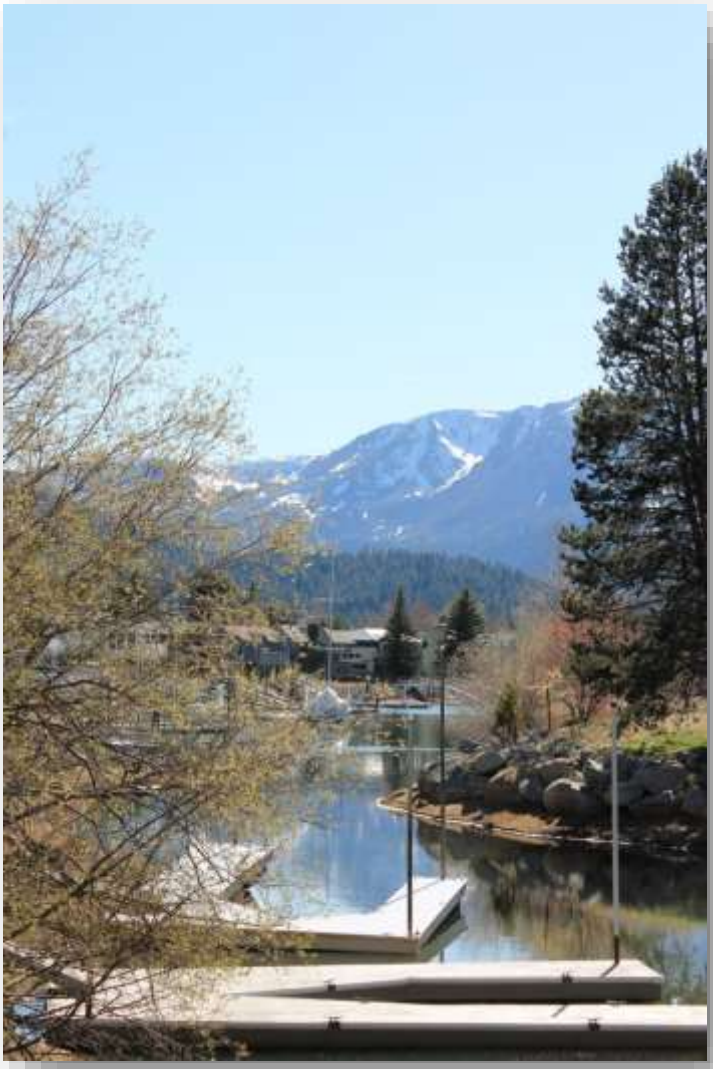
2017 Sediment Baseline Report for the Tahoe Keys Lagoons



April 19, 2018

2017 Sediment Baseline Report for the Tahoe Keys Lagoons

Prepared for

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TAHOE KEYS INTEGRATED MANAGEMENT PLAN

April 19, 2018
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EXECUTIVE SUMMARY

The Tahoe Keys Property Owners Association (TKPOA) began collecting baseline data on sediment in 2016 to help inform the Tahoe Keys Integrated Management Plan (IMP). The program continued in 2017 with sediment samples being collected and analyzed for eight parameters in the lagoons. Lab analyzed samples were taken two times at 13 locations during the 2017 growing season, once in the spring and fall, in order to provide a representative set of data for the lagoons. Three of the thirteen sites (Sites 11, 12, and 13) were located in Lake Tahoe.

The 2017 sampling utilized the protocols established in 2016 so that direct comparisons can be made using consistent protocols. Previous sediment data collected in and around the Tahoe Keys was limited, with varying protocols, making comparisons with historical data difficult.

The results of the 2017 Sediment Monitoring Program showed a significant, but not unexpected, difference between the sediment of Lake Tahoe and that of the Tahoe Keys lagoons. Higher aluminum, nutrients, and organic matter levels were found within the lagoons. Overall, aluminum levels have continued to decrease over the past decade, following an excess alum water treatment event in 1998. Low levels of nitrogen as nitrate-nitrogen and nitrite-nitrogen, often below detectable limits, were found in the collected sediment samples. However, relatively high levels of ammonia were determined in the analyzed sediment. Water quality results (see separate report) show available nitrogen in the water column, likely contributing to the presence and spread of aquatic macrophytes in the Tahoe Keys lagoons. Overall, absorption of nitrogen is believed to occur more readily via root uptake than leaf absorption from the surrounding water column.

Results show that the percentage of organic matter was higher in the sediment collected in the Tahoe Keys lagoons. This is likely due to the dense populations of aquatic macrophytes growing in the Tahoe Keys lagoons and their seasonal decomposition during fall/winter senescence.

Results of the 2016 and 2017 water quality sampling show that total phosphorus and total nitrogen levels in the water column of the lagoons are above the water quality objectives set forth by the Lahontan Board that apply to all of Lake Tahoe's waters (LRWQCB 2014). Additionally, recorded levels of both sedimentary and water column phosphorus, as well as nitrogen, were noticeably higher in the 2017 data than that of 2016. The difference in water level (and wetted lagoon perimeter area) between October 2016 and October 2017 may be in part responsible for the increase in nutrients present in the water column and sediment. These higher levels of nutrients may be responsible for the cyanobacterial bloom that occurred in portions of the Tahoe Keys in August and September.

By continuing data collection in future years for the Tahoe Keys lagoons, the TKPOA will be able to assess the effectiveness of the IMP. As macrophyte control measures are implemented, sediment samples will help determine the benefits to water quality (e.g., reduction of detritus and available nutrients in sediment). When combined with the implementation of Best Management Practices (BMPs) to lower nutrient inputs, macrophyte control should help lower nutrient levels and improve ecosystem health.

1.0 INTRODUCTION

The Tahoe Keys lagoons, a residential and commercial development encompassing 172 acres of waterways and 1,529 homes located along the south shore of Lake Tahoe, have had an increasing problem with the growth of aquatic plants, also referred to as aquatic macrophytes, to the extent that the growth of these plants are significantly impacting the aquatic ecosystem, private and commercial boating, other recreation, and the aesthetics of the Tahoe Keys. The three macrophytes of greatest of concern are the non-native Eurasian watermilfoil (*Myriophyllum spicatum*) and curlyleaf pondweed (*Potomogeton crispus*) as well as the native coontail (*Ceratophyllum demersum*).

Starting in the 1980s, Eurasian watermilfoil became well-established and began to rapidly expand, requiring the start of mechanical harvesting, and was followed in 2003 by the first appearance of curlyleaf pondweed. Today, the lagoons are more than 90 percent infested with the invasive plants. TKPOA now must harvest the boating channels June through September every year to maintain 3 to 5 feet of navigational clearance.

The main mode of reproduction for Eurasian watermilfoil, curlyleaf pondweed, and coontail is vegetative reproduction, where new plants are generated from plant fragments. These fragments can be spread throughout the water column by the following: mechanical harvesting, waterfowl feeding, boating, and wave action. Such fragments can travel between bodies of water by boat ballasts, hulls and outboard motors. Furthermore, residual rhizomes and the release of axillary buds (turions) also produce new plants. This is one of the reasons that management of these three aquatic macrophytes is difficult.

Recent surveys have indicated that, while the growth of Eurasian watermilfoil continues to be prolific, the prevalence and relative abundance of curlyleaf pondweed has increased in the Tahoe Keys lagoons for the second year in a row. In addition, curlyleaf pondweed was found in some areas up to 20 feet deep, which is much deeper than previously detected (TKPOA 2017a).

In 2015, following the issuance of the Waste Discharge Requirements (WDRs) permit to the TKPOA by the Lahontan Regional Water Quality Control Board's (LRWQCB) Executive Order No. R6T-2014-0059 (Lahontan 2014), the TKPOA began actively working towards establishing an Integrated Management Plan (IMP) to prevent the spread of aquatic invasive weeds to greater Lake Tahoe, enhance water quality, reduce habitat for non-native fish, improve recreation, and implement a combination of cost-effective aquatic weed control methods for long-term management. The IMP describes currently approved methods for the control and management of invasive aquatic plants in the Tahoe Keys lagoons. The Monitoring and Reporting Program for the WDRs specifies that water quality parameters including dissolved oxygen, temperature, nitrate and nitrite nitrogen, ammonia, total Kjeldahl nitrogen, total phosphorus, and orthophosphorus be collected and analyzed for the Tahoe Keys lagoons during the use of the circulating system, which has not been operated from many years. The TKPOA voluntarily added sediment sampling to the requisite water quality monitoring in order to help determine the

role of sediment nutrients to the infestation of aquatic invasive plants in the Tahoe Keys lagoons.

The Baseline Water Quality and Sediment Sampling programs, which were initiated in 2016, developed an inventory of a broad suite of water quality and sediment information. The overall goal of data collection and evaluations is to identify the relative sources that are being used by the invasive macrophytes present in the Tahoe Keys lagoons. Furthermore, the baseline data will be used to detect changes in water quality resulting from aquatic plant control methods implemented under the IMP or changes in inputs to surface waters from activities undertaken as part of the TKPOA NPS Water Quality Management Plan (NPS Plan).

2.0 BASELINE SEDIMENT SAMPLING

The Sediment Monitoring Program was initiated in 2016 in order to provide baseline data for nutrient concentrations and turbidity levels during the course of the growing season, which can be used in subsequent surveys and studies to assess the impact of aquatic weed growth and control methods. The program was continued with sampling events in the early Spring of 2017 and Fall 2017.

2.1 Overview of Program

Eight soil metrics were sampled during two sampling events during the primary aquatic plant growing season (early May until mid-October) (Table 1). The following section provides program information regarding the selection of sampling sites, sampling schedule, monitored metrics, and lab analysis details.

2.1.1 Site Overview

The Tahoe Keys is comprised of three water features including Lake Tallac, the Main Lagoon, and the Marina Lagoon. All three contain Eurasian watermilfoil, curlyleaf pondweed, and coontail. However, each have different characteristics. Figure 1 shows the locations of these water features.

Lake Tallac is a narrow 30 acre lagoon located on the southern edge of the Tahoe Keys. More than half of the shore is lined with homes, some with docks, and the use of motorized boats is currently prohibited. Lake Tallac is separated from the Tahoe Keys Main Lagoon fingers by a diversion structure, which is designed to be lowered during high water events. Furthermore, Lake Tallac connects with Pope Marsh on its western edge, with high water exchanges into and from the marsh observed during certain hydrological conditions. It is estimated to have roughly 292 acre-feet of water (TKPOA 2016a).

The Main Lagoon is located on the western edge of the Tahoe Keys and is directly connected to Lake Tahoe through the West Channel. It is a combination of connected lagoon fingers and coves that provide recreational access to Tahoe Keys residents and renters. There is limited public access and no commercial access to the Main Lagoon, which is entirely owned by TKPOA and private home owners. According to an engineering study conducted during 2016, the Main Lagoon contains approximately 1,669 acre-feet of water (TKPOA 2016a).

The Marina Lagoon is located towards the eastern portion of the Tahoe Keys and is directly connected to Lake Tahoe through the East Channel. It is relatively open with heavy boat traffic from commercial, governmental, academic research, and private boat uses. The Marina Lagoon, different from the two above mentioned water features, is only partially owned by TKPOA. The Tahoe Keys Marina and Yacht Club and the Tahoe Keys Beach and Harbor Association own large portions of the Marina Lagoon. The Marina Lagoon is estimated to contain roughly 570 acre-feet of water.

Figure 1. Overview of the Tahoe Keys Lagoons

Property in and around the Tahoe Keys lagoons is controlled by multiple landowners and, as noted above, waterway land ownership includes individual property owners, association ownership (e.g., TKPOA common property and Tahoe Keys Beach and Harbor Association), and commercial and governmental ownership. Through various agreements, TKPOA maintains the waterways for boating and other recreational activities. This ownership pattern adds management complexity. TKPOA has no legal or other authority to require others to participate in the Integrated Management Plan or implement best management practices.

2.1.2 Monitored Metrics

At each of the thirteen sites depicted in Figure 2 (page 7), constituents monitored from collected sediment included aluminum (mg/kg), phosphorus (mg/kg), orthophosphate (mg/kg), ammonia (mg/kg), nitrate-nitrogen (mg/kg), and nitrite-nitrogen (mg/kg).

These various forms of both nitrogen and phosphorus were analyzed during the course of the Sediment Monitoring Program in 2017 as both elements are key nutrients for the regulation of macrophyte productivity (Boyd 1971). Amino acids, urea, uric acid, nitrate, nitrite, ammonium, dissolved nitrogen gas, and nitrous oxide are forms of nitrogen

typically found in a body of water. The chemical processes of ammonification, nitrification, and denitrification are driven by various microbial activities as well as the presence of oxygen and are responsible for the transformation from one form of nitrogen to another throughout the water column (Saeed et al. 2012). Additionally, phosphorus forms in freshwater include soluble reactive (ortho) phosphorus and inorganic phosphorus.

Table 1 (below) provides a list of all measured parameters, the analytical method used to determine concentration, measurement units, and a brief description of the parameter. Analytical data was generated by the Western Environmental Testing (WET) Lab following the Standard Methods for the Examination of Water and Wastewater, Methods for Determination of Organic Compounds in Drinking Water, EPA-600/4-79-202, and Test Methods for Evaluation of Solid Waste, Physical/Chemical Methods (SW846) Third Edition.

Table 1. List of Monitored Soil Metrics

Constituent	Method	Units	Brief Description
Aluminum (Al)	SW846 6010B	mg/kg	Measure of aluminum concentration in the sediment. Previous use of alum (aluminum based flocculating agent) in the Tahoe Keys.
Phosphorus	SW846 6010B	mg/kg	Amount of phosphorus in sediment samples.
Ortho-phosphorus	SM 4500-P E	mg/kg	Dissolved inorganic phosphorus that is readily available for aquatic plants and algae.
Ammonia (NH_3)	SM 4500 NH3 D	mg/kg	Measure of the amount of nitrogen in the form of NH_3, which naturally occurs and can be produced from human activity.
Nitrate-Nitrogen	EPA 300.0	mg/kg	Amount of nitrogen bound to a nitrate ion present in the sample.
Nitrite-Nitrogen	EPA 300.0	mg/kg	Amount of nitrogen bound to a nitrite ion present in the sample.
Organic Matter	D2974	%	The concentration of carbon and nutrients in sediment as proteins, fats, carbohydrates, and nucleic acids derived from animal and plant detritus (Logan and Longmore 2015).
Total Solids	SM 2540 G	%	Amount of total dissolved and suspended solids.
pH	SW846 9045D	-	Measure of acidity or alkalinity of water, with pH 7 being neutral.

2.1.3 Site Selection

Sediment and water quality samples (water quality is discussed in a separate report) were collected at 13 sites in and around the Tahoe Keys lagoons. The sites for data collection included dead-end coves and open water areas in order to assess water quality and sediment variation by location. Sites were further selected to be collectively representative of the Tahoe Keys lagoons. Using the geo-referenced locations from the 2016 sampling allowed for continued monitoring at the same sites. Figure 2 shows all sampling sites for both water quality and sediment sampling.

Figure 2. Water Quality and Sediment Sampling Sites

2.1.4 Sampling Schedule

The 2017 water quality monitoring program began late April 2017 and ended on October 16, 2017. Sediment samples were collected twice, once in Spring (May 25) and once in Fall (October 16).

2.1.5 Analytical Laboratory Testing

Western Environmental Testing (WET) Lab, an EPA certified lab, was selected to conduct the analysis of collected samples for constituents that could not be completed in the field. Of the three possible WET Lab locations, the analytical lab located in Sparks, NV was used. This laboratory falls under California EPA Certification No. 2523 (see Appendix B) and Nevada EPA Certification No. NV00925 (Appendix B).

Similar to the previous sampling year, TKPOA utilized the offered service for test supply delivery, including: coolers, sample containers, and any necessary preservatives. The samples were collected either on Mondays or Wednesdays and the WET Lab courier service collected all samples on Tuesday or Thursday.

2.2 Materials and Methods

Specific equipment and supplies were required to perform both water quality and sediment sampling. The necessary items were obtained by TKPOA prior to May 2017 and the initiation of field sampling. The following section provides information on the required equipment utilized for sediment sampling and the methods used by TKPOA and its Water Quality Department throughout the season.

2.2.1 Equipment

The following materials were required for sediment sampling

- Petite Ponar Grab Sampler
- Rope
- Sample bottle labels
- 1 L bottle
- Dish tub
- Pen/Pencil/Sharpie
- Sample location map
- Cooler(s)
- Wet Ice
- Gloves

Petite Ponar Grab Sampler:

The grab sampler, constructed from stainless steel, is held open by a self-releasing pinch-pin. The device is slowly lowered into the water, held by the sampler through an attached rope. Once submerged, the device is released. Once it reaches the bottom substrate, the pinch-pin is released and the scoop closes, collecting the sample. The tapered cutting edges of the scoop allows collection of sample with little disturbance.

Figure 3. Petite Ponar Grab Sampler

Image property of Wildco, 2015

2.2.2 Methods

Prior to sampling event, sampling materials delivery and scheduling of courier service were verified for next day sample pick up.

On the day of sampling on the boat with all necessary materials, sample containers were labeled. For each site there was a total of two sample containers, no preservatives were required. Bottle labels were filled out with the following information:

- Company Name (TKPOA)
- Sample ID (S-instance number-site number A (B for duplicate)
    - ex: S-01-01A
- Sampled By (collector's initials)
- Date of Sample
- Time of Sample

Once at a sample site, the Petite Ponar grab sampler was prepared by inserting the self-releasing pinch-pin in the appropriate location in order to lock the scoop in an open position. Lifting the sampler via the attached rope, the Ponar was then gently lowered into the water. Dropping the sampler into the water can dislodge the pinch-pin and cause early closing of the scoop. The sampler was then released, left to fall through the water until reaching the bottom substrate. Striking the ground ejects the pin and causes the scoop to close. The sample is collected from the first few inches of the sediment layer.

Figure 4. Use of Petite Ponar Grab Sampler

The grab sampler, once removed from the water, was placed in an empty tub. The sampler was manually opened and the collected sediment was poured into the tub. Plant fragments and excess water were then removed prior to placement of sediment into the sample jar. The jar, full of sediment, was sealed and rinsed prior to storage in cooler with ice.

At each site, a second sample was collected. The grab sampler and tub containing the previous sample was rinsed with lake water. The grab sampler was once again prepared to be lowered into the water. The same procedure used to collect the first sample (sample A) was used to collect the second sample (sample B). During the collection process, each sample was exposed to the air for roughly one to two minutes.

The density of aquatic macrophytes in the Tahoe Keys lagoons occasionally prevented sample collection. For example, the grab sampler would fall into a thick weed bed and trigger the closure of the scoop. Furthermore, the increased depth of the lagoons during the 2017 season increased the difficulty of sample collection. When this occurred, sampling attempts were repeated at the site until a sufficient amount of sediment was obtained for one sample.

Figure 5. Collected Sample in Dish Tub

Figure 6. Sediment in Sample Jar

The Chain of Custody (COC) Forms were supplied by WET Lab. These COC forms were filled out completely, listing sample identifications, desired analysis, number of bottles,

and type of sample. The forms were signed by the collector and samples were then picked up by a WET Lab courier or dropped off at the lab located in Sparks, NV within 24 hours of collection. Samples were kept cool (2˚- 6˚C) until delivered to the laboratory. All completed WETLab COC forms can be found in Appendix A.

3.0 RESULTS & DISCUSSION

The Tahoe Keys lagoons were built in the 1960's within the center of the original Truckee marsh, once the largest wetland in the Tahoe Basin (post-Lake Tahoe Dam construction). Construction of the Keys included dredging marshland, installing bulkheads and capping with fine sand to create a suitable building substrate (Kim and Rejmánková 2001).

It has been postulated that the sediment from the original Truckee marsh is one of the main nutrient sources for the macrophytes growing in the Tahoe Keys lagoons. Previous investigations indicate that a majority of phosphorus used by aquatic macrophytes is derived from sediment nutrient uptake (Walter 2000, Barko and Smart 1986).

The sediment monitoring parameters aluminum, nutrients (phosphorus and nitrogen), and organic matter were sampled twice during the 2017 season to assess seasonal changes and potential future yearly trends. Box-and-Whisker Plots were created to depict the data collected during the 2017 growing season.

Data entered into the sediment database was analyzed following the last sampling event in October. The information was averaged for sites located in the Main Lagoon, Marina Lagoon, Lake Tallac, and Lake Tahoe. A table was then produced with averaged values for each parameter (refer to Table 3 on the following page). Key parameters analyzed included aluminum and nutrients, such as phosphorus and nitrogen.

A complete record of collected data by site and date can be found in Appendix C.

Table 2. Averaged Sediment Sampling Results

Measurement	Reporting Limits	Main Lagoon				Marina Lagoon				Lake Tallac				Lake Tahoe			
		Avg	Min	Med	Max	Avg	Min	Med	Max	Avg	Min	Med	Max	Avg	Min	Med	Max
Aluminum	2.1 mg/kg	5,909.09	1,800.00	4,950.00	13,000.00	4,387.50	3,100.00	4,350.00	6,000.00	4,100.00	3,000.00	3,800.00	6,400.00	2,015.38	1,300.00	2,000.00	3,100.00
Phosphorus	24 mg/kg	199.82	96.00	175.00	730.00	205.00	140.00	205.00	280.00	102.83	69.00	98.00	140.00	136.46	72.00	140.00	250.00
Organic Matter	1.00%	9.15	0.53	9.50	16.00	7.91	2.10	9.20	11.00	12.85	9.10	12.50	18.00	2.44	0.35	0.50	13.00
Orthophosphate	0.03 mg/kg	0.08	0.05	0.05	0.13	ND	-	ND	-	ND	-	ND	-	ND	-	ND	-
Ammonia	0.90 mg/kg	54.00	26.00	50.50	93.00	63.25	33.00	64.00	92.00	111.25	75.00	115.00	140.00	14.10	3.00	7.10	39.00
Total Solids	1.00%	27.83	12.81	21.48	84.19	28.36	17.22	24.64	44.50	39.98	20.72	25.90	99.99	60.15	14.68	74.87	92.99
Nitrate Nitrogen	0.45 mg/kg	0.31	0.31	0.31	0.31	ND	-	ND	-	0.32	0.32	0.32	0.32	ND	-	ND	-
Nitrite Nitrogen	0.45 mg/kg	0.18	0.15	0.18	0.20	ND	-	ND	-	0.16	0.16	0.16	0.16	ND	-	ND	-
pH	N/A	6.83	6.56	6.77	7.73	6.74	6.60	6.75	6.85	6.46	6.45	6.46	6.46	6.85	6.58	7.06	7.08

* ND : Non-Detectable

** N/A : Not Applicable

3.1 Aluminum

Aluminum is one of the most common recurring metallic elements found during soil/sediment analysis as it constitutes roughly 8% of the Earth's crust. The toxicity of aluminum is determined by the chemical form (other chemicals/molecules it binds with) as well as environmental factors, such as pH.

According to the U.S. Environmental Protection Agency (US EPA), aluminum is only listed as a chemical of potential concern when it is located in areas where the soil pH is less than 5.5 (US EPA 2003). Furthermore, levels of aluminum in water should not rise above a four-day average of 87µg/L every three years or an hour average of 750µg/L every three years (US EPA 1988). The National Oceanic and Atmospheric Administration (NOAA) publishes Screening Quick Reference Tables (SQuiRT) that list aluminum thresholds and threshold effects for both marine and freshwater. According to the table, common amphipod crustaceans experience lower freshwater threshold effects from 25,500 mg/kg of aluminum (NOAA 2008).

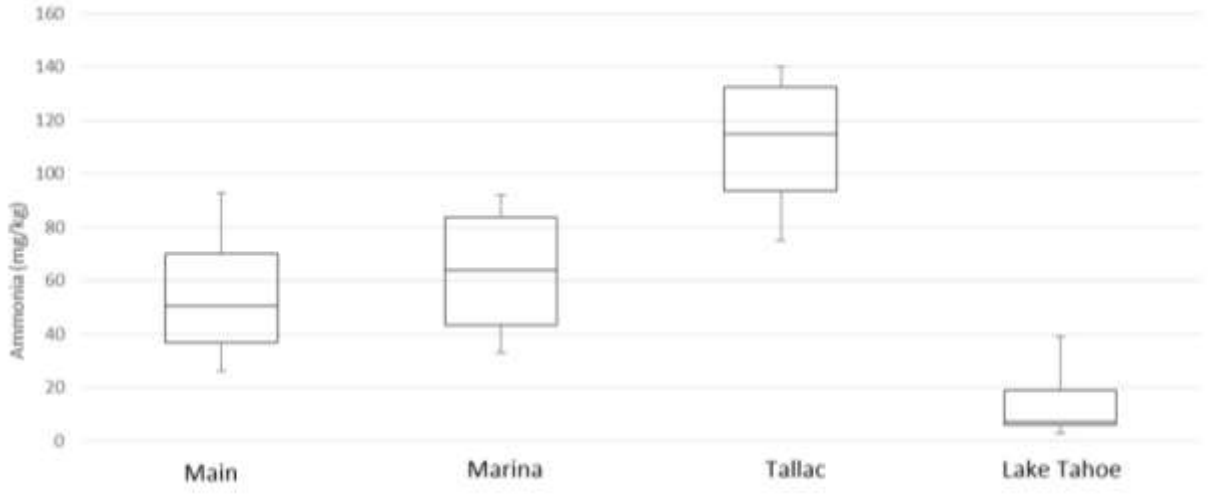
Alum, otherwise known as aluminum sulfate, is used for wastewater treatment, specifically for phosphorus and the improvement of water column clarity. Phosphorus typically binds to particles of silt or clay (Kim et al. 2001). According to the Lake Tahoe Total Maximum Daily Load (TMDL) 2015 Performance Report (Nevada Division of Environmental Protection 2015), stormwater runoff, from both urban and non-urban sources, contributes more than 70% of the fine sediment particles (FSP) that have a large impact on the clarity of Lake Tahoe. These FSP typically have a diameter less than 16 microns (NDEP 2015) and are bound to the vast majority of phosphorus that is loaded into the lake. Alum acts as an agglomerate for suspended phosphorus containing sediment particles, forming a non-soluble precipitate ($AlPO_4$) that settles on the bottom of the water column.

Prior to and including the summer of 1998, the TKPOA water treatment facility (constructed to aid in the prevention of algae, reduce vascular plant material build up, and reduce turbidity of lagoon water) was used to distribute alum throughout the Tahoe Keys. Inadvertently, an excess dose of alum was released, exceeding the allowable four-day discharge concentration requirement of 87µg/L (Harrington 2004). Water quality mitigation projects were implemented to help offset the discharge, including a bioassessment of the Tahoe Keys, additional treatment of lagoon water, and increasing funding for research on Eurasian watermilfoil. In 2004, the four monitored sites were recorded as having aluminum levels higher than 36,900 mg/kg (Harrington 2004). Later water quality monitoring, from 2011-2013, conducted by Lahontan showed that the site, Site W (located between Site 6 and the pump house at a circulation system intake pipe), had water aluminum levels between 11 - 19 mg/kg (0.011-0.019 mg/L).

Following 2015 dredging operations in the East (Marina Lagoon) Channel, water samples taken within the installed turbidity curtains had between 350-1,000 µg/L. Some of these samples exceeded the acute toxicity level but remained under the EPA Human Health Regional Screening level of 77,000 mg/kg (US EPA 2011).

2017 Sediment Monitoring Program results for aluminum are presented in Figure 7, 8 and 9. WET Lab utilized the SW846 6010B method to analyze the collected sediment to determine the amount of aluminum in each sample. The 2017 averaged aluminum values determined from lab analysis and are depicted below in Figure 7 for the three lagoons and Lake Tahoe.

Figure 7. Tahoe Keys Sediment Aluminum

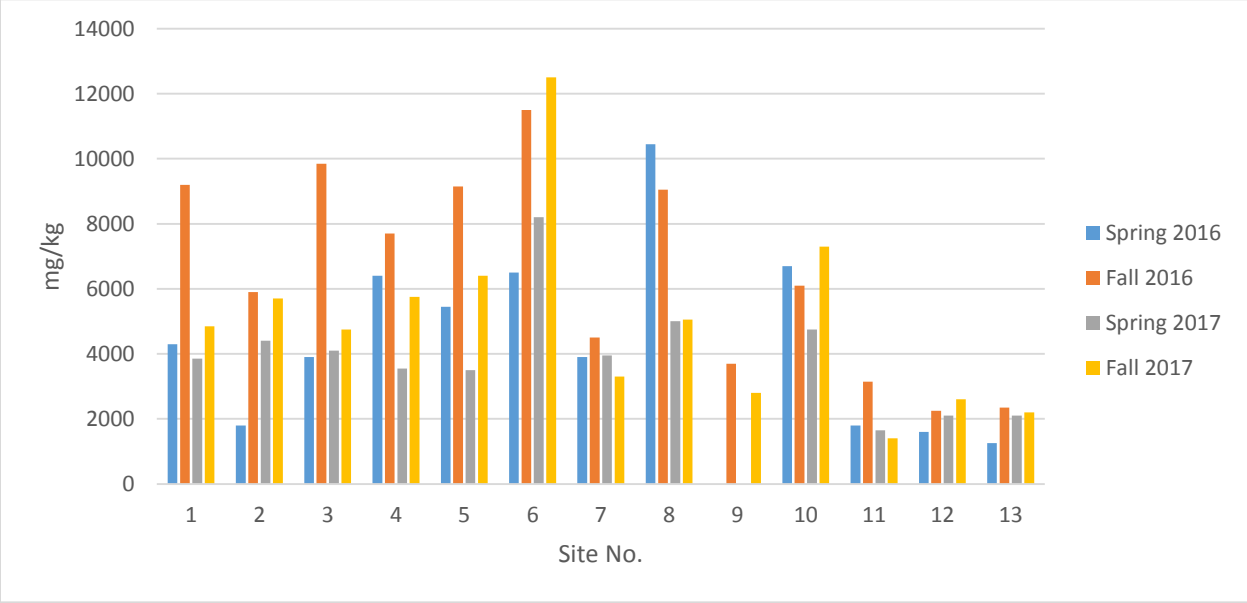


In Figure 8 (below), the corresponding dot size relates to the aluminum values, where smaller dots represent lower values, and larger dots represent higher values. Sites 6, 8 and 10 had the highest averaged aluminum values, while Sites 11, 12, and 13 had the lowest values recorded in the 2017 growing season. The maximum concentration for the Main Lagoon was 13,000 mg/kg, recorded at Site 6 on October 16. The minimum aluminum concentration was recorded in the Main Lagoon with a concentration of 1,800 mg/kg at Site 9 on October 16.

Figure 8. 2017 Average Aluminum Data per Site

Figure 9 (below) depicts 2016 and 2017 spring and fall aluminum values at each of the 13 sampling sites. As shown, 2017 values were on average higher than those of 2016 with spring values being generally higher than those recorded in the fall.

Figure 9. 2016 vs 2017 Seasonal Sedimentary Aluminum



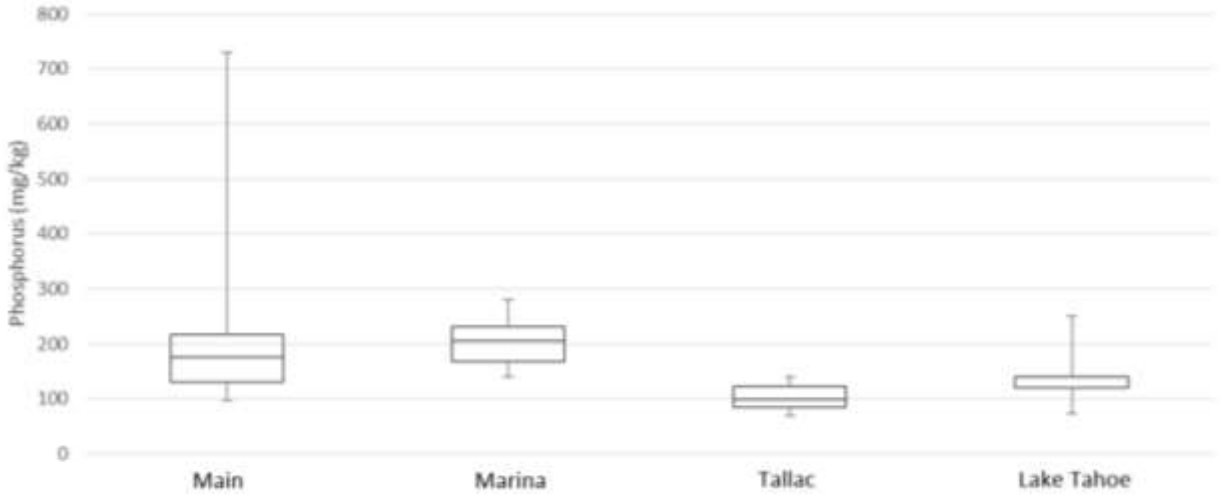
In comparing a 2004 Bioassessment of the Marina Lagoon (Harrington 2004) to the results of this 2017 Sediment Monitoring Program, levels of sediment aluminum have decreased substantially in the past thirteen years. Furthermore, a reduction in lagoon average values can be seen from 2016 to 2017. In 2004, the four monitored sites were recorded as having aluminum levels higher than 36,900 mg/kg (Harrington 2004). The highest maximum aluminum concentration from the 2016 study was 14,000 mg/kg and in 2017 13,000 mg/kg, both recorded at dead-end coves in the Main Lagoon. In both years, levels of aluminum did not exceed the US EPA four-day recommended level of 87µg/L or the NOAA freshwater threshold of 25,500 mg/kg.

3.2 Phosphorus

Phosphorus molecules, as well as nitrogen, are important for the regulation of macrophyte productivity (Boyd 1971). Forms of phosphorus in freshwater include soluble reactive (ortho) phosphorus and inorganic phosphorus. As previously mentioned, most phosphorus in nature is found as phosphate and has a high affinity to bind with cations that possess positive charges. As such, phosphorus is generally bound to fine sediment particles when deposited into a body of water (such as Lake Tahoe and the Tahoe Keys lagoons) through atmospheric loading and runoff (NDEP 2015).

2017 Sediment Monitoring Program results for phosphorus are presented in Figure 10, 11, and 12. WET Lab utilized the SW846 6010B and SM 4500-P E methods to analyze the collected sediment to determine the amount of phosphorus and orthophosphate in each sample. Results of the 2017 sediment analyses and comparison between the three lagoons and Lake Tahoe sites for aluminum are shown in Figure 10.

Figure 10. Phosphorus in the Tahoe Keys Lagoon Sediment



The 2017 averaged phosphorus values determined from lab analysis are depicted below in Figure 11 per sampling location. The corresponding dot size relates to the aluminum values, where smaller dots represent lower values, and larger dots represent higher

values. Sites 1 and 2 had the highest averaged phosphorus values, while Sites 7 and 13 had the lowest values recorded in the 2017 growing season.

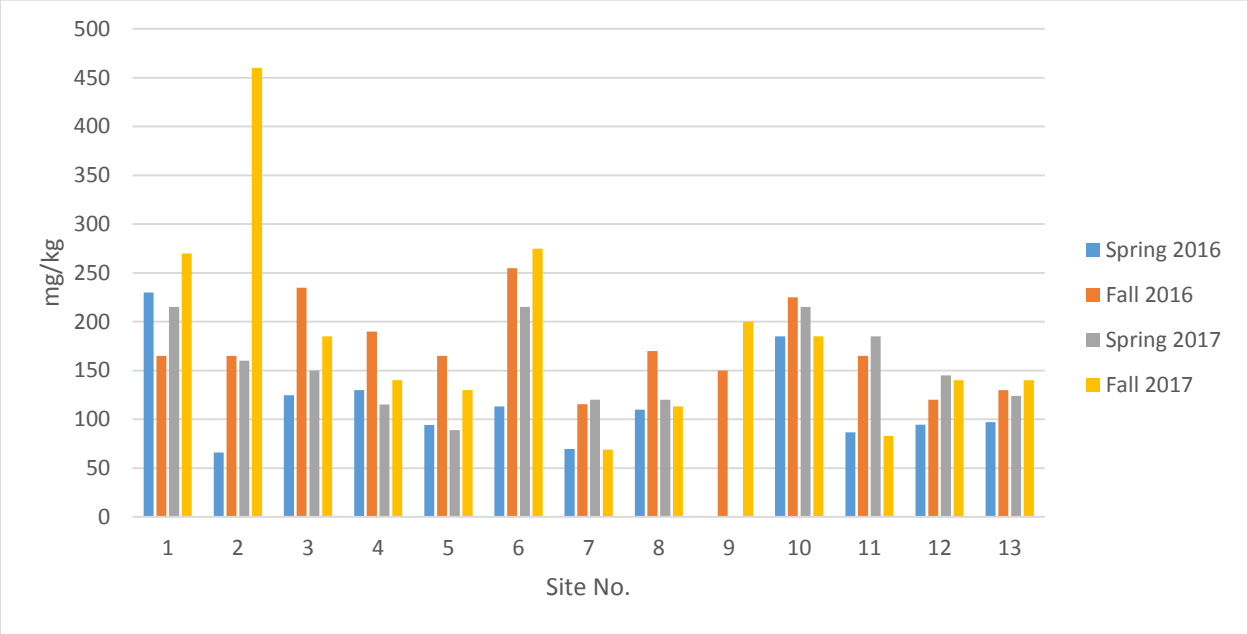
Figure 11. 2017 Average Phosphorus Data per Site

The Main Lagoon, Marina Lagoon, and Lake Tallac were found to possess average phosphorus values of 199.82 mg/kg, 205 mg/kg, and 102.83 mg/kg respectively during the 2017 sampling season. Minimum and maximum values determined for the Main Lagoon (96 mg/kg and 730 mg/kg) were found from samples collected at Sites 8 and 2 during the October 16 sampling event. The same analysis was used to determine minimum and maximum values for the Marina Lagoon (140 mg/kg and 280 mg/kg) and Lake Tallac (69 mg/kg and 140 mg/kg).

The averaged overall phosphorus value recorded for the Lake Tahoe sites (11, 12, and 13) was 136.46 mg/kg while the minimum and maximum phosphorus levels were 72 mg/kg and 250 mg/kg respectively. These values are higher than those recorded during the previous sampling year (115.5 mg/kg, 54 mg/kg, and 190 mg/kg respectively).

Figure 12 (below) depicts 2016 and 2017 spring and fall phosphorus values at each of the 13 sampling sites. As shown, 2017 values were on average higher than those of 2016.

Figure 12. 2016 vs 2017 Seasonal Sedimentary Phosphorus



The average 2017 orthophosphate value determined from analyses for the Main Lagoon was 0.08 mg/kg, a reduction from the 2016 orthophosphate average of 0.12 mg/kg. The maximum orthophosphate concentration in the Main Lagoon was 0.13 mg/kg, recorded from the sediment collected at Site 9 during the May 25 sampling event. During the same event, Site 8 was found to have 0.05 mg/kg orthophosphate. All remaining samples from the Main Lagoon, with the exception of one (collected May 25 from Site 6), had non-detectable amounts of orthophosphate (below the reporting limit of 0.030 mg/kg).

All sites in the Marina Lagoon and Lake Tallac were found to have non-detectable amounts of orthophosphate during the 2017 monitoring season. This follows results of the previous year, in which only two sites in the same lagoons were found to have low levels of orthophosphate (0.05 mg/kg at Site 3 in the Marina Lagoon and 0.062 mg/kg at Site 5 in Lake Tallac) and the remaining sites had non-detectable levels.

Similarly to 2016 results, 2017 orthophosphate values recorded for the Lake Tahoe sample sites (11, 12, and 13) were all determined to be below the detectable limit.

Aquatic plants are unique as they have the ability to uptake necessary nutrients through their roots or shoots, depending on nutrient demand and availability, and also to varying degrees dependent on the type of aquatic plant. A majority of nutrients, depending on season and nutrient availability (Melzer 1999), is moved into macrophyte tissues via root uptake for nearly all plants (Smith et al. 1990). This is true for the invasive aquatic weeds found in the Tahoe Keys lagoons, including Eurasian watermilfoil and curlyleaf pondweed. It has been determined in previous studies that the pool of available phosphorus in sediment is typically a hundred fold of that found in the surrounding water column for most water bodies (Søndergaard et al. 2003), which makes uptake via roots and the mobilization of phosphorus so important.

Free-floating plants without roots, such as coontail, must absorb almost all necessary nutrients from the water column as they have limited or no connection to nutrient-containing sediment (Angelstein et al. 2008). Coontail populations include plants that can grow suspended along the bottom of the water column which are able to obtain some nutrients from the soil/water interface. For example, changes in pH from the release of chemicals via plant roots following photosynthesis can cause an increase in dissolved orthophosphorus along the soil/water interface.

