perfluorinated Polutant	In house Method (2434)	x		x
Chlorine Dioxide	SM 4500-CLO2 D Palin Test	x		x	рН	EPA 150.1	x		
Chlorine -Total/Free/ Combined Residual	SM 4500-Cl G	x	x	x	рН	SM 4500-H+B	x	x	x
Conductivity	EPA 120.1	1	x		Phenylurea Pesticides/ Herbicides	In House Method, based on EPA 532 (2448)	x		x
Conductivity	SM 2510B	x	x	x	Herbicides Pseudomonas	532 (2448) IDEXX Pseudalert (2461)	x		x
Corrosivity (Langelier Index)	SM 2330B	x	~	x	Radium-226	GA Institute of Tech	x		x
Cyanide, Amenable	SM 4500-CN G	x	x		Radium-228	GA Institute of Tech	x		x
Cyanide, Free	SM 4500-CN G	x	x	x	Radon-222	SM 7500RN	x		x
Cyanide, Total	EPA 335.4	x	x	x	Residue, Filterable	SM 2540C	x	x	x
Cyanogen Chloride (screen)	In House Method (2470)	x	~	x	Residue, Non-filterable	SM 2540D	~	x	~
Diquat and Paraquat	EPA 549.2	x		x	Residue, Total	SM 2540B		x	x
DBP/HAA	SM 6251B	x		x	Residue, Volatile	EPA 160.4		x	~
Dissolved Oxygen	SM 4500-O G		х	x	Semi-VOC	EPA 525.2	x		x
DOC	SM 5310C	x		х	Silica	SM 4500-Si D	х	х	
E. Coli	(MTF/EC+MUG)	х		х	Silica	SM 4500-SiO2 C	х	х	
	· · · · · ·						~		-
E. Coli	CFR 141.21(f)(6)(i)	x		x	Sulfide	SM 4500-S <sup>=</sup> D		х	
E. Coli	SM 9223		х		Sulfite	SM 4500-SO <sup>3</sup> B	х	х	x
E. Coli (Enumeration)	SM 9221B.1/ SM 9221F	х		х	Surfactants	SM 5540C	x	х	х
E. Coli (Enumeration)	SM 9223B	х		х	Taste and Odor Analytes	SM 6040E	х		х
EDB/DCBP	EPA 504.1	x			Total Coliform (P/A)	SM 9221 A, B	х		х
EDB/DBCP and DBP	EPA 551.1	x		x	Total Coliform (Enumeration)	SM 9221 A, B, C	x		x
EDTA and NTA	In House Method (2454)	x		x	Total Coliform / E. coli	Colisure SM 9223	x		x
Endothall	EPA 548.1	x		×	Total Coliform	SM 9221B	^	х	^
Endothall	In-house Method (2445)	x		х	Total Coliform with Chlorine Present	SM 9221B		x	
Enterococci	SM 9230B	x	х		Total Coliform / E.coli (P/A and Enumeration)	SM 9223	x		x
Fecal Coliform	SM 9221 E (MTF/EC)	x			TOC	SM 5310C	x	x	x
Fecal Coliform	SM 9221C, E (MTF/EC)		x		TOX	SM 5320B		x	1
Fecal Coliform	SM 9221E, E (MTF/EC)	x		x	Total Phenols	EPA 420.1		x	
(Enumeration) Fecal Coliform with	SM 9221E		x		Total Phenols	EPA 420.4	x	x	x
Chlorine Present Fecal Streptococci	SM 9221E	x	×		Total Phosphorous	SM 4500 P E	^	x	^
Fluoride	SM 4500-F C	x	x	x	Triazine Pesticides &	In House (3617)	x		x
Glyphosata	EPA 547	v		×	Degradates	EDA 190 1	v	v	v
Glyphosate   AMPA		x		×	Turbidity Turbidity	EPA 180.1	x	x	X
Glyphosate + AMPA Gross Alpha/Pata	In House Method (3618)	x	~	x	Turbidity	SM 2130B	X	х	~
Gross Alpha/Beta Gross Alpha Coprecipitation	EPA 900.0 SM 7110 C	x	x	x	Uranium by ICP/MS UV 254	EPA 200.8 SM 5910B	x		x
Hardness	SM 2340B	х	x	x	VOC	EPA 524.2	x		х
Heterotrophic Bacteria	In House Method (2439)	х		x	VOC	In House Method (2411)	х		x
Heterotrophic Bacteria	SM 9215 B	х		x	Yeast and Mold	SM 9610	х		х
Hexavalent Chromium	EPA 218.6	х	х	х	Field Sampling	N/A			1

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🛟 eurofin	S Eaton Analytical		
		Acknowledgement of Samples Received	1
	Tetra Tech		ID: TETRATECH-ORLAN
	201 East Pine Street Suite 1000		r #: 905129 ect: KALAMAZOO
	Orlando, FL 32801		up: Lead Solubility Testing - Phase 1
	James Christopher 407-480-3907		ger: Vanessa Berry ne: 503-310-3905
tests liste		ed from you on <b>November 23, 2020</b> at <b>1022</b> . They hav his information is incorrect, please contact your service LLC.	
Sample #	Sample ID		Sample Date
202011230229	Test 5 No.0 Initial		11/16/2020 0801
	Total phosphorus as P	Total phosphorus as PO4- Calc.	
202011230230	Test 5 No.1 Initial		11/16/2020 0815
	Total phosphorus as P	Total phosphorus as PO4- Calc.	
202011230231	Test 5 No.2 Initial		11/16/2020 0807
	Total phosphorus as P	Total phosphorus as PO4- Calc.	
202011230232	Test 5 No.3 Initial		11/16/2020 0839
	Total phosphorus as P	Total phosphorus as PO4- Calc.	
202011230233	Test 5 No.4 Initial		11/16/2020 0841
	Total phosphorus as P	Total phosphorus as PO4- Calc.	
202011230234	Test 5 No.5 Initial		11/16/2020 0843
	Total phosphorus as P	Total phosphorus as PO4- Calc.	
202011230235	Test 5 No.6 Initial		11/16/2020 0912
	Total phosphorus as P	Total phosphorus as PO4- Calc.	
202011230236	Test 5 No.7 Initial		11/16/2020 0914
	Total phosphorus as P	Total phosphorus as PO4- Calc.	
202011230237	Test 5 No.8 Initial		11/16/2020 0916
	. , <u></u>		· · · · · · · · · · · · · · · · · · ·

Total phosphorus as PO4- Calc.

Total phosphorus as PO4- Calc.

**Test Description** 

202011230238

Total phosphorus as P

Test 5 No.9 Initial

Total phosphorus as P

11/16/2020 0941

eu .	🚓 eurofins   Eaton Analytical		CH/	AIN C	DF CUS	CHAIN OF CUSTODY RECORD	ECORD		Ole S	gustiq
	"[	LOCIN COMMENTS.	CAL USI	CINET.			SAMPLES CHECKED AGAINST COC BV	KED AGAIN		Q
750 Roy	te 100								CLUC BI.	2
Monrovi	Monrovia, CA 91016-3629	1					SA	SAMPLES LOGGED IN BY:		A CANAN
Phone: (		5	DAT:				SAMPLES REC'D DAY OF COLLECTION?	DAY OF C	0.0	(check for yes)
Fax: 626	Fax: 626 386 1101	(Other)	IR Gun ID			0	C) (Corr.Factor	<sup>a</sup> C) (Final =	1	
800 566	800 566 LABS (800 566 5227)	Monrovia	IR Gun ID =	0 = 0	2/14 (Obs	DU= X-A	°C) (Corr.Factor C °C) (Final =	C) (Fi	nal = 👉 🗸 °C)	
Website	Website: www.EatonAnalytical.com	TVDE OF ICE' Real Swotheric Commissory, 4 ± 2 ° ° (Microbiology's 10 ° °)	Svnthatic	nistry: 4±2	No Ice CC		Frozen Par	Partially Frozen	Thawed	NIA
		E I	ENT: Pi	ck-Up /	1 fe	1-1	st / To	ine / Other:		
					1		(check for yes)		podo)	th for you)
	TO BE CONFLETED BT SAMPLER.					COMPLIANCE SAMPLES	lent ini year		NON COMPLIANCE SAMPLES	
VI NIK-JIMIOO						- Reduires state forms	Τ	REGULATION INVOLVED		7
Tehro	TEMO TECH JULE HAR ST OFILMOU				Type of sam	Type of samples (circle one):	NE SPECIAL	CONFIRMATION		(eg. SDWA, NPDES, etc.)
EEA CLIENT CODE:	CONTROL ODE: COCID:	SAMPLE GROUP: LOUA CALIDAU HAV	TOLL	rolt-Dhrice 1		SEE ATTACHED KIT ORDER FOR ANALYSES	ER FOR ANAL	YSES	(check for yes),	s), <u>OR</u>
	Innin -un	Littlana one	Incl	LIUN	+	LIST ALL ANALYSES REQUIRED (Enter number of pottles sent for each test for each sample)		r or pottles se	Int for each test for	eacn sample)
TAT reques	TAT requested: rush by adv notice only	STD 1 wk 3 day	2 day_	1 day	91					
э.			.,	-	p				SAN	SAMPLER
J9MA2 Jtaq J9MA2 JMIT	SAMPLE ID	CLIENT LAB ID	KIATAM	נוברם ם <del>/</del> נוברם ם/	01 D				COM	COMMENTS
10:8 91/11	I Test 5 No.0 Initial		fw		1				Preserved	ed with
1 8:15	5 1 No. 1 1		_						H2SOH	Ч
FU:8	A No.2		_						-	
8:30			-							
1H:8	H.ON IF							т		
8:H3	13 NO.5		_							
9:12	1 No.6	The Property of the second sec	_							2
HI:6	E.ON H						100 miles			
91:10						2				
11:10 4			-12	Contraction of the second	-0	-			-0	
* MATRIX	* MATRIX TYPES: RSW = Raw Surface Water RGW = Raw Ground Water	<b>CFW</b> = Chlor(am)inated Finished Water <b>FW</b> = Other Finished Water	l Finishe /ater	ed Water	SEAW = Sea Water WW = Waste Water		BW = Bottled Water SW = Storm Water	SO = Soil SL = Sludge		0 = Other - Please Identify
	SIGNATURE		P	PRINT NAME	0		COMPANY/TITLE		DATE	TIME
SAMPLED BY: N.	M-ON	MO	rio VC	5	Arenas	TEHIOI TEUN	Project	Engineer	w 120120	W 00:4
KELINQUISHE	N. OYENOIS			-					П	11
RECEIVED BY:										
RELINQUISHED BY:	DBY:	1 2	1		1					
RECEIVED BY:		12/10	de	N	SC	V	et cr	554	22 22 11	720
QA FO 0029.2	QA FO 0029.2 (Version 2) (08/28/2014)	7							PAGE	OF

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Tel: (626) 386-1100 Fax: (866) 988-3757 1 800 566 LABS (1 800 566 5227) Report: 905129 Project: KALAMAZOO Group: Lead Solubility Testing - Phase 1

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.

Laboratory Hits

**Eaton Analytical** 

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

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Tetra Tech

Suite 1000 Orlando, FL 32801

James Christopher

201 East Pine Street

Report: 905129 Project: KALAMAZOO Group: Lead Solubility Testing - Phase 1

Samples Received on: 11/23/2020 1022

nalyzed	Analyte	Sample ID	Result	Federal MCL	Units	MRL
	202011230230	Test 5 No.1 Initial				
2/08/2020 12:48	Total phosphorus as P		0.080		mg/L	0.020
2/04/2020 11:46	Total phosphorus as PO	4- Calc.	0.24		mg/L	0.030
	202011230231	Test 5 No.2 Initial				
2/03/2020 16:39	Total phosphorus as P		0.89		mg/L	0.040
2/04/2020 11:47	Total phosphorus as PO	4- Calc.	2.7		mg/L	0.030
	202011230232	Test 5 No.3 Initial				
2/03/2020 16:40	Total phosphorus as P		1.9		mg/L	0.040
2/04/2020 11:47	Total phosphorus as PO	4- Calc.	5.8		mg/L	0.030
	202011230233	Test 5 No.4 Initial				
2/03/2020 16:41	Total phosphorus as P		0.61		mg/L	0.040
2/04/2020 11:47	Total phosphorus as PO	4- Calc.	1.9		mg/L	0.030
	202011230234	Test 5 No.5 Initial				
2/03/2020 16:42	Total phosphorus as P		1.1		mg/L	0.040
2/04/2020 11:47	Total phosphorus as PO	4- Calc.	3.4		mg/L	0.030
	202011230235	Test 5 No.6 Initial				
2/03/2020 16:43	Total phosphorus as P		0.52		mg/L	0.040
2/04/2020 11:47	Total phosphorus as PO	4- Calc.	1.6		mg/L	0.030
	202011230236	Test 5 No.7 Initial				
2/03/2020 16:44	Total phosphorus as P		0.95		mg/L	0.040
2/04/2020 11:47	Total phosphorus as PO	4- Calc.	2.9		mg/L	0.030
	202011230237	Test 5 No.8 Initial				
2/03/2020 16:45	Total phosphorus as P		0.58		mg/L	0.040
2/04/2020 11:47	Total phosphorus as PO	4- Calc.	1.8		mg/L	0.030
	202011230238	Test 5 No.9 Initial				
2/03/2020 16:48	Total phosphorus as P		0.86		mg/L	0.040
2/04/2020 11:47	Total phosphorus as PO	4- Calc	2.6		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) Report: 905129 Project: KALAMAZOO Group: Lead Solubility Testing - Phase 1

Samples Received on:

11/23/2020 1022

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

Prepped	Analyzed	Prep Batch	Analytical Batch	Method	Analyte	Result	Units	MRL	Dilution		
Test 5 N	lo.0 Initial (2	0201123022	<u>9)</u>			Samp	oled on 11/16	/2020 080	1		
		SM4500-PF	=/FPA 365 1 - T	otal phosphoru	is as PO4- Calc.						
	12/04/20 11:46			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	ND (c)	mg/L	0.030	1		
		SM4500-PE	E/EPA 365.1 - T	otal phosphoru	is as P (T-P)						
	12/08/20 12:47	,	1292531	(SM4500-PE/EPA 365.1)	Total phosphorus as P	ND	mg/L	0.020	1		
<u>Test 5 N</u>	lo.1 Initial (2	0201123023	<u>0)</u>			Samp	oled on 11/16	/2020 081	5		
SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.											
	12/04/20 11:46		2/EFA 303.1 - 1	(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	0.24 (c)	mg/L	0.030	1		
		SM4500-PE	E/EPA 365.1 - T	otal phosphoru	is as P (T-P)						
	12/08/20 12:48		1292531	(SM4500-PE/EPA 365.1)	Total phosphorus as P	0.080	mg/L	0.020	1		
<u>Test 5 No.2 Initial (202011230231)</u>						Samp	oled on 11/16	/2020 080	7		
		SM4500-DE	-/EDA 365 1 - T	otal phosphoru	is as PO4- Calc.						
	12/04/20 11:47		L/LFA 303.1 - 1	(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	2.7 (c)	mg/L	0.030	1		
		SM4500-PE	E/EPA 365.1 - T	otal phosphoru	is as P (T-P)						
	12/03/20 16:39	)	1291544	(SM4500-PE/EPA 365.1)	Total phosphorus as P	0.89	mg/L	0.040	2		
<u>Test 5 No.3 Initial (202011230232)</u>						Sampled on 11/16/2020 0839					
		SM4500-PE	E/EPA 365.1 - T	otal phosphoru	is as PO4- Calc.						
	12/04/20 11:47			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	5.8 (c)	mg/L	0.030	1		
		SM4500-PE	E/EPA 365.1 - T	otal phosphoru	is as P (T-P)						
	12/03/20 16:40	)	1291544	(SM4500-PE/EPA 365.1)	Total phosphorus as P	1.9	mg/L	0.040	2		
<u>Test 5 N</u>	lo.4 Initial (2	0201123023	<u>3)</u>			Samp	oled on 11/16	/2020 084	1		
		SM4500-PE	E/EPA 365.1 - T	otal phosphoru	is as PO4- Calc.						
	12/04/20 11:47			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	1.9 (c)	mg/L	0.030	1		
		SM4500-PE	E/EPA 365.1 - T	otal phosphoru	is as P (T-P)						
	12/03/20 16:41		1291544	(SM4500-PE/EPA 365.1)	Total phosphorus as P	0.61	mg/L	0.040	2		
<u>Test 5 N</u>	lo.5 Initial (2	0201123023	<u>4)</u>			Samp	oled on 11/16	/2020 084	3		

### 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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Tel: (626) 386-1100 Fax: (866) 988-3757 1 800 566 LABS (1 800 566 5227) Report: 905129 Project: KALAMAZOO Group: Lead Solubility Testing - Phase 1

Samples Received on:

11/23/2020 1022

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

Prepped	Analyzed	Prep Batch	Analytical Batch	Method	Analyte	Result	Units	MRL	Dilution
	12/04/20 11:47			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	3.4 (c)	mg/L	0.030	1
		SM4500-PE	E/EPA 365.1 - <sup>-</sup>	is as P (T-P)					
	12/03/20 16:42		1291544	(SM4500-PE/EPA 365.1)	Total phosphorus as P	1.1	mg/L	0.040	2
<u>Test 5 No.6 Initial (202011230235)</u>							oled on 11/16	5/2020 091	2
		SM4500-PE	E/EPA 365.1 - <sup>-</sup>	is as PO4- Calc.					
	12/04/20 11:47			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	1.6 (c)	mg/L	0.030	1
		SM4500-PE	E/EPA 365.1 - <sup>-</sup>	is as P (T-P)					
	12/03/20 16:43		1291544	(SM4500-PE/EPA 365.1)	Total phosphorus as P	0.52	mg/L	0.040	2
<u>Test 5 I</u>	No.7 Initial (20	0201123023	Samp	oled on 11/16	6/2020 091	4			
		SM4500-PE	E/EPA 365.1 - <sup>-</sup>	Total phosphoru	is as PO4- Calc.				
	12/04/20 11:47			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	2.9 (c)	mg/L	0.030	1
		SM4500-PE	E/EPA 365.1 - <sup>-</sup>	is as P (T-P)					
	12/03/20 16:44		1291544	(SM4500-PE/EPA 365.1)	Total phosphorus as P	0.95	mg/L	0.040	2
Test 5 No.8 Initial (202011230237)						Samp	oled on 11/16	6/2020 091	6
		SM4500-PE	E/EPA 365.1 - <sup>-</sup>	Total phosphoru	is as PO4- Calc.				
	12/04/20 11:47			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	1.8 (c)	mg/L	0.030	1
		SM4500-PE	E/EPA 365.1 - <sup>-</sup>	Total phosphoru	is as P (T-P)				
	12/03/20 16:45		1291544	(SM4500-PE/EPA 365.1)	Total phosphorus as P	0.58 (M1)	mg/L	0.040	2
<u>Test 5 I</u>	No.9 Initial (20	0201123023	<u>8)</u>			Samp	oled on 11/16	5/2020 094 <sup>-</sup>	1
		SM4500-PE	is as PO4- Calc.						
	12/04/20 11:47			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	2.6 (c)	mg/L	0.030	1
		SM4500-PE	E/EPA 365.1 - <sup>-</sup>	Total phosphoru	is as P (T-P)				
	12/03/20 16:48		1291544	(SM4500-PE/EPA 365.1)	Total phosphorus as P	0.86	mg/L	0.040	2

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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### Total phosphorus as P (T-P)

### Analytical Batch: 1291544

202011230231	Test 5 No.2 Initial
202011230232	Test 5 No.3 Initial
202011230233	Test 5 No.4 Initial
202011230234	Test 5 No.5 Initial
202011230235	Test 5 No.6 Initial
202011230236	Test 5 No.7 Initial
202011230237	Test 5 No.8 Initial
202011230238	Test 5 No.9 Initial

### Total phosphorus as P (T-P)

#### Analytical Batch: 1292531

202011230229	
202011230230	

Test 5 No.0 Initial Test 5 No.1 Initial Report: 905129 Project: KALAMAZOO Group: Lead Solubility Testing - Phase 1

#### Analysis Date: 12/03/2020

Analyzed by: H5VG Analyzed by: H5VG

### Analysis Date: 12/08/2020

Analyzed by: LQ3M Analyzed by: LQ3M



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Report: 905129 Project: KALAMAZOO Group: Lead Solubility Testing - Phase 1

Tetra Tec	h								
QC Туре	Analyte	Native	Spiked	Recovered	Units	Yield(%)	Limits (%)	RPD Limit(%)	RPD%
• •	as P (T-P) by SM4500-PE/EPA 365.1						-1 10/00	2000	
Analytical B	atch: 1291544				4	Analysis D	ate: 12/03/	2020	
LCS1	Total phosphorus as P		0.4	0.383	mg/L	96	(90-110)		
LCS2	Total phosphorus as P		0.4	0.371	mg/L	93	(90-110)	20	3.2
MBLK	Total phosphorus as P			<0.01	mg/L				
MRL_CHK	Total phosphorus as P		0.02	0.0129	mg/L	65	(50-150)		
MS_202011210084	Total phosphorus as P	1.1	0.8	1.83	mg/L	94	(90-110)		
MS_202011230237	Total phosphorus as P	0.58	0.8	1.15	mg/L	<u>72</u>	(90-110)		
MSD_202011210084	Total phosphorus as P	1.1	0.8	1.79	mg/L	<u>89</u>	(90-110)	20	2.1
MSD_202011230237	Total phosphorus as P	0.58	0.8	1.14	mg/L	<u>71</u>	(90-110)	20	0.35
Total phosphorus	as P (T-P) by SM4500-PE/EPA 365.1								
Analytical B	atch: 1292531				ŀ	Analysis D	ate: 12/08/	2020	
LCS1	Total phosphorus as P		0.4	0.395	mg/L	99	(90-110)		
LCS2	Total phosphorus as P		0.4	0.384	mg/L	96	(90-110)	20	2.8
MBLK	Total phosphorus as P			<0.01	mg/L				
MRL_CHK	Total phosphorus as P		0.02	0.0262	mg/L	131	(50-150)		
MS_202011130113	Total phosphorus as P	0.060	0.4	0.408	mg/L	<u>87</u>	(90-110)		
MS_202011170303	Total phosphorus as P	0.048	0.4	0.424	mg/L	94	(90-110)		
MSD_202011130113	Total phosphorus as P	0.060	0.4	0.482	mg/L	106	(90-110)	20	17
MSD_202011170303	Total phosphorus as P	0.048	0.4	0.411	mg/L	91	(90-110)	20	3.1

Spike recovery is already corrected for native results. Spikes which exceed Limits and Method Blanks with positive results are highlighted by <u>Underlining.</u> 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.

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** 12/11/2020 anosa t **EUROFINS EATON ANALYTICAL, LLC** 

ZIA8: Vanessa Berry

Project Manager

Report: 906140 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

Eurofins Eaton Analytical, LLC

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## 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

		Environ-	Environ-			-	Environ-	Environ-	
SPECIFIC TESTS	METHOD OR TECHNIQUE USED	mental (Drinking Water)	mental (Waste Water)	Water as a Component of Food and Bev/Bev/ Bottled Water	SPECIFIC TESTS	METHOD OR TECHNIQUE USED	mental (Drinking Water)	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	Hexavalent Chromium	EPA 218.7	x		x
1,4-Dioxane	EPA 522	х		x	Hexavalent Chromium	SM 3500-Cr B		х	
2.3.7.8-TCDD	Modified EPA 1613B	x		x	Hormones	EPA 539	х	~	x
Acrylamide	In House Method (2440)	x		x	Hydroxide as OH Calc.	SM 2330B	х		х
Algal Toxins/Microcystin	In House Method (3570)				Kjeldahl Nitrogen	EPA 351.2		х	
Alkalinity	SM 2320B	x	х	х	Legionella	Legiolert	х		x
Ammonia	EPA 350.1		х	х	Mercury	EPA 200.8	х		х
Ammonia	SM 4500-NH3 H		х	х	Metals	EPA 200.7 / 200.8	х	х	х
Anions and DBPs by IC	EPA 300.0	х	х	х	Microcystin LR	ELISA (2360)	х		х
Anions and DBPs by IC	EPA 300.1	х		х	Microcystin, Total	EPA 546	х		х
Asbestos	EPA 100.2	x	х		NDMA	EEA/Agilent 521.1	x		x
		~				In house method (2425)			
BOD / CBOD	SM 5210B		х	x	Nitrate/Nitrite Nitrogen	EPA 353.2	х	х	х
Bromate	In House Method (2447)	x		x	OCL, Pesticides/PCB	EPA 505	х		x
Carbamates	EPA 531.2	х		x	Ortho Phosphate	EPA 365.1	х	х	x
Carbonate as CO3	SM 2330B	х	х	x	Ortho Phosphorous Oxyhalides Disinfection	SM 4500P E	х		х
Carbonyls	EPA 556	x		x	Byproducts	EPA 317.0	х		x
COD	EPA 410.4 / SM 5220D	1	x		Perchlorate	EPA 331.0	x		x
Chloramines	SM 4500-CL G	x	x	x	Perchlorate (low and high)	EPA 314.0	x		x
Chlorinated Acids	EPA 515.4	x		x	Perfluorinated Alkyl Acids	EPA 537	x		x
Chlorinated Acids	EPA 555	x	1	x	Perfluorinated Polutant	In house Method (2434)	x		x
Chlorine Dioxide	SM 4500-CLO2 D Palin Test	x		x	рН	EPA 150.1	x		
Chlorine -Total/Free/ Combined Residual	SM 4500-Cl G	x	x	x	рН	SM 4500-H+B	x	x	x
Conductivity	EPA 120.1	1	x		Phenylurea Pesticides/ Herbicides	In House Method, based on EPA 532 (2448)	x		x
Conductivity	SM 2510B	x	x	x	Herbicides Pseudomonas	532 (2448) IDEXX Pseudalert (2461)	x		x
Corrosivity (Langelier Index)	SM 2330B	x	~	x	Radium-226	GA Institute of Tech	x		x
Cyanide, Amenable	SM 4500-CN G	x	x		Radium-228	GA Institute of Tech	x		x
Cyanide, Free	SM 4500-CN G	x	x	x	Radon-222	SM 7500RN	x		x
Cyanide, Total	EPA 335.4	x	x	x	Residue, Filterable	SM 2540C	x	x	x
Cyanogen Chloride (screen)	In House Method (2470)	x	~	x	Residue, Non-filterable	SM 2540D	~	x	~
Diquat and Paraquat	EPA 549.2	x		x	Residue, Total	SM 2540B		x	x
DBP/HAA	SM 6251B	x		x	Residue, Volatile	EPA 160.4		x	~
Dissolved Oxygen	SM 4500-O G		х	x	Semi-VOC	EPA 525.2	x		x
DOC	SM 5310C	x		х	Silica	SM 4500-Si D	х	х	
E. Coli	(MTF/EC+MUG)	х		х	Silica	SM 4500-SiO2 C	х	х	
	· · · · · ·						~		-
E. Coli	CFR 141.21(f)(6)(i)	x		x	Sulfide	SM 4500-S <sup>=</sup> D		х	
E. Coli	SM 9223		х		Sulfite	SM 4500-SO <sup>3</sup> B	х	х	x
E. Coli (Enumeration)	SM 9221B.1/ SM 9221F	х		х	Surfactants	SM 5540C	x	х	х
E. Coli (Enumeration)	SM 9223B	х		х	Taste and Odor Analytes	SM 6040E	х		х
EDB/DCBP	EPA 504.1	х			Total Coliform (P/A)	SM 9221 A, B	х		х
EDB/DBCP and DBP	EPA 551.1	x		x	Total Coliform (Enumeration)	SM 9221 A, B, C	x		x
EDTA and NTA	In House Method (2454)	x		x	Total Coliform / E. coli	Colisure SM 9223	x		x
Endothall	EPA 548.1	x		×	Total Coliform	SM 9221B	^	х	^
Endothall	In-house Method (2445)	x		х	Total Coliform with Chlorine Present	SM 9221B		x	
Enterococci	SM 9230B	x	х		Total Coliform / E.coli (P/A and Enumeration)	SM 9223	x		x
Fecal Coliform	SM 9221 E (MTF/EC)	x			TOC	SM 5310C	x	x	x
Fecal Coliform	SM 9221C, E (MTF/EC)		x		TOX	SM 5320B		x	1
Fecal Coliform	SM 9221E, E (MTF/EC)	x		x	Total Phenols	EPA 420.1		x	
(Enumeration) Fecal Coliform with	SM 9221E		x		Total Phenols	EPA 420.4	x	x	x
Chlorine Present Fecal Streptococci	SM 9221E	x	×		Total Phosphorous	SM 4500 P E	^	x	^
Fluoride	SM 4500-F C	x	x	x	Triazine Pesticides &	In House (3617)	x		x
Glyphosata	EPA 547	v		×	Degradates	EDA 190 1	v	v	v
Glyphosate   AMPA		x		×	Turbidity Turbidity	EPA 180.1	x	x	X
Glyphosate + AMPA Gross Alpha/Pata	In House Method (3618)	x	~	x	Turbidity	SM 2130B	X	х	~
Gross Alpha/Beta Gross Alpha Coprecipitation	EPA 900.0 SM 7110 C	x	x	x	Uranium by ICP/MS UV 254	EPA 200.8 SM 5910B	x		x
Hardness	SM 2340B	х	x	x	VOC	EPA 524.2	x		х
Heterotrophic Bacteria	In House Method (2439)	х		x	VOC	In House Method (2411)	х		x
Heterotrophic Bacteria	SM 9215 B	х		x	Yeast and Mold	SM 9610	х		х
Hexavalent Chromium	EPA 218.6	х	х	х	Field Sampling	N/A			1

750 Royal Oaks Dr., Ste 100, Monrovia, CA 91016 Tel (626) 386-1100 Fax (866) 988-3757 https://www.eurofinsus.com/Eaton Version 006 Issued: 05/04/20

🛟 eurofin	S Eaton Analytical							
		Acknowledgement of Samples Received	I					
Addr: <b>Tetra Tech</b> 201 East Pine Street Suite 1000 Orlando, FL 32801		Folde Proje	Client ID: TETRATECH-ORLAN Folder #: 906140 Project: KALAMAZOO Sample Group: Lead Solubility Testing - Phase 1					
	James Christopher 407-480-3907		ler: Vanessa Berry ne: 503-310-3905					
tests liste	÷ .	d from you on <b>December 01, 2020</b> at <b>1128</b> . They hav is information is incorrect, please contact your service LC.						
Sample #	Sample ID		Sample Date					
202012010582	Test 7 No.0 Initial		11/23/2020 0804					
	Total phosphorus as P	Total phosphorus as PO4- Calc.						
202012010583	Test 7 No.1 Initial		11/23/2020 0807					
	Total phosphorus as P	Total phosphorus as PO4- Calc.						
202012010584	Test 7 No.2 Initial		11/23/2020 0810					
	Total phosphorus as P	Total phosphorus as PO4- Calc.						
202012010585	Test 7 No.3 Initial		11/23/2020 0838					
	Total phosphorus as P	Total phosphorus as PO4- Calc.						
202012010586	Test 7 No.4 Initial		11/23/2020 0840					
	Total phosphorus as P	Total phosphorus as PO4- Calc.						
202012010587	Test 7 No.5 Initial		11/23/2020 0842					
	Total phosphorus as P	Total phosphorus as PO4- Calc.						
202012010588	Test 7 No.6 Initial		11/23/2020 0909					
	Total phosphorus as P	Total phosphorus as PO4- Calc.						
202012010589	Test 7 No.7 Initial		11/23/2020 0912					
		Total sharehavia ao DOA Cala						
202012010590	Total phosphorus as P Test 7 No.8 Initial	Total phosphorus as PO4- Calc.	11/23/2020 0914					
202012010390	,	T.0.1.1	11/20/2020 0014					
00040040504	Total phosphorus as P	Total phosphorus as PO4- Calc.	11/00/2000 0000					
<u>202012010591</u>	Test 7 No.9 Iniital		11/23/2020 0939					

**Test Description** 

Total phosphorus as P

Total phosphorus as PO4- Calc.

EUROFINE EATON AMAL TICAL USE ONLY.  LOGNIN CONNENTS:  LOGNIN CONNENTS:  LOGNIN CONNENTS:  SAMPLE TENP RECEIVED AT:  Comparement Commany Tench (TOTA)  TO CONDITION TEN:  SAMPLE TENP RECEIVED AT:  SAMP	🛟 eurofins	O	HAIN OF CUSTODY RECORD	~
All of the Sub- set Su	Eaton Analytical			an190 p 00
A 90105 SUIT       SAMPLES LOGGED IN BY: A 90105 SUIT       SAMPLES RECOVED AT: A 9010001111 FR: A 90105 SUIT       SAMPLES SUIT <t< td=""><td></td><td>LOGIN COMMENTS:</td><td>SAMPLES CHECKED AGAINST COC B</td><td>50</td></t<>		LOGIN COMMENTS:	SAMPLES CHECKED AGAINST COC B	50
366 1100     Content Freider Received AT: 5 1101     Sample Ereure Science - Concentrone - C	/ JO KOYAI UAKS URIVE, SUITE 100 Monrovia, CA 91016-3629		SAMPLES LOGGED IN B	le
37.101     Monrova     R. Gan ID = <u>101.0.</u> (Observations = 1.0.0.)     (Observations = 1.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0	Phone: 626 386 1100	SAMPLE TEMP RECEIVED AT:		, c
Signal Science     Complete Accessing Construction     Complete Accessing Construction     Complete Accessing Construction       MEEROMARKIELIGE     WEEROMARKIELIGE     The office Frees     Synthetic     No log     Complete Accessing Construction     Complete Accessing Construction       Distribution     METHOD of Starmwerk Construction     Complete Accessing Construction     Complete Acce	Fax: 626 386 1101		(Observation= 10 °C) (Corr Factor 0.2 °C) (Final=	() ()
WE GEORADAMINICAL CODI     TYPE OF ICE: Feal     Synthetic     Note     Note     Note       DEM Y SUMPLY     METHOD OF SHIPMENT: Pick-Up / Waikin     Feelex, UPS / DHL / Avar Fast / Top Line / Other     Pariably Frozen     Tomes frozen<	800 566 LABS (800 566 5227)	Compliance Acceptance Criteria: (Chemistry: 4 + 2 °		5
METHOD OF SHIPHIENT: Pick-Up / Waik-In (FeEK, MPS / DHL / Area Fast / Top Line / Other	Website: www.EatonAnalytical.com	TYPE OF ICE: Real 🗸 Synthetic	rion of ICE: Frozen 🖌 Partially Frozen	
OPENDIA     (check for yes)       CONPLANCE SAMPLES       NON-CONPLANCE SAMPLES     NON-CONPLANCE SAMPLES       NON-CONPLANCE SAMPLE     Samples       NON-CONPLANCE SAMPLE     NON-CONPLANCE SAMPLES       SAMPLE     CLIENT LAB ID       SAMPLE     CLIENT LAB I		METHOD OF SHIPMENT: Pick-Up / V	~	
NOME:     PROJECT CODE:     COMPLIANCE SAMPLES     NON-COMPLIANCE SAMPLES       N_101 E (M/R S) (VI(DId)     Non-Complexition     REGULTION INVOLVED:       DE:     Samples (arring easily and reginants)     REGULTION INVOLVED:       N_001 (I)     Samples (arring easily and reginants)     Samples (arring easily and regulates)     REGULTION INVOLVED:       DE:     LC01 (Did)     Samples (arring easily and reginants)     Samples (arring easily and reginants)     Regulation (arring easily and regulates)     Regulation (arring easily and regulates)       Samples (arring easily and reginants)     STD_1144     Test ALL AMALYSES     Samples (arring easily and regulates)     Regulation (arring easily and regulates)     Regulation (arring easily and regulates)     Remet easily (arring easily and regulates)     Remet easily (arring easily (arred) (arring easily (arred) (a	TO BE COMPLETED BY SAMPLER:	5211X11Sh 826	(check for yes)	(check for yes)
N_101 E (Mrd St Orlund)     Type of sample caroures area formers area formers area for accurate state accuration where area ours.     Non-Orline intermediate accurates in a sample caroure area for accurate accuration where area in a sample caroure and intermediate accurates in a sample caroure accurate in a sample accurate in a sample in a	COMPANY/AGENCY NAME:	PROJECT CODE:		PLES
DE:     Concision     Same Legoue:       M-Or(10)     Concision     Same Legoue:     Legoue:<	TETHO TEUN 201 E PINE ST ONLOND	du	e forms	
Tech by adv notice only     SiD_1 I w3 Gay2 Gay1 GayConvertee     Sample in the set of t	EEA CLIENT CODE: COC ID: TENCIO	SAMPLE GROUP: LECICI SOUDILITY	0	eck for yes), <u>OR</u> test for each sample)
SamPLE ID     CLIENT LAB ID     M <th< td=""><td>TAT requested: rush by adv notice only</td><td>1 wk 3 day</td><td></td><td>•</td></th<>	TAT requested: rush by adv notice only	1 wk 3 day		•
REst 3 Alo 0 initial       FW       I       I       I       I       M3.804/x         1       1       1       1       1       1       1       1       1       1       1004/x         1       1       1       1       1       1       1       1       1       1004/x         3       1       1       1       1       1       1       1       1       1       104/x         3       1	DATE SAMPLE TIME	• XIATAM ATAD DJEIF	-11/2401	SAMPLER COMMENTS
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b       b       b       b       b       b       b       b       c       b       c       c       b       c				
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$\psi$	11 12			
FES: RSW = Raw Surface Water       CFW = Chlor(am)inated Finished Water       SEAW = Sea Water       BW = Bottled Water       SO = Soil       O = Other - Ple         RGW = Raw Ground Water       FW = Other Finished Water       WW = Waste Water       SW = Storm Water       SO = Soil       O = Other - Ple         RGW = Raw Ground Water       FW = Other Finished Water       BW = Water       SW = Storm Water       SL = Sludge         SIGNATURE       PRINT NAME       COMPANYITILE       COMPANYITILE       Date       Date         M: APCNOIS       MORIOI ISOIDEI ANON       TEMOLACHA, POJECI ENDINE       DATE       DATE         M: APCNOIS       MORIOI ISOIDEI ANON       TEMOLACHA, POJECI ENDINE       DATE       DATE         M: APCNOIS       MORIOI ISOIDEI ANON       TEMOLACHA, POJECI ENDINE       III/30/200       II	d:30 4	4	4	
M. Archols and Company and Company and Company and Company and Archols Archols Tehol Tehol Tehol Finger 11/30/20 1 De Sanchez Een Leen 12/1/20 1	* MATRIX TYPES: RSW = Raw Surface Wate RGW = Raw Ground Wate	<b>CFW</b> = Chlor(am)inated Finis <b>FW</b> = Other Finished Water	<b>BW</b> = Bottled Water <b>SO</b> = Soil <b>SW</b> = Storm Water <b>SL</b> = Sludge	other - Please Identify
M. Arenois Murici Isubel Arenois Terio Ter		PRINT N	COMPANY/TITLE	$\left  \right $
Joe Sanchez EEA 12/1/20		Isubel	TEMOLTEUN, MOJECH ENGINEER	
	RECEIVED BY:	Sanche		1128
RECEIVED BY:	RELINQUISHED BY:			
	RECEIVED BY:			



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

## Flags Legend:

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

Laboratory Hits

**Eaton Analytical** 

Tel: (626) 386-1100 Fax: (866) 988-3757 1 800 566 LABS (1 800 566 5227) Report: 906140 Project: KALAMAZOO Group: Lead Solubility Testing - Phase 1

Samples Received on:

12/01/2020 1128

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

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Analyzed	Analyte	Sample ID	Result	Federal MCL	Units	MRL
	202012010583	Test 7 No.1 Initial				
12/08/2020 13:24	Total phosphorus as P		0.098		mg/L	0.020
12/09/2020 08:28	Total phosphorus as PO	04- Calc.	0.30		mg/L	0.030
	202012010584	Test 7 No.2 Initial				
12/09/2020 09:38	Total phosphorus as P		1.0		mg/L	0.040
12/10/2020 07:27	Total phosphorus as PO	04- Calc.	3.1		mg/L	0.030
	202012010585	Test 7 No.3 Initial				
12/09/2020 09:41	Total phosphorus as P		2.0		mg/L	0.040
12/10/2020 07:27	Total phosphorus as PO	04- Calc.	6.1		mg/L	0.030
	202012010586	<u>Test 7 No.4 Initial</u>				
12/09/2020 09:42	Total phosphorus as P		0.53		mg/L	0.040
12/10/2020 07:27	Total phosphorus as PO	04- Calc.	1.6		mg/L	0.030
	202012010587	<u>Test 7 No.5 Initial</u>				
12/09/2020 09:43	Total phosphorus as P		1.2		mg/L	0.040
12/10/2020 07:28	Total phosphorus as PO	04- Calc.	3.7		mg/L	0.030
	202012010588	<u>Test 7 No.6 Initial</u>				
12/09/2020 09:46	Total phosphorus as P		0.55		mg/L	0.040
12/10/2020 07:28	Total phosphorus as PO	14- Calc.	1.7		mg/L	0.030
	202012010589	<u>Test 7 No.7 Initial</u>				
12/09/2020 09:47	Total phosphorus as P		1.0		mg/L	0.040
12/10/2020 07:28	Total phosphorus as PO	14- Calc.	3.1		mg/L	0.030
	202012010590	Test 7 No.8 Initial				
12/09/2020 09:48	Total phosphorus as P		0.47		mg/L	0.040
12/10/2020 07:28	Total phosphorus as PO	04- Calc.	1.4		mg/L	0.030
					-	
12/09/2020 09:49	202012010591 Total phosphorus as P	<u>Test 7 No.9 Iniital</u>	0.95		ma/l	0.040
12/09/2020 09:49	Total phosphorus as P Total phosphorus as PO		2.9		mg/L mg/L	0.040
12/10/2020 07.20			2.9		mg/L	0.030



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Report: 906140 Project: KALAMAZOO Group: Lead Solubility Testing - Phase 1

Samples Received on:

12/01/2020 1128

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

Prepped	Analyzed	Prep Batch	Analytical Batch	Method	Analyte	Result	Units	MRL	Dilution
Test 7 N	No.0 Initial (2	0201201058	2)			Samp	oled on 11/23	/2020 080	4
		SM4500-PF		Total phosphoru	is as PO4- Calc.				
	12/09/20 08:28			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	ND (c)	mg/L	0.030	1
		SM4500-PE	E/EPA 365.1 - 1	Total phosphoru	is as P (T-P)				
	12/08/20 13:23	3	1292531	(SM4500-PE/EPA 365.1)	Total phosphorus as P	ND	mg/L	0.020	1
<u>Test 7 N</u>	No.1 Initial (2	0201201058	<u>3)</u>			Samp	oled on 11/23	/2020 080	7
		SM4500-PF	=/EPA 365 1 - 1	Total phosphoru	is as PO4- Calc				
	12/09/20 08:28			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	0.30 (c)	mg/L	0.030	1
		SM4500-PE	E/EPA 365.1 - 1	Total phosphoru	is as P (T-P)				
	12/08/20 13:24	Ļ	1292531	(SM4500-PE/EPA 365.1)	Total phosphorus as P	0.098	mg/L	0.020	1
<u>Test 7 N</u>	lo.2 Initial (2	0201201058	<u>4)</u>			Samp	oled on 11/23	/2020 081	0
		SM4500-PF	-/FPA 365 1 - 1	Total phosphoru	is as PO4- Calc				
	12/10/20 07:27			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	3.1 (c)	mg/L	0.030	1
		SM4500-PE	E/EPA 365.1 - 1	Total phosphoru	is as P (T-P)				
	12/09/20 09:38	3	1292880	(SM4500-PE/EPA 365.1)	Total phosphorus as P	1.0 (M2)	mg/L	0.040	2
<u>Test 7 N</u>	lo.3 Initial (2	0201201058	<u>(5)</u>			Samp	oled on 11/23	/2020 083	8
		SM4500-PE	E/EPA 365.1 - 1	Total phosphoru	is as PO4- Calc.				
	12/10/20 07:27			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	6.1 (c)	mg/L	0.030	1
		SM4500-PE	E/EPA 365.1 - 1	Total phosphoru	is as P (T-P)				
	12/09/20 09:41		1292880	(SM4500-PE/EPA 365.1)	Total phosphorus as P	2.0	mg/L	0.040	2
<u>Test 7 N</u>	lo.4 Initial (2	0201201058	<u>6)</u>			Samp	oled on 11/23	/2020 084	0
		SM4500-PE	E/EPA 365.1 - 1	Total phosphoru	is as PO4- Calc.				
	12/10/20 07:27			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	1.6 (c)	mg/L	0.030	1
		SM4500-PE	E/EPA 365.1 - 1	Total phosphoru	is as P (T-P)				
	12/09/20 09:42	2	1292880	(SM4500-PE/EPA 365.1)	Total phosphorus as P	0.53	mg/L	0.040	2
<u>Test 7 N</u>	lo.5 Initial (2	0201201058	<u>7)</u>			Samp	oled on 11/23	/2020 084	2

### 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.

eurofins Eaton

**Eaton Analytical** 

Tel: (626) 386-1100 Fax: (866) 988-3757 1 800 566 LABS (1 800 566 5227) Report: 906140 Project: KALAMAZOO Group: Lead Solubility Testing - Phase 1

Samples Received on:

12/01/2020 1128

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

Prepped	Analyzed	Prep Batch	Analytical Batch	Method	Analyte	Result	Units	MRL	Dilution
	12/10/20 07:28			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	3.7 (c)	mg/L	0.030	1
		SM4500-PE	E/EPA 365.1 - 1	Fotal phosphoru	is as P (T-P)				
	12/09/20 09:43		1292880	(SM4500-PE/EPA 365.1)	Total phosphorus as P	1.2	mg/L	0.040	2
<u>Test 7 I</u>	No.6 Initial (20	0201201058	<u>(8)</u>			Sam	pled on 11/23	8/2020 090	9
		SM4500-PE	E/EPA 365.1 - 1	Fotal phosphoru	is as PO4- Calc.				
	12/10/20 07:28			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	1.7 (c)	mg/L	0.030	1
		SM4500-PE	E/EPA 365.1 - 1	Fotal phosphoru	is as P (T-P)				
	12/09/20 09:46		1292880	(SM4500-PE/EPA 365.1)	Total phosphorus as P	0.55	mg/L	0.040	2
Test 7 I	No.7 Initial (20	0201201058	<u>9)</u>			Sam	pled on 11/23	8/2020 0912	2
		SM4500-PE	E/EPA 365.1 - 1	Fotal phosphoru	is as PO4- Calc.				
	12/10/20 07:28			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	3.1 (c)	mg/L	0.030	1
		SM4500-PE	E/EPA 365.1 - 1	Fotal phosphoru	is as P (T-P)				
	12/09/20 09:47		1292880	(SM4500-PE/EPA 365.1)	Total phosphorus as P	1.0	mg/L	0.040	2
Test 7 I	No.8 Initial (20	0201201059	0)			Sam	pled on 11/23	8/2020 091	4
		SM4500-PE	E/EPA 365.1 - 1	Fotal phosphoru	is as PO4- Calc.				
	12/10/20 07:28			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	1.4 (c)	mg/L	0.030	1
		SM4500-PE	E/EPA 365.1 - 1	Fotal phosphoru	is as P (T-P)				
	12/09/20 09:48		1292880	(SM4500-PE/EPA 365.1)	Total phosphorus as P	0.47	mg/L	0.040	2
<u>Test 7 I</u>	No.9 Iniital (20	0201201059	<u>1)</u>			Sam	pled on 11/23	8/2020 093	9
		SM4500-PE	E/EPA 365.1 - 1	Fotal phosphoru	is as PO4- Calc.				
	12/10/20 07:28			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	2.9 (c)	mg/L	0.030	1
		SM4500-PE	E/EPA 365.1 - 1	Fotal phosphoru	is as P (T-P)				
	12/09/20 09:49		1292880	(SM4500-PE/EPA 365.1)	Total phosphorus as P	0.95	mg/L	0.040	2

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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Tetra Tech

# Total phosphorus as P (T-P) Analytical Batch: 1292531 202012010582 202012010583 Total phosphorus as P (T-P) Analytical Batch: 1292880 Test 7 No.2 Initial 202012010584

202012010585	Test 7 No.3 Initial
202012010586	Test 7 No.4 Initial
202012010587	Test 7 No.5 Initial
202012010588	Test 7 No.6 Initial
202012010589	Test 7 No.7 Initial
202012010590	Test 7 No.8 Initial
202012010591	Test 7 No.9 Iniital

Test 7 No.0 Initial Test 7 No.1 Initial

### Laboratory QC Summary

Report: 906140 Project: KALAMAZOO Group: Lead Solubility Testing - Phase 1

## Analysis Date: 12/08/2020

Analyzed by: LQ3M Analyzed by: LQ3M

### Analysis Date: 12/09/2020

Analyzed by: LQ3M Analyzed by: LQ3M

Page 10 of 11 pages



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

Report: 906140 Project: KALAMAZOO Group: Lead Solubility Testing - Phase 1

h								
Analyte	Native	Spiked	Recovered	Units	Yield(%)	Limits (%)	RPD Limit(%)	RPD%
as P (T-P) by SM4500-PE/EPA 365.1								
atch: 1292531				A	Analysis D	ate: 12/08/	2020	
Total phosphorus as P		0.4	0.395	mg/L	99	(90-110)		
Total phosphorus as P		0.4	0.384	mg/L	96	(90-110)	20	2.8
Total phosphorus as P			<0.01	mg/L				
Total phosphorus as P		0.02	0.0262	mg/L	131	(50-150)		
Total phosphorus as P	0.060	0.4	0.408	mg/L	<u>87</u>	(90-110)		
Total phosphorus as P	0.048	0.4	0.424	mg/L	94	(90-110)		
Total phosphorus as P	0.060	0.4	0.482	mg/L	106	(90-110)	20	17
Total phosphorus as P	0.048	0.4	0.411	mg/L	91	(90-110)	20	3.1
as P (T-P) by SM4500-PE/EPA 365.1								
atch: 1292880				A	Analysis D	ate: 12/09/	2020	
Total phosphorus as P		0.4	0.395	mg/L	99	(90-110)		
Total phosphorus as P		0.4	0.413	mg/L	103	(90-110)	20	4.5
Total phosphorus as P			<0.01	mg/L				
Total phosphorus as P		0.02	0.0242	mg/L	121	(50-150)		
Total phosphorus as P	1.0	0.8	1.70	mg/L	<u>88</u>	(90-110)		
Total phosphorus as P	1.0	0.8	1.69	mg/L	<u>86</u>	(90-110)		
Total phosphorus as P	1.0	0.8	1.74	mg/L	94	(90-110)	20	2.8
Total phosphorus as P	1.0	0.8	1.75	mg/L	94	(90-110)	20	3.6
	Analyte as P (T-P) by SM4500-PE/EPA 365.1 atch: 1292531 Total phosphorus as P Total phosphorus as P	AnalyteNativeas P (T-P) by SM4500-PE/EPA 365.1 atch: 1292531	AnalyteNativeSpikedas P (T-P) by SM4500-PE/EPA 365.1 atch: 1292531Total phosphorus as PTotal phosphorus as P	Analyte         Native         Spiked         Recovered           as P (T-P) by SM4500-PE/EPA 365.1	Analyte         Native         Spiked         Recovered         Units           as P (T-P) by SM4500-PE/EPA 365.1 atch: 1292531         ////////////////////////////////////	Analyte         Native         Spiked         Recovered         Units         Yield(%)           as P (T-P) by SM4500-PE/EPA 365.1         Analysis D         Analysis D           atch: 1292531         Analysis D           Total phosphorus as P         0.4         0.395         mg/L         99           Total phosphorus as P         0.4         0.384         mg/L         96           Total phosphorus as P         0.02         0.0262         mg/L         131           Total phosphorus as P         0.060         0.4         0.482         mg/L         94           Total phosphorus as P         0.060         0.4         0.408         mg/L         97           Total phosphorus as P         0.060         0.4         0.408         mg/L         94           Total phosphorus as P         0.060         0.4         0.482         mg/L         106           Total phosphorus as P         0.048         0.4         0.411         mg/L         91           as P (T-P) by SM4500-PE/EPA 365.1         Analysis D         Total phosphorus as P         0.4         0.395         mg/L         99           Total phosphorus as P         0.4         0.413         mg/L         103         014         103	Analyte         Native         Spiked         Recovered         Units         Yield(%)         Limits (%)           as P (T-P) by SM4500-PE/EPA 365.1         Analysis Date: 12/08/         Analysis Date: 12/08/         Analysis Date: 12/08/           Total phosphorus as P         0.4         0.395         mg/L         99         (90-110)           Total phosphorus as P         0.4         0.384         mg/L         96         (90-110)           Total phosphorus as P         0.02         0.0262         mg/L         131         (50-150)           Total phosphorus as P         0.060         0.4         0.482         mg/L         94         (90-110)           Total phosphorus as P         0.060         0.4         0.424         mg/L         94         (90-110)           Total phosphorus as P         0.060         0.4         0.482         mg/L         94         (90-110)           Total phosphorus as P         0.048         0.4         0.411         mg/L         91         (90-110)           Total phosphorus as P         0.048         0.4         0.411         mg/L         91         (90-110)           Total phosphorus as P         0.04         0.411         mg/L         99         (90-110)	Analyte         Native         Spiked         Recovered         Units         Yield(%)         Limits (%)         RPD Limit(%)           as P (T-P) by SM4500-PE/EPA 365.1         Analysis Date: 12/08/2020           Total phosphorus as P         0.4         0.395         mg/L         99         (90-110)           Total phosphorus as P         0.4         0.384         mg/L         96         (90-110)         20           Total phosphorus as P         0.4         0.384         mg/L         96         (90-110)         20           Total phosphorus as P         0.02         0.0262         mg/L         131         (50-150)           Total phosphorus as P         0.060         0.4         0.482         mg/L         94         (90-110)           Total phosphorus as P         0.060         0.4         0.482         mg/L         94         (90-110)           Total phosphorus as P         0.060         0.4         0.482         mg/L         94         (90-110)         20           Total phosphorus as P         0.060         0.4         0.482         mg/L         94         (90-110)         20           Total phosphorus as P         0.048         0.4         0.4111         mg/L         91

Spike recovery is already corrected for native results. Spikes which exceed Limits and Method Blanks with positive results are highlighted by <u>Underlining.</u> 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.