Total phosphorus values for Lake Tahoe have dramatically increased the last twenty years. Urbanization of the Lake Tahoe Basin has led to increased levels of pollution and urban runoff, causing high nutrient loading in the streams and lakes (Søndergaard et al. (2003). The implementation of Best Management Practices (BMPs) to reduce the external input of phosphorus, a crucial determiner of water quality according to Søndergaard et al. (2003), and other nutrients have aided Lake Tahoe's shift towards phosphorus limited productivity. However, even with the reduction of external phosphorus loading, resuspension and the release of phosphorus from sediment can lead to persistent concentrations in the water column. As macrophytes in littoral zones of lakes act as indicators of changes to nutrient conditions (Melzer 1999), the spread and persistence of invasive aquatic weeds in the Tahoe Keys is indicative of high nutrient pollution, especially nitrogen and phosphorus, suggesting that changes in nutrient levels for Lake Tahoe also includes the Tahoe Keys lagoons.

In general, the 2017 Sediment Monitoring Program results show relatively high levels of phosphorus, increasing from the 2016 sampling results. In contrast to 2016 sampling results, phosphorus values were highest in the Marina Lagoon (205 mg/kg) rather than the Main Lagoon. However, as was seen in the 2016 sampling, Lake Tallac sediment had the lowest phosphorus value (lower than the Lake Tahoe sampling sites).

Some observers suggest that the increase in phosphorus from 2016 to 2017 may be due in part to the increased water level (and associated wetted lagoon perimeters) witnessed during the 2017 sampling season. The drought experienced throughout California impacted the Tahoe Basin and led to the exposure of shoreline in parts of the Tahoe Keys lagoons. The hypothesis is that the lagoon shorelines collected nutrients while dry, and then released nutrients into the water column following the rise in water level which increased turbidity and settling of suspended particles on the bottom of the water column.

Increased available phosphorus, and ammonia (discussed in the following section), coincides with the 2017 cyanobacteria bloom in the lagoons that occurred in August and September and is perhaps a contributing factor in the bloom (TKPOA 2017b). Increased runoff from precipitation, snowmelt, and the increased water level (rising above the natural rim of Lake Tahoe), as well as contributions from atmospheric deposition (TKPOA 2017c), are likely the cause of this increase in phosphorus.

3.3 Forms of Nitrogen

The forms of nitrogen used by aquatic macrophytes include leaf absorption of ammonium and nitrate or ammonium uptake via roots in sediment. Bacterial and microbial presence as well as pH in sediment is important in determining the type of nitrogen present in the sediment of aquatic systems. For example, organic nitrogen amino acids are transformed to ammonia through ammonification. Ammonia is subsequently converted to ammonium in acidic solutions with the addition of a proton. The bacterial process of nitrification converts ammonium to nitrate-nitrogen while denitrification transforms nitrate-nitrogen into nitrogen gas (Saeed et al. 2012). Nitrogen is most readily absorbed by the plant as ammonium, but other forms are used, such as nitrate, but these require more expenditure of energy for uptake (Smith et al. 1990, Walstad 2014).

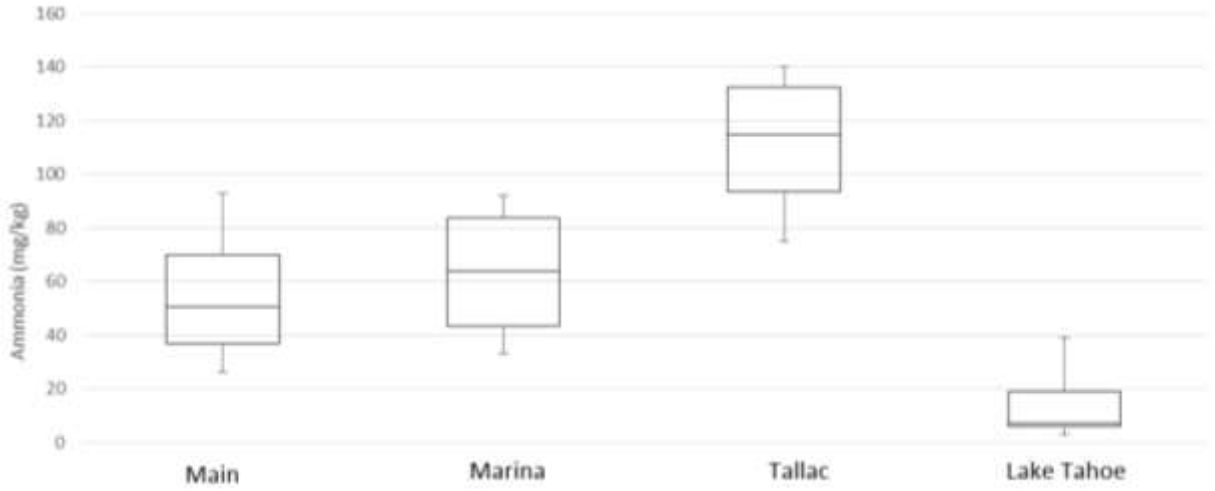
The 2017 Sediment Baseline Monitoring Program analyzed the Tahoe Keys lagoons sediment samples for ammonia, nitrate-nitrogen, and nitrite-nitrogen in order to determine the amount of nitrogen present in the sediment.

3.3.1. Ammonia

WET Lab used the SM 4500 NH3D analysis method on the collected sediment to determine the amount of ammonia in each sample. Values were then entered into an excel spreadsheet and averaged for each lagoon in the Tahoe Keys. Due to a technical error, ammonia was not analyzed in the 2017 fall sampling event. Ammonia values presented are from the spring sampling. Results of the WET Lab ammonia analysis is depicted in Figure 13, 14 and 15.

Results of the 2017 sediment analyses and comparison between the three lagoons and Lake Tahoe sites for aluminum are shown in Figure 13.

Figure 13. Level of Ammonia in Tahoe Keys Sediment



The Main Lagoon had a calculated averaged ammonia value of 54 mg/kg, with a minimum value of 26 mg/kg (Site 2) and a maximum value of 93 mg/kg (Site 10). Similarly, the Marina Lagoon had a calculated averaged value of 63.25 mg/kg, with a minimum value of 33 mg/kg (Site 3) and a maximum value of 92 mg/kg (Site 1). These concentrations are slightly higher than those determined from the 2016 sampling season. In 2016 the Main Lagoon had a minimum ammonia value of 21 mg/kg and a maximum value of 73 mg/kg and the Marina Lagoon had a minimum value of 3.8 mg/kg and maximum value of 75 mg/kg.

Figure 14. 2017 Average Ammonia Data per Site

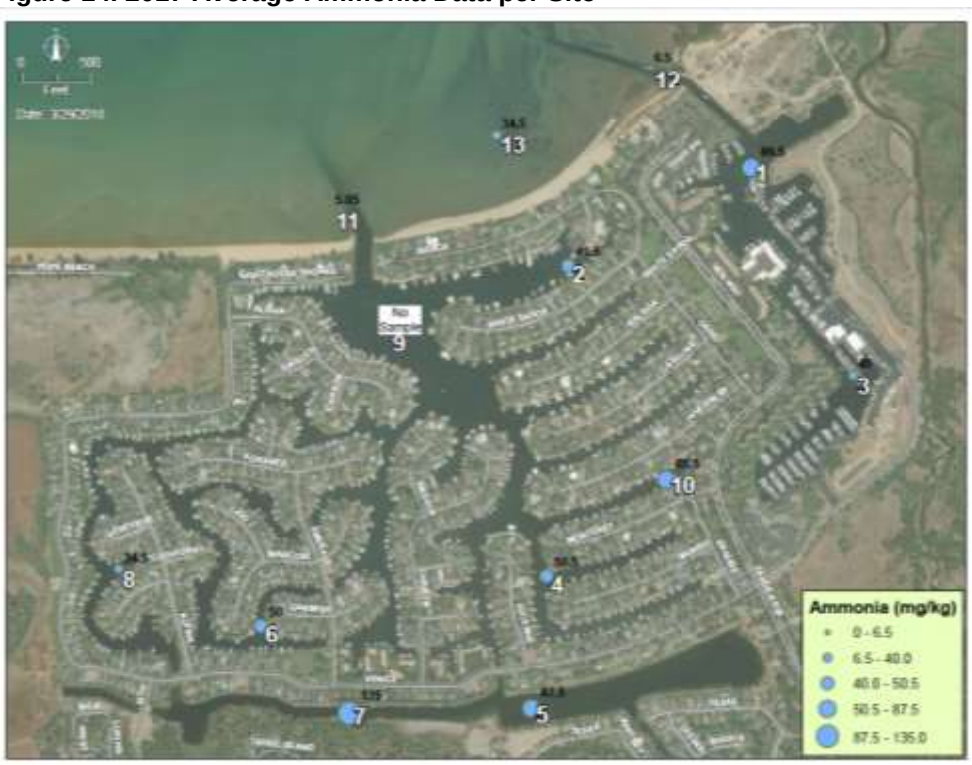
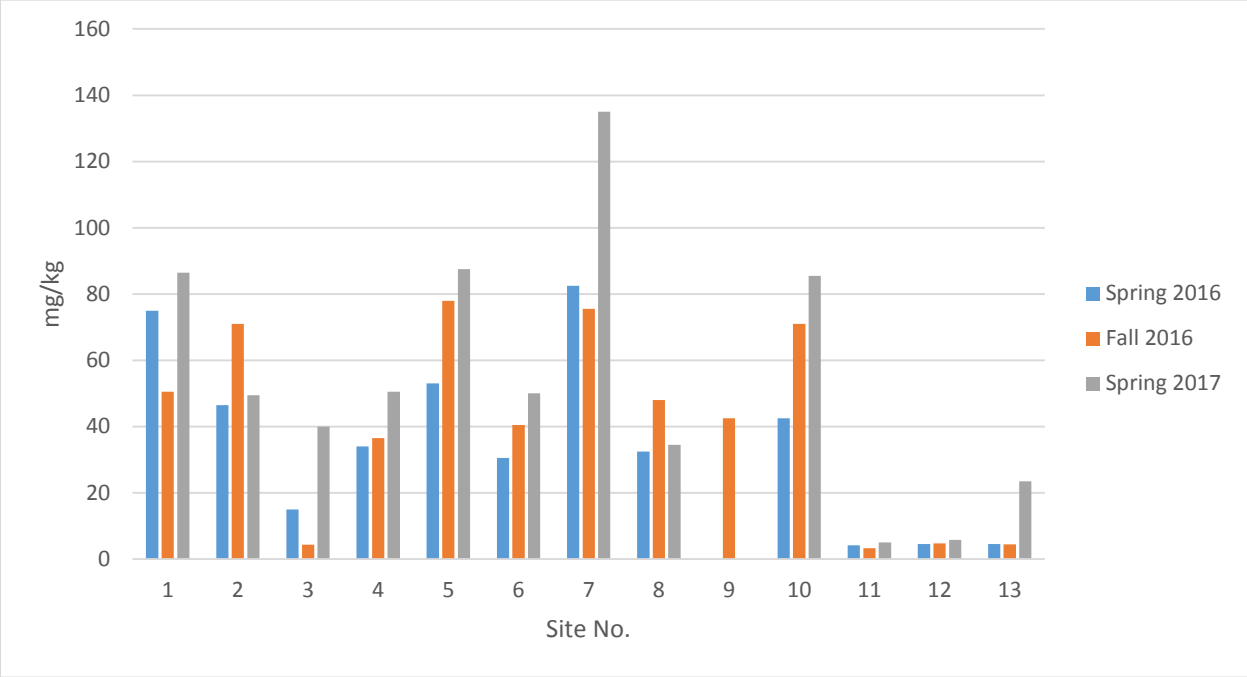


Figure 14 (above) depicts the average ammonia concentrations per sampling location. The corresponding dot size relates to the aluminum values, where smaller dots represent lower values, and larger dots represent higher values. Sediment collected from Lake Tallac had the highest recorded concentrations of ammonia from all three of the lagoons. The calculated averaged value was 111.25 mg/kg, with a minimum concentration of 75 mg/kg (Site 5) and a maximum concentration of 140 mg/kg (Site 7). Concentrations determined from 2016 samples were also higher than those of the other lagoons, however, 2017 concentrations showed a 66.6% increase, from a minimum ammonia level of 45 mg/kg and a maximum value of 84 mg/kg.

Figure 15 (below) depicts 2016 and 2017 spring and fall ammonia values at each of the 13 sampling sites. 2017 spring values were on average higher than those recorded in 2016. As shown, 2016 fall values of ammonia were generally higher than those recorded in spring. Further research is required in order to determine if this is an annual phenomenon, potentially caused by high ammonia uptake in the spring during initiation of macrophyte growth and fall nutrient release following senescence and degradation.

Figure 15. 2016 vs 2017 Seasonal Sedimentary Ammonia



The averaged 2016 ammonia values for the Lake Tahoe sample sites (11, 12, and 13) was 4.3 mg/kg, with a minimum value of 3.1 mg/kg (Site 11) during the fall sampling event and a max value of 5.5 mg/kg (Site 12) during the spring sampling event. In comparison, the averaged ammonia value recorded for the 2017 Lake Tahoe sample sites was determined to be 14.1 mg/kg, with a minimum concentration of 3 mg/kg (Site 11) and a maximum concentration of 39 mg/kg (Site 13).

Similarly to 2016 sediment sampling results, 2017 results show higher overall levels of ammonia in the Lake Tallac than those of the Main and Marina Lagoons. At this time, the most probable cause of higher sedimentary ammonia in Lake Tallac may be due to runoff from the nearby City of South Lake Tahoe which is deposited via a stream drainage directly into Lake Tallac.

3.3.2. Nitrate- and Nitrite-Nitrogen

WET Lab used the EPA 300.0 analysis method on the sediment samples collected during the May 25 and October 16 sampling events to determine the amount of sample nitrate-nitrogen and nitrite-nitrogen. The values determined from lab analysis were entered into the Sediment data workbook excel table and used to calculate average, minimum, median, and maximum concentrations. As collected samples had both nitrate-nitrogen and nitrite-nitrogen below non-detectable levels, a table (such as Figure 12) could not be produced to illustrate nitrate- and nitrite-nitrogen concentrations in the Tahoe Keys lagoons.

Both nitrate-nitrogen and nitrite-nitrogen were non-detectable for all samples collected during the 2017 spring sampling event, falling below the reporting limit (0.3 mg/kg for

nitrate-nitrogen and 0.15 mg/kg for nitrite-nitrogen). During fall sampling, it was determined that the Main Lagoon had 0.31 mg/kg nitrate-nitrogen (Site 6), 0.19 mg/kg nitrite-nitrogen (Site 6), 0.15 mg/kg nitrite-nitrogen (Site 4), and 0.2 mg/kg nitrite-nitrogen (Site 2). More detections of nitrate-nitrogen and nitrite-nitrogen occurred in 2017, in comparison to 2016, and detected levels were greater. For example, the minimum and maximum nitrite-nitrogen levels in the Main Lagoon in 2016 were 0.08 mg/kg (Site 4 on October 11) and 0.12 mg/kg (Site 6 on May 25). Lake Tallac sediment from Site 5 had 0.32 mg/kg nitrate-nitrogen and 0.16 mg/kg nitrite-nitrogen. The nitrate-nitrogen concentration recorded in Lake Tallac is greater than that recorded in 2016 (TKPOA 2016b).

In contrast with 2016 sampling results, 2017 results for the Marina Lagoon showed lower levels of both nitrate- and nitrite-nitrogen, below the detectable limit of 0.45 mg/kg. The averaged nitrite-nitrogen for the Main Lagoon doubled (from 0.09 mg/kg to 0.18 mg/kg) while that of Lake Tallac remained similar (0.15 mg/kg to 0.16 mg/kg). For the Lake Tahoe locations, all samples collected in 2017 had non-detectable levels of both nitrate-nitrogen and nitrite-nitrogen. In comparison, 2016 sampling results showed non-detectable limits of nitrate-nitrogen and nitrite-nitrogen for all sites with the exception of Site 13, with 0.086 mg/kg of nitrate-nitrogen determined from fall sampling event.

3.3.3. Discussion

In most aquatic systems, the concentration of ammonium in the sediment is greater than that of the surrounding water column and is therefore the most common form of nutrient uptake for most aquatic plants (Smith et al. 1990). There is a higher concentration of ammonia than nitrate in the sediment than in the water column. Therefore, based on the importance of nutrient uptake from sediment by rooted aquatic macrophytes, most nitrogen absorbed by the plant is ammonia (Smith et al. 1990), which is most likely converted to ammonium.

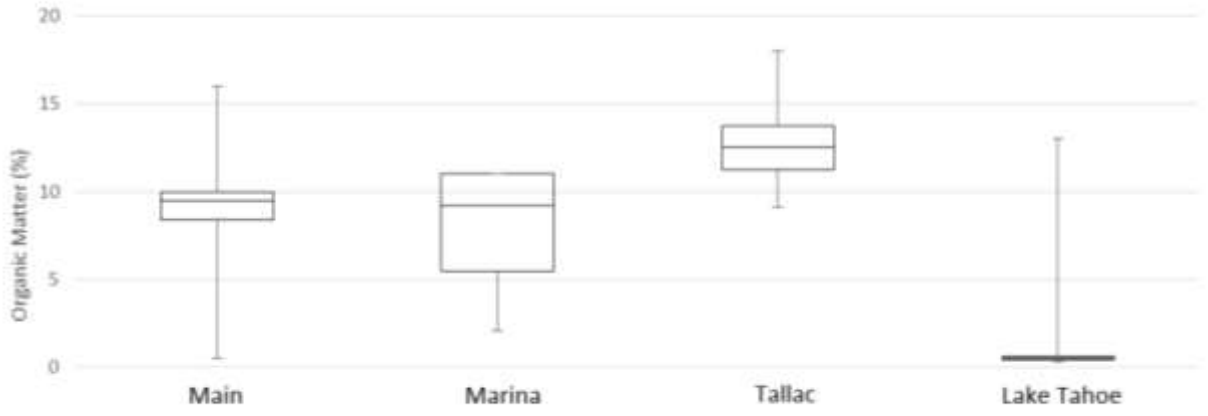
Gradient pH data collected in the Baseline Water Quality Monitoring Program (TKPOA 2017d) illustrates that pH near the bottom of the water column falls between 7.44 and 8.48 (near neutral to slightly basic). However, sediment pH may be more acidic due to the process of photosynthesis and release by aquatic plants of oxygen into the sediment. For example, values from the pH analysis added to the samples collected in the October 16 sampling event showed that the lagoons were slightly acidic, on average, falling between 6.46 and 6.83. Future sampling of the Tahoe Keys lagoons sediment will be expanded to include an oxidation reduction analysis. This process will assist the TKPOA in determining the most common form of nitrogen in the sediment.

Overall, the 2017 Sediment Monitoring Program results show very low levels of nitrogen in sediment as nitrate-nitrogen and nitrite-nitrogen, often below detectable limits. However, relatively high levels of ammonia were found in the analyzed sediment, which suggests that absorption of nitrogen may occur more readily via roots than leaf absorption from the surrounding water column.

3.4 Organic Matter

Organic matter is derived from both animal and plant detritus and includes the concentration of carbon and some nutrients found in sediment samples as proteins, fats, carbohydrates, and nucleic acids (Logan and Longmore 2015). During the growing season, plants produce most of these organic compounds (e.g. sugars, complex carbohydrates, cellulose, proteins, and secondary carbon-containing products) from carbon fixation through photosynthesis. Whereas nitrogen may be present typically as 2-4% of dry weight and phosphorus as 0.5 to 1% of dry weight, carbon (i.e. organic matter) typically comprises 40 to 50% of plant dry weight. Plant shoots always have higher concentrations of nitrogen and phosphorus than roots (Walter 2000). These nutrients are used in a variety of metabolic processes and are released into the surrounding environment upon senescence and decay (Smith et al. 1990). However, at the end of the growing season, most of the plant derived organic compounds are released during senescence and therefore are a major source of sediment organic matter. Thus, the organic contribution from plants can be looked at as an annual net flow from dissolved CO_2, and bicarbonate in the water column to deposited organic material in the sediment. The result of this plant-driven flow in the Keys Lagoons compared to Lake Tahoe is clearly shown in Figure 16 (below), results of the 2017 sampling season.

Figure 16. Tahoe Keys Sediment Organic Matter



The average organic matter percentage determined from analysis for the Main Lagoon, Marina Lagoon, and Lake Tallac were 9.15%, 7.91%, and 12.85%, respectively. Figure 17 (below) depicts averaged organic matter values per sampling location. The corresponding dot size relates to the organic matter values, where smaller dots represent lower values, and larger dots represent higher values.

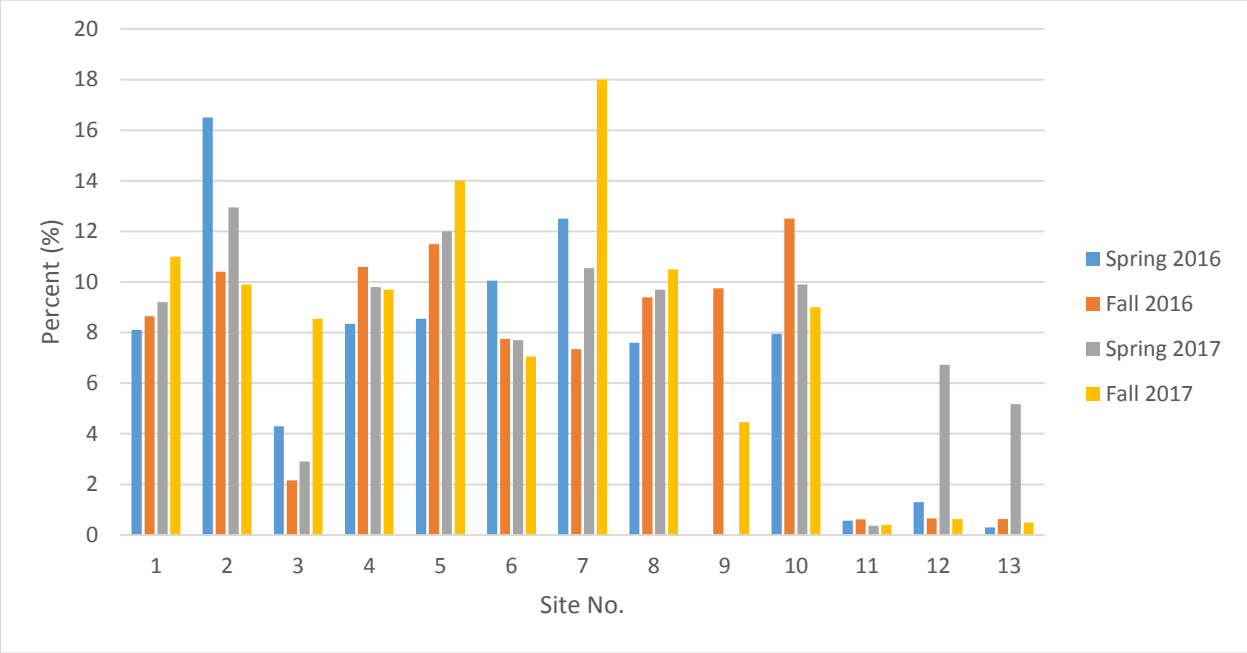
Figure 17. 2017 Average Organic Matter Data per Site

The minimum organic matter percentages in the Main and Marina Lagoons were 0.53% and 2.10%, respectively, recorded at Site 9 on October 16 and Site 3 on May 25. The maximum percentage for the Main Lagoon was 16% recorded at Site 2 on May 25. The maximum recorded value for the Marina Lagoon, recorded at Site 3 on October 16, was 11%. Site 7, in Lake Tallac, had both the minimum value of 9.1% (October 16) and the maximum value of 18% (May 25).

The minimum organic matter value recorded for the sample sites in Lake Tahoe (11, 12, and 13) was 0.35% (Site 11) and the maximum value was 13% (Site 12). The averaged value for the three Lake Tahoe sites was 2.44%. Overall, Site 11 had the lowest averaged values recorded, while Sites 2, 5, and 7 had the highest averaged organic matter values recorded in the 2017 growing season.

Figure 18 (below) depicts 2016 and 2017 spring and fall organic matter values at each of the 13 sampling sites.

Figure 18. 2016 vs 2017 Seasonal Organic Matter



Analogous to the 2016 results, 2017 results show higher levels of organic matter in the Main Lagoon and Lake Tallac. At this time, the causes of lower organic matter levels in the Marina Lagoon are uncertain and could be related to local geology; however, the levels are not substantially different and could be due to a higher percentage of bulkheads and lower amount of vegetative growth surrounding the Marina Lagoon (compared to the Main Lagoon and the Lake Tallac). Lake Tahoe has very low levels of organic matter. This is due to the sandy composition of the sediment, cooler and higher volume of water, and smaller amounts of aquatic macrophytes growing and decaying along the shoreline of Lake Tahoe.

3.5 Total Solids

Total solids is the measure of all dissolved and suspended solids in a sample and is related to turbidity and specific conductance in a body of water (Murphy 2007). The results of the 2017 sampling season are shown in Figure 19, 20, and 21.

Figure 19 compares average values determined for the three lagoons and Lake Tahoe for the 2017 sampling season. As shown, total solids analyzed from samples collected from the Lake Tahoe sampling sites (11, 12, and 13) were greater than those collected from sites within the Tahoe Keys lagoons.

Figure 19. Total Solids in the Tahoe Keys Lagoons

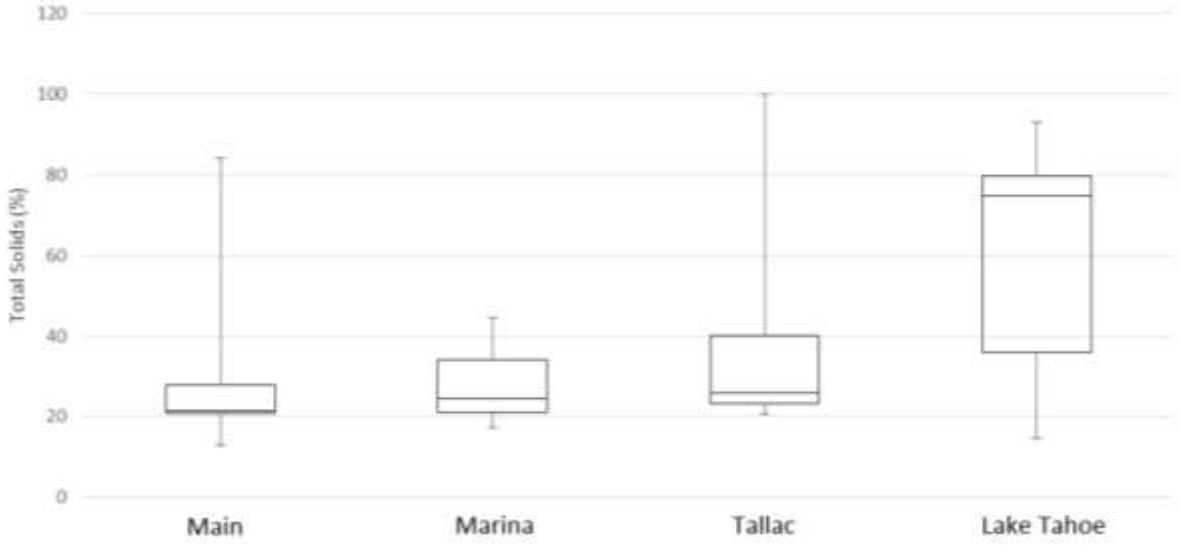


Figure 20 (below) depicts averaged total solids values per sampling location. The corresponding dot size relates to the total solids values, where smaller dots represent lower values, and larger dots represent higher values.

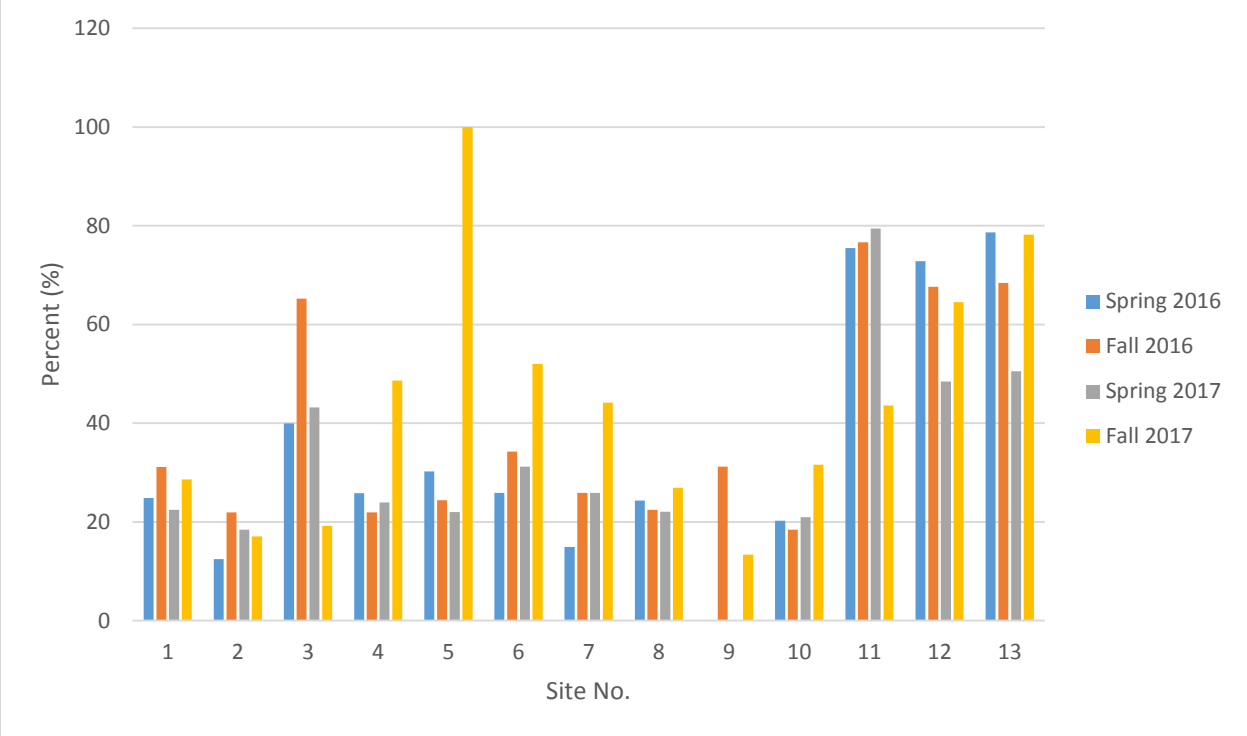
Figure 20. 2017 Average Total Solid Data per Site

The averaged total solids percentages determined from analysis for the Main Lagoon, Marina Lagoon, and Lake Tallac were 27.83%, 28.36%, and 39.98%, respectively. The minimum total solids percentage in the Main and Marina Lagoons was 12.81% and 17.22%, recorded at Sites 2 and 3 on October 16. The maximum percentage for the Main Lagoon was 84.19% recorded at Site 6 on October 16. Similarly, the maximum recorded value for the Marina Lagoon, recorded at Site 3 on May 25, was 44.5%. Site 5, in Lake Tallac, had the minimum value of 20.72% (May 25) and the maximum value of 99.99% (October 16).

The minimum total solids value recorded for the sample sites in Lake Tahoe was 14.68% (Site 12 on May 25) and the maximum value was 92.99% (Site 12 on October 16). The averaged value for the three Lake Tahoe sites was 60.15%. Overall, Sites 11, 12, and 13 had the highest averaged total solids values, while Sites 2 and 10 had the lowest averaged values recorded in the 2017 growing season.

A comparison of 2016 and 2017 spring and fall organic matter values at each of the 13 sampling sites is shown in Figure 21. Comparable to 2016 sampling results, the highest levels of total solids were seen in the Lake Tahoe sites than the remaining sites located in the Tahoe Keys. For example, Site 12 in 2017 had total solid values of 82.22% and 92.99% recorded during the course of the sampling season. Furthermore, the levels of Total Solids seen in Lake Tallac may be due in part to runoff from the nearby City of South Lake Tahoe, which is deposited via a stream drainage directly into Lake Tallac.

Figure 21. 2016 vs 2017 Seasonal Total Solids



Sediment in the Tahoe Keys lagoons is primarily composed of organic muck, from a high density of aquatic plants and a higher level of decomposition of biomass, especially in the fall. Comparatively, Lake Tahoe has a sandy composition of the sediment, higher volume of water, and much smaller, less dense populations of aquatic macrophytes growing and decaying along the shoreline. In summary, organic muck has a high water content in comparison to the sandy soils of the Lake Tahoe sites. For this reason, lagoon sites have a lower total solids content.

3.6 pH

The measure of acidity or alkalinity of water is called pH, where pH 7 is considered neutral. Values below 7 are considered acidic and values above 7, basic. pH is influenced by many variables including temperature and light availability.

According to the Washington State Department of Ecology, the formation of dense macrophyte beds, such as those of coontail or Eurasian watermilfoil found in the Tahoe Keys lagoons, tend to block light, reduce oxygen concentration in the water, and increase the water temperature (Washington State Department of Ecology 2016). Biological processes, photosynthesis and respiration, as well as decomposition of aquatic plants also play a role in determining pH of a waterbody though the release of different byproducts, including oxygen and carbon dioxide. The presence of carbon dioxide (CO_2) in water has been found to decrease pH (Fondriest Environmental, Inc. 2016). In dense beds, such as those found along the bottom of the Tahoe Keys waterways, where light is able to penetrate at high enough levels to promote photosynthesis and respiration, pH may be noticeably lower than found at mid-depth due to a combination of CO_2 release and a lack of water mixing.

Following a recommendation of Dr. John Rodgers of Clemson University to measure the oxidation reduction potential (redox) of the Tahoe Keys lagoons sediment, pH was included in the Fall 2017 sampling event (as a surrogate for redox) as proper equipment and protocols for measuring oxidation reduction were unavailable at the time of sampling. Results of laboratory analysis (SW846 9045D) showed that averages for the Main Lagoon, Marina Lagoon and Lake Tallac were slightly acidic, ranging from 6.46 to 6.83, in comparison to the sediment of the Lake Tahoe sites (6.58-7.08). The minimum pH recorded for the Main and Marina Lagoons were very similar at 6.56 (Site 10) and 6.6 (Site 3), respectively. The maximum recorded pH values for the Main and Marina Lagoon were 7.73 (Site 9) and 6.85 (Site 1). Lake Tallac sediment was found to be 6.45 (Site 5) and 6.46 (Site 7).

While the pH recorded from the October 16 sampling event is slightly acidic, the level is still within a range of neutrality. Changes in chemical form are dependent on temperature and chemical structure as well as individual logarithmic acid dissociation constant (pK_a) that react in different pHs. For example, ammonium has a pK_a of 9.24, meaning it will donate a proton (becoming ammonia) in more acidic conditions, however, the structure of the molecule could affect the exact pH that causes deprotonation.

In comparison with pH values determined via YSI Multiparameter Probe for the Water Quality Monitoring Program (TKPOA 2017d), collected alongside sediment sample collection, sediment values where generally lower than the water pH near the bottom of the water column. Only Site 9 had an average pH higher than the pH of water near the water/sediment surface. Values are shown in Table 3 (below).

Table 3. Comparison of Sediment and Water Column pH (October 2017)

	Sediment		Water Column		
Site	pH by site	Average pH	pH Bottom	pH Middle	pH Surface
1A	6.69	6.77	7.44	7.76	7.93
1B	6.85				
2A	6.64	6.7	6.95	7.37	7.56
2B	6.76				
3A	6.6	6.7	7.9	8.08	8.1
3B	6.8				
4A	6.57	13.18	7.28	7.4	7.86
4B	6.61				
5A	6.45	6.45	6.46	6.93	7.37
5B	NA				
6A	6.79	6.785	7.59	7.76	7.8
6B	6.78				
7A	6.46	6.46	7.17	7.08	7.23
7B	NA				
8A	6.99	7.01	7.38	7.51	7.67
8B	7.03				
9A	6.86	7.295	7.21	7.66	7.81
9B	7.73				
10A	6.56	6.62	6.99	7.39	7.42
10B	6.68				
11A	7.03	7.055	8.22	8.22	8.22
11B	7.08				
12A	6.7	6.83	8.24	8.26	8.24
12B	6.96				
13A	6.74	6.66	8.21	8.21	8.22
13B	6.58				

Future sampling and analysis of Tahoe Keys lagoons sediment will include oxidation reduction analysis. This will provide a more accurate reading, in millivolts, of the propensity within sediment to oxidize or reduce existing chemicals, such as the various forms of nitrogen discussed in Section 3.3. This will further aid in the determination of the most common form of nitrogen in the sediment for uptake by the prolific aquatic macrophytes.

4.0 CONCLUSION

The sediment sample data collected during the 2017 season aids in establishing a baseline dataset for the Tahoe Keys lagoons. Prior to the 2016 sediment sampling program, previous data collected in and around the Tahoe Keys lagoons was infrequent and in some cases was limited to only a few parameters. By collecting regular, consistent data during the spring and fall seasons for multiple parameters, future sediment samples can be used to help assess the effects of various aquatic macrophyte control methods on changes in water quality and benthic habitat.

The data collected during both the Baseline Water Quality (TKPOA 2017d) and Sediment Monitoring programs show that the habitat of the Tahoe Keys lagoons is well suited to invasive plant (macrophyte) growth. The calmer waters and higher nutrient levels (specifically nitrogen and phosphorus which are the key nutrients for the regulation of macrophyte productivity (Boyd 1971)) relative to Lake Tahoe, along with warmer water temperatures, contribute to the prolific growth of macrophytes throughout the lagoons.

Nitrogen is most readily absorbed by the plant as ammonium, but other forms are also used, such as nitrate and ammonia, but require the expenditure of energy for uptake and conversion to ammonium by the plant (Smith et al. 1990, Walstad 2014). In most aquatic systems, the concentration of ammonium in the sediment is greater than that of the surrounding water column and is therefore the most common form of nutrient uptake for most aquatic plants (Smith et al. 1990). pH values collected from the sediment in the Fall of 2017 suggest that ammonia is potentially the primary form of nitrogen, rather than ammonium or nitrate-nitrogen, in the sediment of the Tahoe Keys lagoons. This is also supported by the low levels of the other forms of nitrogen measured from collected sediments. Future sampling and analysis of Tahoe Keys lagoons sediment needs to include oxidation reduction analysis to provide an accurate reading of the tendency within sediment towards either oxidation or reduction of existing chemicals.

Total phosphorus and total nitrogen levels in the water column are above the water quality objectives set forth by the Lahontan Board that apply to all of Lake Tahoe's waters. Phosphorus molecules, most often found in nature as phosphate, deposited in the Tahoe Keys lagoons via surface runoff, groundwater flow, atmospheric deposition, and internal cycling by the dense aquatic macrophyte beds likely bind quickly to any cations that possess positive charges (especially iron), which includes binding to sediment, or clay particles. Phosphorus is a crucial determiner of water quality and aquatic macrophyte growth and recorded levels of both sedimentary and water column phosphorus, as well as nitrogen, were noticeably higher in 2017 than 2016. For example, average phosphorus in the Main Lagoon was 159.9 mg/kg in 2016 and 199.8 mg/kg in 2017. Further, averaged nitrite-nitrogen for the Main Lagoon in 2016 was 0.09 mg/kg and increased to 0.18 mg/kg in 2017. Figures 17 and 18 (below) compare averaged values for five parameters recorded in 2016 and 2017.