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** 12/11/2020 anosa t **EUROFINS EATON ANALYTICAL, LLC** 

ZIA8: Vanessa Berry

Project Manager

Report:906144 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

Eurofins Eaton Analytical, LLC

750 Royal Oaks Drive, Suite 100 Monrovia, CA 91016-3629 T | 626-386-1100 F | 866-988-3757 www.EurofinsUS.com/Eaton

## 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

		Environ-	Environ-			-	Environ-	Environ-	
SPECIFIC TESTS	METHOD OR TECHNIQUE USED	mental (Drinking Water)	mental (Waste Water)	Water as a Component of Food and Bev/Bev/ Bottled Water	SPECIFIC TESTS	METHOD OR TECHNIQUE USED	mental (Drinking Water)	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	Hexavalent Chromium	EPA 218.7	x		x
1,4-Dioxane	EPA 522	х		x	Hexavalent Chromium	SM 3500-Cr B		х	
2.3.7.8-TCDD	Modified EPA 1613B	x		x	Hormones	EPA 539	х	~	x
Acrylamide	In House Method (2440)	x		x	Hydroxide as OH Calc.	SM 2330B	х		х
Algal Toxins/Microcystin	In House Method (3570)				Kjeldahl Nitrogen	EPA 351.2		х	
Alkalinity	SM 2320B	x	х	х	Legionella	Legiolert	х		x
Ammonia	EPA 350.1		х	х	Mercury	EPA 200.8	х		х
Ammonia	SM 4500-NH3 H		х	х	Metals	EPA 200.7 / 200.8	х	х	х
Anions and DBPs by IC	EPA 300.0	х	х	х	Microcystin LR	ELISA (2360)	х		х
Anions and DBPs by IC	EPA 300.1	х		х	Microcystin, Total	EPA 546	х		х
Asbestos	EPA 100.2	x	х		NDMA	EEA/Agilent 521.1	x		x
		~				In house method (2425)			
BOD / CBOD	SM 5210B		х	x	Nitrate/Nitrite Nitrogen	EPA 353.2	х	х	х
Bromate	In House Method (2447)	x		x	OCL, Pesticides/PCB	EPA 505	х		x
Carbamates	EPA 531.2	х		x	Ortho Phosphate	EPA 365.1	х	х	x
Carbonate as CO3	SM 2330B	х	х	x	Ortho Phosphorous Oxyhalides Disinfection	SM 4500P E	х		х
Carbonyls	EPA 556	x		x	Byproducts	EPA 317.0	х		x
COD	EPA 410.4 / SM 5220D	t	x		Perchlorate	EPA 331.0	x		x
Chloramines	SM 4500-CL G	x	x	x	Perchlorate (low and high)	EPA 314.0	x		x
Chlorinated Acids	EPA 515.4	x		x	Perfluorinated Alkyl Acids	EPA 537	x		x
Chlorinated Acids	EPA 555	x	1	x	Perfluorinated Polutant	In house Method (2434)	x		x
Chlorine Dioxide	SM 4500-CLO2 D Palin Test	x		x	рН	EPA 150.1	x		
Chlorine -Total/Free/ Combined Residual	SM 4500-Cl G	x	x	x	рН	SM 4500-H+B	x	x	x
Conductivity	EPA 120.1	1	x		Phenylurea Pesticides/ Herbicides	In House Method, based on EPA 532 (2448)	x		x
Conductivity	SM 2510B	x	x	x	Herbicides Pseudomonas	532 (2448) IDEXX Pseudalert (2461)	x		x
Corrosivity (Langelier Index)	SM 2330B	x	~	x	Radium-226	GA Institute of Tech	x		x
Cyanide, Amenable	SM 4500-CN G	x	x		Radium-228	GA Institute of Tech	x		x
Cyanide, Free	SM 4500-CN G	x	x	x	Radon-222	SM 7500RN	x		x
Cyanide, Total	EPA 335.4	x	x	x	Residue, Filterable	SM 2540C	x	x	x
Cyanogen Chloride (screen)	In House Method (2470)	x	~	x	Residue, Non-filterable	SM 2540D	~	x	~
Diquat and Paraquat	EPA 549.2	x		x	Residue, Total	SM 2540B		x	x
DBP/HAA	SM 6251B	x		x	Residue, Volatile	EPA 160.4		x	~
Dissolved Oxygen	SM 4500-O G		х	x	Semi-VOC	EPA 525.2	x		x
DOC	SM 5310C	x		х	Silica	SM 4500-Si D	х	х	
E. Coli	(MTF/EC+MUG)	х		х	Silica	SM 4500-SiO2 C	х	х	
	· · · · · ·						~		-
E. Coli	CFR 141.21(f)(6)(i)	x		x	Sulfide	SM 4500-S <sup>=</sup> D		х	
E. Coli	SM 9223		х		Sulfite	SM 4500-SO <sup>3</sup> B	х	х	x
E. Coli (Enumeration)	SM 9221B.1/ SM 9221F	х		х	Surfactants	SM 5540C	x	х	х
E. Coli (Enumeration)	SM 9223B	х		х	Taste and Odor Analytes	SM 6040E	х		х
EDB/DCBP	EPA 504.1	х			Total Coliform (P/A)	SM 9221 A, B	х		х
EDB/DBCP and DBP	EPA 551.1	x		x	Total Coliform (Enumeration)	SM 9221 A, B, C	x		x
EDTA and NTA	In House Method (2454)	x		x	Total Coliform / E. coli	Colisure SM 9223	x		x
Endothall	EPA 548.1	x		×	Total Coliform	SM 9221B	^	х	^
Endothall	In-house Method (2445)	x		х	Total Coliform with Chlorine Present	SM 9221B		x	
Enterococci	SM 9230B	x	х		Total Coliform / E.coli (P/A and Enumeration)	SM 9223	x		x
Fecal Coliform	SM 9221 E (MTF/EC)	x			TOC	SM 5310C	x	x	x
Fecal Coliform	SM 9221C, E (MTF/EC)		x		TOX	SM 5320B		x	1
Fecal Coliform	SM 9221E, E (MTF/EC)	x		x	Total Phenols	EPA 420.1		x	
(Enumeration) Fecal Coliform with	SM 9221E		x		Total Phenols	EPA 420.4	x	x	x
Chlorine Present Fecal Streptococci	SM 9221E	x	×		Total Phosphorous	SM 4500 P E	^	x	^
Fluoride	SM 4500-F C	x	x	x	Triazine Pesticides &	In House (3617)	x		x
Glyphosata	EPA 547	v		×	Degradates	EDA 190 1	v	v	v
Glyphosate   AMPA		x		×	Turbidity Turbidity	EPA 180.1	x	x	X
Glyphosate + AMPA Gross Alpha/Pata	In House Method (3618)	x	~	x	Turbidity	SM 2130B	X	х	~
Gross Alpha/Beta Gross Alpha Coprecipitation	EPA 900.0 SM 7110 C	x	x	x	Uranium by ICP/MS UV 254	EPA 200.8 SM 5910B	x		x
Hardness	SM 2340B	х	x	x	VOC	EPA 524.2	x		х
Heterotrophic Bacteria	In House Method (2439)	х		x	VOC	In House Method (2411)	х		x
Heterotrophic Bacteria	SM 9215 B	х		x	Yeast and Mold	SM 9610	х		х
Hexavalent Chromium	EPA 218.6	х	х	х	Field Sampling	N/A			1

750 Royal Oaks Dr., Ste 100, Monrovia, CA 91016 Tel (626) 386-1100 Fax (866) 988-3757 https://www.eurofinsus.com/Eaton Version 006 Issued: 05/04/20

🐝 eurofin	S Eaton Analytical								
		Acknowledgement of Samples Receive	d						
Addr: <b>Tetra Tech</b> 201 East Pine Street Suite 1000 Orlando, FL 32801 Attn: James Christopher		Folde Proj Sample Gro	Client ID: TETRATECH-ORLAN Folder #: 906144 Project: KALAMAZOO Sample Group: Lead Solubility Testing - Phase 1 Project Manager: Vanessa Berry						
	407-480-3907		pne: 503-310-3905						
tests liste		from you on <b>December 01, 2020</b> at <b>1129</b> . They have information is incorrect, please contact your servic _C.							
Sample #	Sample ID		Sample Date						
202012010605	Test 8 No.0 Initial		11/25/2020 0800						
	Total phosphorus as P	Total phosphorus as PO4- Calc.							
202012010606	Test 8 No.1 Initial		11/25/2020 0802						
	Total phosphorus as P	Total phosphorus as PO4- Calc.							
202012010607	Test 8 No.2 Initial		11/25/2020 0805						
	Total phosphorus as P	Total phosphorus as PO4- Calc.							
202012010609	Test 8 No.3 Initial		11/25/2020 0831						
	Total phosphorus as P	Total phosphorus as PO4- Calc.							
<u>202012010610</u>	Test 8 No.4 Initial		11/25/2020 0834						
	Total phosphorus as P	Total phosphorus as PO4- Calc.							
<u>202012010611</u>	Test 8 No.5 Initial		11/25/2020 0836						
	Total phosphorus as P	Total phosphorus as PO4- Calc.							
202012010612	Test 8 No.6 Initial		11/25/2020 0903						
	Total phosphorus as P	Total phosphorus as PO4- Calc.							
202012010613	Test 8 No.7 Initial		11/25/2020 0905						
	Total phosphorus as P	Total phosphorus as PO4- Calc.							
202012010614	Test 8 No.8 Initial		11/25/2020 0907						
	Total phosphorus as P	Total phosphorus as PO4 Colo							
202012010619	Test 8 No.9 Initial	Total phosphorus as PO4- Calc.	11/25/2020 0936						
202012010019	,		11/20/2020 0350						
	Total phosphorus as P	Total phosphorus as PO4- Calc.							

**Test Description** 

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🔹 eurofins	ofins		CH	IAIN	OF CU	STODY	CHAIN OF CUSTODY RECORD	Q			
	Eaton Analytical	EUROFINS EATON ANALYTICAL USE ONLY:	IL YTICAL L	ISE ONLY:	4					0	go bidy
		LOGIN COMMENTS:					SAMPLES (	SAMPLES CHECKED AGAINST COC BY:	AINST COC	BY: (1)	
Monrovia.	/ 50 Royal Oaks Drive, Suite 100 Monrovia. CA 91016-3629				1 - A			SAMPLES	SAMPLES LOGGED IN BY:	BY: )(	2
Dhone: 676	386 1100	SAMPLE TEMP RECEIV	EIVED AT:				SAMPLE	SAMPLES REC'D DAY OF COLLECTION?	DF COLLECTIO		(check for yes)
Fax: 626 3	Fax: 626 386 1101	(Other)				(Observation=	°C) (Corr.Factor	or °C)	°C) (Final =		1
800 566 LA	800 566 LABS (800 566 5227)	V Monrovia		IR Gun ID = $0314$		(Observation= (~	°C) (Corr.Factor	or co	°C) (Final <sup>l</sup> = <u></u>	°C)	
Website: <u>w</u>	Website: www.EatonAnalytical.com	TYPE OF ICE: Real		etic	Synthetic No Ice CONDIT	CONDITION OF ICE:	ICE: Frozen	Partially Frozen		Thawed	N/A
		METHOD OF SHIPMENT: Pick-Up / Walk-In	HIPMENT:	Pick-Up	/ Walk-In / Fedi	Ex / UPS / DF	/ FedEx / UPS / DHL / Area Fast / Top Line / Other:	Top Line / Oth	her:	1	
TO BE COMPLE	TO BE COMPLETED BY SAMPLER:	Sh82b	SCIPIC	25			(check for yes)	es)		(check	(check for yes)
COMPANY/AGENCY NAME:	ENCY NAME:	PROJECT CODE:				COMPLIANCE SAMPLES - Requires state forms	PLIANCE SAMPLES		NON-COMPLIANCE SAMPLES REGUI ATION INVOLVED		
					Type of sar	Type of samples (circle one):	)	ROUTINE SPECIAL CONFIRMATION	ATION		(eg. SDWA, NPDES, etc.)
EEA CLIENT CODE:	:ODE: COC ID:	SAMPLE GROUP:	×		SEE ATT	ACHED KIT	SEE ATTACHED KIT ORDER FOR ANALYSES	VAL YSES		(check for yes), OR	). <u>OR</u>
					List ALL	ANALYSES R	List ALL ANALYSES REQUIRED (enter number of bottles sent for each test for each sample)	umber of bottle	es sent for ear	ch test for e	ach sample)
TAT requested	TAT requested: rush by adv notice only	STD 1 wk 3 day	ay 2 day	/ 1 day					•		
ajama; Dtad Btad Btad Btad Bmit	SAMPLE ID	CLIENT LAB ID	* XIATAN	אדאם סאדא			<i>a</i> *			SAM COMI	SAMPLER COMMENTS
	Toth G . L. O. with al		Gar		Ŧ		-			DVD1070	- Hint Po
N:% C7 I	IDILIUI DON & ICAI		1M				X			NKJELVKU	MUM DA
8:02	4		-							Haloy	Ч.
8:0F	7										
8:31	3									5.	
HE:8	Ч										
8:36	5										
g:03	9		10		100						
90.6	t										
FO:P	08										-
9:30	4 6		Δ		4						
* MATRIX T	* MATRIX TYPES: RSW = Raw Surface Water RGW = Raw Ground Water	r <b>CFW</b> = Chlor(am)inated Finished Water r <b>FW</b> = Other Finished Water	nated Finis ed Water	shed Wate	r SEAW = Sea Water WW = Waste Water	ea Water te Water	<b>BW</b> = Bottled Water <b>SW</b> = Storm Water	ater SO = Soil er SL = Sludge		= Other - PI	0 = Other - Please Identify
	SIGNATURE			PRINT NAME	ш		COMPANY/TITLE		DATE	E	TIME
SAMPLED BY: RELINQUISHED BY	M. Arenas	MOR	Jiria Isabel	22.2	Arenas	Tehlo Te	Tetro Teun, Project	ENGINEER	1130/20	20	4:30 PM
RECEIVED BY:	X		4th	Cochoz	Con	17	7 FP		12/1/20		10 CI
RELINQUISHED BY:	iY:		) > )			2	Ś				1
RECEIVED BY:		New York									
QA FO 0029.2 (Ve	QA FO 0029.2 (Version 2) (08/28/2014)		ert.	Sec.						PAGE	OF

Page 5 of 11 pages



Tel: (626) 386-1100 Fax: (866) 988-3757 1 800 566 LABS (1 800 566 5227) Report: 906144 Project: KALAMAZOO Group: Lead Solubility Testing - Phase 1

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

## Flags Legend:

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

Laboratory Hits

**Eaton Analytical** 

Tel: (626) 386-1100 Fax: (866) 988-3757 1 800 566 LABS (1 800 566 5227) Report: 906144 Project: KALAMAZOO Group: Lead Solubility Testing - Phase 1

Samples Received on:

12/01/2020 1129

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

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Analyzed	Analyte	Sample ID	Result	Federal MCL	Units	MRL
	202012010605	Test 8 No.0 Initial				
12/09/2020 09:50	Total phosphorus as P		0.10		mg/L	0.020
12/10/2020 07:28	Total phosphorus as PO	4- Calc.	0.31		mg/L	0.030
	202012010606	Test 8 No.1 Initial				
12/09/2020 09:51	Total phosphorus as P		0.067		mg/L	0.020
12/10/2020 07:28	Total phosphorus as PO	4- Calc.	0.20		mg/L	0.030
	202012010607	Test 8 No.2 Initial				
12/09/2020 09:52	Total phosphorus as P		1.0		mg/L	0.040
12/10/2020 07:28	Total phosphorus as PO	4- Calc.	3.1		mg/L	0.030
	202012010609	Test 8 No.3 Initial				
12/09/2020 09:55	Total phosphorus as P		2.0		mg/L	0.040
12/10/2020 07:30	Total phosphorus as PO	4- Calc.	6.1		mg/L	0.030
	202012010610	Test 8 No.4 Initial				
12/09/2020 09:58	Total phosphorus as P		0.57		mg/L	0.040
12/10/2020 07:30	Total phosphorus as PO	4- Calc.	1.7		mg/L	0.030
	202012010611	Test 8 No.5 Initial				
12/09/2020 09:58	Total phosphorus as P		1.2		mg/L	0.040
12/10/2020 07:30	Total phosphorus as PO	4- Calc.	3.7		mg/L	0.030
	202012010612	Test 8 No.6 Initial				
12/09/2020 09:59	Total phosphorus as P		0.53		mg/L	0.040
12/10/2020 07:30	Total phosphorus as PO	4- Calc.	1.6		mg/L	0.030
	202012010613	Test 8 No.7 Initial				
12/09/2020 10:00	Total phosphorus as P		1.0		mg/L	0.040
12/10/2020 07:30	Total phosphorus as PO	4- Calc.	3.1		mg/L	0.030
	202012010614	Test 8 No.8 Initial				
12/09/2020 10:01	Total phosphorus as P		0.47		mg/L	0.040
12/10/2020 07:30	Total phosphorus as PO	4- Calc.	1.4		mg/L	0.030
	202012010619	Test 8 No.9 Initial				
12/09/2020 10:02	Total phosphorus as P		0.97		mg/L	0.040
12/10/2020 07:30	Total phosphorus as PO	4- Calc.	3.0		mg/L	0.030



Tel: (626) 386-1100 Fax: (866) 988-3757 1 800 566 LABS (1 800 566 5227) Report: 906144 Project: KALAMAZOO Group: Lead Solubility Testing - Phase 1

Samples Received on:

12/01/2020 1129

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

Prepped	Analyzed	Prep Batch	Analytical Batch	Method	Analyte	Result	Units	MRL	Dilution
Test 8	No.0 Initial (2	0201201060	<u>)5)</u>			Samp	oled on 11/25	/2020 080	0
		SM4500-PI	E/EPA 365.1 - <sup>-</sup>	Fotal phosphoru	s as PO4- Calc.				
	12/10/20 07:28			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	0.31 (c)	mg/L	0.030	1
		SM4500-PI	E/EPA 365.1 - <sup>-</sup>	Fotal phosphoru	is as P (T-P)				
	12/09/20 09:50		1292880	(SM4500-PE/EPA 365.1)	Total phosphorus as P	0.10	mg/L	0.020	1
Test 8 I	No.1 Initial (2	0201201060	<u>)6)</u>			Samp	oled on 11/25	/2020 080	2
		SM4500-PI	E/EPA 365.1 - <sup>-</sup>	Fotal phosphoru	s as PO4- Calc.				
	12/10/20 07:28			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	0.20 (c)	mg/L	0.030	1
		SM4500-PI	E/EPA 365.1 - <sup>-</sup>	Fotal phosphoru	s as P (T-P)				
	12/09/20 09:51		1292880	(SM4500-PE/EPA 365.1)	Total phosphorus as P	0.067	mg/L	0.020	1
<u>Test 8  </u>	No.2 Initial (2	0201201060	<u>)7)</u>			Samp	oled on 11/25	/2020 080	5
		SM4500-PI	E/EPA 365.1 - <sup>-</sup>	Fotal phosphoru	s as PO4- Calc.				
	12/10/20 07:28			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	3.1 (c)	mg/L	0.030	1
		SM4500-PI	E/EPA 365.1 - <sup>-</sup>	Fotal phosphoru	s as P (T-P)				
	12/09/20 09:52		1292880	(SM4500-PE/EPA 365.1)	Total phosphorus as P	1.0 (M2)	mg/L	0.040	2
Test 8	No.3 Initial (2	0201201060	<u>)9)</u>			Samp	oled on 11/25	/2020 083	1
		SM4500-PI	E/EPA 365.1 - <sup>-</sup>	Fotal phosphoru	s as PO4- Calc.				
	12/10/20 07:30			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	6.1 (c)	mg/L	0.030	1
		SM4500-PI	E/EPA 365.1 - <sup>-</sup>	Fotal phosphoru	s as P (T-P)				
	12/09/20 09:55		1292880	(SM4500-PE/EPA 365.1)	Total phosphorus as P	2.0	mg/L	0.040	2
Test 8	No.4 Initial (2	0201201061	<u>10)</u>			Samp	oled on 11/25	/2020 083	4
		SM4500-PI	E/EPA 365.1 - <sup>-</sup>	Fotal phosphoru	s as PO4- Calc.				
	12/10/20 07:30			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	1.7 (c)	mg/L	0.030	1
		SM4500-PI	E/EPA 365.1 - <sup>-</sup>	Fotal phosphoru	is as P (T-P)				

# 12/09/20 09:58 1292880 (SM4500-PE/EPA Total phosphorus as P 0.57 mg/L 0.040 365.1) 365.1) Sampled on 11/25/2020 0836

### 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.

2

Tel: (626) 386-1100

Fax: (866) 988-3757 1 800 566 LABS (1 800 566 5227) Report: 906144 Project: KALAMAZOO Group: Lead Solubility Testing - Phase 1

Samples Received on:

12/01/2020 1129

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

Prepped	Analyzed	Prep Batch	Analytical Batch	Method	Analyte	Result	Units	MRL	Dilution
	12/10/20 07:30			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	3.7 (c)	mg/L	0.030	1
		SM4500-PE	E/EPA 365.1 - 1	Total phosphoru	s as P (T-P)				
	12/09/20 09:58		1292880	(SM4500-PE/EPA 365.1)	Total phosphorus as P	1.2	mg/L	0.040	2
<u>Test 8 I</u>	No.6 Initial (20	0201201061	<u>2)</u>			Sam	pled on 11/25	5/2020 0903	3
		SM4500-PI	E/EPA 365.1 - 1	Fotal phosphoru	s as PO4- Calc.				
	12/10/20 07:30			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	1.6 (c)	mg/L	0.030	1
		SM4500-PE	E/EPA 365.1 - 1	Total phosphoru	s as P (T-P)				
	12/09/20 09:59		1292880	(SM4500-PE/EPA 365.1)	Total phosphorus as P	0.53	mg/L	0.040	2
<u>Test 8 I</u>	No.7 Initial (20	0201201061	<u>3)</u>			Sam	pled on 11/25	2020 090	5
		SM4500-PI	E/EPA 365.1 - 1	Fotal phosphoru	s as PO4- Calc.				
	12/10/20 07:30			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	3.1 (c)	mg/L	0.030	1
		SM4500-PE	E/EPA 365.1 - 1	Total phosphoru	s as P (T-P)				
	12/09/20 10:00		1292880	(SM4500-PE/EPA 365.1)	Total phosphorus as P	1.0	mg/L	0.040	2
<u>Test 8 I</u>	No.8 Initial (20	0201201061	<u>4)</u>			Sam	pled on 11/25	5/2020 0907	7
		SM4500-PI	E/EPA 365.1 - 1	Fotal phosphoru	s as PO4- Calc.				
	12/10/20 07:30			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	1.4 (c)	mg/L	0.030	1
		SM4500-PE	E/EPA 365.1 - 1	Total phosphoru	s as P (T-P)				
	12/09/20 10:01		1292880	(SM4500-PE/EPA 365.1)	Total phosphorus as P	0.47	mg/L	0.040	2
<u>Test 8 I</u>	No.9 Initial (20	0201201061	<u>9)</u>			Sam	pled on 11/25	6/2020 093	6
		SM4500-PI	E/EPA 365.1 - 1	Fotal phosphoru	s as PO4- Calc.				
	12/10/20 07:30			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	3.0 (c)	mg/L	0.030	1
		SM4500-PE	E/EPA 365.1 - 1	Fotal phosphoru	s as P (T-P)				
	12/09/20 10:02		1292880	(SM4500-PE/EPA 365.1)	Total phosphorus as P	0.97	mg/L	0.040	2

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 difference in the final step before reporting.

differences in final result than the component analyses.



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Tetra Tech

# Total phosphorus as P (T-P) Analytical Batch: 1292880

# 202012010605

202012010605	Test 8 No.0 Initial
202012010606	Test 8 No.1 Initial
202012010607	Test 8 No.2 Initial
202012010609	Test 8 No.3 Initial
202012010610	Test 8 No.4 Initial
202012010611	Test 8 No.5 Initial
202012010612	Test 8 No.6 Initial
202012010613	Test 8 No.7 Initial
202012010614	Test 8 No.8 Initial
202012010619	Test 8 No.9 Initial

### Laboratory QC Summary

**Report:** 906144 Project: KALAMAZOO Group: Lead Solubility Testing - Phase 1

### Analysis Date: 12/09/2020

Analyzed by: LQ3M Analyzed by: LQ3M



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**Report:** 906144 Project: KALAMAZOO Group: Lead Solubility Testing - Phase 1

Tetra Tec	h								
QC Type	Analyte	Native	Spiked	Recovered	Units	Yield(%)	Limits (%)	RPD Limit(%)	RPD%
• •	as P (T-P) by SM4500-PE/EPA 365.1 atch: 1292880					Analysis D	ate: 12/09/	2020	
LCS1	Total phosphorus as P		0.4	0.395	mg/L	99	(90-110)		
LCS2	Total phosphorus as P		0.4	0.413	mg/L	103	(90-110)	20	4.5
MBLK	Total phosphorus as P			<0.01	mg/L				
MRL_CHK	Total phosphorus as P		0.02	0.0242	mg/L	121	(50-150)		
MS_202012010584	Total phosphorus as P	1.0	0.8	1.70	mg/L	<u>88</u>	(90-110)		
MS_202012010607	Total phosphorus as P	1.0	0.8	1.69	mg/L	<u>86</u>	(90-110)		
MSD_202012010584	Total phosphorus as P	1.0	0.8	1.74	mg/L	94	(90-110)	20	2.8
MSD_202012010607	Total phosphorus as P	1.0	0.8	1.75	mg/L	94	(90-110)	20	3.6

Spike recovery is already corrected for native results. Spikes which exceed Limits and Method Blanks with positive results are highlighted by <u>Underlining.</u> 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

**Date of Issue** 12/17/2020 anosa t DENIY **EUROFINS EATON ANALYTICAL, LLC** 

ZIA8: Vanessa Berry

**Project Manager** 

Report:906979 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.





# 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

Eurofins Eaton Analytical, LLC

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## 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

		Environ-	Environ-			-	Environ-	Environ-	
SPECIFIC TESTS	METHOD OR TECHNIQUE USED	mental (Drinking Water)	mental (Waste Water)	Water as a Component of Food and Bev/Bev/ Bottled Water	SPECIFIC TESTS	METHOD OR TECHNIQUE USED	mental (Drinking Water)	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	Hexavalent Chromium	EPA 218.7	x		x
1,4-Dioxane	EPA 522	х		x	Hexavalent Chromium	SM 3500-Cr B		х	
2.3.7.8-TCDD	Modified EPA 1613B	x		x	Hormones	EPA 539	х	~	x
Acrylamide	In House Method (2440)	x		x	Hydroxide as OH Calc.	SM 2330B	х		х
Algal Toxins/Microcystin	In House Method (3570)				Kjeldahl Nitrogen	EPA 351.2		х	
Alkalinity	SM 2320B	x	х	х	Legionella	Legiolert	х		х
Ammonia	EPA 350.1		х	х	Mercury	EPA 200.8	х		х
Ammonia	SM 4500-NH3 H		х	х	Metals	EPA 200.7 / 200.8	х	х	х
Anions and DBPs by IC	EPA 300.0	х	х	х	Microcystin LR	ELISA (2360)	х		х
Anions and DBPs by IC	EPA 300.1	х		х	Microcystin, Total	EPA 546	х		х
Asbestos	EPA 100.2	x	х		NDMA	EEA/Agilent 521.1	x		x
		~				In house method (2425)			
BOD / CBOD	SM 5210B		х	x	Nitrate/Nitrite Nitrogen	EPA 353.2	х	х	х
Bromate	In House Method (2447)	x		x	OCL, Pesticides/PCB	EPA 505	х		x
Carbamates	EPA 531.2	х		x	Ortho Phosphate	EPA 365.1	х	х	x
Carbonate as CO3	SM 2330B	х	х	x	Ortho Phosphorous Oxyhalides Disinfection	SM 4500P E	х		х
Carbonyls	EPA 556	x		x	Byproducts	EPA 317.0	х		x
COD	EPA 410.4 / SM 5220D	1	x		Perchlorate	EPA 331.0	x		x
Chloramines	SM 4500-CL G	x	x	x	Perchlorate (low and high)	EPA 314.0	x		x
Chlorinated Acids	EPA 515.4	x		x	Perfluorinated Alkyl Acids	EPA 537	x		x
Chlorinated Acids	EPA 555	x	1	x	Perfluorinated Polutant	In house Method (2434)	x		x
Chlorine Dioxide	SM 4500-CLO2 D Palin Test	x		x	рН	EPA 150.1	x		
Chlorine -Total/Free/ Combined Residual	SM 4500-Cl G	x	x	x	рН	SM 4500-H+B	x	x	x
Conductivity	EPA 120.1	1	x		Phenylurea Pesticides/ Herbicides	In House Method, based on EPA 532 (2448)	x		x
Conductivity	SM 2510B	x	x	x	Herbicides Pseudomonas	532 (2448) IDEXX Pseudalert (2461)	x		x
Corrosivity (Langelier Index)	SM 2330B	x	~	x	Radium-226	GA Institute of Tech	x		x
Cyanide, Amenable	SM 4500-CN G	x	x		Radium-228	GA Institute of Tech	x		x
Cyanide, Free	SM 4500-CN G	x	x	x	Radon-222	SM 7500RN	x		x
Cyanide, Total	EPA 335.4	x	x	x	Residue, Filterable	SM 2540C	x	x	x
Cyanogen Chloride (screen)	In House Method (2470)	x	~	x	Residue, Non-filterable	SM 2540D	~	x	~
Diquat and Paraquat	EPA 549.2	x		x	Residue, Total	SM 2540B		x	x
DBP/HAA	SM 6251B	x		x	Residue, Volatile	EPA 160.4		x	~
Dissolved Oxygen	SM 4500-O G		х	x	Semi-VOC	EPA 525.2	x		x
DOC	SM 5310C	x		х	Silica	SM 4500-Si D	х	х	
E. Coli	(MTF/EC+MUG)	х		х	Silica	SM 4500-SiO2 C	х	х	
	· · · · · ·						~		-
E. Coli	CFR 141.21(f)(6)(i)	x		x	Sulfide	SM 4500-S <sup>=</sup> D		х	
E. Coli	SM 9223		х		Sulfite	SM 4500-SO <sup>3</sup> B	х	х	x
E. Coli (Enumeration)	SM 9221B.1/ SM 9221F	х		х	Surfactants	SM 5540C	x	х	х
E. Coli (Enumeration)	SM 9223B	х		х	Taste and Odor Analytes	SM 6040E	х		х
EDB/DCBP	EPA 504.1	х			Total Coliform (P/A)	SM 9221 A, B	х		х
EDB/DBCP and DBP	EPA 551.1	x		x	Total Coliform (Enumeration)	SM 9221 A, B, C	x		x
EDTA and NTA	In House Method (2454)	x		x	Total Coliform / E. coli	Colisure SM 9223	x		x
Endothall	EPA 548.1	x		×	Total Coliform	SM 9221B	^	х	^
Endothall	In-house Method (2445)	x		х	Total Coliform with Chlorine Present	SM 9221B		x	
Enterococci	SM 9230B	x	х		Total Coliform / E.coli (P/A and Enumeration)	SM 9223	x		x
Fecal Coliform	SM 9221 E (MTF/EC)	x			TOC	SM 5310C	x	x	x
Fecal Coliform	SM 9221C, E (MTF/EC)		x		TOX	SM 5320B		x	1
Fecal Coliform	SM 9221E, E (MTF/EC)	x		x	Total Phenols	EPA 420.1		x	
(Enumeration) Fecal Coliform with	SM 9221E		x		Total Phenols	EPA 420.4	x	x	x
Chlorine Present Fecal Streptococci	SM 9221E	x	×		Total Phosphorous	SM 4500 P E	^	x	^
Fluoride	SM 4500-F C	x	x	x	Triazine Pesticides &	In House (3617)	x		x
Glyphosata	EPA 547	v		×	Degradates	EDA 190 1	v	v	v
Glyphosate   AMPA		x		×	Turbidity Turbidity	EPA 180.1	x	x	X
Glyphosate + AMPA Gross Alpha/Pata	In House Method (3618)	x	~	x	Turbidity	SM 2130B	X	х	~
Gross Alpha/Beta Gross Alpha Coprecipitation	EPA 900.0 SM 7110 C	x	x	x	Uranium by ICP/MS UV 254	EPA 200.8 SM 5910B	x		x
Hardness	SM 2340B	х	x	х	VOC	EPA 524.2	x		х
Heterotrophic Bacteria	In House Method (2439)	х		x	VOC	In House Method (2411)	х		х
Heterotrophic Bacteria	SM 9215 B	х		х	Yeast and Mold	SM 9610	х		х
Hexavalent Chromium	EPA 218.6	х	х	х	Field Sampling	N/A			1

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

**Eaton Analytical** 

Attn: James Christopher Phone: 407-480-3907

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Client ID: TETRATECH-ORLAN Folder #: 906979 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 **December 05, 2020** at **1202**. 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
202012050020	Test 8 No. 0 Final	12/01/2020 0805
	@ICPMS	
202012050021	Test 8 No. 1 Final	12/01/2020 0808
	@ICPMS	
02012050022	Test 8 No. 2 Final	12/01/2020 0809
	@ICPMS	
202012050023	Test 8 No. 3 Final	12/01/2020 0810
	@ICPMS	
202012050024	Test 8 No. 4 Final	12/01/2020 0812
	@ICPMS	
202012050025	Test 8 No. 5 Final	12/01/2020 0814
	@ICPMS	
202012050026	Test 8 No. 6 Final	12/01/2020 0815
	@ICPMS	
202012050027	Test 8 No. 7 Final	12/01/2020 0816
	@ICPMS	
202012050028	Test 8 No. 8 Final	12/01/2020 0817
	@ICPMS	
02012050029	Test 8 No. 9 Final	12/01/2020 0818
	@ICPMS	
202012050030	Test 9 No. 0 Final	12/04/2020 0810
	@ICPMS	
02012050031	Test 9 No. 1 Final	12/04/2020 0812
	@ICPMS	
02012050032	Test 9 No. 2 Final	12/04/2020 0814
	@ICPMS	

Reported: 12/17/2020

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

**Eaton Analytical** 

Attn: James Christopher Phone: 407-480-3907

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Client ID: TETRATECH-ORLAN Folder #: 906979 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 **December 05, 2020** at **1202**. 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
202012050033	Test 9 No. 3 Final		12/04/2020 0815
	@ICPMS		
202012050034	Test 9 No. 4 Final		12/04/2020 0816
	@ICPMS		
202012050035	Test 9 No. 5 Final		12/04/2020 0817
	@ICPMS		
202012050036	Test 9 No. 6 Final		12/04/2020 0819
	@ICPMS		
<u>202012050037</u>	: Test 9 No. 7 Final		12/04/2020 0820
	@ICPMS		
202012050038	Test 9 No. 8 Final		12/04/2020 0821
	@ICPMS		
202012050039	Test 9 No. 9 Final		12/04/2020 0822
	@ICPMS		
202012050040	Test 9 No. 0 Initial		11/30/2020 0815
	Total phosphorus as P	Total phosphorus as PO4- Calc.	
202012050041	Test 9 No. 1 Initial		11/30/2020 0818
	Total phosphorus as P	Total phosphorus as PO4- Calc.	
202012050042	Test 9 No. 2 Initial		11/30/2020 0820
	,	Tatal abaarbarus as PO4. Cala	1100/2020 0020
202012050043	Total phosphorus as P Test 9 No. 3 Initial	Total phosphorus as PO4- Calc.	11/30/2020 0847
202012030043	,		11/30/2020 0847
202012050044	Total phosphorus as P	Total phosphorus as PO4- Calc.	44/00/0000 0050
<u>202012050044</u>	Test 9 No. 4 Initial		11/30/2020 0850
	Total phosphorus as P	Total phosphorus as PO4- Calc.	
<u>202012050045</u>	Test 9 No. 5 Initial		11/30/2020 0852
	Total phosphorus as P	Total phosphorus as PO4- Calc.	

Reported: 12/17/2020

Page 2 of 4

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**Eaton Analytical** 

Attn: James Christopher Phone: 407-480-3907

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Client ID: TETRATECH-ORLAN Folder #: 906979 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 **December 05, 2020** at **1202**. 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
202012050046	Test 9 No. 6 Initial		11/30/2020 0920
	Total phosphorus as P	Total phosphorus as PO4- Calc.	
202012050047	Test 9 No. 7 Initial		11/30/2020 0922
	Total phosphorus as P	Total phosphorus as PO4- Calc.	
202012050048	Test 9 No. 8 Initial		11/30/2020 0925
	Total phosphorus as P	Total phosphorus as PO4- Calc.	
202012050049	Test 9 No. 9 Initial		11/30/2020 0950
	Total phosphorus as P	Total phosphorus as PO4- Calc.	
202012050050	Test 10 No. 0 Initial		12/03/2020 0804
	Total phosphorus as P	Total phosphorus as PO4- Calc.	
202012050051	Test 10 No. 1 Initial		12/03/2020 0806
	Total phosphorus as P	Total phosphorus as PO4- Calc.	
202012050052	Test 10 No. 2 Initial		12/03/2020 0809
	Total phosphorus as P	Total phosphorus as PO4- Calc.	
202012050053	Test 10 No. 3 Initial		12/03/2020 0835
	Total phosphorus as P	Total phosphorus as PO4- Calc.	
202012050054	Test 10 No. 4 Initial		12/03/2020 0838
	Total phosphorus as P	Total phosphorus as PO4- Calc.	
202012050055	Test 10 No. 5 Initial		12/03/2020 0840
	Total phosphorus as P	Total phosphorus as PO4- Calc.	
202012050056	Test 10 No. 6 Initial		12/03/2020 0907
	Total phosphorus as P	Total phosphorus as PO4- Calc.	
202012050057	Test 10 No. 7 Initial		12/03/2020 0910
	Total phosphorus as P	Total phosphorus as PO4- Calc.	
202012050058	Test 10 No. 8 Initial		12/03/2020 0913
	Total phosphorus as P	Total phosphorus as PO4- Calc.	

Reported: 12/17/2020

Page 3 of 4

750 Royal Oaks Drive, Suite 100, Monrovia, CA 91016 Tel (626) 386-1100 Fax (866) 988-3757 www.EurofinsUS.com/Eaton

	Client ID: TETRATECH-ORLAN
201 East Pine Street	Folder #: 906979
Suite 1000	Project: KALAMAZOO
Orlando, FL 32801	Sample Group: Lead Solubility Testing - Phase 1
Attn: James Christopher	Project Manager: Vanessa Berry
hone: 407-480-3907	Phone: 503-310-3905

Sample #	Sample ID		Sample Date
202012050059	Test 10 No. 9 Initial		12/03/2020 0938
	Total phosphorus as P	Total phosphorus as PO4- Calc.	

# **Test Description**

@ICPMS -- ICPMS Metals

Page 4 of 4

🐝 eurofins	ofins Eaton Analytical	CHAIN EUROFINS EATON ANALYTICAL USE ONLY:	CH,	AIN (	CHAIN OF CUSTODY RECORD		r reco	ORD		606979	379
750 Royal	750 Royal Oaks Drive, Suite 100	LOGIN COMMENTS:					SAMPI	LES CHECK	ED AGAIN	SAMPLES CHECKED AGAINST COC BY:	
Monrovia, CA 91016- Phone: 626 386 1100 Fax: 626 386 1101	CA 91016-3629 3 386 1100 36 1101	SAMPLE TEMP RECEIVED AT:	EIVED AT: IR Gun ID =			(Observation=	SAMPLES F 		DAY OF COLLE		C) (check for yes)
800 566 LA	800 566 LABS (800 566 5227)	$\mathbf{V} = \mathbf{V} + $	IR Gun	IR Gun ID = $\frac{2J}{4}$	1 kt (Obse °C) (Microbiology)	(Observation= <u>/(  )</u>	Corr.Factor	Factor	<u>(</u>	6	°C)
Website: <u>w</u>	Website: www.EatonAnalytical.com	TYPE OF ICE: Real <u>METHOD OF SH</u>	Synthetic Synthetic	tick-Up /	OF ICE: Real Synthetic No loc CONDITION OF ICE: Frozen Partially Frozen METHOD OF SHIPMENT: Pick-Up / Walk-In / Fedex/JUPS / DHL / Area Fast / Top Line / Other:	CONDITION OF ICE:	: ICE: Frozen <u>··</u> HL / Area Fast /	St / Top Line	Partially Frozen p Line / Other:	Thawed	N/A
TO BE COMPLET	LL TO BE COMPLETED BY SAMPLER:				D		(check	(check for ves)			(check for ves)
COMPANY/AGENCY NAME:	ENCY NAME:	PROJECT CODE:			0	COMPLIANCE SAMPLES	SAMPLES		N-COMPLI	12	
Tetta Teun 201	ich zog E Pinest Orlando				Type of sam	<ul> <li>Requires stat</li> <li>Type of samples (circle one):</li> </ul>	- Requires state forms s (circle one): ROUTINE		GULATION CONFIRMATIC	NOLVED:	(eg. SDWA, NPDES, etc.)
EEA CLIENT CODE: TPART TRUM-ONITION	ODE: COC ID: Vr-CV/CIV	SAMPLE GROUP:	GROUP: Multity TP(f-DM1(01	Ohrice	5	CHED KIT	SEE ATTACHED KIT ORDER FOR ANALYSES	R ANALYS	SES of hotflee co	for each te	(check for yes), <u>OR</u> ch teet for each campa)
TAT requested	TAT requested: rush by adv notice only		3 day 2 day _	_ 1 day _							
ajamar Tag Tagmar Emple Emit	SAMPLE ID	CLIENT LAB ID	• XIATAM	ATAQ 0131: 	କାର ଜ୍ଞା					<u>v</u> S	SAMPLER COMMENTS
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* MATRIX T	* MATRIX TYPES: RSW = Raw Surface Water RGW = Raw Ground Water	<b>CFW</b> = Chlor(am)inated Finished Water <b>FW</b> = Other Finished Water	nated Finish ed Water	ed Water	SEAW = Sea Water WW = Waste Water	a Water e Water	<b>BW</b> = Bottled Water <b>SW</b> = Storm Water	ed Water n Water	SO = Soil SL = Sludge		O = Other - Please Identify
	SIGNATURE		đ	PRINT NAME			COMPANY/TITLE	тты		DATE	TIME
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	Eaton Analytical	EUROFINS EATON ANAL YT	YTICAL USE ONLY:				111004	111
750 Roya	te 100	LOGIN COMMENTS:		-	SAMPLES CHEC	SAMPLES CHECKED AGAINST COC BY:		
Monrovia	Monrovia, CA 91016-3629							Tool for 100
Phone: 6	Phone: 626 386 1100	P RECEIVI (Other)	<b>/ED AT:</b> IR Gun ID =	(Observation=	ູ້ ເວົ	PC) (Final =	ျို	(crieck tor yes)
R00 566 1	56 5227)	Monrovia / II	IR Gun ID = $\frac{0}{2}$	03/14 (Observation= /	ation= $\sqrt{3}$ °C) (Corr.Factor $\frac{O}{2}$	°C) (Final <del>(</del>	<u>) {</u> c)	
Website:	COM	vcceptance C	srla: (Chemistry: 4 ± 2 0	°C ) (Microbiology: < 10°		Dotion From	Thomad	NIA V
		METHOD OF SHIPMENT: Pick-Up / Walk-In		FedEx	J Ĕ			
TO BE COMPL	TO BE COMPLETED BY SAMPLER:				(check for yes)		(check	(check for yes)
COMPANY/A	COMPANY/AGENCY NAME:	PROJECT CODE:		CON		NON-COMPLIANCE SAMPLES	1	
Tehro	TENTO TECH 201 EPINEST UNONOLO			- Requires stat	e forms	REGULATION INVOLVED: SPECIAL CONFIRMATION	•	(eg. SDWA, NPDES, etc.)
EEA CLIENT CODE:	EA CLIENT CODE: COC ID:	SAMPLE GROUP:	GUNIANILIAN TRIA-BUILEN		DER FOR	YSES	(check for yes), ach teet for ear	<u>OR</u> ch cample)
			2 dav 1 dav					
I A I Lednesu	IAI requested: rush by adv notice only		- -	1				
ajamaz dtao dample imele ime	SAMPLE ID	CLIENT LAB ID	• XIATAM ATAO OJEIA ATAO OJEIA ATAO OJEIA	ୟମ ୭			SAMPLEK COMMENTS	LEK
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* MATRIX	* MATRIX TYPES: RSW = Raw Surface Water RGW = Raw Ground Water	<b>CFW</b> = Chlor(am)inated <b>FW</b> = Other Finished W	ted Finished Water Water	SEAW = Sea Water WW = Waste Water	later <b>BW</b> = Bottled Water later <b>SW</b> = Storm Water	SO = Soil C SL = Sludge	O = Other - Please Identify	ase Identify
	SIGNATURE		PRINT NAME	1	COMPANY/TITLE	DA		TIME
SAMPLED BY:	N. Arcro	W/NL KI	ISUDEI	ARANS	terra tech	1214 20		4:30PM
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	HEADA		SAMPLES LOGGED IN BY:				F	rozen Thawed N/A	Other:	(check for yes)	NON-COMPLIANCE SAMPLES	IRMATION (eg. SDWA, NPDES, etc.)	(check for yes), <u>OR</u>	ttles sent for each test for each sample)		COMMENTS											SO = Soil O = Other - Please Identify SL = Sludge	DATE TIME	N 12 12 12 12 12 12 12 12 12 12 12 12 12			12.5.20 1200	PAGE OF
CHAIN OF CUSTODY RECORD		SAMPLES CHECKED AGAINST COC BY:	SAMPLE	REC'D DA	C) (Corr.Factor	/_/=u	/	CONDITION OF ICE: Frozen Partially Frozen	FedEx UPS / DHL / Area Fast / Top Line / Other.	ick for yes)	COMPLIANCE SAMPLES NON-CC	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)													<b>BW</b> = Bottled Water <b>SW</b> = Storm Water	COMPANY/TITLE	Tehn teun			Cen	
CHAIN OF CUS	EUROFINS EATON ANALYTICAL USE ONLY:	LOGIN COMMENTS:		SAMPLE TEMP RECEIVED AT:		$O$ Monrovia ' IR Gun ID = $(-1)^{-1}$ (Obser	riteria: (Chemistry: 4 ± 2 °C ) (Microbiolog		METHOD OF SHIPMENT: Pick-Up / Walk-In (FedEx		PROJECT CODE: CC	Type of samp	SAMPLE GROUP: SAMPLE GROUP:	List ALL A	STD 1 wk 3 day 2 day 1 day	СLIENT LAB ID матяях • FIELD DATA FIELD DATA FIELD DATA	fw 1										CFW = Chlor(am)inated Finished Water SEAW = Sea Water FW = Other Finished Water WW = Waste Water	PRINT NAME	MULTICI ACTIVEL ALENAS			Uched~ Mon	
🖧 eurofins	Eaton Analytical	l	/ ou royal Uaks Drive, Suite 100 Monrovia CA 91016-3629		Phone: 626 386 1100 Fax: 626 386 1101	0 566 5227)				TO BE COMPLETED BY SAMPLER:	COMPANY/AGENCY NAME:		CODE: COC ID:		TAT requested: rush by adv notice only	SAMPLE ID	test a no.0 initial				0					A 4 0	* MATRIX TYPES: RSW = Raw Surface Water RGW = Raw Ground Water	SIGNATURE	AL ALDIN'IS		DBY:		QA FO 0029.2 (Version 2) (08/28/2014)
the start		760 0 200	Vou Roya Monrovia		Phone: 6 Fax: 626	800 566 1	Waheita.	wensite.		TO BE COMPL	COMPANY/A		EEA CLIENT CODE:		TAT request	ajamar Datag Dample Time	1130 8-15	Si S	07:8	th:8	<u>5:8</u>	<b>C</b> 5:8	9:50	9:D	G2:P	0;50	* MATRIX		SAMPLED BY:			RECEIVED BY:	<b>04 FO 0029.2 (V</b>

	🐝 eurofins	ns	CHAIN	CHAIN OF CUSTODY RECORD	<b>DY RECORD</b>		
		Eaton Analytical	EUROFINS EATON ANALYTICAL USE ONLY:			2	706526
750	Royal Oak	750 Royal Oaks Drive, Suite 100	LOGIN COMMENTS:		SAMPLES CHECKED AGAINST COC BY: SAMPLES LOGGED IN RY:	ECKED AGAINST COC BY:	L
	rovia, CA \$ \$5: 626 386	91016-3629 6 1100	SAMPLE TEMP RECEIVED AT:		SAMPLES REC'D DAY OF COLLECTION?		(check for yes)
Fax:	Fax: 626 386 1101	101	= 0	1.4	ູ່ ເວິ	, , ,	
800	566 LABS	800 566 LABS (800 566 5227)		(Observation= )	ر) - °C) (Corr.Factor <u>را ، در</u>	(Final =( <u>/ ð </u> °C)	
Web	site: <u>www.</u>	Website: www.EatonAnalytical.com	TYPE OF ICE: Real Synthetic		I OF ICE: Frozen Partially Frozen	an Thawed	N/A
			METHOD OF SHIPMENT: Pick-Up / Walk-In		FedEx/ UPS / DHL / Area Fast / Top Line / Other.	5	
TO BE C	OMPLETED E	TO BE COMPLETED BY SAMPLER:		)	(check for yes)	(chec	(check for yes)
COMPA	COMPANY/AGENCY NAME:	:Y NAME:	PROJECT CODE:	COMPLIAI		NON-COMPLIANCE SAMPLES	
				Type of samples (circle one):	e one): ROUTINE SPECIAL CONFIRMATION		(eg. SDWA, NPDES, etc.)
EEA CL	EEA CLIENT CODE:	:: COC ID:	SAMPLE GROUP:	SEE ATTACHED	SEE ATTACHED KIT ORDER FOR ANALYSES (check for yes), <u>OR</u>	check for yes), <u>OR</u>	as), <u>OR</u> each camalo)
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* MAT	RIX TYPE	* MATRIX TYPES: RSW = Raw Surface Water RGW = Raw Ground Water	er <b>CFW</b> = Chlor(am)inated Finished Water er <b>FW</b> = Other Finished Water	sr <b>SEAW</b> = Sea Water <b>WW</b> = Waste Water	BW = Bottled Water SO = Soil SW = Storm Water SL = Sludge		0 = Other - Please Identify
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SAMPLED BY:		M. Arenas	NOLIO ISODAI /	Arenas te	tema teun onlando	n214121	H-30 PM
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🐝 eurofins			Kit Order for Tetra Tech Inc.			Page 1 of 1
Eaton Ai	Eaton Analytical V	anessa Berry is	Vanessa Berry is your Eurofins Eaton Analytical, LLC Service Manager	C Service Manager		
750 Royal Oaks Drive, Suite 100 Monrovia, California 91016-3629 (626) 386-1100 FAX (866) 988-3757		Note: Sampler PI	er Please return this paper with your samples		Created Date & Time: 10/24/2020 12:10:38AM	0/24/2020 12:10:38AM
Kit #: 275596	Kit #: 275596	E.	·	Orders		
Deliver By: 1//23/2020 STG: Bottle Orders Ice Type: W			Group Name: Lead Solubility lesting - Phase 1 PO#/JOB#: Description: Every 1 week on Mon	- Fhase 1		
	Ship Sample Kits to Tetra Tech 201 East Pine Street Suite 1000 Orlando, FL 32801		Send Report to Tetra Tech 201 East Pine Street Suite 1000 Orlando, FL 32801	Billing Address Tetra Tech 201 East Pine Street Suite 1000 Orlando, FL 32801	-	
	Attn: James Christopher Phone: 407-480-3907 Fax: 407-839-3790		Attn: James Christopher Phone: 407-480-3907 Fax: 407-839-3790	Attr: James Christopher Phone: 407-480-3907 Fax: 407-839-3790	pher 37	
# of Sample Tests		Bottle Qty - 1	ty - Type [ preservative information ]	Total	UN DOT #	
20 Total phosphorus as P		1 - 250n	1 - 250ml poly [ 0.5 ml H2SO4 (50%) ]	20	UN1830	
20 @ICPMS		1 - 250n	1 - 250ml poly [ no preservative ]	20		
Sum Tests: 40 Comments				Sum Bottles: 40		
include return shipping labels ship in one cooler COCs			9284 5115 4820	0		
Total lead containers are preserved with nitric acid by the client	n nitric acid by the client.					

Via

· · ·



Tel: (626) 386-1100 Fax: (866) 988-3757 1 800 566 LABS (1 800 566 5227) Report: 906979 Project: KALAMAZOO Group: Lead Solubility Testing - Phase 1

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.