Figure 22. 2016 vs 2017 Data Comparison (mg/kg)

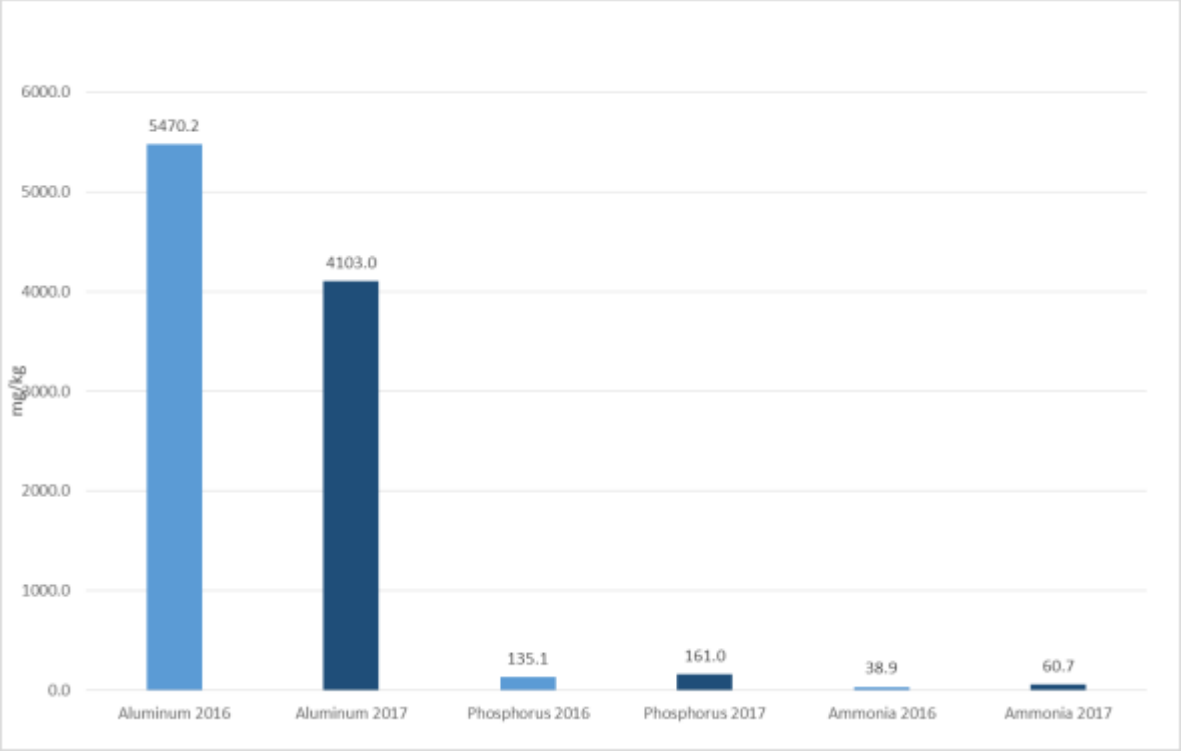
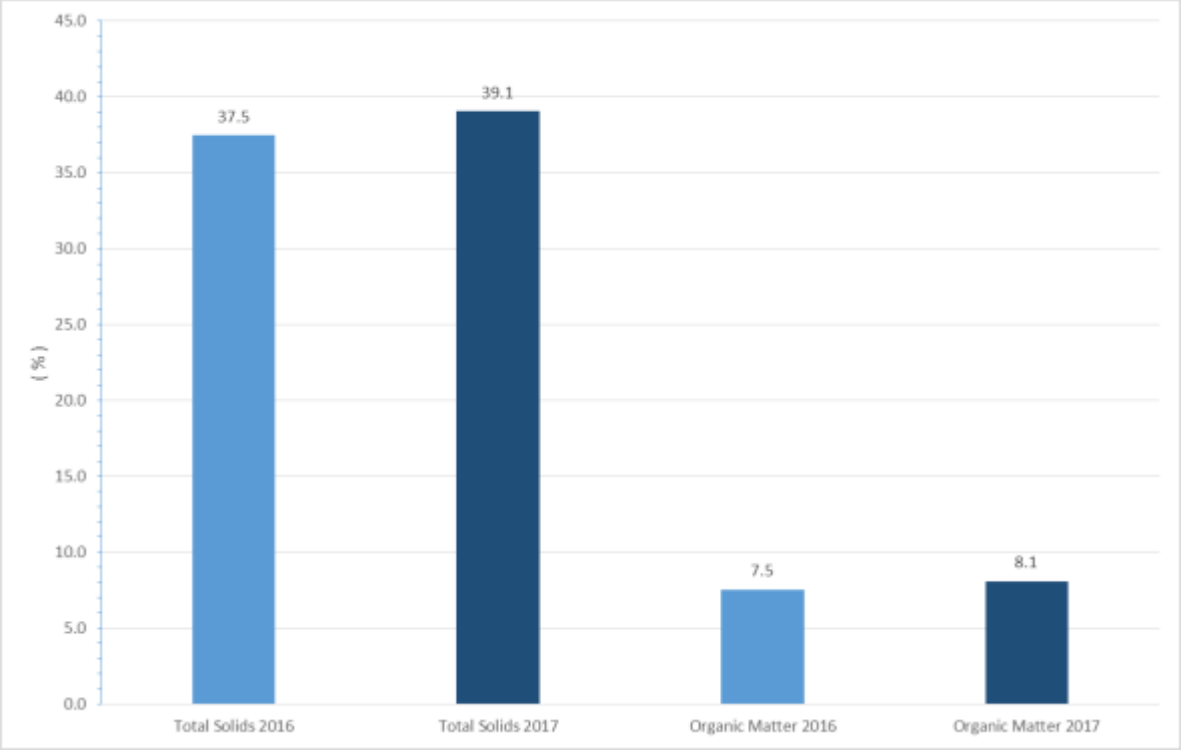


Figure 23. 2016 vs 2017 Data Comparison (%)



These higher levels of nutrients may be responsible for the cyanobacterial bloom that occurred in several locations in the Tahoe Keys in August and September, as well as the dense growth of aquatic macrophytes (TKPOA 2017b).

The difference in water level between October 2016 and October 2017 also may be partly responsible for the increase in nutrients present in the water column and sediment. The drought experienced throughout California in the previous 4 years impacted the Tahoe Basin and led to the exposure of shoreline in parts of the Tahoe Keys lagoons due to the historic low water levels. These shorelines collected nutrients during the dry years that were released into the water column following the high precipitation and rising lake levels from late 2016 into 2017.

As TKPOA continues with its IMP adaptive management strategy, it will be informative to continue periodic sediment sampling in order to track progress of the program and assess the overall health of the ecosystem. As the biomass of the plant populations begins to decrease, there should be a detectable improvement of many water quality parameters, as well as sediment parameters. However, if the populations continue to grow unchecked, it is likely that the water quality in the lagoons will continue to deteriorate leading to further growth of macrophytes and potentially larger and more severe algal blooms.

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6.0 ABBREVIATIONS AND ACRONYMS

$AlPO_4$	Aluminum Phosphate
BMPs	Best Management Practices
COC	Chain of Custody
EPA	Environmental Protection Agency
FSP	Fine sediment particles
IMP	Integrated Management Plan
LRWQCB	Lahontan Regional Water Quality Control Board's
µg/L	Microgram per liter
mg/kg	Milligram per kilogram
NPS Plan	Nonpoint Source Plan for Water Quality
pKa	logarithmic quantitative measure of the acidic strength within a solution; equilibrium constant for dissociation (chemical reaction) of acid-base reactions
ppm	Parts Per Million
TKPOA	Tahoe Keys Property Owners Association
TMDL	Total maximum Daily Load
TN	Total nitrogen
TP	Total phosphorus
USACE	United States Army Corps of Engineers
US EPA	U.S. Environmental Protection Agency
WET Lab	Western Environmental Testing
WDRs	Waste Discharge Requirements

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TKPOA 2016c. 2016 Sediment Baseline Report for the Tahoe Keys Lagoons. Prepared by Sierra Ecosystem Associates.

TKPOA 2017a. Tahoe Keys 2017 Aquatic Macrophyte Survey Report. Prepared by Sierra Ecosystem Associates.

TKPOA 2017b. 2017 Cyanobacteria Sampling Report for the Tahoe Keys Lagoons. Prepared by Sierra Ecosystem Associates.

TKPOA 2017c. 2017 Atmospheric Deposition Evaluation for the Tahoe Keys Lagoons. Prepared by Sierra Ecosystem Associates.

TKPOA 2017d. 2017 Baseline Water Quality Report for the Tahoe Keys Lagoons. Prepared by Sierra Ecosystem Associates.

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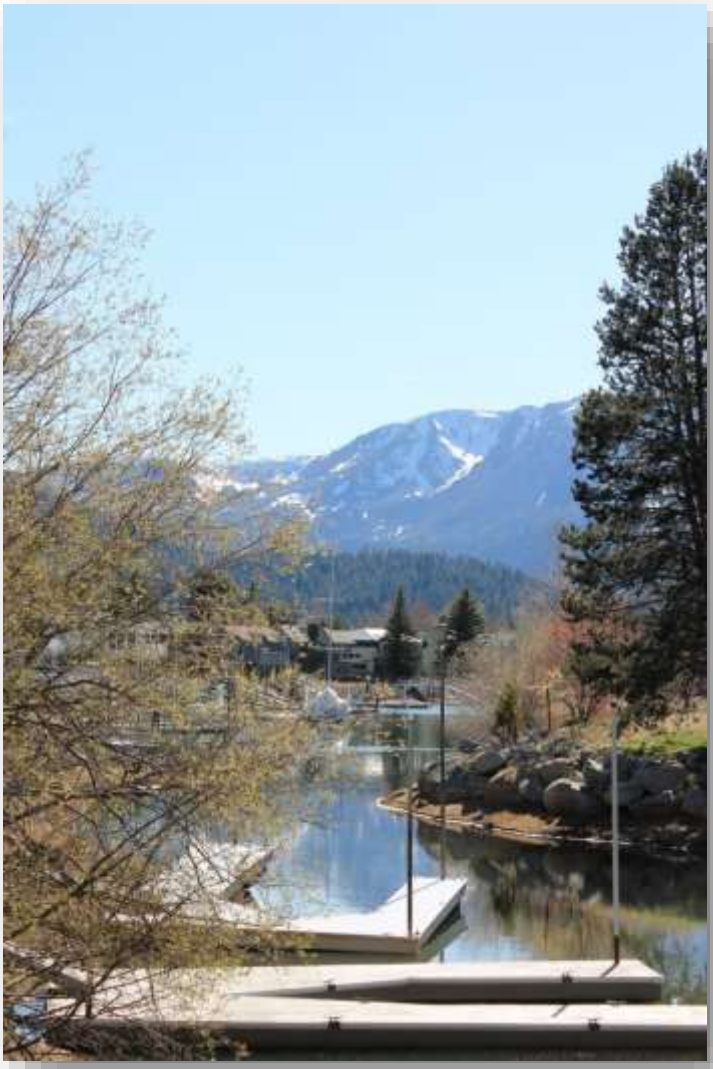
- APPENDICES -

2017 Sediment Baseline Report for the Tahoe Keys Lagoons



April 19, 2018

Table of Contents: Appendices

Appendix A

Chain of Custody (COC) Forms

Index:
May 25, 2017 COC forms
May 29, 2017 COC forms
October 16, 2017 COC forms

WETLAB
WESTERN ENVIRONMENTAL TESTING LABORATORY
Specializing in Soil, Hazardous Waste and Water Analysis.

475 E. Greg Street #119 | Sparks, Nevada 89431 | www.WETLaboratory.com
tel (775) 355-0202 | fax (775) 355-0817
1084 Lamoille Highway | Elko, Nevada 89801
tel (775) 777-9933 | fax (775) 777-9933
3230 Polaris Ave., Suite 4 | Las Vegas, Nevada 89102
tel (702) 475-8899 | fax (702) 776-6152

WETLAB Order ID. 1705800
Sparks Control #
Elko Control #
LV Control #
Report Due Date 6/13/17
Page 1 of 1

Client Tahoe Keys POA
Address 356 Ala Wai Blvd
City, State & Zip South Lake Tahoe CA 96150
Contact Kristen Hunter
Phone 530-542-6444 Collector's Name GJH
Fax PWS/Project Name
P.O. Number PWS/Project Number 0910015
Email Kristen@sierracos.com

Billing Address (if different than Client Address)
Company
Address
City, State & Zip
Contact
Phone Fax
Email

Turnaround Time Requirements
Standard X
5 Day* (25%) 72 Hour* (50%)
48 Hour* (100%) 24 Hour* (200%)
*Surcharges Will Apply

Samples Collected From Which State? NV CA X Other
Compliance Monitoring? Yes No X
Report to Regulatory Agency? Yes No X
Report Results Via PDF EDD Other
Standard QC Required? Yes No

SAMPLE ID/LOCATION	DATE	TIME	PRES TYPE *	SAMPLE TYPE **	NO. OF CONTAINERS	Aluminum	Phosphorus	Organic matter	Orthophosphorus	Ammonia	Total Solids	Nitrate-Nitrogen	Nitrite-Nitrogen			Spl. No.
SED-01-11A	5/29/17	11:40		SO	1	X	X	X	X	X	X	X	X			1
SED-01-11B	5/29/17	11:40		SO	1	X	X	X	X	X	X	X	X			2
SED-01-12A	5/29/17	10:40		SO	1	X	X	X	X	X	X	X	X			3
SED-01-12B	5/29/17	10:40		SO	1	X	X	X	X	X	X	X	X			4
SED-01-13A	5/29/17	09:20		SO	1	X	X	X	X	X	X	X	X			5
SED-01-13B	5/29/17	09:20		SO	1	X	X	X	X	X	X	X	X			6

1705 1
800 6

Instructions/Comments/Special Requirements:

Sample Matrix Key** DW = Drinking Water WW = Wastewater SW = Surface Water MW = Monitoring Well SD = Solid/Sludge SO = Soil HW = Hazardous Waste OTHER:

***SAMPLE PRESERVATIVES:** 1=Unpreserved 2=H2SO4 3=NaOH 4=HCl 5=HNO3 6=Na2S2O3 7=ZnOAc+NaOH 8=HCl/VOA Vial

Temp	Custody Seal	# of Containers	DATE	TIME	Samples Relinquished By	Samples Received By
°C	Y N None	1	5/30/17	1:00	Gregory J Hoover	
5.9 °C	Y (N) None	6	5/31/17	2:00		
°C	Y N None					
°C	Y N None					

WETLAB'S Standard Terms and Conditions apply unless written agreements specify otherwise. Payment terms are Net 30.

Client/Collector attests to the validity and authenticity of this (these) sample(s) and, is (are) aware that tampering with or intentionally mislabeling the sample(s) location, date or time of collection may be considered fraud and subject to legal action (NAC445.0636). GM initial

To the maximum extent permitted by law, the Client agrees to limit the liability of WETLAB for the Client's damages to the total compensation received, unless other agreements are made in writing. This limitation shall apply regardless of the cause of action or legal theory pled or asserted. GM initial

WETLAB will dispose of samples 90 days from sample receipt. Client may request a longer sample storage time for an additional fee. Please contact your Project Manager for details. GM initial

301.2E

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1084 Lamoille Highway | Elko, Nevada 89801
tel (775) 777-9933 | fax (775) 777-9933
3230 Polaris Ave., Suite 4 | Las Vegas, Nevada 89102
tel (702) 475-8899 | fax (702) 776-6152

WETLAB Order ID. 1705733
Sparks Control #
Elko Control #
LV Control #
Report Due Date 6/9/17
Page 1 of 2

Client TKPOA
Address 356 Ala Wai Blvd
City, State & Zip South Lake Tahoe, CA, 96150
Contact Kristen Hunter
Phone (530) 622-8740 Collector's Name ~~Kris~~ KMH
Fax PWS/Project Name
P.O. Number PWS/Project Number
Email Kristen@sierraecos.com

Billing Address (if different than Client Address)
Company
Address
City, State & Zip
Contact
Phone Fax
Email

Turnaround Time Requirements
Standard ☐
5 Day* (25%) ☐ 72 Hour* (50%) ☐
48 Hour* (100%) ☐ 24 Hour* (200%) ☐
*Surcharges Will Apply

Samples Collected From Which State?
NV ☐ CA ☒ NZ
Other ☐

Compliance Monitoring?
Yes ☐ No ☒ NZ

Report to Regulatory Agency?
Yes ☐ No ☒ NZ

Report Results Via
PDF ☐ EDD ☐
Other

Standard QC Required?
Yes ☐ No ☐

SAMPLE ID/LOCATION	DATE	TIME	PRES TYPE *	SAMPLE TYPE **	NO. OF CONTAINERS	Aluminum	Phosphorus	Organic matter	Orthophosphorus	Ammonia	Total Solids	Nitrate-Nitrogen	Nitrite-Nitrogen	TKN @		Spl. No.
SED-01-01A&B	5/24/17	11:37		SO	2	X	X	X	X	X	X	X	X	X	1	2
SED-01-02A&B		14:23		SO	2	X	X	X	X	X	X	X	X	X	5	4
SED-01-03A&B		11:22		SO	2	X	X	X	X	X	X	X	X	X	5,	6
SED-01-04A&B		14:48		SO	2	X	X	X	X	X	X	X	X	X	7,	8
SED-01-05A&B		16:28		SO	2	X	X	X	X	X	X	X	X	X	9,	10
SED-01-06A&B		13:34		SO	2	X	X	X	X	X	X	X	X	X	11,	12
SED-01-07A&B		16:50		SO	2	X	X	X	X	X	X	X	X	X	13,	14
SED-01-08A&B		13:50		SO	2	X	X	X	X	X	X	X	X	X	5,	16
SED-01-10A&B		15:05		SO	2	X	X	X	X	X	X	X	X	X	17,	18

Instructions/Comments/Special Requirements: 1705 1 733 19

Sample Matrix Key** DW = Drinking Water WW = Wastewater SW = Surface Water MW = Monitoring Well SD = Solid/Sludge SO = Soil HW = Hazardous Was

***SAMPLE PRESERVATIVES:** 1=Unpreserved 2=H2SO4 3=NaOH 4=HCl 5=HNO3 6=Na2S2O3 7=ZnOAc+NaOH 8=HCl/VOA Vial

Temp	Custody Seal	# of Containers	DATE	TIME	Samples Relinquished By	Samples Received By
°C	Y N None	10	5/25/17	1200		
10.9 °C	Y N None	10	5/25/17	1540		
°C	Y N None					
°C	Y N None					

WETLAB'S Standard Terms and Conditions apply unless written agreements specify otherwise. Payment terms are Net 30.

Client/Collector attests to the validity and authenticity of this (these) sample(s) and, is (are) aware that tampering with or intentionally mislabeling the sample(s) location, date or time of collection may be considered fraud and subject to legal action (NAC445.0636). _____ initial

To the maximum extent permitted by law, the Client agrees to limit the liability of WETLAB for the Client's damages to the total compensation received, unless other agreements are made in writing. This limitation shall apply regardless of the cause of action or legal theory pled or asserted. _____ initial

WETLAB will dispose of samples 90 days from sample receipt. Client may request a longer sample storage time for an additional fee. Please contact your Project Manager for details. _____ initial

301.2E

1705733

1705734

WETLAB
WESTERN ENVIRONMENTAL TESTING LABORATORY
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475 E. Greg Street #119 | Sparks, Nevada 89431 | www.WETLaboratory.com
tel (775) 355-0202 | fax (775) 355-0817
1084 Lamoille Highway | Elko, Nevada 89801
tel (775) 777-9933 | fax (775) 777-9933
3230 Polaris Ave., Suite 4 | Las Vegas, Nevada 89102
tel (702) 475-8899 | fax (702) 776-6152

WETLAB Order ID. 1705734
Sparks Control #
Elko Control #
LV Control #
Report Due Date 6/9/17
Page 2 of 2

Client TKPOA
Address 3516 Ala Wai Blvd
City, State & Zip South Lake Tahoe, CA 96150
Contact Kristen Hunter
Phone 530-622-8740 Collector's Name KMH
Fax PWS/Project Name
P.O. Number PWS/Project Number
Email Kristen@sierraecos.com.

Billing Address (if different than Client Address)
Company
Address
City, State & Zip
Contact
Phone Fax
Email

Turnaround Time Requirements
Standard
5 Day* (25%) 72 Hour* (50%)
48 Hour* (100%) 24 Hour* (200%)
*Surcharges Will Apply

Samples Collected From Which State? NV CA Other
Compliance Monitoring? Yes No X
Report to Regulatory Agency? Yes No X
Report Results Via PDF EDD Other
Standard QC Required? Yes No

SAMPLE ID/LOCATION	DATE	TIME	PRES TYPE *	SAMPLE TYPE **	NO. OF CONTAINERS	Aluminum	Phosphorus	Organic matter	Orthophosphorus	Ammonia	Total Solids	Nitrate-Nitrogen	Nitrite-Nitrogen	TKN		Spl. No.
SED-01-&12 A	5/24/17	11:50		SO	1	X	X	X	X	X	X	X	X	X		19

1705 1
733 19

Instructions/Comments/Special Requirements:

Sample Matrix Key** DW = Drinking Water WW = Wastewater SW = Surface Water MW = Monitoring Well SD = Solid/Sludge SO = Soil HW = Hazardous Waste OTHER:

***SAMPLE PRESERVATIVES:** 1=Unpreserved 2=H2SO4 3=NaOH 4=HCl 5=HNO3 6=Na2S2O3 7=ZnOAc+NaOH 8=HCl/VOA Vial

Temp	Custody Seal	# of Containers	DATE	TIME	Samples Relinquished By	Samples Received By
°C	Y N None	10	5/25/17	1200		
6.9 °C	Y N (None)	10	5/25/17	1540		
°C	Y N None					
°C	Y N None					

WETLAB'S Standard Terms and Conditions apply unless written agreements specify otherwise. Payment terms are Net 30.

Client/Collector attests to the validity and authenticity of this (these) sam[illegible]s) and, is (are) aware that tampering with or intentionally mislabeling the sample(s) location, date or time of collection may be considered fraud a[illegible]ject to legal action (NAC445.0636). _____ initial

To the maximum extent permitted by law, the Client agrees to limit the l[illegible]y of WETLAB for the Client's damages to the total compensation received, unless other agreements are made in writing. This limitation shall appl[illegible]gardless of the cause of action or legal theory pled or asserted. _____ initial

WETLAB will dispose of samples 90 days from sample receipt. Cl[illegible] may request a longer sample storage time for an additional fee. Please contact your Project Manager for details. _____ initial

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1084 Lamoille Highway | Elko, Nevada 89801
tel (775) 777-9933 | fax (775) 777-9933
3230 Polaris Ave., Suite 4 | Las Vegas, Nevada 89102
tel (702) 475-8899 | fax (702) 776-6152

WETLAB Order ID. 1710567
Sparks Control #
Elko Control #
LV Control #
Report Due Date
Page 1 of 2

Client TKPOA
Address 356 Ala Wai Blvd.
City, State & Zip South Lake Tahoe, CA 96150
Contact Kristen@sierraecos.com
Phone 530-542-6444 Collector's Name KS
Fax PWS/Project Name
P.O. Number PWS/Project Number
Email Kristen@sierraecos.com

Billing Address (if different than Client Address)
Company
Address
City, State & Zip
Contact
Phone Fax
Email

Turnaround Time Requirements
Standard X
5 Day* (25%) 72 Hour* (50%)
48 Hour* (100%) 24 Hour* (200%)
*Surcharges Will Apply

Samples Collected From Which State? NV CA X Other
Compliance Monitoring? Yes No
Report to Regulatory Agency? Yes No
Report Results Via PDF EDD Other
Standard QC Required? Yes No

SAMPLE ID/LOCATION	DATE	TIME	PRES TYPE *	SAMPLE TYPE **	NO. OF CONTAINERS	Aluminum	Phosphorus	Organic Matter	Orthophosphorus	Total Solids	Nitrate-Nitrogen	Nitrite-Nitrogen	pH		Spl. No.
SED-02-01A&B	10/16/17	8:30		SO	2	X	X	X	X	X	X	X	X	1	2
SED-02-02A&B	"	11:25		SO	2	X	X	X	X	X	X	X	X	3	4
SED-02-03A&B	"	8:00		SO	2	X	X	X	X	X	X	X	X	5	6
SED-02-04A&B	"	11:58		SO	2	X	X	X	X	X	X	X	X	7	8
SED-02-05A~~&B~~	"	14:25		SO	~~2~~1	X	X	X	X	X	X	X	X	~~9~~	9
SED-02-06A~~&B~~&B	"	13:38		SO	~~2~~	X	X	X	X	X	X	X	X	~~11~~	10, 11
SED-02-07A~~&B~~	"	14:45		SO	~~2~~1	X	X	X	X	X	X	X	X	~~1~~	12
SED-02-08A&B	"	13:00		SO	2	X	X	X	X	X	X	X	X	13	14
SED-02-09A&B	"	10:50		SO	2	X	X	X	X	X	X	X	X	15	16

Instructions/Comments/Special Requirements:

1710 1
567 24

Sample Matrix Key** DW = Drinking Water WW = Wastewater SW = Surface Water MW = Monitoring Well SD = Solid/Sludge SO = Soil HW = Hazardous Waste

***SAMPLE PRESERVATIVES:** 1=Unpreserved 2=H2SO4 3=NaOH 4=HCl 5=HNO3 6=Na2S2O3 7=ZnOAc+NaOH 8=

Temp	Custody Seal	# of Containers	DATE	TIME	Samples Relinquished By	Samples Received By
°C	Y N None		10/12/17	10:45		
2.1 °C	Y N None		10/17/17	2:00		
°C	Y N None					
°C	Y N None					

WETLAB'S Standard Terms and Conditions apply unless written agreements specify otherwise. Payment terms are Net 30.

Client/Collector attests to the validity and authenticity of this (these) sample(s) and, is (are) aware that tampering with or intentionally mislabeling the sample(s) location, date or time of collection may be considered fraud and subject to legal action (NAC445.0636). _____ initial

To the maximum extent permitted by law, the Client agrees to limit the liability of WETLAB for the Client's damages to the total compensation received, unless other agreements are made in writing. This limitation shall apply regardless of the cause of action or legal theory pled or asserted. _____ initial

WETLAB will dispose of samples 90 days from sample receipt. Client may request a longer sample storage time for an additional fee. Please contact your Project Manager for details. _____ initial

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tel (775) 777-9933 | fax (775) 777-9933
3230 Polaris Ave., Suite 4 | Las Vegas, Nevada 89102
tel (702) 475-8899 | fax (702) 776-6152

WETLAB Order ID. 1710567
Sparks Control #
Elko Control #
LV Control #
Report Due Date
Page 2 of 2

Client TKPOA
Address 356 Ala Wai Blvd
City, State & Zip South Lake Tahoe, CA 96150
Contact Kristen Hunter
Phone 530-542-6444 Collector's Name KS
Fax PWS/Project Name
P.O. Number PWS/Project Number
Email Kristen@sierraecos.com

Billing Address (if different than Client Address)
Company
Address
City, State & Zip
Contact
Phone Fax
Email

Turnaround Time Requirements
Standard X
5 Day* (25%) 72 Hour* (50%)
48 Hour* (100%) 24 Hour* (200%)
*Surcharges Will Apply

Samples Collected From Which State? NV CA X Other
Compliance Monitoring? Yes No
Report to Regulatory Agency? Yes No
Report Results Via PDF EDD Other
Standard QC Required? Yes No

SAMPLE ID/LOCATION	DATE	TIME	PRES TYPE *	SAMPLE TYPE **	NO. OF CONTAINERS	Aluminum	Phosphorus	Organic Matter	Orthophosphorus	Total Solids	Nitrate-Nitrogen	Nitrate-Nitrogen	pH		Spl. No.
SED-02-10A&B	10/16/17	12:18		SO	2	X	X	X	X	X	X	X	X	17	18
SED-02-11A&B	"	10:30		SO	2	X	X	X	X	X	X	X	X	19	20
SED-02-12A&B	"	9:49		SO	2	X	X	X	X	X	X	X	X	21	22
SED-02-13A&B	"	10:10		SO	2	X	X	X	X	X	X	X	X	23	24

1710 1
567 24

Instructions/Comments/Special Requirements:

Sample Matrix Key** DW = Drinking Water WW = Wastewater SW = Surface Water MW = Monitoring Well SD = Solid/Sludge SO = Soil HW = Hazardous Waste OTHER:

***SAMPLE PRESERVATIVES:** 1=Unpreserved 2=H2SO4 3=NaOH 4=HCl 5=HNO3 6=Na2S2O3 7=ZnOAc+NaOH 8=HCl/VOA Vial

Temp	Custody Seal	# of Containers	DATE	TIME	Samples Relinquished By	Samples Received By
°C	Y N None		10/17/17	10:45		
2.1 °C	Y N ~~None~~		10/17/17	2:00		
°C	Y N None					
°C	Y N None					

WETLAB'S Standard Terms and Conditions apply unless written agreements specify otherwise. Payment terms are Net 30.

Client/Collector attests to the validity and authenticity of this (these) sample(s) and, is (are) aware that tampering with or intentionally mislabeling the sample(s) location, date or time of collection may be considered fraud and subject to legal action (NAC445.0636). _____ initial

To the maximum extent permitted by law, the Client agrees to limit the liability of WETLAB for the Client's damages to the total compensation received, unless other agreements are made in writing. This limitation shall apply regardless of the cause of action or legal theory pled or asserted. _____ initial

WETLAB will dispose of samples 90 days from sample receipt. Client may request a longer sample storage time for an additional fee. Please contact your Project Manager for details. _____ initial

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tel (775) 777-9933 | fax (775) 777-9933
3230 Polaris Ave., Suite 4 | Las Vegas, Nevada 89102
tel (702) 475-8899 | fax (702) 776-6152

WETLAB Order ID. 1705733
Sparks Control #
Elko Control #
LV Control #
Report Due Date 6/9/17
Page 1 of 2

Client TKPOA
Address 356 Ala Wai Blvd
City, State & Zip South Lake Tahoe, CA, 96150
Contact Kristen Hunter
Phone (530) 622-8740 Collector's Name ~~Kris~~ KMH
Fax PWS/Project Name
P.O. Number PWS/Project Number
Email Kristen@sierraecos.com

Billing Address (if different than Client Address)
Company
Address
City, State & Zip
Contact
Phone Fax
Email

Turnaround Time Requirements
Standard ☐
5 Day* (25%) ☐ 72 Hour* (50%) ☐
48 Hour* (100%) ☐ 24 Hour* (200%) ☐
*Surcharges Will Apply

Samples Collected From Which State?
NV ☐ CA ☒ NZ
Other ☐

Compliance Monitoring?
Yes ☐ No ☒ NZ

Report to Regulatory Agency?
Yes ☐ No ☒ NZ

Report Results Via
PDF ☐ EDD ☐
Other

Standard QC Required?
Yes ☐ No ☐

SAMPLE ID/LOCATION	DATE	TIME	PRES TYPE *	SAMPLE TYPE **	NO. OF CONTAINERS	Aluminum	Phosphorus	Organic matter	Orthophosphorus	Ammonia	Total Solids	Nitrate-Nitrogen	Nitrite-Nitrogen	TKN @		Spl. No.
SED-01-01A&B	5/24/17	11:37		SO	2	X	X	X	X	X	X	X	X	X	1	2
SED-01-02A&B		14:23		SO	2	X	X	X	X	X	X	X	X	X	5	4
SED-01-03A&B		11:22		SO	2	X	X	X	X	X	X	X	X	X	5,	6
SED-01-04A&B		14:48		SO	2	X	X	X	X	X	X	X	X	X	7,	8
SED-01-05A&B		16:28		SO	2	X	X	X	X	X	X	X	X	X	9,	10
SED-01-06A&B		13:34		SO	2	X	X	X	X	X	X	X	X	X	11,	12
SED-01-07A&B		16:50		SO	2	X	X	X	X	X	X	X	X	X	13,	14
SED-01-08A&B		13:50		SO	2	X	X	X	X	X	X	X	X	X	5,	16
SED-01-10A&B		15:05		SO	2	X	X	X	X	X	X	X	X	X	17,	18

Instructions/Comments/Special Requirements: 1705 1 733 19

Sample Matrix Key** DW = Drinking Water WW = Wastewater SW = Surface Water MW = Monitoring Well SD = Solid/Sludge SO = Soil HW = Hazardous Was

***SAMPLE PRESERVATIVES:** 1=Unpreserved 2=H2SO4 3=NaOH 4=HCl 5=HNO3 6=Na2S2O3 7=ZnOAc+NaOH 8=HCl/VOA Vial

Temp	Custody Seal	# of Containers	DATE	TIME	Samples Relinquished By	Samples Received By
°C	Y N None	10	5/25/17	1200		
10.9 °C	Y N None	10	5/25/17	1540		
°C	Y N None					
°C	Y N None					

WETLAB'S Standard Terms and Conditions apply unless written agreements specify otherwise. Payment terms are Net 30.

Client/Collector attests to the validity and authenticity of this (these) sample(s) and, is (are) aware that tampering with or intentionally mislabeling the sample(s) location, date or time of collection may be considered fraud and subject to legal action (NAC445.0636). _____ initial

To the maximum extent permitted by law, the Client agrees to limit the liability of WETLAB for the Client's damages to the total compensation received, unless other agreements are made in writing. This limitation shall apply regardless of the cause of action or legal theory pled or asserted. _____ initial

WETLAB will dispose of samples 90 days from sample receipt. Client may request a longer sample storage time for an additional fee. Please contact your Project Manager for details. _____ initial

301.2E

1705733

1705734

WETLAB
WESTERN ENVIRONMENTAL TESTING LABORATORY
Specializing in Soil, Hazardous Waste and Water Analysis.

475 E. Greg Street #119 | Sparks, Nevada 89431 | www.WETLaboratory.com
tel (775) 355-0202 | fax (775) 355-0817
1084 Lamoille Highway | Elko, Nevada 89801
tel (775) 777-9933 | fax (775) 777-9933
3230 Polaris Ave., Suite 4 | Las Vegas, Nevada 89102
tel (702) 475-8899 | fax (702) 776-6152

WETLAB Order ID. 1705734
Sparks Control #
Elko Control #
LV Control #
Report Due Date 6/9/17
Page 2 of 2

Client TKPOA
Address 3516 Ala Wai Blvd
City, State & Zip South Lake Tahoe, CA 96150
Contact Kristen Hunter
Phone 530-622-8740 Collector's Name KMH
Fax PWS/Project Name
P.O. Number PWS/Project Number
Email Kristen@sierraecos.com.

Billing Address (if different than Client Address)
Company
Address
City, State & Zip
Contact
Phone Fax
Email

Turnaround Time Requirements
Standard
5 Day* (25%) 72 Hour* (50%)
48 Hour* (100%) 24 Hour* (200%)
*Surcharges Will Apply

Samples Collected From Which State? NV CA Other
Compliance Monitoring? Yes No X
Report to Regulatory Agency? Yes No X
Report Results Via PDF EDD Other
Standard QC Required? Yes No

SAMPLE ID/LOCATION	DATE	TIME	PRES TYPE *	SAMPLE TYPE **	NO. OF CONTAINERS	Aluminum	Phosphorus	Organic matter	Orthophosphorus	Ammonia	Total Solids	Nitrate-Nitrogen	Nitrite-Nitrogen	TKN		Spl. No.
SED-01-&12 A	5/24/17	11:50		SO	1	X	X	X	X	X	X	X	X	X		19

1705 1
733 19

Instructions/Comments/Special Requirements:

Sample Matrix Key** DW = Drinking Water WW = Wastewater SW = Surface Water MW = Monitoring Well SD = Solid/Sludge SO = Soil HW = Hazardous Waste OTHER:

***SAMPLE PRESERVATIVES:** 1=Unpreserved 2=H2SO4 3=NaOH 4=HCl 5=HNO3 6=Na2S2O3 7=ZnOAc+NaOH 8=HCl/VOA Vial

Temp	Custody Seal	# of Containers	DATE	TIME	Samples Relinquished By	Samples Received By
°C	Y N None	10	5/25/17	1200		
6.9 °C	Y N (None)	10	5/25/17	1540		
°C	Y N None					
°C	Y N None					

WETLAB'S Standard Terms and Conditions apply unless written agreements specify otherwise. Payment terms are Net 30.

Client/Collector attests to the validity and authenticity of this (these) sam[illegible]s) and, is (are) aware that tampering with or intentionally mislabeling the sample(s) location, date or time of collection may be considered fraud a[illegible]ject to legal action (NAC445.0636). _____ initial

To the maximum extent permitted by law, the Client agrees to limit the l[illegible]y of WETLAB for the Client's damages to the total compensation received, unless other agreements are made in writing. This limitation shall appl[illegible]gardless of the cause of action or legal theory pled or asserted. _____ initial

WETLAB will dispose of samples 90 days from sample receipt. Cl[illegible] may request a longer sample storage time for an additional fee. Please contact your Project Manager for details. _____ initial

301.2E

Appendix B

Western Environmental Testing Laboratory
Certifications

Index:

CALIFORNIA
Water Boards
STATE WATER RESOURCES CONTROL BOARD
REGIONAL WATER QUALITY CONTROL BOARDS

CALIFORNIA STATE
ENVIRONMENTAL LABORATORY ACCREDITATION PROGRAM
Accredited Fields of Testing

Western Environmental Testing Laboratory

475 East Greg Street
Sparks, NV 89431
Phone: (775) 355-0202

Certificate No. 2523
Expiration Date 11/30/2018

Field of Testing: 101 - Microbiology of Drinking Water			
101.010	002	Heterotrophic Bacteria	SimPlate
101.050	001	Total Coliform P/A	SM9223B (Colilert)
101.050	002	E. coli P/A	SM9223B (Colilert)
101.050	003	Total Coliform (Enumeration)	SM9223B (Colilert/Quanti-Tray)
101.050	004	E. coli (Enumeration)	SM9223B (Colilert/Quanti-Tray)
Field of Testing: 102 - Inorganic Chemistry of Drinking Water			
102.020	001	Turbidity	EPA 180.1
102.026	001	Calcium	EPA 200.7
102.026	002	Magnesium	EPA 200.7
102.026	003	Potassium	EPA 200.7
102.026	004	Silica	EPA 200.7
102.026	005	Sodium	EPA 200.7
102.030	001	Bromide	EPA 300.0
102.030	003	Chloride	EPA 300.0
102.030	005	Fluoride	EPA 300.0
102.030	006	Nitrate (as N)	EPA 300.0
102.030	007	Nitrite (as N)	EPA 300.0
102.030	009	Sulfate	EPA 300.0
102.040	002	Chlorite	EPA 300.1
102.040	003	Chlorate	EPA 300.1
102.040	004	Bromate	EPA 300.1
102.045	001	Perchlorate	EPA 314.0
102.060	001	Nitrate (as N) (Calculation)	EPA 353.2
102.100	001	Alkalinity	SM2320B-1997
102.120	001	Hardness (calculation)	SM2340B-1997
102.130	001	Conductivity	SM2510B-1997
102.140	001	Residue, Filterable TDS	SM2540C-1997
102.190	001	Cyanide, Total	SM4500-CN E
102.203	001	Hydrogen Ion (pH)	SM4500-H+ B-2000
102.240	001	Phosphate, Ortho (as P)	SM4500-P E-1999
102.270	001	Surfactants	SM5540C-2000
Field of Testing: 103 - Toxic Chemical Elements of Drinking Water			
103.130	001	Aluminum	EPA 200.7
103.130	003	Barium	EPA 200.7
103.130	004	Beryllium	EPA 200.7
103.130	005	Cadmium	EPA 200.7
103.130	007	Chromium	EPA 200.7

As of 4/14/2017 , this list supersedes all previous lists for this certificate number.
Customers: Please verify the current accreditation standing with the State.