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

# Laboratory Hits

Report: 906979 Project: KALAMAZOO Group: Lead Solubility Testing - Phase 1

Samples Received on:

12/05/2020 1202

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

Analyzed	Analyte	Sample ID	Result	Federal MCL	Units	MRL
12/12/2020 15:24	202012050020 Lead Total ICAP/MS	Test 8 No. 0 Final	400	15	ug/L	0.50
12/12/2020 15:25	202012050021 Lead Total ICAP/MS	<u>Test 8 No. 1 Final</u>	640	15	ug/L	0.50
12/08/2020 21:59	202012050022 Lead Total ICAP/MS	<u>Test 8 No. 2 Final</u>	580	15	ug/L	0.50
12/08/2020 22:01	202012050023 Lead Total ICAP/MS	<u>Test 8 No. 3 Final</u>	390	15	ug/L	0.50
12/12/2020 15:26	202012050024 Lead Total ICAP/MS	<u>Test 8 No. 4 Final</u>	190	15	ug/L	0.50
12/12/2020 15:26	202012050025 Lead Total ICAP/MS	<u>Test 8 No. 5 Final</u>	760	15	ug/L	0.50
12/12/2020 15:27	202012050026 Lead Total ICAP/MS	<u>Test 8 No. 6 Final</u>	380	15	ug/L	0.50
12/12/2020 15:28	202012050027 Lead Total ICAP/MS	<u>Test 8 No. 7 Final</u>	260	15	ug/L	0.50
12/12/2020 15:29	202012050028 Lead Total ICAP/MS	<u>Test 8 No. 8 Final</u>	1200	15	ug/L	0.50
12/08/2020 22:16	202012050029 Lead Total ICAP/MS	<u>Test 8 No. 9 Final</u>	1700	15	ug/L	5.0
12/12/2020 15:39	202012050030 Lead Total ICAP/MS	<u>Test 9 No. 0 Final</u>	150	15	ug/L	0.50
12/12/2020 15:41	202012050031 Lead Total ICAP/MS	<u>Test 9 No. 1 Final</u>	190	15	ug/L	0.50
12/12/2020 15:42	202012050032 Lead Total ICAP/MS	<u>Test 9 No. 2 Final</u>	240	15	ug/L	0.50
12/12/2020 15:43	202012050033 Lead Total ICAP/MS	<u>Test 9 No. 3 Final</u>	440	15	ug/L	0.50
12/08/2020 22:05	202012050034 Lead Total ICAP/MS	<u>Test 9 No. 4 Final</u>	380	15	ug/L	0.50
	202012050035	Test 9 No. 5 Final				

SUMMARY OF POSITIVE DATA ONLY

Laboratory Hits

**Eaton Analytical** 

Tel: (626) 386-1100 Fax: (866) 988-3757 1 800 566 LABS (1 800 566 5227) Report: 906979 Project: KALAMAZOO Group: Lead Solubility Testing - Phase 1

Samples Received on:

12/05/2020 1202

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

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Analyzed	Analyte	Sample ID	Result	Federal MCL	Units	MRL
12/12/2020 15:44	Lead Total ICAP/MS		210	15	ug/L	0.50
12/12/2020 15:46	202012050036 Lead Total ICAP/MS	<u>Test 9 No. 6 Final</u>	210	15	ug/L	0.50
12/12/2020 15:47	202012050037 Lead Total ICAP/MS	<u>Test 9 No. 7 Final</u>	130	15	ug/L	0.50
12/12/2020 15:48	202012050038 Lead Total ICAP/MS	<u>Test 9 No. 8 Final</u>	610	15	ug/L	0.50
12/12/2020 15:49	202012050039 Lead Total ICAP/MS	<u>Test 9 No. 9 Final</u>	690	15	ug/L	0.50
12/14/2020 12:25 12/15/2020 06:57	<b>202012050041</b> Total phosphorus as P Total phosphorus as PO	Test 9 No. 1 Initial	0.096 0.29		mg/L mg/L	0.020 0.030
12/14/2020 12:28 12/15/2020 06:57	<b>202012050042</b> Total phosphorus as P Total phosphorus as PO	Test 9 No. 2 Initial 4- Calc.	1.0 3.1		mg/L mg/L	0.040 0.030
12/16/2020 09:10 12/15/2020 06:57	<b>202012050043</b> Total phosphorus as P Total phosphorus as PO	Test 9 No. 3 Initial 4- Calc.	2.0 6.1		mg/L mg/L	0.10 0.030
12/14/2020 12:30 12/15/2020 06:57	<b>202012050044</b> Total phosphorus as P Total phosphorus as PO	Test 9 No. 4 Initial	0.61 1.9		mg/L mg/L	0.040 0.030
12/14/2020 12:31 12/15/2020 06:57	<b>202012050045</b> Total phosphorus as P Total phosphorus as PO	<u>Test 9 No. 5 Initial</u>	1.3 4.0		mg/L mg/L	0.040 0.030
12/14/2020 12:31	<b>202012050046</b> Total phosphorus as P	<u>Test 9 No. 6 Initial</u>	0.55		mg/L	0.040
12/15/2020 06:57 12/14/2020 12:32	Total phosphorus as PO- 202012050047 Total phosphorus as P	4- Calc. Test 9 No. 7 Initial	1.7 1.2		mg/L mg/L	0.030 0.040
12/15/2020 06:58 12/14/2020 12:33	Total phosphorus as PO- 202012050048 Total phosphorus as P	4- Calc. <u>Test 9 No. 8 Initial</u>	3.7 0.46		mg/L	0.030

Laboratory Hits

Samples Received on:

12/05/2020 1202

Report: 906979 Project: KALAMAZOO Group: Lead Solubility Testing - Phase 1

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

**Eaton Analytical** 

201 East Pine Street Suite 1000 Orlando, FL 32801									
Analyzed		Analyte	Sample ID						
12/15/2020	06:58	Total phosphorus as PO4	4- Calc.						
		202012050049	<u>Test 9 No. 9 Ini</u>						
12/14/2020	12:34	Total phosphorus as P							
12/15/2020	06:58	Total phosphorus as PO4	4- Calc.						
		202012050051	<u>Test 10 No. 1 In</u>						

#### **Tetra Tech**

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James Christopher

Analyzed	Analyte	Sample ID	Result	Federal MCL	Units	MRL
12/15/2020 06:58	Total phosphorus as P	04- Calc.	1.4		mg/L	0.030
	202012050049	Test 9 No. 9 Initial				
12/14/2020 12:34	Total phosphorus as P		1.0		mg/L	0.040
12/15/2020 06:58	Total phosphorus as P	D4- Calc.	3.1		mg/L	0.030
	202012050051	Test 10 No. 1 Initial				
12/16/2020 09:11	Total phosphorus as P		0.10		mg/L	0.020
12/16/2020 14:01	Total phosphorus as P	D4- Calc.	0.31		mg/L	0.030
	202012050052	Test 10 No. 2 Initial				
12/16/2020 09:12	Total phosphorus as P		1.0		mg/L	0.040
12/16/2020 14:04	Total phosphorus as P	04- Calc.	3.1		mg/L	0.030
	202012050053	Test 10 No. 3 Initial				
12/16/2020 09:30	Total phosphorus as P		1.0		mg/L	0.040
2/16/2020 14:04	Total phosphorus as P	04- Calc.	3.1		mg/L	0.030
	202012050054	Test 10 No. 4 Initial				
2/16/2020 09:31	Total phosphorus as P		0.58		mg/L	0.040
12/16/2020 14:05	Total phosphorus as P	04- Calc.	1.8		mg/L	0.030
	202012050055	Test 10 No. 5 Initial				
2/16/2020 09:32	Total phosphorus as P		1.2		mg/L	0.040
2/16/2020 14:05	Total phosphorus as P	D4- Calc.	3.7		mg/L	0.030
	202012050056	<u>Test 10 No. 6 Initial</u>				
2/16/2020 09:33	Total phosphorus as P		0.55		mg/L	0.040
2/16/2020 14:05	Total phosphorus as P	D4- Calc.	1.7		mg/L	0.030
	202012050057	<u>Test 10 No. 7 Initial</u>				
2/16/2020 09:34	Total phosphorus as P		1.0		mg/L	0.040
2/16/2020 14:05	Total phosphorus as P	D4- Calc.	3.1		mg/L	0.030
	202012050058	<u>Test 10 No. 8 Initial</u>				
2/16/2020 09:35	Total phosphorus as P		0.46		mg/L	0.040
2/16/2020 14:05	Total phosphorus as P	04- Calc.	1.4		mg/L	0.030
	202012050059	<u>Test 10 No. 9 Initial</u>				
2/16/2020 09:36	Total phosphorus as P		0.95		mg/L	0.040
12/16/2020 14:05	Total phosphorus as P	O4- Calc.	2.9		mg/L	0.030

Samples Received on:

Units

Sampled on 12/01/2020 0805

MRL

Dilution

12/05/2020 1202

Report: 906979 Project: KALAMAZOO

Analyte

Group: Lead Solubility Testing - Phase 1

Result

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

#### EPA 200.8 - ICPMS Metals

201 East Pine Street Suite 1000 Orlando, FL 32801

Test 8 No. 0 Final (202012050020)

Analyzed

Prepped

EPA 200.8 - ICPMS Me 12/07/20 12/12/20 15:24 1292485 1293889 Test 8 No. 1 Final (202012050021)	tals (EPA 200.8)	Lead Total ICAP/MS	400 Sample	ug/L ed on 12/01/	0.50 <b>/2020 0808</b>	1
EPA 200.8 - ICPMS Me 12/07/20 12/12/20 15:25 1292485 1293889 Test 8 No. 2 Final (202012050022)	tals (EPA 200.8)	Lead Total ICAP/MS	640 Sample	ug/L ed on 12/01/	0.50 <b>/2020 0809</b>	1
EPA 200.8 - ICPMS Me 12/07/20 12/08/20 21:59 1292485 1292499 Test 8 No. 3 Final (202012050023)	tals (EPA 200.8)	Lead Total ICAP/MS	580 Sample	ug/L ed on 12/01	0.50 <b>/2020 0810</b>	1
EPA 200.8 - ICPMS Me 12/07/20 12/08/20 22:01 1292485 1292499 Test 8 No. 4 Final (202012050024)	tals (EPA 200.8)	Lead Total ICAP/MS	390 Sample	ug/L ed on 12/01/	0.50 <b>/2020 0812</b>	1
EPA 200.8 - ICPMS Me 12/07/20 12/12/20 15:26 1292485 1293889 Test 8 No. 5 Final (202012050025)	tals (EPA 200.8)	Lead Total ICAP/MS	190 Sample	ug/L ed on 12/01/	0.50 <b>/2020 0814</b>	1
EPA 200.8 - ICPMS Me 12/07/20 12/12/20 15:26 1292485 1293889 Test 8 No. 6 Final (202012050026)	tals (EPA 200.8)	Lead Total ICAP/MS	760 Sample	ug/L ed on 12/01/	0.50 <b>/2020 0815</b>	1
EPA 200.8 - ICPMS Me 12/07/20 12/12/20 15:27 1292485 1293889 Test 8 No. 7 Final (202012050027)	tals (EPA 200.8)	Lead Total ICAP/MS	380 Sample	ug/L ed on 12/01	0.50 <b>/2020 0816</b>	1
EPA 200.8 - ICPMS Me 12/07/20 12/12/20 15:28 1292485 1293889 <u>Test 8 No. 8 Final (202012050028)</u>	tals (EPA 200.8)	Lead Total ICAP/MS	260 Sample	ug/L ed on 12/01	0.50 <b>/2020 0817</b>	1
EPA 200.8 - ICPMS Me 12/07/20 12/12/20 15:29 1292485 1293889 Test 8 No. 9 Final (202012050029)	tals (EPA 200.8)	Lead Total ICAP/MS	1200 Sample	ug/L ed on 12/01/	0.50 <b>/2020 0818</b>	1

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1 800 566 LABS (1 800 566 5227)

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Prep Batch Analytical Batch

Method

Laboratory Data

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

Laboratory Data

Report: 906979

Samples Received on:

Units

MRL

Dilution

12/05/2020 1202

Project: KALAMAZOO Group: Lead Solubility Testing - Phase 1

Result

**Tetra Tech** 

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Prep Batch Analytical Batch

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

Analyzed

Prepped

Prepped	Analyzed	Prep Batch	Analytical Batch	Method	Analyte	Result	Units	MRL	Dilution
12/07/20	12/08/20 22:16	1292485	1292499	(EPA 200.8)	Lead Total ICAP/MS	1700	ug/L	5.0	10
<u>Test 9 N</u>	lo. 0 Final (20	201205003	<u>0)</u>			Sam	oled on 12/04	/2020 081	0
		EDA 200 9	- ICPMS Metals						
12/07/20	12/12/20 15:39	1292485	1293890	(EPA 200.8)	Lead Total ICAP/MS	150	ug/L	0.50	1
Test 9 N	lo. 1 Final (20	201205003	1)	( , , , , , , , , , , , , , , , , , , ,		Samı	oled on 12/04	/2020 081;	2
10/07/00	12/12/20 15:41	EPA 200.8 1292485	- ICPMS Metals 1293890		Load Tatal ICAD/MC	190		0.50	1
				(EPA 200.8)	Lead Total ICAP/MS		ug/L		
Testan	lo. 2 Final (20	201205005	<u>52)</u>			Sam	oled on 12/04	2020 081	4
		EPA 200.8	- ICPMS Metals						
12/07/20	12/12/20 15:42	1292485	1293890	(EPA 200.8)	Lead Total ICAP/MS	240	ug/L	0.50	1
<u>Test 9 N</u>	lo. 3 Final (20	201205003	<u>3)</u>			Sam	oled on 12/04	/2020 081	5
		EPA 200.8	- ICPMS Metals						
12/07/20	12/12/20 15:43	1292485	1293890	(EPA 200.8)	Lead Total ICAP/MS	440	ug/L	0.50	1
<u>Test 9 N</u>	lo. 4 Final (20	201205003	<u>4)</u>			Sam	oled on 12/04	/2020 081	6
		EDA 200 9	- ICPMS Metals						
12/07/20	12/08/20 22:05	1292485	1292499	(EPA 200.8)	Lead Total ICAP/MS	380	ug/L	0.50	1
Test 9 N	lo. 5 Final (20	201205003	5)	ζ ,		Samı	oled on 12/04	/2020 081	7
	12/12/20 15:44	EPA 200.8 1292485	- ICPMS Metals 1293890		Lead Total ICAP/MS	210		0.50	1
	lo. 6 Final (20			(EPA 200.8)	Leau Tolai ICAP/MS		ug/L bled on 12/04		
<u>1621 2 10</u>	10. 0 Fillal (20	201205005	<u>(0)</u>			Sam		2020 001	9
		EPA 200.8	- ICPMS Metals						
	12/12/20 15:46	1292485	1293890	(EPA 200.8)	Lead Total ICAP/MS	210	ug/L	0.50	1
<u>Test 9 N</u>	lo. 7 Final (20	201205003	<u>57)</u>			Sam	oled on 12/04	/2020 082	0
		EPA 200.8	- ICPMS Metals						
12/07/20	12/12/20 15:47	1292485	1293890	(EPA 200.8)	Lead Total ICAP/MS	130	ug/L	0.50	1
<u>Test 9 N</u>	lo. 8 Final (20	201205003	<u>8)</u>			Sam	oled on 12/04	/2020 082	1
			- ICPMS Metals						
12/07/20	12/12/20 15:48	1292485	1293890	(EPA 200.8)	Lead Total ICAP/MS	610	ug/L	0.50	1
Test 9 N	lo. 9 Final (20	201205003	9)	. ,		Samı	oled on 12/04	/2020 082	2
	•						-		

Analyte

Method

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Tel: (626) 386-1100 Fax: (866) 988-3757 1 800 566 LABS (1 800 566 5227) Report: 906979 Project: KALAMAZOO Group: Lead Solubility Testing - Phase 1

Samples Received on: 12/05/2020 1202

Prepped	Analyzed	Prep Batch	Analytical Batch	Method	Analyte	Result	Units	MRL	Dilution
		EPA 200.8	- ICPMS Metals	6					
12/07/20	12/12/20 15:49	1292485	1293890	(EPA 200.8)	Lead Total ICAP/MS	690	ug/L	0.50	1
Test 9 No	o. 0 Initial (2	0201205004	<u>40)</u>			Sam	oled on 11/30	/2020 081	5
		SM4500-PE	E/EPA 365.1 - T	otal phosphoru	is as PO4- Calc.				
	12/15/20 06:57			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	ND (c)	mg/L	0.030	1
		SM4500-PE		otal phosphoru					
	12/14/20 12:22		1294151	(SM4500-PE/EPA 365.1)	Total phosphorus as P	ND (M1)	mg/L	0.020	1
est 9 N	o. 1 Initial (2	0201205004	<u>41)</u>			Sam	oled on 11/30	/2020 081	8
		SM4500-PE	E/EPA 365.1 - T	otal phosphoru	ıs as PO4- Calc.				
	12/15/20 06:57			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	0.29 (c)	mg/L	0.030	1
		SM4500-PE	E/EPA 365.1 - T	otal phosphoru	ıs as P (T-P)				
	12/14/20 12:25		1294151	(SM4500-PE/EPA 365.1)	Total phosphorus as P	0.096	mg/L	0.020	1
est 9 No	o. 2 Initial (2	0201205004	<u>42)</u>			Sam	oled on 11/30	/2020 082	0
		SM4500-PE	E/EPA 365.1 - T	otal phosphoru	is as PO4- Calc.				
	12/15/20 06:57			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	3.1 (c)	mg/L	0.030	1
		SM4500-PE	E/EPA 365.1 - T	otal phosphoru	ıs as P (T-P)				
	12/14/20 12:28		1294151	(SM4500-PE/EPA 365.1)	Total phosphorus as P	1.0	mg/L	0.040	2
est 9 No	o. 3 Initial (2	0201205004	<u>43)</u>			Sam	oled on 11/30	/2020 084	7
		SM4500-PE	E/EPA 365.1 - T	otal phosphoru	ıs as PO4- Calc.				
	12/15/20 06:57			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	6.1 (c)	mg/L	0.030	1
		SM4500-PE	E/EPA 365.1 - T	otal phosphoru	ıs as P (T-P)				
	12/16/20 09:10		1294580	(SM4500-PE/EPA 365.1)	Total phosphorus as P	2.0	mg/L	0.10	5
est 9 No	o. 4 Initial (2	0201205004	<u>44)</u>			Samp	oled on 11/30	/2020 085	0
		SM4500-PE	E/EPA 365.1 - T	otal phosphoru	ıs as PO4- Calc.				
	12/15/20 06:57			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	1.9 (c)	mg/L	0.030	1
		SM4500-PE	E/EPA 365.1 - T	otal phosphoru	ıs as P (T-P)				
	12/14/20 12:30		1294151	(SM4500-PE/EPA 365.1)	Total phosphorus as P	0.61	mg/L	0.040	2
est 9 N	o. 5 Initial (2	0201205004	<u>45)</u>			Sam	oled on 11/30	/2020 085	2
ounding on to	tals after summation								



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Samples Received on:

12/05/2020 1202

Prepped Method MRL Analyzed Prep Batch Analytical Batch Analyte Result Units Dilution SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc. 12/15/20 06:57 (SM4500-PE/EPA Total phosphorus as PO4- Calc. 4.0 (c) 0.030 mg/L 1 365.1) SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P) 12/14/20 12:31 1294151 (SM4500-PE/EPA Total phosphorus as P 1.3 mg/L 0.040 2 365.1) Test 9 No. 6 Initial (202012050046) Sampled on 11/30/2020 0920 SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc. 12/15/20 06:57 (SM4500-PE/EPA Total phosphorus as PO4- Calc. 1.7 (c) 0.030 ma/L 1 365.1) SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P) 12/14/20 12:31 1294151 (SM4500-PE/EPA Total phosphorus as P 0.55 0.040 2 ma/L 365.1) Test 9 No. 7 Initial (202012050047) Sampled on 11/30/2020 0922 SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc. (SM4500-PE/EPA Total phosphorus as PO4- Calc. 12/15/20 06:58 3.7 (c) 0.030 mg/L 1 365.1) SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P) 12/14/20 12:32 (SM4500-PE/EPA Total phosphorus as P 1294151 1.2 mg/L 0.040 2 365.1) Test 9 No. 8 Initial (202012050048) Sampled on 11/30/2020 0925 SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc. (SM4500-PE/EPA Total phosphorus as PO4- Calc. 12/15/20 06:58 1.4 (c) mg/L 0.030 1 365.1) SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P) 12/14/20 12:33 1294151 (SM4500-PE/EPA Total phosphorus as P 0.46 ma/L 0.040 2 365.1) Test 9 No. 9 Initial (202012050049) Sampled on 11/30/2020 0950 SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc. 12/15/20 06:58 (SM4500-PE/EPA Total phosphorus as PO4- Calc. 3.1 (c) 0.030 mg/L 1 365.1) SM4500-PE/EPA 365.1 - Total phosphorus as P (T-P) 12/14/20 12:34 1294151 (SM4500-PE/EPA Total phosphorus as P 1.0 mg/L 0.040 2 365.1) Test 10 No. 0 Initial (202012050050) Sampled on 12/03/2020 0804

#### SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.

Rounding on totals after summation.

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**Eaton Analytical** 

Tel: (626) 386-1100 Fax: (866) 988-3757 1 800 566 LABS (1 800 566 5227) Report: 906979 Project: KALAMAZOO Group: Lead Solubility Testing - Phase 1

Samples Received on:

12/05/2020 1202

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

Prepped	Analyzed	Prep Batch	Analytical Batch	Method	Analyte	Result	Units	MRL	Dilution
	12/16/20 14:00			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	ND (c)	mg/L	0.030	1
		SM4500-PI	E/EPA 365.1 - T	Total phosphoru	is as P (T-P)				
	12/16/20 09:07		1294580	(SM4500-PE/EPA 365.1)	Total phosphorus as P	ND	mg/L	0.020	1
<u>Test 10</u>	No. 1 Initial	(202012050	<u>051)</u>			Sam	pled on 12/03	/2020 080	6
		SM4500-DF	=/EPA 365 1 - T	Cotal phosphoru	is as PO4- Calc.				
	12/16/20 14:01				Total phosphorus as PO4- Calc.	0.31 (c)	mg/L	0.030	1
		SM4500-PE	E/EPA 365.1 - T	Total phosphoru	is as P (T-P)				
	12/16/20 09:11		1294580	(SM4500-PE/EPA 365.1)	Total phosphorus as P	0.10	mg/L	0.020	1
<u>Test 10</u>	No. 2 Initial	(202012050	<u>052)</u>	,		Sam	pled on 12/03	/2020 080	9
		SM4500-PI	E/EPA 365.1 - T	lotal phosphoru	ıs as PO4- Calc.				
	12/16/20 14:04			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	3.1 (c)	mg/L	0.030	1
		SM4500-PE	E/EPA 365.1 - T	Total phosphoru	is as P (T-P)				
	12/16/20 09:12		1294580	(SM4500-PE/EPA 365.1)	Total phosphorus as P	1.0	mg/L	0.040	2
<u>Test 10</u>	No. 3 Initial	(202012050	<u>053)</u>			Sam	pled on 12/03	/2020 083	5
		SM4500-PF	=/FPA 365 1 - T	otal phosphoru	ıs as PO4- Calc.				
	12/16/20 14:04		_/_  A 000.1 - 1		Total phosphorus as PO4- Calc.	3.1 (c)	mg/L	0.030	1
		SM4500-PE	E/EPA 365.1 - T	Total phosphoru	is as P (T-P)				
	12/16/20 09:30		1294580	(SM4500-PE/EPA 365.1)	Total phosphorus as P	1.0	mg/L	0.040	2
<u>Test 10</u>	No. 4 Initial	(202012050	<u>054)</u>	,		Sam	pled on 12/03	/2020 083	8
		SM4500-PF	=/EPA 365 1 - T	Cotal phosphoru	ıs as PO4- Calc.				
	12/16/20 14:05	SWI4500-F1	_/EFA 303.1 - 1	(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	1.8 (c)	mg/L	0.030	1
		SM4500-PE	E/EPA 365.1 - T	Total phosphoru	is as P (T-P)				
	12/16/20 09:31		1294580	(SM4500-PE/EPA 365.1)	Total phosphorus as P	0.58	mg/L	0.040	2
<u>Test 10</u>	No. 5 Initial	(202012050	<u>055)</u>	,		Sam	pled on 12/03	/2020 084	0
		SM4500-PF	=/EPA 365 1 - T	Cotal phosphoru	ıs as PO4- Calc.				
	12/16/20 14:05	JINHJUU-PI	_/ EFA J03.1 - 1		Total phosphorus as PO4- Calc.	3.7 (c)	mg/L	0.030	1
	12/10/20 14:00			365.1)		0.7 (0)	mg/L	0.050	ı
		SM4500-PI	E/EPA 365.1 - T	Total phosphoru	is as P (T-P)				

Rounding on totals after summation.