103.130	008	Copper	EPA 200.7
103.130	009	Iron	EPA 200.7
103.130	011	Manganese	EPA 200.7
103.130	012	Nickel	EPA 200.7
103.130	015	Silver	EPA 200.7
103.130	017	Zinc	EPA 200.7
103.130	018	Boron	EPA 200.7
103.140	002	Antimony	EPA 200.8
103.140	003	Arsenic	EPA 200.8
103.140	004	Barium	EPA 200.8
103.140	005	Beryllium	EPA 200.8
103.140	006	Cadmium	EPA 200.8
103.140	007	Chromium	EPA 200.8
103.140	008	Copper	EPA 200.8
103.140	009	Lead	EPA 200.8
103.140	010	Manganese	EPA 200.8
103.140	011	Mercury	EPA 200.8
103.140	012	Nickel	EPA 200.8
103.140	013	Selenium	EPA 200.8
103.140	014	Silver	EPA 200.8
103.140	015	Thallium	EPA 200.8
103.140	016	Zinc	EPA 200.8
103.160	001	Mercury	EPA 245.1

Field of Testing: 104 - Volatile Organic Chemistry of Drinking Water

104.040	000	Volatile Organic Compounds	EPA 524.2
104.040	001	Benzene	EPA 524.2
104.040	010	Carbon Tetrachloride	EPA 524.2
104.040	011	Chlorobenzene	EPA 524.2
104.040	020	1,2-Dichlorobenzene	EPA 524.2
104.040	021	1,4-Dichlorobenzene	EPA 524.2
104.040	024	1,2-Dichloroethane	EPA 524.2
104.040	025	1,1-Dichloroethene	EPA 524.2
104.040	026	cis-1,2-Dichloroethene	EPA 524.2
104.040	027	trans-1,2-Dichloroethene	EPA 524.2
104.040	028	Dichloromethane	EPA 524.2
104.040	029	1,2-Dichloropropane	EPA 524.2
104.040	035	Ethylbenzene	EPA 524.2
104.040	042	Styrene	EPA 524.2
104.040	046	Toluene	EPA 524.2
104.040	048	1,2,4-Trichlorobenzene	EPA 524.2
104.040	049	1,1,1-Trichloroethane	EPA 524.2
104.040	050	1,1,2-Trichloroethane	EPA 524.2
104.040	051	Trichloroethene	EPA 524.2
104.040	056	Vinyl Chloride	EPA 524.2
104.040	057	Xylenes, Total	EPA 524.2
104.045	000	Trihalomethanes, Total	EPA 524.2
104.045	001	Bromodichloromethane	EPA 524.2

104.045	002	Bromoform	EPA 524.2
104.045	003	Chloroform	EPA 524.2
104.045	004	Dibromochloromethane	EPA 524.2
Field of Testing: 105 - Semi-volatile Organic Chemistry of Drinking Water			
105.201	001	Haloacetic Acids (HAA5)	EPA 552.3
Field of Testing: 106 - Radiochemistry of Drinking Water			
106.092	001	Uranium	EPA 200.8
Field of Testing: 107 - Microbiology of Wastewater			
107.020	002	Total Coliform (Enumeration)	SM9221B,E-2006
107.080	002	Fecal Coliform (Enumeration)	SM9222D-1997
107.245	002	E. coli (Enumeration)	SM9223B (Colilert)
107.247	001	E. coli (Enumeration)	SM9221B,F-2006
Field of Testing: 108 - Inorganic Chemistry of Wastewater			
108.090	001	Residue, Volatile	EPA 160.4
108.110	001	Turbidity	EPA 180.1
108.112	001	Boron	EPA 200.7
108.112	002	Calcium	EPA 200.7
108.112	004	Magnesium	EPA 200.7
108.112	005	Potassium	EPA 200.7
108.112	006	Silica, Dissolved	EPA 200.7
108.112	007	Sodium	EPA 200.7
108.112	008	Phosphorus, Total	EPA 200.7
108.120	001	Bromide	EPA 300.0
108.120	002	Chloride	EPA 300.0
108.120	003	Fluoride	EPA 300.0
108.120	008	Sulfate	EPA 300.0
108.120	012	Nitrate (as N)	EPA 300.0
108.120	013	Nitrate-Nitrite (as N)	EPA 300.0
108.120	014	Nitrite (as N)	EPA 300.0
108.211	002	Kjeldahl Nitrogen, Total (as N)	EPA 351.2
108.232	003	Nitrate-Nitrite (as N)	EPA 353.2
108.232	004	Nitrite (as N)	EPA 353.2
108.267	001	Phosphorus, Total	EPA 200.7
108.323	001	Chemical Oxygen Demand	EPA 410.4
108.381	002	Oil & Grease Total	EPA 1664 Rev. B
108.385	001	Color	SM2120B-2001
108.400	001	Acidity	SM2310B-1997
108.410	001	Alkalinity	SM2320B-1997
108.420	001	Hardness (calculation)	SM2340B-1997
108.430	001	Conductivity	SM2510B-1997
108.439	001	Residue, Volatile	SM2540E-1997
108.440	001	Residue, Total	SM2540B-1997
108.441	001	Residue, Filterable TDS	SM2540C-1997
108.442	001	Residue, Non-filterable TSS	SM2540D-1997
108.443	001	Residue, Settleable	SM2540F-1997
108.444	001	Temperature	SM2550B-2000

108.470	001	Cyanide, Total	SM4500-CN B or C-1999
108.472	001	Cyanide, Total	SM4500-CN E-1999
108.490	001	Hydrogen Ion (pH)	SM4500-H+ B-2000
108.502	002	Ammonia (as N)	SM4500-NH3 B,E-1997
108.536	001	Oxygen, dissolved	SM4500-O G-2001
108.540	001	Phosphate, Ortho (as P)	SM4500-P E-1999
108.541	001	Phosphorus, Total	SM4500-P E-1999
108.592	001	Biochemical Oxygen Demand	SM5210B-2001
108.592	002	Carbonaceous BOD	SM5210B-2001
108.605	001	Surfactants	SM5540C-2000

Field of Testing: 109 - Toxic Chemical Elements of Wastewater

109.010	001	Aluminum	EPA 200.7
109.010	002	Antimony	EPA 200.7
109.010	003	Arsenic	EPA 200.7
109.010	004	Barium	EPA 200.7
109.010	005	Beryllium	EPA 200.7
109.010	006	Boron	EPA 200.7
109.010	007	Cadmium	EPA 200.7
109.010	009	Chromium	EPA 200.7
109.010	010	Cobalt	EPA 200.7
109.010	011	Copper	EPA 200.7
109.010	012	Iron	EPA 200.7
109.010	013	Lead	EPA 200.7
109.010	015	Manganese	EPA 200.7
109.010	016	Molybdenum	EPA 200.7
109.010	017	Nickel	EPA 200.7
109.010	019	Selenium	EPA 200.7
109.010	021	Silver	EPA 200.7
109.010	023	Thallium	EPA 200.7
109.010	024	Tin	EPA 200.7
109.010	025	Titanium	EPA 200.7
109.010	026	Vanadium	EPA 200.7
109.010	027	Zinc	EPA 200.7
109.020	002	Antimony	EPA 200.8
109.020	003	Arsenic	EPA 200.8
109.020	004	Barium	EPA 200.8
109.020	005	Beryllium	EPA 200.8
109.020	006	Cadmium	EPA 200.8
109.020	007	Chromium	EPA 200.8
109.020	009	Copper	EPA 200.8
109.020	010	Lead	EPA 200.8
109.020	011	Manganese	EPA 200.8
109.020	012	Molybdenum	EPA 200.8
109.020	013	Nickel	EPA 200.8
109.020	014	Selenium	EPA 200.8
109.020	015	Silver	EPA 200.8
109.020	016	Thallium	EPA 200.8

109.020	017	Vanadium	EPA 200.8
109.020	018	Zinc	EPA 200.8
109.190	001	Mercury	EPA 245.1
109.445	002	Chromium (VI)	SM3500-Cr B-2009
Field of Testing: 110 - Volatile Organic Chemistry of Wastewater			
110.040	000	Purgeable Organic Compounds	EPA 624
Field of Testing: 114 - Inorganic Chemistry of Hazardous Waste			
114.010	001	Antimony	EPA 6010B
114.010	002	Arsenic	EPA 6010B
114.010	003	Barium	EPA 6010B
114.010	004	Beryllium	EPA 6010B
114.010	005	Cadmium	EPA 6010B
114.010	006	Chromium	EPA 6010B
114.010	007	Cobalt	EPA 6010B
114.010	008	Copper	EPA 6010B
114.010	009	Lead	EPA 6010B
114.010	010	Molybdenum	EPA 6010B
114.010	011	Nickel	EPA 6010B
114.010	012	Selenium	EPA 6010B
114.010	013	Silver	EPA 6010B
114.010	014	Thallium	EPA 6010B
114.010	015	Vanadium	EPA 6010B
114.010	016	Zinc	EPA 6010B
114.020	001	Antimony	EPA 6020
114.020	003	Barium	EPA 6020
114.020	004	Beryllium	EPA 6020
114.020	005	Cadmium	EPA 6020
114.020	006	Chromium	EPA 6020
114.020	008	Copper	EPA 6020
114.020	009	Lead	EPA 6020
114.020	010	Molybdenum	EPA 6020
114.020	011	Nickel	EPA 6020
114.020	012	Selenium	EPA 6020
114.020	013	Silver	EPA 6020
114.020	014	Thallium	EPA 6020
114.020	015	Vanadium	EPA 6020
114.020	016	Zinc	EPA 6020
114.025	001	Mercury	EPA 6020A
114.140	001	Mercury	EPA 7470A
114.141	001	Mercury	EPA 7471A
114.222	001	Cyanide	EPA 9014
114.241	001	Corrosivity - pH Determination	EPA 9045C
Field of Testing: 115 - Extraction Test of Hazardous Waste			
115.020	001	Toxicity Characteristic Leaching Procedure (TCLP)	EPA 1311
115.021	001	TCLP Inorganics	EPA 1311
115.023	001	TCLP Volatiles	EPA 1311

115.030	001	Waste Extraction Test (WET)	CCR Chapter11, Article 5, Appendix II
115.040	001	Synthetic Precipitation Leaching Procedure (SPLP)	EPA 1312
Field of Testing: 116 - Volatile Organic Chemistry of Hazardous Waste			
116.030	001	Gasoline-range Organics	EPA 8015B
116.080	000	Volatile Organic Compounds	EPA 8260B
116.080	120	Oxygenates	EPA 8260B
Field of Testing: 117 - Semi-volatile Organic Chemistry of Hazardous Waste			
117.010	001	Diesel-range Total Petroleum Hydrocarbons	EPA 8015B
Field of Testing: 120 - Physical Properties of Hazardous Waste			
120.010	001	Ignitability	EPA 1010
120.080	001	Corrosivity - pH Determination	EPA 9045C

CALIFORNIA
Water Boards
STATE WATER RESOURCES CONTROL BOARD
REGIONAL WATER QUALITY CONTROL BOARDS

California State
Environmental Laboratory Accreditation Program

EDMUND G. BROWN JR.
Governor

November 12, 2014

Andy Smith
Western Environmental Testing Laboratory
475 East Greg Street, # 119
Sparks, NV 89431

Dear Andy Smith: Certificate No. 2523

This is to advise you that the laboratory named above continues to be certified as an environmental testing laboratory pursuant to the provisions of the Health and Safety Code (HSC), Division 101, Part 1, Chapter 4, Section 100825, et seq. Certification for all currently certified Fields of Testing that the laboratory has applied for renewal shall remain in effect until **11/30/2016** unless it is revoked.

Please note that the renewal application for certification is subject to an on-site process, and the continued use of this certificate is contingent upon:

- *** successful completion of the on-site process;**
- *** acceptable performance in the required proficiency testing (PT) studies;**
- *** timely payment of all fees, including an annual fee due before November 30, 2015;**
- *** compliance with Environmental Laboratory Accreditation Program (ELAP); statutes (HSC, Section 100825, et seq.) and Regulations (California Code of Regulations (CCR),Title 22, Division 4, Chapter 19).**

An updated certificate of the "Fields of Testing" will be issued to the laboratory upon successful completion of the on-site process.

The application for the renewal of this certificate must be received before the expiration date to remain in force according to the HSC100845(a).

Please note that the laboratory is required to notify ELAP of any major changes in the laboratory such as the transfer of ownership, change of laboratory director, change in location, or structural alterations which may affect adversely the quality of analyses (HSC, Section 100845(b)(d)). Please include the above certificate number in all your correspondence with ELAP.

If you have any questions, please contact ELAP at (510) 620-3155.

Sincerely,

Christine Sotelo, Chief
Environmental Laboratory Accreditation Program

CALIFORNIA
Water Boards
STATE WATER RESOURCES CONTROL BOARD
REGIONAL WATER QUALITY CONTROL BOARDS

CALIFORNIA STATE

ENVIRONMENTAL LABORATORY ACCREDITATION PROGRAM

CERTIFICATE OF ENVIRONMENTAL LABORATORY ACCREDITATION

Is hereby granted to

Western Environmental Testing Laboratory

475 East Greg Street, # 119

Sparks, NV 89431

Scope of the certificate is limited to the
"Fields of Testing"
which accompany this Certificate.

Continued accredited status depends on successful completion of on-site, proficiency testing studies, and payment of applicable fees.

This Certificate is granted in accordance with provisions of Section 100825, et seq. of the Health and Safety Code.

Certificate No.: **2523**

Expiration Date: **11/30/2016**

Effective Date: **12/1/2014**

Richmond, California
subject to forfeiture or revocation

Christine Sotelo, Chief
Environmental Laboratory Accreditation Program

State of Nevada Department of Conservation and Natural Resources
Division of Environmental Protection
Laboratory Scope of Accreditation

EPA Number: *NV00925* **Attachment to Certificate Number: NV009252017-1** **Expiration Date: 7/31/2017**

Western Environmental Testing - Sparks
475 East Greg St.
Suite#119 Sparks, NV 89431-

Matrix: ***CWA (Non Potable Water)***

Method	Analyte	Start Date	Date Expires	Status
Discipline: Chemistry				
By Calculation	Alkalinity, Bicarbonate (as CaCO3)	8/1/2016	7/31/2017	Certified
EPA 160.4	Residue-volatile	8/1/2016	7/31/2017	Certified
EPA 1664B	n-Hexane Extractable Material (O&G)	8/1/2016	7/31/2017	Certified
EPA 1664B (SGT-HEM)	n-Hexane Extractable Material - Silica Gel Treated (HEM-SGT)	8/1/2016	7/31/2017	Certified
EPA 180.1	Turbidity	8/1/2016	7/31/2017	Certified
EPA 200.7	Aluminum	8/1/2016	7/31/2017	Certified
EPA 200.7	Antimony	8/1/2016	7/31/2017	Certified
EPA 200.7	Arsenic	8/1/2016	7/31/2017	Certified
EPA 200.7	Barium	8/1/2016	7/31/2017	Certified
EPA 200.7	Beryllium	8/1/2016	7/31/2017	Certified
EPA 200.7	Boron	8/1/2016	7/31/2017	Certified
EPA 200.7	Cadmium	8/1/2016	7/31/2017	Certified
EPA 200.7	Calcium	8/1/2016	7/31/2017	Certified
EPA 200.7	Chromium	8/1/2016	7/31/2017	Certified
EPA 200.7	Cobalt	8/1/2016	7/31/2017	Certified
EPA 200.7	Copper	8/1/2016	7/31/2017	Certified
EPA 200.7	Iron	8/1/2016	7/31/2017	Certified
EPA 200.7	Lead	8/1/2016	7/31/2017	Certified
EPA 200.7	Lithium	8/1/2016	7/31/2017	Certified
EPA 200.7	Magnesium	8/1/2016	7/31/2017	Certified
EPA 200.7	Manganese	8/1/2016	7/31/2017	Certified
EPA 200.7	Molybdenum	8/1/2016	7/31/2017	Certified
EPA 200.7	Nickel	8/1/2016	7/31/2017	Certified
EPA 200.7	Phosphorus, total	8/1/2016	7/31/2017	Certified
EPA 200.7	Potassium	8/1/2016	7/31/2017	Certified
EPA 200.7	Selenium	8/1/2016	7/31/2017	Certified
EPA 200.7	Silica as SiO2	8/1/2016	7/31/2017	Certified
EPA 200.7	Silver	8/1/2016	7/31/2017	Certified
EPA 200.7	Sodium	8/1/2016	7/31/2017	Certified

Disclaimer: A laboratory that is certified or approved has established that they have the ability to implement a quality control program in accordance with the appropriate Federal or State regulations or statutes. It is the certified laboratory's responsibility to provide their client the most current certified parameter list. Contact LCP to verify certification status.

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EPA Number: ***NV00925*** **Attachment to Certificate Number: NV009252017-1** **Expiration Date: 7/31/2017**

Western Environmental Testing - Sparks
475 East Greg St.
Suite#119 Sparks, NV 89431-

Matrix: ***CWA (Non Potable Water)***

Method	Analyte	Start Date	Date Expires	Status
EPA 200.7	Strontium	8/1/2016	7/31/2017	Certified
EPA 200.7	Thallium	8/1/2016	7/31/2017	Certified
EPA 200.7	Tin	8/1/2016	7/31/2017	Certified
EPA 200.7	Titanium	8/1/2016	7/31/2017	Certified
EPA 200.7	Vanadium	8/1/2016	7/31/2017	Certified
EPA 200.7	Zinc	8/1/2016	7/31/2017	Certified
EPA 200.8	Antimony	8/1/2016	7/31/2017	Certified
EPA 200.8	Arsenic	8/1/2016	7/31/2017	Certified
EPA 200.8	Barium	8/1/2016	7/31/2017	Certified
EPA 200.8	Beryllium	8/1/2016	7/31/2017	Certified
EPA 200.8	Cadmium	8/1/2016	7/31/2017	Certified
EPA 200.8	Chromium	8/1/2016	7/31/2017	Certified
EPA 200.8	Copper	8/1/2016	7/31/2017	Certified
EPA 200.8	Lead	8/1/2016	7/31/2017	Certified
EPA 200.8	Manganese	8/1/2016	7/31/2017	Certified
EPA 200.8	Molybdenum	8/1/2016	7/31/2017	Certified
EPA 200.8	Nickel	8/1/2016	7/31/2017	Certified
EPA 200.8	Selenium	8/1/2016	7/31/2017	Certified
EPA 200.8	Silver	8/1/2016	7/31/2017	Certified
EPA 200.8	Thallium	8/1/2016	7/31/2017	Certified
EPA 200.8	Uranium (Chemical or Metal)	8/1/2016	7/31/2017	Certified
EPA 200.8	Zinc	8/1/2016	7/31/2017	Certified
EPA 245.1	Mercury	8/1/2016	7/31/2017	Certified
EPA 300.0	Bromide	8/1/2016	7/31/2017	Certified
EPA 300.0	Chloride	8/1/2016	7/31/2017	Certified
EPA 300.0	Fluoride	8/1/2016	7/31/2017	Certified
EPA 300.0	Nitrate as N	8/1/2016	7/31/2017	Certified
EPA 300.0	Nitrate-nitrite	8/1/2016	7/31/2017	Certified
EPA 300.0	Nitrite as N	8/1/2016	7/31/2017	Certified
EPA 300.0	Sulfate	8/1/2016	7/31/2017	Certified

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EPA Number: *NV00925* **Attachment to Certificate Number: NV009252017-1** **Expiration Date: 7/31/2017**

Western Environmental Testing - Sparks
475 East Greg St.
Suite#119 Sparks, NV 89431-

Matrix: ***CWA (Non Potable Water)***

Method	Analyte	Start Date	Date Expires	Status
EPA 314.0	Perchlorate	8/1/2016	7/31/2017	Certified
EPA 351.2	Kjeldahl nitrogen - total	8/1/2016	7/31/2017	Certified
EPA 353.2	Nitrate as N	8/1/2016	7/31/2017	Certified
EPA 353.2	Nitrate-nitrite	8/1/2016	7/31/2017	Certified
EPA 410.4	Chemical oxygen demand	8/1/2016	7/31/2017	Certified
EPA 624	1,1,1,2-Tetrachloroethane	8/1/2016	7/31/2017	Certified
EPA 624	1,1,1-Trichloroethane	8/1/2016	7/31/2017	Certified
EPA 624	1,1,2,2-Tetrachloroethane	8/1/2016	7/31/2017	Certified
EPA 624	1,1,2-Trichloroethane	8/1/2016	7/31/2017	Certified
EPA 624	1,1-Dichloroethane	8/1/2016	7/31/2017	Certified
EPA 624	1,1-Dichloroethylene	8/1/2016	7/31/2017	Certified
EPA 624	1,2,3-Trichloropropane	8/1/2016	7/31/2017	Certified
EPA 624	1,2,4-Trichlorobenzene	8/1/2016	7/31/2017	Certified
EPA 624	1,2,4-Trimethylbenzene	8/1/2016	7/31/2017	Certified
EPA 624	1,2-Dichlorobenzene	8/1/2016	7/31/2017	Certified
EPA 624	1,2-Dichloroethane	8/1/2016	7/31/2017	Certified
EPA 624	1,2-Dichloropropane	8/1/2016	7/31/2017	Certified
EPA 624	1,3,5-Trimethylbenzene	8/1/2016	7/31/2017	Certified
EPA 624	1,3-Dichlorobenzene	8/1/2016	7/31/2017	Certified
EPA 624	1,4-Dichlorobenzene	8/1/2016	7/31/2017	Certified
EPA 624	2-Butanone (Methyl ethyl ketone, MEK)	8/1/2016	7/31/2017	Certified
EPA 624	2-Chloroethyl vinyl ether	8/1/2016	7/31/2017	Certified
EPA 624	2-Hexanone	8/1/2016	7/31/2017	Certified
EPA 624	4-Methyl-2-pentanone (MIBK)	8/1/2016	7/31/2017	Certified
EPA 624	Acetone	8/1/2016	7/31/2017	Certified
EPA 624	Acetonitrile	8/1/2016	7/31/2017	Certified
EPA 624	Acrolein (Propenal)	8/1/2016	7/31/2017	Certified
EPA 624	Acrylonitrile	8/1/2016	7/31/2017	Certified
EPA 624	Benzene	8/1/2016	7/31/2017	Certified
EPA 624	Bromodichloromethane	8/1/2016	7/31/2017	Certified

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Matrix: ***CWA (Non Potable Water)***

Method	Analyte	Start Date	Date Expires	Status
EPA 624	Bromoform	8/1/2016	7/31/2017	Certified
EPA 624	Carbon disulfide	8/1/2016	7/31/2017	Certified
EPA 624	Carbon tetrachloride	8/1/2016	7/31/2017	Certified
EPA 624	Chlorobenzene	8/1/2016	7/31/2017	Certified
EPA 624	Chlorodibromomethane (Dibromochloromethane)	8/1/2016	7/31/2017	Certified
EPA 624	Chloroethane (Ethyl chloride)	8/1/2016	7/31/2017	Certified
EPA 624	Chloroform	8/1/2016	7/31/2017	Certified
EPA 624	cis-1,2-Dichloroethylene	8/1/2016	7/31/2017	Certified
EPA 624	cis-1,3-Dichloropropene (cis-1,3-Dichloropropylene)	8/1/2016	7/31/2017	Certified
EPA 624	Dibromomethane (Methylene bromide)	8/1/2016	7/31/2017	Certified
EPA 624	Dichlorodifluoromethane (Freon-12)	8/1/2016	7/31/2017	Certified
EPA 624	Di-isopropylether (DIPE)	8/1/2016	7/31/2017	Certified
EPA 624	Ethylbenzene	8/1/2016	7/31/2017	Certified
EPA 624	Hexachlorobutadiene	8/1/2016	7/31/2017	Certified
EPA 624	m+p-xylene	8/1/2016	7/31/2017	Certified
EPA 624	Methyl bromide (Bromomethane)	8/1/2016	7/31/2017	Certified
EPA 624	Methyl chloride (Chloromethane)	8/1/2016	7/31/2017	Certified
EPA 624	Methyl tert-butyl ether (MTBE)	8/1/2016	7/31/2017	Certified
EPA 624	Methylene chloride (Dichloromethane)	8/1/2016	7/31/2017	Certified
EPA 624	Naphthalene	8/1/2016	7/31/2017	Certified
EPA 624	o-Xylene	8/1/2016	7/31/2017	Certified
EPA 624	Styrene	8/1/2016	7/31/2017	Certified
EPA 624	T-amylmethylether (TAME)	8/1/2016	7/31/2017	Certified
EPA 624	Tetrachloroethylene (Perchloroethylene)	8/1/2016	7/31/2017	Certified
EPA 624	Toluene	8/1/2016	7/31/2017	Certified
EPA 624	trans-1,2-Dichloroethylene	8/1/2016	7/31/2017	Certified
EPA 624	trans-1,3-Dichloropropene (trans-1,3-Dichloropropylene)	8/1/2016	7/31/2017	Certified
EPA 624	Trichloroethene (Trichloroethylene)	8/1/2016	7/31/2017	Certified
EPA 624	Trichlorofluoromethane (Fluorotrichloromethane, Freon 11)	8/1/2016	7/31/2017	Certified
EPA 624	Vinyl acetate	8/1/2016	7/31/2017	Certified

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475 East Greg St.
Suite#119 Sparks, NV 89431-

Matrix: ***CWA (Non Potable Water)***

Method	Analyte	Start Date	Date Expires	Status
EPA 624	Vinyl chloride	8/1/2016	7/31/2017	Certified
EPA 624	Xylene (total)	8/1/2016	7/31/2017	Certified
HACH 8131	Sulfide	8/1/2016	7/31/2017	Certified
HACH 8167	Total Chlorine (residual)	8/1/2016	7/31/2017	Certified
Organic Nitrogen by Calculation (TKN - NH3)	Organic nitrogen	8/1/2016	7/31/2017	Certified
SM 2120 B	Color	8/1/2016	7/31/2017	Certified
SM 2310 B	Acidity, as CaCO3	8/1/2016	7/31/2017	Certified
SM 2320 B	Alkalinity as CaCO3	8/1/2016	7/31/2017	Certified
SM 2340 B	Calcium hardness as CaCO3	8/1/2016	7/31/2017	Certified
SM 2340 B	Hardness by calculation	8/1/2016	7/31/2017	Certified
SM 2510 B	Conductivity	8/1/2016	7/31/2017	Certified
SM 2540 B	Residue-total, dissolved and suspended	8/1/2016	7/31/2017	Certified
SM 2540 C	Residue-filterable (TDS)	8/1/2016	7/31/2017	Certified
SM 2540 D	Residue-nonfilterable (TSS)	8/1/2016	7/31/2017	Certified
SM 2540 E	Residue-volatile	8/1/2016	7/31/2017	Certified
SM 2540 F	Residue-settleable	8/1/2016	7/31/2017	Certified
SM 2550 B	Temperature, deg. C	8/1/2016	7/31/2017	Nevada Approved
SM 3500-Cr B	Chromium VI	8/1/2016	7/31/2017	Certified
SM 4500-CN^- C,E	Cyanide, Total	8/1/2016	7/31/2017	Certified
SM 4500-CN^- I,E	Cyanide, WAD	8/1/2016	7/31/2017	Certified
SM 4500-H+ B	pH	8/1/2016	7/31/2017	Certified
SM 4500-NH3 B	Ammonia as N	8/1/2016	7/31/2017	Certified
SM 4500-NH3 D	Ammonia as N	8/1/2016	7/31/2017	Certified
SM 4500-O G	Oxygen, dissolved	8/1/2016	7/31/2017	Certified
SM 4500-P E	Orthophosphate as P	8/1/2016	7/31/2017	Certified
SM 4500-P E	Phosphorus, total	8/1/2016	7/31/2017	Certified
SM 5210 B	Biochemical oxygen demand	8/1/2016	7/31/2017	Certified
SM 5210 B	Carbonaceous BOD, CBOD	8/1/2016	7/31/2017	Certified
SM 5540 C	Surfactants - MBAS	8/1/2016	7/31/2017	Certified
Total Nitrogen by Calc (NO2 + NO3 + TKN)	Total Nitrogen	8/1/2016	7/31/2017	Certified

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Western Environmental Testing - Sparks
475 East Greg St.
Suite#119 Sparks, NV 89431-

Matrix: ***CWA (Non Potable Water)***

Method	Analyte	Start Date	Date Expires	Status
Discipline: Microbiology				
IDEXX Quanti-Tray® using Colilert®	E. coli enumeration	8/1/2016	7/31/2017	Certified
SM 9221 B (LTB) + C MPN	Total Coliform Enumeration	8/1/2016	7/31/2017	Certified
SM 9221 B (LTB) + F (EC MUG) + C MPN	E. coli enumeration	8/1/2016	7/31/2017	Certified
SM 9222 D (m-FC)	Fecal coliforms	8/1/2016	7/31/2017	Certified

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Western Environmental Testing - Sparks
475 East Greg St.
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Matrix: ***Mining (Non Potable Water)***

Method	Analyte	Start Date	Date Expires	Status
Discipline: Chemistry				
ASTM D1498	Redox Potential (ORP)	8/1/2016	7/31/2017	Certified
EPA 200.2	Acid digest for metals	8/1/2016	7/31/2017	Nevada Approved
EPA 200.7 minus SM 3500-Fe B (4c)	Iron-(III) (Ferric Iron)	8/1/2016	7/31/2017	Certified
SM 2580 B-2011	Redox Potential (ORP)	8/1/2016	7/31/2017	Certified
SM 3500-Fe B 4 (c)	Iron-(II) (Ferrous Iron)	8/1/2016	7/31/2017	Certified

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Western Environmental Testing - Sparks
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Matrix: ***Mining (Solid & Waste Materials)***

Method	Analyte	Start Date	Date Expires	Status
Discipline: Chemistry				
ASTM C1308-08	Diffusive Releases - Leach Rates & Computer Modeling	8/1/2016	7/31/2017	Nevada Approved
ASTM D5744-13	Weathering Products of Solid Materials	8/1/2016	7/31/2017	Nevada Approved
ASTM D7572-11	Cyanide Extraction Fluid from Soils and Mine Rock	8/1/2016	7/31/2017	Nevada Approved
ASTM E2242-13	MWMP Fluid (WITHOUT bottle roll option)	8/1/2016	7/31/2017	Nevada Approved
ASTM E2242-13 Appendix X1.2	MWMP Fluid (FROM bottle roll option_Non Percolating Material)	8/1/2016	7/31/2017	Nevada Approved
ASTM E2242-13 Appendix X1.3	MWMP Fluid (FROM bottle roll option_Fine Grained Material)	8/1/2016	7/31/2017	Nevada Approved
EPA 600/2-78-054, section 3.2.2_NV Modified	Paste pH	8/1/2016	7/31/2017	Certified
EPA 600/2-78-054, section 3.2.3_NV Modified	ANP by Titration to phenolphthalein end point (after oxidation_hydrogen peroxide)	8/1/2016	7/31/2017	Nevada Approved
EPA 600/2-78-054, section 3.2.3_NV Modified	ANP by Titration to phenolphthalein end point (without oxidation)	8/1/2016	7/31/2017	Nevada Approved
EPA 600/2-78-054, section 3.2.4_NV Modified	Total Sulfur (High Temp. Combustion Method)	8/1/2016	7/31/2017	Certified
EPA 600/2-78-054, section 3.2.6_NV Modified	HCl Extractable Sulfur	8/1/2016	7/31/2017	Nevada Approved
EPA 600/2-78-054, section 3.2.6_NV Modified	HNO3 Extractable Sulfur	8/1/2016	7/31/2017	Nevada Approved
EPA 600/2-78-054, section 3.2.6_NV Modified	Hot Water Extractable Sulfur	8/1/2016	7/31/2017	Nevada Approved

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Western Environmental Testing - Sparks
475 East Greg St.
Suite#119 Sparks, NV 89431-

Matrix: ***RCRA (Non Potable Water)***

Method	Analyte	Start Date	Date Expires	Status
Discipline: Chemistry				
EPA 314.0M	Perchlorate	8/1/2016	7/31/2017	Certified
EPA 6010	Aluminum	8/1/2016	7/31/2017	Certified
EPA 6010	Antimony	8/1/2016	7/31/2017	Certified
EPA 6010	Arsenic	8/1/2016	7/31/2017	Certified
EPA 6010	Barium	8/1/2016	7/31/2017	Certified
EPA 6010	Beryllium	8/1/2016	7/31/2017	Certified
EPA 6010	Boron	8/1/2016	7/31/2017	Certified
EPA 6010	Cadmium	8/1/2016	7/31/2017	Certified
EPA 6010	Calcium	8/1/2016	7/31/2017	Certified
EPA 6010	Chromium	8/1/2016	7/31/2017	Certified
EPA 6010	Cobalt	8/1/2016	7/31/2017	Certified
EPA 6010	Copper	8/1/2016	7/31/2017	Certified
EPA 6010	Iron	8/1/2016	7/31/2017	Certified
EPA 6010	Lead	8/1/2016	7/31/2017	Certified
EPA 6010	Lithium	8/1/2016	7/31/2017	Certified
EPA 6010	Magnesium	8/1/2016	7/31/2017	Certified
EPA 6010	Manganese	8/1/2016	7/31/2017	Certified
EPA 6010	Molybdenum	8/1/2016	7/31/2017	Certified
EPA 6010	Nickel	8/1/2016	7/31/2017	Certified
EPA 6010	Phosphorus, total	8/1/2016	7/31/2017	Certified
EPA 6010	Potassium	8/1/2016	7/31/2017	Certified
EPA 6010	Selenium	8/1/2016	7/31/2017	Certified
EPA 6010	Silica as SiO2	8/1/2016	7/31/2017	Certified
EPA 6010	Silver	8/1/2016	7/31/2017	Certified
EPA 6010	Sodium	8/1/2016	7/31/2017	Certified
EPA 6010	Strontium	8/1/2016	7/31/2017	Certified
EPA 6010	Thallium	8/1/2016	7/31/2017	Certified
EPA 6010	Tin	8/1/2016	7/31/2017	Certified
EPA 6010	Titanium	8/1/2016	7/31/2017	Certified

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Western Environmental Testing - Sparks
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Matrix: ***RCRA (Non Potable Water)***

Method	Analyte	Start Date	Date Expires	Status
EPA 6010	Vanadium	8/1/2016	7/31/2017	Certified
EPA 6010	Zinc	8/1/2016	7/31/2017	Certified
EPA 6020	Antimony	8/1/2016	7/31/2017	Certified
EPA 6020	Arsenic	8/1/2016	7/31/2017	Certified
EPA 6020	Barium	8/1/2016	7/31/2017	Certified
EPA 6020	Beryllium	8/1/2016	7/31/2017	Certified
EPA 6020	Cadmium	8/1/2016	7/31/2017	Certified
EPA 6020	Chromium	8/1/2016	7/31/2017	Certified
EPA 6020	Copper	8/1/2016	7/31/2017	Certified
EPA 6020	Lead	8/1/2016	7/31/2017	Certified
EPA 6020	Manganese	8/1/2016	7/31/2017	Certified
EPA 6020	Molybdenum	8/1/2016	7/31/2017	Certified
EPA 6020	Nickel	8/1/2016	7/31/2017	Certified
EPA 6020	Selenium	8/1/2016	7/31/2017	Certified
EPA 6020	Silver	8/1/2016	7/31/2017	Certified
EPA 6020	Thallium	8/1/2016	7/31/2017	Certified
EPA 6020	Uranium (Chemical or Metal)	8/1/2016	7/31/2017	Certified
EPA 6020	Zinc	8/1/2016	7/31/2017	Certified
EPA 7470	Mercury	8/1/2016	7/31/2017	Certified
EPA 8015	Diesel range organics (DRO)	8/1/2016	7/31/2017	Certified
EPA 8015	Gasoline range organics (GRO)	8/1/2016	7/31/2017	Certified
EPA 8260	1,1,1,2-Tetrachloroethane	8/1/2016	7/31/2017	Certified
EPA 8260	1,1,1-Trichloroethane	8/1/2016	7/31/2017	Certified
EPA 8260	1,1,2,2-Tetrachloroethane	8/1/2016	7/31/2017	Certified
EPA 8260	1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	8/1/2016	7/31/2017	Certified
EPA 8260	1,1,2-Trichloroethane	8/1/2016	7/31/2017	Certified
EPA 8260	1,1-Dichloroethane	8/1/2016	7/31/2017	Certified
EPA 8260	1,1-Dichloroethylene	8/1/2016	7/31/2017	Certified
EPA 8260	1,1-Dichloropropene	8/1/2016	7/31/2017	Certified
EPA 8260	1,2,3-Trichlorobenzene	8/1/2016	7/31/2017	Certified

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Western Environmental Testing - Sparks
475 East Greg St.
Suite#119 Sparks, NV 89431-

Matrix: ***RCRA (Non Potable Water)***

Method	Analyte	Start Date	Date Expires	Status
EPA 8260	1,2,3-Trichloropropane	8/1/2016	7/31/2017	Certified
EPA 8260	1,2,4-Trichlorobenzene	8/1/2016	7/31/2017	Certified
EPA 8260	1,2,4-Trimethylbenzene	8/1/2016	7/31/2017	Certified
EPA 8260	1,2-Dibromo-3-chloropropane (DBCP, Dibromochloropropane)	8/1/2016	7/31/2017	Certified
EPA 8260	1,2-Dibromoethane (EDB, Ethylene dibromide)	8/1/2016	7/31/2017	Certified
EPA 8260	1,2-Dichlorobenzene	8/1/2016	7/31/2017	Certified
EPA 8260	1,2-Dichloroethane	8/1/2016	7/31/2017	Certified
EPA 8260	1,2-Dichloropropane	8/1/2016	7/31/2017	Certified
EPA 8260	1,3,5-Trimethylbenzene	8/1/2016	7/31/2017	Certified
EPA 8260	1,3-Dichlorobenzene	8/1/2016	7/31/2017	Certified
EPA 8260	1,3-Dichloropropane	8/1/2016	7/31/2017	Certified
EPA 8260	1,4-Dichlorobenzene	8/1/2016	7/31/2017	Certified
EPA 8260	2,2-Dichloropropane	8/1/2016	7/31/2017	Certified
EPA 8260	2-Butanone (Methyl ethyl ketone, MEK)	8/1/2016	7/31/2017	Certified
EPA 8260	2-Chloroethyl vinyl ether	8/1/2016	7/31/2017	Certified
EPA 8260	2-Chlorotoluene	8/1/2016	7/31/2017	Certified
EPA 8260	2-Hexanone	8/1/2016	7/31/2017	Certified
EPA 8260	4-Chlorotoluene	8/1/2016	7/31/2017	Certified
EPA 8260	4-Isopropyltoluene (p-Cymene)	8/1/2016	7/31/2017	Certified
EPA 8260	4-Methyl-2-pentanone (MIBK)	8/1/2016	7/31/2017	Certified
EPA 8260	Acetone	8/1/2016	7/31/2017	Certified
EPA 8260	Acetonitrile	8/1/2016	7/31/2017	Certified
EPA 8260	Acrolein (Propenal)	8/1/2016	7/31/2017	Certified
EPA 8260	Acrylonitrile	8/1/2016	7/31/2017	Certified
EPA 8260	Benzene	8/1/2016	7/31/2017	Certified
EPA 8260	Bromobenzene	8/1/2016	7/31/2017	Certified
EPA 8260	Bromochloromethane	8/1/2016	7/31/2017	Certified
EPA 8260	Bromodichloromethane	8/1/2016	7/31/2017	Certified
EPA 8260	Bromoform	8/1/2016	7/31/2017	Certified
EPA 8260	Carbon disulfide	8/1/2016	7/31/2017	Certified

State of Nevada Department of Conservation and Natural Resources
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EPA Number: *NV00925* **Attachment to Certificate Number: NV009252017-1** **Expiration Date: 7/31/2017**

Western Environmental Testing - Sparks
475 East Greg St.
Suite#119 Sparks, NV 89431-

Matrix: ***RCRA (Non Potable Water)***

Method	Analyte	Start Date	Date Expires	Status
EPA 8260	Carbon tetrachloride	8/1/2016	7/31/2017	Certified
EPA 8260	Chlorobenzene	8/1/2016	7/31/2017	Certified
EPA 8260	Chlorodibromomethane (Dibromochloromethane)	8/1/2016	7/31/2017	Certified
EPA 8260	Chloroethane (Ethyl chloride)	8/1/2016	7/31/2017	Certified
EPA 8260	Chloroform	8/1/2016	7/31/2017	Certified
EPA 8260	cis-1,2-Dichloroethylene	8/1/2016	7/31/2017	Certified
EPA 8260	cis-1,3-Dichloropropene (cis-1,3-Dichloropropylene)	8/1/2016	7/31/2017	Certified
EPA 8260	Dibromomethane (Methylene bromide)	8/1/2016	7/31/2017	Certified
EPA 8260	Dichlorodifluoromethane (Freon-12)	8/1/2016	7/31/2017	Certified
EPA 8260	Di-isopropylether (DIPE)	8/1/2016	7/31/2017	Certified
EPA 8260	Ethylbenzene	8/1/2016	7/31/2017	Certified
EPA 8260	Hexachlorobutadiene	8/1/2016	7/31/2017	Certified
EPA 8260	Isopropylbenzene	8/1/2016	7/31/2017	Certified
EPA 8260	m+p-xylene	8/1/2016	7/31/2017	Certified
EPA 8260	Methyl bromide (Bromomethane)	8/1/2016	7/31/2017	Certified
EPA 8260	Methyl chloride (Chloromethane)	8/1/2016	7/31/2017	Certified
EPA 8260	Methyl tert-butyl ether (MTBE)	8/1/2016	7/31/2017	Certified
EPA 8260	Methylene chloride (Dichloromethane)	8/1/2016	7/31/2017	Certified
EPA 8260	Naphthalene	8/1/2016	7/31/2017	Certified
EPA 8260	n-Butylbenzene	8/1/2016	7/31/2017	Certified
EPA 8260	n-Propylbenzene	8/1/2016	7/31/2017	Certified
EPA 8260	o-Xylene	8/1/2016	7/31/2017	Certified
EPA 8260	sec-Butylbenzene	8/1/2016	7/31/2017	Certified
EPA 8260	Styrene	8/1/2016	7/31/2017	Certified
EPA 8260	T-amylmethylether (TAME)	8/1/2016	7/31/2017	Certified
EPA 8260	tert-Butylbenzene	8/1/2016	7/31/2017	Certified
EPA 8260	Tetrachloroethylene (Perchloroethylene)	8/1/2016	7/31/2017	Certified
EPA 8260	Toluene	8/1/2016	7/31/2017	Certified
EPA 8260	trans-1,2-Dichloroethylene	8/1/2016	7/31/2017	Certified
EPA 8260	trans-1,3-Dichloropropene (trans-1,3-Dichloropropylene)	8/1/2016	7/31/2017	Certified

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EPA Number: *NV00925* **Attachment to Certificate Number: NV009252017-1** **Expiration Date: 7/31/2017**

Western Environmental Testing - Sparks
475 East Greg St.
Suite#119 Sparks, NV 89431-

Matrix: ***RCRA (Non Potable Water)***

Method	Analyte	Start Date	Date Expires	Status
EPA 8260	Trichloroethene (Trichloroethylene)	8/1/2016	7/31/2017	Certified
EPA 8260	Trichlorofluoromethane (Fluorotrichloromethane, Freon 11)	8/1/2016	7/31/2017	Certified
EPA 8260	Vinyl acetate	8/1/2016	7/31/2017	Certified
EPA 8260	Vinyl chloride	8/1/2016	7/31/2017	Certified
EPA 8260	Xylene (total)	8/1/2016	7/31/2017	Certified
SM 2540 C	Residue-filterable (TDS)	8/1/2016	7/31/2017	Certified
SM 2550 B	Temperature, deg. C	8/1/2016	7/31/2017	Nevada Approved

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EPA Number: *NV00925* **Attachment to Certificate Number: NV009252017-1** **Expiration Date: 7/31/2017**

Western Environmental Testing - Sparks
475 East Greg St.
Suite#119 Sparks, NV 89431-

Matrix: ***RCRA (Solid & Waste Materials)***

Method	Analyte	Start Date	Date Expires	Status
Discipline: Chemistry				
EPA 1010	Ignitability	8/1/2016	7/31/2017	Certified
EPA 1311-Metals	TCLP extracted Metals	8/1/2016	7/31/2017	Certified
EPA 1311-VOCs	TCLP extracted VOCs	8/1/2016	7/31/2017	Certified
EPA 1312-Metals	SPLP extracted Metals	8/1/2016	7/31/2017	Nevada Approved
EPA 1312-VOCs	SPLP extracted VOCs	8/1/2016	7/31/2017	Nevada Approved
EPA 3050	Acid digest for metals	8/1/2016	7/31/2017	Certified
EPA 314.0M	Perchlorate	8/1/2016	7/31/2017	Certified
EPA 351.2 M	Kjeldahl nitrogen - total	8/1/2016	7/31/2017	Certified
EPA 6010	Aluminum	8/1/2016	7/31/2017	Certified
EPA 6010	Antimony	8/1/2016	7/31/2017	Certified
EPA 6010	Arsenic	8/1/2016	7/31/2017	Certified
EPA 6010	Barium	8/1/2016	7/31/2017	Certified
EPA 6010	Beryllium	8/1/2016	7/31/2017	Certified
EPA 6010	Boron	8/1/2016	7/31/2017	Certified
EPA 6010	Cadmium	8/1/2016	7/31/2017	Certified
EPA 6010	Calcium	8/1/2016	7/31/2017	Certified
EPA 6010	Chromium	8/1/2016	7/31/2017	Certified
EPA 6010	Cobalt	8/1/2016	7/31/2017	Certified
EPA 6010	Copper	8/1/2016	7/31/2017	Certified
EPA 6010	Iron	8/1/2016	7/31/2017	Certified
EPA 6010	Lead	8/1/2016	7/31/2017	Certified
EPA 6010	Lithium	8/1/2016	7/31/2017	Certified
EPA 6010	Magnesium	8/1/2016	7/31/2017	Certified
EPA 6010	Manganese	8/1/2016	7/31/2017	Certified
EPA 6010	Molybdenum	8/1/2016	7/31/2017	Certified
EPA 6010	Nickel	8/1/2016	7/31/2017	Certified
EPA 6010	Phosphorus, total	8/1/2016	7/31/2017	Certified
EPA 6010	Potassium	8/1/2016	7/31/2017	Certified
EPA 6010	Selenium	8/1/2016	7/31/2017	Certified

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Western Environmental Testing - Sparks
475 East Greg St.
Suite#119 Sparks, NV 89431-

Matrix: ***RCRA (Solid & Waste Materials)***

Method	Analyte	Start Date	Date Expires	Status
EPA 6010	Silver	8/1/2016	7/31/2017	Certified
EPA 6010	Sodium	8/1/2016	7/31/2017	Certified
EPA 6010	Strontium	8/1/2016	7/31/2017	Certified
EPA 6010	Thallium	8/1/2016	7/31/2017	Certified
EPA 6010	Tin	8/1/2016	7/31/2017	Certified
EPA 6010	Titanium	8/1/2016	7/31/2017	Certified
EPA 6010	Vanadium	8/1/2016	7/31/2017	Certified
EPA 6010	Zinc	8/1/2016	7/31/2017	Certified
EPA 6020	Antimony	8/1/2016	7/31/2017	Certified
EPA 6020	Barium	8/1/2016	7/31/2017	Certified
EPA 6020	Beryllium	8/1/2016	7/31/2017	Certified
EPA 6020	Cadmium	8/1/2016	7/31/2017	Certified
EPA 6020	Chromium	8/1/2016	7/31/2017	Certified
EPA 6020	Copper	8/1/2016	7/31/2017	Certified
EPA 6020	Lead	8/1/2016	7/31/2017	Certified
EPA 6020	Manganese	8/1/2016	7/31/2017	Certified
EPA 6020	Mercury	8/1/2016	7/31/2017	Certified
EPA 6020	Molybdenum	8/1/2016	7/31/2017	Certified
EPA 6020	Nickel	8/1/2016	7/31/2017	Certified
EPA 6020	Selenium	8/1/2016	7/31/2017	Certified
EPA 6020	Thallium	8/1/2016	7/31/2017	Certified
EPA 6020	Uranium (Chemical or Metal)	8/1/2016	7/31/2017	Certified
EPA 6020	Zinc	8/1/2016	7/31/2017	Certified
EPA 7471	Mercury	8/1/2016	7/31/2017	Certified
EPA 8015	Diesel range organics (DRO)	8/1/2016	7/31/2017	Certified
EPA 8015	Gasoline range organics (GRO)	8/1/2016	7/31/2017	Certified
EPA 8015	Residual Range Organics (RRO) - Oil Range Organics	8/1/2016	7/31/2017	Certified
EPA 8260	1,1,1,2-Tetrachloroethane	8/1/2016	7/31/2017	Certified
EPA 8260	1,1,1-Trichloroethane	8/1/2016	7/31/2017	Certified
EPA 8260	1,1,2,2-Tetrachloroethane	8/1/2016	7/31/2017	Certified

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Western Environmental Testing - Sparks
475 East Greg St.
Suite#119 Sparks, NV 89431-

Matrix: ***RCRA (Solid & Waste Materials)***

Method	Analyte	Start Date	Date Expires	Status
EPA 8260	1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	8/1/2016	7/31/2017	Certified
EPA 8260	1,1,2-Trichloroethane	8/1/2016	7/31/2017	Certified
EPA 8260	1,1-Dichloroethane	8/1/2016	7/31/2017	Certified
EPA 8260	1,1-Dichloroethylene	8/1/2016	7/31/2017	Certified
EPA 8260	1,1-Dichloropropene	8/1/2016	7/31/2017	Certified
EPA 8260	1,2,3-Trichlorobenzene	8/1/2016	7/31/2017	Certified
EPA 8260	1,2,3-Trichloropropane	8/1/2016	7/31/2017	Certified
EPA 8260	1,2,4-Trichlorobenzene	8/1/2016	7/31/2017	Certified
EPA 8260	1,2,4-Trimethylbenzene	8/1/2016	7/31/2017	Certified
EPA 8260	1,2-Dibromo-3-chloropropane (DBCP, Dibromochloropropane)	8/1/2016	7/31/2017	Certified
EPA 8260	1,2-Dibromoethane (EDB, Ethylene dibromide)	8/1/2016	7/31/2017	Certified
EPA 8260	1,2-Dichlorobenzene	8/1/2016	7/31/2017	Certified
EPA 8260	1,2-Dichloroethane	8/1/2016	7/31/2017	Certified
EPA 8260	1,2-Dichloropropane	8/1/2016	7/31/2017	Certified
EPA 8260	1,3,5-Trimethylbenzene	8/1/2016	7/31/2017	Certified
EPA 8260	1,3-Dichlorobenzene	8/1/2016	7/31/2017	Certified
EPA 8260	1,3-Dichloropropane	8/1/2016	7/31/2017	Certified
EPA 8260	1,4-Dichlorobenzene	8/1/2016	7/31/2017	Certified
EPA 8260	2,2-Dichloropropane	8/1/2016	7/31/2017	Certified
EPA 8260	2-Butanone (Methyl ethyl ketone, MEK)	8/1/2016	7/31/2017	Certified
EPA 8260	2-Chloroethyl vinyl ether	8/1/2016	7/31/2017	Certified
EPA 8260	2-Chlorotoluene	8/1/2016	7/31/2017	Certified
EPA 8260	2-Hexanone	8/1/2016	7/31/2017	Certified
EPA 8260	4-Chlorotoluene	8/1/2016	7/31/2017	Certified
EPA 8260	4-Isopropyltoluene (p-Cymene)	8/1/2016	7/31/2017	Certified
EPA 8260	4-Methyl-2-pentanone (MIBK)	8/1/2016	7/31/2017	Certified
EPA 8260	Acetone	8/1/2016	7/31/2017	Certified
EPA 8260	Acetonitrile	8/1/2016	7/31/2017	Certified
EPA 8260	Acrolein (Propenal)	8/1/2016	7/31/2017	Certified
EPA 8260	Acrylonitrile	8/1/2016	7/31/2017	Certified

State of Nevada Department of Conservation and Natural Resources
Division of Environmental Protection
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EPA Number: *NV00925* **Attachment to Certificate Number: NV009252017-1** **Expiration Date: 7/31/2017**

Western Environmental Testing - Sparks
475 East Greg St.
Suite#119 Sparks, NV 89431-

Matrix: ***RCRA (Solid & Waste Materials)***

Method	Analyte	Start Date	Date Expires	Status
EPA 8260	Benzene	8/1/2016	7/31/2017	Certified
EPA 8260	Bromobenzene	8/1/2016	7/31/2017	Certified
EPA 8260	Bromochloromethane	8/1/2016	7/31/2017	Certified
EPA 8260	Bromodichloromethane	8/1/2016	7/31/2017	Certified
EPA 8260	Bromoform	8/1/2016	7/31/2017	Certified
EPA 8260	Carbon disulfide	8/1/2016	7/31/2017	Certified
EPA 8260	Carbon tetrachloride	8/1/2016	7/31/2017	Certified
EPA 8260	Chlorobenzene	8/1/2016	7/31/2017	Certified
EPA 8260	Chlorodibromomethane (Dibromochloromethane)	8/1/2016	7/31/2017	Certified
EPA 8260	Chloroethane (Ethyl chloride)	8/1/2016	7/31/2017	Certified
EPA 8260	Chloroform	8/1/2016	7/31/2017	Certified
EPA 8260	cis-1,2-Dichloroethylene	8/1/2016	7/31/2017	Certified
EPA 8260	cis-1,3-Dichloropropene (cis-1,3-Dichloropropylene)	8/1/2016	7/31/2017	Certified
EPA 8260	Dibromomethane (Methylene bromide)	8/1/2016	7/31/2017	Certified
EPA 8260	Dichlorodifluoromethane (Freon-12)	8/1/2016	7/31/2017	Certified
EPA 8260	Di-isopropylether (DIPE)	8/1/2016	7/31/2017	Certified
EPA 8260	Ethylbenzene	8/1/2016	7/31/2017	Certified
EPA 8260	Hexachlorobutadiene	8/1/2016	7/31/2017	Certified
EPA 8260	Isopropylbenzene	8/1/2016	7/31/2017	Certified
EPA 8260	m+p-xylene	8/1/2016	7/31/2017	Certified
EPA 8260	Methyl bromide (Bromomethane)	8/1/2016	7/31/2017	Certified
EPA 8260	Methyl chloride (Chloromethane)	8/1/2016	7/31/2017	Certified
EPA 8260	Methyl tert-butyl ether (MTBE)	8/1/2016	7/31/2017	Certified
EPA 8260	Methylene chloride (Dichloromethane)	8/1/2016	7/31/2017	Certified
EPA 8260	Naphthalene	8/1/2016	7/31/2017	Certified
EPA 8260	n-Butylbenzene	8/1/2016	7/31/2017	Certified
EPA 8260	n-Propylbenzene	8/1/2016	7/31/2017	Certified
EPA 8260	o-Xylene	8/1/2016	7/31/2017	Certified
EPA 8260	sec-Butylbenzene	8/1/2016	7/31/2017	Certified
EPA 8260	Styrene	8/1/2016	7/31/2017	Certified

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Division of Environmental Protection
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Western Environmental Testing - Sparks
475 East Greg St.
Suite#119 Sparks, NV 89431-

Matrix: ***RCRA (Solid & Waste Materials)***

Method	Analyte	Start Date	Date Expires	Status
EPA 8260	T-amylmethylether (TAME)	8/1/2016	7/31/2017	Certified
EPA 8260	tert-Butylbenzene	8/1/2016	7/31/2017	Certified
EPA 8260	Tetrachloroethylene (Perchloroethylene)	8/1/2016	7/31/2017	Certified
EPA 8260	Toluene	8/1/2016	7/31/2017	Certified
EPA 8260	trans-1,2-Dichloroethylene	8/1/2016	7/31/2017	Certified
EPA 8260	trans-1,3-Dichloropropene (trans-1,3-Dichloropropylene)	8/1/2016	7/31/2017	Certified
EPA 8260	Trichloroethene (Trichloroethylene)	8/1/2016	7/31/2017	Certified
EPA 8260	Trichlorofluoromethane (Fluorotrichloromethane, Freon 11)	8/1/2016	7/31/2017	Certified
EPA 8260	Vinyl acetate	8/1/2016	7/31/2017	Certified
EPA 8260	Vinyl chloride	8/1/2016	7/31/2017	Certified
EPA 8260	Xylene (total)	8/1/2016	7/31/2017	Certified
EPA 9014	Cyanide	8/1/2016	7/31/2017	Certified
EPA 9040C	Corrosivity (pH)	8/1/2016	7/31/2017	Certified
EPA 9045	Corrosivity (pH)	8/1/2016	7/31/2017	Certified
EPA 9056	Chloride	8/1/2016	7/31/2017	Certified
EPA 9056	Fluoride	8/1/2016	7/31/2017	Certified
EPA 9056	Nitrate as N	8/1/2016	7/31/2017	Certified
EPA 9095B	Paint Filter Liquids Test	8/1/2016	7/31/2017	Nevada Approved
SM 2540 G	Residue - total, fixed and volatile	8/1/2016	7/31/2017	Certified

State of Nevada Department of Conservation and Natural Resources
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Western Environmental Testing - Sparks
475 East Greg St.
Suite#119 Sparks, NV 89431-

Matrix: ***SDWA (Potable Water)***

Method	Analyte	Start Date	Date Expires	Status
Discipline: Chemistry				
EPA 180.1	Turbidity	8/1/2016	7/31/2017	Certified
EPA 200.7	Aluminum	8/1/2016	7/31/2017	Certified
EPA 200.7	Barium	8/1/2016	7/31/2017	Certified
EPA 200.7	Beryllium	8/1/2016	7/31/2017	Certified
EPA 200.7	Boron	8/1/2016	7/31/2017	Certified
EPA 200.7	Cadmium	8/1/2016	7/31/2017	Certified
EPA 200.7	Calcium	8/1/2016	7/31/2017	Certified
EPA 200.7	Chromium	8/1/2016	7/31/2017	Certified
EPA 200.7	Copper	8/1/2016	7/31/2017	Certified
EPA 200.7	Iron	8/1/2016	7/31/2017	Certified
EPA 200.7	Magnesium	8/1/2016	7/31/2017	Certified
EPA 200.7	Manganese	8/1/2016	7/31/2017	Certified
EPA 200.7	Nickel	8/1/2016	7/31/2017	Certified
EPA 200.7	Potassium	8/1/2016	7/31/2017	Certified
EPA 200.7	Silica as SiO2	8/1/2016	7/31/2017	Certified
EPA 200.7	Silver	8/1/2016	7/31/2017	Certified
EPA 200.7	Sodium	8/1/2016	7/31/2017	Certified
EPA 200.7	Zinc	8/1/2016	7/31/2017	Certified
EPA 200.8	Antimony	8/1/2016	7/31/2017	Certified
EPA 200.8	Arsenic	8/1/2016	7/31/2017	Certified
EPA 200.8	Barium	8/1/2016	7/31/2017	Certified
EPA 200.8	Beryllium	8/1/2016	7/31/2017	Certified
EPA 200.8	Cadmium	8/1/2016	7/31/2017	Certified
EPA 200.8	Chromium	8/1/2016	7/31/2017	Certified
EPA 200.8	Copper	8/1/2016	7/31/2017	Certified
EPA 200.8	Lead	8/1/2016	7/31/2017	Certified
EPA 200.8	Manganese	8/1/2016	7/31/2017	Certified
EPA 200.8	Mercury	8/1/2016	7/31/2017	Certified
EPA 200.8	Molybdenum	8/1/2016	7/31/2017	Certified

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State of Nevada Department of Conservation and Natural Resources
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Western Environmental Testing - Sparks
475 East Greg St.
Suite#119 Sparks, NV 89431-

Matrix: ***SDWA (Potable Water)***

Method	Analyte	Start Date	Date Expires	Status
EPA 200.8	Nickel	8/1/2016	7/31/2017	Certified
EPA 200.8	Selenium	8/1/2016	7/31/2017	Certified
EPA 200.8	Silver	8/1/2016	7/31/2017	Certified
EPA 200.8	Thallium	8/1/2016	7/31/2017	Certified
EPA 200.8	Uranium (Nat.) Total Mass	8/1/2016	7/31/2017	Certified
EPA 200.8	Zinc	8/1/2016	7/31/2017	Certified
EPA 245.1	Mercury	8/1/2016	7/31/2017	Certified
EPA 300.0	Bromide	8/1/2016	7/31/2017	Certified
EPA 300.0	Chloride	8/1/2016	7/31/2017	Certified
EPA 300.0	Fluoride	8/1/2016	7/31/2017	Certified
EPA 300.0	Nitrate as N	8/1/2016	7/31/2017	Certified
EPA 300.0	Nitrite as N	8/1/2016	7/31/2017	Certified
EPA 300.0	Sulfate	8/1/2016	7/31/2017	Certified
EPA 300.1	Bromate	8/1/2016	7/31/2017	Certified
EPA 300.1	Bromide	8/1/2016	7/31/2017	Certified
EPA 300.1	Chlorate	8/1/2016	7/31/2017	Certified
EPA 300.1	Chlorite	8/1/2016	7/31/2017	Certified
EPA 314.0	Perchlorate	8/1/2016	7/31/2017	Certified
EPA 353.2	Nitrate as N	8/1/2016	7/31/2017	Certified
EPA 353.2	Nitrate-nitrite	8/1/2016	7/31/2017	Certified
EPA 524.2	1,1,1-Trichloroethane	8/1/2016	7/31/2017	Certified
EPA 524.2	1,1,2-Trichloroethane	8/1/2016	7/31/2017	Certified
EPA 524.2	1,1-Dichloroethylene	8/1/2016	7/31/2017	Certified
EPA 524.2	1,2,4-Trichlorobenzene	8/1/2016	7/31/2017	Certified
EPA 524.2	1,2-Dichlorobenzene	8/1/2016	7/31/2017	Certified
EPA 524.2	1,2-Dichloroethane	8/1/2016	7/31/2017	Certified
EPA 524.2	1,2-Dichloropropane	8/1/2016	7/31/2017	Certified
EPA 524.2	1,4-Dichlorobenzene	8/1/2016	7/31/2017	Certified
EPA 524.2	Benzene	8/1/2016	7/31/2017	Certified
EPA 524.2	Bromodichloromethane	8/1/2016	7/31/2017	Certified

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EPA Number: *NV00925* **Attachment to Certificate Number: NV009252017-1** **Expiration Date: 7/31/2017**

Western Environmental Testing - Sparks
475 East Greg St.
Suite#119 Sparks, NV 89431-

Matrix: ***SDWA (Potable Water)***

Method	Analyte	Start Date	Date Expires	Status
EPA 524.2	Bromoform	8/1/2016	7/31/2017	Certified
EPA 524.2	Carbon tetrachloride	8/1/2016	7/31/2017	Certified
EPA 524.2	Chlorobenzene	8/1/2016	7/31/2017	Certified
EPA 524.2	Chlorodibromomethane (Dibromochloromethane)	8/1/2016	7/31/2017	Certified
EPA 524.2	Chloroform	8/1/2016	7/31/2017	Certified
EPA 524.2	cis-1,2-Dichloroethylene	8/1/2016	7/31/2017	Certified
EPA 524.2	Ethylbenzene	8/1/2016	7/31/2017	Certified
EPA 524.2	Methylene chloride (Dichloromethane)	8/1/2016	7/31/2017	Certified
EPA 524.2	Styrene	8/1/2016	7/31/2017	Certified
EPA 524.2	Toluene	8/1/2016	7/31/2017	Certified
EPA 524.2	Total trihalomethanes	8/1/2016	7/31/2017	Certified
EPA 524.2	trans-1,2-Dichloroethylene	8/1/2016	7/31/2017	Certified
EPA 524.2	Trichloroethene (Trichloroethylene)	8/1/2016	7/31/2017	Certified
EPA 524.2	Vinyl chloride	8/1/2016	7/31/2017	Certified
EPA 524.2	Xylene (total)	8/1/2016	7/31/2017	Certified
EPA 552.3	Bromoacetic acid (Monobromoacetic acid, MBAA)	8/1/2016	7/31/2017	Certified
EPA 552.3	Bromochloroacetic acid (BCAA)	8/1/2016	7/31/2017	Certified
EPA 552.3	Chloroacetic acid (Monochloroacetic acid, MCAA)	8/1/2016	7/31/2017	Certified
EPA 552.3	Dibromoacetic acid (DBAA)	8/1/2016	7/31/2017	Certified
EPA 552.3	Dichloroacetic acid (DCAA)	8/1/2016	7/31/2017	Certified
EPA 552.3	Haloacetic acids (HAA5)	8/1/2016	7/31/2017	Certified
EPA 552.3	Trichloroacetic acid (TCAA)	8/1/2016	7/31/2017	Certified
HACH 8167	Total Chlorine (residual)	8/1/2016	7/31/2017	Certified
SM 2120 B	Color	8/1/2016	7/31/2017	Certified
SM 2150 B	Odor	8/1/2016	7/31/2017	Interim
SM 2320 B	Alkalinity as CaCO3	8/1/2016	7/31/2017	Certified
SM 2330 B	Corrosivity (langlier index)	8/1/2016	7/31/2017	Certified
SM 2340 B	Calcium hardness as CaCO3	8/1/2016	7/31/2017	Certified
SM 2340 B	Hardness by calculation	8/1/2016	7/31/2017	Certified
SM 2510 B	Conductivity	8/1/2016	7/31/2017	Certified

State of Nevada Department of Conservation and Natural Resources
Division of Environmental Protection
Laboratory Scope of Accreditation

EPA Number: *NV00925* **Attachment to Certificate Number: NV009252017-1** **Expiration Date: 7/31/2017**

Western Environmental Testing - Sparks
475 East Greg St.
Suite#119 Sparks, NV 89431-

Matrix: ***SDWA (Potable Water)***

Method	Analyte	Start Date	Date Expires	Status
SM 2540 C	Residue-filterable (TDS)	8/1/2016	7/31/2017	Certified
SM 2540 D	Residue-nonfilterable (TSS)	8/1/2016	7/31/2017	Certified
SM 2550 B	Temperature, deg. C	8/1/2016	7/31/2017	Nevada Approved
SM 4500-CN^- C,E	Cyanide	8/1/2016	7/31/2017	Certified
SM 4500-H+ B	pH	8/1/2016	7/31/2017	Certified
SM 4500-P E	Orthophosphate as P	8/1/2016	7/31/2017	Certified
SM 5540 C	Surfactants - MBAS	8/1/2016	7/31/2017	Certified
Discipline: Microbiology				
IDEXX Colilert®	Escherichia coli	8/1/2016	7/31/2017	Certified
IDEXX Colilert®	Total coliforms	8/1/2016	7/31/2017	Certified
IDEXX Quanti-Tray® under SWTR	E. coli enumeration	8/1/2016	7/31/2017	Certified
IDEXX Quanti-Tray® with Colilert® under SWTR	Total Coliform Enumeration	8/1/2016	7/31/2017	Certified
IDEXX SimPlate® under SWTR	Heterotrophic plate count	8/1/2016	7/31/2017	Certified

Disclaimer: A laboratory that is certified or approved has established that they have the ability to implement a quality control program in accordance with the appropriate Federal or State regulations or statutes. It is the certified laboratory's responsibility to provide their client the most current certified parameter list. Contact LCP to verify certification status.

Appendix C

Season Data

Index:

Sampling event no: 1

TKPOA Sediment Sampling

Date: 5/25/2017 & 5/29/2017

Data entered by: Kristen Hunter 11/07/2017

Collector: Kristen Hunter

Data checked by: Krystle Heaney 11/09/17

Boat Driver

Start time: 8:00 am

End time: 4:30 pm

WET Lab Sediment Results

Site #	Aluminum (mg/kg)	Phosphorus (mg/kg)	Organic Matter (%)	Orthophosphate (mg/kg)	Ammonia (mg/kg)	Total Solids (%)	Nitrate Nitrogen(mg/kg)	Nitrite Nitrogen (mg/kg)	pH	
1A	3800	220	10	ND	92	21.13	ND	ND	NA	
1B	3900	210	8.4	ND	81	23.75	ND	ND	NA	
2A	4600	170	9.9	ND	26	21.6	ND	ND	NA	
2B	4200	150	16	ND	73	15.19	ND	ND	NA	
3A	3100	160	2.1	ND	47	44.5	ND	ND	NA	
3B	5100	140	3.7	ND	33	41.91	ND	ND	NA	
4A	4000	120	9.6	ND	51	24.86	ND	ND	NA	
4B	3100	110	10	ND	50	22.97	ND	ND	NA	
5A	3000	82	13	ND	75	20.72	ND	ND	NA	
5B	4000	96	11	ND	100	23.31	ND	ND	NA	
6A	8800	250	7	ND	61	34.74	ND	ND	NA	
6B	7600	180	8.4	ND	39	27.66	ND	ND	NA	
7A	4300	140	9.1	ND	140	28.48	ND	ND	NA	
7B	3600	100	12	ND	130	23.21	ND	ND	NA	
8A	4300	110	10	ND	33	19.82	ND	ND	NA	
8B	5700	130	9.4	0.05	36	24.31	ND	ND	NA	
9A	NA	NA	NA	NA	NA	NA	NA	NA	NA	
9B	NA	NA	NA	NA	NA	NA	NA	NA	NA	
10A	4500	220	10	0.13	93	20.95	ND	ND	NA	
10B	5000	210	9.8	ND	78	20.97	ND	ND	NA	
11A	1300	120	0.38	ND	7.1	79.13	ND	ND	NA	5/29/2017
11B	2000	250	0.35	ND	3	79.78	ND	ND	NA	5/29/2017
12A	2000	150	13	ND	4.8	14.68	ND	ND	NA	
12A	2200	140	0.46	ND	6.9	82.22	ND	ND	NA	5/29/2017
12B	2300	150	0.53	ND	7.9	76.58	ND	ND	NA	5/29/2017
13A	1900	98	9.8	ND	39	24.39	ND	ND	NA	5/29/2017
13B	2100	140	4.1	ND	30	52.52	ND	ND	NA	5/29/2017

sc: Spike recovery not calculated. Sample concentration >4X the spike amount; therefore, the spike could not be adequately recovered.

B: Blank contamination; analyte detected above the method reporting limit in an associated blank.

M: The matrix spike/matrix spike duplicate (MS/MSD) values for the analysis of this parameter were outside acceptance criteria due to probable matrix interference. The reported result should be considered an estimate

NA: Data not available

Sampling event no: 2

TKPOA Sediment Sampling

Date: 10/16/2017

Data entered by: Kristen Hunter 11/07/2017

Collector: Kristen Hunter

Data checked by: **Krystle Heaney 11/09/17**

Boat Driver: Kevin S.

Start time: 7:30 am

End time: 3:30 pm

WET Lab Sediment Results

Site #	Aluminum (mg/kg)	Phosphorus (mg/kg)	Organic Matter (%)	Orthophosphate (mg/kg)	Ammonia (mg/kg)	Total Solids (%)	Nitrate Nitrogen(mg/kg)	Nitrite Nitrogen (mg/kg)	pH
1A	4900	280	11	ND	NA	25.53	ND	ND	6.69
1B	4800	260	11	ND	NA	31.65	ND	ND	6.85
2A	6600	190	9.8	ND	NA	21.35	ND	0.2	6.64
2B	4800	730	10	ND	NA	12.81	ND	0.16	6.76
3A	3500	170	11	ND	NA	21.17	ND	ND	6.6
3B	6000	200	6.1	ND	NA	17.22	ND	ND	6.8
4A	8000	180	7.4	ND	NA	21.29	ND	0.15	6.57
4B	3500	100	12	ND	NA	76.03	ND	ND	6.61
5A	6400	130	14	ND	NA	99.99	0.32	0.16	6.45
5B	NA	NA	NA	NA	NA	NA	NA	NA	NA
6A	12000	270	7.1	ND	NA	19.82	ND	ND	6.79
6B	13000	280	7	0.046	NA	84.19	0.31	0.19	6.78
7A	3300	69	18	ND	NA	44.17	ND	ND	6.46
7B	NA	NA	NA	NA	NA	NA	NA	NA	NA
8A	5200	130	9	ND	NA	19.33	ND	ND	6.99
8B	4900	96	12	ND	NA	34.51	ND	ND	7.03
9A	3800	250	8.4	ND	NA	13.78	ND	ND	6.86
9B	1800	150	0.53	ND	NA	12.93	ND	ND	7.73
10A	8800	210	8.9	ND	NA	35.32	ND	ND	6.56
10B	5800	160	9.1	ND	NA	27.86	ND	ND	6.68
11A	1500	94	0.37	ND	NA	16.06	ND	ND	7.03
11B	1300	72	0.43	ND	NA	71.09	ND	ND	7.08
12A	2100	140	0.64	ND	NA	92.99	ND	ND	6.7
12B	3100	140	0.63	ND	NA	36.1	ND	ND	6.96
13A	2000	140	0.48	ND	NA	81.5	ND	ND	6.74
13B	2400	140	0.5	ND	NA	74.87	ND	ND	6.58

sc: Spike recovery not calculated. Sample concentration >4X the spike amount; therefore, the spike could not be adequately recovered.

B: Blank contamination; analyte detected above the method reporting limit in an associated blank.

M: The matrix spike/matrix spike duplicate (MS/MSD) values for the analysis of this parameter were outside acceptance criteria due to probable matrix interference. The reported result should be considered an estimate

Appendix D

Western Environmental Testing Lab
Analysis Results

Index:

6/8/2017

Tahoe Keys Property Owners Association
356 Ala Wai Blvd.
South Lake Tahoe, CA 96150
Attn: Kristen Hunter

OrderID: *1705733*

Dear: Kristen Hunter

This is to transmit the attached analytical report. The analytical data and information contained therein was generated using specified or selected methods contained in references, such as Standard Methods for the Examination of Water and Wastewater, online edition, Methods for Determination of Organic Compounds in Drinking Water, EPA-600/4-79-020, and Test Methods for Evaluation of Solid Waste, Physical/Chemical Methods (SW846) Third Edition.

The samples were received by WETLAB-Western Environmental Testing Laboratory in good condition on 5/25/2017. Additional comments are located on page 2 of this report.

If you should have any questions or comments regarding this report, please do not hesitate to call.

Sincerely,

Andy Smith
QA Manager

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fax (775) 355-0817
EPA LAB ID: NV00925 - ELAP No: 2523

ELKO
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Elko, Nevada 89801
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EPA LAB ID: NV00926

LAS VEGAS
3230 Polaris Ave. Suite 4
Las Vegas, Nevada 89102
tel (702) 475-8899
fax (702) 622-2868
EPA LAB ID: NV00932

Western Environmental Testing Laboratory
Report Comments

Tahoe Keys Property Owners Association - 1705733

Specific Report Comments

None

Report Legend

B	--	Blank contamination; Analyte detected above the method reporting limit in an associated blank
D	--	Due to the sample matrix dilution was required in order to properly detect and report the analyte. The reporting limit has been adjusted accordingly.
HT	--	Sample analyzed beyond the accepted holding time
J	--	The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit
M	--	The matrix spike/matrix spike duplicate (MS/MSD) values for the analysis of this parameter were outside acceptance criteria due to probable matrix interference. The reported result should be considered an estimate.
N	--	There was insufficient sample available to perform a spike and/or duplicate on this analytical batch.
NC	--	Not calculated due to matrix interference
QD	--	The sample duplicate or matrix spike duplicate analysis demonstrated sample imprecision. The reported result should be considered an estimate.
QL	--	The result for the laboratory control sample (LCS) was outside WETLAB acceptance criteria and reanalysis was not possible. The reported data should be considered an estimate.
S	--	Surrogate recovery was outside of laboratory acceptance limits due to matrix interference. The associated blank and LCS surrogate recovery was within acceptance limits
SC	--	Spike recovery not calculated. Sample concentration >4X the spike amount; therefore, the spike could not be adequately recovered
U	--	The analyte was analyzed for, but was not detected above the level of the reported sample reporting/quantitation limit

General Lab Comments

Per method recommendation (section 4.4), Samples analyzed by methods EPA 300.0 and EPA 300.1 have been filtered prior to analysis.

The following is an interpretation of the results from EPA method 9223B:
A result of zero (0) indicates absence for both coliform and Escherichia coli meaning the water meets the microbiological requirements of the U.S. EPA Safe Drinking Water Act (SDWA). A result of one (1) for either test indicates presence and the water does not meet the SDWA requirements. Waters with positive tests should be disinfected by a certified water treatment operator and retested.

Per federal regulation the holding time for the following parameters in aqueous/water samples is 15 minutes: Residual Chlorine, pH, Dissolved Oxygen, Sulfite.

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Western Environmental Testing Laboratory
Analytical Report

Tahoe Keys Property Owners Association
356 Ala Wai Blvd.
South Lake Tahoe, CA 96150
Attn: Kristen Hunter
Phone: (530) 542-6450 **Fax:** (530) 542-6457

Date Printed: 6/8/2017
OrderID: *1705733*

Customer Sample ID: SED-01-01 A
WETLAB Sample ID: 1705733-001
Collect Date/Time: 5/25/2017 11:37
Receive Date: 5/25/2017 15:40

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
Trace Metals (Soil) by ICP-OES							
Aluminum	SW846 6010B	3800 SC	mg/kg	43.433	2.0	6/6/2017	NV00925
Phosphorus	SW846 6010B	220	mg/kg	43.433	22	6/6/2017	NV00925
General Chemistry							
Orthophosphate, as P	SM 4500-P E	ND	mg/kg	3	0.030	6/1/2017	NV00925
Organic Matter	D2974	10	%	1		6/6/2017	NV00925
Ammonia, as Nitrogen	SM 4500 NH3 D	92	mg/kg	99.87	5.0	6/1/2017	NV00925
Total Solids (TS)	SM 2540 G	21.13	%	1	1.00	6/1/2017	NV00925
Anions by Ion Chromatography							
Nitrate Nitrogen	EPA 300.0	ND	mg/kg	3	0.30	5/31/2017	NV00925
Nitrite Nitrogen	EPA 300.0	ND	mg/kg	3	0.15	5/31/2017	NV00925
Sample Preparation							
Trace Metals Digestion	EPA 3050B	Complete		1		5/31/2017	NV00925
Ammonia Distillation	SM 4500 NH3 B	Complete		1		5/31/2017	NV00925
3:1 DI Water Extraction	WL 3.0	Complete		1			NV00925

Customer Sample ID: SED-01-01 B
WETLAB Sample ID: 1705733-002
Collect Date/Time: 5/25/2017 11:37
Receive Date: 5/25/2017 15:40

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
Trace Metals (Soil) by ICP-OES							
Aluminum	SW846 6010B	3900	mg/kg	49.841	2.2	6/6/2017	NV00925
Phosphorus	SW846 6010B	210	mg/kg	49.841	25	6/6/2017	NV00925
General Chemistry							
Orthophosphate, as P	SM 4500-P E	ND	mg/kg	3	0.030	6/1/2017	NV00925
Organic Matter	D2974	8.4	%	1		6/6/2017	NV00925
Ammonia, as Nitrogen	SM 4500 NH3 D	81	mg/kg	97.32	4.9	6/1/2017	NV00925
Total Solids (TS)	SM 2540 G	23.75	%	1	1.00	6/1/2017	NV00925
Anions by Ion Chromatography							
Nitrate Nitrogen	EPA 300.0	ND	mg/kg	3	0.30	5/31/2017	NV00925
Nitrite Nitrogen	EPA 300.0	ND	mg/kg	3	0.15	5/31/2017	NV00925
Sample Preparation							
Trace Metals Digestion	EPA 3050B	Complete		1		5/31/2017	NV00925
Ammonia Distillation	SM 4500 NH3 B	Complete		1		5/31/2017	NV00925

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or <RL

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Customer Sample ID: SED-01-01 B **Collect Date/Time:** 5/25/2017 11:37

WETLAB Sample ID: 1705733-002 **Receive Date:** 5/25/2017 15:40

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
3:1 DI Water Extraction	WL 3.0	Complete		1			NV00925

Customer Sample ID: SED-01-02 A **Collect Date/Time:** 5/25/2017 14:23

WETLAB Sample ID: 1705733-003 **Receive Date:** 5/25/2017 15:40

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
Trace Metals (Soil) by ICP-OES							
Aluminum	SW846 6010B	4600	mg/kg	37.529	1.7	6/6/2017	NV00925
Phosphorus	SW846 6010B	170	mg/kg	37.529	19	6/6/2017	NV00925
General Chemistry							
Orthophosphate, as P	SM 4500-P E	ND	mg/kg	3	0.030	6/1/2017	NV00925
Organic Matter	D2974	9.9	%	1		6/6/2017	NV00925
Ammonia, as Nitrogen	SM 4500 NH3 D	26	mg/kg	19.842	0.99	6/1/2017	NV00925
Total Solids (TS)	SM 2540 G	21.60	%	1	1.00	6/1/2017	NV00925
Anions by Ion Chromatography							
Nitrate Nitrogen	EPA 300.0	ND	mg/kg	3	0.30	5/31/2017	NV00925
Nitrite Nitrogen	EPA 300.0	ND	mg/kg	3	0.15	5/31/2017	NV00925
Sample Preparation							
Trace Metals Digestion	EPA 3050B	Complete		1		5/31/2017	NV00925
Ammonia Distillation	SM 4500 NH3 B	Complete		1		5/31/2017	NV00925
3:1 DI Water Extraction	WL 3.0	Complete		1			NV00925

Customer Sample ID: SED-01-02 B **Collect Date/Time:** 5/25/2017 14:23

WETLAB Sample ID: 1705733-004 **Receive Date:** 5/25/2017 15:40

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
Trace Metals (Soil) by ICP-OES							
Aluminum	SW846 6010B	4200	mg/kg	43.29	1.9	6/6/2017	NV00925
Phosphorus	SW846 6010B	150	mg/kg	43.29	22	6/6/2017	NV00925
General Chemistry							
Organic Matter	D2974	16	%	1		6/6/2017	NV00925
Orthophosphate, as P	SM 4500-P E	ND	mg/kg	3	0.030	6/1/2017	NV00925
Ammonia, as Nitrogen	SM 4500 NH3 D	73	mg/kg	97.025	4.9	6/1/2017	NV00925
Total Solids (TS)	SM 2540 G	15.19	%	1	1.00	6/1/2017	NV00925
Anions by Ion Chromatography							
Nitrate Nitrogen	EPA 300.0	ND	mg/kg	3	0.30	5/31/2017	NV00925
Nitrite Nitrogen	EPA 300.0	ND	mg/kg	3	0.15	5/31/2017	NV00925
Sample Preparation							
Trace Metals Digestion	EPA 3050B	Complete		1		5/31/2017	NV00925
Ammonia Distillation	SM 4500 NH3 B	Complete		1		5/31/2017	NV00925
3:1 DI Water Extraction	WL 3.0	Complete		1			NV00925

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or <RL

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Customer Sample ID: SED-01-03 A **Collect Date/Time:** 5/25/2017 11:22

WETLAB Sample ID: 1705733-005 **Receive Date:** 5/25/2017 15:40

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
Trace Metals (Soil) by ICP-OES							
Aluminum	SW846 6010B	3100	mg/kg	38.438	1.7	6/6/2017	NV00925
Phosphorus	SW846 6010B	160	mg/kg	38.438	19	6/6/2017	NV00925
General Chemistry							
Orthophosphate, as P	SM 4500-P E	ND	mg/kg	3	0.030	6/1/2017	NV00925
Organic Matter	D2974	2.1	%	1		6/6/2017	NV00925
Ammonia, as Nitrogen	SM 4500 NH3 D	47	mg/kg	39.482	2.0	6/1/2017	NV00925
Total Solids (TS)	SM 2540 G	44.50	%	1	1.00	6/1/2017	NV00925
Anions by Ion Chromatography							
Nitrate Nitrogen	EPA 300.0	ND	mg/kg	3	0.30	5/31/2017	NV00925
Nitrite Nitrogen	EPA 300.0	ND	mg/kg	3	0.15	5/31/2017	NV00925
Sample Preparation							
Trace Metals Digestion	EPA 3050B	Complete		1		5/31/2017	NV00925
Ammonia Distillation	SM 4500 NH3 B	Complete		1		5/31/2017	NV00925
3:1 DI Water Extraction	WL 3.0	Complete		1			NV00925