**Tetra Tech** 

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Laboratory	Data
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Report: 906979 Project: KALAMAZOO Group: Lead Solubility Testing - Phase 1

Samples Received on: 12/05/2020 1202

Prepped	Analyzed	Prep Batch	Analytical Batch	Method	Analyte	Result	Units	MRL	Dilution
	12/16/20 09:32		1294580	(SM4500-PE/EPA 365.1)	Total phosphorus as P	1.2	mg/L	0.040	2
<u>Test 10 N</u>	lo. 6 Initial (	2020120500	<u>056)</u>			Sam	pled on 12/03	/2020 090	7
		SM4500-PE	E/EPA 365.1 - <sup>-</sup>	Total phosphoru	ıs as PO4- Calc.				
	12/16/20 14:05			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	1.7 (c)	mg/L	0.030	1
		SM4500-PE	E/EPA 365.1 - <sup>-</sup>	Total phosphoru	ıs as P (T-P)				
	12/16/20 09:33		1294580	(SM4500-PE/EPA 365.1)	Total phosphorus as P	0.55	mg/L	0.040	2
<u>Test 10 N</u>	lo. 7 Initial (	2020120500	<u>057)</u>			Sam	pled on 12/03	/2020 091	0
		SM4500-PE	E/EPA 365.1 - <sup>-</sup>	Total phosphoru	ıs as PO4- Calc.				
	12/16/20 14:05			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	3.1 (c)	mg/L	0.030	1
		SM4500-PE	E/EPA 365.1 - <sup>-</sup>	Total phosphoru	is as P (T-P)				
	12/16/20 09:34		1294580	(SM4500-PE/EPA 365.1)	Total phosphorus as P	1.0	mg/L	0.040	2
<u>Test 10 N</u>	lo. 8 Initial (	202012050	<u>058)</u>			Sam	pled on 12/03	/2020 091	3
		SM4500-PE	E/EPA 365.1 - <sup>-</sup>	Total phosphoru	ıs as PO4- Calc.				
	12/16/20 14:05			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	1.4 (c)	mg/L	0.030	1
		SM4500-PE	E/EPA 365.1 - <sup>-</sup>	Total phosphoru	ıs as P (T-P)				
	12/16/20 09:35		1294580	(SM4500-PE/EPA 365.1)	Total phosphorus as P	0.46	mg/L	0.040	2
<u>Test 10 N</u>	lo. 9 Initial (	2020120500	<u>059)</u>			Sam	pled on 12/03	/2020 093	8
		SM4500-PE	E/EPA 365.1 - <sup>-</sup>	Total phosphoru	ıs as PO4- Calc.				
	12/16/20 14:05			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	2.9 (c)	mg/L	0.030	1
		SM4500-PE	E/EPA 365.1 - <sup>-</sup>	Total phosphoru	ıs as P (T-P)				
	12/16/20 09:36		1294580	(SM4500-PE/EPA 365.1)	Total phosphorus as P	0.95	mg/L	0.040	2



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#### **ICPMS Metals**

Prep Batch: 1292485	Analytical Batch: 1292499
202012050022	Test 8 No. 2 Final
202012050023	Test 8 No. 3 Final
202012050029	Test 8 No. 9 Final
202012050034	Test 9 No. 4 Final
ICPMS Metals	
Prep Batch: 1292485	Analytical Batch: 1293889
202012050020	Test 8 No. 0 Final
202012050021	Test 8 No. 1 Final
202012050024	Test 8 No. 4 Final
202012050025	Test 8 No. 5 Final
202012050026	Test 8 No. 6 Final
202012050027	Test 8 No. 7 Final
202012050028	Test 8 No. 8 Final
ICPMS Metals	
Prep Batch: 1292485	Analytical Batch: 1293890
202012050030	Test 9 No. 0 Final
202012050031	Test 9 No. 1 Final
202012050032	Test 9 No. 2 Final
202012050033	Test 9 No. 3 Final
202012050035	Test 9 No. 5 Final
202012050036	Test 9 No. 6 Final
202012050037	Test 9 No. 7 Final
202012050038	Test 9 No. 8 Final
202012050039	Test 9 No. 9 Final
Total phosphorus as P (T-	P)
Analytical Batch: 1294	4151
202012050040	Test 9 No. 0 Initial
202012050041	Test 9 No. 1 Initial
202012050042	Test 9 No. 2 Initial
202012050044	Test 9 No. 4 Initial
202012050045	Test 9 No. 5 Initial
202012050046	Test 9 No. 6 Initial

Test 9 No. 6 Initial Test 9 No. 7 Initial Test 9 No. 8 Initial Test 9 No. 9 Initial

#### Total phosphorus as P (T-P)

202012050047 202012050048

202012050049

#### Analytical Batch: 1294580

202012050043	Test 9 No. 3 Initial
202012050050	Test 10 No. 0 Initial
202012050051	Test 10 No. 1 Initial
202012050052	Test 10 No. 2 Initial
202012050053	Test 10 No. 3 Initial

Report: 906979 Project: KALAMAZOO Group: Lead Solubility Testing - Phase 1

#### Analysis Date: 12/08/2020

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

#### Analysis Date: 12/12/2020

Analyzed by: URDE Analyzed by: URDE

#### Analysis Date: 12/12/2020

Analyzed by: URDE Analyzed by: URDE

#### Analysis Date: 12/14/2020

Analyzed by: H5VG Analyzed by: H5VG

#### Analysis Date: 12/16/2020

Analyzed by: H5VG Analyzed by: H5VG Analyzed by: H5VG Analyzed by: H5VG Analyzed by: H5VG



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202012050054	Test 10 No. 4 Initial	Analyzed by: H5VG
202012050055	Test 10 No. 5 Initial	Analyzed by: H5VG
202012050056	Test 10 No. 6 Initial	Analyzed by: H5VG
202012050057	Test 10 No. 7 Initial	Analyzed by: H5VG
202012050058	Test 10 No. 8 Initial	Analyzed by: H5VG
202012050059	Test 10 No. 9 Initial	Analyzed by: H5VG

#### Laboratory QC Summary

Report: 906979 Project: KALAMAZOO Group: Lead Solubility Testing - Phase 1

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

Report: 906979 Project: KALAMAZOO Group: Lead Solubility Testing - Phase 1

Tetra Tech									
QC Туре	Analyte	Native	Spiked	Recovered	Units	Yield(%)	Limits (%)	RPD Limit(%)	RPD%
ICPMS Metals by	EPA 200.8								
Analytical B	atch: 1292499					Analysis D	ate: 12/08/	2020	
LCS1	Lead Total ICAP/MS		50	52.3	ug/L	105	(85-115)		
LCS2	Lead Total ICAP/MS		50	52.0	ug/L	104	(85-115)	20	0.57
MBLK	Lead Total ICAP/MS			<0.25	ug/L				
MRL_CHK	Lead Total ICAP/MS		0.5	0.552	ug/L	110	(50-150)		
MS_202012020254	Lead Total ICAP/MS	ND	50	49.7	ug/L	99	(70-130)		
MS2_202012040143	Lead Total ICAP/MS	ND	50	48.9	ug/L	98	(70-130)		
MSD_202012020254	Lead Total ICAP/MS	ND	50	49.2	ug/L	98	(70-130)	20	1.1
MSD2_202012040143	Lead Total ICAP/MS	ND	50	49.3	ug/L	98	(70-130)	20	0.84
ICPMS Metals by	EPA 200.8								
Analytical B	atch: 1293889					Analysis D	ate: 12/12/	2020	
LCS1	Lead Total ICAP/MS		50	50.8	ug/L	102	(85-115)		
LCS2	Lead Total ICAP/MS		50	51.4	ug/L	103	(85-115)	20	1.2
MBLK	Lead Total ICAP/MS			<0.25	ug/L				
MRL_CHK	Lead Total ICAP/MS		0.5	0.491	ug/L	98	(50-150)		
MS_202012030654	Lead Total ICAP/MS	1300	50	1310	ug/L	88	(70-130)		
MS2_202012030664	Lead Total ICAP/MS	880	50	922	ug/L	91	(70-130)		
MSD_202012030654	Lead Total ICAP/MS	1300	50	1320	ug/L	108	(70-130)	20	0.77
MSD2_202012030664	Lead Total ICAP/MS	880	50	922	ug/L	90	(70-130)	20	0.052
ICPMS Metals by	EPA 200.8								
-	atch: 1293890					Analysis D	ate: 12/12/	2020	
LCS1	Lead Total ICAP/MS		50	51.8	ug/L	104	(85-115)		
LCS2	Lead Total ICAP/MS		50	51.3	ug/L	103	(85-115)	20	1.2
MBLK	Lead Total ICAP/MS			<0.25	ug/L				
MRL_CHK	Lead Total ICAP/MS		0.5	0.480	ug/L	96	(50-150)		
MS_202012050030	Lead Total ICAP/MS	150	50	199	ug/L	102	(70-130)		
MS2_202012080203	Lead Total ICAP/MS	ND	50	44.1	ug/L	88	(70-130)		
MSD_202012050030	Lead Total ICAP/MS	150	50	197	ug/L	98	(70-130)	20	1.2
MSD2_202012080203	Lead Total ICAP/MS	ND	50	44.1	ug/L	88	(70-130)	20	0.084
Total phosphorus	as P (T-P) by SM4500-PE/EPA 365.	1							
Analytical B	atch: 1294151					Analysis D	ate: 12/14/	2020	
LCS1	Total phosphorus as P		0.4	0.414	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			<0.01	mg/L	-	/		

Spike recovery is already corrected for native results. Spikes which exceed Limits and Method Blanks with positive results are highlighted by <u>Underlining.</u> 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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Report: 906979 Project: KALAMAZOO Group: Lead Solubility Testing - Phase 1

Tetra Tech

QC Туре	Analyte	Native	Spiked	Recovered	Units	Yield(%)	Limits (%)	RPD Limit(%)	RPD%
MRL_CHK	Total phosphorus as P		0.02	0.0212	mg/L	106	(50-150)		
MS_202012030370	Total phosphorus as P	0.075	0.4	0.504	mg/L	107	(90-110)		
MS_202012050040	Total phosphorus as P	ND	0.4	0.404	mg/L	101	(90-110)		
MSD_202012030370	Total phosphorus as P	0.075	0.4	0.499	mg/L	106	(90-110)	20	1
MSD_202012050040	Total phosphorus as P	ND	0.4	0.536	mg/L	<u>134</u>	(90-110)	20	<u>28</u>
Total phosphorus	as P (T-P) by SM4500-PE/EPA 365.1								
Analytical B	atch: 1294580				A	Analysis D	ate: 12/16/	2020	
LCS1	Total phosphorus as P		0.4	0.416	mg/L	104	(90-110)		
LCS2	Total phosphorus as P		0.4	0.409	mg/L	102	(90-110)	20	1.7
MBLK	Total phosphorus as P			<0.01	mg/L				
MRL_CHK	Total phosphorus as P		0.02	0.0206	mg/L	103	(50-150)		
MS_202012050050	Total phosphorus as P	ND	0.4	0.423	mg/L	103	(90-110)		
MS_202012050059	Total phosphorus as P	0.95	0.8	1.78	mg/L	104	(90-110)		
MSD_202012050050	Total phosphorus as P	ND	0.4	0.421	mg/L	102	(90-110)	20	0.43
MSD_202012050059	Total phosphorus as P	0.95	0.8	1.78	mg/L	104	(90-110)	20	0.21

Spike recovery is already corrected for native results. Spikes which exceed Limits and Method Blanks with positive results are highlighted by <u>Underlining.</u> 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.

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

**Date of Issue** 12/28/2020 DENIY and t **EUROFINS EATON ANALYTICAL, LLC** 

ZIA8: Vanessa Berry

Project Manager



Report: 908296 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.



### 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

Eurofins Eaton Analytical, LLC

750 Royal Oaks Drive, Suite 100 Monrovia, CA 91016-3629 T | 626-386-1100 F | 866-988-3757 www.EurofinsUS.com/Eaton

#### 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

		Environ-	Environ-			-	Environ-	Environ-	
SPECIFIC TESTS	METHOD OR TECHNIQUE USED	mental (Drinking Water)	mental (Waste Water)	Water as a Component of Food and Bev/Bev/ Bottled Water	SPECIFIC TESTS	METHOD OR TECHNIQUE USED	mental (Drinking Water)	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	Hexavalent Chromium	EPA 218.7	x		x
1,4-Dioxane	EPA 522	х		x	Hexavalent Chromium	SM 3500-Cr B		х	
2.3.7.8-TCDD	Modified EPA 1613B	x		x	Hormones	EPA 539	х	~	x
Acrylamide	In House Method (2440)	x		x	Hydroxide as OH Calc.	SM 2330B	х		х
Algal Toxins/Microcystin	In House Method (3570)				Kjeldahl Nitrogen	EPA 351.2		х	
Alkalinity	SM 2320B	x	х	х	Legionella	Legiolert	х		х
Ammonia	EPA 350.1		х	х	Mercury	EPA 200.8	х		х
Ammonia	SM 4500-NH3 H		х	х	Metals	EPA 200.7 / 200.8	х	х	х
Anions and DBPs by IC	EPA 300.0	х	х	х	Microcystin LR	ELISA (2360)	х		х
Anions and DBPs by IC	EPA 300.1	х		х	Microcystin, Total	EPA 546	х		х
Asbestos	EPA 100.2	x	х		NDMA	EEA/Agilent 521.1	x		x
		~				In house method (2425)			
BOD / CBOD	SM 5210B		х	x	Nitrate/Nitrite Nitrogen	EPA 353.2	х	х	х
Bromate	In House Method (2447)	x		x	OCL, Pesticides/PCB	EPA 505	х		x
Carbamates	EPA 531.2	х		x	Ortho Phosphate	EPA 365.1	х	х	x
Carbonate as CO3	SM 2330B	х	х	x	Ortho Phosphorous Oxyhalides Disinfection	SM 4500P E	х		х
Carbonyls	EPA 556	x		x	Byproducts	EPA 317.0	х		x
COD	EPA 410.4 / SM 5220D	1	x		Perchlorate	EPA 331.0	x		x
Chloramines	SM 4500-CL G	x	x	x	Perchlorate (low and high)	EPA 314.0	x		x
Chlorinated Acids	EPA 515.4	x		x	Perfluorinated Alkyl Acids	EPA 537	x		x
Chlorinated Acids	EPA 555	x	1	x	Perfluorinated Polutant	In house Method (2434)	x		x
Chlorine Dioxide	SM 4500-CLO2 D Palin Test	x		x	рН	EPA 150.1	x		
Chlorine -Total/Free/ Combined Residual	SM 4500-Cl G	x	x	x	рН	SM 4500-H+B	x	x	x
Conductivity	EPA 120.1	1	x		Phenylurea Pesticides/ Herbicides	In House Method, based on EPA 532 (2448)	x		x
Conductivity	SM 2510B	x	x	x	Herbicides Pseudomonas	532 (2448) IDEXX Pseudalert (2461)	x		x
Corrosivity (Langelier Index)	SM 2330B	x	~	x	Radium-226	GA Institute of Tech	x		x
Cyanide, Amenable	SM 4500-CN G	x	x		Radium-228	GA Institute of Tech	x		x
Cyanide, Free	SM 4500-CN G	x	x	x	Radon-222	SM 7500RN	x		x
Cyanide, Total	EPA 335.4	x	x	x	Residue, Filterable	SM 2540C	x	x	x
Cyanogen Chloride (screen)	In House Method (2470)	x	~	x	Residue, Non-filterable	SM 2540D	~	x	~
Diquat and Paraquat	EPA 549.2	x		x	Residue, Total	SM 2540B		x	x
DBP/HAA	SM 6251B	x		x	Residue, Volatile	EPA 160.4		x	~
Dissolved Oxygen	SM 4500-O G		х	x	Semi-VOC	EPA 525.2	x		x
DOC	SM 5310C	x		х	Silica	SM 4500-Si D	х	х	
E. Coli	(MTF/EC+MUG)	х		х	Silica	SM 4500-SiO2 C	х	х	
	· · · · · ·						~		-
E. Coli	CFR 141.21(f)(6)(i)	x		x	Sulfide	SM 4500-S <sup>=</sup> D		х	
E. Coli	SM 9223		х		Sulfite	SM 4500-SO <sup>3</sup> B	х	х	x
E. Coli (Enumeration)	SM 9221B.1/ SM 9221F	х		х	Surfactants	SM 5540C	x	х	х
E. Coli (Enumeration)	SM 9223B	х		х	Taste and Odor Analytes	SM 6040E	х		х
EDB/DCBP	EPA 504.1	х			Total Coliform (P/A)	SM 9221 A, B	х		х
EDB/DBCP and DBP	EPA 551.1	x		x	Total Coliform (Enumeration)	SM 9221 A, B, C	x		x
EDTA and NTA	In House Method (2454)	x		x	Total Coliform / E. coli	Colisure SM 9223	x		x
Endothall	EPA 548.1	x		×	Total Coliform	SM 9221B	^	х	^
Endothall	In-house Method (2445)	x		х	Total Coliform with Chlorine Present	SM 9221B		x	
Enterococci	SM 9230B	x	х		Total Coliform / E.coli (P/A and Enumeration)	SM 9223	x		x
Fecal Coliform	SM 9221 E (MTF/EC)	х			TOC	SM 5310C	x	x	x
Fecal Coliform	SM 9221C, E (MTF/EC)		x		TOX	SM 5320B		x	1
Fecal Coliform	SM 9221E, E (MTF/EC)	x		x	Total Phenols	EPA 420.1		x	
(Enumeration) Fecal Coliform with	SM 9221E		x		Total Phenols	EPA 420.4	x	x	x
Chlorine Present Fecal Streptococci	SM 9221E	x	×		Total Phosphorous	SM 4500 P E	^	x	^
Fluoride	SM 4500-F C	x	x	x	Triazine Pesticides &	In House (3617)	x		x
Glyphosata	EPA 547	v		×	Degradates	EDA 190 1	v	v	v
Glyphosate   AMPA		x		×	Turbidity Turbidity	EPA 180.1	x	x	X
Glyphosate + AMPA Gross Alpha/Pata	In House Method (3618)	x	~	x	Turbidity	SM 2130B	X	х	~
Gross Alpha/Beta Gross Alpha Coprecipitation	EPA 900.0 SM 7110 C	x	x	x	Uranium by ICP/MS UV 254	EPA 200.8 SM 5910B	x		x
Hardness	SM 2340B	х	x	x	VOC	EPA 524.2	x		х
Heterotrophic Bacteria	In House Method (2439)	х		x	VOC	In House Method (2411)	х		х
Heterotrophic Bacteria	SM 9215 B	х		x	Yeast and Mold	SM 9610	х		х
Hexavalent Chromium	EPA 218.6	х	х	х	Field Sampling	N/A			1

750 Royal Oaks Dr., Ste 100, Monrovia, CA 91016 Tel (626) 386-1100 Fax (866) 988-3757 https://www.eurofinsus.com/Eaton Version 006 Issued: 05/04/20

Acknowledgement of Samples Received

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

Attn: James Christopher Phone: 407-480-3907

🔅 eurofins

Client ID: TETRATECH-ORLAN Folder #: 908296 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 **December 14, 2020** at **1043**. 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
202012140073	Test 12 No. 0 Initial		12/10/2020 0812
	Total phosphorus as P	Total phosphorus as PO4- Calc.	
202012140078	Test 12 No. 1 Initial		12/10/2020 0815
	Total phosphorus as P	Total phosphorus as PO4- Calc.	
202012140079	Test 12 No. 2 Initial		12/10/2020 0817
	Total phosphorus as P	Total phosphorus as PO4- Calc.	
202012140080	Test 12 No. 3 Initial		12/10/2020 0843
	Total phosphorus as P	Total phosphorus as PO4- Calc.	
202012140081	Test 12 No. 4 Initial		12/10/2020 0846
	Total phosphorus as P	Total phosphorus as PO4- Calc.	
202012140082	Test 12 No. 5 Initial		12/10/2020 0848
	Total phosphorus as P	Total phosphorus as PO4- Calc.	
202012140083	Test 12 No. 6 Initial		12/10/2020 0914
	Total phosphorus as P	Total phosphorus as PO4- Calc.	
202012140084	Test 12 No. 7 Initial		12/10/2020 0916
	Total phosphorus as P	Total phosphorus as PO4- Calc.	
202012140085	Test 12 No. 8 Initial		12/10/2020 0919
	Total phosphorus as P	Total phosphorus as PO4- Calc.	
202012140086	Test 12 No. 9 Initial		12/10/2020 0945
	Total phosphorus as P	Total phosphorus as PO4- Calc.	

**Test Description** 

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💑 eurofins			CHA	AIN O	F CUS	CHAIN OF CUSTODY RECORD	Q		5
	Eaton Analytical	EUROFINS EATON ANALYTICAL USE ONLY:	TICAL USE	: ONLY:				C.	1622010
750 Royal C	750 Royal Oaks Drive, Suite 100	LOGIN COMMENTS:				SAMPLES	SAMPLES CHECKED AGAINST COC BY:	ST COC BY:	
Monrovia, C	A 91016-3629						SAMPLES LOGGED IN BY:		
Phone: 626 386 1100	386 1100	SAMPLE TEMP RECEIV	ED AT: IR Gun ID =	=	(Obse	SAMPLES F (Observation=°C) (Corr.Factor	SAMPLES REC'D DAY OF COLLECTION? Corr.Factor °C) (Final =	DLLECTION? C)	(check for yes)
PDD FEE 1 A		Monrovia	IR Gun ID =	0 = 616	Obse	52	1	S	
800 200 LA	000 200 LABS (000 200 2221)	Compliance Acceptance Criteria: (Chemistry: 4 ± 2 °C ) (Microbiology: < 10°C	riteria: (Cherr	nistry: 4 ± 2 °C	:) (Microbiology: < 1				2
Website: <u>w</u>	Website: www.EatonAnalytical.com	TYPE OF ICE: Real	Synthetic			CONDITION OF ICE: Frozen	Partially Frozen	Thawed	NIA
		METHOD OF SHIPMENT: Pick-Up / Walk-In	MENT: Pi	ck-Up / W	<	FedEx / UPS / DHL / Area Fast / Top Line / Other:	Top Line / Other:		
TO BE COMPLET	TO BE COMPLETED BY SAMPLER:	ichath	164457	5+		(check for yes)	-	(che	(check for yes)
COMPANY/AGENCY NAME:	INCY NAME:	PROJECT CODE:			ö	COMPLIANCE SAMPLES	NON-COMPLIA	NON-COMPLIANCE SAMPLES	
TEMO TE	TEMO TEUN 201 6 Pine St Orlundo	lo l			Type of same	- Requires state forms Type of samples (circle one): ROUTINE SPI	REGULATION INVOLVED: SPECIAL CONFIRMATION		(eg. SDWA, NPDES, etc.)
EEA CLIENT CODE:	DDE: COC ID:	SAMPLE GROUP:	Tart	1-20-10	5	SEE ATTACHED KIT ORDER FOR ANALYSES	NALYSES	(check for yes), OR	es), <u>OR</u>
IETU IKUN-UNUN	M-Unum	NIOS IDIO	KN	FXINA	-	List ALL ANALYSES REQUIRED (enter number of bottles sent for each test for each sample)	umber of bottles ser	nt for each test for	each sample)
TAT requested:	TAT requested: rush by adv notice only	STD1 wk3 day_	2 day	_ 1 day	9				
ajamaz Dtad Damaz Jamaz Jmit	SAMPLE ID	CLIENT LAB ID	* XIЯTAM	ATAO OJEIE ATAO OJEIE	0440			SACON	SAMPLER COMMENTS
12/10 8.12	Test 12 No. 0 & Initial		fw	100	1			Prese	Preserved with
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6:10	8		14						
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* MATRIX T	* MATRIX TYPES: RSW = Raw Surface Water RGW = Raw Ground Water	<b>CFW</b> = Chlor(am)ina <b>FW</b> = Other Finished	ted Finished Water Water	d Water	SEAW = Sea Water WW = Waste Water	a Water <b>BW</b> = Bottled Water Mater <b>SW</b> = Storm Water	ater <b>SO</b> = Soil er <b>SL</b> = Sludge		0 = Other - Please Identify
	SIGNATURE		PR	PRINT NAME		COMPANY/TITLE		DATE	TIME
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RECEIVED BY:									
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NA LU UUZALA LAU	1001 2) (100/20/2014)							PAGE	



Tel: (626) 386-1100 Fax: (866) 988-3757 1 800 566 LABS (1 800 566 5227) Report: 908296 Project: KALAMAZOO Group: Lead Solubility Testing - Phase 1

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.

Laboratory Hits

**Eaton Analytical** 

Tel: (626) 386-1100 Fax: (866) 988-3757 1 800 566 LABS (1 800 566 5227) Report: 908296 Project: KALAMAZOO Group: Lead Solubility Testing - Phase 1

Samples Received on:

12/14/2020 1043

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

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Analyzed	Analyte	Sample ID	Result	Federal MCL	Units	MRL
	202012140078	Test 12 No. 1 Initial				
12/21/2020 07:53	Total phosphorus as P		0.11		mg/L	0.020
12/21/2020 12:53	Total phosphorus as PO	4- Calc.	0.34		mg/L	0.030
	202012140079	Test 12 No. 2 Initial				
12/21/2020 07:54	Total phosphorus as P		1.0		mg/L	0.040
12/21/2020 12:53	Total phosphorus as PO	4- Calc.	3.1		mg/L	0.030
	202012140080	Test 12 No. 3 Initial				
12/21/2020 07:55	Total phosphorus as P		2.0		mg/L	0.040
12/21/2020 12:53	Total phosphorus as PO	4- Calc.	6.1		mg/L	0.030
	202012140081	Test 12 No. 4 Initial				
12/21/2020 07:55	Total phosphorus as P		0.63		mg/L	0.040
12/21/2020 12:53	Total phosphorus as PO	4- Calc.	1.9		mg/L	0.030
	202012140082	Test 12 No. 5 Initial				
12/21/2020 07:56	Total phosphorus as P		1.3		mg/L	0.040
12/21/2020 12:53	Total phosphorus as PO	4- Calc.	4.0		mg/L	0.030
	202012140083	Test 12 No. 6 Initial				
12/21/2020 07:57	Total phosphorus as P		0.58		mg/L	0.040
12/21/2020 12:54	Total phosphorus as PO	4- Calc.	1.8		mg/L	0.030
	202012140084	Test 12 No. 7 Initial				
12/21/2020 07:58	Total phosphorus as P		1.1		mg/L	0.040
12/21/2020 12:54	Total phosphorus as PO	4- Calc.	3.4		mg/L	0.030
	202012140085	Test 12 No. 8 Initial				
12/21/2020 09:03	Total phosphorus as P		0.46		mg/L	0.040
12/21/2020 12:32	Total phosphorus as PO	4- Calc.	1.4		mg/L	0.030
	202012140086	Test 12 No. 9 Initial				
12/21/2020 09:15	Total phosphorus as P		0.96		mg/L	0.040
12/21/2020 12:32	Total phosphorus as PO	4- Calc.	2.9		mg/L	0.030



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Samples Received on:

12/14/2020 1043

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

Prepped	Analyzed	Prep Batch	Analytical Batch	Method	Analyte	Result	Units	MRL	Dilution
Test 12	No. 0 Initial	(202012140	<u>073)</u>			Samj	oled on 12/10	/2020 081	2
		SM4500-PE	E/EPA 365.1 - 1	Fotal phosphoru	is as PO4- Calc.				
	12/21/20 12:53			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	ND (c)	mg/L	0.030	1
		SM4500-PE	E/EPA 365.1 - 1	Fotal phosphoru	is as P (T-P)				
	12/21/20 07:52	2	1294918	(SM4500-PE/EPA 365.1)	Total phosphorus as P	ND	mg/L	0.020	1
<u>Test 12</u>	No. 1 Initial	(202012140	<u>078)</u>			Sam	oled on 12/10	/2020 081	5
		SM4500-PI	E/EPA 365.1 - 1	Fotal phosphoru	is as PO4- Calc.				
	12/21/20 12:53			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	0.34 (c)	mg/L	0.030	1
		SM4500-PE	E/EPA 365.1 - 1	Fotal phosphoru	is as P (T-P)				
	12/21/20 07:53	3	1294918	(SM4500-PE/EPA 365.1)	Total phosphorus as P	0.11	mg/L	0.020	1
<u>Test 12</u>	No. 2 Initial	(202012140	<u>079)</u>			Sam	oled on 12/10	/2020 081	7
		SM4500-PF	=/EPA 365 1 - 1	Fotal phosphoru	is as PO4- Calc				
	12/21/20 12:53			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	3.1 (c)	mg/L	0.030	1
		SM4500-PI	E/EPA 365.1 - 1	Fotal phosphoru	ıs as P (T-P)				
	12/21/20 07:54	Ļ	1294918	(SM4500-PE/EPA 365.1)	Total phosphorus as P	1.0	mg/L	0.040	2
<u>Test 12</u>	No. 3 Initial	(202012140	<u>080)</u>			Sam	oled on 12/10	/2020 084	3
		SM4500-PI	E/EPA 365.1 - 1	Fotal phosphoru	is as PO4- Calc.				
	12/21/20 12:53			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	6.1 (c)	mg/L	0.030	1
		SM4500-PI	E/EPA 365.1 - 1	Fotal phosphoru	ıs as P (T-P)				
	12/21/20 07:55	5	1294918	(SM4500-PE/EPA 365.1)	Total phosphorus as P	2.0	mg/L	0.040	2
<u>Test 12</u>	No. 4 Initial	(202012140	<u>081)</u>			Sam	oled on 12/10	/2020 084	6
		SM4500-PE	E/EPA 365.1 - 1	Fotal phosphoru	is as PO4- Calc.				
	12/21/20 12:53			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	1.9 (c)	mg/L	0.030	1
		SM4500-PE	E/EPA 365.1 - 1	Fotal phosphoru	is as P (T-P)				
	12/21/20 07:55	5	1294918	(SM4500-PE/EPA 365.1)	Total phosphorus as P	0.63	mg/L	0.040	2
<u>Test 12</u>	No. 5 Initial	(202012140	<u>082)</u>			Sam	oled on 12/10	/2020 084	8

#### SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.

Rounding on totals after summation.