Customer Sample ID: SED-01-03 B **Collect Date/Time:** 5/25/2017 11:22

WETLAB Sample ID: 1705733-006 **Receive Date:** 5/25/2017 15:40

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
Trace Metals (Soil) by ICP-OES							
Aluminum	SW846 6010B	5100	mg/kg	45.094	2.0	6/6/2017	NV00925
Phosphorus	SW846 6010B	140	mg/kg	45.094	23	6/6/2017	NV00925
General Chemistry							
Orthophosphate, as P	SM 4500-P E	ND	mg/kg	3	0.030	6/1/2017	NV00925
Organic Matter	D2974	3.7	%	1		6/6/2017	NV00925
Ammonia, as Nitrogen	SM 4500 NH3 D	33	mg/kg	19.239	0.96	6/1/2017	NV00925
Total Solids (TS)	SM 2540 G	41.91	%	1	1.00	6/1/2017	NV00925
Anions by Ion Chromatography							
Nitrate Nitrogen	EPA 300.0	ND	mg/kg	3	0.30	5/31/2017	NV00925
Nitrite Nitrogen	EPA 300.0	ND	mg/kg	3	0.15	5/31/2017	NV00925
Sample Preparation							
Trace Metals Digestion	EPA 3050B	Complete		1		5/31/2017	NV00925
Ammonia Distillation	SM 4500 NH3 B	Complete		1		5/31/2017	NV00925
3:1 DI Water Extraction	WL 3.0	Complete		1			NV00925

Customer Sample ID: SED-01-04 A **Collect Date/Time:** 5/25/2017 14:48

WETLAB Sample ID: 1705733-007 **Receive Date:** 5/25/2017 15:40

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
Trace Metals (Soil) by ICP-OES							
Aluminum	SW846 6010B	4000	mg/kg	38.145	1.7	6/6/2017	NV00925
Phosphorus	SW846 6010B	120	mg/kg	38.145	19	6/6/2017	NV00925

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or <RL

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Customer Sample ID: SED-01-04 A **Collect Date/Time:** 5/25/2017 14:48

WETLAB Sample ID: 1705733-007 **Receive Date:** 5/25/2017 15:40

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
General Chemistry							
Organic Matter	D2974	9.6	%	1		6/6/2017	NV00925
Orthophosphate, as P	SM 4500-P E	ND	mg/kg	3	0.030	6/1/2017	NV00925
Ammonia, as Nitrogen	SM 4500 NH3 D	51	mg/kg	39.762	2.0	6/1/2017	NV00925
Total Solids (TS)	SM 2540 G	24.86	%	1	1.00	6/1/2017	NV00925
Anions by Ion Chromatography							
Nitrate Nitrogen	EPA 300.0	ND	mg/kg	3	0.30	5/31/2017	NV00925
Nitrite Nitrogen	EPA 300.0	ND	mg/kg	3	0.15	5/31/2017	NV00925
Sample Preparation							
Trace Metals Digestion	EPA 3050B	Complete		1		5/31/2017	NV00925
Ammonia Distillation	SM 4500 NH3 B	Complete		1		5/31/2017	NV00925
3:1 DI Water Extraction	WL 3.0	Complete		1			NV00925

Customer Sample ID: SED-01-04 B **Collect Date/Time:** 5/25/2017 14:48

WETLAB Sample ID: 1705733-008 **Receive Date:** 5/25/2017 15:40

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
Trace Metals (Soil) by ICP-OES							
Aluminum	SW846 6010B	3100	mg/kg	48.068	2.2	6/6/2017	NV00925
Phosphorus	SW846 6010B	110	mg/kg	48.068	24	6/6/2017	NV00925
General Chemistry							
Orthophosphate, as P	SM 4500-P E	ND	mg/kg	3	0.030	6/1/2017	NV00925
Organic Matter	D2974	10	%	1		6/6/2017	NV00925
Ammonia, as Nitrogen	SM 4500 NH3 D	50	mg/kg	39.82	2.0	6/1/2017	NV00925
Total Solids (TS)	SM 2540 G	22.97	%	1	1.00	6/1/2017	NV00925
Anions by Ion Chromatography							
Nitrate Nitrogen	EPA 300.0	ND	mg/kg	3	0.30	5/31/2017	NV00925
Nitrite Nitrogen	EPA 300.0	ND	mg/kg	3	0.15	5/31/2017	NV00925
Sample Preparation							
Trace Metals Digestion	EPA 3050B	Complete		1		5/31/2017	NV00925
Ammonia Distillation	SM 4500 NH3 B	Complete		1		5/31/2017	NV00925
3:1 DI Water Extraction	WL 3.0	Complete		1			NV00925

Customer Sample ID: SED-01-05 A **Collect Date/Time:** 5/25/2017 16:28

WETLAB Sample ID: 1705733-009 **Receive Date:** 5/25/2017 15:40

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
Trace Metals (Soil) by ICP-OES							
Aluminum	SW846 6010B	3000	mg/kg	43.531	2.0	6/6/2017	NV00925
Phosphorus	SW846 6010B	82	mg/kg	43.531	22	6/6/2017	NV00925
General Chemistry							
Orthophosphate, as P	SM 4500-P E	ND	mg/kg	3	0.030	6/1/2017	NV00925
Organic Matter	D2974	13	%	1		6/6/2017	NV00925
Ammonia, as Nitrogen	SM 4500 NH3 D	75	mg/kg	96.22	4.8	6/1/2017	NV00925

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Customer Sample ID: SED-01-05 A **Collect Date/Time:** 5/25/2017 16:28

WETLAB Sample ID: 1705733-009 **Receive Date:** 5/25/2017 15:40

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
Total Solids (TS)	SM 2540 G	20.72	%	1	1.00	6/1/2017	NV00925
Anions by Ion Chromatography							
Nitrate Nitrogen	EPA 300.0	ND	mg/kg	3	0.30	5/31/2017	NV00925
Nitrite Nitrogen	EPA 300.0	ND	mg/kg	3	0.15	5/31/2017	NV00925
Sample Preparation							
Trace Metals Digestion	EPA 3050B	Complete		1		5/31/2017	NV00925
Ammonia Distillation	SM 4500 NH3 B	Complete		1		5/31/2017	NV00925
3:1 DI Water Extraction	WL 3.0	Complete		1			NV00925

Customer Sample ID: SED-01-05 B **Collect Date/Time:** 5/25/2017 16:28

WETLAB Sample ID: 1705733-010 **Receive Date:** 5/25/2017 15:40

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
Trace Metals (Soil) by ICP-OES							
Aluminum	SW846 6010B	4000	mg/kg	38.382	1.7	6/6/2017	NV00925
Phosphorus	SW846 6010B	96	mg/kg	38.382	19	6/6/2017	NV00925
General Chemistry							
Organic Matter	D2974	11	%	1		6/6/2017	NV00925
Orthophosphate, as P	SM 4500-P E	ND	mg/kg	3	0.030	6/1/2017	NV00925
Ammonia, as Nitrogen	SM 4500 NH3 D	100	mg/kg	97.985	4.9	6/1/2017	NV00925
Total Solids (TS)	SM 2540 G	23.31	%	1	1.00	6/1/2017	NV00925
Anions by Ion Chromatography							
Nitrate Nitrogen	EPA 300.0	ND	mg/kg	3	0.30	5/31/2017	NV00925
Nitrite Nitrogen	EPA 300.0	ND	mg/kg	3	0.15	5/31/2017	NV00925
Sample Preparation							
Trace Metals Digestion	EPA 3050B	Complete		1		5/31/2017	NV00925
Ammonia Distillation	SM 4500 NH3 B	Complete		1		5/31/2017	NV00925
3:1 DI Water Extraction	WL 3.0	Complete		1			NV00925

Customer Sample ID: SED-01-06 A **Collect Date/Time:** 5/25/2017 13:34

WETLAB Sample ID: 1705733-011 **Receive Date:** 5/25/2017 15:40

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
Trace Metals (Soil) by ICP-OES							
Aluminum	SW846 6010B	8800 SC	mg/kg	49.358	2.2	6/6/2017	NV00925
Phosphorus	SW846 6010B	250	mg/kg	49.358	25	6/6/2017	NV00925
General Chemistry							
Organic Matter	D2974	7.0	%	1		6/6/2017	NV00925
Orthophosphate, as P	SM 4500-P E	ND	mg/kg	3	0.030	6/1/2017	NV00925
Ammonia, as Nitrogen	SM 4500 NH3 D	61	mg/kg	97.11	4.9	6/1/2017	NV00925
Total Solids (TS)	SM 2540 G	34.74	%	1	1.00	6/1/2017	NV00925
Anions by Ion Chromatography							
Nitrate Nitrogen	EPA 300.0	ND	mg/kg	3	0.30	5/31/2017	NV00925
Nitrite Nitrogen	EPA 300.0	ND	mg/kg	3	0.15	5/31/2017	NV00925

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Customer Sample ID: SED-01-06 A **Collect Date/Time:** 5/25/2017 13:34

WETLAB Sample ID: 1705733-011 **Receive Date:** 5/25/2017 15:40

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
Sample Preparation							
Trace Metals Digestion	EPA 3050B	Complete		1		5/31/2017	NV00925
Ammonia Distillation	SM 4500 NH3 B	Complete		1		5/31/2017	NV00925
3:1 DI Water Extraction	WL 3.0	Complete		1			NV00925

Customer Sample ID: SED-01-06 B **Collect Date/Time:** 5/25/2017 13:34

WETLAB Sample ID: 1705733-012 **Receive Date:** 5/25/2017 15:40

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
Trace Metals (Soil) by ICP-OES							
Aluminum	SW846 6010B	7600	mg/kg	48.828	2.2	6/6/2017	NV00925
Phosphorus	SW846 6010B	180	mg/kg	48.828	24	6/6/2017	NV00925
General Chemistry							
Organic Matter	D2974	8.4	%	1		6/6/2017	NV00925
Orthophosphate, as P	SM 4500-P E	ND	mg/kg	3	0.030	6/1/2017	NV00925
Ammonia, as Nitrogen	SM 4500 NH3 D	39	mg/kg	37.334	1.9	6/1/2017	NV00925
Total Solids (TS)	SM 2540 G	27.66	%	1	1.00	6/1/2017	NV00925
Anions by Ion Chromatography							
Nitrate Nitrogen	EPA 300.0	ND	mg/kg	3	0.30	5/31/2017	NV00925
Nitrite Nitrogen	EPA 300.0	ND	mg/kg	3	0.15	5/31/2017	NV00925
Sample Preparation							
Trace Metals Digestion	EPA 3050B	Complete		1		5/31/2017	NV00925
Ammonia Distillation	SM 4500 NH3 B	Complete		1		5/31/2017	NV00925
3:1 DI Water Extraction	WL 3.0	Complete		1			NV00925

Customer Sample ID: SED-01-07 A **Collect Date/Time:** 5/25/2017 16:50

WETLAB Sample ID: 1705733-013 **Receive Date:** 5/25/2017 15:40

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
Trace Metals (Soil) by ICP-OES							
Aluminum	SW846 6010B	4300	mg/kg	46.738	2.1	6/6/2017	NV00925
Phosphorus	SW846 6010B	140	mg/kg	46.738	23	6/6/2017	NV00925
General Chemistry							
Organic Matter	D2974	9.1	%	1		6/6/2017	NV00925
Orthophosphate, as P	SM 4500-P E	ND	mg/kg	3	0.030	6/1/2017	NV00925
Ammonia, as Nitrogen	SM 4500 NH3 D	140	mg/kg	98.97	4.9	6/1/2017	NV00925
Total Solids (TS)	SM 2540 G	28.48	%	1	1.00	6/1/2017	NV00925
Anions by Ion Chromatography							
Nitrate Nitrogen	EPA 300.0	ND	mg/kg	3	0.30	5/31/2017	NV00925
Nitrite Nitrogen	EPA 300.0	ND	mg/kg	3	0.15	5/31/2017	NV00925
Sample Preparation							
Trace Metals Digestion	EPA 3050B	Complete		1		5/31/2017	NV00925
Ammonia Distillation	SM 4500 NH3 B	Complete		1		5/31/2017	NV00925
3:1 DI Water Extraction	WL 3.0	Complete		1			NV00925

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Customer Sample ID: SED-01-07 B **Collect Date/Time:** 5/25/2017 16:50

WETLAB Sample ID: 1705733-014 **Receive Date:** 5/25/2017 15:40

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
Trace Metals (Soil) by ICP-OES							
Aluminum	SW846 6010B	3600	mg/kg	49.831	2.2	6/6/2017	NV00925
Phosphorus	SW846 6010B	100	mg/kg	49.831	25	6/6/2017	NV00925
General Chemistry							
Orthophosphate, as P	SM 4500-P E	ND	mg/kg	3	0.030	6/1/2017	NV00925
Organic Matter	D2974	12	%	1		6/6/2017	NV00925
Ammonia, as Nitrogen	SM 4500 NH3 D	130	mg/kg	99.075	5.0	6/1/2017	NV00925
Total Solids (TS)	SM 2540 G	23.21	%	1	1.00	6/1/2017	NV00925
Anions by Ion Chromatography							
Nitrate Nitrogen	EPA 300.0	ND	mg/kg	3	0.30	5/31/2017	NV00925
Nitrite Nitrogen	EPA 300.0	ND	mg/kg	3	0.15	5/31/2017	NV00925
Sample Preparation							
Trace Metals Digestion	EPA 3050B	Complete		1		5/31/2017	NV00925
Ammonia Distillation	SM 4500 NH3 B	Complete		1		5/31/2017	NV00925
3:1 DI Water Extraction	WL 3.0	Complete		1			NV00925

Customer Sample ID: SED-01-08 A **Collect Date/Time:** 5/25/2017 13:50

WETLAB Sample ID: 1705733-015 **Receive Date:** 5/25/2017 15:40

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
Trace Metals (Soil) by ICP-OES							
Aluminum	SW846 6010B	4300	mg/kg	43.848	2.0	6/6/2017	NV00925
Phosphorus	SW846 6010B	110	mg/kg	43.848	22	6/6/2017	NV00925
General Chemistry							
Orthophosphate, as P	SM 4500-P E	ND	mg/kg	3	0.030	6/1/2017	NV00925
Organic Matter	D2974	10	%	1		6/6/2017	NV00925
Ammonia, as Nitrogen	SM 4500 NH3 D	33	mg/kg	19.786	0.99	6/5/2017	NV00925
Total Solids (TS)	SM 2540 G	19.82	%	1	1.00	6/1/2017	NV00925
Anions by Ion Chromatography							
Nitrate Nitrogen	EPA 300.0	ND	mg/kg	3	0.30	5/31/2017	NV00925
Nitrite Nitrogen	EPA 300.0	ND	mg/kg	3	0.15	5/31/2017	NV00925
Sample Preparation							
Trace Metals Digestion	EPA 3050B	Complete		1		5/31/2017	NV00925
Ammonia Distillation	SM 4500 NH3 B	Complete		1		6/2/2017	NV00925
3:1 DI Water Extraction	WL 3.0	Complete		1			NV00925

Customer Sample ID: SED-01-08 B **Collect Date/Time:** 5/25/2017 13:50

WETLAB Sample ID: 1705733-016 **Receive Date:** 5/25/2017 15:40

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
Trace Metals (Soil) by ICP-OES							
Aluminum	SW846 6010B	5700	mg/kg	36.48	1.6	6/6/2017	NV00925
Phosphorus	SW846 6010B	130	mg/kg	36.48	18	6/6/2017	NV00925

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Customer Sample ID: SED-01-08 B **Collect Date/Time:** 5/25/2017 13:50

WETLAB Sample ID: 1705733-016 **Receive Date:** 5/25/2017 15:40

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
General Chemistry							
Orthophosphate, as P	SM 4500-P E	0.050	mg/kg	3	0.030	6/1/2017	NV00925
Organic Matter	D2974	9.4	%	1		6/6/2017	NV00925
Ammonia, as Nitrogen	SM 4500 NH3 D	36	mg/kg	19.492	0.97	6/5/2017	NV00925
Total Solids (TS)	SM 2540 G	24.31	%	1	1.00	6/1/2017	NV00925
Anions by Ion Chromatography							
Nitrate Nitrogen	EPA 300.0	ND	mg/kg	3	0.30	5/31/2017	NV00925
Nitrite Nitrogen	EPA 300.0	ND	mg/kg	3	0.15	5/31/2017	NV00925
Sample Preparation							
Trace Metals Digestion	EPA 3050B	Complete		1		5/31/2017	NV00925
Ammonia Distillation	SM 4500 NH3 B	Complete		1		6/2/2017	NV00925
3:1 DI Water Extraction	WL 3.0	Complete		1			NV00925

Customer Sample ID: SED-01-10 A **Collect Date/Time:** 5/25/2017 15:05

WETLAB Sample ID: 1705733-017 **Receive Date:** 5/25/2017 15:40

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
Trace Metals (Soil) by ICP-OES							
Aluminum	SW846 6010B	4500	mg/kg	42.212	1.9	6/6/2017	NV00925
Phosphorus	SW846 6010B	220	mg/kg	42.212	21	6/6/2017	NV00925
General Chemistry							
Organic Matter	D2974	10	%	1		6/6/2017	NV00925
Orthophosphate, as P	SM 4500-P E	0.13	mg/kg	3	0.030	6/1/2017	NV00925
Ammonia, as Nitrogen	SM 4500 NH3 D	93	mg/kg	96.785	4.8	6/5/2017	NV00925
Total Solids (TS)	SM 2540 G	20.95	%	1	1.00	6/1/2017	NV00925
Anions by Ion Chromatography							
Nitrate Nitrogen	EPA 300.0	ND	mg/kg	3	0.30	5/31/2017	NV00925
Nitrite Nitrogen	EPA 300.0	ND	mg/kg	3	0.15	5/31/2017	NV00925
Sample Preparation							
Trace Metals Digestion	EPA 3050B	Complete		1		5/31/2017	NV00925
Ammonia Distillation	SM 4500 NH3 B	Complete		1		6/2/2017	NV00925
3:1 DI Water Extraction	WL 3.0	Complete		1			NV00925

Customer Sample ID: SED-01-10 B **Collect Date/Time:** 5/25/2017 15:05

WETLAB Sample ID: 1705733-018 **Receive Date:** 5/25/2017 15:40

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
Trace Metals (Soil) by ICP-OES							
Aluminum	SW846 6010B	5000	mg/kg	43.914	2.0	6/6/2017	NV00925
Phosphorus	SW846 6010B	210	mg/kg	43.914	22	6/6/2017	NV00925
General Chemistry							
Orthophosphate, as P	SM 4500-P E	ND	mg/kg	3	0.030	6/1/2017	NV00925
Organic Matter	D2974	9.8	%	1		6/6/2017	NV00925
Ammonia, as Nitrogen	SM 4500 NH3 D	78	mg/kg	99.71	5.0	6/5/2017	NV00925

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Customer Sample ID: SED-01-10 B **Collect Date/Time:** 5/25/2017 15:05

WETLAB Sample ID: 1705733-018 **Receive Date:** 5/25/2017 15:40

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
Total Solids (TS)	SM 2540 G	20.97	%	1	1.00	6/1/2017	NV00925
Anions by Ion Chromatography							
Nitrate Nitrogen	EPA 300.0	ND	mg/kg	3	0.30	5/31/2017	NV00925
Nitrite Nitrogen	EPA 300.0	ND	mg/kg	3	0.15	5/31/2017	NV00925
Sample Preparation							
Trace Metals Digestion	EPA 3050B	Complete		1		5/31/2017	NV00925
Ammonia Distillation	SM 4500 NH3 B	Complete		1		6/2/2017	NV00925
3:1 DI Water Extraction	WL 3.0	Complete		1			NV00925

Customer Sample ID: SED-01-12 A **Collect Date/Time:** 5/25/2017 11:50

WETLAB Sample ID: 1705733-019 **Receive Date:** 5/25/2017 15:40

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
Trace Metals (Soil) by ICP-OES							
Aluminum	SW846 6010B	2000	mg/kg	38.604	1.7	6/6/2017	NV00925
Phosphorus	SW846 6010B	150	mg/kg	38.604	19	6/6/2017	NV00925
General Chemistry							
Organic Matter	D2974	13	%	1		6/6/2017	NV00925
Orthophosphate, as P	SM 4500-P E	ND	mg/kg	3	0.030	6/1/2017	NV00925
Ammonia, as Nitrogen	SM 4500 NH3 D	4.8	mg/kg	19.421	0.97	6/5/2017	NV00925
Total Solids (TS)	SM 2540 G	14.68	%	1	1.00	6/1/2017	NV00925
Anions by Ion Chromatography							
Nitrate Nitrogen	EPA 300.0	ND	mg/kg	3	0.30	5/31/2017	NV00925
Nitrite Nitrogen	EPA 300.0	ND	mg/kg	3	0.15	5/31/2017	NV00925
Sample Preparation							
Trace Metals Digestion	EPA 3050B	Complete		1		5/31/2017	NV00925
Ammonia Distillation	SM 4500 NH3 B	Complete		1		6/2/2017	NV00925
3:1 DI Water Extraction	WL 3.0	Complete		1			NV00925

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Western Environmental Testing Laboratory
QC Report

QCBatchID	QCType	Parameter	Method	Result	Actual	% Rec	Units
QC17060021	Blank 1	Nitrate Nitrogen	EPA 300.0	ND			mg/L
		Nitrite Nitrogen	EPA 300.0	ND			mg/L
QC17060022	Blank 1	Nitrate Nitrogen	EPA 300.0	ND			mg/L
		Nitrite Nitrogen	EPA 300.0	ND			mg/L
QC17060039	Blank 1	Orthophosphate, as P	SM 4500-P E	ND			mg/kg
QC17060039	Blank 2	Orthophosphate, as P	SM 4500-P E	ND			mg/kg
QC17060058	Blank 1	Ammonia, as Nitrogen	SM 4500 NH3	ND			mg/L
QC17060059	Blank 1	Ammonia, as Nitrogen	SM 4500 NH3	ND			mg/L
QC17060154	Blank 1	Ammonia, as Nitrogen	SM 4500 NH3	ND			mg/L
QC17060224	Blank 1	Aluminum	SW846 6010B	ND			mg/kg
		Phosphorus	SW846 6010B	ND			mg/kg
QC17060225	Blank 1	Aluminum	SW846 6010B	ND			mg/kg
		Phosphorus	SW846 6010B	ND			mg/kg

QCBatchID	QCType	Parameter	Method	Result	Actual	% Rec	Units
QC17060021	LCS 1	Nitrate Nitrogen	EPA 300.0	1.98	2.00	99	mg/L
		Nitrite Nitrogen	EPA 300.0	0.496	0.500	99	mg/L
QC17060022	LCS 1	Nitrate Nitrogen	EPA 300.0	1.98	2.00	99	mg/L
		Nitrite Nitrogen	EPA 300.0	0.496	0.500	99	mg/L
QC17060039	LCS 1	Orthophosphate, as P	SM 4500-P E	0.229	0.250	92	mg/kg
QC17060039	LCS 2	Orthophosphate, as P	SM 4500-P E	0.232	0.250	93	mg/kg
QC17060058	LCS 1	Ammonia, as Nitrogen	SM 4500 NH3 D	0.991	1.00	99	mg/L
QC17060059	LCS 1	Ammonia, as Nitrogen	SM 4500 NH3 D	0.999	1.00	100	mg/L
QC17060154	LCS 1	Ammonia, as Nitrogen	SM 4500 NH3 D	0.937	1.00	94	mg/L
QC17060224	LCS 1	Aluminum	SW846 6010B	47.0	50.0	94	mg/kg
		Phosphorus	SW846 6010B	230	250	92	mg/kg
QC17060225	LCS 1	Aluminum	SW846 6010B	47.0	50.0	94	mg/kg
		Phosphorus	SW846 6010B	230	250	92	mg/kg

QCBatchID	QCType	Parameter	Method	Spike Sample	Sample Result		MS Result	MSD Result	Spike Value	Units	MS %Rec	MSD %Rec	RPD %
QC17060021	MS 1	Nitrate Nitrogen	EPA 300.0	1705808-001	ND		2.11	2.09	2	mg/L	104	103	1
		Nitrite Nitrogen	EPA 300.0	1705808-001	ND		0.520	0.515	0.5	mg/L	102	101	1
QC17060021	MS 2	Nitrate Nitrogen	EPA 300.0	1705801-001	1.44		3.58	3.63	2	mg/L	107	110	1
		Nitrite Nitrogen	EPA 300.0	1705801-001	ND		0.475	0.486	0.5	mg/L	93	96	2
QC17060022	MS 1	Nitrate Nitrogen	EPA 300.0	1705733-019	ND		6.04	5.37	2	mg/L	101	90	12
		Nitrite Nitrogen	EPA 300.0	1705733-019	ND		1.46	1.23	0.5	mg/L	97	82	17
QC17060022	MS 2	Nitrate Nitrogen	EPA 300.0	1705800-006	ND		5.36	5.77	2	mg/L	89	96	7
		Nitrite Nitrogen	EPA 300.0	1705800-006	ND		1.29	1.39	0.5	mg/L	86	92	8
QC17060039	MS 1	Orthophosphate, as P	SM 4500-P E	1705733-001	ND		0.634	0.656	0.25	mg/kg	84	87	3
QC17060039	MS 2	Orthophosphate, as P	SM 4500-P E	1705733-011	ND		0.645	0.646	0.25	mg/kg	85	85	<1
QC17060039	MS 3	Orthophosphate, as P	SM 4500-P E	1705800-001	ND		0.661	0.671	0.25	mg/kg	88	89	2
QC17060058	MS 1	Ammonia, as Nitrogen	SM 4500 NH3 D	1705718-002	1.23		2.30	2.21	1	mg/L	106	98	4
QC17060059	MS 1	Ammonia, as Nitrogen	SM 4500 NH3 D	1705727-001	7.05	SC	8.45	8.14	1	mg/L	NC	NC	NC
QC17060154	MS 1	Ammonia, as Nitrogen	SM 4500 NH3 D	1706049-002	24.0		43.1	42.4	1	mg/L	95	92	2
QC17060154	MS 2	Ammonia, as Nitrogen	SM 4500 NH3 D	1705716-008	ND		0.925	0.929	1	mg/L	89	89	<1
QC17060224	MS 1	Aluminum	SW846 6010B	1705733-001	3790	SC	5040	5060	50	mg/kg	NC	NC	NC
		Phosphorus	SW846 6010B	1705733-001	220		447	449	250	mg/kg	91	92	<1

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QCBatchID	QCType	Parameter	Method	Spike Sample	Sample Result		MS Result	MSD Result	Spike Value	Units	MS %Rec	MSD %Rec	RPD %
QC17060225	MS 1	Aluminum	SW846 6010B	1705733-011	8800	SC	13000	13400	50	mg/kg	NC	NC	NC
		Phosphorus	SW846 6010B	1705733-011	253		466	483	250	mg/kg	85	92	4

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10/31/2017

Tahoe Keys Property Owners Association
356 Ala Wai Blvd.
South Lake Tahoe, CA 96150
Attn: Kristen Hunter

OrderID: *1710567*

Dear: Kristen Hunter

This is to transmit the attached analytical report. The analytical data and information contained therein was generated using specified or selected methods contained in references, such as Standard Methods for the Examination of Water and Wastewater, online edition, Methods for Determination of Organic Compounds in Drinking Water, EPA-600/4-79-020, and Test Methods for Evaluation of Solid Waste, Physical/Chemical Methods (SW846) Third Edition.

The samples were received by WETLAB-Western Environmental Testing Laboratory in good condition on 10/17/2017. Additional comments are located on page 2 of this report.

If you should have any questions or comments regarding this report, please do not hesitate to call.

Sincerely,

Andy Smith
QA Manager

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Western Environmental Testing Laboratory
Report Comments

Tahoe Keys Property Owners Association - 1710567

Specific Report Comments

None

Report Legend

B	--	Blank contamination; Analyte detected above the method reporting limit in an associated blank
D	--	Due to the sample matrix dilution was required in order to properly detect and report the analyte. The reporting limit has been adjusted accordingly.
HT	--	Sample analyzed beyond the accepted holding time
J	--	The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit
M	--	The matrix spike/matrix spike duplicate (MS/MSD) values for the analysis of this parameter were outside acceptance criteria due to probable matrix interference. The reported result should be considered an estimate.
N	--	There was insufficient sample available to perform a spike and/or duplicate on this analytical batch.
NC	--	Not calculated due to matrix interference
QD	--	The sample duplicate or matrix spike duplicate analysis demonstrated sample imprecision. The reported result should be considered an estimate.
QL	--	The result for the laboratory control sample (LCS) was outside WETLAB acceptance criteria and reanalysis was not possible. The reported data should be considered an estimate.
S	--	Surrogate recovery was outside of laboratory acceptance limits due to matrix interference. The associated blank and LCS surrogate recovery was within acceptance limits
SC	--	Spike recovery not calculated. Sample concentration >4X the spike amount; therefore, the spike could not be adequately recovered
U	--	The analyte was analyzed for, but was not detected above the level of the reported sample reporting/quantitation limit

General Lab Comments

Per method recommendation (section 4.4), Samples analyzed by methods EPA 300.0 and EPA 300.1 have been filtered prior to analysis.

The following is an interpretation of the results from EPA method 9223B:
A result of zero (0) indicates absence for both coliform and Escherichia coli meaning the water meets the microbiological requirements of the U.S. EPA Safe Drinking Water Act (SDWA). A result of one (1) for either test indicates presence and the water does not meet the SDWA requirements. Waters with positive tests should be disinfected by a certified water treatment operator and retested.

Per federal regulation the holding time for the following parameters in aqueous/water samples is 15 minutes: Residual Chlorine, pH, Dissolved Oxygen, Sulfite.

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Western Environmental Testing Laboratory
Analytical Report

Tahoe Keys Property Owners Association
356 Ala Wai Blvd.
South Lake Tahoe, CA 96150
Attn: Kristen Hunter
Phone: (530) 542-6450 **Fax:** (530) 542-6457

Date Printed: 10/31/2017
OrderID: *1710567*

Customer Sample ID: SED-02-01A **Collect Date/Time:** 10/16/2017 08:30
WETLAB Sample ID: 1710567-001 **Receive Date:** 10/17/2017 14:00

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
Trace Metals (Soil/Solids/Sediment) by ICP-OES							
Aluminum	SW846 6010B	4900 SC	mg/kg	46.681	2.1	10/25/2017	NV00925
Phosphorus	SW846 6010B	280	mg/kg	46.681	23	10/25/2017	NV00925
General Chemistry							
Organic Matter	D2974	11	%	1	0.049	10/24/2017	NV00925
Orthophosphate, as P	SM 4500-P E	ND	mg/kg	3	0.030	10/19/2017	NV00925
pH	SW846 9045D	6.69	pH Units	1		10/20/2017	NV00925
Total Solids (TS)	SM 2540 G	25.53	%	1	1.000	10/19/2017	NV00925
Anions by Ion Chromatography							
Nitrate Nitrogen	EPA 300.0	ND	mg/kg	3	0.30	10/19/2017	NV00925
Nitrite Nitrogen	EPA 300.0	ND	mg/kg	3	0.15	10/19/2017	NV00925
Sample Preparation							
Trace Metals Digestion	EPA 3050B	Complete		1		10/25/2017	NV00925
3:1 DI Water Extraction	WL 3.0	Complete		1		10/18/2017	NV00925

Customer Sample ID: SED-02-01B **Collect Date/Time:** 10/16/2017 08:30
WETLAB Sample ID: 1710567-002 **Receive Date:** 10/17/2017 14:00

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
Trace Metals (Soil/Solids/Sediment) by ICP-OES							
Aluminum	SW846 6010B	4800	mg/kg	44.041	2.0	10/25/2017	NV00925
Phosphorus	SW846 6010B	260	mg/kg	44.041	22	10/25/2017	NV00925
General Chemistry							
Orthophosphate, as P	SM 4500-P E	ND	mg/kg	3	0.030	10/19/2017	NV00925
Organic Matter	D2974	11	%	1	0.048	10/24/2017	NV00925
pH	SW846 9045D	6.85	pH Units	1		10/20/2017	NV00925
Total Solids (TS)	SM 2540 G	31.65	%	1	1.000	10/19/2017	NV00925
Anions by Ion Chromatography							
Nitrate Nitrogen	EPA 300.0	ND	mg/kg	3	0.30	10/19/2017	NV00925
Nitrite Nitrogen	EPA 300.0	ND	mg/kg	3	0.15	10/19/2017	NV00925
Sample Preparation							
Trace Metals Digestion	EPA 3050B	Complete		1		10/25/2017	NV00925
3:1 DI Water Extraction	WL 3.0	Complete		1		10/18/2017	NV00925

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or <RL

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Customer Sample ID: SED-02-02A **Collect Date/Time:** 10/16/2017 11:25

WETLAB Sample ID: 1710567-003 **Receive Date:** 10/17/2017 14:00

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
Trace Metals (Soil/Solids/Sediment) by ICP-OES							
Aluminum	SW846 6010B	6600	mg/kg	38.344	1.7	10/25/2017	NV00925
Phosphorus	SW846 6010B	190	mg/kg	38.344	19	10/25/2017	NV00925
General Chemistry							
Orthophosphate, as P	SM 4500-P E	ND	mg/kg	3	0.030	10/19/2017	NV00925
Organic Matter	D2974	9.8	%	1	0.044	10/24/2017	NV00925
pH	SW846 9045D	6.64	pH Units	1		10/20/2017	NV00925
Total Solids (TS)	SM 2540 G	21.35	%	1	1.000	10/19/2017	NV00925
Anions by Ion Chromatography							
Nitrate Nitrogen	EPA 300.0	ND	mg/kg	3	0.30	10/19/2017	NV00925
Nitrite Nitrogen	EPA 300.0	0.20	mg/kg	3	0.15	10/19/2017	NV00925
Sample Preparation							
Trace Metals Digestion	EPA 3050B	Complete		1		10/25/2017	NV00925
3:1 DI Water Extraction	WL 3.0	Complete		1		10/18/2017	NV00925

Customer Sample ID: SED-02-02B **Collect Date/Time:** 10/16/2017 11:25

WETLAB Sample ID: 1710567-004 **Receive Date:** 10/17/2017 14:00

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
Trace Metals (Soil/Solids/Sediment) by ICP-OES							
Aluminum	SW846 6010B	4800	mg/kg	40.476	1.8	10/25/2017	NV00925
Phosphorus	SW846 6010B	730	mg/kg	40.476	20	10/25/2017	NV00925
General Chemistry							
Organic Matter	D2974	10	%	1	0.045	10/24/2017	NV00925
Orthophosphate, as P	SM 4500-P E	ND	mg/kg	3	0.030	10/19/2017	NV00925
pH	SW846 9045D	6.76	pH Units	1		10/20/2017	NV00925
Total Solids (TS)	SM 2540 G	12.81	%	1	1.000	10/19/2017	NV00925
Anions by Ion Chromatography							
Nitrate Nitrogen	EPA 300.0	ND	mg/kg	3	0.30	10/19/2017	NV00925
Nitrite Nitrogen	EPA 300.0	0.16	mg/kg	3	0.15	10/19/2017	NV00925
Sample Preparation							
Trace Metals Digestion	EPA 3050B	Complete		1		10/25/2017	NV00925
3:1 DI Water Extraction	WL 3.0	Complete		1		10/18/2017	NV00925

Customer Sample ID: SED-02-03A **Collect Date/Time:** 10/16/2017 08:00

WETLAB Sample ID: 1710567-005 **Receive Date:** 10/17/2017 14:00

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
Trace Metals (Soil/Solids/Sediment) by ICP-OES							
Aluminum	SW846 6010B	3500	mg/kg	44.671	2.0	10/25/2017	NV00925
Phosphorus	SW846 6010B	170	mg/kg	44.671	22	10/25/2017	NV00925
General Chemistry							
Organic Matter	D2974	11	%	1	0.036	10/24/2017	NV00925
Orthophosphate, as P	SM 4500-P E	ND	mg/kg	3	0.030	10/19/2017	NV00925

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Customer Sample ID: SED-02-03A **Collect Date/Time:** 10/16/2017 08:00

WETLAB Sample ID: 1710567-005 **Receive Date:** 10/17/2017 14:00

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
pH	SW846 9045D	6.60	pH Units	1		10/20/2017	NV00925
Total Solids (TS)	SM 2540 G	21.17	%	1	1.000	10/19/2017	NV00925
Anions by Ion Chromatography							
Nitrate Nitrogen	EPA 300.0	ND	mg/kg	3	0.30	10/19/2017	NV00925
Nitrite Nitrogen	EPA 300.0	ND	mg/kg	3	0.15	10/19/2017	NV00925
Sample Preparation							
Trace Metals Digestion	EPA 3050B	Complete		1		10/25/2017	NV00925
3:1 DI Water Extraction	WL 3.0	Complete		1		10/18/2017	NV00925

Customer Sample ID: SED-02-03B **Collect Date/Time:** 10/16/2017 08:00

WETLAB Sample ID: 1710567-006 **Receive Date:** 10/17/2017 14:00

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
Trace Metals (Soil/Solids/Sediment) by ICP-OES							
Aluminum	SW846 6010B	6000	mg/kg	46.113	2.1	10/25/2017	NV00925
Phosphorus	SW846 6010B	200	mg/kg	46.113	23	10/25/2017	NV00925
General Chemistry							
Organic Matter	D2974	6.1	%	1	0.035	10/24/2017	NV00925
Orthophosphate, as P	SM 4500-P E	ND	mg/kg	3	0.030	10/19/2017	NV00925
pH	SW846 9045D	6.80	pH Units	1		10/20/2017	NV00925
Total Solids (TS)	SM 2540 G	17.22	%	1	1.000	10/19/2017	NV00925
Anions by Ion Chromatography							
Nitrate Nitrogen	EPA 300.0	ND	mg/kg	3	0.30	10/19/2017	NV00925
Nitrite Nitrogen	EPA 300.0	ND	mg/kg	3	0.15	10/19/2017	NV00925
Sample Preparation							
Trace Metals Digestion	EPA 3050B	Complete		1		10/25/2017	NV00925
3:1 DI Water Extraction	WL 3.0	Complete		1		10/18/2017	NV00925

Customer Sample ID: SED-02-04A **Collect Date/Time:** 10/16/2017 11:58

WETLAB Sample ID: 1710567-007 **Receive Date:** 10/17/2017 14:00

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
Trace Metals (Soil/Solids/Sediment) by ICP-OES							
Aluminum	SW846 6010B	8000	mg/kg	49.295	2.2	10/25/2017	NV00925
Phosphorus	SW846 6010B	180	mg/kg	49.295	25	10/25/2017	NV00925
General Chemistry							
Orthophosphate, as P	SM 4500-P E	ND	mg/kg	3	0.030	10/19/2017	NV00925
Organic Matter	D2974	7.4	%	1	0.035	10/24/2017	NV00925
pH	SW846 9045D	6.57	pH Units	1		10/20/2017	NV00925
Total Solids (TS)	SM 2540 G	21.29	%	1	1.000	10/19/2017	NV00925
Anions by Ion Chromatography							
Nitrate Nitrogen	EPA 300.0	ND	mg/kg	3	0.30	10/19/2017	NV00925
Nitrite Nitrogen	EPA 300.0	0.15	mg/kg	3	0.15	10/19/2017	NV00925

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Customer Sample ID: SED-02-04A **Collect Date/Time:** 10/16/2017 11:58

WETLAB Sample ID: 1710567-007 **Receive Date:** 10/17/2017 14:00

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
Sample Preparation							
Trace Metals Digestion	EPA 3050B	Complete		1		10/25/2017	NV00925
3:1 DI Water Extraction	WL 3.0	Complete		1		10/18/2017	NV00925

Customer Sample ID: SED-02-04B **Collect Date/Time:** 10/16/2017 11:58

WETLAB Sample ID: 1710567-008 **Receive Date:** 10/17/2017 14:00

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
Trace Metals (Soil/Solids/Sediment) by ICP-OES							
Aluminum	SW846 6010B	3500	mg/kg	47.072	2.1	10/25/2017	NV00925
Phosphorus	SW846 6010B	100	mg/kg	47.072	24	10/25/2017	NV00925
General Chemistry							
Organic Matter	D2974	12	%	1	0.060	10/24/2017	NV00925
Orthophosphate, as P	SM 4500-P E	ND	mg/kg	3	0.030	10/19/2017	NV00925
pH	SW846 9045D	6.61	pH Units	1		10/20/2017	NV00925
Total Solids (TS)	SM 2540 G	76.03	%	1	1.000	10/19/2017	NV00925
Anions by Ion Chromatography							
Nitrate Nitrogen	EPA 300.0	ND	mg/kg	3	0.30	10/19/2017	NV00925
Nitrite Nitrogen	EPA 300.0	ND	mg/kg	3	0.15	10/19/2017	NV00925
Sample Preparation							
Trace Metals Digestion	EPA 3050B	Complete		1		10/25/2017	NV00925
3:1 DI Water Extraction	WL 3.0	Complete		1		10/18/2017	NV00925

Customer Sample ID: SED-02-05A **Collect Date/Time:** 10/16/2017 14:25

WETLAB Sample ID: 1710567-009 **Receive Date:** 10/17/2017 14:00

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
Trace Metals (Soil/Solids/Sediment) by ICP-OES							
Aluminum	SW846 6010B	6400	mg/kg	48.361	2.2	10/25/2017	NV00925
Phosphorus	SW846 6010B	130	mg/kg	48.361	24	10/25/2017	NV00925
General Chemistry							
Organic Matter	D2974	14	%	1	0.068	10/24/2017	NV00925
Orthophosphate, as P	SM 4500-P E	ND	mg/kg	3	0.030	10/19/2017	NV00925
pH	SW846 9045D	6.45	pH Units	1		10/20/2017	NV00925
Total Solids (TS)	SM 2540 G	99.99	%	1	1.000	10/19/2017	NV00925
Anions by Ion Chromatography							
Nitrate Nitrogen	EPA 300.0	0.32	mg/kg	3	0.30	10/19/2017	NV00925
Nitrite Nitrogen	EPA 300.0	0.16	mg/kg	3	0.15	10/19/2017	NV00925
Sample Preparation							
Trace Metals Digestion	EPA 3050B	Complete		1		10/25/2017	NV00925
3:1 DI Water Extraction	WL 3.0	Complete		1		10/18/2017	NV00925

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Customer Sample ID: SED-02-06A **Collect Date/Time:** 10/16/2017 13:38

WETLAB Sample ID: 1710567-010 **Receive Date:** 10/17/2017 14:00

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
Trace Metals (Soil/Solids/Sediment) by ICP-OES							
Aluminum	SW846 6010B	12000	mg/kg	47.815	2.2	10/25/2017	NV00925
Phosphorus	SW846 6010B	270	mg/kg	47.815	24	10/25/2017	NV00925
General Chemistry							
Orthophosphate, as P	SM 4500-P E	ND	mg/kg	3	0.030	10/19/2017	NV00925
Organic Matter	D2974	7.1	%	1	0.028	10/24/2017	NV00925
pH	SW846 9045D	6.79	pH Units	1		10/20/2017	NV00925
Total Solids (TS)	SM 2540 G	19.82	%	1	1.000	10/19/2017	NV00925
Anions by Ion Chromatography							
Nitrate Nitrogen	EPA 300.0	ND	mg/kg	3	0.30	10/19/2017	NV00925
Nitrite Nitrogen	EPA 300.0	ND	mg/kg	3	0.15	10/19/2017	NV00925
Sample Preparation							
Trace Metals Digestion	EPA 3050B	Complete		1		10/25/2017	NV00925
3:1 DI Water Extraction	WL 3.0	Complete		1		10/18/2017	NV00925

Customer Sample ID: SED-02-06B **Collect Date/Time:** 10/16/2017 13:38

WETLAB Sample ID: 1710567-011 **Receive Date:** 10/17/2017 14:00

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
Trace Metals (Soil/Solids/Sediment) by ICP-OES							
Aluminum	SW846 6010B	13000 SC	mg/kg	45.106	2.0	10/25/2017	NV00925
Phosphorus	SW846 6010B	280 M	mg/kg	45.106	23	10/25/2017	NV00925
General Chemistry							
Orthophosphate, as P	SM 4500-P E	0.046	mg/kg	3	0.030	10/19/2017	NV00925
Organic Matter	D2974	7.0	%	1	0.047	10/24/2017	NV00925
pH	SW846 9045D	6.78	pH Units	1		10/20/2017	NV00925
Total Solids (TS)	SM 2540 G	84.19	%	1	1.000	10/19/2017	NV00925
Anions by Ion Chromatography							
Nitrate Nitrogen	EPA 300.0	0.31	mg/kg	3	0.30	10/19/2017	NV00925
Nitrite Nitrogen	EPA 300.0	0.19	mg/kg	3	0.15	10/19/2017	NV00925
Sample Preparation							
Trace Metals Digestion	EPA 3050B	Complete		1		10/25/2017	NV00925
3:1 DI Water Extraction	WL 3.0	Complete		1		10/18/2017	NV00925

Customer Sample ID: SED-02-07A **Collect Date/Time:** 10/16/2017 14:45

WETLAB Sample ID: 1710567-012 **Receive Date:** 10/17/2017 14:00

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
Trace Metals (Soil/Solids/Sediment) by ICP-OES							
Aluminum	SW846 6010B	3300	mg/kg	46.786	2.1	10/25/2017	NV00925
Phosphorus	SW846 6010B	69	mg/kg	46.786	23	10/25/2017	NV00925
General Chemistry							
Orthophosphate, as P	SM 4500-P E	ND	mg/kg	3	0.030	10/19/2017	NV00925
Organic Matter	D2974	18	%	1	0.071	10/24/2017	NV00925

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Customer Sample ID: SED-02-07A **Collect Date/Time:** 10/16/2017 14:45

WETLAB Sample ID: 1710567-012 **Receive Date:** 10/17/2017 14:00

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
pH	SW846 9045D	6.46	pH Units	1		10/20/2017	NV00925
Total Solids (TS)	SM 2540 G	44.17	%	1	1.000	10/19/2017	NV00925
Anions by Ion Chromatography							
Nitrate Nitrogen	EPA 300.0	ND	mg/kg	3	0.30	10/19/2017	NV00925
Nitrite Nitrogen	EPA 300.0	ND	mg/kg	3	0.15	10/19/2017	NV00925
Sample Preparation							
Trace Metals Digestion	EPA 3050B	Complete		1		10/25/2017	NV00925
3:1 DI Water Extraction	WL 3.0	Complete		1		10/18/2017	NV00925

Customer Sample ID: SED-02-08A **Collect Date/Time:** 10/16/2017 13:00

WETLAB Sample ID: 1710567-013 **Receive Date:** 10/17/2017 14:00

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
Trace Metals (Soil/Solids/Sediment) by ICP-OES							
Aluminum	SW846 6010B	5200	mg/kg	42.944	1.9	10/25/2017	NV00925
Phosphorus	SW846 6010B	130	mg/kg	42.944	21	10/25/2017	NV00925
General Chemistry							
Orthophosphate, as P	SM 4500-P E	ND	mg/kg	3	0.030	10/19/2017	NV00925
Organic Matter	D2974	9.0	%	1	0.052	10/25/2017	NV00925
pH	SW846 9045D	6.99	pH Units	1		10/20/2017	NV00925
Total Solids (TS)	SM 2540 G	19.33	%	1	1.000	10/19/2017	NV00925
Anions by Ion Chromatography							
Nitrate Nitrogen	EPA 300.0	ND	mg/kg	3	0.30	10/19/2017	NV00925
Nitrite Nitrogen	EPA 300.0	ND	mg/kg	3	0.15	10/19/2017	NV00925
Sample Preparation							
Trace Metals Digestion	EPA 3050B	Complete		1		10/25/2017	NV00925
3:1 DI Water Extraction	WL 3.0	Complete		1		10/18/2017	NV00925

Customer Sample ID: SED-02-08B **Collect Date/Time:** 10/16/2017 13:00

WETLAB Sample ID: 1710567-014 **Receive Date:** 10/17/2017 14:00

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
Trace Metals (Soil/Solids/Sediment) by ICP-OES							
Aluminum	SW846 6010B	4900	mg/kg	46.533	2.1	10/25/2017	NV00925
Phosphorus	SW846 6010B	96	mg/kg	46.533	23	10/25/2017	NV00925
General Chemistry							
Orthophosphate, as P	SM 4500-P E	ND	mg/kg	3	0.030	10/19/2017	NV00925
Organic Matter	D2974	12	%	1	0.073	10/25/2017	NV00925
pH	SW846 9045D	7.03	pH Units	1		10/20/2017	NV00925
Total Solids (TS)	SM 2540 G	34.51	%	1	1.000	10/19/2017	NV00925
Anions by Ion Chromatography							
Nitrate Nitrogen	EPA 300.0	ND	mg/kg	3	0.30	10/19/2017	NV00925
Nitrite Nitrogen	EPA 300.0	ND	mg/kg	3	0.15	10/19/2017	NV00925

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Customer Sample ID: SED-02-08B **Collect Date/Time:** 10/16/2017 13:00

WETLAB Sample ID: 1710567-014 **Receive Date:** 10/17/2017 14:00

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
Sample Preparation							
Trace Metals Digestion	EPA 3050B	Complete		1		10/25/2017	NV00925
3:1 DI Water Extraction	WL 3.0	Complete		1		10/18/2017	NV00925

Customer Sample ID: SED-02-09A **Collect Date/Time:** 10/16/2017 10:50

WETLAB Sample ID: 1710567-015 **Receive Date:** 10/17/2017 14:00

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
Trace Metals (Soil/Solids/Sediment) by ICP-OES							
Aluminum	SW846 6010B	3800	mg/kg	39.768	1.8	10/25/2017	NV00925
Phosphorus	SW846 6010B	250	mg/kg	39.768	20	10/25/2017	NV00925
General Chemistry							
Orthophosphate, as P	SM 4500-P E	ND	mg/kg	3	0.030	10/19/2017	NV00925
Organic Matter	D2974	8.4	%	1	0.042	10/25/2017	NV00925
pH	SW846 9045D	6.86	pH Units	1		10/20/2017	NV00925
Total Solids (TS)	SM 2540 G	13.78	%	1	1.000	10/19/2017	NV00925
Anions by Ion Chromatography							
Nitrate Nitrogen	EPA 300.0	ND	mg/kg	3	0.30	10/19/2017	NV00925
Nitrite Nitrogen	EPA 300.0	ND	mg/kg	3	0.15	10/19/2017	NV00925
Sample Preparation							
Trace Metals Digestion	EPA 3050B	Complete		1		10/25/2017	NV00925
3:1 DI Water Extraction	WL 3.0	Complete		1		10/18/2017	NV00925

Customer Sample ID: SED-02-09B **Collect Date/Time:** 10/16/2017 10:50

WETLAB Sample ID: 1710567-016 **Receive Date:** 10/17/2017 14:00

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
Trace Metals (Soil/Solids/Sediment) by ICP-OES							
Aluminum	SW846 6010B	1800	mg/kg	45.459	2.0	10/25/2017	NV00925
Phosphorus	SW846 6010B	150	mg/kg	45.459	23	10/25/2017	NV00925
General Chemistry							
Orthophosphate, as P	SM 4500-P E	ND	mg/kg	3	0.030	10/19/2017	NV00925
Organic Matter	D2974	0.53	%	1	0.02	10/25/2017	NV00925
pH	SW846 9045D	7.73	pH Units	1		10/20/2017	NV00925
Total Solids (TS)	SM 2540 G	12.93	%	1	1.000	10/19/2017	NV00925
Anions by Ion Chromatography							
Nitrate Nitrogen	EPA 300.0	ND	mg/kg	3	0.30	10/19/2017	NV00925
Nitrite Nitrogen	EPA 300.0	ND	mg/kg	3	0.15	10/19/2017	NV00925
Sample Preparation							
Trace Metals Digestion	EPA 3050B	Complete		1		10/25/2017	NV00925
3:1 DI Water Extraction	WL 3.0	Complete		1		10/18/2017	NV00925

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Customer Sample ID: SED-02-10A **Collect Date/Time:** 10/16/2017 12:18

WETLAB Sample ID: 1710567-017 **Receive Date:** 10/17/2017 14:00

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
Trace Metals (Soil/Solids/Sediment) by ICP-OES							
Aluminum	SW846 6010B	8800	mg/kg	48.031	2.2	10/25/2017	NV00925
Phosphorus	SW846 6010B	210	mg/kg	48.031	24	10/25/2017	NV00925
General Chemistry							
Organic Matter	D2974	8.9	%	1	0.040	10/25/2017	NV00925
Orthophosphate, as P	SM 4500-P E	ND	mg/kg	3	0.030	10/19/2017	NV00925
pH	SW846 9045D	6.56	pH Units	1		10/20/2017	NV00925
Total Solids (TS)	SM 2540 G	35.32	%	1	1.000	10/19/2017	NV00925
Anions by Ion Chromatography							
Nitrate Nitrogen	EPA 300.0	ND	mg/kg	3	0.30	10/19/2017	NV00925
Nitrite Nitrogen	EPA 300.0	ND	mg/kg	3	0.15	10/19/2017	NV00925
Sample Preparation							
Trace Metals Digestion	EPA 3050B	Complete		1		10/25/2017	NV00925
3:1 DI Water Extraction	WL 3.0	Complete		1		10/18/2017	NV00925

Customer Sample ID: SED-02-10B **Collect Date/Time:** 10/16/2017 12:18

WETLAB Sample ID: 1710567-018 **Receive Date:** 10/17/2017 14:00

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
Trace Metals (Soil/Solids/Sediment) by ICP-OES							
Aluminum	SW846 6010B	5800	mg/kg	43.752	2.0	10/25/2017	NV00925
Phosphorus	SW846 6010B	160	mg/kg	43.752	22	10/25/2017	NV00925
General Chemistry							
Organic Matter	D2974	9.1	%	1	0.047	10/25/2017	NV00925
Orthophosphate, as P	SM 4500-P E	ND	mg/kg	3	0.030	10/19/2017	NV00925
pH	SW846 9045D	6.68	pH Units	1		10/20/2017	NV00925
Total Solids (TS)	SM 2540 G	27.86	%	1	1.000	10/19/2017	NV00925
Anions by Ion Chromatography							
Nitrate Nitrogen	EPA 300.0	ND	mg/kg	3	0.30	10/19/2017	NV00925
Nitrite Nitrogen	EPA 300.0	ND	mg/kg	3	0.15	10/19/2017	NV00925
Sample Preparation							
Trace Metals Digestion	EPA 3050B	Complete		1		10/25/2017	NV00925
3:1 DI Water Extraction	WL 3.0	Complete		1		10/18/2017	NV00925

Customer Sample ID: SED-02-11A **Collect Date/Time:** 10/16/2017 10:30

WETLAB Sample ID: 1710567-019 **Receive Date:** 10/17/2017 14:00

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
Trace Metals (Soil/Solids/Sediment) by ICP-OES							
Aluminum	SW846 6010B	1500	mg/kg	39.035	1.8	10/25/2017	NV00925
Phosphorus	SW846 6010B	94	mg/kg	39.035	20	10/25/2017	NV00925
General Chemistry							
Orthophosphate, as P	SM 4500-P E	ND	mg/kg	3	0.030	10/19/2017	NV00925
Organic Matter	D2974	0.37	%	1	0.01	10/25/2017	NV00925

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Customer Sample ID: SED-02-11A **Collect Date/Time:** 10/16/2017 10:30

WETLAB Sample ID: 1710567-019 **Receive Date:** 10/17/2017 14:00

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
pH	SW846 9045D	7.03	pH Units	1		10/20/2017	NV00925
Total Solids (TS)	SM 2540 G	16.06	%	1	1.000	10/19/2017	NV00925
Anions by Ion Chromatography							
Nitrate Nitrogen	EPA 300.0	ND	mg/kg	3	0.30	10/19/2017	NV00925
Nitrite Nitrogen	EPA 300.0	ND	mg/kg	3	0.15	10/19/2017	NV00925
Sample Preparation							
Trace Metals Digestion	EPA 3050B	Complete		1		10/25/2017	NV00925
3:1 DI Water Extraction	WL 3.0	Complete		1		10/18/2017	NV00925

Customer Sample ID: SED-02-11B **Collect Date/Time:** 10/16/2017 10:30

WETLAB Sample ID: 1710567-020 **Receive Date:** 10/17/2017 14:00

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
Trace Metals (Soil/Solids/Sediment) by ICP-OES							
Aluminum	SW846 6010B	1300	mg/kg	46.816	2.1	10/25/2017	NV00925
Phosphorus	SW846 6010B	72	mg/kg	46.816	23	10/25/2017	NV00925
General Chemistry							
Orthophosphate, as P	SM 4500-P E	ND	mg/kg	3	0.030	10/19/2017	NV00925
Organic Matter	D2974	0.43	%	1	0.01	10/25/2017	NV00925
pH	SW846 9045D	7.08	pH Units	1		10/20/2017	NV00925
Total Solids (TS)	SM 2540 G	71.09	%	1	1.000	10/19/2017	NV00925
Anions by Ion Chromatography							
Nitrate Nitrogen	EPA 300.0	ND	mg/kg	3	0.30	10/19/2017	NV00925
Nitrite Nitrogen	EPA 300.0	ND	mg/kg	3	0.15	10/19/2017	NV00925
Sample Preparation							
Trace Metals Digestion	EPA 3050B	Complete		1		10/25/2017	NV00925
3:1 DI Water Extraction	WL 3.0	Complete		1		10/18/2017	NV00925

Customer Sample ID: SED-02-12A **Collect Date/Time:** 10/16/2017 09:49

WETLAB Sample ID: 1710567-021 **Receive Date:** 10/17/2017 14:00

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
Trace Metals (Soil/Solids/Sediment) by ICP-OES							
Aluminum	SW846 6010B	2100 SC	mg/kg	45.208	2.0	10/25/2017	NV00925
Phosphorus	SW846 6010B	140	mg/kg	45.208	23	10/25/2017	NV00925
General Chemistry							
Orthophosphate, as P	SM 4500-P E	ND	mg/kg	3	0.030	10/19/2017	NV00925
Organic Matter	D2974	0.64	%	1	0.01	10/25/2017	NV00925
pH	SW846 9045D	6.70	pH Units	1		10/20/2017	NV00925
Total Solids (TS)	SM 2540 G	92.99	%	1	1.000	10/19/2017	NV00925
Anions by Ion Chromatography							
Nitrate Nitrogen	EPA 300.0	ND	mg/kg	3	0.30	10/19/2017	NV00925
Nitrite Nitrogen	EPA 300.0	ND	mg/kg	3	0.15	10/19/2017	NV00925

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Customer Sample ID: SED-02-12A **Collect Date/Time:** 10/16/2017 09:49

WETLAB Sample ID: 1710567-021 **Receive Date:** 10/17/2017 14:00

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
Sample Preparation							
Trace Metals Digestion	EPA 3050B	Complete		1		10/25/2017	NV00925
3:1 DI Water Extraction	WL 3.0	Complete		1		10/18/2017	NV00925

Customer Sample ID: SED-02-12B **Collect Date/Time:** 10/16/2017 09:49

WETLAB Sample ID: 1710567-022 **Receive Date:** 10/17/2017 14:00

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
Trace Metals (Soil/Solids/Sediment) by ICP-OES							
Aluminum	SW846 6010B	3100	mg/kg	43.204	1.9	10/25/2017	NV00925
Phosphorus	SW846 6010B	140	mg/kg	43.204	22	10/25/2017	NV00925
General Chemistry							
Orthophosphate, as P	SM 4500-P E	ND	mg/kg	3	0.030	10/19/2017	NV00925
Organic Matter	D2974	0.63	%	1	0.01	10/25/2017	NV00925
pH	SW846 9045D	6.96	pH Units	1		10/20/2017	NV00925
Total Solids (TS)	SM 2540 G	36.10	%	1	1.000	10/19/2017	NV00925
Anions by Ion Chromatography							
Nitrate Nitrogen	EPA 300.0	ND	mg/kg	3	0.30	10/19/2017	NV00925
Nitrite Nitrogen	EPA 300.0	ND	mg/kg	3	0.15	10/19/2017	NV00925
Sample Preparation							
Trace Metals Digestion	EPA 3050B	Complete		1		10/25/2017	NV00925
3:1 DI Water Extraction	WL 3.0	Complete		1		10/18/2017	NV00925

Customer Sample ID: SED-02-13A **Collect Date/Time:** 10/16/2017 10:10

WETLAB Sample ID: 1710567-023 **Receive Date:** 10/17/2017 14:00

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
Trace Metals (Soil/Solids/Sediment) by ICP-OES							
Aluminum	SW846 6010B	2000	mg/kg	49.638	2.2	10/25/2017	NV00925
Phosphorus	SW846 6010B	140	mg/kg	49.638	25	10/25/2017	NV00925
General Chemistry							
Orthophosphate, as P	SM 4500-P E	ND	mg/kg	3	0.030	10/19/2017	NV00925
Organic Matter	D2974	0.48	%	1	0.01	10/25/2017	NV00925
pH	SW846 9045D	6.74	pH Units	1		10/20/2017	NV00925
Total Solids (TS)	SM 2540 G	81.50	%	1	1.000	10/19/2017	NV00925
Anions by Ion Chromatography							
Nitrate Nitrogen	EPA 300.0	ND	mg/kg	3	0.30	10/19/2017	NV00925
Nitrite Nitrogen	EPA 300.0	ND	mg/kg	3	0.15	10/19/2017	NV00925
Sample Preparation							
Trace Metals Digestion	EPA 3050B	Complete		1		10/25/2017	NV00925
3:1 DI Water Extraction	WL 3.0	Complete		1		10/18/2017	NV00925

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Customer Sample ID: SED-02-13B **Collect Date/Time:** 10/16/2017 10:10

WETLAB Sample ID: 1710567-024 **Receive Date:** 10/17/2017 14:00

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
Trace Metals (Soil/Solids/Sediment) by ICP-OES							
Aluminum	SW846 6010B	2400	mg/kg	45.364	2.0	10/25/2017	NV00925
Phosphorus	SW846 6010B	140	mg/kg	45.364	23	10/25/2017	NV00925
General Chemistry							
Orthophosphate, as P	SM 4500-P E	ND	mg/kg	3	0.030	10/19/2017	NV00925
Organic Matter	D2974	0.50	%	1	0.01	10/25/2017	NV00925
pH	SW846 9045D	6.58	pH Units	1		10/20/2017	NV00925
Total Solids (TS)	SM 2540 G	74.87	%	1	1.000	10/19/2017	NV00925
Anions by Ion Chromatography							
Nitrate Nitrogen	EPA 300.0	ND	mg/kg	3	0.30	10/19/2017	NV00925
Nitrite Nitrogen	EPA 300.0	ND	mg/kg	3	0.15	10/19/2017	NV00925
Sample Preparation							
Trace Metals Digestion	EPA 3050B	Complete		1		10/25/2017	NV00925
3:1 DI Water Extraction	WL 3.0	Complete		1		10/18/2017	NV00925

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or <RL

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Western Environmental Testing Laboratory
QC Report

QCBatchID	QCType	Parameter	Method	Result	Actual	% Rec	Units
QC17100823	Blank 1	Nitrate Nitrogen	EPA 300.0	ND			mg/L
		Nitrite Nitrogen	EPA 300.0	ND			mg/L
QC17100826	Blank 1	Orthophosphate, as P	SM 4500-P E	ND			mg/kg
QC17100826	Blank 2	Orthophosphate, as P	SM 4500-P E	ND			mg/kg
QC17100844	Blank 1	Nitrate Nitrogen	EPA 300.0	ND			mg/L
		Nitrite Nitrogen	EPA 300.0	ND			mg/L
QC17101033	Blank 1	Aluminum	SW846 6010B	ND			mg/kg
		Phosphorus	SW846 6010B	ND			mg/kg
QC17101034	Blank 1	Aluminum	SW846 6010B	ND			mg/kg
		Phosphorus	SW846 6010B	ND			mg/kg
QC17101035	Blank 1	Aluminum	SW846 6010B	ND			mg/kg
		Phosphorus	SW846 6010B	ND			mg/kg

QCBatchID	QCType	Parameter	Method	Result	Actual	% Rec	Units
QC17100823	LCS 1	Nitrate Nitrogen	EPA 300.0	1.92	2.00	96	mg/L
		Nitrite Nitrogen	EPA 300.0	0.471	0.500	94	mg/L
QC17100826	LCS 1	Orthophosphate, as P	SM 4500-P E	0.256	0.250	103	mg/kg
QC17100826	LCS 2	Orthophosphate, as P	SM 4500-P E	0.264	0.250	106	mg/kg
QC17100834	LCS 1	pH	SW846 9045D	7.03	7.00	100	ph Units
QC17100834	LCS 2	pH	SW846 9045D	7.05	7.00	101	ph Units
QC17100844	LCS 1	Nitrate Nitrogen	EPA 300.0	2.02	2.00	101	mg/L
		Nitrite Nitrogen	EPA 300.0	0.526	0.500	105	mg/L
QC17101033	LCS 1	Aluminum	SW846 6010B	50.4	50.0	101	mg/kg
		Phosphorus	SW846 6010B	242	250	97	mg/kg
QC17101034	LCS 1	Aluminum	SW846 6010B	50.4	50.0	101	mg/kg
		Phosphorus	SW846 6010B	242	250	97	mg/kg
QC17101035	LCS 1	Aluminum	SW846 6010B	50.6	50.0	101	mg/kg
		Phosphorus	SW846 6010B	230	250	92	mg/kg

QCBatchID	QCType	Parameter	Method	Duplicate Sample	Sample Result	Duplicate Result	Units	RPD
QC17100834	Duplicate 1	pH	SW846 9045D	1710567-001	6.69	6.65	pH Units	1 %
QC17100834	Duplicate 2	pH	SW846 9045D	1710567-011	6.78	6.76	pH Units	<1%
QC17100834	Duplicate 3	pH	SW846 9045D	1710567-021	6.70	6.65	pH Units	1 %

QCBatchID	QCType	Parameter	Method	Spike Sample	Sample Result		MS Result	MSD Result	Spike Value	Units	MS %Rec	MSD %Rec	RPD %
QC17100823	MS 1	Nitrate Nitrogen	EPA 300.0	1710496-014	ND	D	8.68	9.57	2	mg/L	87	96	10
		Nitrite Nitrogen	EPA 300.0	1710496-014	ND	D	1.80	1.96	0.5	mg/L	72	78	8
QC17100823	MS 2	Nitrate Nitrogen	EPA 300.0	1710567-005	ND		6.46	6.49	2	mg/L	105	106	<1
		Nitrite Nitrogen	EPA 300.0	1710567-005	ND		1.58	1.61	0.5	mg/L	100	102	2
QC17100826	MS 1	Orthophosphate, as P	SM 4500-P E	1710567-001	ND		0.748	0.758	0.25	mg/kg	99	100	1
QC17100826	MS 2	Orthophosphate, as P	SM 4500-P E	1710567-020	ND		0.791	0.799	0.25	mg/kg	103	104	1
QC17100826	MS 3	Orthophosphate, as P	SM 4500-P E	1710567-021	ND		0.760	0.758	0.25	mg/kg	101	100	<1
QC17100844	MS 1	Nitrate Nitrogen	EPA 300.0	1710624-001	0.206		2.31	2.23	2	mg/L	105	101	4
		Nitrite Nitrogen	EPA 300.0	1710624-001	ND	M	0.397	0.389	0.5	mg/L	NC	NC	NC
QC17100844	MS 2	Nitrate Nitrogen	EPA 300.0	1710529-029	4.90		26.7	26.8	2	mg/L	109	110	<1
		Nitrite Nitrogen	EPA 300.0	1710529-029	ND	D	5.33	5.59	0.5	mg/L	107	112	5

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QCBatchID	QCType	Parameter	Method	Spike Sample	Sample Result		MS Result	MSD Result	Spike Value	Units	MS %Rec	MSD %Rec	RPD %
QC17101033	MS 1	Aluminum	SW846 6010B	1710567-001	4890	SC	6370	6460	50	mg/kg	NC	NC	NC
		Phosphorus	SW846 6010B	1710567-001	280		511	479	250	mg/kg	92	80	6
QC17101034	MS 1	Aluminum	SW846 6010B	1710567-011	13200	SC	15500	15700	50	mg/kg	NC	NC	NC
		Phosphorus	SW846 6010B	1710567-011	279	M	453	457	250	mg/kg	NC	NC	NC
QC17101035	MS 1	Aluminum	SW846 6010B	1710567-021	2100	SC	3350	2940	50	mg/kg	NC	NC	NC
		Phosphorus	SW846 6010B	1710567-021	135		330	333	250	mg/kg	78	79	<1

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6/8/2017

Tahoe Keys Property Owners Association
356 Ala Wai Blvd.
South Lake Tahoe, CA 96150
Attn: Kristen Hunter

OrderID: *1705733*

Dear: Kristen Hunter

This is to transmit the attached analytical report. The analytical data and information contained therein was generated using specified or selected methods contained in references, such as Standard Methods for the Examination of Water and Wastewater, online edition, Methods for Determination of Organic Compounds in Drinking Water, EPA-600/4-79-020, and Test Methods for Evaluation of Solid Waste, Physical/Chemical Methods (SW846) Third Edition.

The samples were received by WETLAB-Western Environmental Testing Laboratory in good condition on 5/25/2017. Additional comments are located on page 2 of this report.

If you should have any questions or comments regarding this report, please do not hesitate to call.

Sincerely,

Andy Smith
QA Manager

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Western Environmental Testing Laboratory
Report Comments

Tahoe Keys Property Owners Association - 1705733

Specific Report Comments

None

Report Legend

B	--	Blank contamination; Analyte detected above the method reporting limit in an associated blank
D	--	Due to the sample matrix dilution was required in order to properly detect and report the analyte. The reporting limit has been adjusted accordingly.
HT	--	Sample analyzed beyond the accepted holding time
J	--	The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit
M	--	The matrix spike/matrix spike duplicate (MS/MSD) values for the analysis of this parameter were outside acceptance criteria due to probable matrix interference. The reported result should be considered an estimate.
N	--	There was insufficient sample available to perform a spike and/or duplicate on this analytical batch.
NC	--	Not calculated due to matrix interference
QD	--	The sample duplicate or matrix spike duplicate analysis demonstrated sample imprecision. The reported result should be considered an estimate.
QL	--	The result for the laboratory control sample (LCS) was outside WETLAB acceptance criteria and reanalysis was not possible. The reported data should be considered an estimate.
S	--	Surrogate recovery was outside of laboratory acceptance limits due to matrix interference. The associated blank and LCS surrogate recovery was within acceptance limits
SC	--	Spike recovery not calculated. Sample concentration >4X the spike amount; therefore, the spike could not be adequately recovered
U	--	The analyte was analyzed for, but was not detected above the level of the reported sample reporting/quantitation limit

General Lab Comments

Per method recommendation (section 4.4), Samples analyzed by methods EPA 300.0 and EPA 300.1 have been filtered prior to analysis.

The following is an interpretation of the results from EPA method 9223B:
A result of zero (0) indicates absence for both coliform and Escherichia coli meaning the water meets the microbiological requirements of the U.S. EPA Safe Drinking Water Act (SDWA). A result of one (1) for either test indicates presence and the water does not meet the SDWA requirements. Waters with positive tests should be disinfected by a certified water treatment operator and retested.

Per federal regulation the holding time for the following parameters in aqueous/water samples is 15 minutes: Residual Chlorine, pH, Dissolved Oxygen, Sulfite.

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Western Environmental Testing Laboratory
Analytical Report

Tahoe Keys Property Owners Association
356 Ala Wai Blvd.
South Lake Tahoe, CA 96150
Attn: Kristen Hunter
Phone: (530) 542-6450 **Fax:** (530) 542-6457

Date Printed: 6/8/2017
OrderID: *1705733*

Customer Sample ID: SED-01-01 A
WETLAB Sample ID: 1705733-001
Collect Date/Time: 5/25/2017 11:37
Receive Date: 5/25/2017 15:40

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
Trace Metals (Soil) by ICP-OES							
Aluminum	SW846 6010B	3800 SC	mg/kg	43.433	2.0	6/6/2017	NV00925
Phosphorus	SW846 6010B	220	mg/kg	43.433	22	6/6/2017	NV00925
General Chemistry							
Orthophosphate, as P	SM 4500-P E	ND	mg/kg	3	0.030	6/1/2017	NV00925
Organic Matter	D2974	10	%	1		6/6/2017	NV00925
Ammonia, as Nitrogen	SM 4500 NH3 D	92	mg/kg	99.87	5.0	6/1/2017	NV00925
Total Solids (TS)	SM 2540 G	21.13	%	1	1.00	6/1/2017	NV00925
Anions by Ion Chromatography							
Nitrate Nitrogen	EPA 300.0	ND	mg/kg	3	0.30	5/31/2017	NV00925
Nitrite Nitrogen	EPA 300.0	ND	mg/kg	3	0.15	5/31/2017	NV00925
Sample Preparation							
Trace Metals Digestion	EPA 3050B	Complete		1		5/31/2017	NV00925
Ammonia Distillation	SM 4500 NH3 B	Complete		1		5/31/2017	NV00925
3:1 DI Water Extraction	WL 3.0	Complete		1			NV00925

Customer Sample ID: SED-01-01 B
WETLAB Sample ID: 1705733-002
Collect Date/Time: 5/25/2017 11:37
Receive Date: 5/25/2017 15:40

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
Trace Metals (Soil) by ICP-OES							
Aluminum	SW846 6010B	3900	mg/kg	49.841	2.2	6/6/2017	NV00925
Phosphorus	SW846 6010B	210	mg/kg	49.841	25	6/6/2017	NV00925
General Chemistry							
Orthophosphate, as P	SM 4500-P E	ND	mg/kg	3	0.030	6/1/2017	NV00925
Organic Matter	D2974	8.4	%	1		6/6/2017	NV00925
Ammonia, as Nitrogen	SM 4500 NH3 D	81	mg/kg	97.32	4.9	6/1/2017	NV00925
Total Solids (TS)	SM 2540 G	23.75	%	1	1.00	6/1/2017	NV00925
Anions by Ion Chromatography							
Nitrate Nitrogen	EPA 300.0	ND	mg/kg	3	0.30	5/31/2017	NV00925
Nitrite Nitrogen	EPA 300.0	ND	mg/kg	3	0.15	5/31/2017	NV00925
Sample Preparation							
Trace Metals Digestion	EPA 3050B	Complete		1		5/31/2017	NV00925
Ammonia Distillation	SM 4500 NH3 B	Complete		1		5/31/2017	NV00925

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or <RL

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Customer Sample ID: SED-01-01 B **Collect Date/Time:** 5/25/2017 11:37

WETLAB Sample ID: 1705733-002 **Receive Date:** 5/25/2017 15:40

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
3:1 DI Water Extraction	WL 3.0	Complete		1			NV00925

Customer Sample ID: SED-01-02 A **Collect Date/Time:** 5/25/2017 14:23

WETLAB Sample ID: 1705733-003 **Receive Date:** 5/25/2017 15:40

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
Trace Metals (Soil) by ICP-OES							
Aluminum	SW846 6010B	4600	mg/kg	37.529	1.7	6/6/2017	NV00925
Phosphorus	SW846 6010B	170	mg/kg	37.529	19	6/6/2017	NV00925
General Chemistry							
Orthophosphate, as P	SM 4500-P E	ND	mg/kg	3	0.030	6/1/2017	NV00925
Organic Matter	D2974	9.9	%	1		6/6/2017	NV00925
Ammonia, as Nitrogen	SM 4500 NH3 D	26	mg/kg	19.842	0.99	6/1/2017	NV00925
Total Solids (TS)	SM 2540 G	21.60	%	1	1.00	6/1/2017	NV00925
Anions by Ion Chromatography							
Nitrate Nitrogen	EPA 300.0	ND	mg/kg	3	0.30	5/31/2017	NV00925
Nitrite Nitrogen	EPA 300.0	ND	mg/kg	3	0.15	5/31/2017	NV00925
Sample Preparation							
Trace Metals Digestion	EPA 3050B	Complete		1		5/31/2017	NV00925
Ammonia Distillation	SM 4500 NH3 B	Complete		1		5/31/2017	NV00925
3:1 DI Water Extraction	WL 3.0	Complete		1			NV00925

Customer Sample ID: SED-01-02 B **Collect Date/Time:** 5/25/2017 14:23

WETLAB Sample ID: 1705733-004 **Receive Date:** 5/25/2017 15:40

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
Trace Metals (Soil) by ICP-OES							
Aluminum	SW846 6010B	4200	mg/kg	43.29	1.9	6/6/2017	NV00925
Phosphorus	SW846 6010B	150	mg/kg	43.29	22	6/6/2017	NV00925
General Chemistry							
Organic Matter	D2974	16	%	1		6/6/2017	NV00925
Orthophosphate, as P	SM 4500-P E	ND	mg/kg	3	0.030	6/1/2017	NV00925
Ammonia, as Nitrogen	SM 4500 NH3 D	73	mg/kg	97.025	4.9	6/1/2017	NV00925
Total Solids (TS)	SM 2540 G	15.19	%	1	1.00	6/1/2017	NV00925
Anions by Ion Chromatography							
Nitrate Nitrogen	EPA 300.0	ND	mg/kg	3	0.30	5/31/2017	NV00925
Nitrite Nitrogen	EPA 300.0	ND	mg/kg	3	0.15	5/31/2017	NV00925
Sample Preparation							
Trace Metals Digestion	EPA 3050B	Complete		1		5/31/2017	NV00925
Ammonia Distillation	SM 4500 NH3 B	Complete		1		5/31/2017	NV00925
3:1 DI Water Extraction	WL 3.0	Complete		1			NV00925

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Customer Sample ID: SED-01-03 A **Collect Date/Time:** 5/25/2017 11:22

WETLAB Sample ID: 1705733-005 **Receive Date:** 5/25/2017 15:40

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
Trace Metals (Soil) by ICP-OES							
Aluminum	SW846 6010B	3100	mg/kg	38.438	1.7	6/6/2017	NV00925
Phosphorus	SW846 6010B	160	mg/kg	38.438	19	6/6/2017	NV00925
General Chemistry							
Orthophosphate, as P	SM 4500-P E	ND	mg/kg	3	0.030	6/1/2017	NV00925
Organic Matter	D2974	2.1	%	1		6/6/2017	NV00925
Ammonia, as Nitrogen	SM 4500 NH3 D	47	mg/kg	39.482	2.0	6/1/2017	NV00925
Total Solids (TS)	SM 2540 G	44.50	%	1	1.00	6/1/2017	NV00925
Anions by Ion Chromatography							
Nitrate Nitrogen	EPA 300.0	ND	mg/kg	3	0.30	5/31/2017	NV00925
Nitrite Nitrogen	EPA 300.0	ND	mg/kg	3	0.15	5/31/2017	NV00925
Sample Preparation							
Trace Metals Digestion	EPA 3050B	Complete		1		5/31/2017	NV00925
Ammonia Distillation	SM 4500 NH3 B	Complete		1		5/31/2017	NV00925
3:1 DI Water Extraction	WL 3.0	Complete		1			NV00925

Customer Sample ID: SED-01-03 B **Collect Date/Time:** 5/25/2017 11:22

WETLAB Sample ID: 1705733-006 **Receive Date:** 5/25/2017 15:40

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
Trace Metals (Soil) by ICP-OES							
Aluminum	SW846 6010B	5100	mg/kg	45.094	2.0	6/6/2017	NV00925
Phosphorus	SW846 6010B	140	mg/kg	45.094	23	6/6/2017	NV00925
General Chemistry							
Orthophosphate, as P	SM 4500-P E	ND	mg/kg	3	0.030	6/1/2017	NV00925
Organic Matter	D2974	3.7	%	1		6/6/2017	NV00925
Ammonia, as Nitrogen	SM 4500 NH3 D	33	mg/kg	19.239	0.96	6/1/2017	NV00925
Total Solids (TS)	SM 2540 G	41.91	%	1	1.00	6/1/2017	NV00925
Anions by Ion Chromatography							
Nitrate Nitrogen	EPA 300.0	ND	mg/kg	3	0.30	5/31/2017	NV00925
Nitrite Nitrogen	EPA 300.0	ND	mg/kg	3	0.15	5/31/2017	NV00925
Sample Preparation							
Trace Metals Digestion	EPA 3050B	Complete		1		5/31/2017	NV00925
Ammonia Distillation	SM 4500 NH3 B	Complete		1		5/31/2017	NV00925
3:1 DI Water Extraction	WL 3.0	Complete		1			NV00925

Customer Sample ID: SED-01-04 A **Collect Date/Time:** 5/25/2017 14:48

WETLAB Sample ID: 1705733-007 **Receive Date:** 5/25/2017 15:40

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
Trace Metals (Soil) by ICP-OES							
Aluminum	SW846 6010B	4000	mg/kg	38.145	1.7	6/6/2017	NV00925
Phosphorus	SW846 6010B	120	mg/kg	38.145	19	6/6/2017	NV00925

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Customer Sample ID: SED-01-04 A **Collect Date/Time:** 5/25/2017 14:48

WETLAB Sample ID: 1705733-007 **Receive Date:** 5/25/2017 15:40

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
General Chemistry							
Organic Matter	D2974	9.6	%	1		6/6/2017	NV00925
Orthophosphate, as P	SM 4500-P E	ND	mg/kg	3	0.030	6/1/2017	NV00925
Ammonia, as Nitrogen	SM 4500 NH3 D	51	mg/kg	39.762	2.0	6/1/2017	NV00925
Total Solids (TS)	SM 2540 G	24.86	%	1	1.00	6/1/2017	NV00925
Anions by Ion Chromatography							
Nitrate Nitrogen	EPA 300.0	ND	mg/kg	3	0.30	5/31/2017	NV00925
Nitrite Nitrogen	EPA 300.0	ND	mg/kg	3	0.15	5/31/2017	NV00925
Sample Preparation							
Trace Metals Digestion	EPA 3050B	Complete		1		5/31/2017	NV00925
Ammonia Distillation	SM 4500 NH3 B	Complete		1		5/31/2017	NV00925
3:1 DI Water Extraction	WL 3.0	Complete		1			NV00925