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Samples Received on:

12/14/2020 1043

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

Prepped	Analyzed	Prep Batch	Analytical Batch	Method	Analyte	Result	Units	MRL	Dilution
	12/21/20 12:53			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	4.0 (c)	mg/L	0.030	1
		SM4500-PE	E/EPA 365.1 - 1	Fotal phosphoru	is as P (T-P)				
	12/21/20 07:56		1294918	(SM4500-PE/EPA 365.1)	Total phosphorus as P	1.3	mg/L	0.040	2
<u>Test 12</u>	No. 6 Initial	(202012140)	<u>083)</u>			Samp	led on 12/10	/2020 0914	4
		SM4500-PE	E/EPA 365.1 - 1	Fotal phosphoru	is as PO4- Calc.				
	12/21/20 12:54			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	1.8 (c)	mg/L	0.030	1
		SM4500-PE	E/EPA 365.1 - 1	Fotal phosphoru	is as P (T-P)				
	12/21/20 07:57		1294918	(SM4500-PE/EPA 365.1)	Total phosphorus as P	0.58	mg/L	0.040	2
<u>Test 12</u>	No. 7 Initial	(202012140	<u>084)</u>			Samp	led on 12/10	/2020 0910	6
		SM4500-PI	E/EPA 365.1 - 1	Fotal phosphoru	is as PO4- Calc.				
	12/21/20 12:54			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	3.4 (c)	mg/L	0.030	1
		SM4500-PE	E/EPA 365.1 - 1	Fotal phosphoru	is as P (T-P)				
	12/21/20 07:58		1294918	(SM4500-PE/EPA 365.1)	Total phosphorus as P	1.1	mg/L	0.040	2
<u>Test 12</u>	No. 8 Initial	(202012140)	<u>085)</u>			Samp	led on 12/10	/2020 0919	Ð
		SM4500-PE	E/EPA 365.1 - 1	Fotal phosphoru	is as PO4- Calc.				
	12/21/20 12:32			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	1.4 (c)	mg/L	0.030	1
		SM4500-PE	E/EPA 365.1 - 1	Fotal phosphoru	is as P (T-P)				
	12/21/20 09:03		1295351	(SM4500-PE/EPA 365.1)	Total phosphorus as P	0.46 (M1)	mg/L	0.040	2
<u>Test 12</u>	No. 9 Initial	(202012140	<u>086)</u>			Samp	led on 12/10	/2020 094	5
		SM4500-PE	E/EPA 365.1 - 1	Fotal phosphoru	is as PO4- Calc.				
	12/21/20 12:32			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	2.9 (c)	mg/L	0.030	1
		SM4500-PE	E/EPA 365.1 - 1	Fotal phosphoru	is as P (T-P)				
	12/21/20 09:15		1295351	(SM4500-PE/EPA 365.1)	Total phosphorus as P	0.96	mg/L	0.040	2



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### Total phosphorus as P (T-P)

#### Analytical Batch: 1294918

202012140073	Test 12 No. 0 Initial
202012140078	Test 12 No. 1 Initial
202012140079	Test 12 No. 2 Initial
202012140080	Test 12 No. 3 Initial
202012140081	Test 12 No. 4 Initial
202012140082	Test 12 No. 5 Initial
202012140083	Test 12 No. 6 Initial
202012140084	Test 12 No. 7 Initial

#### Total phosphorus as P (T-P)

#### Analytical Batch: 1295351

202012140085	
202012140086	

Test 12 No. 8 Initial Test 12 No. 9 Initial Report: 908296 Project: KALAMAZOO Group: Lead Solubility Testing - Phase 1

#### Analysis Date: 12/21/2020

Analyzed by: H5VG Analyzed by: H5VG

#### Analysis Date: 12/21/2020

Analyzed by: H5VG Analyzed by: H5VG



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Report: 908296 Project: KALAMAZOO Group: Lead Solubility Testing - Phase 1

Tetra Tec	ch								
QC Туре	Analyte	Native	Spiked	Recovered	Units	Yield(%)	Limits (%)	RPD Limit(%)	RPD%
Total phosphorus	as P (T-P) by SM4500-PE/EPA 365.1								
Analytical B	atch: 1294918				Å	Analysis D	ate: 12/21/	2020	
LCS1	Total phosphorus as P		0.4	0.432	mg/L	108	(90-110)		
LCS2	Total phosphorus as P		0.4	0.428	mg/L	107	(90-110)	20	0.93
MBLK	Total phosphorus as P			<0.01	mg/L				
MRL_CHK	Total phosphorus as P		0.02	0.0179	mg/L	90	(50-150)		
MS_202012100178	Total phosphorus as P	ND	0.4	0.413	mg/L	103	(90-110)		
MS_202012140100	Total phosphorus as P	0.46	0.8	1.37	mg/L	<u>114</u>	(90-110)		
MSD_202012100178	Total phosphorus as P	ND	0.4	0.417	mg/L	104	(90-110)	20	1.1
MSD_202012140100	Total phosphorus as P	0.46	0.8	1.36	mg/L	<u>113</u>	(90-110)	20	0.97
Total phosphorus	as P (T-P) by SM4500-PE/EPA 365.1								
Analytical B	atch: 1295351				A	Analysis D	ate: 12/21/	2020	
LCS1	Total phosphorus as P		0.4	0.427	mg/L	107	(90-110)		
LCS2	Total phosphorus as P		0.4	0.434	mg/L	109	(90-110)	20	1.6
MBLK	Total phosphorus as P			<0.01	mg/L				
MRL_CHK	Total phosphorus as P		0.02	0.0106	mg/L	53	(50-150)		
MS_202012030066	Total phosphorus as P		0.4	0.456	mg/L	108	(90-110)		
MS_202012140085	Total phosphorus as P	0.46	0.8	1.39	mg/L	<u>117</u>	(90-110)		
MSD_202012030066	Total phosphorus as P		0.4	0.449	mg/L	106	(90-110)	20	1.6
MSD_202012140085	Total phosphorus as P	0.46	0.8	1.39	mg/L	<u>116</u>	(90-110)	20	0.34

Spike recovery is already corrected for native results. Spikes which exceed Limits and Method Blanks with positive results are highlighted by <u>Underlining.</u> 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** 12/21/2020 (1 mosa **EUROFINS EATON ANALYTICAL, LLC** 

ZIA8: Vanessa Berry

**Project Manager** 

Report: 908299 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

Eurofins Eaton Analytical, LLC

750 Royal Oaks Drive, Suite 100 Monrovia, CA 91016-3629 T | 626-386-1100 F | 866-988-3757 www.EurofinsUS.com/Eaton

#### 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

		Environ-	Environ-		ion (5890) found at: https://www.eurofinsus.com/Eato		Environ-	Environ-	
SPECIFIC TESTS	METHOD OR TECHNIQUE USED	mental (Drinking Water)	mental (Waste Water)	Water as a Component of Food and Bev/Bev/ Bottled Water	SPECIFIC TESTS	METHOD OR TECHNIQUE USED	mental (Drinking Water)	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	Hexavalent Chromium	EPA 218.7	x		x
1,4-Dioxane	EPA 522	х		x	Hexavalent Chromium	SM 3500-Cr B		х	
2.3.7.8-TCDD	Modified EPA 1613B	x		x	Hormones	EPA 539	х	~	x
Acrylamide	In House Method (2440)	x		x	Hydroxide as OH Calc.	SM 2330B	х		х
Algal Toxins/Microcystin	In House Method (3570)				Kjeldahl Nitrogen	EPA 351.2		х	
Alkalinity	SM 2320B	x	х	х	Legionella	Legiolert	х		х
Ammonia	EPA 350.1		x	х	Mercury	EPA 200.8	х		х
Ammonia	SM 4500-NH3 H		х	х	Metals	EPA 200.7 / 200.8	х	х	х
Anions and DBPs by IC	EPA 300.0	х	х	х	Microcystin LR	ELISA (2360)	x		х
Anions and DBPs by IC	EPA 300.1	х		х	Microcystin, Total	EPA 546	х		х
Asbestos	EPA 100.2	x	х		NDMA	EEA/Agilent 521.1	x		x
		~				In house method (2425)			
BOD / CBOD	SM 5210B		х	x	Nitrate/Nitrite Nitrogen	EPA 353.2	х	х	х
Bromate	In House Method (2447)	x		x	OCL, Pesticides/PCB	EPA 505	х		x
Carbamates	EPA 531.2	х		x	Ortho Phosphate	EPA 365.1	х	х	x
Carbonate as CO3	SM 2330B	х	х	x	Ortho Phosphorous Oxyhalides Disinfection	SM 4500P E	х		х
Carbonyls	EPA 556	x		x	Byproducts	EPA 317.0	х		x
COD	EPA 410.4 / SM 5220D	t	x		Perchlorate	EPA 331.0	x		x
Chloramines	SM 4500-CL G	x	x	x	Perchlorate (low and high)	EPA 314.0	x		x
Chlorinated Acids	EPA 515.4	x		x	Perfluorinated Alkyl Acids	EPA 537	x		x
Chlorinated Acids	EPA 555	x	1	x	Perfluorinated Polutant	In house Method (2434)	x		x
Chlorine Dioxide	SM 4500-CLO2 D Palin Test	x		x	рН	EPA 150.1	x		
Chlorine -Total/Free/ Combined Residual	SM 4500-Cl G	x	x	x	рН	SM 4500-H+B	x	x	x
Conductivity	EPA 120.1	1	x		Phenylurea Pesticides/ Herbicides	In House Method, based on EPA 532 (2448)	x		x
Conductivity	SM 2510B	x	x	x	Herbicides Pseudomonas	532 (2448) IDEXX Pseudalert (2461)	x		x
Corrosivity (Langelier Index)	SM 2330B	x	~	x	Radium-226	GA Institute of Tech	x		x
Cyanide, Amenable	SM 4500-CN G	x	x		Radium-228	GA Institute of Tech	x		x
Cyanide, Free	SM 4500-CN G	x	x	x	Radon-222	SM 7500RN	x		x
Cyanide, Total	EPA 335.4	x	x	x	Residue, Filterable			x	x
Cyanogen Chloride (screen)	In House Method (2470)	x	~	x	Residue, Non-filterable	SM 2540D	x	x	~
Diquat and Paraquat	EPA 549.2	x		x	Residue, Total	SM 2540B		x	x
DBP/HAA	SM 6251B	x		x	Residue, Volatile	EPA 160.4		x	~
Dissolved Oxygen	SM 4500-O G		х	x	Semi-VOC	EPA 525.2	x		x
DOC	SM 5310C	x		х	Silica	SM 4500-Si D	х	х	
E. Coli	(MTF/EC+MUG)	х		х	Silica	SM 4500-SiO2 C	х	х	
	· · · · ·						~		-
E. Coli	CFR 141.21(f)(6)(i)	x		x	Sulfide	SM 4500-S <sup>=</sup> D		х	
E. Coli	SM 9223		х		Sulfite	SM 4500-SO <sup>3</sup> B	х	х	x
E. Coli (Enumeration)	SM 9221B.1/ SM 9221F	х		х	Surfactants	SM 5540C	x	х	х
E. Coli (Enumeration)	SM 9223B	х		х	Taste and Odor Analytes	SM 6040E	х		х
EDB/DCBP	EPA 504.1	х			Total Coliform (P/A)	SM 9221 A, B	х		х
EDB/DBCP and DBP	EPA 551.1	x		x	Total Coliform (Enumeration)	SM 9221 A, B, C	x		x
EDTA and NTA	In House Method (2454)	x		x	Total Coliform / E. coli	Colisure SM 9223	x		x
Endothall	EPA 548.1	x		×	Total Coliform	SM 9221B	^	х	^
Endothall	In-house Method (2445)	x		х	Total Coliform with Chlorine Present	SM 9221B		x	
Enterococci	SM 9230B	x	х		Total Coliform / E.coli (P/A and Enumeration)	SM 9223	x		x
Fecal Coliform	SM 9221 E (MTF/EC)	х			TOC	SM 5310C	x	x	x
Fecal Coliform	SM 9221C, E (MTF/EC)		x		TOX	SM 5320B		x	1
Fecal Coliform	SM 9221E, E (MTF/EC)	x		x	Total Phenols	EPA 420.1		x	
(Enumeration) Fecal Coliform with	SM 9221E		x		Total Phenols	EPA 420.4	x	x	x
Chlorine Present Fecal Streptococci	SM 9221E	x	×		Total Phosphorous	SM 4500 P E	^	x	^
Fluoride	SM 4500-F C	x	x	x	Triazine Pesticides &	In House (3617)	x		x
Glyphosata	EPA 547	v		×	Degradates	EDA 190 1	v	v	v
Glyphosate   AMPA		x		×	Turbidity Turbidity	EPA 180.1	x	x	X
Glyphosate + AMPA Gross Alpha/Pata	In House Method (3618)	x	~	x	Turbidity	SM 2130B	X	х	~
Gross Alpha/Beta Gross Alpha Coprecipitation	EPA 900.0 SM 7110 C	x	x	x	Uranium by ICP/MS UV 254	EPA 200.8 SM 5910B	x		x
Hardness	SM 2340B	х	x	х	VOC	EPA 524.2	x		х
Heterotrophic Bacteria	In House Method (2439)	х		x	VOC	In House Method (2411)	х		x
Heterotrophic Bacteria	SM 9215 B	х		х	Yeast and Mold	SM 9610	х		х
Hexavalent Chromium	EPA 218.6	х	х	х	Field Sampling	N/A			1

750 Royal Oaks Dr., Ste 100, Monrovia, CA 91016 Tel (626) 386-1100 Fax (866) 988-3757 https://www.eurofinsus.com/Eaton Version 006 Issued: 05/04/20

#### Acknowledgement of Samples Received

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

🔅 eurofins

Attn: James Christopher Phone: 407-480-3907 Client ID: TETRATECH-ORLAN Folder #: 908299 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 **December 14, 2020** at **1043**. 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
202012140092	Test 11 No. 0 Initial		12/07/2020 0812
	Total phosphorus as P	Total phosphorus as PO4- Calc.	
202012140093	Test 11 No. 1 Initial		12/07/2020 0814
	Total phosphorus as P	Total phosphorus as PO4- Calc.	
202012140094	Test 11 No. 2 Initial		12/07/2020 0817
	Total phosphorus as P	Total phosphorus as PO4- Calc.	
202012140095	Test 11 No. 3 Initial		12/07/2020 0911
	Total phosphorus as P	Total phosphorus as PO4- Calc.	
202012140096	Test 11 No. 4 Initial		12/07/2020 0914
	Total phosphorus as P	Total phosphorus as PO4- Calc.	
202012140097	Test 11 No. 5 Initial		12/07/2020 0917
	Total phosphorus as P	Total phosphorus as PO4- Calc.	
202012140098	Test 11 No. 6 Initial		12/07/2020 0941
	Total phosphorus as P	Total phosphorus as PO4- Calc.	
202012140099	Test 11 No. 7 Initial		12/07/2020 0943
	Total phosphorus as P	Total phosphorus as PO4- Calc.	
202012140100	Test 11 No. 8 Initial		12/07/2020 0948
	Total phosphorus as P	Total phosphorus as PO4- Calc.	
202012140101	Test 11 No. 9 Initial		12/07/2020 1008
	Total phosphorus as P	Total phosphorus as PO4- Calc.	

**Test Description** 

🐝 eurofins		CH	AIN O	F CUST	CHAIN OF CUSTODY RECORD	ð		¢
*	Eaton Analytical	EUROFINS EATON ANALYTICAL USE ONLY:	SE ONLY:	16.7 H	7			79295
750 Rova		LOGIN COMMENTS:			SAMPLES	SAMPLES CHECKED AGAINST COC BY:	VST COC BY: (	5
Monrovia,	Monrovia, CA 91016-3629					SAMPLES LOGGED IN BY:	GGED IN BY:	le
Dhono: 62		SAMPLE TEMP RECEIVED AT:			SAMPLE	SAMPLES REC'D DAY OF COLLECTION?	COLLECTION?	(check for yes)
Fax: 626	Fax: 626 386 1101	(Other) IR Gun ID =		(Observation=	r c	1	2	lô
800 566 L	800 566 LABS (800 566 5227)	Monrovia IR Gun ID =	tion = ai	(Observation=	ion= <u>L · /</u> °C) (Corr.Factor U)	tor UN - °C) (Final =	5	°C)
of of other		Compliance Acceptance Criteria: (Chemistry: 4 ± 2 °C ) (Microbiology: < 10°C )	emistry: 4 ± 2 °C	) (Microbiology: < 10°C				7
website:		TYPE OF ICE: Real Synthetic		No Ice CONDI	CONDITION OF ICE: Frozen	_ Partially Frozen	Thawed	N/A
		METHOD OF SHIPMENT: Pick-Up / Walk-In /	Pick-Up / W		FedEx/I UPS / DHL / Area Fast / Top Line / Other.	Top Line / Other:		
TO BE COMPLI	TO BE COMPLETED BY SAMPLER:	d 2 g 4 S 11	Ch40	t	(check for yes)	yes)	(ct	(check for yes)
COMPANY/A	COMPANY/AGENCY NAME:	PROJECT CODE:		COMI	COMPLIANCE SAMPLES			
TPHOLT	TEHO TECH JOA E PINE St ONICIANO	0		' - -	e forms	REGULATION INVOLVED:	NOLVED:	
				I type of samples (circle one):		SPECIAL CONFIRMATION		
TENCITEC	TENOTECH-ONION	LEGICI SOUDILITY TEST PROLE 4	Phote 1	List ALLANA	DEE ATTACHED NIT UNDER FOR ANAL TSES (eneck for yes), UK List ALL ANALYSES REQUIRED (enter number of bottles sent for each test for each sample)	NAL 7353 number of bottles s	ent for each test for each	r yes), <u>UK</u> or each sample)
TAT requeste	TAT requested: rush by adv notice only	STD 1 wk 3 day 2 day	1 day	Ċ				
эге		-	1	j-04		2.6	ω (	SAMPLER
AMA2 TAD AMA2 IMIT	SAMPLEID	CLIENT LAB ID	נופרס מ נופרס כ	410			3	COMMENIS
U:8 E/71	Test An No. 0 Initial	fW	i en	1			Prese	Preserved with
H:8 1	1 1						Н	HZSOH
H:8	2		1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1					· Abayan -
11:10	3							
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F1:10	5							
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Sh:b	ł		100					
84:10	8							
AU:01 4	A 0 A	4	and the second	A				
* MATRIX	* MATRIX TYPES: RSW = Raw Surface Water RGW = Raw Ground Water	<b>CFW</b> = Chlor(am)inated Finished Water <b>FW</b> = Other Finished Water	ied Water	SEAW = Sea Water WW = Waste Water	tter <b>BW</b> = Bottled Water tter <b>SW</b> = Storm Water	ater SO = Soil ter SL = Sludge		0 = Other - Please Identify
Contra Contra	SIGNATURE	-	PRINT NAME		COMPANY/TITLE		DATE	TIME
SAMPLED BY:	M. PIYENCIS	MULTICI ISOIDEI	Del Areno!	0	TEPTO TRUN, PLOYEUS	t Engineer	1211120	4:30
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Tel: (626) 386-1100 Fax: (866) 988-3757 1 800 566 LABS (1 800 566 5227) Report: 908299 Project: KALAMAZOO Group: Lead Solubility Testing - Phase 1

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.

Laboratory Hits

**Eaton Analytical** 

Tel: (626) 386-1100 Fax: (866) 988-3757 1 800 566 LABS (1 800 566 5227) Report: 908299 Project: KALAMAZOO Group: Lead Solubility Testing - Phase 1

Samples Received on:

12/14/2020 1043

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

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			Result	 Units	MRL
	202012140093	Test 11 No. 1 Initial			
12/21/2020 07:38	Total phosphorus as P		0.093	mg/L	0.020
12/21/2020 12:51	Total phosphorus as PO	4- Calc.	0.28	mg/L	0.030
	202012140094	Test 11 No. 2 Initial			
12/21/2020 07:41	Total phosphorus as P		1.0	mg/L	0.040
12/21/2020 12:52	Total phosphorus as PO	4- Calc.	3.1	mg/L	0.030
	202012140095	Test 11 No. 3 Initial			
12/21/2020 08:33	Total phosphorus as P		2.3	mg/L	0.080
12/21/2020 12:54	Total phosphorus as PO	4- Calc.	7.1	mg/L	0.030
	202012140096	Test 11 No. 4 Initial			
12/21/2020 07:43	Total phosphorus as P		0.62	mg/L	0.040
12/21/2020 12:52	Total phosphorus as PO	4- Calc.	1.9	mg/L	0.030
	202012140097	Test 11 No. 5 Initial			
12/21/2020 07:44	Total phosphorus as P		1.4	mg/L	0.040
12/21/2020 12:52	Total phosphorus as PO	4- Calc.	4.3	mg/L	0.030
	202012140098	Test 11 No. 6 Initial			
12/21/2020 07:45	Total phosphorus as P		0.57	mg/L	0.040
12/21/2020 12:53	Total phosphorus as PO	4- Calc.	1.7	mg/L	0.030
	202012140099	Test 11 No. 7 Initial			
12/21/2020 07:45	Total phosphorus as P		1.1	mg/L	0.040
12/21/2020 12:53	Total phosphorus as PO	4- Calc.	3.4	mg/L	0.030
	202012140100	Test 11 No. 8 Initial			
12/21/2020 07:46	Total phosphorus as P		0.46	mg/L	0.040
12/21/2020 12:53	Total phosphorus as PO	4- Calc.	1.4	mg/L	0.030
	202012140101	Test 11 No. 9 Initial			
12/21/2020 07:49	Total phosphorus as P		0.99	mg/L	0.040
12/21/2020 12:53	Total phosphorus as PO	4- Calc.	3.0	mg/L	0.030



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Samples Received on:

12/14/2020 1043

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

Prepped	Analyzed	Prep Batch	Analytical Batch	Method	Analyte	Result	Units	MRL	Dilution
<u>Test 11</u>	No. 0 Initial	(202012140	<u>092)</u>			Samp	oled on 12/07	/2020 081	2
		SM4500-PE	E/EPA 365.1 - T	otal phosphoru	is as PO4- Calc.				
	12/21/20 12:51			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	ND (c)	mg/L	0.030	1
		SM4500-PE	E/EPA 365.1 - T	otal phosphoru	is as P (T-P)				
	12/21/20 07:37	7	1294918	(SM4500-PE/EPA 365.1)	Total phosphorus as P	ND	mg/L	0.020	1
<u>Test 11</u>	No. 1 Initial	(202012140	<u>093)</u>			Samp	oled on 12/07	/2020 081	4
		SM4500-PF	=/FPΔ 365 1 - T	otal nhosnhoru	is as PO4- Calc.				
	12/21/20 12:51			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	0.28 (c)	mg/L	0.030	1
		SM4500-PI	E/EPA 365.1 - T	otal phosphoru	is as P (T-P)				
	12/21/20 07:38	3	1294918	(SM4500-PE/EPA 365.1)	Total phosphorus as P	0.093	mg/L	0.020	1
<u>Test 11</u>	No. 2 Initial	(202012140	<u>094)</u>			Samp	oled on 12/07	/2020 081	7
		SM4500-PF	=/FPΔ 365 1 - T	otal nhosnhoru	is as PO4- Calc.				
	12/21/20 12:52			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	3.1 (c)	mg/L	0.030	1
		SM4500-PI	E/EPA 365.1 - T	otal phosphoru	is as P (T-P)				
	12/21/20 07:41		1294918	(SM4500-PE/EPA 365.1)	Total phosphorus as P	1.0	mg/L	0.040	2
<u>Test 11</u>	No. 3 Initial	(202012140	<u>095)</u>			Samp	oled on 12/07	/2020 091	1
		SM4500-PE	E/EPA 365.1 - T	otal phosphoru	is as PO4- Calc.				
	12/21/20 12:54			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	7.1 (c)	mg/L	0.030	1
		SM4500-PI	E/EPA 365.1 - T	otal phosphoru	is as P (T-P)				
	12/21/20 08:33	3	1294918	(SM4500-PE/EPA 365.1)	Total phosphorus as P	2.3	mg/L	0.080	4
<u>Test 11</u>	No. 4 Initial	(202012140	<u>096)</u>			Samp	oled on 12/07	/2020 091	4
		SM4500-PI	E/EPA 365.1 - T	otal phosphoru	is as PO4- Calc.				
	12/21/20 12:52			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	1.9 (c)	mg/L	0.030	1
		SM4500-PI	E/EPA 365.1 - T	otal phosphoru	is as P (T-P)				
	12/21/20 07:43	3	1294918	(SM4500-PE/EPA 365.1)	Total phosphorus as P	0.62	mg/L	0.040	2
<u>Test 11</u>	No. 5 Initial	(202012140	<u>097)</u>			Samp	oled on 12/07	/2020 091	7

#### SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.

Rounding on totals after summation.

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Report: 908299 Project: KALAMAZOO Group: Lead Solubility Testing - Phase 1

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

Prepped	Analyzed	Prep Batch	Analytical Batch	Method	Analyte	Result	Units	MRL	Dilution
	12/21/20 12:52			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	4.3 (c)	mg/L	0.030	1
		SM4500-PE	E/EPA 365.1 - 1	Total phosphoru	is as P (T-P)				
	12/21/20 07:44		1294918	(SM4500-PE/EPA 365.1)	Total phosphorus as P	1.4	mg/L	0.040	2
<u>Test 11</u>	No. 6 Initial	(202012140)	<u>098)</u>			Samp	oled on 12/07	7/2020 094 <sup>,</sup>	1
		SM4500-PI	E/EPA 365.1 - 1	Total phosphoru	is as PO4- Calc.				
	12/21/20 12:53			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	1.7 (c)	mg/L	0.030	1
		SM4500-PE	E/EPA 365.1 - 1	Total phosphoru	is as P (T-P)				
	12/21/20 07:45		1294918	(SM4500-PE/EPA 365.1)	Total phosphorus as P	0.57	mg/L	0.040	2
<u>Test 11</u>	No. 7 Initial	(202012140	<u>099)</u>			Samp	oled on 12/07	/2020 094:	3
		SM4500-PI	E/EPA 365.1 - 1	Total phosphoru	is as PO4- Calc.				
	12/21/20 12:53			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	3.4 (c)	mg/L	0.030	1
		SM4500-PE	E/EPA 365.1 - 1	Total phosphoru	is as P (T-P)				
	12/21/20 07:45		1294918	(SM4500-PE/EPA 365.1)	Total phosphorus as P	1.1	mg/L	0.040	2
<u>Test 11</u>	No. 8 Initial	(202012140)	<u>100)</u>			Samp	oled on 12/07	//2020 094	В
		SM4500-PI	E/EPA 365.1 - 1	Total phosphoru	is as PO4- Calc.				
	12/21/20 12:53			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	1.4 (c)	mg/L	0.030	1
		SM4500-PE	E/EPA 365.1 - 1	Total phosphoru	is as P (T-P)				
	12/21/20 07:46		1294918	(SM4500-PE/EPA 365.1)	Total phosphorus as P	0.46 (M1)	mg/L	0.040	2
<u>Test 11</u>	No. 9 Initial	(202012140)	<u>101)</u>			Samp	oled on 12/07	/2020 1008	В
		SM4500-PI	E/EPA 365.1 - 1	Total phosphoru	is as PO4- Calc.				
	12/21/20 12:53			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	3.0 (c)	mg/L	0.030	1
		SM4500-PE	E/EPA 365.1 - 1	Total phosphoru	is as P (T-P)				
	12/21/20 07:49		1294918	(SM4500-PE/EPA 365.1)	Total phosphorus as P	0.99	mg/L	0.040	2

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.