Customer Sample ID: SED-01-04 B **Collect Date/Time:** 5/25/2017 14:48

WETLAB Sample ID: 1705733-008 **Receive Date:** 5/25/2017 15:40

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
Trace Metals (Soil) by ICP-OES							
Aluminum	SW846 6010B	3100	mg/kg	48.068	2.2	6/6/2017	NV00925
Phosphorus	SW846 6010B	110	mg/kg	48.068	24	6/6/2017	NV00925
General Chemistry							
Orthophosphate, as P	SM 4500-P E	ND	mg/kg	3	0.030	6/1/2017	NV00925
Organic Matter	D2974	10	%	1		6/6/2017	NV00925
Ammonia, as Nitrogen	SM 4500 NH3 D	50	mg/kg	39.82	2.0	6/1/2017	NV00925
Total Solids (TS)	SM 2540 G	22.97	%	1	1.00	6/1/2017	NV00925
Anions by Ion Chromatography							
Nitrate Nitrogen	EPA 300.0	ND	mg/kg	3	0.30	5/31/2017	NV00925
Nitrite Nitrogen	EPA 300.0	ND	mg/kg	3	0.15	5/31/2017	NV00925
Sample Preparation							
Trace Metals Digestion	EPA 3050B	Complete		1		5/31/2017	NV00925
Ammonia Distillation	SM 4500 NH3 B	Complete		1		5/31/2017	NV00925
3:1 DI Water Extraction	WL 3.0	Complete		1			NV00925

Customer Sample ID: SED-01-05 A **Collect Date/Time:** 5/25/2017 16:28

WETLAB Sample ID: 1705733-009 **Receive Date:** 5/25/2017 15:40

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
Trace Metals (Soil) by ICP-OES							
Aluminum	SW846 6010B	3000	mg/kg	43.531	2.0	6/6/2017	NV00925
Phosphorus	SW846 6010B	82	mg/kg	43.531	22	6/6/2017	NV00925
General Chemistry							
Orthophosphate, as P	SM 4500-P E	ND	mg/kg	3	0.030	6/1/2017	NV00925
Organic Matter	D2974	13	%	1		6/6/2017	NV00925
Ammonia, as Nitrogen	SM 4500 NH3 D	75	mg/kg	96.22	4.8	6/1/2017	NV00925

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or <RL

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Customer Sample ID: SED-01-05 A **Collect Date/Time:** 5/25/2017 16:28

WETLAB Sample ID: 1705733-009 **Receive Date:** 5/25/2017 15:40

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
Total Solids (TS)	SM 2540 G	20.72	%	1	1.00	6/1/2017	NV00925
Anions by Ion Chromatography							
Nitrate Nitrogen	EPA 300.0	ND	mg/kg	3	0.30	5/31/2017	NV00925
Nitrite Nitrogen	EPA 300.0	ND	mg/kg	3	0.15	5/31/2017	NV00925
Sample Preparation							
Trace Metals Digestion	EPA 3050B	Complete		1		5/31/2017	NV00925
Ammonia Distillation	SM 4500 NH3 B	Complete		1		5/31/2017	NV00925
3:1 DI Water Extraction	WL 3.0	Complete		1			NV00925

Customer Sample ID: SED-01-05 B **Collect Date/Time:** 5/25/2017 16:28

WETLAB Sample ID: 1705733-010 **Receive Date:** 5/25/2017 15:40

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
Trace Metals (Soil) by ICP-OES							
Aluminum	SW846 6010B	4000	mg/kg	38.382	1.7	6/6/2017	NV00925
Phosphorus	SW846 6010B	96	mg/kg	38.382	19	6/6/2017	NV00925
General Chemistry							
Organic Matter	D2974	11	%	1		6/6/2017	NV00925
Orthophosphate, as P	SM 4500-P E	ND	mg/kg	3	0.030	6/1/2017	NV00925
Ammonia, as Nitrogen	SM 4500 NH3 D	100	mg/kg	97.985	4.9	6/1/2017	NV00925
Total Solids (TS)	SM 2540 G	23.31	%	1	1.00	6/1/2017	NV00925
Anions by Ion Chromatography							
Nitrate Nitrogen	EPA 300.0	ND	mg/kg	3	0.30	5/31/2017	NV00925
Nitrite Nitrogen	EPA 300.0	ND	mg/kg	3	0.15	5/31/2017	NV00925
Sample Preparation							
Trace Metals Digestion	EPA 3050B	Complete		1		5/31/2017	NV00925
Ammonia Distillation	SM 4500 NH3 B	Complete		1		5/31/2017	NV00925
3:1 DI Water Extraction	WL 3.0	Complete		1			NV00925

Customer Sample ID: SED-01-06 A **Collect Date/Time:** 5/25/2017 13:34

WETLAB Sample ID: 1705733-011 **Receive Date:** 5/25/2017 15:40

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
Trace Metals (Soil) by ICP-OES							
Aluminum	SW846 6010B	8800 SC	mg/kg	49.358	2.2	6/6/2017	NV00925
Phosphorus	SW846 6010B	250	mg/kg	49.358	25	6/6/2017	NV00925
General Chemistry							
Organic Matter	D2974	7.0	%	1		6/6/2017	NV00925
Orthophosphate, as P	SM 4500-P E	ND	mg/kg	3	0.030	6/1/2017	NV00925
Ammonia, as Nitrogen	SM 4500 NH3 D	61	mg/kg	97.11	4.9	6/1/2017	NV00925
Total Solids (TS)	SM 2540 G	34.74	%	1	1.00	6/1/2017	NV00925
Anions by Ion Chromatography							
Nitrate Nitrogen	EPA 300.0	ND	mg/kg	3	0.30	5/31/2017	NV00925
Nitrite Nitrogen	EPA 300.0	ND	mg/kg	3	0.15	5/31/2017	NV00925

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Customer Sample ID: SED-01-06 A **Collect Date/Time:** 5/25/2017 13:34

WETLAB Sample ID: 1705733-011 **Receive Date:** 5/25/2017 15:40

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
Sample Preparation							
Trace Metals Digestion	EPA 3050B	Complete		1		5/31/2017	NV00925
Ammonia Distillation	SM 4500 NH3 B	Complete		1		5/31/2017	NV00925
3:1 DI Water Extraction	WL 3.0	Complete		1			NV00925

Customer Sample ID: SED-01-06 B **Collect Date/Time:** 5/25/2017 13:34

WETLAB Sample ID: 1705733-012 **Receive Date:** 5/25/2017 15:40

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
Trace Metals (Soil) by ICP-OES							
Aluminum	SW846 6010B	7600	mg/kg	48.828	2.2	6/6/2017	NV00925
Phosphorus	SW846 6010B	180	mg/kg	48.828	24	6/6/2017	NV00925
General Chemistry							
Organic Matter	D2974	8.4	%	1		6/6/2017	NV00925
Orthophosphate, as P	SM 4500-P E	ND	mg/kg	3	0.030	6/1/2017	NV00925
Ammonia, as Nitrogen	SM 4500 NH3 D	39	mg/kg	37.334	1.9	6/1/2017	NV00925
Total Solids (TS)	SM 2540 G	27.66	%	1	1.00	6/1/2017	NV00925
Anions by Ion Chromatography							
Nitrate Nitrogen	EPA 300.0	ND	mg/kg	3	0.30	5/31/2017	NV00925
Nitrite Nitrogen	EPA 300.0	ND	mg/kg	3	0.15	5/31/2017	NV00925
Sample Preparation							
Trace Metals Digestion	EPA 3050B	Complete		1		5/31/2017	NV00925
Ammonia Distillation	SM 4500 NH3 B	Complete		1		5/31/2017	NV00925
3:1 DI Water Extraction	WL 3.0	Complete		1			NV00925

Customer Sample ID: SED-01-07 A **Collect Date/Time:** 5/25/2017 16:50

WETLAB Sample ID: 1705733-013 **Receive Date:** 5/25/2017 15:40

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
Trace Metals (Soil) by ICP-OES							
Aluminum	SW846 6010B	4300	mg/kg	46.738	2.1	6/6/2017	NV00925
Phosphorus	SW846 6010B	140	mg/kg	46.738	23	6/6/2017	NV00925
General Chemistry							
Organic Matter	D2974	9.1	%	1		6/6/2017	NV00925
Orthophosphate, as P	SM 4500-P E	ND	mg/kg	3	0.030	6/1/2017	NV00925
Ammonia, as Nitrogen	SM 4500 NH3 D	140	mg/kg	98.97	4.9	6/1/2017	NV00925
Total Solids (TS)	SM 2540 G	28.48	%	1	1.00	6/1/2017	NV00925
Anions by Ion Chromatography							
Nitrate Nitrogen	EPA 300.0	ND	mg/kg	3	0.30	5/31/2017	NV00925
Nitrite Nitrogen	EPA 300.0	ND	mg/kg	3	0.15	5/31/2017	NV00925
Sample Preparation							
Trace Metals Digestion	EPA 3050B	Complete		1		5/31/2017	NV00925
Ammonia Distillation	SM 4500 NH3 B	Complete		1		5/31/2017	NV00925
3:1 DI Water Extraction	WL 3.0	Complete		1			NV00925

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Customer Sample ID: SED-01-07 B **Collect Date/Time:** 5/25/2017 16:50

WETLAB Sample ID: 1705733-014 **Receive Date:** 5/25/2017 15:40

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
Trace Metals (Soil) by ICP-OES							
Aluminum	SW846 6010B	3600	mg/kg	49.831	2.2	6/6/2017	NV00925
Phosphorus	SW846 6010B	100	mg/kg	49.831	25	6/6/2017	NV00925
General Chemistry							
Orthophosphate, as P	SM 4500-P E	ND	mg/kg	3	0.030	6/1/2017	NV00925
Organic Matter	D2974	12	%	1		6/6/2017	NV00925
Ammonia, as Nitrogen	SM 4500 NH3 D	130	mg/kg	99.075	5.0	6/1/2017	NV00925
Total Solids (TS)	SM 2540 G	23.21	%	1	1.00	6/1/2017	NV00925
Anions by Ion Chromatography							
Nitrate Nitrogen	EPA 300.0	ND	mg/kg	3	0.30	5/31/2017	NV00925
Nitrite Nitrogen	EPA 300.0	ND	mg/kg	3	0.15	5/31/2017	NV00925
Sample Preparation							
Trace Metals Digestion	EPA 3050B	Complete		1		5/31/2017	NV00925
Ammonia Distillation	SM 4500 NH3 B	Complete		1		5/31/2017	NV00925
3:1 DI Water Extraction	WL 3.0	Complete		1			NV00925

Customer Sample ID: SED-01-08 A **Collect Date/Time:** 5/25/2017 13:50

WETLAB Sample ID: 1705733-015 **Receive Date:** 5/25/2017 15:40

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
Trace Metals (Soil) by ICP-OES							
Aluminum	SW846 6010B	4300	mg/kg	43.848	2.0	6/6/2017	NV00925
Phosphorus	SW846 6010B	110	mg/kg	43.848	22	6/6/2017	NV00925
General Chemistry							
Orthophosphate, as P	SM 4500-P E	ND	mg/kg	3	0.030	6/1/2017	NV00925
Organic Matter	D2974	10	%	1		6/6/2017	NV00925
Ammonia, as Nitrogen	SM 4500 NH3 D	33	mg/kg	19.786	0.99	6/5/2017	NV00925
Total Solids (TS)	SM 2540 G	19.82	%	1	1.00	6/1/2017	NV00925
Anions by Ion Chromatography							
Nitrate Nitrogen	EPA 300.0	ND	mg/kg	3	0.30	5/31/2017	NV00925
Nitrite Nitrogen	EPA 300.0	ND	mg/kg	3	0.15	5/31/2017	NV00925
Sample Preparation							
Trace Metals Digestion	EPA 3050B	Complete		1		5/31/2017	NV00925
Ammonia Distillation	SM 4500 NH3 B	Complete		1		6/2/2017	NV00925
3:1 DI Water Extraction	WL 3.0	Complete		1			NV00925

Customer Sample ID: SED-01-08 B **Collect Date/Time:** 5/25/2017 13:50

WETLAB Sample ID: 1705733-016 **Receive Date:** 5/25/2017 15:40

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
Trace Metals (Soil) by ICP-OES							
Aluminum	SW846 6010B	5700	mg/kg	36.48	1.6	6/6/2017	NV00925
Phosphorus	SW846 6010B	130	mg/kg	36.48	18	6/6/2017	NV00925

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Customer Sample ID: SED-01-08 B **Collect Date/Time:** 5/25/2017 13:50

WETLAB Sample ID: 1705733-016 **Receive Date:** 5/25/2017 15:40

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
General Chemistry							
Orthophosphate, as P	SM 4500-P E	0.050	mg/kg	3	0.030	6/1/2017	NV00925
Organic Matter	D2974	9.4	%	1		6/6/2017	NV00925
Ammonia, as Nitrogen	SM 4500 NH3 D	36	mg/kg	19.492	0.97	6/5/2017	NV00925
Total Solids (TS)	SM 2540 G	24.31	%	1	1.00	6/1/2017	NV00925
Anions by Ion Chromatography							
Nitrate Nitrogen	EPA 300.0	ND	mg/kg	3	0.30	5/31/2017	NV00925
Nitrite Nitrogen	EPA 300.0	ND	mg/kg	3	0.15	5/31/2017	NV00925
Sample Preparation							
Trace Metals Digestion	EPA 3050B	Complete		1		5/31/2017	NV00925
Ammonia Distillation	SM 4500 NH3 B	Complete		1		6/2/2017	NV00925
3:1 DI Water Extraction	WL 3.0	Complete		1			NV00925

Customer Sample ID: SED-01-10 A **Collect Date/Time:** 5/25/2017 15:05

WETLAB Sample ID: 1705733-017 **Receive Date:** 5/25/2017 15:40

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
Trace Metals (Soil) by ICP-OES							
Aluminum	SW846 6010B	4500	mg/kg	42.212	1.9	6/6/2017	NV00925
Phosphorus	SW846 6010B	220	mg/kg	42.212	21	6/6/2017	NV00925
General Chemistry							
Organic Matter	D2974	10	%	1		6/6/2017	NV00925
Orthophosphate, as P	SM 4500-P E	0.13	mg/kg	3	0.030	6/1/2017	NV00925
Ammonia, as Nitrogen	SM 4500 NH3 D	93	mg/kg	96.785	4.8	6/5/2017	NV00925
Total Solids (TS)	SM 2540 G	20.95	%	1	1.00	6/1/2017	NV00925
Anions by Ion Chromatography							
Nitrate Nitrogen	EPA 300.0	ND	mg/kg	3	0.30	5/31/2017	NV00925
Nitrite Nitrogen	EPA 300.0	ND	mg/kg	3	0.15	5/31/2017	NV00925
Sample Preparation							
Trace Metals Digestion	EPA 3050B	Complete		1		5/31/2017	NV00925
Ammonia Distillation	SM 4500 NH3 B	Complete		1		6/2/2017	NV00925
3:1 DI Water Extraction	WL 3.0	Complete		1			NV00925

Customer Sample ID: SED-01-10 B **Collect Date/Time:** 5/25/2017 15:05

WETLAB Sample ID: 1705733-018 **Receive Date:** 5/25/2017 15:40

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
Trace Metals (Soil) by ICP-OES							
Aluminum	SW846 6010B	5000	mg/kg	43.914	2.0	6/6/2017	NV00925
Phosphorus	SW846 6010B	210	mg/kg	43.914	22	6/6/2017	NV00925
General Chemistry							
Orthophosphate, as P	SM 4500-P E	ND	mg/kg	3	0.030	6/1/2017	NV00925
Organic Matter	D2974	9.8	%	1		6/6/2017	NV00925
Ammonia, as Nitrogen	SM 4500 NH3 D	78	mg/kg	99.71	5.0	6/5/2017	NV00925

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Customer Sample ID: SED-01-10 B **Collect Date/Time:** 5/25/2017 15:05

WETLAB Sample ID: 1705733-018 **Receive Date:** 5/25/2017 15:40

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
Total Solids (TS)	SM 2540 G	20.97	%	1	1.00	6/1/2017	NV00925
Anions by Ion Chromatography							
Nitrate Nitrogen	EPA 300.0	ND	mg/kg	3	0.30	5/31/2017	NV00925
Nitrite Nitrogen	EPA 300.0	ND	mg/kg	3	0.15	5/31/2017	NV00925
Sample Preparation							
Trace Metals Digestion	EPA 3050B	Complete		1		5/31/2017	NV00925
Ammonia Distillation	SM 4500 NH3 B	Complete		1		6/2/2017	NV00925
3:1 DI Water Extraction	WL 3.0	Complete		1			NV00925

Customer Sample ID: SED-01-12 A **Collect Date/Time:** 5/25/2017 11:50

WETLAB Sample ID: 1705733-019 **Receive Date:** 5/25/2017 15:40

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
Trace Metals (Soil) by ICP-OES							
Aluminum	SW846 6010B	2000	mg/kg	38.604	1.7	6/6/2017	NV00925
Phosphorus	SW846 6010B	150	mg/kg	38.604	19	6/6/2017	NV00925
General Chemistry							
Organic Matter	D2974	13	%	1		6/6/2017	NV00925
Orthophosphate, as P	SM 4500-P E	ND	mg/kg	3	0.030	6/1/2017	NV00925
Ammonia, as Nitrogen	SM 4500 NH3 D	4.8	mg/kg	19.421	0.97	6/5/2017	NV00925
Total Solids (TS)	SM 2540 G	14.68	%	1	1.00	6/1/2017	NV00925
Anions by Ion Chromatography							
Nitrate Nitrogen	EPA 300.0	ND	mg/kg	3	0.30	5/31/2017	NV00925
Nitrite Nitrogen	EPA 300.0	ND	mg/kg	3	0.15	5/31/2017	NV00925
Sample Preparation							
Trace Metals Digestion	EPA 3050B	Complete		1		5/31/2017	NV00925
Ammonia Distillation	SM 4500 NH3 B	Complete		1		6/2/2017	NV00925
3:1 DI Water Extraction	WL 3.0	Complete		1			NV00925

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Western Environmental Testing Laboratory
QC Report

QCBatchID	QCType	Parameter	Method	Result	Actual	% Rec	Units
QC17060021	Blank 1	Nitrate Nitrogen	EPA 300.0	ND			mg/L
		Nitrite Nitrogen	EPA 300.0	ND			mg/L
QC17060022	Blank 1	Nitrate Nitrogen	EPA 300.0	ND			mg/L
		Nitrite Nitrogen	EPA 300.0	ND			mg/L
QC17060039	Blank 1	Orthophosphate, as P	SM 4500-P E	ND			mg/kg
QC17060039	Blank 2	Orthophosphate, as P	SM 4500-P E	ND			mg/kg
QC17060058	Blank 1	Ammonia, as Nitrogen	SM 4500 NH3	ND			mg/L
QC17060059	Blank 1	Ammonia, as Nitrogen	SM 4500 NH3	ND			mg/L
QC17060154	Blank 1	Ammonia, as Nitrogen	SM 4500 NH3	ND			mg/L
QC17060224	Blank 1	Aluminum	SW846 6010B	ND			mg/kg
		Phosphorus	SW846 6010B	ND			mg/kg
QC17060225	Blank 1	Aluminum	SW846 6010B	ND			mg/kg
		Phosphorus	SW846 6010B	ND			mg/kg

QCBatchID	QCType	Parameter	Method	Result	Actual	% Rec	Units
QC17060021	LCS 1	Nitrate Nitrogen	EPA 300.0	1.98	2.00	99	mg/L
		Nitrite Nitrogen	EPA 300.0	0.496	0.500	99	mg/L
QC17060022	LCS 1	Nitrate Nitrogen	EPA 300.0	1.98	2.00	99	mg/L
		Nitrite Nitrogen	EPA 300.0	0.496	0.500	99	mg/L
QC17060039	LCS 1	Orthophosphate, as P	SM 4500-P E	0.229	0.250	92	mg/kg
QC17060039	LCS 2	Orthophosphate, as P	SM 4500-P E	0.232	0.250	93	mg/kg
QC17060058	LCS 1	Ammonia, as Nitrogen	SM 4500 NH3 D	0.991	1.00	99	mg/L
QC17060059	LCS 1	Ammonia, as Nitrogen	SM 4500 NH3 D	0.999	1.00	100	mg/L
QC17060154	LCS 1	Ammonia, as Nitrogen	SM 4500 NH3 D	0.937	1.00	94	mg/L
QC17060224	LCS 1	Aluminum	SW846 6010B	47.0	50.0	94	mg/kg
		Phosphorus	SW846 6010B	230	250	92	mg/kg
QC17060225	LCS 1	Aluminum	SW846 6010B	47.0	50.0	94	mg/kg
		Phosphorus	SW846 6010B	230	250	92	mg/kg

QCBatchID	QCType	Parameter	Method	Spike Sample	Sample Result		MS Result	MSD Result	Spike Value	Units	MS %Rec	MSD %Rec	RPD %
QC17060021	MS 1	Nitrate Nitrogen	EPA 300.0	1705808-001	ND		2.11	2.09	2	mg/L	104	103	1
		Nitrite Nitrogen	EPA 300.0	1705808-001	ND		0.520	0.515	0.5	mg/L	102	101	1
QC17060021	MS 2	Nitrate Nitrogen	EPA 300.0	1705801-001	1.44		3.58	3.63	2	mg/L	107	110	1
		Nitrite Nitrogen	EPA 300.0	1705801-001	ND		0.475	0.486	0.5	mg/L	93	96	2
QC17060022	MS 1	Nitrate Nitrogen	EPA 300.0	1705733-019	ND		6.04	5.37	2	mg/L	101	90	12
		Nitrite Nitrogen	EPA 300.0	1705733-019	ND		1.46	1.23	0.5	mg/L	97	82	17
QC17060022	MS 2	Nitrate Nitrogen	EPA 300.0	1705800-006	ND		5.36	5.77	2	mg/L	89	96	7
		Nitrite Nitrogen	EPA 300.0	1705800-006	ND		1.29	1.39	0.5	mg/L	86	92	8
QC17060039	MS 1	Orthophosphate, as P	SM 4500-P E	1705733-001	ND		0.634	0.656	0.25	mg/kg	84	87	3
QC17060039	MS 2	Orthophosphate, as P	SM 4500-P E	1705733-011	ND		0.645	0.646	0.25	mg/kg	85	85	<1
QC17060039	MS 3	Orthophosphate, as P	SM 4500-P E	1705800-001	ND		0.661	0.671	0.25	mg/kg	88	89	2
QC17060058	MS 1	Ammonia, as Nitrogen	SM 4500 NH3 D	1705718-002	1.23		2.30	2.21	1	mg/L	106	98	4
QC17060059	MS 1	Ammonia, as Nitrogen	SM 4500 NH3 D	1705727-001	7.05	SC	8.45	8.14	1	mg/L	NC	NC	NC
QC17060154	MS 1	Ammonia, as Nitrogen	SM 4500 NH3 D	1706049-002	24.0		43.1	42.4	1	mg/L	95	92	2
QC17060154	MS 2	Ammonia, as Nitrogen	SM 4500 NH3 D	1705716-008	ND		0.925	0.929	1	mg/L	89	89	<1
QC17060224	MS 1	Aluminum	SW846 6010B	1705733-001	3790	SC	5040	5060	50	mg/kg	NC	NC	NC
		Phosphorus	SW846 6010B	1705733-001	220		447	449	250	mg/kg	91	92	<1

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or <RL

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QCBatchID	QCType	Parameter	Method	Spike Sample	Sample Result		MS Result	MSD Result	Spike Value	Units	MS %Rec	MSD %Rec	RPD %
QC17060225	MS 1	Aluminum	SW846 6010B	1705733-011	8800	SC	13000	13400	50	mg/kg	NC	NC	NC
		Phosphorus	SW846 6010B	1705733-011	253		466	483	250	mg/kg	85	92	4

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6/11/2017

Tahoe Keys Property Owners Association
356 Ala Wai Blvd.
South Lake Tahoe, CA 96150
Attn: Kristen Hunter

OrderID: *1705800*

Dear: Kristen Hunter

This is to transmit the attached analytical report. The analytical data and information contained therein was generated using specified or selected methods contained in references, such as Standard Methods for the Examination of Water and Wastewater, online edition, Methods for Determination of Organic Compounds in Drinking Water, EPA-600/4-79-020, and Test Methods for Evaluation of Solid Waste, Physical/Chemical Methods (SW846) Third Edition.

The samples were received by WETLAB-Western Environmental Testing Laboratory in good condition on 5/30/2017. Additional comments are located on page 2 of this report.

If you should have any questions or comments regarding this report, please do not hesitate to call.

Sincerely,

Andy Smith
QA Manager

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Western Environmental Testing Laboratory
Report Comments

Tahoe Keys Property Owners Association - 1705800

Specific Report Comments

None

Report Legend

B	--	Blank contamination; Analyte detected above the method reporting limit in an associated blank
D	--	Due to the sample matrix dilution was required in order to properly detect and report the analyte. The reporting limit has been adjusted accordingly.
HT	--	Sample analyzed beyond the accepted holding time
J	--	The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit
M	--	The matrix spike/matrix spike duplicate (MS/MSD) values for the analysis of this parameter were outside acceptance criteria due to probable matrix interference. The reported result should be considered an estimate.
N	--	There was insufficient sample available to perform a spike and/or duplicate on this analytical batch.
NC	--	Not calculated due to matrix interference
QD	--	The sample duplicate or matrix spike duplicate analysis demonstrated sample imprecision. The reported result should be considered an estimate.
QL	--	The result for the laboratory control sample (LCS) was outside WETLAB acceptance criteria and reanalysis was not possible. The reported data should be considered an estimate.
S	--	Surrogate recovery was outside of laboratory acceptance limits due to matrix interference. The associated blank and LCS surrogate recovery was within acceptance limits
SC	--	Spike recovery not calculated. Sample concentration >4X the spike amount; therefore, the spike could not be adequately recovered
U	--	The analyte was analyzed for, but was not detected above the level of the reported sample reporting/quantitation limit

General Lab Comments

Per method recommendation (section 4.4), Samples analyzed by methods EPA 300.0 and EPA 300.1 have been filtered prior to analysis.

The following is an interpretation of the results from EPA method 9223B:
A result of zero (0) indicates absence for both coliform and Escherichia coli meaning the water meets the microbiological requirements of the U.S. EPA Safe Drinking Water Act (SDWA). A result of one (1) for either test indicates presence and the water does not meet the SDWA requirements. Waters with positive tests should be disinfected by a certified water treatment operator and retested.

Per federal regulation the holding time for the following parameters in aqueous/water samples is 15 minutes: Residual Chlorine, pH, Dissolved Oxygen, Sulfite.

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Western Environmental Testing Laboratory
Analytical Report

Tahoe Keys Property Owners Association
356 Ala Wai Blvd.
South Lake Tahoe, CA 96150
Attn: Kristen Hunter
Phone: (530) 542-6450 **Fax:** (530) 542-6457

Date Printed: 6/11/2017
OrderID: *1705800*

Customer Sample ID: SED-01-11A
WETLAB Sample ID: 1705800-001
Collect Date/Time: 5/29/2017 11:40
Receive Date: 5/30/2017 14:00

Analyte	Method	Results		Units	DF	RL	Analyzed	LabID
Trace Metals (Soil) by ICP-OES								
Aluminum	SW846 6010B	1300	SC	mg/kg	46.664	2.1	6/7/2017	NV00925
Phosphorus	SW846 6010B	120	M	mg/kg	46.664	23	6/7/2017	NV00925
General Chemistry								
Orthophosphate, as P	SM 4500-P E	ND		mg/kg	3	0.030	6/1/2017	NV00925
Organic Matter	D2974	0.38		%	1		6/6/2017	NV00925
Ammonia, as Nitrogen	SM 4500 NH3 D	7.1		mg/kg	19.856	0.99	6/5/2017	NV00925
Total Solids (TS)	SM 2540 G	79.13		%	1	1.00	6/1/2017	NV00925
Anions by Ion Chromatography								
Nitrate Nitrogen	EPA 300.0	ND		mg/kg	3	0.30	5/31/2017	NV00925
Nitrite Nitrogen	EPA 300.0	ND		mg/kg	3	0.15	5/31/2017	NV00925
Sample Preparation								
Trace Metals Digestion	EPA 3050B	Complete			1		6/2/2017	NV00925
Ammonia Distillation	SM 4500 NH3 B	Complete			1		6/2/2017	NV00925
3:1 DI Water Extraction	WL 3.0	Complete			1		5/31/2017	NV00925

Customer Sample ID: SED-01-11B
WETLAB Sample ID: 1705800-002
Collect Date/Time: 5/29/2017 11:40
Receive Date: 5/30/2017 14:00

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
Trace Metals (Soil) by ICP-OES							
Aluminum	SW846 6010B	2000	mg/kg	48.738	2.2	6/7/2017	NV00925
Phosphorus	SW846 6010B	250	mg/kg	48.738	24	6/7/2017	NV00925
General Chemistry							
Organic Matter	D2974	0.35	%	1		6/6/2017	NV00925
Orthophosphate, as P	SM 4500-P E	ND	mg/kg	3	0.030	6/1/2017	NV00925
Ammonia, as Nitrogen	SM 4500 NH3 D	3.0	mg/kg	19.471	0.97	6/8/2017	NV00925
Total Solids (TS)	SM 2540 G	79.78	%	1	1.00	6/1/2017	NV00925
Anions by Ion Chromatography							
Nitrate Nitrogen	EPA 300.0	ND	mg/kg	3	0.30	5/31/2017	NV00925
Nitrite Nitrogen	EPA 300.0	ND	mg/kg	3	0.15	5/31/2017	NV00925
Sample Preparation							
Trace Metals Digestion	EPA 3050B	Complete		1		6/2/2017	NV00925
Ammonia Distillation	SM 4500 NH3 B	Complete		1		6/2/2017	NV00925

DF=Dilution Factor, RL=Reporting Limit, ND=Not Detected or <RL

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Customer Sample ID: SED-01-11B **Collect Date/Time:** 5/29/2017 11:40

WETLAB Sample ID: 1705800-002 **Receive Date:** 5/30/2017 14:00

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
3:1 DI Water Extraction	WL 3.0	Complete		1		5/31/2017	NV00925

Customer Sample ID: SED-01-12A **Collect Date/Time:** 5/29/2017 10:40

WETLAB Sample ID: 1705800-003 **Receive Date:** 5/30/2017 14:00

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
Trace Metals (Soil) by ICP-OES							
Aluminum	SW846 6010B	2200 SC	mg/kg	43.085	1.9	6/7/2017	NV00925
Phosphorus	SW846 6010B	140	mg/kg	43.085	22	6/7/2017	NV00925
General Chemistry							
Organic Matter	D2974	0.46	%	1		6/6/2017	NV00925
Orthophosphate, as P	SM 4500-P E	ND	mg/kg	3	0.030	6/1/2017	NV00925
Ammonia, as Nitrogen	SM 4500 NH3 D	6.9	mg/kg	19.814	0.99	6/8/2017	NV00925
Total Solids (TS)	SM 2540 G	82.22	%	1	1.00	6/1/2017	NV00925
Anions by Ion Chromatography							
Nitrate Nitrogen	EPA 300.0	ND	mg/kg	3	0.30	5/31/2017	NV00925
Nitrite Nitrogen	EPA 300.0	ND	mg/kg	3	0.15	5/31/2017	NV00925
Sample Preparation							
Trace Metals Digestion	EPA 3050B	Complete		1		6/2/2017	NV00925
Ammonia Distillation	SM 4500 NH3 B	Complete		1		6/7/2017	NV00925
3:1 DI Water Extraction	WL 3.0	Complete		1		5/31/2017	NV00925

Customer Sample ID: SED-01-12B **Collect Date/Time:** 5/29/2017 10:40

WETLAB Sample ID: 1705800-004 **Receive Date:** 5/30/2017 14:00

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
Trace Metals (Soil) by ICP-OES							
Aluminum	SW846 6010B	2300	mg/kg	40.358	1.8	6/7/2017	NV00925
Phosphorus	SW846 6010B	150	mg/kg	40.358	20	6/7/2017	NV00925
General Chemistry							
Orthophosphate, as P	SM 4500-P E	ND	mg/kg	3	0.030	6/1/2017	NV00925
Organic Matter	D2974	0.53	%	1		6/6/2017	NV00925
Ammonia, as Nitrogen	SM 4500 NH3 D	7.9	mg/kg	19.775	0.99	6/8/2017	NV00925
Total Solids (TS)	SM 2540 G	76.58	%	1	1.00	6/1/2017	NV00925
Anions by Ion Chromatography							
Nitrate Nitrogen	EPA 300.0	ND	mg/kg	3	0.30	5/31/2017	NV00925
Nitrite Nitrogen	EPA 300.0	ND	mg/kg	3	0.15	5/31/2017	NV00925
Sample Preparation							
Trace Metals Digestion	EPA 3050B	Complete		1		6/2/2017	NV00925
Ammonia Distillation	SM 4500 NH3 B	Complete		1		6/7/2017	NV00925
3:1 DI Water Extraction	WL 3.0	Complete		1		5/31/2017	NV00925

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Customer Sample ID: SED-01-13A **Collect Date/Time:** 5/29/2017 09:20

WETLAB Sample ID: 1705800-005 **Receive Date:** 5/30/2017 14:00

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
Trace Metals (Soil) by ICP-OES							
Aluminum	SW846 6010B	1900	mg/kg	31.855	1.4	6/7/2017	NV00925
Phosphorus	SW846 6010B	98	mg/kg	31.855	16	6/7/2017	NV00925
General Chemistry							
Organic Matter	D2974	9.8	%	1		6/6/2017	NV00925
Orthophosphate, as P	SM 4500-P E	ND	mg/kg	3	0.030	6/1/2017	NV00925
Ammonia, as Nitrogen	SM 4500 NH3 D	39	mg/kg	37.656	1.9	6/8/2017	NV00925
Total Solids (TS)	SM 2540 G	24.39	%	1	1.00	6/1/2017	NV00925
Anions by Ion Chromatography							
Nitrate Nitrogen	EPA 300.0	ND	mg/kg	3	0.30	6/1/2017	NV00925
Nitrite Nitrogen	EPA 300.0	ND	mg/kg	3	0.15	6/1/2017	NV00925
Sample Preparation							
Trace Metals Digestion	EPA 3050B	Complete		1		6/2/2017	NV00925
Ammonia Distillation	SM 4500 NH3 B	Complete		1		6/7/2017	NV00925
3:1 DI Water Extraction	WL 3.0	Complete		1		5/31/2017	NV00925

Customer Sample ID: SED-01-13B **Collect Date/Time:** 5/29/2017 09:20

WETLAB Sample ID: 1705800-006 **Receive Date:** 5/30/2017 14:00

Analyte	Method	Results	Units	DF	RL	Analyzed	LabID
Trace Metals (Soil) by ICP-OES							
Aluminum	SW846 6010B	2100	mg/kg	26.424	1.2	6/7/2017	NV00925
Phosphorus	SW846 6010B	140	mg/kg	26.424	13	6/7/2017	NV00925
General Chemistry							
Organic Matter	D2974	4.1	%	1		6/6/2017	NV00925
Orthophosphate, as P	SM 4500-P E	ND	mg/kg	3	0.030	6/1/2017	NV00925
Ammonia, as Nitrogen	SM 4500 NH3 D	30	mg/kg	19.557	0.98	6/8/2017	NV00925
Total Solids (TS)	SM 2540 G	52.52	%	1	1.00	6/1/2017	NV00925
Anions by Ion Chromatography							
Nitrate Nitrogen	EPA 300.0	ND	mg/kg	3	0.30	6/1/2017	NV00925
Nitrite Nitrogen	EPA 300.0	ND	mg/kg	3	0.15	6/1/2017	NV00925
Sample Preparation							
Trace Metals Digestion	EPA 3050B	Complete		1		6/2/2017	NV00925
Ammonia Distillation	SM 4500 NH3 B	Complete		1		6/7/2017	NV00925
3:1 DI Water Extraction	WL 3.0	Complete		1		5/31/2017	NV00925

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Western Environmental Testing Laboratory
QC Report

QCBatchID	QCType	Parameter	Method	Result	Actual	% Rec	Units
QC17060022	Blank 1	Nitrate Nitrogen	EPA 300.0	ND			mg/L
		Nitrite Nitrogen	EPA 300.0	ND			mg/L
QC17060039	Blank 1	Orthophosphate, as P	SM 4500-P E	ND			mg/kg
QC17060039	Blank 2	Orthophosphate, as P	SM 4500-P E	ND			mg/kg
QC17060154	Blank 1	Ammonia, as Nitrogen	SM 4500 NH3	ND			mg/L
QC17060264	Blank 1	Aluminum	SW846 6010B	ND			mg/kg
		Phosphorus	SW846 6010B	ND			mg/kg
QC17060265	Blank 1	Aluminum	SW846 6010B	ND			mg/kg
		Phosphorus	SW846 6010B	ND			mg/kg
QC17060333	Blank 1	Ammonia, as Nitrogen	SM 4500 NH3	ND			mg/L
QC17060334	Blank 1	Ammonia, as Nitrogen	SM 4500 NH3	ND			mg/L

QCBatchID	QCType	Parameter	Method	Result	Actual	% Rec	Units
QC17060022	LCS 1	Nitrate Nitrogen	EPA 300.0	1.98	2.00	99	mg/L
		Nitrite Nitrogen	EPA 300.0	0.496	0.500	99	mg/L
QC17060039	LCS 1	Orthophosphate, as P	SM 4500-P E	0.229	0.250	92	mg/kg
QC17060039	LCS 2	Orthophosphate, as P	SM 4500-P E	0.232	0.250	93	mg/kg
QC17060154	LCS 1	Ammonia, as Nitrogen	SM 4500 NH3 D	0.937	1.00	94	mg/L
QC17060264	LCS 1	Aluminum	SW846 6010B	57.0	50.0	114	mg/kg
		Phosphorus	SW846 6010B	236	250	94	mg/kg
QC17060265	LCS 1	Aluminum	SW846 6010B	57.0	50.0	114	mg/kg
		Phosphorus	SW846 6010B	236	250	94	mg/kg
QC17060333	LCS 1	Ammonia, as Nitrogen	SM 4500 NH3 D	1.01	1.00	101	mg/L
QC17060334	LCS 1	Ammonia, as Nitrogen	SM 4500 NH3 D	0.960	1.00	96	mg/L

QCBatchID	QCType	Parameter	Method	Spike Sample	Sample Result		MS Result	MSD Result	Spike Value	Units	MS %Rec	MSD %Rec	RPD %
QC17060022	MS 1	Nitrate Nitrogen	EPA 300.0	1705733-019	ND		6.04	5.37	2	mg/L	101	90	12
		Nitrite Nitrogen	EPA 300.0	1705733-019	ND		1.46	1.23	0.5	mg/L	97	82	17
QC17060022	MS 2	Nitrate Nitrogen	EPA 300.0	1705800-006	ND		5.36	5.77	2	mg/L	89	96	7
		Nitrite Nitrogen	EPA 300.0	1705800-006	ND		1.29	1.39	0.5	mg/L	86	92	8
QC17060039	MS 1	Orthophosphate, as P	SM 4500-P E	1705733-001	ND		0.634	0.656	0.25	mg/kg	84	87	3
QC17060039	MS 2	Orthophosphate, as P	SM 4500-P E	1705733-011	ND		0.645	0.646	0.25	mg/kg	85	85	<1
QC17060039	MS 3	Orthophosphate, as P	SM 4500-P E	1705800-001	ND		0.661	0.671	0.25	mg/kg	88	89	2
QC17060154	MS 1	Ammonia, as Nitrogen	SM 4500 NH3 D	1706049-002	24.0		43.1	42.4	1	mg/L	95	92	2
QC17060154	MS 2	Ammonia, as Nitrogen	SM 4500 NH3 D	1705716-008	ND		0.925	0.929	1	mg/L	89	89	<1
QC17060264	MS 1	Aluminum	SW846 6010B	1705800-001	1330	SC	1740	1770	50	mg/kg	NC	NC	NC
		Phosphorus	SW846 6010B	1705800-001	116	M	287	332	250	mg/kg	NC	NC	NC
QC17060265	MS 1	Aluminum	SW846 6010B	1705800-003	2190	SC	3550	3190	50	mg/kg	NC	NC	NC
		Phosphorus	SW846 6010B	1705800-003	145		387	323	250	mg/kg	97	71	18
QC17060333	MS 1	Ammonia, as Nitrogen	SM 4500 NH3 D	1705760-001	0.161		1.16	1.13	1	mg/L	100	97	3
QC17060334	MS 1	Ammonia, as Nitrogen	SM 4500 NH3 D	1706071-003	0.054	HT	1.00	0.987	1	mg/L	95	93	1
QC17060334	MS 2	Ammonia, as Nitrogen	SM 4500 NH3 D	1706032-002	ND	M	0.825	0.829	1	mg/L	NC	NC	NC

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