Samples Received on: 12/14/2020 1043



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Total phosphorus as P (T-P)	
Analytical Batch: 1294918	
202012140092	

202012140092	Test 11 No. 0 Initial
202012140093	Test 11 No. 1 Initial
202012140094	Test 11 No. 2 Initial
202012140095	Test 11 No. 3 Initial
202012140096	Test 11 No. 4 Initial
202012140097	Test 11 No. 5 Initial
202012140098	Test 11 No. 6 Initial
202012140099	Test 11 No. 7 Initial
202012140100	Test 11 No. 8 Initial
202012140101	Test 11 No. 9 Initial

Report: 908299 Project: KALAMAZOO Group: Lead Solubility Testing - Phase 1

#### Analysis Date: 12/21/2020

Analyzed by: H5VG Analyzed by: H5VG



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Report: 908299 Project: KALAMAZOO Group: Lead Solubility Testing - Phase 1

Tetra Tec	h								
QC Туре	Analyte	Native	Spiked	Recovered	Units	Yield(%)	Limits (%)	RPD Limit(%)	RPD%
• •	as P (T-P) by SM4500-PE/EPA 365.1 atch: 1294918					Analysis D	ate: 12/21/	2020	
LCS1	Total phosphorus as P		0.4	0.432	mg/L	108	(90-110)		
LCS2	Total phosphorus as P		0.4	0.428	mg/L	107	(90-110)	20	0.93
MBLK	Total phosphorus as P			<0.01	mg/L				
MRL_CHK	Total phosphorus as P		0.02	0.0179	mg/L	90	(50-150)		
MS_202012100178	Total phosphorus as P	ND	0.4	0.413	mg/L	103	(90-110)		
MS_202012140100	Total phosphorus as P	0.46	0.8	1.37	mg/L	<u>114</u>	(90-110)		
MSD_202012100178	Total phosphorus as P	ND	0.4	0.417	mg/L	104	(90-110)	20	1.1
MSD_202012140100	Total phosphorus as P	0.46	0.8	1.36	mg/L	<u>113</u>	(90-110)	20	0.97

Spike recovery is already corrected for native results. Spikes which exceed Limits and Method Blanks with positive results are highlighted by <u>Underlining.</u> 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.

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** 01/04/2021 anosa t **EUROFINS EATON ANALYTICAL, LLC** 

ZIA8: Vanessa Berry

**Project Manager** 

Report: 910171 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

Eurofins Eaton Analytical, LLC

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#### 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

		Environ-	Environ-			-	Environ-	Environ-	
SPECIFIC TESTS	METHOD OR TECHNIQUE USED	mental (Drinking Water)	mental (Waste Water)	Water as a Component of Food and Bev/Bev/ Bottled Water	SPECIFIC TESTS	METHOD OR TECHNIQUE USED	mental (Drinking Water)	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	Hexavalent Chromium	EPA 218.7	x		x
1,4-Dioxane	EPA 522	х		x	Hexavalent Chromium	SM 3500-Cr B		х	
2.3.7.8-TCDD	Modified EPA 1613B	x		x	Hormones	EPA 539	х	~	x
Acrylamide	In House Method (2440)	x		x	Hydroxide as OH Calc.	SM 2330B	x		x
Algal Toxins/Microcystin	In House Method (3570)				Kjeldahl Nitrogen	EPA 351.2		х	
Alkalinity	SM 2320B	x	х	х	Legionella	Legiolert	х		x
Ammonia	EPA 350.1		x	х	Mercury	EPA 200.8	х		х
Ammonia	SM 4500-NH3 H		х	х	Metals	EPA 200.7 / 200.8	х	х	х
Anions and DBPs by IC	EPA 300.0	х	х	х	Microcystin LR	ELISA (2360)	х		х
Anions and DBPs by IC	EPA 300.1	х		х	Microcystin, Total	EPA 546	х		х
Asbestos	EPA 100.2	x	х		NDMA	EEA/Agilent 521.1	x		x
		~				In house method (2425)			
BOD / CBOD	SM 5210B		х	x	Nitrate/Nitrite Nitrogen	EPA 353.2	х	х	x
Bromate	In House Method (2447)	x		x	OCL, Pesticides/PCB	EPA 505	х		x
Carbamates	EPA 531.2	х		x	Ortho Phosphate	EPA 365.1	х	х	x
Carbonate as CO3	SM 2330B	х	х	x	Ortho Phosphorous Oxyhalides Disinfection	SM 4500P E	х		x
Carbonyls	EPA 556	x		x	Byproducts	EPA 317.0	х		x
COD	EPA 410.4 / SM 5220D	t	x		Perchlorate	EPA 331.0	х	-	x
Chloramines	SM 4500-CL G	x	x	x	Perchlorate (low and high)	EPA 314.0	x		×
Chlorinated Acids	EPA 515.4	x		x	Perfluorinated Alkyl Acids	EPA 537	x		x
Chlorinated Acids	EPA 555	x		x	Perfluorinated Polutant	In house Method (2434)	x		x
Chlorine Dioxide	SM 4500-CLO2 D Palin Test	x		x	pH	EPA 150.1	x		
Chlorine -Total/Free/ Combined Residual	SM 4500-Cl G	x	x	x	рН	SM 4500-H+B	x	x	x
Conductivity	EPA 120.1	1	x		Phenylurea Pesticides/ Herbicides	In House Method, based on EPA 532 (2448)	x		x
Conductivity	SM 2510B	x	x	x	Pseudomonas	IDEXX Pseudalert (2461)	x		x
Corrosivity (Langelier Index)	SM 2330B	x	~	x	Radium-226	GA Institute of Tech	x		x
Cyanide, Amenable	SM 4500-CN G	x	x		Radium-228	GA Institute of Tech	x		x
Cyanide, Free	SM 4500-CN G	x	x	x	Radon-222	SM 7500RN	x		x
Cyanide, Total	EPA 335.4	x	x	x	Residue, Filterable	SM 2540C	x	x	×
Cyanogen Chloride (screen)	In House Method (2470)	x	~	x	Residue, Non-filterable	SM 2540D	~	x	~
Diquat and Paraquat	EPA 549.2	x		x	Residue, Total	SM 2540B		x	x
DBP/HAA	SM 6251B	x		x	Residue, Volatile	EPA 160.4		x	~
Dissolved Oxygen	SM 4500-O G		х	x	Semi-VOC	EPA 525.2	х		x
DOC	SM 5310C	x		х	Silica	SM 4500-Si D	x	х	
E. Coli	(MTF/EC+MUG)	х		х	Silica	SM 4500-SiO2 C	х	х	
	· · · · ·						~		-
E. Coli	CFR 141.21(f)(6)(i)	x		x	Sulfide	SM 4500-S <sup>=</sup> D		х	
E. Coli	SM 9223		х		Sulfite	SM 4500-SO <sup>3</sup> B	х	х	x
E. Coli (Enumeration)	SM 9221B.1/ SM 9221F	х		х	Surfactants	SM 5540C	x	х	х
E. Coli (Enumeration)	SM 9223B	х		х	Taste and Odor Analytes	SM 6040E	х		х
EDB/DCBP	EPA 504.1	х			Total Coliform (P/A)	SM 9221 A, B	х		х
EDB/DBCP and DBP	EPA 551.1	x		x	Total Coliform (Enumeration)	SM 9221 A, B, C	x		x
EDTA and NTA	In House Method (2454)	x		x	Total Coliform / E. coli	Colisure SM 9223	х	-	x
Endothall	EPA 548.1	x		x	Total Coliform	SM 9221B	~	х	~
Endothall	In-house Method (2445)	x		х	Total Coliform with Chlorine Present	SM 9221B		x	
Enterococci	SM 9230B	x	х		Total Coliform / E.coli (P/A and Enumeration)	SM 9223	x		x
Fecal Coliform	SM 9221 E (MTF/EC)	х			TOC	SM 5310C	x	x	x
Fecal Coliform	SM 9221C, E (MTF/EC)		x		TOX	SM 5320B		x	1
Fecal Coliform	SM 9221E (MTF/EC)	x		x	Total Phenols	EPA 420.1		x	
(Enumeration) Fecal Coliform with	SM 9221E		x		Total Phenols	EPA 420.4	x	x	x
Chlorine Present Fecal Streptococci	SM 9230B	x	×		Total Phosphorous	SM 4500 P E	^	x	^
Fluoride	SM 4500-F C	x	x	x	Triazine Pesticides &	In House (3617)	x		x
Glumbosata	EPA 547	v		v	Degradates	EDA 100 1	v	v	~
Glyphosate   AMPA		x		×	Turbidity Turbidity	EPA 180.1	x	x	X
Glyphosate + AMPA Gross Alpha/Pata	In House Method (3618)	x	~	x	Turbidity	SM 2130B	x	X	~
Gross Alpha/Beta Gross Alpha Coprecipitation	EPA 900.0 SM 7110 C	x	x	x	Uranium by ICP/MS UV 254	EPA 200.8 SM 5910B	x		x
Hardness	SM 2340B	х	x	x	VOC	EPA 524.2	х		x
Heterotrophic Bacteria	In House Method (2439)	х		x	VOC	In House Method (2411)	х		x
Heterotrophic Bacteria	SM 9215 B	х		x	Yeast and Mold	SM 9610	х		x
Hexavalent Chromium	EPA 218.6	х	х	x	Field Sampling	N/A			1

750 Royal Oaks Dr., Ste 100, Monrovia, CA 91016 Tel (626) 386-1100 Fax (866) 988-3757 https://www.eurofinsus.com/Eaton Version 006 Issued: 05/04/20

#### Acknowledgement of Samples Received

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

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Attn: James Christopher Phone: 407-480-3907 Client ID: TETRATECH-ORLAN Folder #: 910171 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 **December 23, 2020** at **1035**. 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
202012230790	Test 13 No. 0 Initial		12/14/2020 1209
	Total phosphorus as P	Total phosphorus as PO4- Calc.	
202012230795	Test 13 No.1 Initial		12/14/2020 1220
	Total phosphorus as P	Total phosphorus as PO4- Calc.	
202012230796	Test 13 No. 2 Initial		12/14/2020 1223
	Total phosphorus as P	Total phosphorus as PO4- Calc.	
202012230797	Test 13 No. 3 Initial		12/14/2020 1224
	Total phosphorus as P	Total phosphorus as PO4- Calc.	
202012230798	Test 13 No. 4 Initial		12/14/2020 1225
	Total phosphorus as P	Total phosphorus as PO4- Calc.	
202012230799	Test 13 No. 5 Initial		12/14/2020 1226
	Total phosphorus as P	Total phosphorus as PO4- Calc.	
202012230800	Test 13 No. 6 Initial		12/14/2020 1305
	Total phosphorus as P	Total phosphorus as PO4- Calc.	
202012230801	Test 13 No. 7 Initial		12/14/2020 1306
	Total phosphorus as P	Total phosphorus as PO4- Calc.	
202012230802	Test 13 No. 8 Initial		12/14/2020 1307
	Total phosphorus as P	Total phosphorus as PO4- Calc.	
202012230803	Test 13 No. 9 Initial		12/14/2020 1308
	Total phosphorus as P	Total phosphorus as PO4- Calc.	

**Test Description** 

🔹 eurofins	ofins	CH	AIN O	F CUSTOD	CHAIN OF CUSTODY RECORD			
	Eaton Analytical	EUROFINS EATON ANALYTICAL USE ONLY:	SE ONLY:	- Andrew - A				910171
		LOGIN COMMENTS:			SAMPLES CHECKED AGAINST COC BY:	KED AGAINST (	COC BY:	S
Monrovia	/ 50 Royal Oaks Drive, Sulte 100 Monrovia CA 91016-3629			10.00	SAI	SAMPLES LOGGED IN BY:	D IN BY:	2
Phone: 62		5			SAMPLES REC	SAMPLES REC'D DAY OF COLLECTION?		(check for yes)
Fax: 626 386 1101	386 1101	(Other)	ID =	(Observation=	1-	°C) (Final =	OX	
800 566 L	800 566 LABS (800 566 5227)	Monrovia IR Gun ID =		Missehister 100	C) (Corr.Factor C °C) (Final =	<u>- し</u> °C) (Final :		
Website: <u>v</u>	Website: www.EatonAnalytical.com	TYPE OF ICE: Real Synthetic	ettic No		Frozen	Partially Frozen	Thawed	N/A
		METHOD OF SHIPMENT:	Pick-Up / Wa	alk-In / fedEx / UPS	Area Fast / To	ne / Other:		
TO BE COMPLE	TO BE COMPLETED BY SAMPLER: I TRK# 200		100		(check for yes)		(checl	(check for yes)
COMPANY/AC	COMPANY/AGENCY NAME: 10 0221 3284	• 5117 8683 PE:		COMPLIAN		NON-COMPLIANCE SAMPLES	E SAMPLES	
T ONIAL	TEAM TELN 2016 BIRE ST ONIONOLO			- requires sta Type of samples (circle one):		SPECIAL CONFIRMATION		(eg. SDWA, NPDES, etc.)
TEACLIENT	EA CLIENT CODE: COC ID: TRINCI TRIM- NV/N/N	SAMPLE GROUP: LCUAL SOIUDALAN TRUT-PHOLE A	-Analez	SEE ATTACHED H	SEE ATTACHED KIT ORDER FOR ANALYSES       [check for yes), <u>OR</u> List ALL ANALYSES REQUIRED (enter number of bottles sent for each test for each sample)	SES of bottles sent for	(check for yes), or each test for eac	), <u>OR</u> ach sample)
TAT requeste	TAT requested: rush by adv notice only	STD1 wk3 day2 day	1 day					
algmar etad etar etar etar etar etar etar etar etar	SAMPLE ID	CLIENT LAB ID	אדאר מאדא אדאם מאדא	INALL @			SAM COMI	SAMPLER COMMENTS
12/14 12:09	Test 13 No.0 Mithal	PM.					Preserv	Preserved with
07:11							H2SOH	hq
0:33	2						TEHCO	Tech
12:24	3							
12:25	Ч							
1226	Ş							
13:05	9		64					
13:06	F#							
13:03	8							
80:21 4	A 6 4		128	٥				
* MATRIX	* MATRIX TYPES: RSW = Raw Surface Water RGW = Raw Ground Water	<b>CFW</b> = Chlor(am)inated Finished Water <b>FW</b> = Other Finished Water	hed Water	SEAW = Sea Water WW = Waste Water	<b>BW</b> = Bottled Water <b>SW</b> = Storm Water	SO = Soil SL = Sludge	O = Other - Please Identify	ease Identify
	SIGNATURE	at a labor with	PRINT NAME		COMPANY/TITLE		DATE	TIME
SAMPLED BY:	M. Arencis	NOMON ISI	ISOIDEI AR	Arenas Teha	ng teun	U	122/201	4:30 PM
RELINQUISHED BY:	BY: II	1 1 M	11		11		H	11
RECEIVED BY:	X	1/2/1/1d~	No	+ -	Cert	2	C282.21	135
RELINQUISHED BY	BY:							
RECEIVED BY:								
QA FO 0029.2 (Vt	QA FO 0029.2 (Version 2) (08/28/2014)						PAGE	OF

1



Tetra Tech

Suite 1000 Orlando, FL 32801

James Christopher 201 East Pine Street

**Eaton Analytical** 

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

Report: 910171 Project: KALAMAZOO Group: Lead Solubility Testing - Phase 1

Laboratory Hits

**Eaton Analytical** 

Tel: (626) 386-1100 Fax: (866) 988-3757 1 800 566 LABS (1 800 566 5227) Report: 910171 Project: KALAMAZOO Group: Lead Solubility Testing - Phase 1

Samples Received on:

12/23/2020 1035

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

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Analyzed	Analyte	Sample ID	Result	Federal MCL	Units	MRL
	202012230790	Test 13 No. 0 Initial				
12/31/2020 10:31	Total phosphorus as P		0.065		mg/L	0.020
12/31/2020 13:36	Total phosphorus as PO	4- Calc.	0.20		mg/L	0.030
	202012230795	Test 13 No.1 Initial				
12/31/2020 11:36	Total phosphorus as P		1.1		mg/L	0.040
12/31/2020 13:38	Total phosphorus as PO	4- Calc.	3.4		mg/L	0.030
	202012230796	Test 13 No. 2 Initial				
12/31/2020 10:32	Total phosphorus as P		0.18		mg/L	0.040
12/31/2020 13:36	Total phosphorus as PO	4- Calc.	0.55		mg/L	0.030
	202012230797	Test 13 No. 3 Initial				
12/31/2020 10:36	Total phosphorus as P		1.8		mg/L	0.040
12/31/2020 13:36	Total phosphorus as PO	4- Calc.	5.5		mg/L	0.030
	202012230798	Test 13 No. 4 Initial				
12/31/2020 10:39	Total phosphorus as P		0.66		mg/L	0.040
12/31/2020 13:36	Total phosphorus as PO	4- Calc.	2.0		mg/L	0.030
	202012230799	Test 13 No. 5 Initial				
12/31/2020 10:40	Total phosphorus as P		1.3		mg/L	0.040
12/31/2020 13:37	Total phosphorus as PO	4- Calc.	4.0		mg/L	0.030
	202012230800	Test 13 No. 6 Initial				
12/31/2020 10:40	Total phosphorus as P		0.53		mg/L	0.040
12/31/2020 13:37	Total phosphorus as PO	4- Calc.	1.6		mg/L	0.030
	202012230801	Test 13 No. 7 Initial				
12/31/2020 10:41	Total phosphorus as P		0.78		mg/L	0.040
12/31/2020 13:37	Total phosphorus as PO	4- Calc.	2.4		mg/L	0.030
	202012230802	Test 13 No. 8 Initial				
12/31/2020 10:42	Total phosphorus as P		0.48		mg/L	0.040
12/31/2020 13:37	Total phosphorus as PO	4- Calc.	1.5		mg/L	0.030
	202012230803	Test 13 No. 9 Initial				
12/31/2020 11:39	Total phosphorus as P		0.99		mg/L	0.080
12/31/2020 13:38	Total phosphorus as PO	4- Calc.	3.0		mg/L	0.030



Tel: (626) 386-1100 Fax: (866) 988-3757 1 800 566 LABS (1 800 566 5227) Report: 910171 Project: KALAMAZOO Group: Lead Solubility Testing - Phase 1

Samples Received on:

12/23/2020 1035

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

Prepped	Analyzed	Prep Batch	Analytical Batch	Method	Analyte	Result	Units	MRL	Dilution
<u>Test 13</u>	No. 0 Initial	(202012230)	790)			Samp	oled on 12/14	/2020 120	9
		SM4500-PE	E/EPA 365.1 - T	otal phosphoru	s as PO4- Calc.				
	12/31/20 13:36			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	0.20 (c)	mg/L	0.030	1
		SM4500-PE	E/EPA 365.1 - T	otal phosphoru	s as P (T-P)				
	12/31/20 10:31		1297062	(SM4500-PE/EPA 365.1)	Total phosphorus as P	0.065	mg/L	0.020	1
<u>Test 13</u>	No.1 Initial	(2020122307	95)			Samp	oled on 12/14	/2020 122	0
		SM4500-DF	-/EDA 365 1 - T	otal phosphoru	s as POA- Calc				
	12/31/20 13:38			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	3.4 (c)	mg/L	0.030	1
		SM4500-PE	E/EPA 365.1 - T	otal phosphoru	s as P (T-P)				
	12/31/20 11:36	3	1297062	(SM4500-PE/EPA 365.1)	Total phosphorus as P	1.1	mg/L	0.040	2
<u>Test 13</u>	No. 2 Initial	(202012230)	<u>796)</u>			Samp	oled on 12/14	/2020 122	3
		SM4500-DF	-/EDA 365 1 - T	otal phosphoru	s as POA- Calc				
	12/31/20 13:36			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	0.55 (c)	mg/L	0.030	1
		SM4500-PE	E/EPA 365.1 - T	otal phosphoru	s as P (T-P)				
	12/31/20 10:32	2	1297062	(SM4500-PE/EPA 365.1)	Total phosphorus as P	0.18	mg/L	0.040	2
<u>Test 13</u>	No. 3 Initial	(202012230)	<u>797)</u>			Samp	oled on 12/14	/2020 122	4
		SM4500-PE	E/EPA 365.1 - T	otal phosphoru	s as PO4- Calc.				
	12/31/20 13:36			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	5.5 (c)	mg/L	0.030	1
		SM4500-PE	E/EPA 365.1 - T	otal phosphoru	s as P (T-P)				
	12/31/20 10:36	3	1297062	(SM4500-PE/EPA 365.1)	Total phosphorus as P	1.8	mg/L	0.040	2
<u>Test 13</u>	No. 4 Initial	(202012230)	<u>798)</u>			Samp	oled on 12/14	/2020 122	5
		SM4500-PE	E/EPA 365.1 - T	otal phosphoru	s as PO4- Calc.				
	12/31/20 13:36			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	2.0 (c)	mg/L	0.030	1
		SM4500-PE	E/EPA 365.1 - T	otal phosphoru	s as P (T-P)				
	12/31/20 10:39	)	1297062	(SM4500-PE/EPA 365.1)	Total phosphorus as P	0.66	mg/L	0.040	2
<u>Test 13</u>	No. 5 Initial	(202012230)	<u>799)</u>			Samp	oled on 12/14	/2020 122	6

#### SM4500-PE/EPA 365.1 - Total phosphorus as PO4- Calc.

Rounding on totals after summation.

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(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: 910171 Project: KALAMAZOO Group: Lead Solubility Testing - Phase 1

Samples Received on: 12/23/2020 1035

Prepped	Analyzed	Prep Batch	Analytical Batch	Method	Analyte	Result	Units	MRL	Dilution
	12/31/20 13:37			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	4.0 (c)	mg/L	0.030	1
		SM4500-PE	E/EPA 365.1 - T	otal phosphoru	s as P (T-P)				
	12/31/20 10:40		1297062	(SM4500-PE/EPA 365.1)	Total phosphorus as P	1.3	mg/L	0.040	2
<u>Test 13</u>	No. 6 Initial	(202012230)	<u>800)</u>			Sam	pled on 12/14	/2020 130	5
		SM4500-PE	E/EPA 365.1 - T	otal phosphoru	s as PO4- Calc.				
	12/31/20 13:37			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	1.6 (c)	mg/L	0.030	1
		SM4500-PE	E/EPA 365.1 - T	otal phosphoru	s as P (T-P)				
	12/31/20 10:40		1297062	(SM4500-PE/EPA 365.1)	Total phosphorus as P	0.53	mg/L	0.040	2
<u>Test 13</u>	No. 7 Initial	(202012230)	<u>801)</u>			Sam	pled on 12/14	/2020 130	6
		SM4500-PE	E/EPA 365.1 - T	otal phosphoru	s as PO4- Calc.				
	12/31/20 13:37			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	2.4 (c)	mg/L	0.030	1
		SM4500-PE	E/EPA 365.1 - T	otal phosphoru	s as P (T-P)				
	12/31/20 10:41		1297062	(SM4500-PE/EPA 365.1)	Total phosphorus as P	0.78	mg/L	0.040	2
<u>Test 13</u>	No. 8 Initial	(202012230)	<u>802)</u>			Sam	pled on 12/14	/2020 130	7
		SM4500-PE	E/EPA 365.1 - T	otal phosphoru	s as PO4- Calc.				
	12/31/20 13:37			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	1.5 (c)	mg/L	0.030	1
		SM4500-PE	E/EPA 365.1 - T	otal phosphoru	s as P (T-P)				
	12/31/20 10:42		1297062	(SM4500-PE/EPA 365.1)	Total phosphorus as P	0.48	mg/L	0.040	2
<u>Test 13</u>	No. 9 Initial	(202012230)	<u>803)</u>			Sam	pled on 12/14	/2020 130	В
		SM4500-PE	E/EPA 365.1 - T	otal phosphoru	s as PO4- Calc.				
	12/31/20 13:38			(SM4500-PE/EPA 365.1)	Total phosphorus as PO4- Calc.	3.0 (c)	mg/L	0.030	1
		SM4500-PE	E/EPA 365.1 - T	otal phosphoru	s as P (T-P)				
	12/31/20 11:39		1297062	(SM4500-PE/EPA 365.1)	Total phosphorus as P	0.99	mg/L	0.080	4

Tetra Tech James Christopher

201 East Pine Street Suite 1000 Orlando, FL 32801

#### Laboratory Data



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#### Total phosphorus as P (T-P) Analytical Batch: 1297062

202012230790	Test 13 No. 0 Initial
202012230795	Test 13 No.1 Initial
202012230796	Test 13 No. 2 Initial
202012230797	Test 13 No. 3 Initial
202012230798	Test 13 No. 4 Initial
202012230799	Test 13 No. 5 Initial
202012230800	Test 13 No. 6 Initial
202012230801	Test 13 No. 7 Initial
202012230802	Test 13 No. 8 Initial
202012230803	Test 13 No. 9 Initial

#### Laboratory QC Summary

Report: 910171 Project: KALAMAZOO Group: Lead Solubility Testing - Phase 1

#### Analysis Date: 12/31/2020

Analyzed by: H5VG Analyzed by: H5VG



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

Report: 910171 Project: KALAMAZOO Group: Lead Solubility Testing - Phase 1

Tetra Tec	h								
QC Туре	Analyte	Native	Spiked	Recovered	Units	Yield(%)	Limits (%)	RPD Limit(%)	RPD%
• •	as P (T-P) by SM4500-PE/EPA 365.1 atch: 1297062				1	Analysis D	ate: 12/31/	2020	
LCS1	Total phosphorus as P		0.4	0.411	mg/L	103	(90-110)		
LCS2	Total phosphorus as P		0.4	0.417	mg/L	104	(90-110)	20	1.5
MBLK	Total phosphorus as P			<0.01	mg/L				
MRL_CHK	Total phosphorus as P		0.02	0.0198	mg/L	99	(50-150)		
MS_202012220599	Total phosphorus as P	0.044	0.4	0.437	mg/L	98	(90-110)		
MS_202012230795	Total phosphorus as P	1.1	0.4	1.49	mg/L	95	(90-110)		
MSD_202012220599	Total phosphorus as P	0.044	0.4	0.430	mg/L	96	(90-110)	20	1.5
MSD_202012230795	Total phosphorus as P	1.1	0.4	1.48	mg/L	92	(90-110)	20	0.74

Spike recovery is already corrected for native results. Spikes which exceed Limits and Method Blanks with positive results are highlighted by <u>Underlining.</u> 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.

## **APPENDIX C – COUPON WEIGHT LOSS REPORT**



Lead				Product:					
B5235	0	11/2/20	12/17/20	18.0691	18.046	0.0231	45	1080	0.43
A0274	1	11/2/20	12/17/20	16.51	16.476	0.034	45	1080	0.63
B5237	2	11/2/20	12/17/20	17.8592	17.837	0.0222	45	1080	0.41
A0276	3	11/2/20	12/17/20	16.24	16.207	0.033	45	1080	0.61
B5236	4	11/2/20	12/17/20	17.9298	17.912	0.0178	45	1080	0.33
B2841	5	11/2/20	12/17/20	19.0219	19.004	0.0179	45	1080	0.33
B5252	6	11/2/20	12/17/20		17.88	-17.88	45	1080	-332.59
B5234	7	11/2/20	12/17/20	17.8668	17.845	0.0218	45	1080	0.41
A0275	8	11/2/20	12/17/20	16.582	16.556	0.026	45	1080	0.48
B2840	9	11/2/20	12/17/20	19.2359	19.209	0.0269	45	1080	0.50

Recent Coupon Photos:

