# WILLIAM FISHER MEMORIAL COMMUNITY



WATER SUPPLY FEASIBILITY STUDY April 2020



**Prepared by:** 



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# ABBREVIATIONS

ACS	American Community Survey
AD	Adsorption
ADD	Average Day Demand
Bgs	Below Ground Surface
BSSP	Bacteriological Sample Siting Plan
САР	Corrective Action Plan
CCR	California Code of Regulations
CHSC	California Health and Safety Code
CWS	Community Water System
DDW	Division of Drinking Water
DER	Department of Environmental Resources
DFA	Division of Financial Assistance
DWSRF	Drinking Water State Revolving Fund
eAR	electronic Annual Report
EDR	Electrodialysis Reversal
gal	Gallons
gpm	Gallons per Minute
gpd	Gallons per Day
HP	Horsepower
IX	Ion Exchange
LAFCO	Local Agency Formation Commission
MCL	Maximum Contaminant Level
MCLG	Maximum Contaminant Level Goal
MDD	Maximum Daily Demand
MF	Membrane Filtration
MP	Monitoring Plan
NPDWR	National Primary Drinking Water Regulations

0&M	operation and maintenance
OCF	Oxidation/Coagulation/Filtration
psi	Pounds per Square Inch
PHD	Peak Hourly Demand
POU	Point-of-use
POE	Point of Entry
ppb	parts per billion
ppm	parts per million
PWS	Public Water System
SATD	Service Area Total Demand
SCWS	Small Community Water System
DAC	Disadvantaged Community
SDWA	Safe Drinking Water Act
SWRCB-DDW	State Water Resources Control Board – Division of Drinking Water
SWRCB-DFA	State Water Resources Control Board – Division of Financial Assistance
TMF	Technical, Managerial, and Financial
US EPA	United States Environmental Protection Agency
US ACS	U.S. Census American Community Survey
WT	Wellhead Treatment
WFMC	William Fisher Memorial Community
WFMWC	William Fisher Memorial Water Company
WFMWS	William Fisher Memorial Water System

# CHAPTER 1 INTRODUCTION

# 1.1. Purpose of Study

The purpose of this Water Supply Feasibility Study (Study) is to evaluate feasible water supply alternatives for the William Fisher Memorial Water Company (WFMWC) located near Mojave, California. This Study is intended to determine the most feasible alternative to supply the WFMWC with safe drinking water that complies with the requirements of Section 116555(a) of the California Health and Safety Code (CHSC), Section 64431 of the California Code of Regulations (CCR), Title 22 and meets the requirements stated in Compliance Order No. 03\_19\_17R\_014 by the State Water Resources Control Board – Division of Drinking Water (SWRCB-DDW) on November 3, 2017.

This Study includes an overview of the existing drinking water system, an evaluation of three feasible alternatives, and a full description of the recommended alternative. The Study includes opinions of probable construction cost and operation and maintenance (O&M) costs for each alternative.

# 1.2. Background

The WFMWC is located in Kern County, approximately 9 miles southwest of Mojave California. According to the U.S. Census American Community Survey (US ACS), the WFMWC has a median household income (MHI) of approximately \$47,908. This MHI is between 60 to 80 percent of the current statewide MHI, 67,169, classifying the WFMWC as a Disadvantaged Community (DAC). According to the DWSRF Intended Use Plan, the affordability of a DAC's water rates is 1.5 percent of the MHI. Currently, the WFMWC pays a monthly rate of \$83 for water services. The affordable monthly rate for the WFMWC, according to the SWRCB, is \$59.89 per month. Which means the WFMWC's current water rates are unaffordable.

The WFMWC is recognized by the State as community Public Water System No. CA1500455. The William Fisher Memorial Water Company (WFMWC) supplies potable water to 16 residences within approximately 32 acres. The source of drinking water for the WFMWC is groundwater. The community relied on Well No. 1 until 2007 when it collapsed. After the failure of Well No. 1, Rosamond Community Service District (RCSD) drilled Well No. 2 in November of 2007. Well No. 2 is currently the only active water supply for the WFMWC.

The domestic water system is owned by the WFMWC and is classified as a community water system (CWS). The WFMWC only provides potable water for residential areas. The WFMWC serves a population of approximately 56 people through 16 active service connections. Figure 1-1 displays the service area boundary of the WFMWC.

The Water System operates under Domestic Water Supply Permit No. 03-19-16P-003, issued on March 28, 2016, by the State Board. A copy of the water supply permit is included in Appendix A. Effective April 1, 2017, McMor Chlorination, Inc. (hereinafter "McMor") is the court appointed receiver to operate the Water System. Rosamond Community Services District previously operated the Water System, as a court appointed receiver. The Water System is a community public water system as defined in CHSC, section 116275, and has been under the regulatory jurisdiction of the State Board, effective July 1, 2014.

Arsenic concentrations in the water produced by Well No. 2 exceed the Maximum Contaminant Level (MCL) of 10  $\mu$ g/l. The revised California arsenic MCL of 10  $\mu$ g/l became effective on November 28, 2008. Table 1-1 shows the historical arsenic concentration in the water produced by Well No. 2.

Sample Date	Concentration (µg/I)
1/8/2008	16
2/12/2008	18
5/6/2008	8.8
8/5/2008	18
12/16/2008	16
2/17/2009	15
5/5/2009	15
6/9/2009	17
7/7/2009	18
8/18/2009	18
11/3/2009	17
2/9/2010	14
6/1/2010	20
8/24/2010	19
11/9/2010	18
2/15/2011	13
6/14/2011	18
8/16/2011	18
11/8/2011	18
2/14/2012	19
5/29/2012	18
8/7/2012	19
8/14/2012	18
11/13/2012	18
2/19/2013	18
5/14/2013	19
8/13/2013	19
11/12/2013	19
2/18/2014	18
5/6/2014	19
8/19/2014	21

 Table 1-1
 Arsenic Concentration in Well No. 2

Sample Date	Concentration (µg/I)
11/18/2014	17
2/17/2015	18
5/19/2015	21
7/21/2015	19
8/25/2015	20
11/17/2015	18
3/15/2016	19
6/7/2016	31
6/28/2016	24
9/6/2016	26
11/29/2016	14
2/28/2017	17
4/3/2017	18
9/7/2017	23
10/3/2017	22
1/10/2018	20
4/5/2018	19
7/18/2018	22
10/3/2018	20
10/3/2018	22
2/6/2019	21
8/7/2019	22

 Table 1-1
 Arsenic Concentration in Well No. 2



# WILLIAM FISHER MEMORIAL WATER SYSTEM

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# LEGEND

SERVICE AREA BOUNDARY





FIGURE 1-1 SERVICE AREA BOUNDARY

#### 1.2.2. Water Demand

Water production data in this Study has been obtained from McMor, the current system operator, and from the Electronic Annual Report (eAR) prepared by RCSD, the previous system operator. Table 1-2 displays the monthly volume of water produced by Well No. 2 from 2013 to August 2019. The values in bold font are the maximum month demand for the corresponding year.

	2013	2014	2015	2016	2017	2018	2019
Month	Million Gallons						
January	0.32	0.37	0.31	0.35	0	0.28	0.16
February	0.3	0.29	0.28	0.29	0	0.26	0.22
March	0.34	0.28	0.39	0.42	0	0.14	0.25
April	0.41	0.39	0.46	0.67	0.55	0.58	0.50
May	0.6	0.51	0.41	0.71	0.77	0.60	0.48
June	0.63	0.52	0.63	1.06	0.86	0.65	0.56
July	0.59	1	0.8	0.98	0.78	1.16	<b>2.77</b> <sup>1</sup>
August	0.46	0.81	0.92	1.10	0.59	0.72	1.00
September	0.59	0.63	0.71	0.83	0.83	0.88	-
October	0.44	0.61	0.48	0.59	0.79	0.48	-
November	0.37	0.6	0.36	0.38	0.48	0.86	-
December	0.34	0.18	0.39	0.22	0.22	0.25	-
Annual Production	5.39	6.19	6.14	7.59	5.88	6.87	-
Maximum Month	0.63	1	0.92	1.10	0.86	1.16	-
Average Day	0.021	0.032	0.0297	0.0354	0.0288	0.0375	-
Notes:							

<sup>1</sup>Outlier; Water was being implemented in irrigation of a soccer field. Irrigation of field has been terminated by facility operator.

The monthly water production data above has been used in this study to determine the WFMWC's average day demand (ADD), Maximum Day Demand (MDD) and peak hour demand (PHD). Table 1-3 contains the total demand, ADD, MDD, and PHD for the WFMWS. The average day demand was calculated from the maximum month demand reported for the region. The MDD was calculated using the ADD of the maximum month and a factor of 1.5, as specified by the California Code of Regulations (CCR) Title 22 Section 64554. The PHD was calculated by applying a factor of 1.5 to the maximum day demand as specified by Section 64554.

Year	Total Demand	Max. Month Demand (MMD)	Month	Avg. Day Demand (ADD)		Max. Day Demand (MDD)		Peak Hour Demand (PHD)	
	MG	MG		GPD	gpm	GPD	gpm	GPD	gpm
2013	5.4	0.63	June	21,000	15	31,500	22	47,250	33
2014	6.2	1.00	July	33,333	23	50,000	35	75,000	52
2015	6.1	0.92	August	30,667	21	46,000	32	69,000	48
2016	7.6	1.10	August	36,627	25	54,941	38	82,411	57
2017	5.9	0.86	June	28,777	20	43,165	30	64,748	45
2018	6.9	1.16	July	38,761	27	58,142	40	87,213	61

Table 1-3 WFMWC Historical Water Use

The highest MDD that the WFMWC has observed since 2013 is 58,142 gallons. Section 64554 of the California Code of Regulations requires that systems with less than 1,000 service connections have storage capacity equal to or greater than the MDD, unless the system can demonstrate that it has an additional source of supply or has an emergency source connection that can meet the MDD requirement. The WFMWC does not have the prescribed emergency source connection or additional source of supply to meet their MDD. Therefore, additional storage must be added. The current site does not have adequate space to construct additional storage. For this reason, this study recommends that the two existing 10,000-gallon storage tanks be abandoned, and a new 60,000-gallon storage tank be constructed at a new location. The new location will require the construction of a new booster pump station to pressurize the stored water.

According to the State Water Resource Control Board (SWRCB), in 2011 the WFMWC water system served a population of 51 people through 19 active connections. According to the 2017 eAR, the WFMWC water system served a population of 56 people through 16 active connections. The estimated population and number of active connections for the region as of 2019 is 56 people and 16 active connections, according to the Division of Drinking Water. It should be noted that the WFMWC service area is not expected to expand beyond its current size. There are currently four vacant connections within the service area. The average household size for the WFMWC is approximately 3.5 people. The Table below, Table 1-4, displays the total buildout population for the region based on the amount of available connections.

	Current	Buildout				
Water Connections	16	20				
Population	56	70				

Table 1-4 WFMWC Population Projection

The projected buildout water demand for the WFMWC distribution system was derived from the historical data presented in Table 1-3. While demand for design purposes is typically based on the MDD over the last 10 years, that information was not available for this water system. For this reason, the MDD from

2018 was used to project the WFMWC water system's buildout MDD in this PER. Table 1-5 displays the buildout MDD for the WFMWC water distribution system.

	Current	Buildout
Service Area Population	56	70
Projected MDD (GPD)	58,142	72,678

Table 1-5 Projected Maximum Day Demand

#### 1.2.3. Compliance Order

On November 3, 2017, the SWRCB-DDW issued Compliance Order No. 03\_19\_17R\_014 to the WFMWC for exceedance of the MCL of arsenic within Well No. 2. Appendix B contains a copy of this Compliance Order. The Compliance Order requires the WFMWC to submit a final Corrective Action Plan (CAP) to resolve their arsenic problem by January 31, 2018, have all the improvements constructed no later than November 30, 2020 and submit quarterly water quality monitoring results/reports until compliance is met.

#### 1.2.4. Other System deficiencies

On October 10, 2012, the California Department of Public Health conducted a sanitary survey of the William Fisher Memorial Water System (WFMWS). The sanitary survey identified the following system deficiencies:

- 1. The system lacked adequate storage. For water systems with less than 1,000 service connections, the Waterworks Standards require storage capacity equal to or greater than the Maximum Day Demand (MDD) unless the system can demonstrate that it has an additional source of supply or has an emergency source connection that can meet the MDD requirement. The estimated MDD of the Water System in 2011, according to the sanitary survey, was 25,000 gallons. The survey recommended increasing the storage capacity by at least 5,000 gallons.
- 2. The tanks had been in service for over 12 years and had never been inspected. The survey recommended inspecting the tanks from the inside and preparing a report with any findings.
- 3. The chlorination facility was exposed to the elements and subject to weathering. The chlorination pump and chlorine storage tank should be housed in an enclosure to prevent deterioration and extend the life of the equipment.

On March 28, 2016 the SWRCB-DDW issued the RCSD a new Domestic Water Supply Permit to operate the William Fisher Memorial Water System (WFMWS). When the new permit was issued, Deficiency No. 2 above was partially addressed when an exterior inspection was conducted on the systems storage tanks. The new permit identified the following action items:

- 4. A shade structure should be erected to prevent the chlorine tank from being exposed to direct sunlight.
- 5. The threads on the hose bib between the well and the storage tank should be either removed or the hose bib replaced with a hose bib that does not have threads.
- 6. A cross-connection control survey of the Water System should be conducted.

## 1.3. Existing Water System

The current source of water for the WFMWC is a single well, Well No. 02. Well No. 2 was constructed in November of 2007 to a depth of 502 feet bgs. Well No. 02 has a borehole diameter of 20 inches and is equipped with a 10-¾" outside diameter casing. The casing is made from SDR17 PVC with a wall thickness of 5/8-inch and has a milled 0.032-inch slot-type screen from 340 feet to 502 feet bgs. The well is gravel packed from 100 feet bgs to the well bottom and has a concrete annular seal to 100 feet bgs. Upon completion, the well had a static water level of 316 feet bgs. Well No. 02 has a production capacity of approximately 50 gpm.

Chlorination treatment is provided by injecting 12% sodium hypochlorite solution into the discharge of Well No. 2 prior to entering the storage tanks. The target residual is 0.6 to 1.0 parts per million (ppm) and is measured periodically by the system operator. The capacity of the chlorine feed pump is 30 gallons per day (gpd), and the sodium hypochlorite solution tank has a maximum storage volume of approximately 18 gallons. The chlorination equipment is located adjacent to Well No. 2 within a fenced enclosure.

After chlorination, the water enters two 10,000-gallon welded steel storage tanks followed by a booster pump station. The water leaving the booster pump station is discharged into a 2,000-gallon hydropneumatic tank and then conveyed under pressure into the WFMWC distribution system. Figure 1-2 shows the process flow diagram of the existing treatment process for Well No. 2. Figure 1-3 displays the location of Well No. 2 and the existing water distribution system that is used to distribute the treated water to the community. The water produced by Well No. 02 contains arsenic in concentrations that are above the MCL set by the State of California.

Currently, the WFMWC pays a monthly rate of \$83 for water services. This monthly rate funds periodic maintenance/repairs on the water system, electrical costs associated with the pumps and chlorination unit, purchase of replacement chlorine (sodium hypochlorite) and quarterly sampling required by the SWRCB.





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# LEGEND

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WFMWC SERVICE AREA BOUNDARY WELL/STORAGE LOCATION DISTRIBUTION SYSTEM PROPERTY LINES





FIGURE 1-3 WELL NO. 2 LOCATION AND EXISTING WATER DISTRIBUTION SYSTEM

#### 1.4. Pilot Test

A POU pilot test has been conducted on the WFMWS. The objectives of the pilot test were to:

- Demonstrate the capability of POU treatment to reduce the arsenic concentration of the well water to <10 μg/l.</li>
- Identify indicators (such as pH changes or Cl residual changes) that may occur in the POU treatment units.
- Determine the anticipated media life.
- Estimate the capital and O&M costs of each POU treatment tested.

To evaluate these objectives, two separate arsenic removal POU treatment units were tested. The two units tested were a Multipure SB880 and a POU Isolux Media Unit.

The Multipure SB880 unit utilizes a single carbon block filter, while the Isolux unit utilizes a three stage removal system. The first stage is a 1-micron cartridge filter, the second stage is a 10" Isolux MC filter and the third stage is an activated carbon filter. The pilot testing equipment was skid-mounted and connected to the WFMWS after the pressure tank. The full pilot test study is available within Appendix C of this report. Figure 3-1 and 3-2 of the pilot test report, Appendix C, display a drawing and an image of the pilot test skid, respectively.

#### 1.4.1. Findings

After six months of weekly sampling and assessment of the performance of the two arsenic removal POU units, a conclusion was drawn based on sustainability, capital cost, operation and maintenance costs, and the effectiveness of removal of arsenic. It was determined that the Multipure SB880 outperformed the Isolux in terms of arsenic removal. The Multipure SB880 was capable of treating 4,940 gallons of raw groundwater with effluent concentrations of arsenic below the detectable limit before the pilot test was terminated. The media cartridge in the Multipure SB880 is approximately 0.089 cubic feet. Therefore, the Multipure SB880 is capable of treating approximately 55,543 gallons per cubic foot of media. The Isolux unit was able to treat 2,870 gallons of raw groundwater before breakthrough occurred. After breakthrough, the Isolux unit was allowed to run until the effluent concentration of arsenic reached the MCL. The Isolux POU treatment unit was capable of treating 3,442 gallons of raw water before effluent concentrations of arsenic reached the MCL. The Isolux unit is approximately 0.033 cubic feet. Therefore, the Isolux unit is capable of treating approximately 87,892 gallons per cubic foot of media.

The Multipure SB880 did not breakthrough during the pilot test study. The Multipure SB880 maintained its arsenic removal efficiency even after it was subjected to higher daily flows for the last two weeks of the study. Therefore, the Multipure SB880 is recommended for the WFMWC water system if a POU solution is implemented.

# CHAPTER 2 WATER QUALITY AND TREATMENT OBJECTIVES

## 2.1. Historical Water Quality

Table 2-1 shows a summary of the historical water quality data from Well No. 02. Due to the exceedance of arsenic above the MCL and requests via the State compliance order, the WFMWC has been conducting arsenic testing on Well No. 02 quarterly since January 23, 2009 when they received their first compliance order. The bolded constituents below are those for which concentrations above the MCL have been detected. All the available historical water quality results are included in Appendix D.

Constituent	Value	Units	Sample Date	
Primary				
Arsenic	22	μg/I	8/7/2019	
Nitrate (as NO <sub>3</sub> )	3.40	mg/l	7/21/2015	
Nitrate (as N)	0.9	mg/l	7/18/2018	
Chromium Hexavalent	8.2	μg/l	2/28/2017	
Secondary				
Color	1	units	7/18/2018	
Iron	50	μg/l	7/18/2018	
Manganese	10	μg/l	7/18/2018	
Turbidity	0.10	NTU	7/18/2018	
Odor Threshold	0	TON	7/18/2018	
Other				
Alkalinity (as CaCO <sub>3</sub> )	110	mg/l	7/18/2018	
Bicarbonate Alkalinity	130	mg/l	7/18/2018	
Calcium	32	mg/l	7/18/2018	
Chloride	14	mg/l	7/18/2018	
Hardness (as CaCO₃)	100	mg/l	7/18/2018	
Magnesium	4.90	mg/l	7/18/2018	
рН	7.95	-	7/18/2018	
Sodium	47	mg/l	7/18/2018	
Specific Conductance	413	µmhos/cm	7/18/2018	
Sulfate	63	mg/l	7/18/2018	
Total Dissolved Solids	280	mg/l	7/18/2018	
Aggressive Index (Corrosivity)	11.80	-	7/21/2015	

 Table 2-1 Most Recent Water Quality from Well No. 2

# 2.2. Treatment Objectives

In 1976 the US Environmental Protection Agency (US EPA) issued a National Interim Primary Drinking Water Regulation (NIPWDR) for arsenic at 50 parts per billion (ppb or  $\mu$ g/L). Under the 1986 amendments to the Safe Drinking Water Act (SDWA), Congress directed US EPA to publish Maximum Contaminant Level Goals (MCLGs) and promulgate National Primary Drinking Water Regulations (NPDWRs) for 83 contaminants, including arsenic.

On August 6, 1996, Congress added section 1412(b)(12)(A) of the SWDA that specifies, in part, that EPA propose a NPDWR for arsenic by January 1, 2000 and issue a final regulation by January 1, 2001. The SDWA was later amended to require the final regulation to be issued by June 22, 2001.

On January 22, 2001, the US EPA adopted a revised MCL of 0.010 mg/L for arsenic; under primacy, the States were required to adopt this MCL or one more stringent by January 23, 2006. California's revised arsenic MCL of 0.010 mg/L (equivalent to 10 micrograms per liter,  $\mu$ g/L) became effective on November 28, 2008.

# CHAPTER 3 WATER SUPPLY ALTERNATIVES

# 3.1. Introduction

The following feasible water supply alternatives are evaluated in this Study:

- 1. Alternative I: Install a centralized wellhead arsenic treatment system
- 2. Alternative II: Install POU treatment units at all active residences
- 3. Alternative III: Install POE treatment units at all active residences

The alternative of drilling a new well was initially considered but later rejected because the presence of arsenic in the groundwater is a regional problem. It is unlikely that the WFMWC would be able to construct a well that produces water with arsenic concentrations below the required MCL.

The alternative of consolidation with the Rosemond water distribution system, approximately 7.5 miles from the WFMWC, was initially considered but later discarded due to the lack of the distribution system ability to sustainably meet the needs of the WFMWC and their community.

#### 3.1.1. Arsenic Removal Options

All Alternatives being considered consists of installing an arsenic removal treatment system. Some of the technologies used to remove arsenic from drinking water include Adsorption (AD), Oxidation/Coagulation/Filtration (OCF), Ion Exchange (IX), Membrane Filtration, or Electrodialysis Reversal (EDR).

AD and OCF are the most commonly used treatment technologies in small water systems. AD is the simplest of the two technologies. OCF requires a greater level of operator oversight and generates a daily volume of filter bed backwash water that must be adequately disposed. For these reasons, this Study focuses on AD as the preferred arsenic removal treatment technology.

#### **3.1.2.** Process Description

Adsorption of arsenic onto metal-oxide or metal-hydroxide surfaces (referred to as metal oxy-hydroxides) has been well known for many years. Adsorption is a physical/chemical process by which ions in the feed water are sorbed to an oxidized media surface. In one form or another, oxides of iron, aluminum, copper, manganese and even zirconium have been tested as arsenic sorbents.

Adsorption media is used in a packed filter bed. Feed water is continuously passed through the bed to remove arsenic. The arsenic ions are exchanged with the surface hydroxides on the media. When adsorption sites on the media surface become filled, the bed must be changed out.

Adsorptive medias for arsenic removal consist primarily of iron-based materials or iron-modified activated alumina products. The adsorptive capacity of the adsorptive medias is affected by pH. In large systems, pH adjustment is provided upstream and downstream of the filters to increase the adsorptive capacity of the media and therefore lower the cost of treatment. However, in small systems the pH adjustment can increase the complexity of operations and outweigh the cost savings.

The media must be backwashed occasionally to maintain optimum performance. The water used for backwashing is typically treated water that is stored in a tank on-site. Waste backwash water may be disposed of in an existing sewer system or stored in a tank on-site that is slowly released to a septic system.

### 3.2. Potable Water Storage Capacity Improvements

As previously stated in Section 1.2.4. of this Report, the WFMWS has several deficiencies that must be addressed to bring the water system into compliance with California Waterworks Standards. One of the major deficiencies that the WFMWS is facing is that the California Code of Regulations (CCR), Title 22, Section 64554, requires water systems with less than 1,000 service connections to have potable water storage equal to or greater than the MDD, unless the system can demonstrate that they have an additional emergency water source. The WFMWC does not have an alternative emergency water supply. To comply with the previously stated code, two 30,000-gallon capacity storage tanks would need to be installed. For the storage tanks to be incorporated into the water system, a booster pump station must be constructed to provide sufficient water pressure at each connection. The storage tank and booster pump improvements will not fit within the current Well No. 2 site. There are two vacant lots within the WFMWC service area that are adequate in size to house the proposed improvements. One lot is two parcels north of Well No. 2 and the second lot is at the north west corner of the service area. The storage tank improvements would require the acquisition of approximate 9,000 square feet of adjacent land.

The water usage observed over the past six years has been irregularly high. In July 2018, the WFMWC MDD was 58,142, which is approximately more than 1,000 gpd per resident. While their ADD, for the same month and year, was about 700 gpd per resident. Communities that have water usages around this generally have large landscaping areas or extensive vegetation. The WFMWC does not. It is our understanding, that a leak test was conducted on the WFMWC distribution system during the transition of managerial services from Rosamond Community Services District to McMor, the current system operator. The test revealed that the distribution system was free of leaks. Generally, for regions with minimal landscaping and vegetation, it is observed that each resident uses, on average, approximately 100 to 150 gpd. If, on average, 150 gpd per resident was applied for the WFMWC, the ADD would be approximately 8,400 gpd and the MDD would be approximately 12,600 gpd. Therefore, the existing 20,000 gallons of treated water storage would be enough. If water meters were installed and residences were charge based on volumetric rates, it is safe to assume that the community would reduce water use. After speaking with the SWRCB-DDW, they agree that installing water meters would reduce the potable water consumption within the WFMWC. For this reason, each alternative includes the installation of water meters and does not include the additional storage tank improvements. However, the observed water consumption since 2013 will be used to size treatment units and develop the lifespan of treatment filters.

# 3.3. Alternative I – Centralized Wellhead Arsenic Treatment System

Centralized wellhead treatment refers to treatment of raw groundwater directly after extraction from the well. The arsenic removal treatment system for this alternative will be placed directly after Well No. 2 and prior to the first storage tank. The wellhead treatment for this alternative will require a capacity of 50 gpm. Figure 3-1 and 3-2 display the process flow diagram and improvement plan layout for Alternative I.

Many on-site wellhead AD treatment technologies are commercially available. A 50 gpm Isolux Arsenic Removal Treatment System Skid has been chosen for Alternative I due to its reliability, sustainability, and simplicity of treatment. The Isolux arsenic removal media was one of the technologies that was pilot tested. Out of the two technologies, Isolux is the only technology that offers a 50 gpm skid mounted system. The treatment capacity of the Isolux 50 gpm treatment system skid has been developed based on the findings of the pilot test. It has been determined that the Isolux 50 gpm treatment system skid is capable of treating approximately 340,000 gallons of raw groundwater before arsenic breakthrough is expected to occur. The following sections contain capital costs and operation and maintenance costs related to the Isolux treatment unit for the WFMWS.

#### 3.3.1. Capital Costs

To determine the capital costs of this alternative, a budgetary proposal was requested for the 50 gpm arsenic removal system skid. Appendix E contains the equipment costs of the budgetary proposal for the system (Alternative I). A cost of \$1,500 has been estimated to fund the purchase and installation of AWWA certified water meters with meter boxes. Water meters will be installed at each active connection (16 active connections). Therefore, a cost of \$24,000 has been added to the capital construction costs. All costs include an estimated inflation. A cost of \$10,000 has been include in each section for startup and permitting fees. This includes the costs to develop and approve a water permit amendment, as well as, startup construction and engineering costs.

An opinion of probable construction costs for an AD arsenic treatment system and improvements required to be in compliance with regulatory standards is included in this section. The main elements of the AD system improvements include:

- > Equipment (i.e. filter vessels and piping, media, etc.)
- Installation (i.e. civil, mechanical, electrical, instrumentation, etc.)
- Startup and permitting

Table 3-1 shows the estimated capital costs to furnish and install the AD arsenic treatment system and 16 AWWA approved water meters. A contingency of 10 percent has been added to the capital costs. Soft costs (i.e. engineering, environmental, construction administration, etc.) are assumed to be approximately 25 percent of the total construction cost. Shipping and taxes for the equipment costs are assumed to be 20 percent of the quote price.

Item	Cost
Water Meter w/ Meter Box (Furnish & Installation)	\$24,000
Treatment Equipment (equipment only)	\$65,000
Treatment Equipment (installation)	\$50,000
Startup and Permitting	\$10,000
Subtotal	\$149,000
Contingency (10%)	\$14,900
Engineering, Environmental, Construction Adm. (25%)	\$37,250
Total	\$201,150

 Table 3-1
 Isolux Centralized Treatment Capital Construction Cost

#### 3.3.2. 0&M Costs

O&M costs for the AD treatment process include primarily media replacement and disposal, labor, repairs, sampling, and a capital improvement reserve. Table 3-2 shows the estimated O&M costs for the AD system. The following provides an explanation on how the O&M costs have been calculated:

- The media replacement cost has been developed based on the average total water production for the WFMWS observed from 2013 to 2018. Given the water quality of Well No. 2 and the treatment capacity of the Isolux POU unit, the life expectancy of the 50 gpm Isolux treatment system filters has been determined to be approximately 19 days. The Isolux unit utilizes 10 filter cartridges and each cartridge costs approximately \$600. Therefore, an annual cost of \$114,000 has be applied to fund the purchase of 190 replacement filters. A cost of \$50 has been included to fund the disposal of each worn filter. Thus, an annual cost of \$9,500 has been applied for disposal.
- The operational costs associated with the centralized treatment alternative were developed based on the estimated amount of time the operator needs to visit the site to perform maintenance or retrieve samples. The centralized treatment unit would require approximately 1 hours of work per month at a rate of \$85 per hour (\$1,020).
- Sampling will take place after the installation of the treatment system, every month thereafter and after every media replacement. Sampling will be performed by the system operator and each sample analysis costs approximately \$50. The costs associated with initial sampling are included in the capital construction costs under startup and permitting, while the costs to perform the remaining annual samples are included in Table 3-2 under sampling. It can be observed that a cost of \$1,550 has been included in Table 3-2 to test one sample after each media replacement (19 annual samples) and one at the end of each month (12 annual samples).
- Annual repairs on the treatment equipment have been estimated to be approximately 10 percent of the capital cost (\$5,500).

Item	Cost	
Media Replacement and Disposal	\$124,000	
Operations	\$1,020	
Sampling	\$1,550	
Treatment Equipment Repairs	\$5,500	
Total	\$132,070	
Estimated Water Rate Increase (per connection) <sup>(1)</sup>	\$688	
Current Water Rate	\$83	
Estimated Monthly Water Rate	\$771	
Note:		
<sup>(1)</sup> ((\$132,070 Annual O&M / 12 months) / 16 Active Connections) = \$688 Rate Increase per Month		

#### Table 3-2 Isolux Centralized Treatment Annual O&M Costs







# 

# WILLIAM FISHER MEMORIAL WATER SYSTEM

PRELIMINARY ENGINEERING REPORT

# LEGEND

WFMWC SERVICE AREA BOUNDARY WELL NO. 2/STORAGE LOCATION

DISTRIBUTION SYSTEM

CENTRALIZED TREATMENT

PROPERTY LINES





# FIGURE 3-2 ALTERNATIVE I PROPOSED LAYOUT

# 3.4. Alternative II: Point of Use Treatment System

The second alternative consists of installing POU treatment systems at all the residences within WFMWC. POU are usually installed at the kitchen sink but can also be installed outside of the residence to facilitate access. With the POU system, raw water, from Well No. 2, will only be treated at one POU location in each residence. Places such as the shower will not be treated. In order to incorporate a POU treatment system into a water distribution network, a pilot test must first be completed to determine the ability of the unit to treat the raw water to potable water standards. A pilot test has been conducted for the WFMWC water distribution system. Two POU arsenic removal systems (Multipure SB880 and Isolux) were evaluated in the pilot test and the findings are displayed in Appendix C. The Multipure SB880 outperformed the Isolux in terms of arsenic removal and will be considered for this alternative. With this being said, between the time of the pilot test and this feasibility study, Isolux discontinued their POU treatment unit.

#### 3.4.1. Capital Costs

An opinion of probable construction costs for a POU Multipure SB880 arsenic treatment system are included in this section. According to Multipure, the capital cost of each POU treatment unit is approximately \$600. A cost of \$1,500 has been estimated to fund the purchase and installation of AWWA certified water meters with meter boxes. Water meters will be installed at each active connection (16 active connections). Therefore, a cost of \$24,000 has been added to the capital construction costs. All costs include an estimated inflation. A cost of \$10,000 has been included in each section for startup and permitting fees. This includes the costs to develop and approve a water permit amendment, as well as, startup construction and engineering costs. The main elements of this alternative's improvements include:

- Equipment (i.e. piping, media, etc.)
- > Installation (i.e. civil, mechanical, electrical, instrumentation, etc.)
- Startup and Permitting

Table 3-3 shows the estimated capital costs to purchase and install 16 Multipure SB880 arsenic removal treatment units and 16 AWWA approved water meters. A contingency of 10 percent has been added to the capital costs. Soft costs (i.e. engineering, environmental, construction administration, etc.) are assumed to be approximately 25 percent of the total construction cost. Shipping and taxes for the equipment costs are assumed to be 20 percent of the quote price.

Item	Cost
Water Meter w/ Meter Box (Furnish & Installation)	\$24,000
Treatment Equipment (equipment only)	\$12,000
Treatment Equipment (installation)	\$25,000
Startup and Permitting	\$10,000
Subtotal	\$71,000
Contingency (10%)	\$7,100
Engineering, Environmental, Construction Adm. (25%)	\$17,800
Total	\$95,900

#### Table 3-3 Multipure SB880 Capital Construction Cost

#### 3.4.2. **O&M Costs**

O&M costs for the POU Multipure SB880 treatment unit include media replacement, labor, repairs, and sampling. Table 3-4 shows the estimated O&M costs for the POU Multipure SB880 system. The following provides an explanation on how the O&M costs have been calculated:

- Although the Multipure SB880 offers a higher treatment capacity in gallons, it is recommended that cartridge filters be replaced once a year for optimal arsenic removal and to ensure the carbon filters do not develop bacteria. Each replacement filter costs \$125 (2019 dollars) and has an additional 20% tax and shipping charge. A flat rate of \$40 has been included to fund the installation of the replacement filters. Therefore, an annual cost of \$3,040 has be applied to fund the purchase and installation of 16 replacement filters.
- The operational costs associated with the Multipure SB880 POU units were developed based on the estimated amount of time the operator needs to visit the site to perform maintenance or retrieve samples. The POU treatment units would require approximately 1 hours of work per month at a rate of \$85 per hour (\$1,020).
- One twelfth of the POU treatment units will be sampled after installation and every month thereafter. Sampling will be performed by the system operator and each sample analysis costs approximately \$50. The costs associated with initial sampling are included in the capital construction costs under startup and permitting, while the costs to perform the remaining annual samples are included in Table 3-4 under sampling. It can be observed that a cost of \$1,200 has been included in Table 3-4 to test 24 random samples per year.
- Annual repairs on the POU treatment units have been estimated to be approximately \$500.

Item	Cost	
Media Replacement	\$3,040	
Operations	\$1,020	
Sampling	\$1,200	
Treatment Equipment Repairs	\$500	
Total	\$5,760	
Estimated Monthly Water Rate Increase (per connection) <sup>(1)</sup>	\$30	
Current Monthly Water Rate	\$83	
Estimated Monthly Water Rate	\$113	
Note:		
<sup>(1)</sup> ((\$5,760 Annual O&M / 12 months) / 16 Active Connections) = \$30 Rate Increase per Month		

#### Table 3-4 Multipure SB880 Annual O&M Costs

# 3.5. Alternative III: Point of Entry Treatment System

The third alternative consists of installing Point of Entry (POE) treatment systems at each active connection within the WFMWC. POE treatment systems are vessels that are mounted outside each residence to treat the influent raw water. POE units only treat the raw water that enters the residence. Water used for landscaping purposes does not get treated. Isolux offers a 5 gpm POE treatment unit that only utilizes one 4.5-inch diameter by 42-inch cartridge. Based on the findings of the pilot test, an Isolux arsenic removal cartridge of this size is capable of treating approximately 33,976-gallons before breakthrough would occur. Multipure does not offer a POE unit. The average annual water consumption observed for the WFMWC from the year 2013 to 2018 was approximately 6,344,055 gallons. This report assumes that 90% of the total water demand for each active connection enters the household, while 10% is used for landscaping purposes. This study assumes the average annual water consumption is evenly dispersed between each active connection (16 active connections). Therefore, it is assumed that each active connection will use approximately 356,853 gallons of water per year.

#### 3.5.1. Capital Costs

To develop an estimated capital costs of this alternative, a budgetary proposal was requested for the 5 gpm arsenic removal system. Appendix F contains the equipment costs of the budgetary proposal for the system (Alternative III). A cost of \$1,500 has been estimated to fund the purchase and installation of AWWA certified water meters with meter boxes. Water meters will be installed at each active connection (16 active connections). Therefore, a cost of \$24,000 has been added to the capital construction costs. All costs include an estimated inflation. A cost of \$10,000 has been include in each section for startup and permitting fees. This includes the costs to develop and approve a water permit amendment, as well as, startup construction and engineering costs.

An opinion of probable construction costs for a POE Isolux 5 gpm arsenic treatment system is included in this section. The main elements of this alternative's improvements include:

- Equipment (i.e. piping, media, etc.)
- > Installation (i.e. civil, mechanical, electrical, instrumentation, etc.)
- Startup and Permitting

Table 3-5 shows the estimated capital costs to purchase and install 16 Isolux POE treatment units, and 16 AWWA approved water meters. A contingency of 10 percent has been added to the capital costs. Soft costs (i.e. engineering, environmental, construction administration, etc.) are assumed to be approximately 25 percent of the total construction cost. Shipping and taxes for the equipment costs are assumed to be 20 percent of the quote price.

Item	Cost
Water Meter w/ Meter Box (Furnish & Installation)	\$24,000
Treatment Equipment (equipment only)	\$58,000
Treatment Equipment (installation)	\$96,000
Startup and Permitting	\$10,000
Subtota	al \$188,000
Contingency (10%)	\$18,800
Engineering, Environmental, Construction Adm. (25%)	\$47,000
Tota	al \$253,800

#### Table 3-5 Isolux POE Capital Construction Cost

#### 3.5.2. **O&M Costs**

O&M costs for the POE Isolux treatment unit include media replacement, labor, repairs and sampling. Table 3-6 shows the estimated O&M costs for the POE treatment system. The following provides an explanation on how the O&M costs have been calculated:

- To develop an estimated treatment capacity for the POE treatment unit, a comparison of the pilot tested Isolux POU unit and the Isolux POE unit was done. The comparison was based on the POU treatment capacity and the size of the arsenic removal cartage in each unit. This report assumes that 90% of the total water demand for each active connection enters the household, while 10% is used for landscaping purposes. Based on this information, it was determined that the POE treatment units' cartridges will need to be replaced once a month. Each replacement cartridge costs \$600 (2019 dollars). Therefore, an annual cost of approximately \$115,000 has be applied to fund the purchase of replacement filters. A cost of \$50 has been included to fund the disposal of each worn filter. Thus, an annual cost of \$9,500 has been applied for disposal.
- The operational costs associated with the Isolux POE treatment units were developed based on the estimated amount of time the operator needs to visit the site to perform maintenance or retrieve samples. The POE treatment units would require approximately 1 hours of work per month at a rate of \$85 per hour (\$1,020).
- One twelfth of the POE treatment units will be sampled after installation and randomly every month thereafter. Sampling will be performed by the system operator and each sample analysis costs approximately \$50. The costs associated with initial sampling are included in the capital construction costs under startup and permitting, while the costs to perform the remaining annual samples are included in Table 3-6 under sampling. It can be observed that a cost of \$1,200 has been included in Table 3-6 to test 2 random samples at the end of each month. A total of 24 samples will be taken and tested annually.
- Annual repairs on the POE treatment units have been estimated to be approximately 10 percent of the capital cost (\$5,000).

Item	Cost	
Media Replacement and Disposal	\$125,000	
Operations	\$1,020	
Sampling	\$1,200	
Treatment Equipment Repairs	\$5,000	
Total	\$132,220	
Estimated Monthly Water Rate Increase (per connection) <sup>(1)</sup>	\$689	
Current Monthly Water Rate	\$83	
Estimated Monthly Water Rate	\$772	
Note:		
<sup>(1)</sup> ((\$132,220 Annual O&M / 12 months) / 16 Active Connections) = \$689 Rate Increase per Month		

#### Table 3-6 Isolux POE Annual O&M Costs

# CHAPTER 4 ALTERNATIVE EVALUATION

# 4.1. Alternative Comparison

The three alternatives presented in Chapter 3 are considered to be the most feasible alternatives to supply safe drinking water to the WFMWC residents. This Chapter provides an evaluation of those three alternatives and provides a recommendation based on the findings of the comparison. The evaluation criteria used to evaluate the alternatives include: reliability, complexity, and life-cycle costs.

#### 4.1.1. Reliability

Reliability refers to the ability of a particular alternative to provide a reliable water supply in terms of quantity and quality. All alternatives considered would be designed and constructed to isolate the removal of the target constituent, arsenic. This would allow the water system to comply with the compliance order and meet the required MCL set by the State for arsenic.

A centralized treatment system (Alternative I) is typically more reliable than having multiple POU or POE units. The centralized treatment system is more accessible and can be monitored more frequently than the POU units. The centralized system would provide arsenic-free water for all domestic uses. Alternative I (Centralized Treatment) is considered to be superior in terms of reliability and would be more protective of public health than Alternative II (POU) and Alternative III (POE).

POU treatment systems (Alternative II) are reliable in terms of treatment but pose difficult maintenance requirements. Alternative II (POU) requires more difficult maintenance when compared to Alternative I (Centralized Treatment). Along with difficult maintenance, POU treatment units only provide arsenic-free water at one location in each residence, typically at the kitchen sink. In order to maintain the system, water must be sampled at every POU within each active connection to ensure the system is functioning correctly. This system would require maintenance on multiple small filters within each active connection instead of one large filter directly after extraction from the well as in Alternative I (Centralized Treatment).

POE treatment systems (Alternative III) offer reliable treatment and removal of arsenic but require coordination with each active connection to perform maintenance. The POE treatment systems (Alternative III) are more accessible and can be monitored more frequently than the POU units but still require coordination with the residence due to momentary system downtimes. The POE system would provide arsenic-free water for all domestic uses. The maintenance required for Alternative III (POE) is more difficult than Alternative I (Centralized Treatment) but less difficult than Alternative II (POU). The POE treatment units are located outside each residence and maintenance can be performed without entering the residence. Coordination between the homeowners and the operator is still required because the unit may need to be offline while they undergo maintenance. Alternative III (POE) much like Alternative II (POU) requires maintenance on multiple small units.

#### 4.1.2. Complexity

Complexity refers to operational requirements of each alternative. The WFMWC is a small water system with limited resources. The treatment system proposed in Alternative I (Centralized Treatment) operates automatically. It will require periodic operator supervision to ensure that equipment is functioning correctly and to perform regulatory maintenance. In terms of process control, does not require periodic backwashing. Periodic water quality monitoring is required to detect breakthrough. Alternative I (Centralized Treatment) has the lowest complexity in terms of operational requirements. These tasks are within the ability of the current system operator and it would not require any higher-grade operators.

The operation requirements for Alternative II (POU) can be performed simply. However, operators would need to enter each residence to service the POU treatment units. This increases the complexity of the system because coordination will be required with each residence to perform sampling and service the filter before they reach breakthrough. Any malfunction of the system or early breakthrough would be difficult to detect unless the user notifies the operator. Alternative II (POU) has the highest complexity in terms of operational requirements. All tasks required for Alternative II (POU) are within the ability of the current system operator.

The operational requirements for Alternative III (POE) can be performed simply but even through the units are mounted outside the residence, coordination is still required depending on the task that is being completed. Operators can perform things such as sampling much easier than Alternative II (POU) because the units are outside the residence and the water production would not be terminated. Although, when maintenance such as filter replacement is being performed, the operators would have to ensure the residence are not home or approval would be required to terminate their water supply for the momentary system downtime. Alternative III (POE) has the second highest complexity in terms of operational requirements. All of the tasks listed about for Alternative III (POE) are within the ability of the current system operator.

The current operator is headquartered in Bakersfield and travels periodically to WFMWC to monitor and maintain the water supply system. Having to respond to multiple users and having to coordinate access to all the residences would make Alternative II (POU) and III (POE) very complex and time consuming.

#### 4.1.3. Life-cycle Cost

Life-cycle cost refers to the sum of capital construction costs and recurring O&M costs over the full life span of the selected alternative. Capital construction costs for Alternative I (Centralized Treatment), Alternative II (POU) and Alternative III (POE) include the costs to furnish and install new treatment equipment and startup/permitting fees.

Annual O&M costs refer to the recurring cost to operate and maintain the treatment system. Typical recurring O&M costs are labor, equipment repairs, sampling, electricity, permitting, reporting, debt servicing, and a capital improvement reserve. Annual O&M costs for Alternative I (Centralized Treatment) and Alternative III (POE) include media replacement and disposal, labor, repairs and sampling. The annual O&M costs associated with Alternative II (POU) consist of media replacement, labor, repairs and sampling.

Table 4-1 shows a comparison of the life-cycle cost for all alternatives. The comparison is made for a 20year and 30-year life and uses a 2.5 percent discount rate. The life-cycle costs are expressed in 2019 US dollars.

	Alternative I (Centralized Treatment)	Alternative II (POU)	Alternative III (POE)
Capital Construction	\$201,150	\$95,900	\$253,800
O&M Cost (20-yr)	\$2,058,861	\$89,794	\$2,061,199
O&M Cost (30-yr)	\$2,764,264	\$120,558	\$2,767,403
20-yr Life-Cycle	\$2,260,011	\$185,694	\$2,314,999
30-yr Life-Cycle	\$2,965,414	\$216,458	\$3,021,203

#### Table 4-1 Life-Cycle Costs Comparison

The life-cycle cost of Alternative II (POU) appear to be the lowest for both the 20 and 30 year return period. Alternative III (POE) has the highest life-cycle costs for both the 20 and 30 year return periods, while Alternative I (Centralized Treatment) has the second highest for both return periods. The WFMWC is a disadvantaged community (DAC). In order for the WFMWC to be able to afford any of these alternatives, will require substantial state assistance to fund the capital improvements. The WFMWC is already paying over the affordable limit for water services.

## 4.2. Conclusions and Recommendations

Based on the comparison of all alternatives and on the findings presented in this Study, Alternative II (POU) is recommended for the following reasons:

- It will provide a water treatment method that meets current regulations set by governing agencies.
- It will provide a reliable treatment method at designated points of use.
- It will provide the WFMWS with the most affordable treatment method.
- Results in the lowest monthly water rate of all alternatives considered.

The next step for the WFMWC is to secure funding from the Drinking Water State Revolving Fund (DWSRF) for the implementation of Alternative II. The DWSRF is administered by the SWRCB Division of Financial Assistance (SWRCB-DFA). As a community Public Water System, the WFMWC is eligible for financial assistance, via DWSRF, for planning and construction. Financial assistance would likely be available as loans, grants, principal forgiveness, or a combination thereof.

The WFMWC is a DAC. According to the DWSRF Intended Use Plan, the affordability of a DAC's water rates is 1.5 percent of the MHI. Currently, the WFMWC pays a monthly rate of \$83 for water services. The affordable monthly rate for the WFMWC, according to the SWRCB, is \$59.89 per month. Which means the WFMWC's current water rates are unaffordable. The proposed improvement adds additional monthly costs to the community's water rates, raising the month bill to \$113.

According to the DWRSF Intended Use Plan, the WFMWC is over the affordable rate for water services, making them eligible for principal forgiveness or a grant of up to 100 percent of the construction project cost (maximum of \$5 million). The financing terms for a construction project loan are a 0 percent interest rate and a financing term of the useful life of the financed facilities, up to 30 years. Once the project has been successfully funded, a meeting will be held with the WFMC to inform them on the new treatment unit and provide them with supplemental information to help them better understand their new water system.

In the meantime, the WFMWC should continue quarterly monitoring the concentration of arsenic within the water being extracted from Well No. 2. Should levels continue to exceed the current MCL, the WFMWC should continue to notify customers of the on-going exceedance of the arsenic MCL.

Appendix A – Water Supply Permit
#### State Water Resources Control Board Division of Drinking Water

Water Supply Permit No. 03-19-16P-003

## Rosamond Community Services District To Operate

#### William Fisher Memorial Water Company Water System

Kern County System No. 1500455

March 28, 2016



State Water Resources Control Board Division of Drinking Water

# STATE WATER RESOURCES CONTROL BOARD DIVISION OF DRINKING WATER

# Certificate of Issuance

# Water Supply Permit

## Rosamond Community Services District (System #1510018)

This is to certify that a water supply permit (**Permit # 03-19-16P-003**) has been issued to **Rosamond Community Services District** on **March 28**, 2016, to operate the water supply system serving **William Fisher Memorial Water Company** (System No. 1500455) in Kern County. The permit was issued by the State Water Resources Control Board, Division of Drinking Water, pursuant to the provisions of Division 104, Part 12, Chapter 4, Article 7, of the California Health and Safety Code. The permit is subject to the requirements of Title 22, California Code of Regulations, and to the conditions provided in the water supply



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A copy of the water supply permit is on file with the **Rosamond Community Services District** or may be obtained by contacting the **Tehachapi District**, **Bakersfield Office** of the State Water Resources Control Board, Division of Drinking Water, 4925 Commerce Drive, Suite 120, Bakersfield, CA 93309.

Jaswinder S. Dhaliwal, P.E., Senior Sanitary Engineer, Tehachapi District









MATHEW RODBIQUEZ SECRETARY FOR ENVIRONMENTAL FROTECTION

State Water Resources Control Board **Division of Drinking Water** 

> March 28, 2016 System No.: 1500455

Mr. Ronald Smith, General Manager **Rosamond Community Services District** 3179 35<sup>th</sup> Street West Rosamond, CA 93560

Dear Mr. Smith,

#### RE: Water Supply Permit No. 03-19-16P-003

The purpose of this letter is to inform you that the State Water Resources Control Board (hereinafter State Board), Division of Drinking Water has issued a Domestic Water Supply Permit for Rosamond Community Services District (RCSD) to operate the William Fisher Memorial Water Company Water System (hereinafter Water System). This permit is required because the current permit is no longer representative of the Water System as it now operates. As the court appointed receiver, Rosamond Community Services District is responsible for operating and maintaining the Water System until termination of the receivership. The previous domestic water supply permit for the Water System was issued by the Kern County Environmental Health Services Department. The Domestic Water Supply Permit, Engineering Report and attachments referenced in the engineering report are attached to this letter. Please review the engineering report and provide any comments or corrections to the Division in writing.

Rosamond Community Services District needs to complete the following action items and submit the required documents to the State Board by the date(s) specified.

#### **ACTION ITEMS**

- 1. By May 15, 2016, a shade structure should be erected to prevent the chlorine tank from being exposed to direct sunlight.
- 2. By May 15, 2016, the threads on the hose bib between the well and the storage tank should be either removed or the hose bib replaced with a hose bib that does not have threads.
- 3. A cross-connection control survey of the Water System should be conducted by May 31, 2016 and a copy of the survey should be sent to the Tehachapi District office.
- 4. By May 15, 2016, RCSD needs to start submitting the quarterly progress reports outlining the steps that RCSD is taking to correct the water quality problem and eliminate the need to deliver

FELICIA MARCUS, CHAIR | THOMAS HOWARD, EXECUTIVE DIRECTOR

water to the Water System from the well that does not meet drinking water standard for arsenic.

Please acknowledge in writing by April 15, 2016, receipt of this water supply permit, your willingness to comply with the permit provisions and any comments or corrections to the engineering report. This permit supersedes previous domestic water supply permit issued by the Kern County Environmental Health Services Department and contains an all-inclusive list of applicable special permit provisions.

If you have any questions regarding this matter, please contact Elia Estasy at (661) 335-7322.

Sincerely,

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Taswinder S. Dhaliwal, P.E. Senior Sanitary Engineer, Tehachapi District Central California Section SOUTHERN CALIFORNIA BRANCH DRINKING WATER FIELD OPERATIONS

Enclosure: Permit Documents

cc: Kern County Environmental Health Services Department (w/out enclosure) Juan DelaRosa, Water Quality Supervisor, RCSD

Appendix B – Compliance Order No. 03\_19\_17R\_014





State Water Resources Control Board Division of Drinking Water

November 3, 2017

Mr. Dennis Gatson, General Manager McMor Chlorination, Inc. 6734 Charity Avenue, Bay #8 Bakersfield, CA 93308

## RE: WILLIAM FISHER MEMORIAL WATER SYSTEM (SYSTEM NO.1500455), COMPLIANCE ORDER FOR VIOLATION OF MAXIMUM CONTAMINANT LEVEL (MCL) FOR ARSENIC

Dear Mr. Gatson:

Enclosed is Compliance Order No. 03\_19\_17R\_014 that the State Water Resources Control Board (State Board)-Division of Drinking Water is issuing to the William Fisher Memorial Water System (hereinafter Water System) for a violation of the California Safe Drinking Water Act. The Water System has been serving water to consumers that violates the primary maximum contaminant level (MCL) for arsenic of 0.010 milligrams-per-liter (mg/L). As discussed in the compliance order, the Water System shall develop and implement a plan to resolve the MCL violation for arsenic to ensure compliance with the drinking water standards.

Please note that on or before November 30, 2017, the Water System is required to submit a written response to the State Board indicating its agreement to comply with the directives of the compliance order and with the Corrective Action Plan addressed in the said compliance order. On or before January 31, 2018, the Water System is required to submit the Corrective Action Plan, required under Directive No. 6 of the compliance order, to the State Board's office, located at 4925 Commerce Drive, Suite 120, Bakersfield, California 93309. Deadline to achieve compliance with the arsenic MCL is November 30, 2020. Until the State Board determines that the Water System is in compliance with the arsenic MCL, you must continue to provide quarterly public notification for arsenic and also conduct quarterly arsenic monitoring of Well 02. After providing quarterly public notification, a copy of the public notice along with a completed Certification of Public Notification form (Attachment C of the compliance order) must be submitted to the State Board's Bakersfield office. Failure to comply with deadlines and directives specified in the compliance order will result in further enforcement action by the State Board.

The Water System has been billed at the State Board's hourly rate (currently estimated at \$163.00) for the time spent on issuing this order. California Health and Safety Code (CHSC), Section 116577, provides that a public water system must reimburse the State Board for actual costs incurred by the State Board for specified enforcement actions, including but not limited to, preparing, issuing and monitoring compliance with a citation. The Water System will receive a bill from the State Board, sometime after July 2018, during the next fiscal year (2018-19). This bill will contain fees for any, and all enforcement time spent on the Water System for the current fiscal year (2017-18).

Any person who is aggrieved by a citation, order or decision issued by the Deputy Director of the Division of Drinking Water under Article 8 (commencing with CHSC, Section 116625) or Article 9 (commencing CHSC, Section 116650), of the Safe Drinking Water Act (Chapter 4, Part 12, Division 104, of the Health and Safety Code) may file a petition with the State Water Board for reconsideration of the citation, order or decision.

FELICIA MARCUS, CHAIR | EILEEN SOBECK, EXECUTIVE DIRECTOR

4925 Commerce Drive, Suite 120, Bakersfield, CA 93309 | www.waterboards.ca.gov

William Fisher Memorial Water System – Cover Letter for Arsenic CO November 3, 2017 Page 2

Petitions must be received by the State Board within 30 days of the issuance of the citation, order or decision by the Deputy Director. The date of issuance is the date when the Division of Drinking Water mails a copy of the citation, order or decision. If the 30<sup>th</sup> day falls on a Saturday, Sunday, or a state holiday, the petition is due the following business day. Petitions must be received by 5:00 p.m. Information regarding filing petitions may be found at:

http://www.waterboards.ca.gov/drinking\_water/programs/petitions/index.shtml

If you have any questions regarding this matter, please contact me at (661) 335-7318 or Carl Carlucci, Supervising Sanitary Engineer at (559) 447-3132.

Sincerely,

Japonindes Dhel.

Jaswinder S. Dhaliwal, P.E. Senior Sanitary Engineer, Tehachapi District Southern California Branch DRINKING WATER FIELD OPERATIONS

Enclosure: Compliance Order No. 03\_19\_17R\_014

CC: Kern County Department of Public Health, Environmental Health Division

COMPLIANCE ORDER NO. 03\_19\_17R\_014

1	
1	
2	CALIFORNIA STATE WATER RESOURCES CONTROL BOARD
3	DIVISION OF DRINKING WATER
4	
5	TO: William Fisher Memorial Water System, Water System No.1500455
6	ATTN: Mr. Dennis Gatson, General Manager
7	6734 Charity Avenue, Bay #8
8	Bakersfield, CA 93308
q	
10	CERTIFIED MAIL
11	COMPLIANCE ORDER NO. 03_19_17R_014
12	VIOLATION OF HEALTH AND SAFETY CODE SECTION 1166555 (a)(1)
13	AND THE PRIMARY DRINKING WATER STANDARD FOR ARSENIC Issued November 3, 2017
14	
15	The Otate Michae Deservates Ocastes Deserved (here; in often "Otate Deserve"), estimation and there are
16	The State Water Resources Control Board (hereinafter "State Board"), acting by and through
17	its Division of Drinking Water (hereinafter "Division") and the Deputy Director for the Division
18	(hereinafter "Deputy Director"), hereby issues this compliance order (hereinafter "Order")
19	pursuant to Section 116655 of the California Health and Safety Code (hereinafter "CHSC") to
20	William Fisher Memorial Water System for violation of CHSC section 116555(a)(1) and Title
21	22, California Code of Regulations (hereinafter "CCR"), Section 64431.
22	
23	APPLICABLE AUTHORITIES
24	CHSC, Section 116555(a)(1) states in relevant part:
25	(a) Any person who owns a public water system shall ensure that the system does all of the
26	following:
27	(1) complies with primary and secondary drinking water standards.

#### CHSC, Section 116655 states in relevant part:

(a) Whenever the State Board determines that any person has violated or is violating this chapter, or any permit, regulation, or standard issued or adopted pursuant to this chapter, the director may issue an order doing any of the following:

(1) Directing compliance forthwith.

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- (2) Directing compliance in accordance with a time schedule set by the State Board.
- (3) Directing that appropriate preventive action be taken in the case of a threatened violation.
- (b) An order issued pursuant to this section may include, but shall not be limited to, any or all of the following requirements:
- (1) That the existing plant, works, or system be repaired, altered, or added to.
- (2) That purification or treatment works be installed.
  - (3) That the source of the water supply be changed.
- 10 (4) That no additional service connection be made to the system.
  - (5) That the water supply, the plant, or the system be monitored.
  - (6) That a report on the condition and operation of the plant, works, system, or water supply be submitted to the State Board.

#### CHSC, Section 116701 states in relevant part:

- (a) Within 30 days of issuance of an order or decision issued by the deputy director under Article 8 (commencing with Section 116625) or Article 9 (commencing with Section 116650), an aggrieved person may petition the state board for reconsideration. Where the order or decision of the deputy director is issued after a hearing under Chapter 5 (commencing with Section 11500) of Part 1 of Division 3 of Title 2 of the Government Code, this section shall apply instead of Section 11521 of the Government Code.
- (b) The petition shall include the name and address of the petitioner, a copy of the order or decision for which the petitioner seeks reconsideration, identification of the reason the petitioner alleges the issuance of the order was inappropriate or improper, the specific action the petitioner requests, and other information as the State Board may prescribe. The petition shall be accompanied by a statement of points and authorities of the legal issues raised by the petition.
- (c) The evidence before the state board shall consist of the record before the deputy director and any other relevant evidence that, in the judgment of the State Board, should be considered to implement the policies of this chapter. The State Board may, in its discretion, hold a hearing for receipt of additional evidence.
- (d) The State Board may refuse to reconsider the order or decision if the petition fails to raise substantial issues that are appropriate for review, may deny the petition upon a determination that the issuance of the order or decision was appropriate and proper, may set aside or modify the order or decision, or take other appropriate action. The State
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Compliance Order No. 03 19 17R 014

Board's action pursuant to this subdivision shall constitute the state board's completion of its reconsideration.

- (e) The State Board, upon notice and hearing, if a hearing is held, may stay in whole or in part the effect of the order or decision of the deputy director.
- (f) If an order of the deputy director is subject to reconsideration under this section, the filing of a petition for reconsideration is an administrative remedy that must be exhausted before filing a petition for writ of mandate under Section 116625 or 116700.

Title 22, CCR, Section 64431 (hereinafter "Section 64431"), states in relevant part:

Public water systems shall comply with the primary MCLs in table 64431-A as specified in this article.

11	Table 64431-A Maximum Contaminant Levels		·A ant Levels
12		Inorganic Chem	icals
13		Chemical	Maximum Contaminant Level, mg/L
		Aluminum	1.
14	5 - C	Antimony	0.006
45	5 m	Arsenic	0.010
15		Asbestos	7 MFL*
16	-	Barium	1.
10		Beryllium	0.004
17	0	Cadmium	0.005
		Chromium	0.05
18		Cyanide	0.15
		Fluoride	2.0
19		Mercury	0.002
		Nickel	0.1
20		Nitrate (as N)	10.
~		Nitrate+Nitrite (sum as nitrogen)	10.
21		Nitrite (as nitrogen)	1.
22		Perchlorate	0.006
22		Selenium	0.05
23		Thallium	0.002
	* MEL-m	villion fibers per liter: MCL for fibers exceed	ling 10 um in length

MFL=million fibers per liter; MCL for fibers exceeding 10 um in length.

Title 22, CCR Section 64432 (hereinafter "Section 64432") provides in relevant part:

#### Section 64432

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(g) If the level of any inorganic chemical, except for nitrate, nitrite, nitrate plus nitrite, or perchlorate, exceeds the MCL, the water supplier shall do one of the following:

(1) Inform the State Board within 48 hours and monitor quarterly beginning in the next quarter after the exceedance occurred; or

(2) Inform the State Board within seven days from the receipt of the analysis and, as confirmation, collect one additional sample within 14 days from receipt of the analysis. If the average of the two samples collected exceeds the MCL, this information shall be reported to the State Board within 48 hours and the water supplier shall monitor quarterly beginning in the next quarter after the exceedance occurred.

(h) If the concentration of an inorganic chemical exceeds ten times the MCL, within 48 hours of receipt of the result the water supplier shall notify the State Board and resample as confirmation. The water supplier shall notify the State Board of the result(s) of the confirmation sample(s) within 24 hours of receipt of the confirmation result(s).

(1) If the average concentration of the original and confirmation sample(s) is less than or equal to ten times the MCL, the water supplier shall monitor quarterly beginning in the quarter following the guarter in which the exceedance occurred.

(2) If the average concentration of the original and confirmation sample(s) exceeds ten times the MCL, the water supplier shall, if directed by the State Board;

17 (A) Immediately discontinue use of the contaminated water source; and

(B) Not return the source to service without written approval from the State Board.

(i) Compliance with the MCLs shall be determined by a running annual average; if any one sample would cause the annual average to exceed the MCL, the system is immediately in violation. If a system takes more than one sample in a guarter, the average of all the results for that quarter shall be used when calculating the running annual average. If a system fails to complete four consecutive quarters of monitoring, the running annual average shall be based on an average of the available data.

#### STATEMENT OF FACTS

The State Board is informed by the William Fisher Memorial Water System (hereinafter "Water System") and believes that the Water System is a community water system, located in Kern County that supplies water for domestic purposes to approximately 56 individuals through -4approximately 16 service connections. The Water System utilizes one groundwater well (Well 02; PS Code: 1500455-003) and provides continuous chlorination treatment. The Water System operates under Domestic Water Supply Permit No. 03-19-16P-003, issued on March 28, 2016, by the State Board. Effective April 1, 2017, McMor Chlorination, Inc. (hereinafter "McMor") is the court appointed receiver to operate the Water System. Rosamond Community Services District previously operated the Water System in 2017, the State Board plans to issue a new domestic water supply permit to McMor. The Water System is a community public water system as defined in CHSC, section 116275, and has been under the regulatory jurisdiction of the State Board, effective July 1, 2014.

Title 22, CCR, Division 4, Chapter 15, Article 4, establishes primary drinking water standards and monitoring and reporting requirements for inorganic constituents. Community and nontransient noncommunity water systems must comply with the maximum contaminant level for arsenic of 0.010 mg/L, as established in Title 22 CCR Section 64431.

A sample collected from Well 02 on January 8, 2008, showed an arsenic concentration of 0.016 mg/L. Therefore, in accordance with Section 64431 (g), the Water System was required to begin quarterly arsenic monitoring of Well 02 unless it chose to submit an additional sample, which it did not do. Section 64432(i) provides that compliance with the arsenic MCL is based on a running annual average (RAA) of the quarterly monitoring samples, computed each quarter. Further, Section 64432 (i) states: "if any one sample would cause the annual average to exceed the MCL, the system is immediately in violation."

-5-

The Water System was previously issued compliance order (No. 03-19-09O-009) on January 23, 2009, for violating the arsenic MCL. Since issuance of the compliance order, the Water System has continued to violate the arsenic MCL. A report from the State Board's water quality database, showing a summary of arsenic results, is provided as Attachment A.

A summary of the Water System's most recent quarterly arsenic monitoring is presented in Table 1 below. All results are as reported to the State Board by the laboratory that performed the analysis.

Sample Date	Result (mg/L)	Running Annual Average Value (mg/L)
September 6, 2016 (3 <sup>rd</sup> Qtr. 2016)	0.026 mg/L	0.023 mg/L
November 29, 2016 (4 <sup>th</sup> Qtr. 2016)	0.014 mg/L	0.022 mg/L
February 28, 2017 (1 <sup>st</sup> Qtr. 2017)	0.017 mg/L	0.021 mg/L
April 3, 2017 (2 <sup>nd</sup> Qtr. 2017)	0.018 mg/L	0.019 mg/L
September 7, 2017 (3 <sup>rd</sup> Qtr. 2017)	0.023 mg/L	0.018 mg/L

Table 4: Wall 02 Areania Manitaring Regults (no

As shown in Table 1 above, the current calculated RAA value of 0.018 mg/L, for the 3<sup>rd</sup> quarter of 2017, of the results of arsenic samples collected from Well 02, exceeds the arsenic MCL of 0.010 mg/L.

#### DETERMINATIONS

Based on the above Statement of Facts, the State Board has determined that the Water System has violated CHSC, Section 116555 and Section 64431 in that the water produced by Well 02 exceeded the arsenic MCL, as shown in Table 1 above. Furthermore, the State Board has determined that said violation has continued from the 4<sup>th</sup> quarter of 2008 to the 3<sup>rd</sup> quarter of 2017 for Well 02. This Compliance Order rescinds the previous Compliance Order 03-19-09O-009, issued on January 23, 2009.

#### DIRECTIVES

The William Fisher Memorial Water System is hereby directed to take the following actions:

- 1. On or before November 30, 2020, comply with Title 22, CCR, Section 64431 and remain in compliance.
- 2. On or before November 30, 2017, submit a written response to the State Board indicating its agreement to comply with the directives of this Order and with the Corrective Action Plan addressed herein.
- 3. Commencing on the date of service of this Order, provide quarterly public notification in accordance with Attachment B, hereto, of the Water System's failure to meet the arsenic MCL during any calendar quarter that the four-quarter running annual average exceeds the MCL.
- 4. Commencing on the date of service of this Order, submit proof of each public notification conducted in compliance with Directive No. 3, herein above, within 10 days following each such notification, using the form provided as Attachment C, hereto.

5. Commencing on the date of service of this Order collect quarterly samples for arsenic from Well 02, as required by Section 64432(g), and ensure that the analytical results are reported to the State Board electronically by the analyzing laboratory no later than the 10<sup>th</sup> day following the month in which the analysis was completed.

6. Prepare for State Board approval a Corrective Action Plan identifying improvements to the water system designed to correct the water quality problem (violation of the arsenic MCL) and ensure that the Water System delivers water to consumers that meets primary drinking water standards. The plan shall include a time schedule for completion of each of the phases of the project such as design, construction, and startup, and a date as of which the Water System will be in compliance with the arsenic MCL, which date shall be no later than November 30, 2020.

 On or before January 31, 2018, submit the Corrective Action Plan required under Directive No. 6, above, to the State Board's office located at 4925 Commerce Drive, Suite 120, Bakersfield, CA 93309.

8. Timely perform the State Board approved Corrective Action Plan and each and every element of said plan according to the time schedule set forth therein.

9. On or before April 10, 2018, and every three months thereafter, submit a report to the State Board in the form provided as Attachment D, hereto, showing actions taken during the previous calendar three months to comply with the Corrective Action Plan. 10. Not later than ten (10) days following the date of compliance with the arsenic MCL, demonstrate to the State Board that the water delivered by Water System complies with the arsenic MCL.

11. Notify the State Board in writing no later than five (5) days prior to the deadline for performance of any Directive set forth herein if Water System anticipates it will not timely meet such performance deadline.

All submittals required by this Order shall be addressed to:

Jaswinder S. Dhaliwal, P.E., Senior Sanitary Engineer State Water Resources Control Board Division of Drinking Water, Tehachapi District 4925 Commerce Drive, Suite 120 Bakersfield, CA 93309

As used in this Order, the date of issuance shall be the date of this Order; and the date of service shall be the date of service of this Order, personal or by certified mail, on the Water System.

The State Board reserves the right to make such modifications to this Order and/or to issue such further order(s) as it may deem necessary to protect public health and safety. Such modifications may be issued as amendments to this Order and shall be deemed effective upon issuance.

Nothing in this Order relieves Water System of its obligation to meet the requirements of the

California SDWA, or any regulation, standard, permit or order issued thereunder.

#### PARTIES BOUND

This Order shall apply to and be binding upon the Water System, its owners, shareholders, officers, directors, agents, employees, contractors, successors, and assignees.

#### SEVERABILITY

The Directives of this Order are severable, and the Water System shall comply with each and every provision hereof, notwithstanding the effectiveness of any other provision.

#### FURTHER ENFORCEMENT ACTION

The California SDWA authorizes the State Board to: issue a citation with assessment of administrative penalties to a public water system for violation or continued violation of the requirements of the California SDWA or any regulation, permit, standard, citation, or order issued or adopted thereunder including, but not limited to, failure to correct a violation identified in a citation or compliance order. The California SDWA also authorizes the State Board to take action to suspend or revoke a permit that has been issued to a public water system if the public water system has violated applicable law or regulations or has failed to comply with an order of the State Board; and to petition the superior court to take various enforcement measures against a public water system that has failed to comply with an order of the State Board does not waive any further enforcement action by issuance of this Order.

Date

Carl L. Carlucci, P.E., Chief

Central California Section State Water Resources Control Board Division of Drinking Water

Certified Mail No. 7016 3010 0000 0446 0082

#### <u>Attachments</u>

Attachment A:Report Showing a Summary of Arsenic Results and RAA ValuesAttachment B:Arsenic Public Notification TemplateAttachment C:Certification of Completion of Public Notification TemplateAttachment D:Quarterly Progress Report Template

cc: Kern County Dept. of Public Health, Environmental Health Division (w/o attachments)

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Attachment A

Report Showing a Summary of Arsenic Results

#### 1500455-William Fisher Memorial Water System Summary of Arsenic Results - Well 02 (PS Code: 1500455-003

Date	Finding (mg/L)	Quarter	RAA (mg/L)
2008/01/08	0.016	1st Quarter of 2008	_
2008/02/12	0.018	1st Quarter of 2008	-
2008/05/06	0.0088	2nd Quarter of 2008	-
2008/08/05	0.018	3rd Quarter of 2008	-
2008/12/16	0.016	4th Quarter of 2008	0.015
2009/02/17	0.015	1st Quarter of 2009	0.014
2009/05/05	0.015	2nd Quarter of 2009	0.017
2009/06/09	0.017	2nd Quarter of 2009	0.017
2009/07/07	0.018	3rd Quarter of 2009	0.017
2009/08/18	0.018	3rd Quarter of 2009	0.017
2009/11/03	0.017	4th Quarter of 2009	0.017
2010/02/09	0.014	1st Quarter of 2010	0.017
2010/06/01	0.02	2nd Quarter of 2010	0.017
2010/08/24	0.019	3rd Quarter of 2010	0.018
2010/11/09	0.018	4th Quarter of 2010	0.018
2011/02/15	0.013	1st Quarter of 2011	0.018
2011/06/14	0.018	2nd Quarter of 2011	0.017
2011/08/16	0.018	3rd Quarter of 2011	0.017
2011/11/08	0.018	4th Quarter of 2011	0.017
2012/02/14	0.019	1st Quarter of 2012	0.018
2012/05/29	0.018	2nd Quarter of 2012	0.018
2012/08/07	0.019	3rd Quarter of 2012	0.018
2012/08/14	0.018	3rd Quarter of 2012	
2012/11/13	0.018	4th Quarter of 2012	0.018
2013/02/19	0.018	1st Quarter of 2013	0.018
2013/05/14	0.019	2nd Quarter of 2013	0.018
2013/08/13	0.019	3rd Quarter of 2013	0.019
2013/11/12	0.019	4th Quarter of 2013	0.019
2014/02/18	0.018	1st Quarter of 2014	0.019
2014/05/06	0.019	2nd Quarter of 2014	0.019
2014/08/19	0.021	3rd Quarter of 2014	0.019
2014/11/18	0.017	4th Quarter of 2014	0.019
2015/02/17	0.018	1st Quarter of 2015	0.019
2015/05/19	0.021	2nd Quarter of 2015	0.019
2015/07/21	0.019	3rd Quarter of 2015	0.019
2015/08/25	0.02	3rd Quarter of 2015	
2015/11/17	0.018	4th Quarter of 2015	0.019
2016/03/15	0.019	1st Quarter of 2016	0.019
2016/06/07	0.031	2nd Quarter of 2016	0.021
2016/06/28	0.024	2nd Quarter of 2016	0.033
2016/09/06	0.026	3rd Quarter of 2016	0.023
2016/11/29	0.014	4th Quarter of 2016	0.022
2017/02/28	0.017	1st Quarter of 2017	0.021
2017/04/03	0.018	2nd Quarter of 2017	0.019
2017/09/07	0.023	3rd Quarter of 2017	0.018

## Attachment B

## Arsenic Public Notification Template

#### Instructions for Tier 2 Arsenic MCL Notice Template

#### Template Attached

Since exceeding the arsenic maximum contaminant level (MCL) is a Tier 2 violation, you must provide public notice to persons served as soon as practical but within 30 days after you learn of the violation [California Code of Regulations Title 22, Chapter 15, Section 64463.4(b)]. Each water system required to give public notice must submit the notice to the Department for approval prior to distribution or posting, unless otherwise directed by the Department [64463(b)].

#### **Notification Methods**

You must use the methods summarized in the table below to deliver the notice to consumers. If you mail, post, or hand deliver, print your notice on letterhead, if available.

If You Are a	You Must Notify Consumers by	and By One or More of the Following Methods to Reach Persons Not Likely to be Reached by the Previous Method
Community	Mail or direct delivery <sup>(a)</sup>	Publication in a local newspaper
Water System [64463.4(c)(1)]		Posting in public places served by the water system or on the Internet <sup>(b)</sup>
		Delivery to community organizations
Non-Community Water System	em locations throughout the	Publication in a local newspaper or newsletter distributed to customers
[64463.4(c)(2)]	area served by the water system <sup>(b)</sup>	Email message to employees or students
		Posting on the Internet or intranet <sup>(b)</sup>
		Direct delivery to each customer

(a) Notice must be distributed to each customer receiving a bill including those that provide their drinking water to others (e.g., schools or school systems, apartment building owners, or large private employers), and other service connections to which water is delivered by the water system.

(b) Notice must be posted in place for as long as the violation or occurrence continues, but in no case less than seven days.

The notice attached is appropriate for the methods described above. However, you may wish to modify it before using it for posting. If you do, you must still include all the required elements and leave the health effects and notification language in italics unchanged. This language is mandatory [64465].

#### Multilingual Requirement

<u>Spanish.</u> Each public notice must contain information in Spanish regarding (1) the importance of the notice or (2) contain a telephone number or address where Spanish-speaking residents may contact the water system to obtain a translated copy of the public notice or assistance in Spanish.

<u>Non-English Speaking Groups Other than Spanish-Speaking.</u> For each group that exceeds 1,000 residents or 10% of the residents in the community served, whichever is less, the public notice must (1) contain information in the appropriate language(s) regarding the importance of the notice or (2) contain a telephone number or address where such residents may contact the water system to obtain a translated copy of the notice or assistance in the appropriate language.

#### Population Served

Make sure it is clear who is served by your water system -- you may need to list the areas you serve.

#### **Corrective Action**

In your notice, describe corrective actions you are taking. Do not use overly technical terminology when describing treatment methods. Listed below are some steps commonly taken by water systems with chemical or radiological violations. Use one or more of the following actions, if appropriate, or develop your own:

- "We are working with [local/state agency] to evaluate the water supply and researching options to correct the problem. These options may include treating the water to remove arsenic or connecting to [system]'s water supply."
- "We have stopped using the contaminated well. We have increased pumping from other wells, and we are investigating drilling a new well."
- "We will increase the frequency at which we test the water for arsenic."
- "We have since taken samples at this location and had them tested. They show that we meet the standards."

#### After Issuing the Notice

Send a copy of each type of notice and a certification that you have met all the public notice requirements to the Department within ten days after you issue the notice [64469(d)]. You should also issue a follow-up notice in addition to meeting any repeat notice requirements the Department sets.

It is recommended that you notify health professionals in the area of the violation. People may call their doctors with questions about how the violation may affect their health, and the doctors should have the information they need to respond appropriately.

It is a good idea to issue a "problem corrected" notice when the violation is resolved.

#### **IMPORTANT INFORMATION ABOUT YOUR DRINKING WATER**

Este informe contiene información muy importante sobre su agua potable. Tradúzcalo o hable con alguien que lo entienda bien.

### William Fisher Memorial Water System

## Has Levels of Arsenic

## Above the Drinking Water Standard

Our water system recently violated a drinking water standard. Although this is not an emergency, as our customers, you have a right to know what you should do, what happened, and what we are doing to correct this situation.

We routinely monitor for the presence of drinking water contaminants. Based on the samples collected from \_\_\_\_\_ (\_\_\_\_Quarter of \_\_\_\_\_) to \_\_\_\_\_ (\_\_\_\_Quarter of \_\_\_\_\_), water produced by Well No. 02 contained an average of \_\_\_\_\_\_ µg/L (\_\_\_\_\_\_ milligrams per liter) of arsenic. Well No. 02 produces water that is above the arsenic maximum contaminant level (MCL) of 10.0 µg/L (0.010 mg/L). This standard, set by the State Water Resources Control Board, Division of Drinking Water, is based upon the running annual average of the most recent quarterly arsenic results.

#### What should I do?

- You do not need to use an alternative water supply (e.g., bottled water).
- This is not an emergency. If it had been, you would have been notified immediately. However, some people who drink water containing arsenic in excess of the MCL over many years may have an increased risk of getting cancer.
- If you have other health issues concerning the consumption of this water, you may wish to consult your doctor.

#### What happened? What is being done?

Effective April 1, 2017, McMor Chlorination is the new court appointed receiver for the William Fisher Memorial Water System. McMor Chlorination is working with the State Water Resources Control Board, Division of Drinking Water, towards an interim solution and a long-term solution.

For more information, please contact McMor Chlorination at (661) 323-9400 or the State Water Resources Control Board, Division of Drinking Water Office at (661) 335-7315.

Please share this information with all the other people who drink this water, especially those who may not have received this notice directly (for example, people in apartments, nursing homes, schools, and businesses). You can do this by posting this public notice in a public place or distributing copies by hand or mail.

#### **Secondary Notification Requirements**

Upon receipt of notification from a person operating a public water system, the following notification must be given within 10 days [Health and Safety Code Section 116450(g)]:

- SCHOOLS: Must notify school employees, students, and parents (if the students are minors).
- RESIDENTIAL RENTAL PROPERTY OWNERS OR MANAGERS (including nursing homes and care facilities): Must notify tenants.
- BUSINESS PROPERTY OWNERS, MANAGERS, OR OPERATORS: Must notify employees of businesses located on the property.

This notice is being sent to you by McMor Chlorination.

State Water System ID#: <u>1500455</u> Date distributed: \_\_\_\_\_

## Attachment C

Certification of Completion of Public Notification Template

#### Attachment C

#### **Certification of Completion of Public Notification** (Include a Copy of the Public Notice When Submitting this Form)

This form, when completed and returned to the State Water Resources Control Board, Division of Drinking Water – Tehachapi District (4925 Commerce Drive, Suite 120, Bakersfield, CA 93309 or fax to 661-335-7316 or email to dwpdist19@waterboards.ca.gov), serves as certification that public notification to water users was completed as required by Title 22, California Code of Regulations, Sections 64463-64465.

Public	Water System Name: William Fisher Memorial Water System	n
Public	Water System No.: 1500455	
Public	notification for failure to comply with the maximum contaminant level	(MCL) for arsenic for
the	QUARTER OF	was performed by the
followi	ng method(s) (check and complete those that apply):	
	The notice was mailed to users on: A copy of the notice is attached.	
	The notice was hand delivered to water customers on: A copy of the notice is attached.	
	The notice was published in the local newspaper on: A copy of the newspaper notice is attached.	
	The notice was posted at conspicuous places on: A copy of the notice is attached. A list of locations the notice was posted is attached.	
	The notice was delivered to community organizations on: A copy of the notice is attached. A list of community organizations the notice was delivered to is	attached.
I hereb	by certify that the above information is factual.	

Printed Name

Title

Signature

Date

**Disclosure:** Be advised that Section 116725 and 116730 of the California Health and Safety Code state that any person who knowingly makes any false statement on any report or document submitted for the purpose of compliance with the attached order may be liable for a civil penalty not to exceed five thousand dollars (\$5,000) for separate violation each day that the violation continues. In addition, the violators may be prosecuted in criminal court and, upon conviction, be punished by a fine of not more than \$25,000 for each day of violation, or be imprisoned in the county jail not to exceed one year, or by both the fine and imprisonment.

Due to the State Board, Division of Drinking Water within 10 days of issuance of notice to customers

Enforcement Action No. 03\_19\_17R\_014

## Attachment D

## Quarterly Progress Report Template

Attachment D

# **Quarterly Progress Report**

Water System:	William Fisher Memorial Water System	Water System No.:	1500455
Compliance Order No.:	03_19_17R_014	Violation:	Arsenic MCL
Calendar Quarter:		Date Prepared:	

This form should be prepared and signed by Water System personnel with appropriate authority to implement the directives of the Compliance Order and the Corrective Action Plan. Please attach additional sheets as necessary. The quarterly progress report must be submitted by the 10th day of each subsequent quarter, to the Division of Drinking Water, Tehachapi District Office.

#### Summary of Compliance Plan:

#### Tasks completed in the reporting quarter:

#### Tasks remaining to complete:

Anticipate compliance date:

Name

Signature

Title

Date

Appendix C – Pilot Test Report

## WILLIAM FISHER MEMORIAL WATER COMPANY



**Point of Use Arsenic Treatment** 

## **Pilot Test Report**

March 2019

**Prepared by:** 



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### ABBREVIATIONS

As	Arsenic
bgs	Below ground surface
Cl	Chlorine
CWC	California Water Code
CWS	Community Water System
ft	Feet
gal	Gallons
gpd	Gallons Per Day
gpm	Gallons Per Minute
НРС	Heterotrophic Plate Count
in	Inches
MCL	Maximum Contaminant Level
mg/l	Milligrams per liter
POU	Point of Use
μg/l	Micrograms per liter
WFMWC	William Fisher Memorial Water Company

## **SECTION 1 - INTRODUCTION**

#### 1.1. Purpose of Pilot Test

The purpose of this pilot test was to compare the treatment performance of two arsenic removal point of use (POU) treatment units in removing arsenic from the William Fisher water supply. This pilot test was conducted to satisfy the requirements of Section 64418.2 (b) of the California Water Code (CWC) as amended on December 21, 2017 which states:

"(b) Except as provided in subsection (c), pilot testing shall be performed by the public water system, and/or a person(s) under contract with the public water system, on each proposed type of POU to establish its use limitations and operations and maintenance criteria, as well as verification that it will produce effluent that meets applicable drinking water standards under local expected influent water quality and flow conditions."

The objectives of the pilot test were to:

- Demonstrate the POU treatment processes capability to reduce arsenic concentration in the well water to <10 μg/l.</li>
- Identify indicators (such as pH changes, or Cl residual changes) that may occur in the POU treatment units.
- Determine the anticipated media life.
- Estimate the capital and O&M costs of each POU treatment tested.

#### 1.2. Background

William Fisher Memorial Water Company (WFMWC) in Kern County and is classified as a community water system (CWS). The WFMWC serves a permanent population of approximately 51 people through 19 active service connections.

The current source of water supply consists of a single well, Well No. 02. Well No. 2 was constructed in November of 2007 to a depth of 502 feet below the ground surface (bgs). Well No. 02 has a borehole diameter of 20 inches and is equipped with a 10-¾" outside diameter casing. The casing is made from SDR17 PVC with a wall thickness of 5/8-inch and has a milled 0.032-inch slot-type screen from 340 ft to 502 feet bgs. The well is gravel packed from 100 feet bgs to the well bottom and has a concrete annual seal to 100 feet. Upon completion, the well had a static water level of 316 feet bgs. Well No. 02 produced approximately 50 gpm. Figure 1-1 shows an aerial view of the well site.

Chlorination treatment is provided by injecting 12% sodium hypochlorite solution into the discharge of Well No. 2 prior to entering the storage tanks. The target residual is 0.6 to 1.0 ppm and is measured daily by the operator. The capacity of the chlorine feed pump is 30 gallon per day (gpd) and the sodium hypochlorite solution tank has a storage volume of approximately 18 gallons. The chlorination equipment is located adjacent to Well No. 2 within a fenced enclosure. After chlorination water enters two 10,000 gallon welded steel storage tanks followed by a booster pump station and a 2,000 gallon pressure tank.

The water produced by Well No. 02 contains Arsenic (As) in concentrations that are above the MCL.



Figure 1-1 Well No. 02 Location
# **SECTION 2 - WATER QUALITY**

## 2.1. General

Table 2-1 shows a summary of the historical water quality data from Well No. 02. Because of the exceedance of the Arsenic MCL, the WFMWC has been conducting arsenic testing on Well No. 02 quarterly since 2008. The bolded constituents are those for which concentrations above the MCL have been detected. All the available historical water quality results are included in Appendix A.

Constituent	Units	Average	Range
Aggressive Index (Corrosivity)	-	11.69	11.17-12.27
Bicarbonate Alkalinity	mg/l	135.00	130-140
Calcium	mg/l	32.75	27-38
Alkalinity (as CaCO₃)	mg/l	110.00	110
Chloride	mg/l	14.25	13.00-16.00
Color	TON	ND	ND
Chromium Hexavalent		7.38	3.1-8.4
Hardness	mg/l	99.50	88.00-100.00
Iron	μg/l	ND	ND
Magnesium	mg/l	5.08	4.90-5.20
Manganese	μg/l	ND	ND
Odor Threshold	TON	1	1
рН	-	7.75	7.30-8.30
Sodium	mg/l	46	42-50
Specific Conductance	µmhos/cm	403	390-410
Sulfate	mg/l	67	63-73
Total Dissolved Solids	mg/l	250	240-260
Turbidity	NTU	0.075	010
Arsenic	μg/l	18	8.8-31
Nitrate (as N)	mg/l	0.8	0-0.9

Table 2-1 Historical Water Quality from Well No. 02

## **SECTION 3 - PILOT TEST**

## 3.1. Description of Pilot Test Equipment

Pilot testing equipment was skid-mounted and connected to the water system after the pressure tank. Figure 3-1 contains a process flow diagram of the pilot testing skid. The following is a description of the main equipment and instrumentation used in the pilot test skid.:

- Melnor Hydrologic<sup>®</sup> 2-Zone Digital Water Timer
- ◆ Throttle Master ™ Plastic Needle Valve
- Blue-White F-400N Variable Area Rotameter
- 0-60 psi Pressure Gage
- DigiFlow Meter 8000T
- POU Treatment Unit A: Multipure SB880
- POU Treatment Unit B: Isolux
- Hayward PBV Series Backpressure valve

Copies of the datasheets and specifications for all the equipment are included in Appendix B. Figure 3-2 contains a picture of the pilot test skid.



Figure 3-2 – Pilot Skid



## 3.2. Testing Protocol

The following protocols were followed during pilot test:

- The pilot test was operated for a period of six months.
- The pilot test was conducted under intermittent flow to simulate expected flow conditions.
- The flow rate for each unit was between 0.5 gpm and 0.7 gpm.

### 3.3. Testing Schedule and Duration

The pilot test began in June 2018 and continued for six consecutive months. During the pilot test weekly samples were collected to monitor the performance of the units being tested.

## 3.4. Treated Water Disposal

Treated water was disposed on-site. A 20 ft - 1" perforated PVC pipe covered with gravel and allowed to seep in the ground.

## 3.5. Sampling Protocol

During the duration of the pilot test data, AM consulting Engineers conducted weekly visits to the site to assess the performance of the unit. During each visit the following information was collected:

Parameter	Frequency	Test Method
Flow Totalizer for each unit	Weekly	Read
Raw Water pH	Weekly	Field Tester
Treated Water pH (at each unit)	Weekly	Field Tester
Raw Water Temperature	Weekly	Field Tester
Treated Water Temperature	Weekly	Field Tester
Differential pressure (at each POU unit)	Weekly	Read
Raw Water As Conc.	Weekly	Field test
Treated Water As Conc. (at each POU unit)	Weekly	Field Test
Raw Water As Conc.	Bi-Weekly	Lab
Treated Water As Conc. (at each unit)	Weekly	Lab
Raw Water Chlorine Residual	Weekly	Field Test
Treated Water Chlorine Residual (at each unit)	Weekly	Field Test
Heterotrophic Plate Count (HPC)	Every 4 weeks	Lab
Bacteriological	Every 4 weeks	Lab

 Table 3-1 Monitoring Parameters and Frequency

Copies of the field sheets used during the test are included in the Appendix C. pH and Temperature were measured using a field tester. Total chlorine residual was measured using a Hach Pocket Colorimeter II. Arsenic field test will be conducted using Hach low range test kits. Copies of the laboratory results are included in Appendix D.

# SECTION 4 - ANALYSIS OF RESULTS, FINDINGS AND CONCLUSIONS

## 4.1. Analysis of Results

From June 2018 through January 2019 weekly samples were collected from the pilot units in accordance with the monitoring schedule in Table 3-1. Minor adjustments were made every week to adjust flow and ensure even distribution of flow among both units. The following paragraphs are an analysis of the data collected during the pilot test:

### 4.1.1. Flow Readings

Flows were adjusted weekly based on the reading collected from the previous week. Adjustments were made to maintain a flow rate through the unit between 0.5 gpm and 0.7 gpm. Flow adjustments were made by opening/closing throttling valves and/or increasing the cycle time. Figures 4-1 and 4-2 contain a chart with the weekly flow totalizer readings for each unit and the cumulative flow. At the end of the plot study, Unit A: Multipure treated a total of 4,940 gallons and Unit B: Isolux treated a total of 4,2360 gallons.

Flow meter totalizer readings are included in the field sheet in Appendix C. Tables 4-1 and 4-2 provide the total daily flow treated by Unit A – Multipure and Unit B - Isolux respectively and the flow in gallons per minute based on the number of cycle length setting in the timer. The cycle length was increased progressively to observe performance with higher daily volumes.

Week	Date	Days	Total Flow (gal)	Daily Flow (gal)	Minutes (every 2 hours)	Total mins	Flow (gpm)
2	7/8/2018	9	47	5.22	2	24	0.22
3	7/13/2018	5	69	13.80	2	24	0.58
4	7/20/2018	7	114	16.29	2	24	0.68
5	7/27/2018	7	75	10.71	2	24	0.45
6	8/3/2018	7	75	10.71	2	24	0.45
7	8/10/2018	7	120	17.14	2	24	0.71
8	8/17/2018	7	100	14.29	2	24	0.60
9	8/24/2018	7	101	14.43	2	24	0.60
10	8/31/2018	7	220	31.43	3	36	0.87
11	9/10/2018	10	206	20.60	3	36	0.57
12	9/17/2018	7	170	24.29	3	36	0.67
13	9/24/2018	7	166	23.71	3	36	0.66
14	10/1/2018	7	161	23.00	3	36	0.64
15	10/10/2018	9	206	22.89	3	36	0.64
16	10/15/2018	5	122	24.40	3	36	0.68

Table 4-1 Unit A – Multipure Weekly Flow Summary





Week	Date	Days	Total Flow (gal)	Daily Flow (gal)	Minutes (every 2 hours)	Total mins	Flow (gpm)
17	10/24/2018	9	181	20.11	3	36	0.56
18	10/29/2018	5	113	22.60	3	36	0.63
19	11/7/2018	9	199	22.11	22.11 3		0.61
20	11/14/2018	7	243	34.71	4	48	0.72
21	11/28/2018	14	312	22.29	4	48	0.46
22	12/5/2018	7	213	30.43	4	48	0.63
23	12/12/2018	7	296	42.29	5	60	0.70
24	12/19/2018	7	288	41.14	5	60	0.69
25	1/2/2019	14	532	38.00	5	60	0.63
26	1/14/2019	12	611	50.92	6	72	0.71
20	11/14/2018	7	243	34.71	4	48	0.72
21	11/28/2018	14	312	22.29	4	48	0.46
22	12/5/2018	7	213	30.43	4	48	0.63
23	12/12/2018	7	296	42.29	5	60	0.70
24	12/19/2018	7	288	41.14	5	60	0.69
25	1/2/2019	14	532	38.00	5	60	0.63

Table 4-1 Unit A – Multipure Weekly Flow Summary

Table 4-2 Unit B – Isolux Weekly Flow Summary

Week	Date	Days	Total Flow (gal)	Daily Flow (gal)	Minutes (every 2 hours)	Total mins	Flow (gpm)
2	7/8/2018	9	47	5.22	2	24	0.22
3	7/13/2018	5	70	14.00	2	24	0.58
4	7/20/2018	7	110	15.71	2	24	0.65
5	7/27/2018	7	80	11.43	2	24	0.48
6	8/3/2018	7	78	11.14	2	24	0.46
7	8/10/2018	7	125	17.86	2	24	0.74
8	8/17/2018	7	100	14.29	2	24	0.60
9	8/24/2018	7	113	16.14	2	24	0.67
10	8/31/2018	7	211	30.14	3	36	0.84
11	9/10/2018	10	239	23.90	3	36	0.66
12	9/17/2018	7	145	20.71	3	36	0.58
13	9/24/2018	7	147	21.00	3	36	0.58
14	10/1/2018	7	143	20.43	3	36	0.57

Week	Date	Days	Total Flow (gal)	Daily Flow (gal)	Minutes (every 2 hours)	Total mins	Flow (gpm)
15	10/10/2018	9	183	20.33	3	36	0.56
16	10/15/2018	5	109	21.80 3		36	0.61
17	10/24/2018	9	159	17.67	17.67 3		0.49
18	10/29/2018	5	98	19.60	3	36	0.54
19	11/7/2018	9	170	18.89	3	36	0.52
20	11/14/2018	7	190	27.14	4	48	0.57
21	11/28/2018	14	353	25.21	4	48	0.53
22	12/5/2018	7	130	18.57	4	48	0.39
23	12/12/2018	7	219	31.29	5	60	0.52
24	12/19/2018	7	223	31.86	5	60	0.53
25	1/2/2019	14	359	25.64	5	60	0.43
26	1/14/2019	12	459	38.25	6	72	0.53

Table 4-2 Unit B – Isolux Weekly Flow Summary

#### 4.1.2. pH, Temperature and Conductivity

Weekly pH, temperature and conductivity measurements were made using a Hack Pocket Pro<sup>+</sup> Multi 2 tester. The tester screen failed, and field readings were not collected during weeks 12 and 13. Figures 4-3, and 4-4 show the pH and conductivity readings of the raw water, effluent from Unit A – Multipure and effluent from Unit B - Isolux.

It appears that both Unit A - Multipure and Unit B - Isolux slightly reduced the pH of the water. Regarding conductivity, both units provided a light reduction in the first 10 weeks of the test and there after it appears that they had no effect on conductivity. This is likely caused by the exhaustion of the absorption capacity of the media to dissolved minerals in the water.

#### 4.1.3. Chlorine Residual

Chlorine residual was measured weekly at the raw water and at the effluent of each unit being tested. Figure 4-5 shows the free chlorine residual readings before and after the units. Both units provided a reduction in free chlorine with Unit A -Multipure showing an average reduction of 82 percent and Unit B – Isolux showing and average reduction of 54 percent.

#### 4.1.4. Bacteriological Testing

Bacteriological testing was conducted approximately every 4 weeks. Bacteriological testing included presence/absence of coliform bacteria and Heterotrophic Plate Counts (HPC). Table 4-2 contain the results of the bacteriological sampling. Coliform bacteria were absent in all the samples collected in the pilot study report. HPC counts were abnormally high in a sample collected from Unit B – Isolux on August 24, 2018. Samples were repeated in August 31, 2018 and the HPC counts were still high. Without any external







changes, the HPC counts return to normal values (<500 CFU/ml) by September 24, 2018. In general, Unit B shows higher HPC counts than Unit A.

		Raw W	/ater	Unit	A - Multipu	re	Ur	nit B - Isolux	
Week	Date	Coliform	E Coli	Coliform	E Coli	HPC	Coliform	E Coli	HPC
1	6/29/2018	Absent	Absent	Absent	Absent	2	Absent	Absent	91
5	7/27/2018	Absent	Absent	Absent	Absent	31	Absent	Absent	240
9	8/24/2018	Absent	Absent	Absent	Absent	370	Absent	Absent	-
10	8/31/2018	-	-	-	-	-	Absent	Absent	5300
11	9/10/2018	Absent	Absent	Absent	Absent		Absent	Absent	
13	9/24/2018	-	-	-	-	260	-	-	370
15	10/10/2018	Absent	Absent	Absent	Absent		Absent	Absent	
19	11/7/2018	-	-	Absent	Absent	99	Absent	Absent	420
20	11/14/2018	Absent	Absent	-	-	-	-	-	-
24	12/19/2018	Absent	Absent	Absent	Absent	<1	Absent	Absent	140

Table 4-3 Bacteriological Sampling Results

#### 4.1.5. Arsenic Concentrations

Arsenic concentrations in the raw water and effluent of each unit were tested weekly. Laboratory analysis of the samples were conducted weekly for each of the units and biweekly for the raw water. Arsenic concentrations in the raw water remained stable through the pilot study period. Arsenic concentration in the effluent of Unit A – Multipure was below detection levels through the entire pilot study period. Arsenic concentration in the effluent of Unit B – Isolux was below detection levels through week 20 and then increased progressively through week 26. Figure 4-6 contain a graph with the weekly arsenic readings.

## 4.2. Findings

The following are findings of this pilot study:

- 1. Both Unit A Multipure and Unit B Isolux can reduce arsenic concentrations in the well water to less than 10<ug/l.
- 2. Unit A Multipure demonstrated a longer media life than Unit B Isolux. Unit A Multipure treated 4,940 gallons and arsenic concentrations in the effluent were still below detection levels. Unit B Isolux treated approximately 2,870 gallons before arsenic breakthrough occurred and approximately 3,442 gallons before arsenic concentrations reached the MCL. The actual media life of Unit A Multipure was not determined because the pilot test was discontinued before breakthrough was observed.
- 3. Both Unit A Multipure and Unit B Isolux slightly reduced the pH and conductivity in the water. The conductivity reduction was less apparent after week 10 of the pilot study
- 4. Both Unit A Multipure and Unit B Isolux reduced free chlorine concentrations in the water.



## 4.3. Conclusions

Based on the findings of this pilot test, it appears that Unit A – Multipure outperformed Unit B – Isolux in terms of arsenic removal. Unit A – Multipure did not breakthrough during the pilot study even at the higher daily flows that it was subject to during the last weeks of the study. Therefore, Unit A – Multipure would be recommended for the William Fisher system if a POU solution is implemented.

Appendix A Historical Water Quality Results

Storet Number	Group/Constituent Identification	Sampling Date	XMOD	Result	MCL	DLR	Trigger	Unit
00010	SOURCE TEMPERATURE C	2008-01-08		20.0000	0.000	0.000	0.000	С
00010	SOURCE TEMPERATURE C	2009-07-07		20.0000	0.000	0.000	0.000	С
00010	SOURCE TEMPERATURE C	2012-08-14		20.0000	0.000	0.000	0.000	С
00010	SOURCE TEMPERATURE C	2015-07-21		20	0.000	0.000	0.000	С
00081	COLOR	2008-01-08	<	.0000	15.000	0.000	15.000	UNITS
00081	COLOR	2009-07-07	<	.0000	15.000	0.000	15.000	UNITS
00081	COLOR	2012-08-14	<	.0000	15.000	0.000	15.000	UNITS
00081	COLOR	2015-07-21	<	0000000000	15.000	0.000	15.000	UNITS
00086	ODOR THRESHOLD @ 60 C	2008-01-08		1.0000	3.000	1.000	3.000	TON
00086	ODOR THRESHOLD @ 60 C	2009-07-07		1.0000	3.000	1.000	3.000	TON
00086	ODOR THRESHOLD @ 60 C	2012-08-14		1.0000	3.000	1.000	3.000	TON
00086	ODOR THRESHOLD @ 60 C	2015-07-21		1	3.000	1.000	3.000	TON
00095	SPECIFIC CONDUCTANCE	2008-01-08		390.0000	1600.000	0.000	900.000	US
00095	SPECIFIC CONDUCTANCE	2009-07-07		410.0000	1600.000	0.000	900.000	US
00095	SPECIFIC CONDUCTANCE	2012-08-14		410.0000	1600.000	0.000	900.000	US
00095	SPECIFIC CONDUCTANCE	2015-07-21		400	1600.000	0.000	900.000	US
00403	PH, LABORATORY	2008-01-08		7.5000	0.000	0.000	0.000	
00403	PH, LABORATORY	2009-07-07		8.3000	0.000	0.000	0.000	
00403	PH, LABORATORY	2012-08-14		7.3000	0.000	0.000	0.000	
00403	PH, LABORATORY	2015-07-21		7.9	0.000	0.000	0.000	
00410	ALKALINITY (TOTAL) AS CACO3	2008-01-08		110.0000	0.000	0.000	0.000	MG/L
00410	ALKALINITY (TOTAL) AS CACO3	2009-07-07		110.0000	0.000	0.000	0.000	MG/L
00410	ALKALINITY (TOTAL) AS CACO3	2012-08-14		110.0000	0.000	0.000	0.000	MG/L
00410	ALKALINITY (TOTAL) AS CACO3	2015-07-21		110	0.000	0.000	0.000	MG/L
00440	BICARBONATE ALKALINITY	2008-01-08		140.0000	0.000	0.000	0.000	MG/L
00440	BICARBONATE ALKALINITY	2009-07-07		140.0000	0.000	0.000	0.000	MG/L
00440	BICARBONATE ALKALINITY	2012-08-14		130.0000	0.000	0.000	0.000	MG/L
00440	BICARBONATE ALKALINITY	2015-07-21		130	0.000	0.000	0.000	MG/L
00445	CARBONATE ALKALINITY	2008-01-08	<	.0000	0.000	0.000	0.000	MG/L
00445	CARBONATE ALKALINITY	2009-07-07	<	.0000	0.000	0.000	0.000	MG/L
00445	CARBONATE ALKALINITY	2012-08-14	<	.0000	0.000	0.000	0.000	MG/L
00445	CARBONATE ALKALINITY	2015-07-21	<	0000000000	0.000	0.000	0.000	MG/L
00618	NITRATE (AS N)	2016-08-16		0.85	10.000	0.400	5.000	mg/L
00618	NITRATE (AS N)	2017-09-07		0.90	10.000	0.400	5.000	mg/L
00620	NITRITE (AS N)	2008-01-08	<	.0000	1000.000	400.000	500.000	UG/L
Search	Search	Search	Search	Search	Search	Sear	Search	Sea

Storet Number	Group/Constituent Identification	Sampling Date	XMOD	Result	MCL	DLR	Trigger	Unit
00620	NITRITE (AS N)	2009-07-07	<	.0000	1000.000	400.000	500.000	UG/L
00620	NITRITE (AS N)	2012-08-14	<	.0000	1000.000	400.000	500.000	UG/L
00620	NITRITE (AS N)	2015-07-21	<	0000000000	1000.000	400.000	500.000	UG/L
00900	HARDNESS (TOTAL) AS CACO3	2008-01-08		110.0000	0.000	0.000	0.000	MG/L
00900	HARDNESS (TOTAL) AS CACO3	2009-07-07		100.0000	0.000	0.000	0.000	MG/L
00900	HARDNESS (TOTAL) AS CACO3	2012-08-14		88.0000	0.000	0.000	0.000	MG/L
00900	HARDNESS (TOTAL) AS CACO3	2015-07-21		100	0.000	0.000	0.000	MG/L
00916	CALCIUM	2008-01-08		38.0000	0.000	0.000	0.000	MG/L
00916	CALCIUM	2009-07-07		33.0000	0.000	0.000	0.000	MG/L
00916	CALCIUM	2012-08-14		27.0000	0.000	0.000	0.000	MG/L
00916	CALCIUM	2015-07-21		33	0.000	0.000	0.000	MG/L
00927	MAGNESIUM	2008-01-08		5.1000	0.000	0.000	0.000	MG/L
00927	MAGNESIUM	2009-07-07		5.1000	0.000	0.000	0.000	MG/L
00927	MAGNESIUM	2012-08-14		4.9000	0.000	0.000	0.000	MG/L
00927	MAGNESIUM	2015-07-21		5.2	0.000	0.000	0.000	MG/L
00929	SODIUM	2008-01-08		42.0000	0.000	0.000	0.000	MG/L
00929	SODIUM	2009-07-07		48.0000	0.000	0.000	0.000	MG/L
00929	SODIUM	2012-08-14		50.0000	0.000	0.000	0.000	MG/L
00929	SODIUM	2015-07-21		44	0.000	0.000	0.000	MG/L
00937	POTASSIUM	2008-01-08		1.8000	0.000	0.000	0.000	MG/L
00937	POTASSIUM	2009-07-07		2.0000	0.000	0.000	0.000	MG/L
00937	POTASSIUM	2012-08-14		1.6000	0.000	0.000	0.000	MG/L
00937	POTASSIUM	2015-07-21		1.9	0.000	0.000	0.000	MG/L
00940	CHLORIDE	2008-01-08		13.0000	500.000	0.000	250.000	MG/L
00940	CHLORIDE	2009-07-07		15.0000	500.000	0.000	250.000	MG/L
00940	CHLORIDE	2012-08-14		16.0000	500.000	0.000	250.000	MG/L
00940	CHLORIDE	2015-07-21		13	500.000	0.000	250.000	MG/L
00945	SULFATE	2008-01-08		66.0000	500.000	0.500	250.000	MG/L
00945	SULFATE	2009-07-07		63.0000	500.000	0.500	250.000	MG/L
00945	SULFATE	2012-08-14		73.0000	500.000	0.500	250.000	MG/L
00945	SULFATE	2015-07-21		66	500.000	0.500	250.000	MG/L
00951	FLUORIDE (F) (NATURAL-SOURCE)	2008-01-08		.1500	2.000	0.100	2.000	MG/L
00951	FLUORIDE (F) (NATURAL-SOURCE)	2009-07-07		.1800	2.000	0.100	2.000	MG/L
00951	FLUORIDE (F) (NATURAL-SOURCE)	2012-08-14		.1800	2.000	0.100	2.000	MG/L
00951	FLUORIDE (F) (NATURAL-SOURCE)	2015-07-21		0.17	2.000	0.100	2.000	MG/L
01002	ARSENIC	2008-01-08		16.0000	10.000	2.000	5.000	UG/L
Search	Search	Search	Search	Search	Search	Sear	Search	Sea

Storet Number	Group/Constituent Identification	Sampling Date	XMOD	Result	MCL	DLR	Trigger	Unit
01002	ARSENIC	2008-02-12		18.0000	10.000	2.000	5.000	UG/L
01002	ARSENIC	2008-05-06		8.8000	10.000	2.000	5.000	UG/L
01002	ARSENIC	2008-08-05		18.0000	10.000	2.000	5.000	UG/L
01002	ARSENIC	2008-12-16		16.0000	10.000	2.000	5.000	UG/L
01002	ARSENIC	2009-02-17		15.0000	10.000	2.000	5.000	UG/L
01002	ARSENIC	2009-05-05		15.0000	10.000	2.000	5.000	UG/L
01002	ARSENIC	2009-06-09		17.0000	10.000	2.000	5.000	UG/L
01002	ARSENIC	2009-07-07		18.0000	10.000	2.000	5.000	UG/L
01002	ARSENIC	2009-08-18		18.0000	10.000	2.000	5.000	UG/L
01002	ARSENIC	2009-11-03		17.0000	10.000	2.000	5.000	UG/L
01002	ARSENIC	2010-02-09		14.0000	10.000	2.000	5.000	UG/L
01002	ARSENIC	2010-06-01		20.0000	10.000	2.000	5.000	UG/L
01002	ARSENIC	2010-08-24		19.0000	10.000	2.000	5.000	UG/L
01002	ARSENIC	2010-11-09		18.0000	10.000	2.000	5.000	UG/L
01002	ARSENIC	2011-02-15		13.0000	10.000	2.000	5.000	UG/L
01002	ARSENIC	2011-06-14		18.0000	10.000	2.000	5.000	UG/L
01002	ARSENIC	2011-08-16		18.0000	10.000	2.000	5.000	UG/L
01002	ARSENIC	2011-11-08		18.0000	10.000	2.000	5.000	UG/L
01002	ARSENIC	2012-02-14		19.0000	10.000	2.000	5.000	UG/L
01002	ARSENIC	2012-05-29		18.0000	10.000	2.000	5.000	UG/L
01002	ARSENIC	2012-08-07		19.0000	10.000	2.000	5.000	UG/L
01002	ARSENIC	2012-08-14		18.0000	10.000	2.000	5.000	UG/L
01002	ARSENIC	2012-11-13		18.0000	10.000	2.000	5.000	UG/L
01002	ARSENIC	2013-02-19		18.0000	10.000	2.000	5.000	UG/L
01002	ARSENIC	2013-05-14		19.0000	10.000	2.000	5.000	UG/L
01002	ARSENIC	2013-08-13		19.0000	10.000	2.000	5.000	UG/L
01002	ARSENIC	2013-11-12		19.0000	10.000	2.000	5.000	UG/L
01002	ARSENIC	2014-02-18		18.0000	10.000	2.000	5.000	UG/L
01002	ARSENIC	2014-05-06		19.0000	10.000	2.000	5.000	UG/L
01002	ARSENIC	2014-08-19		21.0000	10.000	2.000	5.000	UG/L
01002	ARSENIC	2014-11-18		17.0000	10.000	2.000	5.000	UG/L
01002	ARSENIC	2015-02-17		18.0000	10.000	2.000	5.000	UG/L
01002	ARSENIC	2015-05-19		21.0000	10.000	2.000	5.000	UG/L
01002	ARSENIC	2015-07-21		19	10.000	2.000	5.000	UG/L
01002	ARSENIC	2015-08-25		20	10.000	2.000	5.000	UG/L
Search	Search	Search	Search	Search	Search	Sear	Search	Sea

Storet Number	Group/Constituent Identification	Sampling Date	XMOD	Result	MCL	DLR	Trigger	Unit
01002	ARSENIC	2015-11-17		18	10.000	2.000	5.000	UG/L
01002	ARSENIC	2016-03-15		19	10.000	2.000	5.000	UG/L
01002	ARSENIC	2016-06-07		31	10.000	2.000	5.000	UG/L
01002	ARSENIC	2016-06-28		24	10.000	2.000	5.000	UG/L
01002	ARSENIC	2016-09-06		26	10.000	2.000	5.000	UG/L
01002	ARSENIC	2016-11-29		14	10.000	2.000	5.000	UG/L
01002	ARSENIC	2017-02-28		17	10.000	2.000	5.000	UG/L
01002	ARSENIC	2017-04-03		18	10.000	2.000	5.000	UG/L
01002	ARSENIC	2017-09-07		23	10.000	2.000	5.000	UG/L
01002	ARSENIC	2017-10-03		22	10.000	2.000	5.000	UG/L
01002	ARSENIC	2018-01-10		20	10.000	2.000	5.000	UG/L
01007	BARIUM	2008-01-08	<	.0000	1000.000	100.000	1000.000	UG/L
01007	BARIUM	2009-07-07	<	.0000	1000.000	100.000	1000.000	UG/L
01007	BARIUM	2012-08-14	<	.0000	1000.000	100.000	1000.000	UG/L
01007	BARIUM	2015-07-21	<	0000000000	1000.000	100.000	1000.000	UG/L
01012	BERYLLIUM	2008-01-08	<	.0000	4.000	1.000	4.000	UG/L
01012	BERYLLIUM	2009-07-07	<	.0000	4.000	1.000	4.000	UG/L
01012	BERYLLIUM	2012-08-14	<	.0000	4.000	1.000	4.000	UG/L
01012	BERYLLIUM	2015-07-21	<	0000000000	4.000	1.000	4.000	UG/L
01020	BORON	2008-01-08	<	.0000	0.000	100.000	1000.000	UG/L
01020	BORON	2009-07-07		110.0000	0.000	100.000	1000.000	UG/L
01020	BORON	2012-08-14	<	.0000	0.000	100.000	1000.000	UG/L
01020	BORON	2015-07-21		130	0.000	100.000	1000.000	UG/L
01027	CADMIUM	2008-01-08	<	.0000	5.000	1.000	5.000	UG/L
01027	CADMIUM	2009-07-07	<	.0000	5.000	1.000	5.000	UG/L
01027	CADMIUM	2012-08-14	<	.0000	5.000	1.000	5.000	UG/L
01027	CADMIUM	2015-07-21	<	0000000000	5.000	1.000	5.000	UG/L
01032	CHROMIUM, HEXAVALENT	2013-05-14		8.1000	0.000	0.000	0.000	UG/L
01032	CHROMIUM, HEXAVALENT	2015-07-21		7.5	10.000	1.000	10.000	UG/L
01032	CHROMIUM, HEXAVALENT	2015-08-25		7.7	10.000	1.000	10.000	UG/L
01032	CHROMIUM, HEXAVALENT	2015-12-15		8.1	10.000	1.000	10.000	UG/L
01032	CHROMIUM, HEXAVALENT	2016-03-15		8.4	10.000	1.000	10.000	UG/L
01032	CHROMIUM, HEXAVALENT	2016-06-07		7.5	10.000	1.000	10.000	UG/L
01032	CHROMIUM, HEXAVALENT	2016-09-06		7.8	10.000	1.000	10.000	UG/L
01032	CHROMIUM, HEXAVALENT	2016-11-29		3.1	10.000	1.000	10.000	UG/L
01032	CHROMIUM, HEXAVALENT	2017-02-28		8.2	10.000	1.000	10.000	UG/L
Search	Search	Search	Search	Search	Search	Sear	Search	Sea

Storet Number	Group/Constituent Identification	Sampling Date	XMOD	Result	MCL	DLR	Trigger	Unit
01034	CHROMIUM (TOTAL)	2008-01-08	<	.0000	50.000	10.000	50.000	UG/L
01034	CHROMIUM (TOTAL)	2009-07-07	<	.0000	50.000	10.000	50.000	UG/L
01034	CHROMIUM (TOTAL)	2012-08-14	<	.0000	50.000	10.000	50.000	UG/L
01034	CHROMIUM (TOTAL)	2015-07-21	<	0000000000	50.000	10.000	50.000	UG/L
01034	CHROMIUM (TOTAL)	2015-11-17	<	0000000000	50.000	10.000	50.000	UG/L
01042	COPPER	2008-01-08	<	.0000	1000.000	50.000	1000.000	UG/L
01042	COPPER	2009-07-07	<	.0000	1000.000	50.000	1000.000	UG/L
01042	COPPER	2012-08-14	<	.0000	1000.000	50.000	1000.000	UG/L
01042	COPPER	2015-07-21	<	0000000000	1000.000	50.000	1000.000	UG/L
01045	IRON	2008-01-08	<	.0000	300.000	100.000	300.000	UG/L
01045	IRON	2009-07-07	<	.0000	300.000	100.000	300.000	UG/L
01045	IRON	2012-08-14	<	.0000	300.000	100.000	300.000	UG/L
01045	IRON	2015-07-21	<	0000000000	300.000	100.000	300.000	UG/L
01051	LEAD	2008-01-08	<	.0000	0.000	5.000	15.000	UG/L
01051	LEAD	2009-07-07	<	.0000	0.000	5.000	15.000	UG/L
01051	LEAD	2012-08-14	<	.0000	0.000	5.000	15.000	UG/L
01051	LEAD	2015-07-21	<	0000000000	0.000	5.000	15.000	UG/L
01055	MANGANESE	2008-01-08	<	.0000	50.000	20.000	50.000	UG/L
01055	MANGANESE	2009-07-07	<	.0000	50.000	20.000	50.000	UG/L
01055	MANGANESE	2012-08-14	<	.0000	50.000	20.000	50.000	UG/L
01055	MANGANESE	2015-07-21	<	0000000000	50.000	20.000	50.000	UG/L
01059	THALLIUM	2008-01-08	<	.0000	2.000	1.000	2.000	UG/L
01059	THALLIUM	2009-07-07	<	.0000	2.000	1.000	2.000	UG/L
01059	THALLIUM	2012-08-14	<	.0000	2.000	1.000	2.000	UG/L
01059	THALLIUM	2015-07-21	<	0000000000	2.000	1.000	2.000	UG/L
01067	NICKEL	2008-01-08	<	.0000	100.000	10.000	100.000	UG/L
01067	NICKEL	2009-07-07	<	.0000	100.000	10.000	100.000	UG/L
01067	NICKEL	2012-08-14	<	.0000	100.000	10.000	100.000	UG/L
01067	NICKEL	2015-07-21	<	0000000000	100.000	10.000	100.000	UG/L
01077	SILVER	2008-01-08	<	.0000	100.000	10.000	100.000	UG/L
01077	SILVER	2009-07-07	<	.0000	100.000	10.000	100.000	UG/L
01077	SILVER	2012-08-14	<	.0000	100.000	10.000	100.000	UG/L
01077	SILVER	2015-07-21	<	0000000000	100.000	10.000	100.000	UG/L
01087	VANADIUM	2008-01-08		16.0000	0.000	3.000	50.000	UG/L
01087	VANADIUM	2009-07-07		22.0000	0.000	3.000	50.000	UG/L
Search	Search	Search	Search	Search	Search	Sear	Search	Sea

Storet Number	Group/Constituent Identification	Sampling Date	XMOD	Result	MCL	DLR	Trigger	Unit
01087	VANADIUM	2012-08-14		18.0000	0.000	3.000	50.000	UG/L
01087	VANADIUM	2015-07-21		19	0.000	3.000	50.000	UG/L
01092	ZINC	2008-01-08	<	.0000	5000.000	50.000	5000.000	UG/L
01092	ZINC	2009-07-07	<	.0000	5000.000	50.000	5000.000	UG/L
01092	ZINC	2012-08-14	<	.0000	5000.000	50.000	5000.000	UG/L
01092	ZINC	2015-07-21	<	0000000000	5000.000	50.000	5000.000	UG/L
01097	ANTIMONY	2008-01-08	<	.0000	6.000	6.000	6.000	UG/L
01097	ANTIMONY	2009-07-07	<	.0000	6.000	6.000	6.000	UG/L
01097	ANTIMONY	2012-08-14	<	.0000	6.000	6.000	6.000	UG/L
01097	ANTIMONY	2015-07-21	<	0000000000	6.000	6.000	6.000	UG/L
01105	ALUMINUM	2008-01-08	<	.0000	1000.000	50.000	200.000	UG/L
01105	ALUMINUM	2009-07-07	<	.0000	1000.000	50.000	200.000	UG/L
01105	ALUMINUM	2012-08-14	<	.0000	1000.000	50.000	200.000	UG/L
01105	ALUMINUM	2015-07-21	<	0000000000	1000.000	50.000	200.000	UG/L
01147	SELENIUM	2008-01-08	<	.0000	50.000	5.000	50.000	UG/L
01147	SELENIUM	2009-07-07	<	.0000	50.000	5.000	50.000	UG/L
01147	SELENIUM	2012-08-14	<	.0000	50.000	5.000	50.000	UG/L
01147	SELENIUM	2015-07-21	<	0000000000	50.000	5.000	50.000	UG/L
01291	CYANIDE	2008-01-08	<	.0000	150.000	100.000	150.000	UG/L
01291	CYANIDE	2009-07-07	<	.0000	150.000	100.000	150.000	UG/L
01291	CYANIDE	2012-08-14	<	.0000	150.000	100.000	150.000	UG/L
01291	CYANIDE	2015-07-21	<	0000000000	150.000	100.000	150.000	UG/L
01501	GROSS ALPHA	2008-02-12	<	.0000	15.000	3.000	5.000	PCI/L
01501	GROSS ALPHA	2008-04-15	<	.0000	15.000	3.000	5.000	PCI/L
01501	GROSS ALPHA	2008-09-16	<	.0000	15.000	3.000	5.000	PCI/L
01501	GROSS ALPHA	2009-07-07	<	.0000	15.000	3.000	5.000	PCI/L
01501	GROSS ALPHA	2012-08-14	<	.0000	15.000	3.000	5.000	PCI/L
01501	GROSS ALPHA	2015-07-21		6.6	15.000	3.000	5.000	PCI/L
01502	GROSS ALPHA COUNTING ERROR	2008-02-12		.9300	0.000	0.000	0.000	PCI/L
01502	GROSS ALPHA COUNTING ERROR	2008-04-15		.8700	0.000	0.000	0.000	PCI/L
01502	GROSS ALPHA COUNTING ERROR	2008-09-16		.9900	0.000	0.000	0.000	PCI/L
01502	GROSS ALPHA COUNTING ERROR	2009-07-07		.9400	0.000	0.000	0.000	PCI/L
01502	GROSS ALPHA COUNTING ERROR	2012-08-14		1.0000	0.000	0.000	0.000	PCI/L
01502	GROSS ALPHA COUNTING ERROR	2015-07-21		1.5	0.000	0.000	0.000	PCI/L
11501	RADIUM 228	2008-02-12		.2490	0.000	1.000	0.000	PCI/L
11501	RADIUM 228	2008-04-15	<	.0000	0.000	1.000	0.000	PCI/L
Search	Search	Search	Search	Search	Search	Sear	Search	Sea

Storet Number	Group/Constituent Identification	Sampling Date	XMOD	Result	MCL	DLR	Trigger	Unit
11501	RADIUM 228	2008-09-16		.5120	0.000	1.000	0.000	PCI/L
11502	RADIUM 228 COUNTING ERROR	2008-02-12		.5770	0.000	0.000	0.000	PCI/L
11502	RADIUM 228 COUNTING ERROR	2008-04-15		.5260	0.000	0.000	0.000	PCI/L
11502	RADIUM 228 COUNTING ERROR	2008-09-16		.8470	0.000	0.000	0.000	PCI/L
32101	BROMODICHLOROMETHANE (THM)	2008-04-15	<	.0000	80.000	1.000	80.000	UG/L
32101	BROMODICHLOROMETHANE (THM)	2008-06-17	<	.0000	80.000	1.000	80.000	UG/L
32101	BROMODICHLOROMETHANE (THM)	2009-07-07	<	.0000	80.000	1.000	80.000	UG/L
32101	BROMODICHLOROMETHANE (THM)	2012-08-14	<	.0000	80.000	1.000	80.000	UG/L
32101	BROMODICHLOROMETHANE (THM)	2015-07-21	<	0000000000	0.000	1.000	0.000	UG/L
32102	CARBON TETRACHLORIDE	2008-04-15	<	.0000	0.500	0.500	0.500	UG/L
32102	CARBON TETRACHLORIDE	2008-06-17	<	.0000	0.500	0.500	0.500	UG/L
32102	CARBON TETRACHLORIDE	2009-07-07	<	.0000	0.500	0.500	0.500	UG/L
32102	CARBON TETRACHLORIDE	2012-08-14	<	.0000	0.500	0.500	0.500	UG/L
32102	CARBON TETRACHLORIDE	2015-07-21	<	0000000000	0.500	0.500	0.500	UG/L
32104	BROMOFORM (THM)	2008-04-15	<	.0000	80.000	1.000	80.000	UG/L
32104	BROMOFORM (THM)	2008-06-17	<	.0000	80.000	1.000	80.000	UG/L
32104	BROMOFORM (THM)	2009-07-07	<	.0000	80.000	1.000	80.000	UG/L
32104	BROMOFORM (THM)	2012-08-14	<	.0000	80.000	1.000	80.000	UG/L
32104	BROMOFORM (THM)	2015-07-21	<	0000000000	0.000	1.000	0.000	UG/L
32105	DIBROMOCHLOROMETHANE (THM)	2008-04-15	<	.0000	80.000	1.000	80.000	UG/L
32105	DIBROMOCHLOROMETHANE (THM)	2008-06-17	<	.0000	80.000	1.000	80.000	UG/L
32105	DIBROMOCHLOROMETHANE (THM)	2009-07-07	<	.0000	80.000	1.000	80.000	UG/L
32105	DIBROMOCHLOROMETHANE (THM)	2012-08-14	<	.0000	80.000	1.000	80.000	UG/L
32105	DIBROMOCHLOROMETHANE (THM)	2015-07-21	<	0000000000	0.000	1.000	0.000	UG/L
32106	CHLOROFORM (THM)	2008-04-15	<	.0000	80.000	1.000	80.000	UG/L
32106	CHLOROFORM (THM)	2008-06-17	<	.0000	80.000	1.000	80.000	UG/L
32106	CHLOROFORM (THM)	2009-07-07	<	.0000	80.000	1.000	80.000	UG/L
32106	CHLOROFORM (THM)	2012-08-14	<	.0000	80.000	1.000	80.000	UG/L
32106	CHLOROFORM (THM)	2015-07-21	<	0000000000	0.000	1.000	0.000	UG/L
34010	TOLUENE	2008-04-15	<	.0000	150.000	0.500	0.500	UG/L
Search	Search	Search	Search	Search	Search	Sear	Search	Sea

Storet Number	Group/Constituent Identification	Sampling Date	XMOD	Result	MCL	DLR	Trigger	Unit
34010	TOLUENE	2008-06-17	<	.0000	150.000	0.500	0.500	UG/L
34010	TOLUENE	2009-07-07	<	.0000	150.000	0.500	0.500	UG/L
34010	TOLUENE	2012-08-14	<	.0000	150.000	0.500	0.500	UG/L
34010	TOLUENE	2015-07-21	<	0000000000	150.000	0.500	0.500	UG/L
34030	BENZENE	2008-04-15	<	.0000	1.000	0.500	0.500	UG/L
34030	BENZENE	2008-06-17	<	.0000	1.000	0.500	0.500	UG/L
34030	BENZENE	2009-07-07	<	.0000	1.000	0.500	0.500	UG/L
34030	BENZENE	2012-08-14	<	.0000	1.000	0.500	0.500	UG/L
34030	BENZENE	2015-07-21	<	0000000000	1.000	0.500	0.500	UG/L
34247	BENZO (A) PYRENE	2008-01-08	<	.1000	0.200	0.100	0.100	UG/L
34247	BENZO (A) PYRENE	2008-04-15	<	.0000	0.200	0.100	0.100	UG/L
34247	BENZO (A) PYRENE	2008-06-17	<	.0000	0.200	0.100	0.100	UG/L
34247	BENZO (A) PYRENE	2009-07-07	<	.0000	0.200	0.100	0.100	UG/L
34247	BENZO (A) PYRENE	2012-08-14	<	.0000	0.200	0.100	0.100	UG/L
34247	BENZO (A) PYRENE	2015-07-21	<	0000000000	0.200	0.100	0.100	UG/L
34301	MONOCHLOROBENZENE	2008-04-15	<	.0000	70.000	0.500	0.500	UG/L
34301	MONOCHLOROBENZENE	2008-06-17	<	.0000	70.000	0.500	0.500	UG/L
34301	MONOCHLOROBENZENE	2009-07-07	<	.0000	70.000	0.500	0.500	UG/L
34301	MONOCHLOROBENZENE	2012-08-14	<	.0000	70.000	0.500	0.500	UG/L
34301	MONOCHLOROBENZENE	2015-07-21	<	0000000000	70.000	0.500	0.500	UG/L
34371	ETHYLBENZENE	2008-04-15	<	.0000	300.000	0.500	0.500	UG/L
34371	ETHYLBENZENE	2008-06-17	<	.0000	300.000	0.500	0.500	UG/L
34371	ETHYLBENZENE	2009-07-07	<	.0000	300.000	0.500	0.500	UG/L
34371	ETHYLBENZENE	2012-08-14	<	.0000	300.000	0.500	0.500	UG/L
34371	ETHYLBENZENE	2015-07-21	<	0000000000	300.000	0.500	0.500	UG/L
34386	HEXACHLOROCYCLOPENTADIENE	2008-01-08	<	.0000	50.000	1.000	1.000	UG/L
34386	HEXACHLOROCYCLOPENTADIENE	2008-04-15	<	.0000	50.000	1.000	1.000	UG/L
34386	HEXACHLOROCYCLOPENTADIENE	2008-06-17	<	.0000	50.000	1.000	1.000	UG/L
34386	HEXACHLOROCYCLOPENTADIENE	2009-07-07	<	.0000	50.000	1.000	1.000	UG/L
34386	HEXACHLOROCYCLOPENTADIENE	2012-08-14	<	.0000	50.000	1.000	1.000	UG/L
34386	HEXACHLOROCYCLOPENTADIENE	2015-07-21	<	0000000000	50.000	1.000	1.000	UG/L
34423	DICHLOROMETHANE	2008-04-15	<	.0000	5.000	0.500	0.500	UG/L
34423	DICHLOROMETHANE	2008-06-17	<	.0000	5.000	0.500	0.500	UG/L
34423	DICHLOROMETHANE	2009-07-07	<	.0000	5.000	0.500	0.500	UG/L
34423	DICHLOROMETHANE	2012-08-14	<	.0000	5.000	0.500	0.500	UG/L
34423	DICHLOROMETHANE	2015-07-21	<	0000000000	5.000	0.500	0.500	UG/L
Search	Search	Search	Search	Search	Search	Sear	Search	Sea

Storet Number	Group/Constituent Identification	Sampling Date	XMOD	Result	MCL	DLR	Trigger	Unit
34475	TETRACHLOROETHYLENE	2008-04-15	<	.0000	5.000	0.500	0.500	UG/L
34475	TETRACHLOROETHYLENE	2008-06-17	<	.0000	5.000	0.500	0.500	UG/L
34475	TETRACHLOROETHYLENE	2009-07-07	<	.0000	5.000	0.500	0.500	UG/L
34475	TETRACHLOROETHYLENE	2012-08-14	<	.0000	5.000	0.500	0.500	UG/L
34475	TETRACHLOROETHYLENE	2015-07-21	<	0000000000	5.000	0.500	0.500	UG/L
34488	TRICHLOROFLUOROMETHANE	2008-04-15	<	.0000	150.000	5.000	5.000	UG/L
34488	TRICHLOROFLUOROMETHANE	2008-06-17	<	.0000	150.000	5.000	5.000	UG/L
34488	TRICHLOROFLUOROMETHANE	2009-07-07	<	.0000	150.000	5.000	5.000	UG/L
34488	TRICHLOROFLUOROMETHANE	2012-08-14	<	.0000	150.000	5.000	5.000	UG/L
34488	TRICHLOROFLUOROMETHANE	2015-07-21	<	0000000000	150.000	5.000	5.000	UG/L
34496	1,1-DICHLOROETHANE	2008-04-15	<	.0000	5.000	0.500	0.500	UG/L
34496	1,1-DICHLOROETHANE	2008-06-17	<	.0000	5.000	0.500	0.500	UG/L
34496	1,1-DICHLOROETHANE	2009-07-07	<	.0000	5.000	0.500	0.500	UG/L
34496	1,1-DICHLOROETHANE	2012-08-14	<	.0000	5.000	0.500	0.500	UG/L
34496	1,1-DICHLOROETHANE	2015-07-21	<	0000000000	5.000	0.500	0.500	UG/L
34501	1,1-DICHLOROETHYLENE	2008-04-15	<	.0000	6.000	0.500	0.500	UG/L
34501	1,1-DICHLOROETHYLENE	2008-06-17	<	.0000	6.000	0.500	0.500	UG/L
34501	1,1-DICHLOROETHYLENE	2009-07-07	<	.0000	6.000	0.500	0.500	UG/L
34501	1,1-DICHLOROETHYLENE	2012-08-14	<	.0000	6.000	0.500	0.500	UG/L
34501	1,1-DICHLOROETHYLENE	2015-07-21	<	0000000000	6.000	0.500	0.500	UG/L
34506	1,1,1-TRICHLOROETHANE	2008-04-15	<	.0000	200.000	0.500	0.500	UG/L
34506	1,1,1-TRICHLOROETHANE	2008-06-17	<	.0000	200.000	0.500	0.500	UG/L
34506	1,1,1-TRICHLOROETHANE	2009-07-07	<	.0000	200.000	0.500	0.500	UG/L
34506	1,1,1-TRICHLOROETHANE	2012-08-14	<	.0000	200.000	0.500	0.500	UG/L
34506	1,1,1-TRICHLOROETHANE	2015-07-21	<	0000000000	200.000	0.500	0.500	UG/L
34511	1,1,2-TRICHLOROETHANE	2008-04-15	<	.0000	5.000	0.500	0.500	UG/L
34511	1,1,2-TRICHLOROETHANE	2008-06-17	<	.0000	5.000	0.500	0.500	UG/L
34511	1,1,2-TRICHLOROETHANE	2009-07-07	<	.0000	5.000	0.500	0.500	UG/L
34511	1,1,2-TRICHLOROETHANE	2012-08-14	<	.0000	5.000	0.500	0.500	UG/L
34511	1,1,2-TRICHLOROETHANE	2015-07-21	<	0000000000	5.000	0.500	0.500	UG/L
34516	1,1,2,2-TETRACHLOROETHANE	2008-04-15	<	.0000	1.000	0.500	0.500	UG/L
34516	1,1,2,2-TETRACHLOROETHANE	2008-06-17	<	.0000	1.000	0.500	0.500	UG/L
34516	1,1,2,2-TETRACHLOROETHANE	2009-07-07	<	.0000	1.000	0.500	0.500	UG/L
34516	1,1,2,2-TETRACHLOROETHANE	2012-08-14	<	.0000	1.000	0.500	0.500	UG/L
34516	1,1,2,2-TETRACHLOROETHANE	2015-07-21	<	0000000000	1.000	0.500	0.500	UG/L
Search	Search	Search	Search	Search	Search	Sear	Search	Sea

Storet Number	Group/Constituent Identification	Sampling Date	XMOD	Result	MCL	DLR	Trigger	Unit
34531	1,2-DICHLOROETHANE	2008-04-15	<	.0000	0.500	0.500	0.500	UG/L
34531	1,2-DICHLOROETHANE	2008-06-17	<	.0000	0.500	0.500	0.500	UG/L
34531	1,2-DICHLOROETHANE	2009-07-07	<	.0000	0.500	0.500	0.500	UG/L
34531	1,2-DICHLOROETHANE	2012-08-14	<	.0000	0.500	0.500	0.500	UG/L
34531	1,2-DICHLOROETHANE	2015-07-21	<	0000000000	0.500	0.500	0.500	UG/L
34536	1,2-DICHLOROBENZENE	2008-04-15	<	.0000	600.000	0.500	0.500	UG/L
34536	1,2-DICHLOROBENZENE	2008-06-17	<	.0000	600.000	0.500	0.500	UG/L
34536	1,2-DICHLOROBENZENE	2009-07-07	<	.0000	600.000	0.500	0.500	UG/L
34536	1,2-DICHLOROBENZENE	2012-08-14	<	.0000	600.000	0.500	0.500	UG/L
34536	1,2-DICHLOROBENZENE	2015-07-21	<	0000000000	600.000	0.500	0.500	UG/L
34541	1,2-DICHLOROPROPANE	2008-04-15	<	.0000	5.000	0.500	0.500	UG/L
34541	1,2-DICHLOROPROPANE	2008-06-17	<	.0000	5.000	0.500	0.500	UG/L
34541	1,2-DICHLOROPROPANE	2009-07-07	<	.0000	5.000	0.500	0.500	UG/L
34541	1,2-DICHLOROPROPANE	2012-08-14	<	.0000	5.000	0.500	0.500	UG/L
34541	1,2-DICHLOROPROPANE	2015-07-21	<	0000000000	5.000	0.500	0.500	UG/L
34546	TRANS-1,2-DICHLOROETHYLENE	2008-04-15	<	.0000	10.000	0.500	0.500	UG/L
34546	TRANS-1,2-DICHLOROETHYLENE	2008-06-17	<	.0000	10.000	0.500	0.500	UG/L
34546	TRANS-1,2-DICHLOROETHYLENE	2009-07-07	<	.0000	10.000	0.500	0.500	UG/L
34546	TRANS-1,2-DICHLOROETHYLENE	2012-08-14	<	.0000	10.000	0.500	0.500	UG/L
34546	TRANS-1,2-DICHLOROETHYLENE	2015-07-21	<	0000000000	10.000	0.500	0.500	UG/L
34551	1,2,4-TRICHLOROBENZENE	2008-04-15	<	.0000	5.000	0.500	0.500	UG/L
34551	1,2,4-TRICHLOROBENZENE	2008-06-17	<	.0000	5.000	0.500	0.500	UG/L
34551	1,2,4-TRICHLOROBENZENE	2009-07-07	<	.0000	5.000	0.500	0.500	UG/L
34551	1,2,4-TRICHLOROBENZENE	2012-08-14	<	.0000	5.000	0.500	0.500	UG/L
34551	1,2,4-TRICHLOROBENZENE	2015-07-21	<	0000000000	5.000	0.500	0.500	UG/L
34561	1,3-DICHLOROPROPENE (TOTAL)	2008-04-15	<	.0000	0.500	0.500	0.500	UG/L
34561	1,3-DICHLOROPROPENE (TOTAL)	2008-06-17	<	.0000	0.500	0.500	0.500	UG/L
34561	1,3-DICHLOROPROPENE (TOTAL)	2009-07-07	<	.0000	0.500	0.500	0.500	UG/L
34561	1,3-DICHLOROPROPENE (TOTAL)	2012-08-14	<	.0000	0.500	0.500	0.500	UG/L
34561	1,3-DICHLOROPROPENE (TOTAL)	2015-07-21	<	0000000000	0.500	0.500	0.500	UG/L
34571	1,4-DICHLOROBENZENE	2008-04-15	<	.0000	5.000	0.500	0.500	UG/L
34571	1,4-DICHLOROBENZENE	2008-06-17	<	.0000	5.000	0.500	0.500	UG/L
34571	1,4-DICHLOROBENZENE	2009-07-07	<	.0000	5.000	0.500	0.500	UG/L
34571	1,4-DICHLOROBENZENE	2012-08-14	<	.0000	5.000	0.500	0.500	UG/L
34571	1,4-DICHLOROBENZENE	2015-07-21	<	0000000000	5.000	0.500	0.500	UG/L
34668		2008-01-08	<	.0000	0.000	0.500	1000.000	UG/L
Search	Search	Search	Search	Search	Search	Sear	Search	Sea

Storet Number	Group/Constituent Identification	Sampling Date	XMOD	Result	MCL	DLR	Trigger	Unit
	DICHLORODIFLUOROMETHANE (FREON 12)							
34668	DICHLORODIFLUOROMETHANE (FREON 12)	2008-04-15	<	.0000	0.000	0.500	1000.000	UG/L
34668	DICHLORODIFLUOROMETHANE (FREON 12)	2008-06-17	<	.0000	0.000	0.500	1000.000	UG/L
34676	2,3,7,8-TCDD (DIOXIN)	2008-06-17	<	.0000	30.000	5.000	5.000	PG/L
34676	2,3,7,8-TCDD (DIOXIN)	2009-07-07	<	.0000	30.000	5.000	5.000	PG/L
34676	2,3,7,8-TCDD (DIOXIN)	2012-08-14	<	5.0000	30.000	5.000	5.000	PG/L
34676	2,3,7,8-TCDD (DIOXIN)	2015-07-21	<	5.0000	30.000	5.000	5.000	PG/L
38260	FOAMING AGENTS (MBAS)	2008-01-08	<	.0000	0.500	0.000	0.500	MG/L
38260	FOAMING AGENTS (MBAS)	2009-07-07	<	.0000	0.500	0.000	0.500	MG/L
38260	FOAMING AGENTS (MBAS)	2012-08-14	<	.0000	0.500	0.000	0.500	MG/L
38260	FOAMING AGENTS (MBAS)	2015-07-21	<	0000000000	0.500	0.000	0.500	MG/L
38432	DALAPON	2008-01-08	<	.0000	200.000	10.000	10.000	UG/L
38432	DALAPON	2008-04-15	<	.0000	200.000	10.000	10.000	UG/L
38432	DALAPON	2008-06-17	<	.0000	200.000	10.000	10.000	UG/L
38432	DALAPON	2009-07-07	<	.0000	200.000	10.000	10.000	UG/L
38432	DALAPON	2012-08-14	<	.0000	200.000	10.000	10.000	UG/L
38432	DALAPON	2015-07-21	<	0000000000	200.000	10.000	10.000	UG/L
38710	BENTAZON	2008-04-15	<	.0000	18.000	2.000	2.000	UG/L
38710	BENTAZON	2008-06-17	<	.0000	18.000	2.000	2.000	UG/L
38710	BENTAZON	2009-07-07	<	.0000	18.000	2.000	2.000	UG/L
38710	BENTAZON	2012-08-14	<	.0000	18.000	2.000	2.000	UG/L
38710	BENTAZON	2015-07-21	<	0000000000	18.000	2.000	2.000	UG/L
38761	DIBROMOCHLOROPROPANE (DBCP)	2008-04-15	<	.0000	0.200	0.010	0.010	UG/L
38761	DIBROMOCHLOROPROPANE (DBCP)	2008-06-17	<	.0000	0.200	0.010	0.010	UG/L
38761	DIBROMOCHLOROPROPANE (DBCP)	2009-07-07	<	.0000	0.200	0.010	0.010	UG/L
38761	DIBROMOCHLOROPROPANE (DBCP)	2012-08-14	<	.0000	0.200	0.010	0.010	UG/L
38761	DIBROMOCHLOROPROPANE (DBCP)	2015-07-21	<	0000000000	0.200	0.010	0.010	UG/L
38865	OXAMYL	2008-01-08	<	.0000	50.000	20.000	20.000	UG/L
38865	OXAMYL	2008-04-15	<	.0000	50.000	20.000	20.000	UG/L
38865	OXAMYL	2008-06-17	<	.0000	50.000	20.000	20.000	UG/L
38865	OXAMYL	2009-07-07	<	.0000	50.000	20.000	20.000	UG/L
Search	Search	Search	Search	Search	Search	Sear	Search	Sea

Storet Number	Group/Constituent Identification	Sampling Date	XMOD	Result	MCL	DLR	Trigger	Unit
38865	OXAMYL	2012-08-14	<	.0000	50.000	20.000	20.000	UG/L
38865	OXAMYL	2015-07-21	<	0000000000	50.000	20.000	20.000	UG/L
38926	ENDOTHALL	2008-01-08	<	45.0000	100.000	45.000	45.000	UG/L
38926	ENDOTHALL	2009-07-07	<	.0000	100.000	45.000	45.000	UG/L
38926	ENDOTHALL	2012-08-14	<	.0000	100.000	45.000	45.000	UG/L
38926	ENDOTHALL	2015-07-21	<	0000000000	100.000	45.000	45.000	UG/L
39032	PENTACHLOROPHENOL	2008-01-08	<	.0000	1.000	0.200	0.200	UG/L
39032	PENTACHLOROPHENOL	2008-04-15	<	.0000	1.000	0.200	0.200	UG/L
39032	PENTACHLOROPHENOL	2008-06-17	<	.0000	1.000	0.200	0.200	UG/L
39032	PENTACHLOROPHENOL	2009-07-07	<	.0000	1.000	0.200	0.200	UG/L
39032	PENTACHLOROPHENOL	2012-08-14	<	.0000	1.000	0.200	0.200	UG/L
39032	PENTACHLOROPHENOL	2015-07-21	<	0000000000	1.000	0.200	0.200	UG/L
39033	ATRAZINE	2008-01-08	<	.5000	1.000	0.500	0.500	UG/L
39033	ATRAZINE	2008-04-15	<	.0000	1.000	0.500	0.500	UG/L
39033	ATRAZINE	2008-06-17	<	.0000	1.000	0.500	0.500	UG/L
39033	ATRAZINE	2009-07-07	<	.0000	1.000	0.500	0.500	UG/L
39033	ATRAZINE	2012-08-14	<	.0000	1.000	0.500	0.500	UG/L
39033	ATRAZINE	2015-07-21	<	0000000000	1.000	0.500	0.500	UG/L
39045	2,4,5-TP (SILVEX)	2008-01-08	<	.0000	50.000	1.000	1.000	UG/L
39045	2,4,5-TP (SILVEX)	2008-04-15	<	.0000	50.000	1.000	1.000	UG/L
39045	2,4,5-TP (SILVEX)	2008-06-17	<	.0000	50.000	1.000	1.000	UG/L
39045	2,4,5-TP (SILVEX)	2009-07-07	<	.0000	50.000	1.000	1.000	UG/L
39045	2,4,5-TP (SILVEX)	2012-08-14	<	.0000	50.000	1.000	1.000	UG/L
39045	2,4,5-TP (SILVEX)	2015-07-21	<	0000000000	50.000	1.000	1.000	UG/L
39055	SIMAZINE	2008-01-08	<	1.0000	4.000	1.000	1.000	UG/L
39055	SIMAZINE	2008-04-15	<	.0000	4.000	1.000	1.000	UG/L
39055	SIMAZINE	2008-06-17	<	.0000	4.000	1.000	1.000	UG/L
39055	SIMAZINE	2009-07-07	<	.0000	4.000	1.000	1.000	UG/L
39055	SIMAZINE	2012-08-14	<	.0000	4.000	1.000	1.000	UG/L
39055	SIMAZINE	2015-07-21	<	0000000000	4.000	1.000	1.000	UG/L
39100	DI(2-ETHYLHEXYL)PHTHALATE	2008-01-08	<	3.0000	4.000	3.000	3.000	UG/L
39100	DI(2-ETHYLHEXYL)PHTHALATE	2008-04-15	<	.0000	4.000	3.000	3.000	UG/L
39100	DI(2-ETHYLHEXYL)PHTHALATE	2008-06-17	<	.0000	4.000	3.000	3.000	UG/L
39100	DI(2-ETHYLHEXYL)PHTHALATE	2009-07-07	<	.0000	4.000	3.000	3.000	UG/L
39100	DI(2-ETHYLHEXYL)PHTHALATE	2012-08-14	<	.0000	4.000	3.000	3.000	UG/L
39100	DI(2-ETHYLHEXYL)PHTHALATE	2015-07-21	<	0000000000	4.000	3.000	3.000	UG/L
Search	Search	Search	Search	Search	Search	Sear	Search	Sea

Storet Number	Group/Constituent Identification	Sampling Date	XMOD	Result	MCL	DLR	Trigger	Unit
39175	VINYL CHLORIDE	2008-04-15	<	.0000	0.500	0.500	0.500	UG/L
39175	VINYL CHLORIDE	2008-06-17	<	.0000	0.500	0.500	0.500	UG/L
39175	VINYL CHLORIDE	2009-07-07	<	.0000	0.500	0.500	0.500	UG/L
39175	VINYL CHLORIDE	2012-08-14	<	.0000	0.500	0.500	0.500	UG/L
39175	VINYL CHLORIDE	2015-07-21	<	0000000000	0.500	0.500	0.500	UG/L
39180	TRICHLOROETHYLENE	2008-04-15	<	.0000	5.000	0.500	0.500	UG/L
39180	TRICHLOROETHYLENE	2008-06-17	<	.0000	5.000	0.500	0.500	UG/L
39180	TRICHLOROETHYLENE	2009-07-07	<	.0000	5.000	0.500	0.500	UG/L
39180	TRICHLOROETHYLENE	2012-08-14	<	.0000	5.000	0.500	0.500	UG/L
39180	TRICHLOROETHYLENE	2015-07-21	<	0000000000	5.000	0.500	0.500	UG/L
39340	LINDANE	2008-04-15	<	.0000	0.200	0.200	0.200	UG/L
39340	LINDANE	2008-06-17	<	.0000	0.200	0.200	0.200	UG/L
39340	LINDANE	2009-07-07	<	.0000	0.200	0.200	0.200	UG/L
39340	LINDANE	2012-08-14	<	.0000	0.200	0.200	0.200	UG/L
39340	LINDANE	2015-07-21	<	0000000000	0.200	0.200	0.200	UG/L
39350	CHLORDANE	2008-04-15	<	.0000	0.100	0.100	0.100	UG/L
39350	CHLORDANE	2008-06-17	<	.0000	0.100	0.100	0.100	UG/L
39350	CHLORDANE	2009-07-07	<	.0000	0.100	0.100	0.100	UG/L
39350	CHLORDANE	2012-08-14	<	.0000	0.100	0.100	0.100	UG/L
39350	CHLORDANE	2015-07-21	<	0000000000	0.100	0.100	0.100	UG/L
39390	ENDRIN	2008-04-15	<	.0000	2.000	0.100	0.100	UG/L
39390	ENDRIN	2008-06-17	<	.0000	2.000	0.100	0.100	UG/L
39390	ENDRIN	2009-07-07	<	.0000	2.000	0.100	0.100	UG/L
39390	ENDRIN	2012-08-14	<	.0000	2.000	0.100	0.100	UG/L
39390	ENDRIN	2015-07-21	<	0000000000	2.000	0.100	0.100	UG/L
39400	TOXAPHENE	2008-04-15	<	.0000	3.000	1.000	1.000	UG/L
39400	TOXAPHENE	2008-06-17	<	.0000	3.000	1.000	1.000	UG/L
39400	TOXAPHENE	2009-07-07	<	.0000	3.000	1.000	1.000	UG/L
39400	TOXAPHENE	2012-08-14	<	.0000	3.000	1.000	1.000	UG/L
39400	TOXAPHENE	2015-07-21	<	0000000000	3.000	1.000	1.000	UG/L
39410	HEPTACHLOR	2008-04-15	<	.0000	0.010	0.010	0.010	UG/L
39410	HEPTACHLOR	2008-06-17	<	.0000	0.010	0.010	0.010	UG/L
39410	HEPTACHLOR	2009-07-07	<	.0000	0.010	0.010	0.010	UG/L
39410	HEPTACHLOR	2012-08-14	<	.0000	0.010	0.010	0.010	UG/L
39410	HEPTACHLOR	2015-07-21	<	0000000000	0.010	0.010	0.010	UG/L
Search	Search	Search	Search	Search	Search	Sear	Search	Sea

Storet Number	Group/Constituent Identification	Sampling Date	XMOD	Result	MCL	DLR	Trigger	Unit
39420	HEPTACHLOR EPOXIDE	2008-04-15	<	.0000	0.010	0.010	0.010	UG/L
39420	HEPTACHLOR EPOXIDE	2008-06-17	<	.0000	0.010	0.010	0.010	UG/L
39420	HEPTACHLOR EPOXIDE	2009-07-07	<	.0000	0.010	0.010	0.010	UG/L
39420	HEPTACHLOR EPOXIDE	2012-08-14	<	.0000	0.010	0.010	0.010	UG/L
39420	HEPTACHLOR EPOXIDE	2015-07-21	<	0000000000	0.010	0.010	0.010	UG/L
39480	METHOXYCHLOR	2008-04-15	<	.0000	30.000	10.000	10.000	UG/L
39480	METHOXYCHLOR	2008-06-17	<	.0000	30.000	10.000	10.000	UG/L
39480	METHOXYCHLOR	2009-07-07	<	.0000	30.000	10.000	10.000	UG/L
39480	METHOXYCHLOR	2012-08-14	<	.0000	30.000	10.000	10.000	UG/L
39480	METHOXYCHLOR	2015-07-21	<	0000000000	30.000	10.000	10.000	UG/L
39516	POLYCHLORINATED BIPHENYLS, TOTAL, AS DCB	2008-01-08	<	.0000	0.500	0.500	0.500	UG/L
39516	POLYCHLORINATED BIPHENYLS, TOTAL, AS DCB	2008-04-15	<	.0000	0.500	0.500	0.500	UG/L
39516	POLYCHLORINATED BIPHENYLS, TOTAL, AS DCB	2008-06-17	<	.0000	0.500	0.500	0.500	UG/L
39516	POLYCHLORINATED BIPHENYLS, TOTAL, AS DCB	2009-07-07	<	.0000	0.500	0.500	0.500	UG/L
39516	POLYCHLORINATED BIPHENYLS, TOTAL, AS DCB	2012-08-14	<	.0000	0.500	0.500	0.500	UG/L
39516	POLYCHLORINATED BIPHENYLS, TOTAL, AS DCB	2015-07-21	<	0000000000	0.500	0.500	0.500	UG/L
39700	HEXACHLOROBENZENE	2008-01-08	<	.0000	1.000	0.500	0.500	UG/L
39700	HEXACHLOROBENZENE	2008-04-15	<	.0000	1.000	0.500	0.500	UG/L
39700	HEXACHLOROBENZENE	2008-06-17	<	.0000	1.000	0.500	0.500	UG/L
39700	HEXACHLOROBENZENE	2009-07-07	<	.0000	1.000	0.500	0.500	UG/L
39700	HEXACHLOROBENZENE	2012-08-14	<	.0000	1.000	0.500	0.500	UG/L
39700	HEXACHLOROBENZENE	2015-07-21	<	0000000000	1.000	0.500	0.500	UG/L
39720	PICLORAM	2008-01-08	<	.0000	500.000	1.000	1.000	UG/L
39720	PICLORAM	2008-04-15	<	.0000	500.000	1.000	1.000	UG/L
39720	PICLORAM	2008-06-17	<	.0000	500.000	1.000	1.000	UG/L
39720	PICLORAM	2009-07-07	<	.0000	500.000	1.000	1.000	UG/L
39720	PICLORAM	2012-08-14	<	.0000	500.000	1.000	1.000	UG/L
39720	PICLORAM	2015-07-21	<	0000000000	500.000	1.000	1.000	UG/L
39730	2,4-D	2008-01-08	<	.0000	70.000	10.000	10.000	UG/L
39730	2,4-D	2008-04-15	<	.0000	70.000	10.000	10.000	UG/L
39730	2,4-D	2008-06-17	<	.0000	70.000	10.000	10.000	UG/L
39730	2,4-D	2009-07-07	<	.0000	70.000	10.000	10.000	UG/L
39730	2,4-D	2012-08-14	<	.0000	70.000	10.000	10.000	UG/L
Search	Search	Search	Search	Search	Search	Sear	Search	Sea

Storet Number	Group/Constituent Identification	Sampling Date	XMOD	Result	MCL	DLR	Trigger	Unit
39730	2,4-D	2015-07-21	<	0000000000	70.000	10.000	10.000	UG/L
46491	METHYL-TERT-BUTYL-ETHER (MTBE)	2008-03-11	<	.0000	13.000	3.000	3.000	UG/L
46491	METHYL-TERT-BUTYL-ETHER (MTBE)	2008-04-15	<	.0000	13.000	3.000	3.000	UG/L
46491	METHYL-TERT-BUTYL-ETHER (MTBE)	2008-06-03	<	.0000	13.000	3.000	3.000	UG/L
46491	METHYL-TERT-BUTYL-ETHER (MTBE)	2008-06-17	<	.0000	13.000	3.000	3.000	UG/L
46491	METHYL-TERT-BUTYL-ETHER (MTBE)	2008-08-05	<	.0000	13.000	3.000	3.000	UG/L
46491	METHYL-TERT-BUTYL-ETHER (MTBE)	2008-10-21	<	.0000	13.000	3.000	3.000	UG/L
46491	METHYL-TERT-BUTYL-ETHER (MTBE)	2009-02-17	<	.0000	13.000	3.000	3.000	UG/L
46491	METHYL-TERT-BUTYL-ETHER (MTBE)	2009-05-05	<	.0000	13.000	3.000	3.000	UG/L
46491	METHYL-TERT-BUTYL-ETHER (MTBE)	2009-07-07	<	.0000	13.000	3.000	3.000	UG/L
46491	METHYL-TERT-BUTYL-ETHER (MTBE)	2009-08-18	<	.0000	13.000	3.000	3.000	UG/L
46491	METHYL-TERT-BUTYL-ETHER (MTBE)	2009-11-03	<	.0000	13.000	3.000	3.000	UG/L
46491	METHYL-TERT-BUTYL-ETHER (MTBE)	2010-02-09	<	.0000	13.000	3.000	3.000	UG/L
46491	METHYL-TERT-BUTYL-ETHER (MTBE)	2010-06-01	<	.0000	13.000	3.000	3.000	UG/L
46491	METHYL-TERT-BUTYL-ETHER (MTBE)	2010-08-24	<	.0000	13.000	3.000	3.000	UG/L
46491	METHYL-TERT-BUTYL-ETHER (MTBE)	2010-11-09	<	.0000	13.000	3.000	3.000	UG/L
46491	METHYL-TERT-BUTYL-ETHER (MTBE)	2011-02-15	<	.0000	13.000	3.000	3.000	UG/L
46491	METHYL-TERT-BUTYL-ETHER (MTBE)	2011-06-14	<	.0000	13.000	3.000	3.000	UG/L
46491	METHYL-TERT-BUTYL-ETHER (MTBE)	2011-08-16	<	.0000	13.000	3.000	3.000	UG/L
46491	METHYL-TERT-BUTYL-ETHER (MTBE)	2011-11-08	<	.0000	13.000	3.000	3.000	UG/L
46491	METHYL-TERT-BUTYL-ETHER (MTBE)	2012-02-14	<	.0000	13.000	3.000	3.000	UG/L
46491	METHYL-TERT-BUTYL-ETHER (MTBE)	2012-05-29	<	.0000	13.000	3.000	3.000	UG/L
46491	METHYL-TERT-BUTYL-ETHER (MTBE)	2012-08-07	<	.0000	13.000	3.000	3.000	UG/L
46491		2012-08-14	<	.0000	13.000	3.000	3.000	UG/L
Search	Search	Search	Search	Search	Search	Sear	Search	Sea

Storet Number	Group/Constituent Identification	Sampling Date	XMOD	Result	MCL	DLR	Trigger	Unit
	METHYL-TERT-BUTYL-ETHER (MTBE)							
46491	METHYL-TERT-BUTYL-ETHER (MTBE)	2012-11-13	<	.0000	13.000	3.000	3.000	UG/L
46491	METHYL-TERT-BUTYL-ETHER (MTBE)	2013-02-19	<	.0000	13.000	3.000	3.000	UG/L
46491	METHYL-TERT-BUTYL-ETHER (MTBE)	2013-05-14	<	.0000	13.000	3.000	3.000	UG/L
46491	METHYL-TERT-BUTYL-ETHER (MTBE)	2013-08-13	<	.0000	13.000	3.000	3.000	UG/L
46491	METHYL-TERT-BUTYL-ETHER (MTBE)	2013-11-12	<	.0000	13.000	3.000	3.000	UG/L
46491	METHYL-TERT-BUTYL-ETHER (MTBE)	2014-02-18	<	.0000	13.000	3.000	3.000	UG/L
46491	METHYL-TERT-BUTYL-ETHER (MTBE)	2014-05-06	<	.0000	13.000	3.000	3.000	UG/L
46491	METHYL-TERT-BUTYL-ETHER (MTBE)	2014-08-19	<	.0000	13.000	3.000	3.000	UG/L
46491	METHYL-TERT-BUTYL-ETHER (MTBE)	2014-11-18	<	.0000	13.000	3.000	3.000	UG/L
46491	METHYL-TERT-BUTYL-ETHER (MTBE)	2015-02-17	<	.0000	13.000	3.000	3.000	UG/L
46491	METHYL-TERT-BUTYL-ETHER (MTBE)	2015-05-19	<	.0000	13.000	3.000	3.000	UG/L
46491	METHYL-TERT-BUTYL-ETHER (MTBE)	2015-07-21	<	0000000000	13.000	3.000	3.000	UG/L
46491	METHYL-TERT-BUTYL-ETHER (MTBE)	2015-08-25	<	0000000000	13.000	3.000	3.000	UG/L
46491	METHYL-TERT-BUTYL-ETHER (MTBE)	2015-12-08	<	0000000000	13.000	3.000	3.000	UG/L
46491	METHYL-TERT-BUTYL-ETHER (MTBE)	2015-12-15	<	0000000000	13.000	3.000	3.000	UG/L
46491	METHYL-TERT-BUTYL-ETHER (MTBE)	2016-03-15	<	0000000000	13.000	3.000	3.000	UG/L
46491	METHYL-TERT-BUTYL-ETHER (MTBE)	2016-06-07	<	0000000000	13.000	3.000	3.000	UG/L
46491	METHYL-TERT-BUTYL-ETHER (MTBE)	2016-09-06	<	0000000000	13.000	3.000	3.000	UG/L
46491	METHYL-TERT-BUTYL-ETHER (MTBE)	2016-11-29	<	0000000000	13.000	3.000	3.000	UG/L
46491	METHYL-TERT-BUTYL-ETHER (MTBE)	2017-02-28	<	0000000000	13.000	3.000	3.000	UG/L
70300	TOTAL DISSOLVED SOLIDS	2008-01-08		240.0000	1000.000	0.000	500.000	MG/L
70300	TOTAL DISSOLVED SOLIDS	2009-07-07		260.0000	1000.000	0.000	500.000	MG/L
70300	TOTAL DISSOLVED SOLIDS	2012-08-14		250.0000	1000.000	0.000	500.000	MG/L
70300	TOTAL DISSOLVED SOLIDS	2015-07-21		250	1000.000	0.000	500.000	MG/L
Search	Search	Search	Search	Search	Search	Sear	Search	Sea

Storet Number	Group/Constituent Identification	Sampling Date	XMOD	Result	MCL	DLR	Trigger	Unit
71813	LANGELIER INDEX @ 60 C	2008-01-08		.3000	0.000	0.000	0.000	
71813	LANGELIER INDEX @ 60 C	2009-07-07		1.0300	0.000	0.000	0.000	
71813	LANGELIER INDEX @ 60 C	2012-08-14	-	.0300	0.000	0.000	0.000	
71813	LANGELIER INDEX @ 60 C	2015-07-21		0.60	0.000	0.000	0.000	
71814	LANGELIER INDEX AT SOURCE TEMP.	2008-01-08	-	.4000	0.000	0.000	0.000	
71814	LANGELIER INDEX AT SOURCE TEMP.	2009-07-07		.3300	0.000	0.000	0.000	
71814	LANGELIER INDEX AT SOURCE TEMP.	2012-08-14	-	.6400	0.000	0.000	0.000	
71814	LANGELIER INDEX AT SOURCE TEMP.	2015-07-21		-0.009	0.000	0.000	0.000	
71830	HYDROXIDE ALKALINITY	2008-01-08	<	.0000	0.000	0.000	0.000	MG/L
71830	HYDROXIDE ALKALINITY	2009-07-07	<	.0000	0.000	0.000	0.000	MG/L
71830	HYDROXIDE ALKALINITY	2012-08-14	<	.0000	0.000	0.000	0.000	MG/L
71830	HYDROXIDE ALKALINITY	2015-07-21	<	0000000000	0.000	0.000	0.000	MG/L
71850	NITRATE (AS NO3)	2008-01-08		3.9000	45.000	2.000	23.000	MG/L
71850	NITRATE (AS NO3)	2008-06-03		3.7000	45.000	2.000	23.000	MG/L
71850	NITRATE (AS NO3)	2009-07-07		3.5000	45.000	2.000	23.000	MG/L
71850	NITRATE (AS NO3)	2010-06-22		3.9000	45.000	2.000	23.000	MG/L
71850	NITRATE (AS NO3)	2011-07-12		3.4000	45.000	2.000	23.000	MG/L
71850	NITRATE (AS NO3)	2012-07-10		2.6000	45.000	2.000	23.000	MG/L
71850	NITRATE (AS NO3)	2012-08-14		4.3000	45.000	2.000	23.000	MG/L
71850	NITRATE (AS NO3)	2013-07-23		3.9000	45.000	2.000	23.000	MG/L
71850	NITRATE (AS NO3)	2014-07-08		3.8000	45.000	2.000	23.000	MG/L
71850	NITRATE (AS NO3)	2015-07-21		3.4	45.000	2.000	23.000	MG/L
71900	MERCURY	2008-01-08	<	.0000	2.000	1.000	2.000	UG/L
71900	MERCURY	2009-07-07	<	.0000	2.000	1.000	2.000	UG/L
71900	MERCURY	2012-08-14	<	.0000	2.000	1.000	2.000	UG/L
71900	MERCURY	2015-07-21	<	0000000000	2.000	1.000	2.000	UG/L
77035	TERT-BUTYL ALCOHOL (TBA)	2008-01-08	<	.0000	0.000	2.000	12.000	UG/L
77035	TERT-BUTYL ALCOHOL (TBA)	2008-04-15	<	.0000	0.000	2.000	12.000	UG/L
77035	TERT-BUTYL ALCOHOL (TBA)	2008-06-17	<	.0000	0.000	2.000	12.000	UG/L
77093	CIS-1,2-DICHLOROETHYLENE	2008-04-15	<	.0000	6.000	0.500	0.500	UG/L
77093	CIS-1,2-DICHLOROETHYLENE	2008-06-17	<	.0000	6.000	0.500	0.500	UG/L
77093	CIS-1,2-DICHLOROETHYLENE	2009-07-07	<	.0000	6.000	0.500	0.500	UG/L
77093	CIS-1,2-DICHLOROETHYLENE	2012-08-14	<	.0000	6.000	0.500	0.500	UG/L
Search	Search	Search	Search	Search	Search	Sear	Search	Sea

Storet Number	Group/Constituent Identification	Sampling Date	XMOD	Result	MCL	DLR	Trigger	Unit
77093	CIS-1,2-DICHLOROETHYLENE	2015-07-21	<	0000000000	6.000	0.500	0.500	UG/L
77128	STYRENE	2008-04-15	<	.0000	100.000	0.500	0.500	UG/L
77128	STYRENE	2008-06-17	<	.0000	100.000	0.500	0.500	UG/L
77128	STYRENE	2009-07-07	<	.0000	100.000	0.500	0.500	UG/L
77128	STYRENE	2012-08-14	<	.0000	100.000	0.500	0.500	UG/L
77128	STYRENE	2015-07-21	<	0000000000	100.000	0.500	0.500	UG/L
77135	O-XYLENE	2008-04-15	<	.0000	1750.000	0.500	1750.000	UG/L
77135	O-XYLENE	2008-06-17	<	.0000	1750.000	0.500	1750.000	UG/L
77135	O-XYLENE	2009-07-07	<	.0000	1750.000	0.500	1750.000	UG/L
77135	O-XYLENE	2012-08-14	<	.0000	1750.000	0.500	1750.000	UG/L
77135	O-XYLENE	2015-07-21	<	0000000000	0.000	0.500	0.000	UG/L
77443	1,2,3-TRICHLOROPROPANE (1,2,3-TCP)	2018-01-10	<	0.0050	0.005	0.005	0.005	UG/L
7744X	1,2,3-TRICHLOROPROPANE (1,2,3-TCP)	2016-08-16	<	0000000000	0.000	0.005	0.005	UG/L
77651	ETHYLENE DIBROMIDE (EDB)	2008-04-15	<	.0000	0.050	0.020	0.020	UG/L
77651	ETHYLENE DIBROMIDE (EDB)	2008-06-17	<	.0000	0.050	0.020	0.020	UG/L
77651	ETHYLENE DIBROMIDE (EDB)	2009-07-07	<	.0000	0.050	0.020	0.020	UG/L
77651	ETHYLENE DIBROMIDE (EDB)	2012-08-14	<	.0000	0.050	0.020	0.020	UG/L
77651	ETHYLENE DIBROMIDE (EDB)	2015-07-21	<	0000000000	0.050	0.020	0.020	UG/L
77825	ALACHLOR	2008-01-08	<	1.0000	2.000	1.000	1.000	UG/L
77825	ALACHLOR	2008-04-15	<	.0000	2.000	1.000	1.000	UG/L
77825	ALACHLOR	2008-06-17	<	.0000	2.000	1.000	1.000	UG/L
77825	ALACHLOR	2009-07-07	<	.0000	2.000	1.000	1.000	UG/L
77825	ALACHLOR	2012-08-14	<	.0000	2.000	1.000	1.000	UG/L
77825	ALACHLOR	2015-07-21	<	0000000000	2.000	1.000	1.000	UG/L
78885	DIQUAT	2008-01-08	<	4.0000	20.000	4.000	4.000	UG/L
78885	DIQUAT	2009-07-07	<	.0000	20.000	4.000	4.000	UG/L
78885	DIQUAT	2012-08-14	<	4.0000	20.000	4.000	4.000	UG/L
78885	DIQUAT	2015-07-21	<	0000000000	20.000	4.000	4.000	UG/L
78885	DIQUAT	2015-07-21	<	4.0000	20.000	4.000	4.000	UG/L
79743	GLYPHOSATE	2008-01-08	<	.0000	700.000	25.000	25.000	UG/L
79743	GLYPHOSATE	2008-06-17	<	.0000	700.000	25.000	25.000	UG/L
79743	GLYPHOSATE	2009-07-07	<	.0000	700.000	25.000	25.000	UG/L
79743	GLYPHOSATE	2012-08-14	<	.0000	700.000	25.000	25.000	UG/L
79743	GLYPHOSATE	2015-07-21	<	0000000000	700.000	25.000	25.000	UG/L
81287	DINOSEB	2008-01-08	<	.0000	7.000	2.000	2.000	UG/L
Search	Search	Search	Search	Search	Search	Sear	Search	Sea

Storet Number	Group/Constituent Identification	Sampling Date	XMOD	Result	MCL	DLR	Trigger	Unit
81287	DINOSEB	2008-04-15	<	.0000	7.000	2.000	2.000	UG/L
81287	DINOSEB	2008-06-17	<	.0000	7.000	2.000	2.000	UG/L
81287	DINOSEB	2009-07-07	<	.0000	7.000	2.000	2.000	UG/L
81287	DINOSEB	2012-08-14	<	.0000	7.000	2.000	2.000	UG/L
81287	DINOSEB	2015-07-21	<	0000000000	7.000	2.000	2.000	UG/L
81405	CARBOFURAN	2008-01-08	<	.0000	18.000	5.000	5.000	UG/L
81405	CARBOFURAN	2008-04-15	<	.0000	18.000	5.000	5.000	UG/L
81405	CARBOFURAN	2008-06-17	<	.0000	18.000	5.000	5.000	UG/L
81405	CARBOFURAN	2009-07-07	<	.0000	18.000	5.000	5.000	UG/L
81405	CARBOFURAN	2012-08-14	<	.0000	18.000	5.000	5.000	UG/L
81405	CARBOFURAN	2015-07-21	<	0000000000	18.000	5.000	5.000	UG/L
81551	XYLENES (TOTAL)	2008-04-15	<	.0000	1750.000	0.500	1750.000	UG/L
81551	XYLENES (TOTAL)	2008-06-17	<	.0000	1750.000	0.500	1750.000	UG/L
81551	XYLENES (TOTAL)	2009-07-07	<	.0000	1750.000	0.500	1750.000	UG/L
81551	XYLENES (TOTAL)	2012-08-14	<	.0000	1750.000	0.500	1750.000	UG/L
81551	XYLENES (TOTAL)	2015-07-21	<	0000000000	1750.000	0.500	1750.000	UG/L
81611	TRICHLOROTRIFLUOROETHANE (FREON 113)	2008-04-15	<	.0000	1200.000	10.000	10.000	UG/L
81611	TRICHLOROTRIFLUOROETHANE (FREON 113)	2008-06-17	<	.0000	1200.000	10.000	10.000	UG/L
81611	TRICHLOROTRIFLUOROETHANE (FREON 113)	2009-07-07	<	.0000	1200.000	10.000	10.000	UG/L
81611	TRICHLOROTRIFLUOROETHANE (FREON 113)	2012-08-14	<	.0000	1200.000	10.000	10.000	UG/L
81611	TRICHLOROTRIFLUOROETHANE (FREON 113)	2015-07-21	<	0000000000	1200.000	10.000	10.000	UG/L
81855	ASBESTOS	2008-01-08	<	.0000	7.000	0.200	7.000	MFL
81855	ASBESTOS	2009-07-07	<	.0000	7.000	0.200	7.000	MFL
81855	ASBESTOS	2012-08-14	<	.0000	7.000	0.200	7.000	MFL
81855	ASBESTOS	2015-07-21	<	.0000	7.000	0.200	7.000	MFL
82079	TURBIDITY, LABORATORY	2008-01-08		.1000	5.000	0.100	5.000	NTU
82079	TURBIDITY, LABORATORY	2009-07-07		.1000	5.000	0.100	5.000	NTU
82079	TURBIDITY, LABORATORY	2012-08-14		.1000	5.000	0.100	5.000	NTU
82079	TURBIDITY, LABORATORY	2015-07-21	<	0000000000	5.000	0.100	5.000	NTU
82080	TOTAL TRIHALOMETHANES	2008-04-15	<	.0000	80.000	0.000	80.000	UG/L
82080	TOTAL TRIHALOMETHANES	2008-06-17	<	.0000	80.000	0.000	80.000	UG/L
82080	TOTAL TRIHALOMETHANES	2009-07-07	<	.0000	80.000	0.000	80.000	UG/L
82080	TOTAL TRIHALOMETHANES	2012-08-14	<	.0000	80.000	0.000	80.000	UG/L
Search	Search	Search	Search	Search	Search	Sear	Search	Sea

Storet Number	Group/Constituent Identification	Sampling Date	XMOD	Result	MCL	DLR	Trigger	Unit
82080	TOTAL TRIHALOMETHANES	2015-07-21	<	0000000000	80.000	0.000	80.000	UG/L
82199	MOLINATE	2008-01-08	<	2.0000	20.000	2.000	2.000	UG/L
82199	MOLINATE	2008-04-15	<	.0000	20.000	2.000	2.000	UG/L
82199	MOLINATE	2008-06-17	<	.0000	20.000	2.000	2.000	UG/L
82199	MOLINATE	2009-07-07	<	.0000	20.000	2.000	2.000	UG/L
82199	MOLINATE	2012-08-14	<	.0000	20.000	2.000	2.000	UG/L
82199	MOLINATE	2015-07-21	<	0000000000	20.000	2.000	2.000	UG/L
82383	AGGRSSIVE INDEX (CORROSIVITY)	2008-01-08		11.5300	0.000	0.000	0.000	
82383	AGGRSSIVE INDEX (CORROSIVITY)	2009-07-07		12.2700	0.000	0.000	0.000	
82383	AGGRSSIVE INDEX (CORROSIVITY)	2012-08-14		11.1700	0.000	0.000	0.000	
82383	AGGRSSIVE INDEX (CORROSIVITY)	2015-07-21		11.80	0.000	0.000	0.000	
A-001	THIOBENCARB	2008-01-08	<	1.0000	70.000	1.000	1.000	UG/L
A-001	THIOBENCARB	2008-04-15	<	.0000	70.000	1.000	1.000	UG/L
A-001	THIOBENCARB	2008-06-17	<	.0000	70.000	1.000	1.000	UG/L
A-001	THIOBENCARB	2009-07-07	<	.0000	70.000	1.000	1.000	UG/L
A-001	THIOBENCARB	2012-08-14	<	.0000	70.000	1.000	1.000	UG/L
A-001	THIOBENCARB	2015-07-21	<	0000000000	70.000	1.000	1.000	UG/L
A-014	M,P-XYLENE	2008-04-15	<	.0000	1750.000	0.500	1750.000	UG/L
A-014	M,P-XYLENE	2008-06-17	<	.0000	1750.000	0.500	1750.000	UG/L
A-014	M,P-XYLENE	2009-07-07	<	.0000	1750.000	0.500	1750.000	UG/L
A-014	M,P-XYLENE	2012-08-14	<	.0000	1750.000	0.500	1750.000	UG/L
A-014	M,P-XYLENE	2015-07-21	<	0000000000	0.000	0.500	0.000	UG/L
A-026	DI(2-ETHYLHEXYL)ADIPATE	2008-01-08	<	5.0000	400.000	5.000	5.000	UG/L
A-026	DI(2-ETHYLHEXYL)ADIPATE	2008-04-15	<	.0000	400.000	5.000	5.000	UG/L
A-026	DI(2-ETHYLHEXYL)ADIPATE	2008-06-17	<	.0000	400.000	5.000	5.000	UG/L
A-026	DI(2-ETHYLHEXYL)ADIPATE	2009-07-07	<	.0000	400.000	5.000	5.000	UG/L
A-026	DI(2-ETHYLHEXYL)ADIPATE	2012-08-14	<	.0000	400.000	5.000	5.000	UG/L
A-026	DI(2-ETHYLHEXYL)ADIPATE	2015-07-21	<	0000000000	400.000	5.000	5.000	UG/L
A-029	NITRATE + NITRITE (AS N)	2008-01-08		880.0000	10000.000	400.000	5000.000	UG/L
A-029	NITRATE + NITRITE (AS N)	2009-07-07		790.0000	10000.000	400.000	5000.000	UG/L
A-029	NITRATE + NITRITE (AS N)	2012-08-14		970.0000	10000.000	400.000	5000.000	UG/L
A-029	NITRATE + NITRITE (AS N)	2015-07-21		770	10000.000	400.000	5000.000	UG/L
A-031	PERCHLORATE	2008-01-08	<	.0000	6.000	4.000	4.000	UG/L
A-031	PERCHLORATE	2008-03-18	<	.0000	6.000	4.000	4.000	UG/L
Search	Search	Search	Search	Search	Search	Sear	Search	Sea
Storet Number	Group/Constituent Identification	Sampling Date	XMOD	Result	MCL	DLR	Trigger	Unit
------------------	----------------------------------	------------------	--------	------------	--------	-------	---------	-------
A-031	PERCHLORATE	2008-08-05	<	.0000	6.000	4.000	4.000	UG/L
A-031	PERCHLORATE	2008-12-16	<	.0000	6.000	4.000	4.000	UG/L
A-031	PERCHLORATE	2009-05-05	<	.0000	6.000	4.000	4.000	UG/L
A-031	PERCHLORATE	2009-07-07	<	.0000	6.000	4.000	4.000	UG/L
A-031	PERCHLORATE	2009-10-06	<	.0000	6.000	4.000	4.000	UG/L
A-031	PERCHLORATE	2010-05-04	<	.0000	6.000	4.000	4.000	UG/L
A-031	PERCHLORATE	2012-08-14	<	.0000	6.000	4.000	4.000	UG/L
A-031	PERCHLORATE	2015-07-21	<	0000000000	6.000	4.000	4.000	UG/L
A-033	ETHYL-TERT-BUTYL ETHER	2008-01-08	<	.0000	0.000	3.000	0.000	UG/L
A-033	ETHYL-TERT-BUTYL ETHER	2008-04-15	<	.0000	0.000	3.000	0.000	UG/L
A-033	ETHYL-TERT-BUTYL ETHER	2008-06-17	<	.0000	0.000	3.000	0.000	UG/L
A-034	TERT-AMYL-METHYL ETHER	2008-01-08	<	.0000	0.000	3.000	0.000	UG/L
A-034	TERT-AMYL-METHYL ETHER	2008-04-15	<	.0000	0.000	3.000	0.000	UG/L
A-034	TERT-AMYL-METHYL ETHER	2008-06-17	<	.0000	0.000	3.000	0.000	UG/L
A-072	GROSS ALPHA MDA95	2008-02-12		.9100	3.000	0.000	0.000	PCI/L
A-072	GROSS ALPHA MDA95	2008-04-15		.7900	3.000	0.000	0.000	PCI/L
A-072	GROSS ALPHA MDA95	2008-09-16		.8600	3.000	0.000	0.000	PCI/L
A-072	GROSS ALPHA MDA95	2009-07-07		.9900	3.000	0.000	0.000	PCI/L
A-072	GROSS ALPHA MDA95	2012-08-14		1.0000	3.000	0.000	0.000	PCI/L
A-072	GROSS ALPHA MDA95	2015-07-21		0.90	3.000	0.000	0.000	PCI/L
A-075	RADIUM 228 MDA95	2008-02-12		.5000	1.001	0.000	0.000	PCI/L
A-075	RADIUM 228 MDA95	2008-04-15		.5500	1.001	0.000	0.000	PCI/L
A-075	RADIUM 228 MDA95	2008-09-16		.2570	1.001	0.000	0.000	PCI/L
Search	Search	Search	Search	Search	Search	Sear	Search	Sea

Appendix B Pilot Test Equipment Specifications



#### **5b** How Often to Water, Regular Intervals

With the arrow pointing to **How Often** press the button to navigate past the days days-ofthe-week.

You will be able to water as often as every 1 hour, every day or as infrequently as once every 7 days.

Press **ZONE** for each zone or the **Cursor Button** for move to the next setting. You must set **How Often** for each zone you are programming before proceeding.



#### 6 Auto Mode

After programming, the timer will be in **Auto** mode. Your watering programs will only operate when the timer is in **Auto** mode.

If the timer is not in Auto mode, press the Cursor Button 🗐 to switch to Auto.

The screen display will alternate between the current  $\ensuremath{\text{TIME}}$  and the  $\ensuremath{\text{NEXT START TIME}}$  for each zone.

If the next watering cycle is more than 24 hours away, the **NEXT START TIME** will be displayed in days instead showing a time.



#### 7 Rain Delay Mode

If there is rain in the forecast and you want to temporarily stop watering, you can use Rain Delay.

Rain Delay Mode will stop all watering for up to 7 days.

After the delay period, the watering program will begin running automatically.

To activate **Rain Delay Mode**, make certain the arrow is pointing to **AUTO**. Press the bey to select the delay period. You can reduce or deactivate the delay period with the key. Once you see the desired delay period, press or or wait for the numeral to stop flashing.

In **Rain Delay Mode**, the screen will toggle between the current **TIME** and the remaining **DELAY** time. If the delay is greater than 24 hours, the **DELAY** will be shown in **DAYS**.

NOTE: Once activated, you can deactivate Rain Delay by pressing until DELAY dims and the cursor moves to AUTO.



#### Works with melnor Soil Moisture Sensor (not included)

Prevent overwatering while conserving water by connecting your timer to the HydroLogic® Soil Moisture Sensor. The easy to set sensor monitors moisture in the soil, and will suspend a watering cycle when it is raining or when the ground is already wet. Adjust the dial to maintain just the right amount of moisture for healthy lawns and gardens.

Learn more at www.melnor.com





If you wish to stop watering for an extended period, push the **Cursor Button** (2) until the arrow points to **OFF**.

The timer will not water automatically while in this mode. The screen will display the word **OFF** in large letters.

To start watering automatically again, simply press the **Cursor Button** (2) until the arrow is pointing to **AUTO**. The program will begin watering at the next available **Start Time**.

NOTE: Setting the timer to OFF disables all watering zones. In order to disable a specific zone (or zones), use the **Cursor Button** The to move to **HOW LONG**. Ensure you are adjusting the desired watering zone by using the **ZONE** button. Adjust the **HOW LONG** setting to "0". To reactivate the zone, adjust the **HOW LONG** setting back to the desired watering duration.



#### 9 Manual Watering

Press the **Manual** button ( **b** on multi-language models)

Press **ZONE** 2 to select the zone you want to open. Then press the 3 or 2 button to adjust the amount of time you want the valve to be open.

The valve will open after a few seconds and automatically close after the selected time.



#### **10** Timer Reset

If you need to completely erase all settings in the timer and return it to it's original state, press and hold the or 7 seconds.

The screen will display RESET to confirm the action.

NOTE: All programming will be lost when the timer is RESET.



Warning: Intended for outdoor use only. Severe electrical shock could result if water is sprayed into outlets or sources of electrical current. Do not use water more than 115°F (46°C). Do not use when the ambient air temperature is less than 40°F (4.5°C). When not in use, remove batteries, drain and store indoors away from freezing temperatures.

# **THROTTLE MASTER**<sup>™</sup> Series NG/NA

# PLASTIC NEEDLE VALVES

#### MS.TMDS.2018

# Materials: PVC, CPVC, Polypropylene, & PVDF

# Port Connections: 1/4", 3/8", & 1/2" Fem NPT and Solvent Socket "Slip". Universally adaptable to pipe and tube.

Marquest Scientific's complete line of Throttle Master Needle Valves provide precise flow control with fine adjustment of corrosive and high purity fluids. The developed metering chamber provides for the most reliable stabilization and linearity of flow. Ultimate cross sectional geometry allows the manufacturing process to attain full material property potentials for the most demanding applications.

## **Features & Benefits**

- Produced in two styles: Globe (straight) and angle pattern.
- 24 Pitch metering thread. 20% finer metering control. Excellent linearity of flow.
- Needle finish, SPI/SPE No. 1. bubble tight, low torque shutoff for long term performance.
- All injection molded, rugged design and construction.
- Needle Stem is Modified PTFE sealed for excellent chemical resistance & high purity. Modified PTFE for resilient sealing.
- Integrally designed panel mounting, no fasteners required, mounts to panel thicknesses from 1/16" to 1/2".
- No elastomers (O-Rings), metals or lubricants. No corrosion, no contamination. Zero Dead Leg.

## **Specifications**

Ports Connections: 1/4", 3/8", & 1/2" Fem NPT, Solvent Socket "Slip", Compression Tube Accessory Fittings Materials of Construction:

Valve Body & Components: Injection molded in PVC, Glass & Mineral Reinforced Polypropylene, CPVC, and HP PVDF. Stem Seal: Machined from 100% Virgin Modified PTFE Working Pressure: 0 - 250 psi at 70° Deg Fahrenheit Codes & Standards: ARRA Section 1605 "Buy American" Compliant. ASME A112.18.1M. ASTM D1599 & ASTM F610F 610M





(1) Please see backside of data sheet for ordering info, including configuration & material options.

## **Markets / Applications**

Polypropylene Body

- Wastewater Treatment
- Semiconductor Manufacturing
- Chemical Manufacturing
- Chemical Feed Systems
- Food & Beverage
- Desalination Plants
- Commercial Reverse Osmosis
- Farming & Agriculture
- Metal Plating

- Wet Processing
- Chemical Odor Control
- PCB Manufacturing
- Pharmaceutical Processing
- Alternative Fuel
- Photolithography
- Wet Bench & Fume Hoods
- NanoFluidics
- Many more..





Where Quality Meets Service & Value

# **PLASTIC NEEDLE VALVES**

# THROTTLE MASTER™ Series NG/NA

#### **Materials of Construction / Connections**

Body:	PVC:	Polyvinyl Chloride
	CPVC:	Chlorinated Polyvinyl Chloride
	PPR:	Polypropylene, unpigmented homopolymer, glass & mineral reinforced

#### **Dimensional Data / Parts List**



## Pressure / Temperature Data

MAX WORKING PRESSURES PSI (water, non-shock)

Mater	ial 5	0°C 50°F	20°C 68°F	30°C 86°F	40°C 104°F	50°C 122°F	60°C 140°F	70°C 158°F	80°C 176°F	90°C 194°F	100°C 212°F	120°C 248°F	Net Weights Pounds*
PVC	: :	200	250	250	220	140	135						0.387
CPV	<b>c</b> :	230	250	250	230	200	200	150	120	60			0.40
PP	:	200	240	240	210	145	125	75	60				0.318
PVD	F :	240	250	250	250	250	230	220	200	160	140	80	0.45

Temperature Ranges: PVC: 14 to 140°F (10 to 60°C), CPVC: 50 to 194°F (10 to 90°C), PP: 46 to 176°F (8 to 80°C), PVDF: -22 to 248°F (-30 to 120°C). \* Weights are for unfilled 1/4″ Female NPT x 1/2″ Female NPT without gauge.

## How to Order Throttle Master

Example: NG-500-PVC

Marquest Scientific, Inc.

.620 Cv Value



PVC Throttle Master Needle Valve, 1/2" Fem NPT Inlet x 1/2" Fem NPT Outlet, Globe (Straight) Pattern, Modified PTFE Stem Seal,

www.marguestscientific.com | www.PlasticNeedleValves.com

BODY STYLE	PORT CONNECTION	M	
NG = Globe (Straight)	<b>250</b> = 1/4" Female NPT	<b>PVC</b> = Polyviny	
NA = Angle (90 Deg)	<b>375</b> = 3/8" Female NPT	CPVC = Chlorin Chlorid	
	500 = 1/2" Female NPT		
	375S = 3/8" Solvent Socket	PPR = Polyprop glass & I	
	500S = 1/2" Solvent Socket	<b>PVD</b> = 100% Vir	

# MATERIAL VC = Polyvinyl Chloride

CPVC = Chlorinated Polyvinyl Chloride PPR = Polypropylene, unpigmented glass & mineral reinforced

PVD = 100% Virgin PVDF Polyvinylidene Flouride

#### **Port Connections:**

**Virgin Modified PTFE** 

Seal:

**Dimensions** (inches)

1. Colored Ring I.D. Insert

A

2.31

2.39

2.65

В

1.16

1.19

1.31

С

1.17

1.21

1.32

5. Threaded Insert

7. Stem Seal (PTFE)

WEIGHTS

6. Panel Nut

8. Body

SIZE

1/4" Fem NPT

3/8" Fem NPT

1/2" Fem NPT

**Parts List** 

2. Handle

3. Needle (Stem)

4. Cap (Bonnet)

1/4", 3/8", & 1/2" Fem NPT 3/8" & 1/2" Solvent Socket Slip 16mm & 20mm Fusion Socket

\*BSP Threads

(1) Please contact factory for special connection requests



### Flow Data

**ORIFICE SIZES & Cv VALUES** 

SIZE	1/4" 8	& 3/8″	1/2″		
	Globe Pattern	Angle Pattern	Globe Pattern	Angle Pattern	
Inlet	0.187″	0.250"	0.218"	0.250"	
Outlet	0.187″	0.187″	0.218"	0.218"	
Cv	0.310	0.426	0.620	0.780	

**Flow Formula** 

$$Q = Cv - \sqrt{\frac{\Delta P}{SG}}$$

Q = GPM (Gallons per Min) Cv = Flow Coefficient ▲ P = Change in Pressure SG = Specific Gravity

#### **Mounting Template**

When required, the template provides the outline of the hole and orientation slots for a panel or bracket mounting. The orientation slots may be cut in multiple positions to allow versatility in mounting the valve to accomodate the piping alignment requirements.





2950 Airway Avenue, Costa Mesa, California 92626

Toll Free 866 452 2349 Fax 714 491 9199

# **Blue-White**

# **Variable Area Flow Meters**

Industries, Ltd.	Engineering and Technical Data
_ <b>F-400N</b>	Blue-White
— 1/4". 3/8". 1/2" F/NPT	E ADD
Rod Guided Float	SPM LPM
	16
	3
	Read State of Tele
	Strategie and State

## **Features:**

- Tough machined acrylic meter body, highly polished to a clear finish.
- Direct reading permanent scale.
- White or yellow back reflector for easy reading.\*
- F/NPT adapters with high grade Viton o-ring seals and aluminum "stress ring" thread supports.
- 316 stainless steel or Hastelloy rod guided floats.
- Acceptable in direct sunlight applications.

\* All models are white except F-40250 and F-40375 which are yellow.

## Materials of Construction: Meter Body: Cast Acrylic Rod

Adapters:	Polypropylene
O-ring seals:	Viton <sup>®</sup> (optional EP)
Float:	
Standard Series	316SS, PVDF or PTFE (varies per model)
K- Series	Hastelloy, PVDF or PTFE (varies per model)
Guide Rod:	
Standard Series	316SS
K- Series	Hastelloy

# **Specifications:**

Max. working pressure: ......150 PSI (10.3 bar) @ 70° F (21° C) Max. Fluid Temperature: Polypropylene adapters: ....150° F (65° C) @ 0 PSI













# **Installation Requirements:**

#### 1. Misalignment will damage the meter!

Flowmeter must be installed in an exact vertical plane to ensure accuracy. Be certain of proper plumbing alignments. Misalignment may cause the o-ring seals to leak.

#### 2. Pipe dope and glue will damage the meter!

Use only PTFE tape on the threaded adapters. The meter body and plastic fittings cannot tolerate PVC Glue and/or pipe dope. Even fumes can cause severe damage. If you are installing your flowmeter to a glued pipe configuration, install the flowmeter after all glued fittings are dried and lines are purged of all fumes. Never hold the meter body with pliers or like tools. DO NOT OVER-TIGHTEN!

#### 3. Vibration and heavy loads will damage the meter!

Wall, floor and ceiling mounts and supports must be carefully aligned with the meter body and sturdy enough to support the plumbing and prevent vibration. Never allow the flowmeter to support the weight of related piping.

#### 4. Solenoid valves will damage the meter!

Avoid a system that will impose a sudden burst of flow to the meter. Such a burst will cause the float to impact the float stop with destructive force. Solenoid valves, or other quick opening valves cannot be used unless meter is protected against sudden bursts of flow.

#### 5. High pressures and temperatures will damage the meter!

The maximum acceptable temperature and pressure is interdependent. The maximum acceptable working pressure is dependant on the actual fluid temperature. The maximum acceptable fluid temperature is dependant on the actual working pressure. (see Temperature Vs. Pressure chart).

# Flow Range and Model Options:

#### **Standard Series**

- Equipped with 316 SS guide rod

#### **Models for Liquid**

MODEL	Dual Scale Range		Adapter	Adapter	Float
NUMBER	GPM	LPM	F/NPT	Material	Material
F-40250LN-4	0.025 to 0.250	0.1 to 1.0	1/4"	Polypropylene	PVDF
F-40250LN-6	0.025 to 0.250	0.1 to 1.0	3/8"	Polypropylene	PVDF
F-40050LN-4	0.050 to 0.500	0.2 to 2.0	1/4"	Polypropylene	316 SS
F-40050LN-6	0.050 to 0.500	0.2 to 2.0	3/8"	Polypropylene	316 SS
F-40375LN-6	0.1 to 1.0	0.4 to 4.0	3/8"	Polypropylene	PTFE
F-40375LN-8	0.1 to 1.0	0.4 to 4.0	1/2"	Polypropylene	PTFE
F-40376LN-6	0.2 to 2.0	1.0 to 7.5	3/8"	Polypropylene	316 SS
F-40376LN-8	0.2 to 2.0	1.0 to 7.5	1/2"	Polypropylene	316 SS
F-40377LN-6	0.3 to 3.0	1.5 to 11	3/8"	Polypropylene	316 SS
F-40377LN-8	0.3 to 3.0	1.5 to 11	1/2"	Polypropylene	316 SS
F-40500LN-6	0.5 to 5.0	2.0 to 20	3/8"	Polypropylene	316 SS
F-405001 N-8	0 5 to 5 0	2 0 to 20	1/2"	Polypropylene	316 SS

#### **Models for Air**

MODEL	Dual Scal	le Range	Adapter	Adapter	Float
NUMBER	SCEM	M°HR	F/NP1	Material	Material
F-40250GN-4	0.20 to 2.0	0.4 to 3.2	1/4"	Polypropylene	PVDF
F-40250GN-6	0.20 to 2.0	0.4 to 3.2	3/8"	Polypropylene	PVDF
F-40376GN-6	0.75 to 7.5	1.0 to 10	3/8"	Polypropylene	316 SS
F-40376GN-8	0.75 to 7.5	1.0 to 10	1/2"	Polypropylene	316 SS
F-40377GN-6	1.0 to 12	2.0 to 20	3/8"	Polypropylene	316 SS
F-40377GN-8	1.0 to 12	2.0 to 20	1/2"	Polypropylene	316 SS
F-40500GN-6	2.0 to 20	4.0 to 34	3/8"	Polypropylene	316 SS
F-40500GN-8	2.0 to 20	4.0 to 34	1/2"	Polypropylene	316 SS

#### Correction factor formulas for AIR models

PRESSURE CORRECTION	TEMPERATURE CORRECTION
$\sqrt{\frac{14.7 + \text{Working PSIG}}{14.7}}$	$\sqrt{\frac{520}{460 + \text{Working Temp °F}}}$

Notes:

1) Liquid models calibrated with water, Sp.Gr. 1.0. Custom Sp.Gr. calibrations available. Contact the factory.

2) Air models calibrated at standard Conditions (70°F @ 14.7 PSIa). Temperature and pressure correction may be required. Contact the factory for custom calibrations.





#### **K-Series**

- Equipped with Hastelloy guide rod

K-Series models are specially equipped for highly corrosive applications.

#### Models for Liquid

MODEL NUMBER	Dual Scale GPM	e Range LPM	Adapter F/NPT	Adapter Material	Float Material
F-40250LK-4	0.025 to 0.250	0.1 to 1.0	1/4"	Polypropylene	PVDF
F-40250LK-6	0.025 to 0.250	0.1 to 1.0	3/8"	Polypropylene	PVDF
F-40050LK-4	0.050 to 0.500	0.2 to 2.0	1/4"	Polypropylene	Hastelloy
F-40050LK-6	0.050 to 0.500	0.2 to 2.0	3/8"	Polypropylene	Hastelloy
F-40375LK-6	0.1 to 1.0	0.4 to 4.0	3/8"	Polypropylene	PTFE
F-40375LK-8	0.1 to 1.0	0.4 to 4.0	1/2"	Polypropylene	PTFE
F-40376LK-6	0.2 to 2.0	1.0 to 7.5	3/8"	Polypropylene	Hastelloy
F-40376LK-8	0.2 to 2.0	1.0 to 7.5	1/2"	Polypropylene	Hastelloy
F-40377LK-6	0.3 to 3.0	1.5 to 11	3/8"	Polypropylene	Hastelloy
F-40377LK-8	0.3 to 3.0	1.5 to 11	1/2"	Polypropylene	Hastelloy
F-40500LK-6	0.5 to 5.0	2.0 to 20	3/8"	Polypropylene	Hastelloy
F-40500LK-8	0.5 to 5.0	2.0 to 20	1/2"	Polypropylene	Hastelloy

# Savant DigiFlow 8000T, Digital Filter Monitor and Flow Meter

## Features :

- □ Filter capacity life monitor, up to 99500 liters or 19900 gallons
- □ Filter elapse time monitor, up to 720 days
- $\square$  Flow rate display, 0.95 13.2 lpm or 0.25 3.5 gpm
- □ Near end of filter life alert
- □ End of filter life alert
- □ Battery operated, 2 AAA batteries
- □ Low battery power alert
- $\hfill\square$  Automatic data memorized when battery power is off

Application :

- $\checkmark$  Under sink water treatment system
- ✓ Counter top water treatment system
- ✓ Commercial water treatment system
- ✓ Water dispenser

1.0 Electrical :

Operating Voltage : 3 DC Volts Operating Current : 1.0 mA (work), 0.015 mA (sleep)

2.0 Mechanic :







3.0 Application :Mounting Method : Back MountFlowing Direction : Bi-Direction



Materials : Sensor Body : Acetal Copolymer, TICONA M90 Turbine : Acetal Copolymer, TICONA M90 Stick of Turbine : #304 Stainless Steel O-Ring : EPDM Rubber Housing : ABS resin

5.0 Operation Guide

5.1 Install Batteries

Slide off the cover case of the battery room, and put into 2 AAA batteries. Then slide the cover case back.

5.2 Connecting Fitting

The specification of the DigiFlow 8000T connectors is 3/8" MNPT female. You could use any 3/8" MNPT male connectors.

5.3 Setting Filter Capacity and Elapse Time Monitor

Keep pressing DISPLAY button, then press RESET button and release both of the buttons. The DigiFlow 8000T will go into setting procedure. The digit will blink to notice you that the setting procedure is on.

5.4 Setting Filter Capacity

Press DISPLAY button to choose the capacity value. The sequence is OFF -  $0 - 100 - 200 - 300 \dots 19800 - 19900 - OFF - 0 - 100$  (gallon model) and OFF - 0 - 500 - 1000 - 99500 - OFF - 0 - 500 (Liter model). Then press RESET button to save the filter capacity value. Then go into elapse time value setting.

5.5 Setting Filter Elapse Time

Press DISPLAY button to choose the elapse time value. The sequence is OFF -  $0 - 30 - 60 - 90 \dots 690 - 720 - OFF - 0 - 30$ . Then press RESET to save the Timing. The setting procedure is completed.

# Aquaperform

Multipure's Aquaperform Drinking Water System features not just Multipure's Solid Carbon Block technology but also includes a specially-developed arsenic-adsorptive media that provides for the reduction of Arsenic V. The Aquaperform features a stainless steel housing and is designed for both versatility and additional contaminant reduction performance. The Aquaperform is NSF-certified to treat contaminants of Aesthetic Concern (Standard 42), contaminants of Health Concern (Standard 53) – including Arsenic V).

# Base Kit

This unit is excellent for use with inline applications such as icemakers, instant hot units, coffee machines, various restaurant uses, etc. Comes with easy connect fittings; however, no installation fixtures or accessories are provided.

# Countertop Kit

This unit sits on your counter next to the sink and connects to your existing faucet using a dualhose diverter value that allows you to easily switch from filtered to unfiltered water. The unit may be converted to a below-the-sink unit with the purchase of a conversion kit.

# Below-The-Sink Kit w/ Faucet

This unit hides below the sink and refreshing, delicious water pours through a designer faucet, which is installed directly on your sink, conveniently at your fingertips. It may alsobe connected to an icemaker or other device by using a tee. Faucet Available in multiple colors.

# Capacity Monitor Kit

A below-the-sink model that features a capacity monitor that increases the filter life to approximately 1200 gallons. An easy to read light flashes at the faucet, indicating it is time to replace the filter.





Below-Sink Kit (Faucet Included)



Countertop Kit (Dual-hose Diverter Valve Included)



Capacity Monitor Kit (Install with Below-Sink Kit)

## **Benefits & Features**

- Easy and convenient to use; provides delicious, clear, healthier drinking water whenever you need it.
- Better-tasting beverages coffee, tea, juices, and drinks of all kinds.
- Use for food preparation, improving the taste of fruits and vegetables.
- Highest quality water for cooking better pasta and sauces, soups, etc.

- Your pets will love it too!
- Guaranteed quality backed by an outstanding customer satisfaction guarantee and warranty.
- Cost-effective solution to meet your budget and replaces costly bottled water
- Attaches easily to your faucet without tools.
- Reliable protection for all of your family's drinking water needs.

### **Specifications**

SKU Housing Composition Faucet Composition Rubber Items Inlet Outlet Replacement Filter Approximate Capacity Approx. Flow Rate Water Pressure Housing Dimensions Particulate Retention Size Housing Warranty MP880 Stainless Steel Chrome plated lead-free Silicone 1/8" NPT 1/8" NPT CB11As 600 Gallons 1.00 gpm @ 60 psi 100 psi max/30 psi min 11"h x 5.75"w Sub Micron Lifetime Filter life will vary in proportion to the amount of water used and the level of impurities in the water being processed. Claims of capacity are not applicable to contaminants reduced by mechanical filtration because of broad variations in the quality and quantity of physical matter in your drinking water. Your Multipure filter will clog, protecting you from these contaminants, and your flow rate diminishes. For contaminants reduced by adsorption, filter life/capacity is 600 gallons. It is recommended that the filter be replaced when the first of the following occurs: (a) annually, (b) the unit's rated capacity is reached, (c) the flow rate diminishes, (d) the filter becomes saturated with bad tastes and odors.

# Carbon Block Technology

Multipure Drinking Water Systems utilize Multipure's innovative and proprietary solid carbon block filter. This solid carbon block filter employs multiple methods to reduce the presence of a wide variety of contaminants in water. Its pre-filter traps dirt, sand, and particles that affect the taste, odor, and clarity of water. Particles too small to be trapped mechanically are then electrokinetically adsorbed to the pre-filter surface. As water passes the pre-filter, the solid carbon block physically traps particles and chemically adsorbs the many different chemicals, pesticides, herbicides, and certain heavy metals that remain in the water. Because the solid carbon block filter is densely compacted, its surface area is maximized and water remains in contact with the filter material for an extended period of time. This extended contact period between the water and the filter ensures a consistently high degree of performance.



Nationally recognized standards established for the drinking water treatment industry confirm that the most effective systems for the removal of both aesthetic and harmful contaminants are those that utilize solid carbon block filters. Multipure is the original developer of solid carbon block technology, and has been the leader and innovator in the water treatment industry since 1970. Multipure, and its remarkable solid carbon block filter, is synonymous with superior quality, exceptional innovation, and intelligent performance. With a Multipure Drinking Water System, you are guaranteed the best.



7251 Cathedral Rock Drive, Las Vegas, NV 89128 • 702.360.8880 • 800.622.9206 www.multipure.com \* Either of the capacity mode or elapse time will be disabled when you choose value as OFF.

\*\* The setting procedure will be terminated, and go back to the original status if there is no input for 10 seconds.

## 5.6 Operating

The DigiFlow 8000T will be automatically turn on when there is water flowing through the sensor. It will automatically turn off in 10 seconds when there is no water flowing.

## 5.7 Mode Selection :

Press DISPLAY button is to display the status of the three modes of the DigiFlow 8000T. 1. Filter remaining capacity mode, 2. Filter remaining elapse time and 3. Flow rate.

## 5.8 Alert

## 5.8.1 Near End o Life Alert

When filter remaining capacity is less than 30 gallons (100 liters) or filter remaining elapse time is less than 7 days, the buzzer will beep once and the digit will blink to notice user that the filter cartridge is near its end of life.

## 5.8.2 End of Life Alert

When filter remaining capacity reaches 0 gallon (liter) or filter remaining time reaches 0 day, the buzzer will beep twice and the digit will blink to notice user that the filter cartridge is in its end of life, and out of function.

After change the filter cartridge, press RESET button. The DigiFlow 8000T will be reset to the original filter remaining capacity and remaining elapse time value, and start monitoring filter again.

## 5.8.3 Low Battery Power Alert

When the battery power lower than normal working level, the buzzer will beep twice to notice and the battery symbol on the screen will blink to notice user to change the battery. Once the batteries are replaced, the alert will be released. The data will be kept in memory and stored back when user replace the batteries.

# NSF Performance Data

Multipure Drinking Water Systems are tested according to NSF/ANSI Standard 42 (Aesthetic Effects) and Standard 53 (Health Effects). Multipure drinking water systems are designed to be used where the water is microbiologically safe and has been adequately disinfected. Systems certified for cyst reduction may be used on disinfected water that may contain filterable cysts.

# NSF/ANSI 42 - Aesthetic Effects

Multipure's Drinking Water Systems, the Aquaversa, Aquaperform and Aquadome have been tested according to NSF/ANSI Standard 42 for the reduction of the following substances. The concentration of the indicated substances in water entering the system was reduced to a concentration less than or equal to the permissible limit for water leaving the system.

Contaminant	% of reduction	Influent Concentration	Max Allowable
CHLORAMINE	>97.5%	3.0 mg/L +/- 10%	0.5 mg/L
CHLORINE	99%	2.0 mg/L +/- 10%	> or = 50%
Particulate Class I	Class I > 99%	At Least 10,000 particles/mL	> or = 85%

# NSF/ANSI 53 - Health Effects

Multipure's Drinking Water Systems, the Aquaversa, Aquaperform and Aquadome have been tested according to NSF/ANSI Standard 53 for the reduction of the following substances. The concentration of the indicated substances in water entering the system was reduced to a concentration less than or equal to the permissible limit for water leaving the system.

Contaminant	% of re	eduction	Influent Concentration	Max Allowable
ALACHLOR*		>98%	0.050	0.001
ARSENIC (pentavalent As (V); As (+5); arsenate @	6.5 pH***	>99.9%	0.050 +/- 10%	0.010
ARSENIC (pentavalent As (V); As (+5); arsenate @	8.5 pH***	>95.8%	0.050 +/- 10%	0.010
ASBESTOS		>99.9%	10 <sup>7</sup> to 10 <sup>8</sup> fibers/L; fibers greater than 10 micrometers in length	99% reduction requirement
ATRAZINE*		>97%	0.100	0.003
BENZENE*		>99%	0.081	0.001
BROMODICHLOROMETHANE (TTHM)*		>99.8%	0.300	0.015
BROMOFORM (TTHM)*		>99.8%	0.300	0.015
CARBOFURAN (Furadan)*		>99%	0.19	0.001
CARBON TETRACHLORIDE*		98%	0.078	0.0018
CHLORDANE		>99.5%	0.04 +/-10%	0.002
CHLOROBENZENE (Monochlorobenzene)*		>99%	0.077	0.001
CHLOROPICRIN*		99%	0.015	0.0002
CHLOROFORM (TTHM)* (surrogate chemical)		>99.8%	0.300	0.015
Cryptosporidium (CYST)	99.95%	minimum 50,000/L	99.95% reduction requirement	
CYST (Giardia; Cryptosporidium; Entamoeba; Toxo	oplasma)	99.95%	minimum 50,000/L	99.95% reduction requirement
2, 4-D*		98%	0.110	0.0017

Contaminant	% of re	eduction	Influent Concentration	Max Allowable
		. 007	0.050	0.00000
		>99%	0.052	0.00002
		95%	0.088	0.0048
I,I-DCE (see I,I-DICHLOROEIHYLENE)*		>99%	0.083	0.001
DIBROMOCHLOROMETHANE (TTHM; Chlorodibromon	nethane)*	>99.8%	0.300	0.015
DIBROMOCHLOROPROPANE (DBCP)*		>99%	0.052	0.00002
o-DICHLOROBENZENE (1,2 Dichlorobenzene)*		>99%	0.080	0.001
p-DICHLOROBENZENE (para-Dichlorobenzene)*		>98%	0.040	0.001
1,2-DICHLOROETHANE (1,2-DCA)*		95%	0.088	0.0048
1,1-DICHLOROETHYLENE (1,1-DCE)*		>99%	0.083	0.001
CIS-1,2-DICHLOROETHYLENE*		>99%	0.170	0.0005
TRANS-1,2- DICHLOROETHYLENE*		>99%	0.086	0.001
1,2-DICHLOROPROPANE (Propylene Dichloride)*		>99%	0.080	0.001
CIS-1,3- DICHLOROPROPYLENE*		>99%	0.079	0.001
DINOSEB*		99%	0.170	0.0002
EDB (see ETHYLENE DIBROMIDE)*		>99%	0.044	0.00002
ENDRIN*		99%	0.053	0.00059
Entamoeba (see CYSTS)		99.95%	minimum 50,000/L	99.95% reduction requirement
ETHYLBENZENE*		>99%	0.088	0.001
ETHYLENE DIBROMIDE (EDB)*		>99%	0.044	0.00002
Furadan (see CARBOFURAN)*		>99%	0.19	0.001
Giardia Lamblia (see CYST)		>99.95%	minimum 50,000/L	99.95% reduction requirement
HALOACETONITRILES (HAN)*				
BROMOCHLOROACETONITRILE		98%	0.022	0.0005
DIBROMOACETONITRILE		98%	0.024	0.0006
DICHLOROACETONITRILE		98%	0.0096	0.0002
TRICHLOROACETONITRILE		98%	0.015	0.0003
HALOKETONES (HK):*				
1,1-DICHLORO-2-PROPANONE		99%	0.0072	0.0001
1,1,1-TRICHLORO-2-PROPANONE		96%	0.0082	0.0003
HEPTACHLOR*		>99%	0.25	0.00001
HEPTACHLOR EPOXIDE*		98%	0.0107	0.0002
HEXACHLOROBUTADIENE (Perchlorobutadiene)*		>98%	0.044	0.001
HEXACHLOROCYCLOPENTADIENE*		>99%	0.060	0.000002
LEAD (pH 6.5)		>99.3%	0.15 +/- 10%	0.010
LEAD (pH 8.5)		>99.3%	0.15 +/- 10%	0.010
LINDANE*		>99%	0.055	0.00001
MERCURY (pH 6.5)		>99%	0.006 +/- 10%	0.002
MERCURY (pH 8.5)		>99%	0.006 +/- 10%	0.002
METHOXYCHLOR*		>99%	0.050	0.0001
Methylbenzene (see TOLUENE)*		>99%	0.078	0.001
Monochlorobenzene (see CHLOROBENZENE)*		>99%	0.077	0.001
MTBE (methyl tert-butyl ether)		>96.6%	0.015 +/- 20%	0.005
POLYCHLORINATED BIPHENYLS (PCBs Aroclor 126	0)	>99.9%	0.01 +/- 10%	0.0005
PCE (see TETRACHI OROFTHYI FNF)*	- 1	>99%	0.081	0.001
PENTACHI OROPHENOI *		>99%	0.096	0.001
	JF)*	>98%	0.044	0.001
	·-/ JF)*	>99%	0.080	0.001
RADON		>94.9%		300 pCi/l
		>0707	∩ 120	0.004
SHVI VLINE		~11/0	0.120	0.004

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Silvex (see 2,4,5-TP)*	99%	0.270	0.0016
STYRENE (Vinylbenzene)*	>99%	0.150	0.0005
1,1,1-TCA (see 1,1,1 - TRICHLOROETHANE)*	95%	0.084	0.0046
TCE (see TRICHLOROETHYLENE)*	>99%	0.180	0.0010
1,1,2,2- TETRACHLOROETHANE*	>99%	0.081	0.001
TETRACHLOROETHYLENE*	>99%	0.081	0.001
TOLUENE (Methylbenzene)*	>99%	0.078	0.001
TOXAPHENE	>92.9%	0.015 +/- 10%	0.003
Toxoplasma (see CYSTS)	99.95%	minimum 50,000/L	99.95% reduction requirement
2,4,5-TP (Silvex)*	99%	0.270	0.0016
TRIBROMOACETIC ACID*		0.042	0.001
1,2,4 TRICHLOROBENZENE (Unsymtrichlorobenzene)*	>99%	0.160	0.0005
1,1,1-TRICHLOROETHANE (1,1,1-TCA)*	95%	0.084	0.0046
1,1,2-TRICHLOROETHANE*	>99%	0.150	0.0005
TRICHLOROETHYLENE (TCE)*	>99%	0.180	0.0010
TRIHALOMETHANES (TTHM) (Chloroform; Bromoform; Bromodichloromethane; Dibromochloromethane)	>99.8%	0.300	0.015
TURBIDITY	>99%	11 +/- 1 NTU	0.5 NTU
Unsym-Trichlorobenzene (see 1,2,4-TRICHLOROBENZENE)*	>99%	0.160	0.0005
Vinylbenzene (see STYRENE)*	>99%	0.150	0.0005
XYLENES (TOTAL)*	>99%	0.070	0.001

# Standard 401 Incidental Contaminants / Emerging Compounds

Multipure's Drinking Water Systems, the Aquaversa and Aquadome have been tested according to NSF/ANSI 401 for reduction of the substances listed below. The concentration of the indicated substances in water entering the system was reduced to a concentration less than or equal to the permissible limit for water leaving the system, as specified in the NSF/ANSI 401\*\*\*\*.

Contaminant	% of	reduction	Influent Concentration	Max Allowable
Creating 1				
Group I				
Atenolol		>95.2%	200 ± 20%	0.00003 mg/L
Carbamazepine		>98.3%	1400 ± 20%	0.0002 mg/L
DEET		>95.5%	1401 ± 20%	0.0002 mg/L
Linuron		>96.2%	140 ± 20%	0.00002 mg/L
Meprobamate		>94.9%	400 ± 20%	0.00006 mg/L
Metolachlor		>98.5%	1400 ± 20%	0.0002 mg/L
Trimethoprim		>96.2%	140 ± 20%	0.00002 mg/L
Group II				
TCEP		>97.9%	5000 ± 20%	0.0007 mg/L
TCPP		97.8%	5000 ± 20%	0.0007 mg/L
Group III				
Bisphenol A		99%	2000 ± 20%	0.0003 mg/L
Estrone		>96.4%	140 ± 20%	0.00002 mg/L
Ibuprofen		>95.2%	400 ± 20%	0.00006 mg/L
Naproxen		>96.7%	140 ± 20%	0.00002 mg/L
Nonyl phenol		>97.5%	1400 ± 20%	0.0002 mg/L
Phenytoin		>95.2%	200 ± 20%	0.00003 mg/L

#### Footnotes

\*Chloroform was used as a surrogate for claims of reduction of Volatile Organic Chemicals (VOC). Multipure Systems tested at >99.8% actual reduction of Chloroform. Percent reduction shown herein reflects the allowable claims for VOCs as per tables in the Standard.\*\*Percent reduction reflects actual performance of Multipure product as specifically tested (at 200% of capacity). Percent reduction shown for VOCs reflects the allowable claims for Volatile Organic Chemicals/Compounds as per Tables. Chloroform was used as a surrogate for VOC reduction claims: the Multipure Systems' actual reduction rate of Chloroform was >99.8% as tested (at 200% of capacity). \*\*\*For Aquaperform (MP880) Only. \*\*\*\*NSF Standard 401 has been deemed as "incidental contaminants / emerging compounds". Incidental contaminants are those compounds that have been detected in drinking water suppliers at trace levels. While occurring at only trace levels these compounds can affect the public acceptance/perception of drinking water quality.

# 1. Do not use with water that is microbiologically unsafe or with water of unknown quality without adequate disinfection before or after the unit. Systems certified for cyst reduction may be used on disinfected waters that may contain filterable cysts.

2. Multipure Drinking Water Systems have been certified, as indicated, by NSF International for compliance to NSF/ANSI Standard Nos. 42, 53, and 401. Multipure Drinking Water Systems have been certified by the State of California Department of Public Health for the reduction of specific contaminants.

3. Filter life will vary in proportion to the amount of water used and the level of impurities in the water being processed. For optimum performance, it is essential that the filter be replaced on a regularly scheduled basis as follows: (a) annually; (b) when the unit's rated capacity has been reached; (c) the flow rate diminishes; or (d) the filter becomes saturated with bad tastes and odors.

4. For systems using the Capacity Monitor Kit, it will flash red, buzz and beep when it is time to replace the filter.

5. Do not allow water to freeze in the unit. If unit is exposed to freezing temperatures, drain water from unit and remove filter.

6. Do not allow water to sit in unit for extended periods of time (10 or more days) without being used. If unit is to be left unused for more than 10 days, drain all water from the system and remove the filters. Upon your return, reconnect the filters in the housing and continue use. In the event water does sit in the unit for 10 or more days, the system should be flushed by allowing water to flow to waste for about 10 minutes; then continue use as normal.

7. Multipure Drinking Water System housings are warranted for a Lifetime (provided that the filter be replaced at least once a year). All exterior hoses and attachments to the System are warranted for defects in material and workmanship for one year. Please see the Owner's Manual for complete product guarantee and warranty information.

8. Please see the Owner's Manual for installation instructions and operating procedures.

9. In compliance with New York law, it is recommended that before purchasing a water treatment system, NY residents have their water supply tested to determine their actual water treatment needs. Please compare the capabilities of the Multipure unit with your actual water treatment needs.

10. While testing was performed under standard laboratory conditions, actual performance may vary.

11. The list of substances which the treatment device reduces does not necessarily mean that these substances are present in your tap water.

12. Multipure's MP880 Series has been tested for the treatment of water containing pentavalent arsenic (also known as As(V), As(+5), or arsenate) at concentrations of 0.30 mg/L or less. This system reduces pentavalent arsenic, but may not reduce other forms of arsenic. This system is to be used on water supplies containing a detectable free chlorine residual at the system inlet or on water supplies that have been demonstrated to contain only pentavalent arsenic. Treatment with chloramine (combined chlorine) is not sufficient to ensure complete conversion of trivalent arsenic to pentavalent arsenic. Please see the Arsenic Facts section for further information.



# \* MELChemicals

# **ISOLUX**<sup>®</sup> 0.75 GPM ARSENIC REMOVAL SYSTEM

ISOLUX<sup>®</sup> Point-of-Use (POU) is selfcontained, user friendly, and easily installed. ISOLUX<sup>®</sup> POU provides an advanced 3 stage solution offering unbeatable performance. Our specialized system comes standard with pre-filtration, activated carbon, and our patented ISOLUX<sup>®</sup> media for removal of arsenic III and arsenic V.

ISOLUX<sup>®</sup> POU cartridges need to be replaced every 12 months or after treating 1000 gal, whichever comes first.

# Benefits

- Small footprint
- Simple installation
- Easy maintenance
- High adsorption capacity
- Strong technical support
- No backwashing required
- Easy waste disposal
- Fast kinetics Tests have demonstrated 90% removal in the first 10 — 15 seconds
- Low residency time
- USEPA TCLP tested as nonhazardous waste via landfill

# **Specifications**

Contaminant removal	Arsenic III & V
Max. Flow Rate	0.75 gpm
# of Cartridges	3 Stage System
Cartridge Size	Standard 10"
Stage 1 (Included)	1-micron Cartridge Filter
Stage 2 (Included)	10" ISOLUX <sup>®</sup> MC
Stage 3 (Included)	Activated Carbon Cartridge
Residence Time	15 seconds
Pressure Drop	<25 psi
Typical Media Life	Up to 1000 gal or 1 Year
pH Range	7 – 8.5 pH
Cartridge Disposal	Landfill
Module Dimensions:	5.75" W x 14" L x 12" H
Cartridge Housing Dimensions:	4.5" OD x 12 " H
Inlet Connection	Saddle valve for use on household copper piping
Outlet Connection	Separate sink-mounted faucet included
Shipping Weight (dry)	15 lbs
Operating Weight	20 lbs

\*Media life is based on avg. water arsenic levels and good water quality. Cartridge performance can vary depending on water quality.



For North America



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# **HAYWARD**



#### DETAILED VIEW



#### FLOW CONTROL

# NEW PRODUCT PREVIEW

# PBV SERIES BACK PRESSURE VALVES

#### SIZES 1/4" TO 2"

All thermoplastic diaphragm Back Pressure Valve for chemical feed systems, applies back pressure to a metering pump to prevent siphoning and eliminates varying dosage rates resulting from fluctuating downstream pressure. When the preset pressure is exceeded, the diaphragm is forced up and chemical flows through the valve to the injection point. All valves are preset for 50 psi, but are field adjustable via the adjustment screw. Installation should be as close to the injection point as possible to prevent chemical line drainage and it is most important that all chemical system equipment such as pulsation dampeners and pressure gauges are between the pump and back pressure valve.

#### **KEY FEATURES**

- PVC, CPVC, PP or PVDF Body, and Noryl<sup>™</sup> Molded Dome
- PTFE/EPDM Diaphragm
- Spring: 10 150 psi (Spring pre-set: 50 psi)
- 304 Stainless Steel Bolting
- FNPT Threads
- Anti-Siphon Function
- Adjustment Screw with Slot
- PVC, CPVC and PVDF rated to 250 psi @ 70°F/17.2 Bar at 21°C, PP rated to 150 psi @ 70°F/10 Bar at 21°C

#### OPTIONS

- ANSI or DIN/EN Threaded, Socket, True Union Socket or Flanged End Connections
- 0 50 psi and 10 250 psi Springs
- PTFE/FPM Diaphragm

#### TYPICAL APPLICATIONS

- Chemical Dosing
- Transfer and Processing
- Chlorination Systems

#### MATERIALS

- PVC Cell Class 12454 per ASTM D1784
- CPVC Cell Class 23447 per ASTM D1784
- PP per ASTM D4101
- PVDF



# **PBV Series Back Pressure Valves**

SIZES 1/4" TO 2"

#### PARTS LIST

- 1. Valve Body PVC, CPVC, PP or PVDF
- 2. Dome Noryl<sup>™</sup>
- 3. Diaphragm PTFE/EPDM or PTFE/FPM
- 4. Compressor
- 5. Spring
- 6. Adjustment Screw

#### SPARE PARTS

- Diaphragm and Spring
- Rebuild Kit: Diaphragm, Compressor, Adjustment Screw and Spring



#### DIMENSIONS (INCHES / MILLIMETERS)

VALVE SIZE in / DN	A in / mm	B in / mm	C in / mm
1/4 / 8	3.55 / <del>9</del> 0	2.35 / 60	0.75 / 19
3/8 / 10	3.55 / <del>9</del> 0	2.35 / 60	0.75 / 19
1/2 / 15	4.25 / 108	2.35 / 60	1.08 / 27
3/4 / 20	5.56 / 141	3.50 / 89	1.12 / 28
1 / 25	5.86 / 149	3.50 / 89	1.25 / 32
1-1/2 / 40	8.35 / 212	4.90 / 124	1.82 / 46
2 / 50	8.90 / 226	4.90 / 124	2.15 / 55

#### PERFORMANCE CURVE



#### SAMPLE INSTALLATION





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NPPPBV0915

Contact Hayward Flow Control with questions:

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Appendix C Field Data Sheets

#### WILLIAM FISHER MEMORIAL WATER COMPANY POINT OF USE PILOT TEST RAW WATER MONITORING

Week	Date	рН	Temperature (°C)	Conductivity (μmhos/cm)	TDS (ppm)	Chlorine (m	Residual g/l)	Arsen	ic (µg/I)
						Free	Total	Lab	Field
1	6/29/2018	8.1	29.5	420	281	0.08	0.04	20	70-300
2	7/8/2018	8.18	29.1	470	476	0.34	0.41	ns	70-300
3	7/13/2018	8.07	29.7	436	296	0.25	0.39	20	70-300
4	7/20/2018	8	29.1	477	324	0.72	0.74	ns	70-300
5	7/27/2018	8.12	29.6	472	320	0.77	0.92	20	50-70
6	8/3/2018	8.08	29.1	418	284	1.04	1.09	ns	70-300
7	8/10/2018	8.19	29.1	467	316	0.9	0.89	20	50-70
8	8/17/2018	8.17	28.5	407	277	0.1	0.05	ns	50-70
9	8/24/2018	8.16	26.7	422	287	0.82	0.64	20	50-70
10	8/31/2018	8.09	27.6	445	304	0.46	0.44	ns	50-70
11	9/10/2018	8.16	28.4	418	284	0.04	0.1	20	30-50
12	9/17/2018		Field Tester b	peing repaired	0.44	0.39	ns	30-50	
13	9/24/2018		Field Tester b	peing repaired		0.71	0.69	22	30-50
14	10/1/2018	8.22	25.5	408	290	0.21	0.19	ns	10-30
15	10/10/2018	8.38	23.9	416	296	0.74	0.72	20	10-30
16	10/15/2018	8.18	24.8	407	289	0.32	0.36	ns	10-30
17	10/24/2018			System out of Se	rvice - Un	able to collec	t Samples.		
18	10/29/2018	8.23	24	413	293	1.44	1.67	20	10-30
19	11/7/2018	8.25	23.2	413	293	0.88	1.06	ns	30-50
20	11/14/2018	8.2	20.7	407	290	0.65	0.71	20	30-50
21	11/28/2018	8.36	19.9	415	294	0.41	0.38	ns	10-30
22	12/5/2018	8.34	18.1	413	293	0.46	0.25	19	10-30
23	12/12/2018	8.26	17.9	432	305	0.1	0.27	ns	10-30
24	12/19/2018	8.42	18.2	411	291	0.11	0.14	18	10-30
25	1/2/2019	8.42	14.8	419	298	1.85	1.81	ns	10-30
26	1/14/2019	8.4	15.3	420	295	0.76	0.84	18	



### WILLIAM FISHER MEMORIAL WATER COMPANY POINT OF USE PILOT TEST POU UNIT A: MULTIPURE

		Flo	w Totalizer		Accumulated Flow	Accumulated Flow Pressure			Tommorroture	Conductivity	Chlorine Residual		Arconic (ug/l)		
Week	Date		(gal)		(gal)	(ps	(psi) pH			(umbos/cm)	(mg	(mg/l)		μ <sub>6</sub> / 1/	
		Previous	Current	Diff	Total	In	Out			(µnnios/eni)	Free	Total	Lab	Field	
1	6/29/2018	-	3000	-	0	23	19	8.15	29.1	408	0.15	0.18	<2.0	0-10	
2	7/8/2018	3000	2953	47	47	21	18	8.05	29.0	399	0.08	0.15	<2.0	0-10	
3	7/13/2018	2953	2884	69	116	21	18	7.92	30.7	466	0.14	0.18	<2.0	0-10	
4	7/20/2018	2884	2770	114	230	35	25	7.64	30.9	404	0.07	0.14	<2.0	0-10	
5	7/27/2018	2770	2695	75	305	32	25	8.14	29.2	405	0.14	0.18	<2.0	0-10	
6	8/3/2018	2695	2620	75	380	29	19	7.50	28.3	406	0.05	0.05	<2.0	0-10	
7	8/10/2018	2620	2500	120	500	29	19	7.97	28.9	429	0.11	0.07	<2.0	0-10	
8	8/17/2018	2500	2400	100	600	29	19	7.92	28.7	399	0.02	0.08	<2.0	0-10	
9	8/24/2018	2400	2299	101	701	29	18	8.17	26.5	425	0.03	0.11	<2.0	0-10	
10	8/31/2018	2299	2079	220	921	29	18	7.98	28.0	410	0.04	0.04	<2.0	0-10	
11	9/10/2018	2079	1873	206	1127	29	18	8.07	28.2	422	0.07	0.10	<2.0	0-10	
12	9/17/2018	1873	1703	170	1297	29	19	Fi	ield Tester bein	g repaired	0.08	0.06	<2.0	0-10	
13	9/24/2018	1703	1537	166	1463	29	19	Fi	ield Tester bein	g repaired	0.09	0.03	<2.0	0-10	
14	10/1/2018	1537	1376	161	1624	29	19	8.10	26.0	413	0.03	0.19	<2.0	0-10	
15	10/10/2018	1376	1170	206	1830	29	19	8.09	23.7	409	0.02	0.01	<2.0	0-10	
16	10/15/2018	1170	1048	122	1952	29	19	8.09	22.0	411	0.01	0.02	<2.0	0-10	
17	10/24/2018	1048	867	181	2133			0,	System out of S	ervice - Unable	to collect	Samples.			
18	10/29/2018	867	754	113	2246	28	19	8.06	23.7	419	0.05	0.04	<2.0	0-10	
19	11/7/2018	754	555	199	2445	29	18	8.09	23.6	418	0.03	0.07	<2.0	0-10	
20	11/14/2018	555	312	243	2688	29	17	8.13	20.9	418	0.03	0.06	<2.0	0-10	
21	11/28/2018	312	0	312	3000			8.13	20.3	413	0.01	0.04	<2.0	0-10	
22	12/5/2018	3000	2787	213	3213	30	17	8.20	17.6	416	0.18	0.07	<2.0	0-10	
23	12/12/2018	2787	2491	296	3509	30	19	8.17	18.1	413	0.08	0.12	<2.0	0-10	
24	12/19/2018	2491	2203	288	3797	29	18	8.27	17.8	411	0.06	0.02	<2.1	0-10	
25	1/2/2019	2203	1671	532	4329	30	16	8.28	15.3	426	0.03	0.05	<2.2	0-10	
26	1/14/2019	1671	1060	611	4940	25	15	8.25	15.8	420	0.08	0.12	<2.3	0-10	



### WILLIAM FISHER MEMORIAL WATER COMPANY POINT OF USE PILOT TEST POU UNIT B: ISOLUX

		Flow	Totalizer		Accumulated Flow	Flow Prossure (psi)			Tomporaturo	Conductivity	Chlorin	e Residual	Arcon	ic (ug/l)
Week	Date		(gal)		(gal)	Fless	ne (bsi)	рΗ	(°C)	(umbos/cm)	(n	ng/l)	Alsen	ic (µg/i)
		Previous	Current	Diff	Total	In	Out		( )	(µnnos/eni)	Free	Total	Lab	Field
1	6/29/2018	-	3000	-	0	25	20	7.90	29.0	280	0.09	0.03	<2.0	0-10
2	7/6/2018	3000	2953	47	47	21	18	7.95	28.9	397	0.10	0.26	<2.0	0-10
3	7/13/2018	2953	2883	70	117	19	16	7.53	29.8	427	0.09	0.21	<2.0	0-10
4	7/20/2018	2883	2773	110	227	35	25	7.50	30.5	414	0.10	0.20	<2.0	0-10
5	7/27/2018	2773	2693	80	307	30	19	7.68	29.3	406	0.28	0.34	<2.0	0-10
6	8/3/2018	2693	2615	78	385	29	18	7.63	28.6	416	0.42	0.47	<2.0	0-10
7	8/10/2018	2615	2490	125	510	29	18	7.84	28.3	405	0.34	0.35	<2.0	0-10
8	8/17/2018	2490	2390	100	610	29	18	7.76	28.9	404	0.02	0.03	<2.0	0-10
9	8/24/2018	2390	2277	113	723	29	20	8.04	27.1	406	0.23	0.31	<2.0	0-10
10	8/31/2018	2277	2066	211	934	29	18	8.07	27.2	411	0.13	0.16	<2.0	0-10
11	9/10/2018	2066	1827	239	1173	29	20	7.98	28.4	411	0.06	0.08	<2.0	10-30
12	9/17/2018	1827	1682	145	1318	29	20	I	Field Tester bein	ig repaired	0.27	0.21	<2.0	10-30
13	9/24/2018	1682	1535	147	1465	29	20	I	Field Tester bein	ig repaired	0.36	0.32	<2.0	0-10
14	10/1/2018	1535	1392	143	1608	29	20	8.06	25.8	418	0.14	0.12	<2.0	0-10
15	10/10/2018	1392	1209	183	1791	30	20	8.09	23.8	409	0.26	0.34	2.1	0-10
16	10/15/2018	1209	1100	109	1900	29	20	8.09	22.4	410	0.12	0.16	<2.0	0-10
17	10/24/2018	1100	941	159	2059				System out of	Service - Unabl	e to colle	ct Samples.		
18	10/29/2018	941	843	98	2157	28	21	8.08	23.7	417	0.92	0.85	<2.0	0-10
19	11/7/2018	843	673	170	2327	30	19	8.09	24.0	411	0.49	0.55	<2.0	0-10
20	11/14/2018	673	483	190	2517	32	20	8.13	20.9	411	0.37	0.41	<2.0	0-10
21	11/28/2018	483	130	353	2870			8.15	21.1	412	0.22	0.25	2.3	0-10
22	12/5/2018	3000	2870	130	3000	30	17	8.21	17.0	409	0.14	0.16	4.1	0-10
23	12/12/2018	2870	2651	219	3219	30	18	8.22	18.9	411	0.10	0.13	7.7	0-10
24	12/19/2018	2651	2428	223	3442	30	19	8.25	18.2	412	0.09	0.12	9.9	10-30
25	1/2/2019	2428	2069	359	3801	30	17	8.28	16.7	415	1.09	1.08	13	10-30
26	1/14/2019	2069	1610	459	4260	25	13	8.21	16.3	414	0.85	0.95	16	10-30



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Appendix D Laboratory Results



**BSK Associates Laboratory Fresno** 1414 Stanislaus St Fresno, CA 93706 559-497-2888 (Main)

Alfonso Manrique AM Consulting Engineers 7545 N. Del Mar Ave., STE 201 Fresno, CA 93711

#### **RE: Report for A8F3878 General**

Dear Alfonso Manrique,

Thank you for using BSK Associates for your analytical testing needs. In the following pages, you will find the test results for the samples submitted to our laboratory on 6/29/2018. The results have been approved for release by our Laboratory Director as indicated by the authorizing signature below.

The samples were analyzed for the test(s) indicated on the Chain of Custody (see attached) and the results relate only to the samples analyzed. BSK certifies that the testing was performed in accordance with the quality system requirements specified in the 2009 TNI Standard. Any deviations from this standard or from the method requirements for each test procedure performed will be annotated alongside the analytical result or noted in the Case Narrative. Unless otherwise noted, the sample results are reported on an "as received" basis.

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

If additional clarification of any information is required, please contact your Project Manager, Adam Trevarrow, at (800) 877-8310 or (559) 497-2888 x116.

Thank you again for using BSK Associates. We value your business and appreciate your loyalty.

Sincerely,

alam

Adam Trevarrow, Project Manager



Accredited in Accordance with NELAP ORELAP #4021-009



### **Case Narrative**

Project and	Report Details	Invoice Details					
Client:	AM Consulting Engineers	Invoice To: AM Consulting Engineers					
Report To:	Alfonso Manrique	Invoice Attn: Alfonso Manrique					
Project #:	-	Project PO#: -					
Received:	6/29/2018 - 16:47						
Report Due:	7/16/2018						
Sample Rec	eipt Conditions						
Cooler: Defa	ault Cooler	Containers Intact					
Temperature of	n Receipt °C: 13.5	COC/Labels Agree					
		Received with no thermal preservation.					
		Sample(s) arrived at lab on same day sampled.					
		Sample(s) were received in temperature range.					
		Initial receipt at BSK-FAL					

#### **Data Qualifiers**

The following qualifiers have been applied to one or more analytical results:

\*\*\*None applied\*\*\*

#### **Report Distribution**

Recipient(s)	Report Format	CC:
Alfonso Manrique	FINAL.RPT	

A8F3878

General



Sample ID: A8F3878-01 Sampled By: Rogelio Ramirez Sample Description: Raw - Water (Pre-Chlorination) Sample Date - Time: 06/29/18 - 10:30 Matrix: Ground Water Sample Type: Grab

Metals

IVIETAIS											
Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual		
Arsenic	EPA 200.8	20	2.0	ug/L	1	A809511	07/05/18	07/12/18			
Microbiology											
Analyte	Method	Result			Bato	h Prep	ared	Analyzed	Qual		
Coliform, Presence/Ab	sence by Colilert										
E. Coli	SM 9223B	Absent			A8093	312 06/29	9/18 17:35	06/30/18 14:01			
Total Coliform	SM 9223B	Absent			A8093	312 06/29	9/18 17:35	06/30/18 14:01			



Sample ID: A8F3878-02 Sampled By: Rogelio Ramirez Sample Description: Raw - Water (Post-Chlorination) Sample Date - Time: 06/29/18 - 10:30 Matrix: Ground Water Sample Type: Grab

Metals

iniciais											
Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual		
Arsenic	EPA 200.8	20	2.0	ug/L	1	A809511	07/05/18	07/12/18			
		Micro	obiology								
Analyte	Method	Result			Bato	ch Prep	ared	Analyzed	Qual		
Coliform, Presence/Ab	sence by Colilert										
E. Coli	SM 9223B	Absent			A8093	312 06/29	9/18 17:35	06/30/18 14:01			
Total Coliform	SM 9223B	Absent			A8093	312 06/29	9/18 17:35	06/30/18 14:01			



Sample ID: A8F3878-03 Sampled By: Rogelio Ramirez Sample Description: Pou Unit A - Mulitpure Sample Date - Time: 06/29/18 - 10:30 Matrix: Ground Water Sample Type: Grab

#### **BSK Associates Laboratory Fresno Metals** RL Analyte Method Result RL Units Batch Prepared Analyzed Qual Mult ND A809511 07/05/18 EPA 200.8 2.0 07/12/18 Arsenic ug/L 1 Microbiology Analyte Method Result Batch Prepared Analyzed Qual Coliform, Presence/Absence by Colilert E. Coli SM 9223B Absent A809312 06/29/18 17:35 06/30/18 14:01 Total Coliform SM 9223B A809312 06/29/18 17:35 06/30/18 14:01 Absent Analyte Method Result **RL Units** Batch Prepared Analyzed Qual Heterotrophic Plate Count (48 Hour) CFU/ml Heterotrophic Plate Count SM 9215B 2 A809313 06/29/18 17:51 07/01/18 15:32

# The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Sample ID: A8F3878-04 Sampled By: Rogelio Ramirez Sample Description: Pou Unit B - Isolux Sample Date - Time: 06/29/18 - 10:30 Matrix: Ground Water Sample Type: Grab

#### BSK Associates Laboratory Fresno

Metals

Wietais										
Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual	
Arsenic	EPA 200.8	ND	2.0	ug/L	1	A809511	07/05/18	07/12/18		
Microbiology										
Analyte	Method	Result			Batch	Prep	ared	Analyzed	Qual	
Coliform, Presence/Absence	by Colilert									
E. Coli	SM 9223B	Absent			A80931	2 06/29	9/18 17:35	06/30/18 14:01		
Total Coliform	SM 9223B	Absent			A80931	2 06/29	9/18 17:35	06/30/18 14:01		
Analyte	Method	Result	RL Units		Batch	Prep	ared	Analyzed	Qual	
Heterotrophic Plate Count (48	<u> 8 Hour)</u>									
Heterotrophic Plate Count	SM 9215B	91	CFU/ml		A80931	3 06/29	9/18 17:51	07/01/18 15:32		



General

#### BSK Associates Laboratory Fresno Metals Quality Control Report

			···, ···								
Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
		EPA 200.8	3 - Qua	ality Co	ntrol						
Batch: A809511 Prep Method: EPA 200.2										Prepare Ar	ed: 7/5/2018 nalyst: MAS
Blank (A809511-BLK1)											
Arsenic	ND	2.0	ug/L							07/12/18	
Blank Spike (A809511-BS1)											
Arsenic	200	2.0	ug/L	200		98	85-115			07/12/18	
Blank Spike Dup (A809511-BSD1)											
Arsenic	190	2.0	ug/L	200		97	85-115	1	20	07/12/18	
Matrix Spike (A809511-MS1), Source:	A8F3802-01										
Arsenic	190	2.0	ug/L	200	ND	96	70-130			07/12/18	
Matrix Spike (A809511-MS2), Source:	A8F3860-04										
Arsenic	210	2.0	ug/L	200	8.1	101	70-130			07/12/18	
Matrix Spike Dup (A809511-MSD1), Sc	ource: A8F3802-01										
Arsenic	200	2.0	ug/L	200	ND	100	70-130	4	20	07/12/18	
Matrix Spike Dup (A809511-MSD2), Sc	ource: A8F3860-04										
Arsenic	210	2.0	ug/L	200	8.1	102	70-130	1	20	07/12/18	



#### Notes:

- The Chain of Custody document and Sample Integrity Sheet are part of the analytical report.
- Any remaining sample(s) for testing will be disposed of according to BSK's sample retention policy unless other arrangements are made in advance.
- All positive results for EPA Methods 504.1 and 524.2 require the analysis of a Field Reagent Blank (FRB) to confirm that the results are not a contamination error from field sampling steps. If Field Reagent Blanks were not submitted with the samples, this method requirement has not been performed.
- Samples collected by BSK Analytical Laboratories were collected in accordance with the BSK Sampling and Collection Standard Operating
  Procedures.
- J-value is equivalent to DNQ (Detected, not quantified) which is a trace value. A trace value is an analyte detected between the MDL and the laboratory reporting limit. This result is of an unknown data quality and is only qualitative (estimated). Baseline noise, calibration curve extrapolation below the lowest calibrator, method blank detections, and integration artifacts can all produce apparent DNQ values, which contribute to the un-reliability of these values.
- (1) Residual chlorine and pH analysis have a 15 minute holding time for both drinking and waste water samples as defined by the EPA and 40 CFR 136. Waste water and ground water (monitoring well) samples must be field filtered to meet the 15 minute holding time for dissolved metals.
- Summations of analytes (i.e. Total Trihalomethanes) may appear to add individual amounts incorrectly, due to rounding of analyte values occurring before or after the total value is calculated, as well as rounding of the total value.
- RL Multiplier is the factor used to adjust the reporting limit (RL) due to variations in sample preparation procedures and dilutions required for matrix interferences.
- Due to the subjective nature of the Threshold Odor Method, all characterizations of the detected odor are the opinion of the panel of analysts. The characterizations can be found in Standard Methods 2170B Figure 2170:1.
- · The MCLs provided in this report (if applicable) represent the primary MCLs for that analyte.

#### Definitions

mg/L:	Milligrams/Liter (ppm)	MDL:	Method Detection Limit	MDA95:	Min. Detected Activity
mg/Kg:	Milligrams/Kilogram (ppm)	RL:	Reporting Limit: DL x Dilution	MPN:	Most Probable Number
µg/L:	Micrograms/Liter (ppb)	ND:	None Detected at RL	CFU:	Colony Forming Unit
µg/Kg:	Micrograms/Kilogram (ppb)	pCi/L:	PicoCuries per Liter	Absent:	Less than 1 CFU/100mLs
%:	Percent	RL Mult:	RL Multiplier	Present:	1 or more CFU/100mLs
NR:	Non-Reportable	MCL:	Maximum Contaminant Limit		

Please see the individual Subcontract Lab's report for applicable certifications.

BSK is not accredited under the NELAP p	rogram for the following parameters:	**NA**

Certifications: Please refer to our website for a copy of our Accredited Fields of Testing under each certification.

Fresno					
EPA - UCMR4	CA00079	Los Angeles CSD	9254479	NELAP certified	4021-010
State of California - ELAP	1180	State of Hawaii	4021	State of Nevada	CA000792018-1
State of Oregon - NELAP	4021-010	State of Washington	C997-18		
Sacramento					
State of California - ELAP	2435				
San Bernardino					
Los Angeles CSD	9254478	NELAP certified	4119-002	State of California - ELAP	2993
State of Oregon - NELAP	4119-002				
Vancouver					
NELAP certified	WA100008-011	State of Oregon - NELAP	WA100008-011	State of Washington	C824-17

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.





# AMCON9177



AM Consulting Engineers



# 06292018

Turnaround: Standard Due Date: 7/16/2018



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Printed: 7/25/2018 11:48:36AM

Page 9 of 16
SSOCIATES       Instrumentations and the Request of States of Stat	Pays ackr	Re	Re	Re				m				1	 Ē	1 1 1	5	7	-	#	Т		Sau		e Pro		Ad	-	Co			11.23	Ĩ
International Time Request (9) 497-2893       Image International Image Internatin Image International Image International Image International Ima	hipping Method:         ONTRAC         UPS         GSO           ooling Method:         Wet         Blue         Nong         Nong           wyment for services rendered as mode herein are due in full whith 30 days 5 km he date invoiced. If not so paid, forrowing the table in the Client or an anthonized eigent to the Client, that he Client agrees to be responsed balassociates com/BSKLab TermaConditions pdf	eceived for Life by: (Signature and Primed Name)	elinquished by: (Signature and Printed Name)	Manuska by (signature and simple Name) Pogelico Ramivez						/	-	/		-11 POUL WALT B : ISO INX	-8 POU UNIT A: MUIMPNITE	-SRAW - WATER ( POST - CHURINATION)	-3 RAW - WATER (PRE - CHLORINATION)	# Sample Description*	Matrix Types SW=Surface Water BW=Bottled Water GW=Grou	Rogelio Raminez   Au Pry	ampler Name (Printed/Signature)*:	EDD Type:     Trace (J-Flag)     Swamp     EDD Type:	william Fisher Memorial	5150 N. SIXth street, suite 124	tdress*:	AM consulting Engineers	ompany/Client Name*:	"Required Fields		(559) 497-2888 · Fax (55)	1414 Stanislaus St., Fres
Turnaround Time Request     Sandard - 10 business days     AMCONO     06/29/2018       Thermanieu ID:     Thermanieu ID:     Thermanieu ID:     Formanieu ID:     Formanieu ID:       Regularoy Consistent     Explicit (Consistent)     Formanieu ID:     Formanieu ID:     Formanieu ID:       Regularoy Consistent     Explicit (Consistent)     Formanieu ID:     Formanieu ID:     Formanieu ID:       Regularoy Consistent     Explicit (Consistent)     Formanieu ID:     Formanieu ID:     Formanieu ID:       Regularoy Consistent     Explicit (Consistent)     Formanieu ID:     Formanieu ID:     Formanieu ID:       Regularoy Consistent     Explicit (Consistent)     Formanieu ID:     Formanieu ID:     Formanieu ID:       Regularoy Consistent     Explicit (Consistent)     Formanieu ID:     Formanieu ID:     Formanieu ID:       Romanieu ID:     Comments / Station Code / WTRAX     Arssenicu Specific ID:     Formanieu ID:       Matrix:     Comments / Station Code / WTRAX     Arssenicu Specific ID:     Formanieu ID:       GMW     Comments / Station Code / WTRAX     Arssenicu Specific ID:     Formanieu ID:       GW     Comments / Station Code / WTRAX     Arssenicu Specific ID:     Formanieu ID:       GW     Comments / Station Code / WTRAX     Arssenicu Specific ID:     Formanieu ID:       GW     Goroury     Co	WALK-IN FED EX account bilances are deemed delinquent. Delinquent onsible for payment for the services on this Chain of C	Source C	Company	E AM Consulting Evaluation				7	/	/				6129 10:30	ce 129 10:30	10129 10:30	6129 10:20	Sampled* Date Time	und Water WW=Waste Water STW=S	Madera Co	Merced Co	Regulatory Carbon Copies SWRCB (Drinking Water)	Project #:	Fresho	City*:	onal cols: Rogelio Ramin	rt Attention*: Altonso Man	TI WY Temp:	シビナノ	9) 497-2893	nn CA 93706
AMCONGI Phone: [\$7] 188-9112 Fac(552)513-841 Email: offonso. Manris de Carro Cesom Arssenic Speciation Arssenic Speciation Arsseni	Counter: toainces are properly anothly service charges and interest specified in BSK custody, and symas to BSK's terms and conditions for laboratory services unles	Pate Market Payment Received at Delivery:	Date Time Received by: (Signature and Printed R	5 10129 44:45		/	/							6W	6 M	(JW)	6w	Matrix* Comments / Station Code / WTRAX	Storm Water DW=Drinking Water SO=Solid	Tulare Co	Fresno Co System Number*:	s Regulatory Compliance EDT to California SWRCB (Drinking Wa		CA 93710	State*: Zip*:	S PO# ENGINEER	rique Invoice To": AM CONSULTING	Thermometer ID:	Rush (Surcharge may apply) Date needed:	Standard - 10 business days	Turnaround Time Request
AMCONGING 10 10 10 10 10 10 10 10 10 10	Cusi Chill 's current Stan		(ette	ame)		-					_		_	×	×	×	×	Δ.				ter)			r		Pho				
A) LBB-9172 Far(552)513-8(1) P/A P/A P/A P/A P/A P/A P/A P/A	tody Seal: ling Proce dard Terms a / bound othen	Amou	/	C	_								-				X	Ave	se	enli	ر د	ودأد	ution	^			<sub>اه:</sub> لوک	1			AMO
7 06/29/2018 7 10 Y Y Y Y Y Y Y Y Y Y Y Y Y	nd Conditions	=/	$\in$	-0		_	I							×	X	×	×	B	a	C+	T		PIA			on (o	382 (b				UNI01
10 2 Fax:GSSUSI3-841 4 4 4 4 4 4 4 4 4 4 4 4 4	Iso (N)		C	>										×	×			+	P	°C			1/40			Manri	-917				1
	ry Services. The person signing for the DistriCompany and conditions can be found at	PIA#: Init.	9 Company	Company																						iene Dan-Ce-com	2 Fax (550) 513-841		Y	10	06/29/2018

SR-FL-0012-08

Page 10 of 16

вsк а <b>Sa</b>	Associates SR-FL-0002-19 Ample Integrity						A8F3878 AMCON917 10								
BS	K Bo	ottles: Yes	No	Page	eof										
	Was te Chemi	emperatule within strv <b>≤ 6°C</b> Mici	range? ro <b>&lt; 8°C</b>		Yes No NA	W	ere co ceiveo	for the test	s requeste	d?	а	17	No NA		
nfo	If sam	ples were taken to	day, is there evide	ence	Yes No NA	Bu	bbles	Present VC	DAs (524.2	/TCP/TTHM	)?	X00	No NA		
Ū	Did all	bottles arrive unbi	roken and intact?	/	Neg No	W	as a s	eived? (Che sufficient am	CK Method	Below) nole receive	d?	Yes	No		
8	Did all	bottle labels agree	e with COC?		Yes No	Do	sam	ples have a	hold time ·	<72 hours?		Tes	s No		
	Was s until cl	odium thiosulfate a nlorine was no long	added to CN samp ger present?	ole(s)	Yes No NA	- PN	as PN /I:	notified of	discrepand By/Time:	ies?		Yes	No) NA		
	250ml	(A) 500ml(B) 1Lite	er(C) 40ml VOA(V	)	Checks	Pas	sed?		2	121	F.		the second secon		
	Bacti	Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>				-				2					
1	None	(P) <sup>White Cap</sup>				6=									
	Cr6 (F	) Lt. Green Label/Blue C	Cap NH4OH(NH4)2SO4	DW	Cl, pH > 8	Р	F	5,6425	ne	Paragetel,					
lab	Cr6 (F	Pink Label/Blue Cap	NH4OH(NH4)2SO4	ww	pH 9.3-9.7	Р	F								
in the	Cr6 (F	Black Label/Blue Cap	NH4OH(NH4)2SO4	7199	рН 9.0-9.5	Ρ	F								
Jed	HNO3	(P) Hed Cap or HCI	(P) Purple Cap/Lt. Blue	Label			_	10	113	IB					
form	H <sub>2</sub> SO	(P) or (AG	) Yellow Cap/Labe	р 44, İ	pH < 2	Р	F	10	11/	12	121				
per	NaOF	(P) Green Cap		_	CL pH > 10	P	F				0.000				
are	NaOH	+ 7nAc(P)				Đ	E		21						
or	Diago	Had Owner 200			pri - 9			10002-000	2011.0.0		10.250	11	0		
<b>D</b> AA	DISSU	(AC)	mi (g)				-				121	16	el		
ive ther	None (AG) 608/8081/8082, 625, 632/8321, 8151, 8270				The Train of							10	1-1		
e eit	HCI (AG) <sup>Lt. Blue Label</sup> O&G, Diesel, TCP				8	-					$\downarrow$	119 011			
Re s ar				-	2	-					ľ	$   \mathcal{L}    \mathcal$			
eck.	Na <sub>2</sub> SC	D₃ 250mL (AG) <sup>№</sup>	eon Green Label 515		—	6 1 <del>8</del>	15			1.2.2.2	18-3	Ĭ	0		
ੇ ਦੇ <b>d</b>	$Na_2S_2$	O <sub>3</sub> 1 Liter (Brown	n P) 549			<u>)</u>	-					110	OSX		
<b>B</b>	Na <sub>2</sub> S <sub>2</sub>	O <sub>3</sub> (AG) <sup>Blue Label</sup>	548, THM, 524		$100 \rightarrow 100$	1.1	-	215 3123							
chlc	$Na_2S_2$	O <sub>3</sub> (CG) Blue Label	504, 505, 547			i.	-2		-						
ation	Na <sub>2</sub> S <sub>2</sub>	O₃ + MCAA (CG	) <sup>Orange Label</sup> 531	1	pH < 3	Ρ	F		tida f						
erz	NH₄C	(AG) <sup>Purple Label</sup>	552		-	5	-2								
Dres	EDA (	AG)Brown Label DI	BPs			2.14	_								
US I	HCL (	CG) 524.2,BTEX,G	as, MTBE, 8260/624	1	<u> </u>										
mea	Buffer	pH 4 (CG)		12.00	100 - 1 <u>00</u> - 100 - 10	-	-		1.221		lanu.	2			
" 	H <sub>3</sub> PO	4 (CG)Salmon Label				5	- 6.				1.50				
2	Other	Brown	A(P) FI	AR				IA							
	Asbes	tos 1L (P) w/ Fo	il / LL Metals E	Bottle	i stradina s	. 1	-46	S participa			1.25				
	Bottle	d Water				-									
	Clear	Glass 250mL	/ 500mL / 1	Liter											
	Solias	: Brass / Stee	Prosorvativa	Doto	/Time/Initiala	81	-8	Contain			Det				
ij	SP	Container	Fleseivalive	Date	#/TIME/IMIDAIS	SP	1	Containe		servative	Dat		lermuals		
S	S P					SP						-			
	0 1						✓ II	Indicates B	lanks Re	ceived		-			
10															
Jent						504		524.2	TCP	TTHM	537				
шо						8260	)/624								
Ũ						0LU		—							
						_									



# 

# External



# A8F3878









WECK LABORATO	DRIES, INC.	Certificate of	Analysis
Work Orders:	8G03045	Report Date:	7/20/2018
		Received Date:	7/3/2018
Project:	A8F3878	Turnaround Time:	Normal
, rojecu		Phones:	(559) 497-2888
		Fax:	(559) 485-6935
Atto	Adam Trevarrow	P.O. #:	
Client:	BSK Analytical Laboratories 1414 Stanislaus Street Fresno, CA 93706	Billing Code:	

Dear Adam Trevarrow,

1

Enclosed are the results of analyses for samples received 7/03/18 with the Chain-of-Custody document. The samples were received in good condition, at 1.1 °C and on ice. All analyses met the method criteria except as noted in the case narrative or in the report with data qualifiers.

) Sa	mple Results							
Sample:	A8F3878-01, Alias: Raw-Water (Pr	e-Chlorination)				S	Sampled: 06/29/18 10:3	0 by Client
	8G03045-01 (Water)							
Analyte			Result	MRL	Units	Dil	Analyzed	Qualifier
Method: EPA	200.8M/LC	Batch ID: W8G0576	Instr: ICPMS05,	Prepared	: 07/11/18 10:31		Analyst: jea	
Arsenic III			ND	0.40	ug/l	1	07/12/18 12:44	
Arsenic V			21 '	2.0	ug/l	5	07/12/18 12:39	

3603045

# WECK LABORATORIES, INC.

# Certificate of Analysis

FINAL REPORT

Quality Control Results

	%REC		RPD	
%REC	Limits	RPD	Limit	Qualifier
07/12/18				
07/12/18				
99	85-115			
101	85-115			
07/12/18				
100	70-130			
101	70-130			
07/12/18				
101	70-130	2	30	
102	70-130	0.2	30	
	%REC 07/12/18 07/12/18 99 101 07/12/18 100 101 07/12/18 101 101	* 07/12/18 * 07/12/18 * 07/12/18 * 07/12/18 * 07/12/18 * 07/12/18 * 07/12/18 * 07/12/18 * 070-130 * 07/12/18 * 070-130 * 070-130 * 070-130 * 070-130	%REC         %REC         RPD           07/12/18	%REC %REC         %REC RPD         RPD Limit           07/12/18         85-115         -           99         85-115         -           101         85-115         -           101         70-130         -           101         70-130         -           101         70-130         2         30           102         70-130         0.2         30



FINAL REPORT

#### Notes and Definitions

#### Item Definition

ND

NOT DETECTED at or above the Method Reporting Limit (MRL). If Method Detection Limit (MDL) is reported, then ND means not detected at or above the MDL.

Dil Dilution

drv Sample results reported on a dry weight basis

- RPD Relative Percent Difference
- % Rec Percent Recovery

Source Sample that was matrix spiked or duplicated.

Method Detection Limit MDL

The minimum levels, concentrations, or quantities of a target variable (e.g., target analyte) that can be reported with a specified degree of confidence. The MRL is also known as Limit of Quantitation (LOQ) and Detection Limit for Reporting (DLR) MRL.

MDA Minimum Detectable Activity

NR Not Reportable

TIC Tentatively Identified Compound (TIC) using mass spectrometry. The reported concentration is relative concentration based on the nearest internal standard. If the library search produces no matches at, or above 85%, the compound is reported as unknown.

Any remaining sample(s) will be disposed of one month from the final report date unless other atrangements are made in advance. An Absence of Total Coliform meets the drinking water standards as established by the California State Water Resources Control Board (SWRCB) All results are expressed on wet weight basis unless otherwise specified.

All samples collected by Weck Laboratories have been sampled in accordance to laboratory SOP Number MIS 002.

# Not Certified Analyses Summary

Analyte	 CAS #
EPA 200.8M/LC in Water	
Arsenic III	22541-54-4
Arsenic V	 17428-41-0
Reviewed by:	

ancola





NELAP

NELAP

Not Accredited By





Regina Giancola Project Manager

DoD-ELAP #L2457 • ELAP-CA #1132 • EPA-UCMR #CA00211 • Guam-EPA #17-008R • HW-DOH # • ISO 17025 #L2457.01 • LACSD #10143 • NELAP-CA #04229CA • NELAP-OR #4047 • NJ-DEP #CA015

This is a complete final report. The information in this report applies to the samples analyzed in accordance with the chain-of-custody document. Weck Laboratories certifies that the test results meet all requirements of TNI unless noted by qualifiers or written in the Case Narrative. This analytical report must be reproduced in its entirety.

ASSOCI	ATES	SUBCONTRACT A8F387	ORDER B			8G0304)	5
<u>SENDING LAE</u> BSK Associat 1414 Stanisla Fresno, CA 93 Phone: 559-4 Fax: 559-485 Project Manage E-ma	BORATORY: tes Laboratory Fresno tus St 3706 97-2888 x116 -6935 er: Adam Trevarrow ail: atrevarrow@bskassociates.com	RECE Weck 14859 City o Phone Fax: ( Turna m QC De	Laborator E Clark A f Industry, :(626) 33 526) 336-/ pund (Days liverables:	ORATORY: ies, Inc. ivenue CA91745-13 6-2139 2634 2634 510 III IV	96		
Sample ID A8F3878-01 Lab Matrix:	Samp Desc         Raw - Water (Pre-Chlorination)         Water         Analysis:         EXT-Arsenic Speciation		Clie	nt Matrix Gro	und Water	06/29/2018 10	.30
Released By	Outrac Date	Receive	a By M o By	۲.1 <sup>%</sup>	Date 7/3 // J Date	- // 2 5 Page	1 of 1 Page 16 of 16

.



**BSK Associates Laboratory Fresno** 1414 Stanislaus St Fresno, CA 93706 559-497-2888 (Main)

Alfonso Manrique AM Consulting Engineers 7545 N. Del Mar Ave., STE 201 Fresno, CA 93711

#### **RE: Report for A8G0694 General**

Dear Alfonso Manrique,

Thank you for using BSK Associates for your analytical testing needs. In the following pages, you will find the test results for the samples submitted to our laboratory on 7/6/2018. The results have been approved for release by our Laboratory Director as indicated by the authorizing signature below.

The samples were analyzed for the test(s) indicated on the Chain of Custody (see attached) and the results relate only to the samples analyzed. BSK certifies that the testing was performed in accordance with the quality system requirements specified in the 2009 TNI Standard. Any deviations from this standard or from the method requirements for each test procedure performed will be annotated alongside the analytical result or noted in the Case Narrative. Unless otherwise noted, the sample results are reported on an "as received" basis.

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

If additional clarification of any information is required, please contact your Project Manager, Adam Trevarrow, at (800) 877-8310 or (559) 497-2888 x116.

Thank you again for using BSK Associates. We value your business and appreciate your loyalty.

Sincerely,

alam

Adam Trevarrow, Project Manager



Accredited in Accordance with NELAP ORELAP #4021-009



# A8G0694

General

### **Case Narrative**

Project and	Report Details	Invoice Details							
Client:	AM Consulting Engineers	Invoice To: AM Consulting Engineers							
Report To:	Alfonso Manrique	Invoice Attn: Alfonso Manrique							
Project #:	William Fisher Memorial	Project PO#: -							
Received:	7/06/2018 - 14:16								
Report Due:	7/25/2018								
Sample Rec	eipt Conditions								
Cooler: Defa	ault Cooler	Containers Intact							
Temperature of	on Receipt °C: 15.4	COC/Labels Agree							
		Received with no thermal preservation.							
		Packing Material - Other							
		Initial receipt at BSK-FAI							

#### **Data Qualifiers**

The following qualifiers have been applied to one or more analytical results:

\*\*\*None applied\*\*\*

#### **Report Distribution**

Recipient(s)	Report Format	CC:
Alfonso Manrique	FINAL.RPT	



**General** William Fisher Memorial

## **Certificate of Analysis**

Sample ID: A8G0694-01 Sampled By: Rogelio Ramirez Sample Description: POU Unit A: Multiple Sample Date - Time: 07/06/18 - 10:30 Matrix: Ground Water Sample Type: Grab

#### BSK Associates Laboratory Fresno

Metals

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Arsenic	EPA 200.8	ND	2.0	ug/L	1	A809855	07/12/18	07/20/18	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



**General** William Fisher Memorial

## **Certificate of Analysis**

Sample ID: A8G0694-02 Sampled By: Rogelio Ramirez Sample Description: POU Unit B: Isolux Sample Date - Time: 07/06/18 - 10:30 Matrix: Ground Water Sample Type: Grab

#### BSK Associates Laboratory Fresno

Metals

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Arsenic	EPA 200.8	ND	2.0	ug/L	1	A809855	07/12/18	07/20/18	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



# A8G0694

General

#### BSK Associates Laboratory Fresno Metals Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
		EPA 200.8	3 - Qu	ality Co	ntrol						
Batch: A809855 Prep Method: EPA 200.2										Prepareo A	d: 7/12/2018 nalyst: PSK
Blank (A809855-BLK1)											
Arsenic	ND	2.0	ug/L							07/20/18	
Blank Spike (A809855-BS1)											
Arsenic	190	2.0	ug/L	200		96	85-115			07/20/18	
Blank Spike Dup (A809855-BSD1)											
Arsenic	190	2.0	ug/L	200		96	85-115	1	20	07/20/18	
Matrix Spike (A809855-MS1), Source:	A8G0638-01										
Arsenic	190	2.0	ug/L	200	ND	97	70-130			07/20/18	
Matrix Spike (A809855-MS2), Source:	A8G0810-01										
Arsenic	190	2.0	ug/L	200	3.3	96	70-130			07/20/18	
Matrix Spike Dup (A809855-MSD1), So	ource: A8G0638-01										
Arsenic	200	2.0	ug/L	200	ND	99	70-130	1	20	07/20/18	
Matrix Spike Dup (A809855-MSD2), So	ource: A8G0810-01										
Arsenic	200	2.0	ug/L	200	3.3	99	70-130	3	20	07/20/18	



#### Notes:

- · The Chain of Custody document and Sample Integrity Sheet are part of the analytical report.
- Any remaining sample(s) for testing will be disposed of according to BSK's sample retention policy unless other arrangements are made in advance.
- All positive results for EPA Methods 504.1 and 524.2 require the analysis of a Field Reagent Blank (FRB) to confirm that the results are not a contamination error from field sampling steps. If Field Reagent Blanks were not submitted with the samples, this method requirement has not been performed.
- Samples collected by BSK Analytical Laboratories were collected in accordance with the BSK Sampling and Collection Standard Operating
  Procedures.
- J-value is equivalent to DNQ (Detected, not quantified) which is a trace value. A trace value is an analyte detected between the MDL and the laboratory reporting limit. This result is of an unknown data quality and is only qualitative (estimated). Baseline noise, calibration curve extrapolation below the lowest calibrator, method blank detections, and integration artifacts can all produce apparent DNQ values, which contribute to the un-reliability of these values.
- (1) Residual chlorine and pH analysis have a 15 minute holding time for both drinking and waste water samples as defined by the EPA and 40 CFR 136. Waste water and ground water (monitoring well) samples must be field filtered to meet the 15 minute holding time for dissolved metals.
- Summations of analytes (i.e. Total Trihalomethanes) may appear to add individual amounts incorrectly, due to rounding of analyte values occurring before or after the total value is calculated, as well as rounding of the total value.
- RL Multiplier is the factor used to adjust the reporting limit (RL) due to variations in sample preparation procedures and dilutions required for matrix interferences.
- Due to the subjective nature of the Threshold Odor Method, all characterizations of the detected odor are the opinion of the panel of analysts. The characterizations can be found in Standard Methods 2170B Figure 2170:1.
- · The MCLs provided in this report (if applicable) represent the primary MCLs for that analyte.

#### Definitions

mg/L:	Milligrams/Liter (ppm)	MDL:	Method Detection Limit	MDA95:	Min. Detected Activity
mg/Kg:	Milligrams/Kilogram (ppm)	RL:	Reporting Limit: DL x Dilution	MPN:	Most Probable Number
µg/L:	Micrograms/Liter (ppb)	ND:	None Detected at RL	CFU:	Colony Forming Unit
µg/Kg:	Micrograms/Kilogram (ppb)	pCi/L:	PicoCuries per Liter	Absent:	Less than 1 CFU/100mLs
%:	Percent	RL Mult:	RL Multiplier	Present:	1 or more CFU/100mLs
NR:	Non-Reportable	MCL:	Maximum Contaminant Limit		

Please see the individual Subcontract Lab's report for applicable certifications.

BSK is not accredited under the NELAP p	rogram for the following parameters:	**NA**

Certifications: Please refer to our website for a copy of our Accredited Fields of Testing under each certification.

Fresno					
EPA - UCMR4	CA00079	Los Angeles CSD	9254479	NELAP certified	4021-010
State of California - ELAP	1180	State of Hawaii	4021	State of Nevada	CA000792018-1
State of Oregon - NELAP	4021-010	State of Washington	C997-18		
Sacramento					
State of California - ELAP	2435				
San Bernardino					
Los Angeles CSD	9254478	NELAP certified	4119-002	State of California - ELAP	2993
State of Oregon - NELAP	4119-002				
Vancouver					
NELAP certified	WA100008-011	State of Oregon - NELAP	WA100008-011	State of Washington	C824-17

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.





# AMCON9177



AM Consulting Engineers







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<sup>BSK A</sup>	ssociates SR-FL-0002-19 mple Integrity	۱ I		A8G	694 ON917	07/05/2018 10
BS	K Bottles: Yes ) No Page	of		<u> </u>		
	Was temperature within range?	(Yes) No NA	Were cor	rect containers a	nd preservatives	Yes No NA
<u>_</u>	If samples were taken today, is there evidence		Bubbles I	Present VOAs (5	24.2/TCP/TTHM)?	Yes No NA
2	that chilling has begun?	Yes No (NA	TB Recei	ved? (Check Me	hod Below)	Yes No MA
0 0	Did all bottles arrive unbroken and intact?	(yes) (yo)	Was a su	fficient amount o	f sample received?	
Õ	Was sodium thissulfate added to CN sample(s)	res No	Was PM	notified of discre	me <72 nours? bancies?	
	until chlorine was no longer present?	Yes No (NA)	PM:	By/Ti	me:	Yes No NA
	250ml(A) 500ml(B) 1Liter(C) 40ml VOA(V)	Checks	Passed?	1-4		· · · · · · · · · · · · · · · · · · ·
	Bacti Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>					
	None (P) <sup>White Cap</sup>	_		/		
	Cr6 (P) Lt. Green Label/Blue Cap NH4OH(NH4)2SO4 DW	Cl, pH > 8	PF	/_		
lab	Cr6 (P) Pink Label/Blue Cap NH40H(NH4)2SO4 WW	pH 9.3-9.7	ΡF	/		
in the	Cr6 (P) Black Label/Blue Cap NH40H(NH4)2SO4 7199	pH 9.0-9.5	PF			
ned	HNO3 (P) Fed Cap or HCI (P) Purple Cap/Lt. Blue Label	_		IRT		
form	H <sub>2</sub> SO <sub>4</sub> (P) or (AG) Yellow Cap/Label	pH < 2	PF			
per	NaOH (P) Green Cap	Cl. pH >10	ΡF			
are	NaOH + $7nAc(P)$	nH > 9	PF			
Aor	Dissolved Oxygen 300ml (g)					
pŽ						
ive ithe	HOLE (AC) to Blue label		<u> 같은 것은 가</u> 가지? 1991년 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 -			
e e e						
s R	ASCORDIC, EDTA, KH2Ct (AG) TITK Laber 525					
lect est	Na2SO3 250mL (AG) veon Green Laber 515		<u>. 1927</u> 2233			<u> v v</u>
e of	Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> 1 Liter (Brown P) 549					
	Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> (AG) <sup>Bille Laber</sup> 548, THM, 524					
/ch	Na2S2O3 (CG) Blue Laber 504, 505, 547					
atio	Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> + MCAA (CG) <sup>Orange Label</sup> 531	pH < 3	PF			
Sec	NH <sub>4</sub> Cl (AG) <sup>Purple Label</sup> 552					
Dres	EDA (AG) <sup>Brown Label</sup> DBPs	<u> </u>	<u>- 124</u> 0-01			
ans	HCL (CG) 524.2,BTEX,Gas, MTBE, 8260/624	—				
me:	Buffer pH 4 (CG)		4			
1	H <sub>3</sub> PO <sub>4</sub> (CG) <sup>Salmon Label</sup>					
-	Other:					
	Asbestos 1L (P) w/ Foil / LL Metals Bottle					
	Bottled Water					
	Solids: Brass / Steel / Plastic Bag		<u>1121 ( 272 ( 274 )</u> 			
	Container Preservative Date	e/Time/Initials		Container	Preservative D	)ate/Time/Initials
ild.	SP		SP			
0	SP		SP			
			✓ In	dicates Blank	s Received	
Its			504	524.2 TCF	ттнм 5	37
ume						
Con			8260/624			
L		1				
		()//	1   11	169		
Labe	eled by:@ <u>10'71</u> Labels che	ecked by:	$\mathbb{Z}_{@}\mathbb{W}$	ZZ RU	SH Paged by:	@
	$\mathbf{v}$	111	-	1		
						Page 9



**BSK Associates Laboratory Fresno** 1414 Stanislaus St Fresno, CA 93706 559-497-2888 (Main)

Alfonso Manrique AM Consulting Engineers 7545 N. Del Mar Ave., STE 201 Fresno, CA 93711

#### **RE: Report for A8G1843 General**

Dear Alfonso Manrique,

Thank you for using BSK Associates for your analytical testing needs. In the following pages, you will find the test results for the samples submitted to our laboratory on 7/13/2018. The results have been approved for release by our Laboratory Director as indicated by the authorizing signature below.

The samples were analyzed for the test(s) indicated on the Chain of Custody (see attached) and the results relate only to the samples analyzed. BSK certifies that the testing was performed in accordance with the quality system requirements specified in the 2009 TNI Standard. Any deviations from this standard or from the method requirements for each test procedure performed will be annotated alongside the analytical result or noted in the Case Narrative. Unless otherwise noted, the sample results are reported on an "as received" basis.

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

If additional clarification of any information is required, please contact your Project Manager, Adam Trevarrow, at (800) 877-8310 or (559) 497-2888 x116.

Thank you again for using BSK Associates. We value your business and appreciate your loyalty.

Sincerely,

alam

Adam Trevarrow, Project Manager



Accredited in Accordance with NELAP ORELAP #4021-009



# A8G1843

General

#### **Case Narrative**

Project and	Report Details	Invoice Details
Client: Report To: Project #: Received: Report Due:	AM Consulting Engineers Alfonso Manrique William Fisher Well 7/13/2018 - 15:20 7/27/2018	Invoice To: AM Consulting Engineers Invoice Attn: Alfonso Manrique Project PO#: -
Sample Rec	eipt Conditions	
Cooler: Defa Temperature o	uult Cooler n <b>Receipt ⁰C:</b> 10.6	Containers Intact COC/Labels Agree Received On Blue Ice Sample(s) arrived at lab on same day sampled. Packing Material - Other Sample(s) were received in temperature range. Initial receipt at BSK-FAL
Data Qualif	iers	
The following	ı qualifiers have been appli	ed to one or more analytical results:
***None applied	]***	
Report Dist	ribution	

Recipient(s)	Report Format	CC:
Alfonso Manrique	FINAL.RPT	



Sample ID: A8G1843-01 Sampled By: Rogelio Ramirez Sample Description: Raw Water (Pre-Chlorination) Sample Date - Time: 07/13/18 - 10:45 Matrix: Ground Water Sample Type: Grab

#### BSK Associates Laboratory Fresno

Metals

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Arsenic	EPA 200.8	20	2.0	ug/L	1	A810159	07/17/18	08/03/18	



Sample ID: A8G1843-02 Sampled By: Rogelio Ramirez Sample Description: Raw Water (Post-Chlorination) Sample Date - Time: 07/13/18 - 10:45 Matrix: Ground Water Sample Type: Grab

#### BSK Associates Laboratory Fresno

Metals

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Arsenic	EPA 200.8	20	2.0	ug/L	1	A810159	07/17/18	08/03/18	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Sample ID: A8G1843-03 Sampled By: Rogelio Ramirez Sample Description: POV Unit A Multipure Sample Date - Time: 07/13/18 - 10:45 Matrix: Ground Water Sample Type: Grab

#### BSK Associates Laboratory Fresno

Metals

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Arsenic	EPA 200.8	ND	2.0	ug/L	1	A810159	07/17/18	08/03/18	



Sample ID: A8G1843-04 Sampled By: Rogelio Ramirez Sample Description: POV Unit B Isolux Sample Date - Time: 07/13/18 - 10:45 Matrix: Ground Water Sample Type: Grab

## BSK Associates Laboratory Fresno

Metals

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Arsenic	EPA 200.8	ND	2.0	ug/L	1	A810159	07/17/18	08/03/18	



General

#### BSK Associates Laboratory Fresno Metals Quality Control Report

			··· <i>j</i> - ·								
Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
		EPA 200.8	3 - Qua	ality Co	ntrol						
Batch: A810159 Prep Method: EPA 200.2										Prepareo Ar	d: 7/17/2018 nalyst: MAS
Blank (A810159-BLK1)											
Arsenic	ND	2.0	ug/L							08/03/18	
Blank Spike (A810159-BS1)											
Arsenic	190	2.0	ug/L	200		97	85-115			08/03/18	
Blank Spike Dup (A810159-BSD1)											
Arsenic	200	2.0	ug/L	200		98	85-115	1	20	08/03/18	
Matrix Spike (A810159-MS1), Source:	A8G1792-06										
Arsenic	190	2.0	ug/L	200	ND	96	70-130			08/03/18	
Matrix Spike (A810159-MS2), Source:	A8G1815-01										
Arsenic	180	2.0	ug/L	200	5.7	87	70-130			08/03/18	
Matrix Spike Dup (A810159-MSD1), So	ource: A8G1792-06										
Arsenic	190	2.0	ug/L	200	ND	95	70-130	0	20	08/03/18	
Matrix Spike Dup (A810159-MSD2), So	ource: A8G1815-01										
Arsenic	180	2.0	ug/L	200	5.7	87	70-130	0	20	08/03/18	



#### Notes:

- The Chain of Custody document and Sample Integrity Sheet are part of the analytical report.
- Any remaining sample(s) for testing will be disposed of according to BSK's sample retention policy unless other arrangements are made in advance.
- All positive results for EPA Methods 504.1 and 524.2 require the analysis of a Field Reagent Blank (FRB) to confirm that the results are not a contamination error from field sampling steps. If Field Reagent Blanks were not submitted with the samples, this method requirement has not been performed.
- Samples collected by BSK Analytical Laboratories were collected in accordance with the BSK Sampling and Collection Standard Operating
  Procedures.
- J-value is equivalent to DNQ (Detected, not quantified) which is a trace value. A trace value is an analyte detected between the MDL and the laboratory reporting limit. This result is of an unknown data quality and is only qualitative (estimated). Baseline noise, calibration curve extrapolation below the lowest calibrator, method blank detections, and integration artifacts can all produce apparent DNQ values, which contribute to the un-reliability of these values.
- (1) Residual chlorine and pH analysis have a 15 minute holding time for both drinking and waste water samples as defined by the EPA and 40 CFR 136. Waste water and ground water (monitoring well) samples must be field filtered to meet the 15 minute holding time for dissolved metals.
- Summations of analytes (i.e. Total Trihalomethanes) may appear to add individual amounts incorrectly, due to rounding of analyte values occurring before or after the total value is calculated, as well as rounding of the total value.
- RL Multiplier is the factor used to adjust the reporting limit (RL) due to variations in sample preparation procedures and dilutions required for matrix interferences.
- Due to the subjective nature of the Threshold Odor Method, all characterizations of the detected odor are the opinion of the panel of analysts. The characterizations can be found in Standard Methods 2170B Figure 2170:1.
- · The MCLs provided in this report (if applicable) represent the primary MCLs for that analyte.

#### Definitions

mg/L:	Milligrams/Liter (ppm)	MDL:	Method Detection Limit	MDA95:	Min. Detected Activity
mg/Kg:	Milligrams/Kilogram (ppm)	RL:	Reporting Limit: DL x Dilution	MPN:	Most Probable Number
µg/L:	Micrograms/Liter (ppb)	ND:	None Detected at RL	CFU:	Colony Forming Unit
µg/Kg:	Micrograms/Kilogram (ppb)	pCi/L:	PicoCuries per Liter	Absent:	Less than 1 CFU/100mLs
%:	Percent	RL Mult:	RL Multiplier	Present:	1 or more CFU/100mLs
NR:	Non-Reportable	MCL:	Maximum Contaminant Limit		

Please see the individual Subcontract Lab's report for applicable certifications.

BSK is not accredited under the NELAP p	rogram for the following parameters:	**NA**

Certifications: Please refer to our website for a copy of our Accredited Fields of Testing under each certification.

Fresno					
EPA - UCMR4	CA00079	Los Angeles CSD	9254479	NELAP certified	4021-010
State of California - ELAP	1180	State of Hawaii	4021	State of Nevada	CA000792018-1
State of Oregon - NELAP	4021-010	State of Washington	C997-18		
Sacramento					
State of California - ELAP	2435				
San Bernardino					
Los Angeles CSD	9254478	NELAP certified	4119-002	State of California - ELAP	2993
State of Oregon - NELAP	4119-002				
Vancouver					
NELAP certified	WA100008-011	State of Oregon - NELAP	WA100008-011	State of Washington	C824-17

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.





AMCON9177



AM Consulting Engineers



07132018

Turnaround:	Standard
Due Date:	7/27/2018





Printed: 7/13/2018 5:09:44PN Page 1 of Page 9 of 16

Cooling Method: Wet PiCe None Report None Provide State Stat	Shipping Method: ONTRAC UPS GSO MA	At all All	Received Ar Lad VV (Shopfule and Printed Name)	Cominquistrieu by (signature and entitied Name)	Remained to Grant and David Manirez A	Relinquished by: (Signature and Printed Name) Con						4 5 POU UNT B: 15014X	JA POU UNIT A: Multipure	2 B Row Water (PIST - CHUDRINATION)	1-2 RAM Water (PRE - CHEORINATION)	# Sample Description*	Matrix Types: SW=Surface Water BW=Bottled Water GW=Ground V	Rogelio Ramirez / May Rog	Sampler Name (Printed/Signature)*:	Reporting Options:	William Fisher well	5150 N. sixth street, suite 124	Address*: Ctt	AM UNSWITTING ENTINEERS Additional	Communificant Namet	ASSOCIATES www.bskassociates.com	1414 Statristaus St., rrestro, (559) 497-2888 · Fax (559) 4
C tblances are deemed delinguent. Deinquent balances are subject to monthly service changes and interest specified in BSK's current for payment for the services on the Chain of Custody, and agrees to BSK's terms and conditions for laboratory services unless curitian	LLKIN FED EX Courier	AISIB 152 Payment Received at Delivery		mpany Date Time Received by (Signature and Printed Name)	M CONSULTING Engineers 7/13	mpany Date Time Received by: (Signature and Printed Name)						7/13 10:45 GW	7/13/10:45 GW	HIB 10:45 h	7113 10:45 Gm	Sampled*         Matrix*         Comments / Station Code / WTRAX	Nater WW=Waste Water STW=Storm Water DW=Drinking Water SO=Solid	Other: Geotracker #	Merced Co	Regulatory Carbon Copies  Regulatory Compliance  SWRCB (Drinking Water)  EDT to California SWRCB (Drinking Water)	oject #:	Fresno CA 93710	Kogelio Kami (ret State: Ziot:	interior: Altenso Mantique invoice 10: ANA consulting Engineers	Temp: /O, C Thermometer ID:	Rush (Surcharge may apply)	497-2893 Intraround Time Request
Thilling Process Begun ( ) W ( ) Sanded Terms and Conditions for Labourdo'y Services. The person signing for the Client/Company uaity bound otherwise. BSK's current felms and conditions can be found at	ustody Seal: YM	Amount: PIA#: Int.		Сотрапу		Company		8/+ 5/-2				*	×	*	× ×	A 4	r <u>s</u>	sen i		Spec	<i></i>	<i>θη</i>	Email: alfanso, manrique @ am-ce.com	Phone: (559)288-9172 Fax: (559) 513 - 8449			

Page 10 of 16

BSK Associates SR-FL-0002-19

# Sample Integrity



A8G1843

DO						aranan ((), ((8.8.3) 2012) ())	
	No Page			· · · · · ·			
	was temperature within range? Chemistry $\leq 6^{\circ}$ Micro $\leq 8^{\circ}$	(Yes No NA	Were o	correct contai	ners and prese	ervatives	(Yes) No NA
<u>و</u>	If samples were taken today, is there evidence		Bubble	s Present V	DAs (524.2/TC	P/TTHM)?	Yes No NA
2	that chilling has begun?	Yes NO NA	TB Red	ceived? (Che	ck Method Bel	low)	Yes No NA
8	Did all bottles arrive unbroken and intact?	Yes No	Was a	sufficient am	ount of sample	e received?	(Yes) No
Ŭ	Did all bottle labels agree with COC?	Yes No	Do san	nples have a	hold time <72	hours?	Tes No
	until chlorine was no longer present?	Yes No (NA	) PM:	M Houned Of	Bv/Time:	:	Yes No/NA)
	250ml(A) 500ml(B) 1Liter(C) 40ml VOA(V)	Checks	Passed?		7-4		
	Bacti Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>		-		011		
	None (P) <sup>White Cap</sup>		-				
	Cr6 (P) Lt. Green Label/Blue Cap NH4OH(NH4)2SO4 DW	GI, pH > 8	PF				1
ap	Cr6 (P) Pink Label/Blue Cap NH4OH(NH4)2SO4 WW	pH 9.3-9.7	ΡF				/
in the I	Cr6 (P) Black Label/Blue Cap NH40H(NH4)2S04 7199	pH 9.0-9.5	P F				
ned	HNQ3 (P) Red Cap or HCI (P) Purple Cap/Lt. Blue Label		<b>—</b>	IB	IB	/	
rforr	H <sub>2</sub> SO <sub>4</sub> (P) or (AG) Yellow Cap/Label	pH < 2	PF		14		
e pe	NaOH (P) Green Cap	Cl, pH >10	PF			1	7-13-18
r ar	NaOH + ZnAc (P)	pH > 9	PF				
A G	Dissolved Oxygen 300ml (g)	—	_			l l	NC-
red er N	None (AG) 608/8081/8082, 625, 632/8321, 8151, 8270	_	-				
eith	HCI (AG) <sup>Lt. Blue Label</sup> O&G, Diesel, TCP						
Rec	Ascorbic, EDTA, KH <sub>2</sub> Ct (AG) <sup>Pink Label</sup> 525	_					
cks	Na2SO3 250mL (AG)Neon Green Label 515		-				
che che	Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> 1 Liter (Brown P) 549	_					
rine <b>B</b>	Na2S2O3 (AG)Blue Label 548, THM, 524	-	-				
chlc	Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> (CG) <sup>Biue Label</sup> 504, 505, 547						
tion	Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> + MCAA (CG) <sup>Orange Label</sup> 531	pH < 3	PF				
erva	NH <sub>4</sub> Cl (AG) <sup>Purple Label</sup> 552	_				1	
pres	EDA (AG)Brown Label DBPs	-					and the second
ans	HCL (CG) 524.2,BTEX,Gas, MTBE, 8260/624	_				1	
me	Buffer pH 4 (CG)	<u> </u>			1997 - 19		
1	H3PO4 (CG)Salmon Label						
3	Other: Arsenic Speciation		and Chine Lines				
	Asbestos 1L (P) w/ Foil / LL Metals Bottle	— —	- <b>-</b>			<u> </u>	
	Bottled Water					$\square$	
	Clear Glass 250mL / 500mL / 1 Liter	<u> </u>	<u> 20 <del>4</del> ()</u>				
	Solids: Brass / Steel / Plastic Bag		<u> </u>	Queteia			
ij	Container Preservative Date	e/11me/initials		Contain	er Preser		ale/Time/Imuals
Sp			S P				
				Indicates E	Blanks Recei	ived	
				indicatoo i			
ents			504	524.2	TCPT	THM 53	7
mmc			8260/62	4			
Ŭ			0200/02	·			

Labeled by: Labels checked by: M @ 1619 RUSH Paged by:

\_@\_





# External

# A8G1843









FINAL REPORT

Work Orders:	8G17038	Report Date:	8/07/2018
		Received Date:	7/17/2018
Project:	A8G1843	Turnaround Time:	Normal
Project: A Attn: A		Phones:	(559) 497-2888
		Fax:	(559) 485-6935
Attn:	Adam Trevarrow	P.O. #:	
Client:	BSK Analytical Laboratories 1414 Stanislaus Street	Billing Code:	
	Fresno, CA 93706		

#### Dear Adam Trevarrow,

Enclosed are the results of analyses for samples received 7/17/18 with the Chain-of-Custody document. The samples were received in good condition, at 1.1 °C and on ice. All analyses met the method criteria except as noted in the case narrative or in the report with data qualifiers.

#### Sample Results

Sample:	A8G1843-01, Alias: Raw-Water	(Pre-Chlorination)		:	Sampled: 07/13/18 10:4	5 by Client		
	8G17038-01 (Water)							
Analyte			Result	MRL	Units	Dil	Analyzed	Qualifier
Method: EPA	200.8M/LC	Batch ID: W8H0249	Instr: ICPMS05	Prepared: 0	8/04/18 10:29		Analyst: jea	
Arsenic III			ND	0.40	ug/l	1	08/04/18 13:36	
Arsenic V			20	2.0	ug/l	5	08/04/18 13:58	

# WECK LABORATORIES, INC. Quality Control Results

# **Certificate of Analysis**

**FINAL REPORT** 

Qualifier

RPD

Limit

30

30

2

As Speciation by LC/ICP/MS Spike Source %REC Analyte Result MRL Units Level Result %REC Limits RPD Batch: W8H0249 - Direct Injection Blank (W8H0249-BLK1) Prepared & Analyzed: 08/04/18 Arsenic III ND 0.40 ug/l ND Arsenic V 0.40 ug/l LCS (W8H0249-BS1) Prepared & Analyzed: 08/04/18 Arsenic III 9.93 0.40 ug/i 10.0 99 75-125 Arsenic V 9.99 0.40 ug/l 10.0 100 75-125 Matrix Spike (W8H0249-MS1) Source: 8H03032-01 Prepared & Analyzed: 08/04/18 Arsenic III 99.1 4.0 100 ND 99 70-130 ug/l Arsenic V 137 4.0 100 37.8 99 70-130 ug/l Matrix Spike Dup (W8H0249-MSD1) Prepared & Analyzed: 08/04/18 Source: 8H03032-01 Arsenic III 99.3 4.0 ug/l 100 ND 99 70-130 0.1

4.0

ug/l

100

37.8

102

70-130

140

aG17038

Arsenic V



FINAL REPORT

#### Notes and Definitions

<b>87</b>	
Item	Definition
ND	NOT DETEC

- NOT DETECTED at or above the Method Reporting Limit (MRL). If Method Detection Limit (MDL) is reported, then ND means not detected at or above the MDL. Dilution
- Dil Dilution dry Sample results reported on a dry weight basis
- RPD Relative Percent Difference
- RPD Relative Percent Differ
- % Rec Percent Recovery

Source Sample that was matrix spiked or duplicated.

MDL Method Detection Limit

- MRL The minimum levels, concentrations, or quantities of a target variable (e.g., target analyte) that can be reported with a specified degree of confidence. The MRL is also known as Limit of Quantitation (LOQ) and Detection Limit for Reporting (DLR)
- MDA Minimum Detectable Activity
- NR Not Reportable
- TIC Tentatively Identified Compound (TIC) using mass spectrometry. The reported concentration is relative concentration based on the nearest internal standard. If the library search produces no matches at, or above 85%, the compound is reported as unknown.

Any remaining sample(s) will be disposed of one month from the final report date unless other arrangements are made in advance. An Absence of Total Coliform meets the drinking water standards as established by the California State Water Resources Control Board (SWRCB) All results are expressed on wet weight basis unless otherwise specified.

All samples collected by Weck Laboratories have been sampled in accordance to laboratory SOP Number MIS 002.

## Not Certified Analyses Summary

Analyte	ALL YOU ALL IN THE YOU AN ADDRESS OF A	CAS #	Not Accredited By	a
EPA 200.8M/LC in Water Arsenic III Arsenic V		22541-54-4 17428-41-0	NELAP NELAP	

Reviewed by:

ancola

- Water Board







Regina Giancola Project Manager

DoD-ELAP #L2457 • ELAP-CA #1132 • EPA-UCMR #CA00211 • Guam-EPA #17-008R • HW-DOH # • ISO 17025 #L2457.01 • LACSD #10143 • NELAP-CA #04229CA • NELAP-OR #4047 • NJ-DEP #CA015

This is a complete final report. The information in this report applies to the samples analyzed in accordance with the chain-of-custody document. Weck Laboratories certifies that the test results meet all requirements of TNI unless noted by qualifiers or written in the Case Narrative. This analytical report must be reproduced in its entirety.



SUBCONTRACT ORDER

A8G1843

8917038

Sample Date

07/13/2018 10:45

#### SENDING LABORATORY:

BSK Associates Laboratory Fresno 1414 Stanisłaus St Fresno, CA 93706 Phone: 559-497-2888 x116 Fax: 559-485-6935 Project Manager: Adam Trevarrow E-mail: atrevarrow@bskassociates.com

#### **RECEIVING LABORATORY:**

Weck Laboratories, Inc. 14859 E Clark Avenue City of Industry, CA 91745-1396 Phone :(626) 336-2139 Fax: (626) 336-2634 Turnaround (Days): Standard QC Deliverables: I Standard

Comments

Client Matrix Ground Water

Sample ID Samp Desc

#### A8G1843-01 Raw Water (Pre-Chlorination)

Lab Matrix: Water

Analysis:

EXT-Arsenic Speciation

Total, III, & V (250 mL HNO3 + 250 mL EDTA/acedtic acid)

Onfree 1.1.c 7/16)  $\mathbf{1}$ Date Received By Date

Released By

Page 1 of 1



**BSK Associates Laboratory Fresno** 1414 Stanislaus St Fresno, CA 93706 559-497-2888 (Main)

Alfonso Manrique AM Consulting Engineers 7545 N. Del Mar Ave., STE 201 Fresno, CA 93711

#### **RE: Report for A8G2843 General**

Dear Alfonso Manrique,

Thank you for using BSK Associates for your analytical testing needs. In the following pages, you will find the test results for the samples submitted to our laboratory on 7/20/2018. The results have been approved for release by our Laboratory Director as indicated by the authorizing signature below.

The samples were analyzed for the test(s) indicated on the Chain of Custody (see attached) and the results relate only to the samples analyzed. BSK certifies that the testing was performed in accordance with the quality system requirements specified in the 2009 TNI Standard. Any deviations from this standard or from the method requirements for each test procedure performed will be annotated alongside the analytical result or noted in the Case Narrative. Unless otherwise noted, the sample results are reported on an "as received" basis.

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

If additional clarification of any information is required, please contact your Project Manager, Adam Trevarrow, at (800) 877-8310 or (559) 497-2888 x116.

Thank you again for using BSK Associates. We value your business and appreciate your loyalty.

Sincerely,

alam

Adam Trevarrow, Project Manager



Accredited in Accordance with NELAP ORELAP #4021-009

A8G2843 FINAL 08072018 1233



# A8G2843

General

### **Case Narrative**

Project and	Report Details	Invoice Details
Client:	AM Consulting Engineers	Invoice To: AM Consulting Engineers
Report To:	Alfonso Manrique	Invoice Attn: Alfonso Manrique
Project #:	William Fisher Memorial	Project PO#: -
Received:	7/20/2018 - 15:45	
Report Due:	8/03/2018	
Sample Red	ceipt Conditions	
Cooler: Defa	ault Cooler	Containers Intact
Temperature of	on Receipt ºC: 16.3	COC/Labels Agree
•	·	Received On Blue Ice
		Sample(s) arrived at lab on same day sampled.
		Packing Material - Other
		Initial receipt at BSK-FAL

#### **Data Qualifiers**

The following qualifiers have been applied to one or more analytical results:

\*\*\*None applied\*\*\*

#### **Report Distribution**

Recipient(s)	Report Format	CC:
Alfonso Manrique	FINAL.RPT	



General William Fisher Memorial

## **Certificate of Analysis**

Sample ID: A8G2843-01 Sampled By: Rogelio Ramirez Sample Description: POU Unit A: Multipure Sample Date - Time: 07/20/18 - 11:15 Matrix: Ground Water Sample Type: Grab

#### BSK Associates Laboratory Fresno

Metals

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Arsenic	EPA 200.8	ND	2.0	ug/L	1	A810565	07/24/18	08/05/18	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

A8G2843 FINAL 08072018 1233



General William Fisher Memorial

## **Certificate of Analysis**

Sample ID: A8G2843-02 Sampled By: Rogelio Ramirez Sample Description: POU Unit B: Isolux Sample Date - Time: 07/20/18 - 11:15 Matrix: Ground Water Sample Type: Grab

#### BSK Associates Laboratory Fresno

Metals

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Arsenic	EPA 200.8	ND	2.0	ug/L	1	A810565	07/24/18	08/05/18	

A8G2843 FINAL 08072018 1233


General

#### BSK Associates Laboratory Fresno Metals Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
		EPA 200.8	3 - Qua	ality Co	ntrol						
Batch: A810565 Prep Method: EPA 200.2 - Pb/Cu Rule	3									Prepareo Ar	d: 7/24/2018 nalyst: MAS
Blank (A810565-BLK1)											
Arsenic	ND	2.0	ug/L							08/05/18	
Blank Spike (A810565-BS1)											
Arsenic	200	2.0	ug/L	200		100	85-115			08/05/18	
Blank Spike Dup (A810565-BSD1)											
Arsenic	200	2.0	ug/L	200		98	85-115	1	20	08/05/18	
Matrix Spike (A810565-MS1), Source:	A8G2736-01										
Arsenic	210	2.0	ug/L	200	3.7	101	70-130			08/05/18	
Matrix Spike (A810565-MS2), Source:	A8G2840-07										
Arsenic	210	2.0	ug/L	200	4.7	102	70-130			08/05/18	
Matrix Spike Dup (A810565-MSD1), So	ource: A8G2736-01										
Arsenic	210	2.0	ug/L	200	3.7	102	70-130	1	20	08/05/18	
Matrix Spike Dup (A810565-MSD2), So	ource: A8G2840-07										
Arsenic	210	2.0	ug/L	200	4.7	101	70-130	0	20	08/05/18	

A8G2843 FINAL 08072018 1233



### **Certificate of Analysis**

#### Notes:

- The Chain of Custody document and Sample Integrity Sheet are part of the analytical report.
- Any remaining sample(s) for testing will be disposed of according to BSK's sample retention policy unless other arrangements are made in advance.
- All positive results for EPA Methods 504.1 and 524.2 require the analysis of a Field Reagent Blank (FRB) to confirm that the results are not a contamination error from field sampling steps. If Field Reagent Blanks were not submitted with the samples, this method requirement has not been performed.
- Samples collected by BSK Analytical Laboratories were collected in accordance with the BSK Sampling and Collection Standard Operating
  Procedures.
- J-value is equivalent to DNQ (Detected, not quantified) which is a trace value. A trace value is an analyte detected between the MDL and the laboratory reporting limit. This result is of an unknown data quality and is only qualitative (estimated). Baseline noise, calibration curve extrapolation below the lowest calibrator, method blank detections, and integration artifacts can all produce apparent DNQ values, which contribute to the un-reliability of these values.
- (1) Residual chlorine and pH analysis have a 15 minute holding time for both drinking and waste water samples as defined by the EPA and 40 CFR 136. Waste water and ground water (monitoring well) samples must be field filtered to meet the 15 minute holding time for dissolved metals.
- Summations of analytes (i.e. Total Trihalomethanes) may appear to add individual amounts incorrectly, due to rounding of analyte values occurring before or after the total value is calculated, as well as rounding of the total value.
- RL Multiplier is the factor used to adjust the reporting limit (RL) due to variations in sample preparation procedures and dilutions required for matrix interferences.
- Due to the subjective nature of the Threshold Odor Method, all characterizations of the detected odor are the opinion of the panel of analysts. The characterizations can be found in Standard Methods 2170B Figure 2170:1.
- · The MCLs provided in this report (if applicable) represent the primary MCLs for that analyte.

#### Definitions

mg/L:	Milligrams/Liter (ppm)	MDL:	Method Detection Limit	MDA95:	Min. Detected Activity
mg/Kg:	Milligrams/Kilogram (ppm)	RL:	Reporting Limit: DL x Dilution	MPN:	Most Probable Number
µg/L:	Micrograms/Liter (ppb)	ND:	None Detected at RL	CFU:	Colony Forming Unit
µg/Kg:	Micrograms/Kilogram (ppb)	pCi/L:	PicoCuries per Liter	Absent:	Less than 1 CFU/100mLs
%:	Percent	RL Mult:	RL Multiplier	Present:	1 or more CFU/100mLs
NR:	Non-Reportable	MCL:	Maximum Contaminant Limit		

Please see the individual Subcontract Lab's report for applicable certifications.

BSK is not accredited under the NELAP progra	m for the following parameters: **NA	**

Certifications: Please refer to our website for a copy of our Accredited Fields of Testing under each certification.

Fresno					
EPA - UCMR4	CA00079	Los Angeles CSD	9254479	NELAP certified	4021-010
State of California - ELAP	1180	State of Hawaii	4021	State of Nevada	CA000792018-1
State of Oregon - NELAP	4021-010	State of Washington	C997-18		
Sacramento					
State of California - ELAP	2435				
San Bernardino					
Los Angeles CSD	9254478	NELAP certified	4119-002	State of California - ELAP	2993
State of Oregon - NELAP	4119-002				
Vancouver					
NELAP certified	WA100008-011	State of Oregon - NELAP	WA100008-011	State of Washington	C824-17

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

A8G2843 FINAL 08072018 1233





AMCON9177



AM Consulting Engineers



## 07202018

Turnaround: Standard Due Date: 8/3/2018





Printed: 7/20/2018 5:38:57PM Page 1 of 1

Page 7 of 9





Cooling Method: Wet Blue None Payment for services rendered at notes to so particular services rendered at notes the services rendered at notes the services rendered at notes to so particular services to so particular services rendered at notes to so particular services rendered at notes to so particular services to so particular services rendered at notes to so particular services t	Kuluu Wulu And Daiw		month for the state of the stat	Palinnichad w. Kinndurs- and Dechd Mana)								L DOV UNIT B : ICONUX	1 pou unit A: Multipure	# Sample Description*	Matrix Types: SW=Surface Water BW=Bottled Water GW=C	Rugelio Raminet / Ren P-	Sampler Name (Printed/Signature)*:	Reporting Options: Trace (J-Flag) Swamp EDD Type:	William Fisher memorial	SISO N. sixth st suite 124	Address: Address Address		Company/Client Name*: Required Fields Re		ASSOCIATES www.bskassociates.co	(559) 497-2888 Fax (t	1414 Stanislaus St., Fr
(J account balances are deemed delinquent. Delinquent balances and	Hully 2 1/20	Company	An Consulting An Consulting Supineers 7120									A V V 11 00/ 4	M4 51:11 01/L	Date Time Matri	bround Water WW=Waste Water STW=Storm Wa	Madera Co Tulare C	Merced Co	Regulatory Carbon Copies SWRCB (Drinking Water)	Project #:	Fresno	attonal cc s: Kogelii Kamiret	Alter Strange	nort Attention*:	-[	E	559) 497-2893	esno CA 93706
re subject to monthly service changes and interest specified in BSK's c.	Time Payment Received at Delivery:	Time Received by: (Signature and Printed Name	Time Received by (Signature and Printed Nam											x* Comments / Station Code / WTRAX	ater DW=Drinking Water SO=Solid	o Geotracker #:	Co System Number*:	Regulatory Compliance EDT to California SWRCB (Drinking Water		State: Zip: CA 93710	PC#	Empinders	Invoice Tot:	R L L	Rush (Surcharge may apply)	Standard - 10 business days	Turner and Time Boaringt
Custody Se Chilling Pro	Am	e)	e		/	 				, ,	7	2	×	4	l tr:	sen	ic	2			E-mail*; Ø	-1 - mon - 1	Dhamat. I.e			*******	<b>`</b>
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Page 8 of 9

BSK Associates SR-FL-0002-19

### Sample Integrity



07/20/2018

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_R2	K BO	ttles: ves	) NO	Page	<u>of</u>	<del></del>	\\	··					
	Was ter Chemis	mperature within stry <b>≤ 6°C</b> Mic	range? ro <b>&lt; 8°C</b>			Were c receive	orrect coi d for the	ntainer tests re	s and pleaste	reservatives d?	$\langle$	Yes	No NA
l f	If samp	les were taken to	day, is there evide	ence	(Yes) No NA	Bubble	s Present	VOAs	(524.2)	TCP/TTHM	)?	Yes	No NA
0	Did all I	bottles arrive unb	roken and intact?		No No	eived ? (C	finiant amount of sample received?						
ŏ	Did all I	bottle labels agree	with COC?		Ves No	Do san	nles hav	a hol	n time <	me <72 hours?			(No)
0	Was so	dium thiosulfate	added to CN samp	ole(s)		Was Pl	M notified	ofdise	crepanc	ies?			
	until ch	lorine was no long	ger present?			PM:		By	/Time:	_		Yes	
	250ml()	A) 500ml(B) 1Lite	er(C) 40ml VOA(V)	)	Checks	Passed?	- 6	<u>}_</u>					
	Bacti N	Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>				<u>.</u>			a sere y				
	None (	(P) <sup>White Cap</sup>			_	—						)	
	Cr6 (P	) Lt. Green Label/Blue (	<sup>Sap</sup> NH4OH(NH4)2SO4	DW	Cl, pH > 8	PF			1	1			
<u></u>	Cr6 (P	) Pink Label/Blue Cap	NH4OH(NH4)2SO4	ww	pH 9.3-9.7	ΡF			1				
in the	Cr6 (P	) Black Label/Blue Cap ***24 HOUR H	NH4OH(NH4)2SO4 OLD TIME***	7199	pH 9.0-9.5	PF							
- Dec	HNO <sub>3</sub>	(P) Hed Cap or HC	(P) Purple Cap/Lt. Blue	Label			IR						
-form	H <sub>2</sub> SO <sub>4</sub>	(P) or (AG	) Yellow Cap/Label	r i	pH < 2	PF			1				
Jac 1	NaOH	(P) Green Cap			Cl, pH >10	ΡF	<u>1997 <b>x</b> 1997 769 769 76</u>						
are '	NaOH	+ ZnAc (P)	and the second second		pH > 9	PF				X .	5.00		
0	Dissol	ved Oxygen 300	)ml (a)	2521.04503.0			<u></u>			N		<u></u>	6 - 1097 PA - 4 40 P - 54 NOV
Pa 2	None (	(AG) 608/8081/8082	. 625. 632/8321. 8151. 1	8270	an a								
eive		G)Lt. Blue Label	G Diesel TCP		<u></u>	<u></u>		<u>0.81 4.15 .</u>		+	,	<u>ilish ili</u> t.	
Rec	Ascort	pic. EDTA, KH2	Ct (AG) <sup>Pink Label</sup> 52	25							5/		
S F	Na <sub>2</sub> SC	) 250mL (AG) N	eon Green Label 515	Sections						<u> </u>	te	V	
ttle	Na <sub>2</sub> S <sub>2</sub>	O <sub>3</sub> 1 Liter (Brow	n P) 549		<u></u>	<u>2004 (1921) - 1004</u>	<u>34 64 64 94 94 94 94 94 94 94 94 94 94 94 94 94</u>	<u>-9-24</u> 283			1	fr	5
B B S	Na <sub>2</sub> S <sub>2</sub>	O3 (AG)Blue Label	548 THM 524	8.0.4				SA S			$\vdash $	$\mathcal{A}$	6
		O <sub>3</sub> (CG) Blue Label	504 505 547	6.582.72.289		<u> </u>	<u>. An /u>	<u>ani de Bad</u>	<u>a 1946 ( 1</u>		10.0000	f f	
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**BSK Associates Laboratory Fresno** 1414 Stanislaus St Fresno, CA 93706 559-497-2888 (Main)

Alfonso Manrique AM Consulting Engineers 7545 N. Del Mar Ave., STE 201 Fresno, CA 93711

#### **RE: Report for A8G3659 General**

Dear Alfonso Manrique,

Thank you for using BSK Associates for your analytical testing needs. In the following pages, you will find the test results for the samples submitted to our laboratory on 7/27/2018. The results have been approved for release by our Laboratory Director as indicated by the authorizing signature below.

The samples were analyzed for the test(s) indicated on the Chain of Custody (see attached) and the results relate only to the samples analyzed. BSK certifies that the testing was performed in accordance with the quality system requirements specified in the 2009 TNI Standard. Any deviations from this standard or from the method requirements for each test procedure performed will be annotated alongside the analytical result or noted in the Case Narrative. Unless otherwise noted, the sample results are reported on an "as received" basis.

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

If additional clarification of any information is required, please contact your Project Manager, Adam Trevarrow, at (800) 877-8310 or (559) 497-2888 x116.

Thank you again for using BSK Associates. We value your business and appreciate your loyalty.

Sincerely,

alam

Adam Trevarrow, Project Manager



Accredited in Accordance with NELAP ORELAP #4021-009



## A8G3659

General

#### **Case Narrative**

Project and	Report Details	Invoice Details								
Client: Report To: Project #: Received: Report Due:	AM Consulting Engineers Alfonso Manrique William Fisher Memorial 7/27/2018 - 15:07 8/10/2018	Invoice To: AM Consulting Engineers Invoice Attn: Alfonso Manrique Project PO#: -								
Sample Rec	eipt Conditions									
Cooler: Defa Temperature o	ault Cooler on Receipt ºC: 15.3	Containers Intact COC/Labels Agree Received with no thermal preservation. Sample(s) arrived at lab on same day sampled. Packing Material - Other Sample(s) were received in temperature range. Initial receipt at BSK-FAL								
Data Quali	fiers									
The following	g qualifiers have been app	ied to one or more analytical results:								
***None applie	d***									
Report Dis	tribution									
Recipient(s)	Re	ort Format CC:								

Recipient(s) Alfonso Manrique

FINAL.RPT



Total Coliform

**General** William Fisher Memorial

#### **Certificate of Analysis**

Sample ID: A8G3659-01 Sampled By: Rogelio Ramirez Sample Description: Raw Water (Pre-Chlorination)

SM 9223B

Sample Date - Time: 07/27/18 - 10:18 Matrix: Ground Water Sample Type: Grab

A810821 07/27/18 18:55 07/28/18 15:35

#### BSK Associates Laboratory Fresno

Metals

inclais											
Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual		
Arsenic	EPA 200.8	17	2.0	ug/L	1	A810921	07/31/18	08/10/18			
	Microbiology										
Analyte	Method	Result			Batch	n Prep	ared	Analyzed	Qual		
Coliform, Presence/A	Coliform, Presence/Absence by Colilert										
E. Coli	SM 9223B	Absent			A81082	21 07/27	7/18 18:55	07/28/18 15:35			

Absent



### **Certificate of Analysis**

Sample ID: A8G3659-02 Sampled By: Rogelio Ramirez Sample Description: Raw Water (Post-Chlorination) Sample Date - Time: 07/27/18 - 10:30 Matrix: Ground Water Sample Type: Grab

#### Metals RL Analyte Method Result RL Units Batch Prepared Analyzed Qual Mult A810921 07/31/18 EPA 200.8 20 2.0 08/10/18 Arsenic ug/L 1 Microbiology Analyte Method Result Batch Prepared Analyzed Qual Coliform, Presence/Absence by Colilert E. Coli SM 9223B Absent A810821 07/27/18 18:55 07/28/18 15:35 Total Coliform SM 9223B Absent A810821 07/27/18 18:55 07/28/18 15:35

**BSK Associates Laboratory Fresno** 

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



#### **Certificate of Analysis**

**BSK Associates Laboratory Fresno** 

Sample ID: A8G3659-03 Sampled By: Rogelio Ramirez Sample Description: Pou Unit A: Multipure Sample Date - Time: 07/27/18 - 10:30 Matrix: Ground Water Sample Type: Grab

#### **Metals** RL Analyte Method Result RL Units Batch Prepared Analyzed Qual Mult ND A810921 07/31/18 EPA 200.8 2.0 08/10/18 Arsenic ug/L 1 Microbiology Analyte Method Result Batch Prepared Analyzed Qual Coliform, Presence/Absence by Colilert E. Coli SM 9223B Absent A810821 07/27/18 18:55 07/28/18 15:35 Total Coliform SM 9223B A810821 07/27/18 18:55 07/28/18 15:35 Absent Analyte Method Result **RL Units** Batch Prepared Analyzed Qual Heterotrophic Plate Count (48 Hour) Heterotrophic Plate Count CFU/ml SM 9215B 31 A810826 07/27/18 18:28 07/29/18 15:38

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



#### **Certificate of Analysis**

Sample ID: A8G3659-04 Sampled By: Rogelio Ramirez Sample Description: POU Unit B: Isolux Sample Date - Time: 07/27/18 - 10:30 Matrix: Ground Water Sample Type: Grab

#### **BSK Associates Laboratory Fresno Metals** RL Analyte Method Result RL Units Batch Prepared Analyzed Qual Mult ND A810921 07/31/18 EPA 200.8 2.0 08/10/18 Arsenic ug/L 1 Microbiology Analyte Method Result Batch Prepared Analyzed Qual Coliform, Presence/Absence by Colilert E. Coli SM 9223B Absent A810821 07/27/18 18:55 07/28/18 15:35 Total Coliform SM 9223B A810821 07/27/18 18:55 07/28/18 15:35 Absent Analyte Method Result **RL Units** Batch Prepared Analyzed Qual Heterotrophic Plate Count (48 Hour) Heterotrophic Plate Count CFU/ml SM 9215B 240 A810826 07/27/18 18:28 07/29/18 15:38



## A8G3659

General

#### BSK Associates Laboratory Fresno Metals Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual	
		EPA 200.	8 - Qua	ality Co	ntrol							
Batch: A810921 Prep Method: EPA 200.2										Prepareo Ar	d: 7/31/2018 nalyst: MAS	
Blank (A810921-BLK1)												
Arsenic	ND	2.0	ug/L							08/10/18		
Blank Spike (A810921-BS1)												
Arsenic	200	2.0	ug/L	200		100	85-115			08/10/18		
Blank Spike Dup (A810921-BSD1)												
Arsenic	200	2.0	ug/L	200		98	85-115	1	20	08/10/18		
Matrix Spike (A810921-MS2), Source: A	<b>\8G3659-01</b>											
Arsenic	220	2.0	ug/L	200	17	101	70-130			08/10/18		
Matrix Spike Dup (A810921-MSD2), So	urce: A8G3659-01											
Arsenic	220	2.0	ug/L	200	17	102	70-130	1	20	08/10/18		



### **Certificate of Analysis**

#### Notes:

- The Chain of Custody document and Sample Integrity Sheet are part of the analytical report.
- Any remaining sample(s) for testing will be disposed of according to BSK's sample retention policy unless other arrangements are made in advance.
- All positive results for EPA Methods 504.1 and 524.2 require the analysis of a Field Reagent Blank (FRB) to confirm that the results are not a contamination error from field sampling steps. If Field Reagent Blanks were not submitted with the samples, this method requirement has not been performed.
- Samples collected by BSK Analytical Laboratories were collected in accordance with the BSK Sampling and Collection Standard Operating
  Procedures.
- J-value is equivalent to DNQ (Detected, not quantified) which is a trace value. A trace value is an analyte detected between the MDL and the laboratory reporting limit. This result is of an unknown data quality and is only qualitative (estimated). Baseline noise, calibration curve extrapolation below the lowest calibrator, method blank detections, and integration artifacts can all produce apparent DNQ values, which contribute to the un-reliability of these values.
- (1) Residual chlorine and pH analysis have a 15 minute holding time for both drinking and waste water samples as defined by the EPA and 40 CFR 136. Waste water and ground water (monitoring well) samples must be field filtered to meet the 15 minute holding time for dissolved metals.
- Summations of analytes (i.e. Total Trihalomethanes) may appear to add individual amounts incorrectly, due to rounding of analyte values occurring before or after the total value is calculated, as well as rounding of the total value.
- RL Multiplier is the factor used to adjust the reporting limit (RL) due to variations in sample preparation procedures and dilutions required for matrix interferences.
- Due to the subjective nature of the Threshold Odor Method, all characterizations of the detected odor are the opinion of the panel of analysts. The characterizations can be found in Standard Methods 2170B Figure 2170:1.
- · The MCLs provided in this report (if applicable) represent the primary MCLs for that analyte.

#### Definitions

mg/L:	Milligrams/Liter (ppm)	MDL:	Method Detection Limit	MDA95:	Min. Detected Activity
mg/Kg:	Milligrams/Kilogram (ppm)	RL:	Reporting Limit: DL x Dilution	MPN:	Most Probable Number
µg/L:	Micrograms/Liter (ppb)	ND:	None Detected at RL	CFU:	Colony Forming Unit
µg/Kg:	Micrograms/Kilogram (ppb)	pCi/L:	PicoCuries per Liter	Absent:	Less than 1 CFU/100mLs
%:	Percent	RL Mult:	RL Multiplier	Present:	1 or more CFU/100mLs
NR:	Non-Reportable	MCL:	Maximum Contaminant Limit		

Please see the individual Subcontract Lab's report for applicable certifications.

BSK is not accredited under the NELAP progra	m for the following parameters: **NA	**

Certifications: Please refer to our website for a copy of our Accredited Fields of Testing under each certification.

Fresno					
EPA - UCMR4	CA00079	Los Angeles CSD	9254479	NELAP certified	4021-010
State of California - ELAP	1180	State of Hawaii	4021	State of Nevada	CA000792018-1
State of Oregon - NELAP	4021-010	State of Washington	C997-18		
Sacramento					
State of California - ELAP	2435				
San Bernardino					
Los Angeles CSD	9254478	NELAP certified	4119-002	State of California - ELAP	2993
State of Oregon - NELAP	4119-002				
Vancouver					
NELAP certified	WA100008-011	State of Oregon - NELAP	WA100008-011	State of Washington	C824-17

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.





## AMCON9177



AM Consulting Engineers



## 07272018

Turnaround: Standard Due Date: 8/10/2018





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Scripping Method: ONTRAC UPS GSO Cooling Method: Wet Blue One Payment for services endered as noted herein are due in full whin 30 days from the date invoked. If not so	Received for Lab by: (Signature and Diametry Same)	rkelinguished by (signature and Printed Name)	Relinguished by (Signature and Printed Name)		1 CAN		7 POU UNIT B: ISOINX	3 POUL UNIT A: MULTIPHINE	2 RAW Water ( Post - ( hiorination )	Raw Water (Pre-Chlorination)	# Sample Description*	Matrix Types: SW=Surface Water BW=Bottled Water GW=	Rogelio Ramirez / Pur Pry	Sampler Name (Printed/Signature)*:	Trace (J-Flag) Swamp EDD Type:	Reporting Options:	William Fisher Memorial	5150 N. Sixth Street, Suite 124	Address*:	AM consulting Engineers	Company/Client Name*:	*Required Fields	ASSOCIATES WWW.DSKASSOCIALES.CR	1414 Stanislaus St., F (559) 497-2888 - Fax
paid, account balances are deemed delinquent. Delinque	ATA.	Company	2 AM LYMSWIHING Engineer				2127 1030	0[0] #2 F	7/27 1030	7/27 1018	Sampled* Date Time	-Ground Water WW=Waste Water STW=		Merced Co	SWRCB (Drinking Water)	Regulatory Carbon Copie	Project #:	Fresno	City*:	ddilional cc's: Rogelto Ramir	leport Attention": A Ifonsu Mani	Temp:		resno, CA 93706 /559\ 497-2893
Courier:	Cate Time Payment Received at Delivery:		Date Three Received by (Signature and Printed Name				GW	5W	SIM	5 M	Matrix* Comments / Station Code / WTRAX	Storm Water DW=Drinking Water SO=Solid	Geotracker #:	Tresno Co System Number*:	EDT to California SWRCB (Drinking Water)	es Regulatory Compliance	-	CA 93710	State*: Zip*:	C PO#	rique invoice To": Am Consulting Empineers	15・3 Thermometer ID: サイン	Date needed:	Turnaround Time Request
Custody Seal: Y / W Chilling Process Begun: W rent Standard Terms and Conditions for Laborationy Service	Amount: PIA#						× ×	XXX	×	XXX	Aı Av B H	rse se	cnic nic T		spe P/	.ci	ati F	on		E-mail": alfonso.manrique (	Phone": (55 9) 288 - 91 #2			( A8G3659
s. The person signing for the Clien/Company	Check / Cash	Company	Company																	0 am - ce : com	Fax:(559)513-8449			07/27/2018

## A8G3659 AMCON917

07/27/2018

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BSK A	ssociates SR-FL-0002-19		II HAT IN HEALER HIM HAT HIM HAT HAD THE							
Sa										
BS	K Bottles: Yes No Page	e of		**********						
OC Info	Was temperature within range? Chemistry ≤ 6°C Micro < 8°C If samples were taken today, is there evidence that chilling has begun? Did all bottles arrive unbroken and intact? Did all bottles arrive unbroken and intact?	Yes No NA Yes No NA	Were co received Bubbles TB Rece Was a su	rrect contain for the tests Present VO/ ived? (Chec ufficient amo	ers and preservatives requested? As (524.2/TCP/TTHM) k Method Below) unt of sample receive old time <72 hours?	Yes No Yes No Yes No d? Yes				
ပ	Was sodium thiosulfate added to CN sample(s)	Yes No Wa	Was PM	notified of d	iscrepancies?	Yes No				
	250ml(A) 500ml(B) 1Liter(C) 40ml VOA(V)	Checks	Passed?		2 3-4					
	Bacti Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>	<u> </u>	-	. <b>(</b>	12	128				
	None (P) <sup>White Cap</sup>									
	Cr6 (P) Lt. Green Label/Blue Cap NH40H(NH4)2SO4 DW	Cl, pH > 8	PF	4.079						
lab	Cr6 (P) Pink Label/Blue Cap NH4OH(NH4)2SO4 WW	pH 9.3-9.7	ΡF			2				
in the	Cr6 (P) Black Label/Blue Cap NH4OH(NH4)2SO4 7199	pH 9.0-9.5	ΡF	144 ST 15 144 ST 15 145 ST 152 ST 15		an	11			
med	HNO: (P) Red Gp or HCI (P) Purple Cap/Lt. Blue Label		<u> </u>	13	18 18	(°a	-			
irfor	H <sub>2</sub> SO <sub>4</sub> (P) or (AG) Yellow Cap/Label	pH < 2	ΡF	13	Property and the second s					
e pe	NaOH (P) <sup>Green Cap</sup>	Cl, pH >10	ΡF							
or ar	NaOH + ZnAc (P)	pH>9	PF							
	Dissolved Oxygen 300ml (g)									
Ved Ter 1	None (AG) 608/8081/8082, 625, 632/8321, 8151, 8270	-	- <b></b>							
ceiv eith	HCI (AG) <sup>Lt. Blue Label</sup> O&G, Diesel, TCP									
Re. are	Ascorbic, EDTA, KH <sub>2</sub> Ct (AG) <sup>Pink Label</sup> 525									
es es cks	Na2SO3 250mL (AG)Neon Green Label 515	-		and the second se						
ੇ <b>ਜਿ</b>	Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> 1 Liter (Brown P) 549									
u či	Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> (AG) <sup>Blue Label</sup> 548, THM, 524		<u> </u>							
/chi	Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> (CG) <sup>Blue Label</sup> 504, 505, 547									
atio	Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> + MCAA (CG) <sup>Orange Label</sup> 531	pH < 3	PF	1000						
serv	NH <sub>4</sub> Cl (AG) <sup>Purple Label</sup> 552	—	_							
brei	EDA (AG) <sup>Brown Label</sup> DBPs		<u> </u>	1.11						
ans	HCL (CG) 524.2,BTEX,Gas, MTBE, 8260/624		_							
, en	Buffer pH 4 (CG)	-	-		Hand Training					
ן ו	H3PO4 (CG)Salmon Label		-							
	Asbestos 1L (P) w/ Foil / 11 Metals Bottle	4 <u>5~1</u> —		L D		$\vdash$ $\land$	<			
	Bottled Water	—	<u> </u>				$\overline{}$			
	Clear Glass 250mL / 500mL / 1 Liter					100				
	Solids: Brass / Steel / Plastic Bag									
II	Container Preservative Date	e/ I ime/Initials	S P	Containe	reservative	Date/ I me/Ini	illais			
Sp	S P		S P							
			v . √ II	ndicates B	anks Received		<del></del>			
ents			504	524.2	ТСР ТТНМ	537				
Comm			8260/624	-						

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# External

## A8G3659









## **Certificate of Analysis**

FINAL REPORT

Work Orders:	8H01051	Report Date:	8/08/2018
Project:		Received Date:	8/1/2018
	A8G3659	Turnaround Time:	Normal
		Phones:	(559) 497-2888
		Fax:	(559) 485-6935
Attn:	Adam Trevarrow	P.O. #:	
Client:	BSK Analytical Laboratories 1414 Stanislaus Street	Billing Code:	
	Fresno, CA 93706		

Dear Adam Trevarrow,

Enclosed are the results of analyses for samples received 8/01/18 with the Chain-of-Custody document. The samples were received in good condition, at 3.9 °C and on ice. All analyses met the method criteria except as noted in the case narrative or in the report with data qualifiers.

#### Sample Results

Sample:	A8G3659-01, Alias: Raw-Water			:	Sampled: 07/27/18 10:1	8 by Client		
	8H01051-01 (Water)							
Analyte			Result	MRL	Units	Dil	Analyzed	Qualifier
Method: EPA	200.8M/LC	Batch ID: W8H0249	Instr: ICPMS05	Prepared: 0	8/04/18 10:29		Analyst: jea	
Arsenic III			ND	0.40	ug/l	1	08/04/18 13:41	
Arsenic V			21	2.0	ug/l	5	08/04/18 14:03	

## WECK LABORATORIES, INC. Quality Control Results

## **Certificate of Analysis**

FINAL REPORT

As Speciation by LC/ICP/MS

·····										
				Spike	Source		%REC		RPD	
Analyte	Result	MRL	Units	Level	Result	%REC	Limits	RPD	Limit	Qualifier
Batch: W8H0249 - Direct Injection										
Blank (W8H0249-BLK1)				Prepared & A	nalyzed: 08/0	4/18				
Arsenic III	ND	0.40	ug/l							
Arsenic V	ND	0.40	ug/l							
LCS (W8H0249-BS1)				Prepared & A	nalyzed: 08/0	4/18				
Arsenic III	9.93	0.40	ug/l	10.0		99	75-125			
Arsenic V	9.99	0.40	ug/l	10.0		100	75-125			
Matrix Spike (W8H0249-MS1)	Source: 8H0303	2-01		Prepared & A	nalyzed: 08/04	4/18				
Arsenic III	99.1	4.0	ug/l	100	ND	99	70-130			
Arsenic V	137	4.0	ug/l	100	37.8	99	70-130			
Matrix Spike Dup (W8H0249-MSD1)	Source: 8H0303	2-01		Prepared & A	nalyzed: 08/0	4/18				
Arsenic III	99.3	4.0	ug/i	100	ND	99	70-130	0.1	30	
Arsenic V	140	4.0	ug/l	100	37.8	102	70-130	2	30	

# WECK LABORATORIES, INC.

## **Certificate of Analysis**

FINAL REPORT

#### Notes and Definitions

Item	Definition
ND	NOT DETECTED at or above the Method Reporting Limit (MRL). If Method Detection Limit (MDL) is reported, then ND means not detected at or above the MDL.
Dil	Dilution
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
% Rec	Percent Recovery
Source	Sample that was matrix spiked or duplicated.
MDL	Method Detection Limit
MRL	The minimum levels, concentrations, or quantities of a target variable (e.g., target analyte) that can be reported with a specified degree of confidence. The MRL is also known as Limit of Quantitation (LOQ) and Detection Limit for Reporting (DLR)
MDA	Minimum Detectable Activity
NR	Not Reportable
TIC	Tentatively Identified Compound (TIC) using mass spectrometry. The reported concentration is relative concentration based on the nearest internal

TIC Tentatively Identified Compound (TIC) using mass spectrometry. The reported concentration is relative concentration based on the nearest interr standard. If the library search produces no matches at, or above 85%, the compound is reported as unknown.

Any remaining sample(s) will be disposed of one month from the final report date unless other arrangements are made in advance. An Absence of Total Coliform meets the drinking water standards as established by the California State Water Resources Control Board (SWRCB) All results are expressed on wet weight basis unless otherwise specified.

All samples collected by Weck Laboratories have been sampled in accordance to laboratory SOP Number MIS 002.

### Not Certified Analyses Summary

Analyte		 	CAS #	Not Accredited By	
EPA 200.8M	/LC in Water				
Arsenic III			22541-54-4	NELAP	
Arsenic V		 	17428-41-0	NELAP	

Water Boar

Reviewed by:

ancola

Regina Giancola Project Manager

DoD-ELAP #L2457 • ELAP-CA #1132 • EPA-UCMR #CA00211 • Guam-EPA #17-008R • HW-DOH # • ISO 17025 #L2457.01 • LACSD #10143 • NELAP-CA #04229CA • NELAP-OR #4047 • NJ-DEP #CA015

This is a complete final report. The information in this report applies to the samples analyzed in accordance with the chain-of-custody document. Weck Laboratories certifies that the test results meet all requirements of TNI unless noted by qualifiers or written in the Case Narrative. This analytical report must be reproduced in its entirety.

	SUBCONTRACT ORDER A8G3659	- SE 81101051
ASSOCIATES		
SENDING LABORATORY:	RECEIVING LABORATORY:	
BSK Associates Laboratory Fresno 1414 Stanislaus St	Weck Laboratories, Inc. 14859 E Clark Avenue	

Fresno, CA 93706 Phone: 559-497-2888 x116 Fax: 559-485-6935 Project Manager: Adam Trevarrow atrevarrow@bskassociates.com E-mail:

City of Industry, CA 91745-1396 Phone :(626) 336-2139 Fax: (626) 336-2634 C Deliverables: I Standard

Comments

Client Matrix Ground Water

Sample ID Samp Desc

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#### A8G3659-01 Raw Water (Pre-Chlorination)

Lab Matrix: Water

Analysis: **EXT-Arsenic Speciation** 

Total, III, & V (250 mL HNO3 + 250 mL EDTA/acedtic acid) Gertra volume

Sample Date

07/27/2018 10:18

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-3 /. ] Received By Released By Date Dạte 3,9." 18 natvac 9:00 C lol Received By Released By Date Date Page 1 of 1



**BSK Associates Laboratory Fresno** 1414 Stanislaus St Fresno, CA 93706 559-497-2888 (Main)

Alfonso Manrique AM Consulting Engineers 7545 N. Del Mar Ave., STE 201 Fresno, CA 93711

#### **RE: Report for A8H0486 General**

Dear Alfonso Manrique,

Thank you for using BSK Associates for your analytical testing needs. In the following pages, you will find the test results for the samples submitted to our laboratory on 8/3/2018. The results have been approved for release by our Laboratory Director as indicated by the authorizing signature below.

The samples were analyzed for the test(s) indicated on the Chain of Custody (see attached) and the results relate only to the samples analyzed. BSK certifies that the testing was performed in accordance with the quality system requirements specified in the 2009 TNI Standard. Any deviations from this standard or from the method requirements for each test procedure performed will be annotated alongside the analytical result or noted in the Case Narrative. Unless otherwise noted, the sample results are reported on an "as received" basis.

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

If additional clarification of any information is required, please contact your Project Manager, Adam Trevarrow, at (800) 877-8310 or (559) 497-2888 x116.

Thank you again for using BSK Associates. We value your business and appreciate your loyalty.

Sincerely,

alam

Adam Trevarrow, Project Manager



Accredited in Accordance with NELAP ORELAP #4021-009

A8H0486 FINAL 08152018 1553



## A8H0486

General

#### **Case Narrative**

Project and	Report Details	Invoice Details					
Client:	AM Consulting Engineers	Invoice To: AM Consulting Engineers					
Report To:	Alfonso Manrique	Invoice Attn: Alfonso Manrique					
Project #:	William Fisher Memorial	Project PO#: -					
Received:	8/03/2018 - 14:19						
Report Due:	8/17/2018						
Sample Receipt Conditions							
Cooler: Defa	ault Cooler	Containers Intact					
Temperature of	on Receipt °C: 9.9	COC/Labels Agree					
•	·	Received On Blue Ice					
		Sample(s) arrived at lab on same day sampled.					
		Packing Material - Other					
		Initial receipt at BSK-FAL					

#### **Data Qualifiers**

The following qualifiers have been applied to one or more analytical results:

\*\*\*None applied\*\*\*

#### **Report Distribution**

Recipient(s)	Report Format	CC:
Alfonso Manrique	FINAL.RPT	



### **Certificate of Analysis**

Sample ID: A8H0486-01 Sampled By: Client Sample Description: POU Unit A: Multipure Sample Date - Time: 08/03/18 - 10:30 Matrix: Ground Water Sample Type: Grab

#### BSK Associates Laboratory Fresno

Metals

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Arsenic	EPA 200.8	ND	2.0	ug/L	1	A811454	08/08/18	08/15/18	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

A8H0486 FINAL 08152018 1553



### **Certificate of Analysis**

Sample ID: A8H0486-02 Sampled By: Client Sample Description: POU Unit B: Isolux Sample Date - Time: 08/03/18 - 10:30 Matrix: Ground Water Sample Type: Grab

#### BSK Associates Laboratory Fresno

Metals

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Arsenic	EPA 200.8	ND	2.0	ug/L	1	A811454	08/08/18	08/15/18	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

A8H0486 FINAL 08152018 1553



## A8H0486

General

#### BSK Associates Laboratory Fresno Metals Quality Control Report

	Me		$\mathbf{u} \mathbf{y} \mathbf{u}$	51101	Report						
Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
		EPA 200.	8 - Qua	ality Co	ntrol						
Batch: A811454 Prep Method: EPA 200.2										Prepar A	ed: 8/8/2018 nalyst: MAS
Blank (A811454-BLK1)											
Arsenic	ND	2.0	ug/L							08/15/18	
Blank Spike (A811454-BS1)											
Arsenic	200	2.0	ug/L	200		101	85-115			08/15/18	
Blank Spike Dup (A811454-BSD1)											
Arsenic	200	2.0	ug/L	200		102	85-115	0	20	08/15/18	
Matrix Spike (A811454-MS1), Source	: A8H0486-02										
Arsenic	210	2.0	ug/L	200	ND	104	70-130			08/15/18	
Matrix Spike Dup (A811454-MSD1), S	ource: A8H0486-02										
Arsenic	210	2.0	ug/L	200	ND	104	70-130	1	20	08/15/18	



### **Certificate of Analysis**

#### Notes:

- The Chain of Custody document and Sample Integrity Sheet are part of the analytical report.
- Any remaining sample(s) for testing will be disposed of according to BSK's sample retention policy unless other arrangements are made in advance.
- All positive results for EPA Methods 504.1 and 524.2 require the analysis of a Field Reagent Blank (FRB) to confirm that the results are not a contamination error from field sampling steps. If Field Reagent Blanks were not submitted with the samples, this method requirement has not been performed.
- Samples collected by BSK Analytical Laboratories were collected in accordance with the BSK Sampling and Collection Standard Operating
  Procedures.
- J-value is equivalent to DNQ (Detected, not quantified) which is a trace value. A trace value is an analyte detected between the MDL and the laboratory reporting limit. This result is of an unknown data quality and is only qualitative (estimated). Baseline noise, calibration curve extrapolation below the lowest calibrator, method blank detections, and integration artifacts can all produce apparent DNQ values, which contribute to the un-reliability of these values.
- (1) Residual chlorine and pH analysis have a 15 minute holding time for both drinking and waste water samples as defined by the EPA and 40 CFR 136. Waste water and ground water (monitoring well) samples must be field filtered to meet the 15 minute holding time for dissolved metals.
- Summations of analytes (i.e. Total Trihalomethanes) may appear to add individual amounts incorrectly, due to rounding of analyte values occurring before or after the total value is calculated, as well as rounding of the total value.
- RL Multiplier is the factor used to adjust the reporting limit (RL) due to variations in sample preparation procedures and dilutions required for matrix interferences.
- Due to the subjective nature of the Threshold Odor Method, all characterizations of the detected odor are the opinion of the panel of analysts. The characterizations can be found in Standard Methods 2170B Figure 2170:1.
- · The MCLs provided in this report (if applicable) represent the primary MCLs for that analyte.

#### Definitions

mg/L:	Milligrams/Liter (ppm)	MDL:	Method Detection Limit	MDA95:	Min. Detected Activity
mg/Kg:	Milligrams/Kilogram (ppm)	RL:	Reporting Limit: DL x Dilution	MPN:	Most Probable Number
µg/L:	Micrograms/Liter (ppb)	ND:	None Detected at RL	CFU:	Colony Forming Unit
µg/Kg:	Micrograms/Kilogram (ppb)	pCi/L:	PicoCuries per Liter	Absent:	Less than 1 CFU/100mLs
%:	Percent	RL Mult:	RL Multiplier	Present:	1 or more CFU/100mLs
NR:	Non-Reportable	MCL:	Maximum Contaminant Limit		

Please see the individual Subcontract Lab's report for applicable certifications.

BSK is not accredited under the NELAP progra	m for the following parameters: **NA	**

Certifications: Please refer to our website for a copy of our Accredited Fields of Testing under each certification.

Fresno					
EPA - UCMR4	CA00079	Los Angeles CSD	9254479	NELAP certified	4021-010
State of California - ELAP	1180	State of Hawaii	4021	State of Nevada	CA000792018-1
State of Oregon - NELAP	4021-010	State of Washington	C997-18		
Sacramento					
State of California - ELAP	2435				
San Bernardino					
Los Angeles CSD	9254478	NELAP certified	4119-002	State of California - ELAP	2993
State of Oregon - NELAP	4119-002				
Vancouver					
NELAP certified	WA100008-011	State of Oregon - NELAP	WA100008-011	State of Washington	C824-17

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

A8H0486 FINAL 08152018 1553





AMCON9177



AM Consulting Engineers



## 08032018

Turnaround: Standard Due Date: 8/17/2018





Printed: 8/3/2018 5:02:03PM Page 1 of 1

Page 7 of 9

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				eni	Iracker #:				Oth	SW=Surface Water BW=Bottled Water OW	Matrix Types: S	I T
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					to California SWRCB (Drinking Water)			RCB (Drinking Water)		e)*:	ampler Name (Printed/Signature	<b>9</b>
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P19	Fax: (659)513-	8-9172		Phone	or AM consulting conginers	Invoice T	inrique	Altonso ma	Report Attention*:			
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~	08/03/2018	1486	A8H(		nd Time Request	Irnarou	) <sup>1</sup>	93 <b>3</b>	rresno, CA 93 x (559) 497-28	(559) 497-2888 · Fax		1/3
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SR-FL-0012-08

Page 8 of 9

BSK Associates	SR-FL-0002-19

	A8H0486
~	AMCON917

08/03/2018

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Sa	mple	e Integrit	ÿ				,									
BSI	K Bot	ttles: (Yes)	No Pa	age (	С	of				<b>\</b>						
	Was ter Chemis	mperature within ra try <b>≤ 6°C</b> Micro	ange? o <b>&lt; 8°C</b>	he	 sN	D NA	We rec	ere cor eived	rect co for the	ontain tests	ners a s req	and pro uested	eservative  ?	s	Yes	)No NA
Info	If samp that chi	les were taken too lling has begun?	lay, is there evidenc	e Yes	s No	o NA	Bul TB	obles Rece	Preser ived? (	nt VO Chec	As (5 ck Me	524.2/	CCP/TTHN Below)	A)?	Yes Yes	No (NA No (NA
8 8	Did all t	ottles arrive unbro	oken and intact?	<u> </u>		No	Wa	is a su	ufficien	t amo	bold	of sam	ple receiv	ed?		No
U U	Was so	dium thiosulfate a	dded to CN sample(	s) Var	95 . N		) Wa	is PM	notifie	d of d	liscre	epancie	es?		Voe	
	until ch	lorine was no long	er present?	Ý Yes	S IN		PM	:		7	By/T	ime:			les	
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for	H <sub>2</sub> SO <sub>4</sub>	(P) or (AG	) Yellow Cap/Label		pH <	2	P	F						- 10		
e De	NaOH	(P) Green Cap		C	l, pH	>10	Р	F								
or an	NaOH	+ ZnAc (P)			рH >	9	P	F	10.00	1.2.3			1			
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eith ei	HCI (A	G) <sup>Lt. Blue Label</sup> O&	G, Diesel, TCP		_		_	-								
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**BSK Associates Laboratory Fresno** 1414 Stanislaus St Fresno, CA 93706 559-497-2888 (Main)

Alfonso Manrique AM Consulting Engineers 7545 N. Del Mar Ave., STE 201 Fresno, CA 93711

#### RE: Report for A8H1527 General

Dear Alfonso Manrique,

Thank you for using BSK Associates for your analytical testing needs. In the following pages, you will find the test results for the samples submitted to our laboratory on 8/10/2018. The results have been approved for release by our Laboratory Director as indicated by the authorizing signature below.

The samples were analyzed for the test(s) indicated on the Chain of Custody (see attached) and the results relate only to the samples analyzed. BSK certifies that the testing was performed in accordance with the quality system requirements specified in the 2009 TNI Standard. Any deviations from this standard or from the method requirements for each test procedure performed will be annotated alongside the analytical result or noted in the Case Narrative. Unless otherwise noted, the sample results are reported on an "as received" basis.

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

If additional clarification of any information is required, please contact your Project Manager, Adam Trevarrow, at (800) 877-8310 or (559) 497-2888 x116.

Thank you again for using BSK Associates. We value your business and appreciate your loyalty.

Sincerely,

alam

Adam Trevarrow, Project Manager



Accredited in Accordance with NELAP ORELAP #4021-009



## A8H1527

General

#### **Case Narrative**

Project and	Report Details	Invoice Details
Client:	AM Consulting Engineers	Invoice To: AM Consulting Engineers
Report To:	Alfonso Manrique	Invoice Attn: Alfonso Manrique
Project #:	William Fisher Memorial	Project PO#: -
Received:	8/10/2018 - 14:49	
Report Due:	8/24/2018	
Sample Rec	eipt Conditions	
Cooler: Defa	ult Cooler	Containers Intact
Temperature on Receipt °C: 13.3		COC/Labels Agree
		Received On Wet Ice
		Packing Material - Bubble Wrap
		Sample(s) were received in temperature range.
		Initial receipt at BSK-FAL

#### **Data Qualifiers**

The following qualifiers have been applied to one or more analytical results:

\*\*\*None applied\*\*\*

#### **Report Distribution**

Recipient(s)	Report Format	CC:
Alfonso Manrique	FINAL.RPT	



### **Certificate of Analysis**

Sample ID: A8H1527-01 Sampled By: Rogelio Ramirez Sample Description: Raw - Water (Post-Chlorination) Sample Date - Time: 08/10/18 - 10:00 Matrix: Ground Water Sample Type: Grab

#### BSK Associates Laboratory Fresno

Metals

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Arsenic	EPA 200.8	20	2.0	ug/L	1	A811706	08/14/18	08/22/18	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



### **Certificate of Analysis**

Sample ID: A8H1527-02 Sampled By: Rogelio Ramirez Sample Description: Pou Unit A - Mulitpure Sample Date - Time: 08/10/18 - 10:00 Matrix: Ground Water Sample Type: Grab

#### BSK Associates Laboratory Fresno

Metals

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Arsenic	EPA 200.8	ND	2.0	ug/L	1	A811882	08/15/18	08/21/18	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



### **Certificate of Analysis**

Sample ID: A8H1527-03 Sampled By: Rogelio Ramirez Sample Description: Pou Unit B - Isolux Sample Date - Time: 08/10/18 - 10:00 Matrix: Ground Water Sample Type: Grab

#### BSK Associates Laboratory Fresno

Metals

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Arsenic	EPA 200.8	ND	2.0	ug/L	1	A811882	08/15/18	08/21/18	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



General

#### BSK Associates Laboratory Fresno Metals Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed Qual
		EPA 200.8	3 - Qua	ality Cor	ntrol					
Batch: A811706 Prep Method: EPA 200.2										Prepared: 8/14/2018 Analyst: MAS
Blank (A811706-BLK1)										
Arsenic	ND	2.0	ug/L							08/22/18
Blank Spike (A811706-BS1)										
Arsenic	190	2.0	ug/L	200		97	85-115			08/22/18
Blank Spike Dup (A811706-BSD1)										
Arsenic	190	2.0	ug/L	200		96	85-115	1	20	08/22/18
Matrix Spike (A811706-MS1), Source: A	\8H1450-01									
Arsenic	200	2.0	ug/L	200	ND	99	70-130			08/22/18
Matrix Spike (A811706-MS2), Source: A	\8H1504-02									
Arsenic	240	2.0	ug/L	200	43	98	70-130			08/22/18
Matrix Spike Dup (A811706-MSD1), So	urce: A8H1450-01									
Arsenic	200	2.0	ug/L	200	ND	99	70-130	0	20	08/22/18
Matrix Spike Dup (A811706-MSD2), So	urce: A8H1504-02									
Arsenic	240	2.0	ug/L	200	43	97	70-130	0	20	08/22/18
		EPA 200.8	3 - Qua	ality Cor	ntrol					
Batch: A811882 Prep Method: EPA 200.2										Prepared: 8/15/2018 Analyst: MAS
Blank (A811882-BLK1)										
Arsenic	ND	2.0	ug/L							08/21/18
Blank Spike (A811882-BS1)										
Arsenic	200	2.0	ug/L	200		101	85-115			08/21/18
Blank Spike Dup (A811882-BSD1)										
Arsenic	200	2.0	ug/L	200		102	85-115	1	20	08/21/18
Matrix Spike (A811882-MS1), Source: A	\8H1527-02									
Arsenic	210	2.0	ug/L	200	ND	103	70-130			08/21/18
Matrix Spike (A811882-MS2), Source: A	\8H1686-01									
Arsenic	210	2.0	ug/L	200	ND	104	70-130			08/21/18
Matrix Spike Dup (A811882-MSD1), So	urce: A8H1527-02									
Arsenic	210	2.0	ug/L	200	ND	104	70-130	0	20	08/21/18
Matrix Spike Dup (A811882-MSD2), So	urce: A8H1686-01									
Arsenic	210	2.0	ug/L	200	ND	105	70-130	1	20	08/21/18
The results in this report apply to the samples accordance with the chain of custody docume analytical report must be reproduced in its en	s analyzed in ent. This tirety.							۵	\8H152	7 FINAL 08222018 1340


# **Certificate of Analysis**

#### Notes:

- The Chain of Custody document and Sample Integrity Sheet are part of the analytical report.
- Any remaining sample(s) for testing will be disposed of according to BSK's sample retention policy unless other arrangements are made in advance.
- All positive results for EPA Methods 504.1 and 524.2 require the analysis of a Field Reagent Blank (FRB) to confirm that the results are not a contamination error from field sampling steps. If Field Reagent Blanks were not submitted with the samples, this method requirement has not been performed.
- Samples collected by BSK Analytical Laboratories were collected in accordance with the BSK Sampling and Collection Standard Operating
  Procedures.
- J-value is equivalent to DNQ (Detected, not quantified) which is a trace value. A trace value is an analyte detected between the MDL and the laboratory reporting limit. This result is of an unknown data quality and is only qualitative (estimated). Baseline noise, calibration curve extrapolation below the lowest calibrator, method blank detections, and integration artifacts can all produce apparent DNQ values, which contribute to the un-reliability of these values.
- (1) Residual chlorine and pH analysis have a 15 minute holding time for both drinking and waste water samples as defined by the EPA and 40 CFR 136. Waste water and ground water (monitoring well) samples must be field filtered to meet the 15 minute holding time for dissolved metals.
- Summations of analytes (i.e. Total Trihalomethanes) may appear to add individual amounts incorrectly, due to rounding of analyte values occurring before or after the total value is calculated, as well as rounding of the total value.
- RL Multiplier is the factor used to adjust the reporting limit (RL) due to variations in sample preparation procedures and dilutions required for matrix interferences.
- Due to the subjective nature of the Threshold Odor Method, all characterizations of the detected odor are the opinion of the panel of analysts. The characterizations can be found in Standard Methods 2170B Figure 2170:1.
- · The MCLs provided in this report (if applicable) represent the primary MCLs for that analyte.

#### Definitions

mg/L:	Milligrams/Liter (ppm)	MDL:	Method Detection Limit	MDA95:	Min. Detected Activity
mg/Kg:	Milligrams/Kilogram (ppm)	RL:	Reporting Limit: DL x Dilution	MPN:	Most Probable Number
µg/L:	Micrograms/Liter (ppb)	ND:	None Detected at RL	CFU:	Colony Forming Unit
µg/Kg:	Micrograms/Kilogram (ppb)	pCi/L:	PicoCuries per Liter	Absent:	Less than 1 CFU/100mLs
%:	Percent	RL Mult:	RL Multiplier	Present:	1 or more CFU/100mLs
NR:	Non-Reportable	MCL:	Maximum Contaminant Limit		

Please see the individual Subcontract Lab's report for applicable certifications.

BSK is not accredited under the NELAP progra	m for the following parameters: **NA	**

Certifications: Please refer to our website for a copy of our Accredited Fields of Testing under each certification.

Fresno					
EPA - UCMR4	CA00079	Los Angeles CSD	9254479	NELAP certified	4021-010
State of California - ELAP	1180	State of Hawaii	4021	State of Nevada	CA000792018-1
State of Oregon - NELAP	4021-010	State of Washington	C997-18		
Sacramento					
State of California - ELAP	2435				
San Bernardino					
Los Angeles CSD	9254478	NELAP certified	4119-002	State of California - ELAP	2993
State of Oregon - NELAP	4119-002				
Vancouver					
NELAP certified	WA100008-011	State of Oregon - NELAP	WA100008-011	State of Washington	C824-17

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

A8H1527 FINAL 08222018 1340





AMCON9177



AM Consulting Engineers



# 08102018

Turnaround: Standard Due Date: 8/24/2018





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@ am-ce.com	mail: altonso.manrique	PO#	Ramirez F	cinal cc's: Rogelio	Address: A confineers
	one.(559)288-9172	invoice Tot: AM Consulting Engineers Ph	Manrique 1	ort Attention*: Alfonso	A ha lanswith ame: Rep.
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Page 9 of 10

BSK Associates SR-FL-0002-19

# Sample Integrity



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BS	K Bo	ttles: Yes	) No	Page	0	f	_	<u> </u>			~		
COC Info	Was te Chemin If samp that ch Did all Did all Was so until ch	emperature within stry ≤ 6°C Mic bles were taken to illing has begun? bottles arrive unbi bottle labels agree bottle labels agree botium thiosulfate a blorine was no long	range? ro < 8°C day, is there evided roken and intact? e with COC? added to CN samplinger present?	nce le(s)	Yes No Yes No Yes Yes No	NO NO NO NO	Were co received Bubbles TB Rece Was a s Do samp Was PM PM:	rrect contai I for the test Present VC eived? (Che ufficient am oles have a I notified of	ners and p ts requested DAs (524.2 ock Method ount of sa hold time discrepand By/Time:	oreservatives ad? 2/TCP/TTHM Below) mple receive <72 hours? cies?	)? Yes Yes id? Yes Yes	NO NA S NO NA S NO NA ES NO NA S NO NA	
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rfori	H <sub>2</sub> SO <sub>4</sub>	(P) or (AG	) Yellow Cap/Label		pH < :	2	PF	1.					
e pe	NaOH	(P) Green Cap			Cl, pH >	>10	ΡF						
or an	NaOH	+ ZnAc (P)			pH > 9	9	ΡF				1.000		
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red /	None	(AG) 608/8081/8082	625, 632/8321, 8151, 8	270									
ceiv eith	HCI (A	G) <sup>Lt. Blue Label</sup> O8	kG, Diesel, TCP										
Re(	Ascor	bic, EDTA, KH <sub>2</sub> C	Ct (AG) <sup>Pink Label</sup> 52	5								1	
es ecks	Na <sub>2</sub> S(	D₃ 250mL (AG) <sup>№</sup>	oon Green Label 515				4						
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**BSK Associates Laboratory Fresno** 1414 Stanislaus St Fresno, CA 93706 559-497-2888 (Main)

Alfonso Manrique AM Consulting Engineers 7545 N. Del Mar Ave., STE 201 Fresno, CA 93711

#### **RE: Report for A8H2601 General**

Dear Alfonso Manrique,

Thank you for using BSK Associates for your analytical testing needs. In the following pages, you will find the test results for the samples submitted to our laboratory on 8/17/2018. The results have been approved for release by our Laboratory Director as indicated by the authorizing signature below.

The samples were analyzed for the test(s) indicated on the Chain of Custody (see attached) and the results relate only to the samples analyzed. BSK certifies that the testing was performed in accordance with the quality system requirements specified in the 2009 TNI Standard. Any deviations from this standard or from the method requirements for each test procedure performed will be annotated alongside the analytical result or noted in the Case Narrative. Unless otherwise noted, the sample results are reported on an "as received" basis.

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

If additional clarification of any information is required, please contact your Project Manager, Adam Trevarrow, at (800) 877-8310 or (559) 497-2888 x116.

Thank you again for using BSK Associates. We value your business and appreciate your loyalty.

Sincerely,

alam

Adam Trevarrow, Project Manager



Accredited in Accordance with NELAP ORELAP #4021-009

A8H2601 FINAL 08302018 1601



# A8H2601

General

## **Case Narrative**

Project and	Report Details	Invoice Details
Client: Report To: Project #: Received: Report Due:	AM Consulting Engineers Alfonso Manrique William Fisher Memorial 8/17/2018 - 14:41 8/31/2018	Invoice To: AM Consulting Engineers Invoice Attn: Alfonso Manrique Project PO#: -
Sample Rec	eipt Conditions	
Cooler: Defa Temperature o	ault Cooler on Receipt ⁰C: 13.8	Containers Intact COC/Labels Agree Received On Blue Ice Sample(s) arrived at lab on same day sampled. Packing Material - Other Sample(s) were received in temperature range. Initial receipt at BSK-FAL
Data Qualif	iers	
The following	g qualifiers have been appli	ed to one or more analytical results:
***None applied	3***	

### **Report Distribution**

Recipient(s)	Report Format	CC:
Alfonso Manrique	FINAL.RPT	



# **Certificate of Analysis**

Sample ID: A8H2601-01 Sampled By: Rogelio Ramirez Sample Description: POU Unit A: Multipure Sample Date - Time: 08/17/18 - 10:30 Matrix: Ground Water Sample Type: Grab

### **BSK Associates Laboratory Fresno**

Metals

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Arsenic	EPA 200.8	ND	2.0	ug/L	1	A812234	08/21/18	08/27/18	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

A8H2601 FINAL 08302018 1601



# **Certificate of Analysis**

Sample ID: A8H2601-02 Sampled By: Rogelio Ramirez Sample Description: POU Unit B: Isolux Sample Date - Time: 08/17/18 - 10:30 Matrix: Ground Water Sample Type: Grab

### BSK Associates Laboratory Fresno

Metals

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Arsenic	EPA 200.8	ND	2.0	ug/L	1	A812234	08/21/18	08/27/18	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

A8H2601 FINAL 08302018 1601



# A8H2601

General

#### BSK Associates Laboratory Fresno Metals Quality Control Report

		tuis duui	<u></u>								
Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
		EPA 200.	8 - Qua	ality Co	ntrol						
Batch: A812234 Prep Method: EPA 200.2										Prepareo Ar	d: 8/21/2018 nalyst: MAS
Blank (A812234-BLK1)											
Arsenic	ND	2.0	ug/L							08/27/18	
Blank Spike (A812234-BS1)											
Arsenic	190	2.0	ug/L	200		97	85-115			08/27/18	
Blank Spike Dup (A812234-BSD1)											
Arsenic	200	2.0	ug/L	200		98	85-115	1	20	08/27/18	
Matrix Spike (A812234-MS1), Source: A	A8H2547-01										
Arsenic	200	2.0	ug/L	200	ND	99	70-130			08/27/18	
Matrix Spike Dup (A812234-MSD1), So	urce: A8H2547-01										
Arsenic	200	2.0	ug/L	200	ND	100	70-130	1	20	08/27/18	



# **Certificate of Analysis**

#### Notes:

- The Chain of Custody document and Sample Integrity Sheet are part of the analytical report.
- Any remaining sample(s) for testing will be disposed of according to BSK's sample retention policy unless other arrangements are made in advance.
- All positive results for EPA Methods 504.1 and 524.2 require the analysis of a Field Reagent Blank (FRB) to confirm that the results are not a contamination error from field sampling steps. If Field Reagent Blanks were not submitted with the samples, this method requirement has not been performed.
- Samples collected by BSK Analytical Laboratories were collected in accordance with the BSK Sampling and Collection Standard Operating
  Procedures.
- J-value is equivalent to DNQ (Detected, not quantified) which is a trace value. A trace value is an analyte detected between the MDL and the laboratory reporting limit. This result is of an unknown data quality and is only qualitative (estimated). Baseline noise, calibration curve extrapolation below the lowest calibrator, method blank detections, and integration artifacts can all produce apparent DNQ values, which contribute to the un-reliability of these values.
- (1) Residual chlorine and pH analysis have a 15 minute holding time for both drinking and waste water samples as defined by the EPA and 40 CFR 136. Waste water and ground water (monitoring well) samples must be field filtered to meet the 15 minute holding time for dissolved metals.
- Summations of analytes (i.e. Total Trihalomethanes) may appear to add individual amounts incorrectly, due to rounding of analyte values occurring before or after the total value is calculated, as well as rounding of the total value.
- RL Multiplier is the factor used to adjust the reporting limit (RL) due to variations in sample preparation procedures and dilutions required for matrix interferences.
- Due to the subjective nature of the Threshold Odor Method, all characterizations of the detected odor are the opinion of the panel of analysts. The characterizations can be found in Standard Methods 2170B Figure 2170:1.
- · The MCLs provided in this report (if applicable) represent the primary MCLs for that analyte.

#### Definitions

mg/L:	Milligrams/Liter (ppm)	MDL:	Method Detection Limit	MDA95:	Min. Detected Activity
mg/Kg:	Milligrams/Kilogram (ppm)	RL:	Reporting Limit: DL x Dilution	MPN:	Most Probable Number
µg/L:	Micrograms/Liter (ppb)	ND:	None Detected at RL	CFU:	Colony Forming Unit
µg/Kg:	Micrograms/Kilogram (ppb)	pCi/L:	PicoCuries per Liter	Absent:	Less than 1 CFU/100mLs
%:	Percent	RL Mult:	RL Multiplier	Present:	1 or more CFU/100mLs
NR:	Non-Reportable	MCL:	Maximum Contaminant Limit		

Please see the individual Subcontract Lab's report for applicable certifications.

BSK is not accredited under the NELAP p	rogram for the following parameters:	**NA**

Certifications: Please refer to our website for a copy of our Accredited Fields of Testing under each certification.

Fresno					
EPA - UCMR4	CA00079	Los Angeles CSD	9254479	NELAP certified	4021-010
State of California - ELAP	1180	State of Hawaii	4021	State of Nevada	CA000792018-1
State of Oregon - NELAP	4021-010	State of Washington	C997-18		
Sacramento					
State of California - ELAP	2435				
San Bernardino					
Los Angeles CSD	9254478	NELAP certified	4119-002	State of California - ELAP	2993
State of Oregon - NELAP	4119-002				
Vancouver					
NELAP certified	WA100008-011	State of Oregon - NELAP	WA100008-011	State of Washington	C824-17

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

A8H2601 FINAL 08302018 1601





# AMCON9177



AM Consulting Engineers



# 08172018

Turnaround: Standard Due Date: 8/31/2018





Printed: 8/17/2018 7:00:07PM Page 1 of 1 Page 7 of 9

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SR-FL-0012-08

Page 8 of 9

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Sa	mpl	e Integrit	t <b>y</b>	í	•						
BS	K Bo	ttles: Yes	No	Page ) of	:					8181 H.B. H.B.B.H. B.B.B.H.	
	Was te	mperature within r	range?	Vac No		Were co	rrect contai	ners and	preservative	s Vo	NO NA
.0	Chemi	stry ≤ 6°C Micr	o < 8°C			received	for the test	s reques	sted?		
l II	that ch	illing has begun?	day, is there evide	Yes No		TB Rece	ived? (Che	ck Meth	od Below)	Yes	NO NA
0 0	Did all	bottles arrive unbr	oken and intact?	(AS)	No	Was a si	ufficient am	ount of s	ample receiv	red?	es No
ŭ	Did all	bottle labels agree	e with COC?	(es)	No	Do samp	bles have a	hold tim	e <72 hours?	' <u>Y</u>	es 🗭
	until ch	nlorine was no long	loded to CN samp Jer present?	e(s) Yes No	(NA)	PM:		By/Time		Ye	s No (NA
	250ml	A) 500ml(B) 1Lite	r(C) 40ml VOA(V)	Checks		Passed?	1-2-	1			
	Bacti	Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>				<u> </u>					
	None	(P) <sup>White Cap</sup>									
	Cr6 (F	) Lt. Green Label/Blue C	<sup>ap</sup> NH4OH(NH4)2SO4	DW Cl, pH >	8	PF					and the second
lab	Cr6 (F	) Pink Labei/Blue Cap	NH4OH(NH4)2SO4	ww pH 9.3-9	).7	PF					
in the	Cr6 (F	Black Label/Blue Cap	NH4OH(NH4)2SO4 OLD TIME***	7199 pH 9.0-9	).5	PF	~		C 4		
hed	HNO3	(P) Red Cap or HCI	(P) Purple Cap/Lt. Blue	Label			KK			1	
forn	H <sub>2</sub> SO	(P) or (AG	) Yellow Gap/Label	pH < 2		P F					
bei	NaOH	(P) Green Cap		CI, pH >	10	ΡF					19 30 Bala Barat - 78 - 78 - 78 - 78
are	NaOH	+ ZnAc (P)		pH>9		PF	and the second				
A 01	Dissol	ved Oxygen 300	ml (g)	· -				0.0000000000			
r d	None	(AG) 608/8081/8082	625, 632/8321, 8151, 1	270 -		а <u>щ</u> ас.			and the second		
eithe	HCI (A	G)Lt. Blue Label 08	G Diesel TCP							$\cap$	
Sec.	Ascor	bic, EDTA, KH <sub>2</sub> C	t (AG) <sup>Pink Label</sup> 52	5 —						$\mathbf{X}^{-}$	
S F S	Na <sub>2</sub> SC	Da 250mL (AG)Ne	on Green Label 515			<u> </u>				11	
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ine B	Na <sub>2</sub> S <sub>2</sub>	O3 (AG) <sup>Blue Label</sup>	548. THM. 524								110
ploi	Na <sub>2</sub> S <sub>2</sub>	O <sub>3</sub> (CG) <sup>Blue Label</sup>	504, 505, 547		<u>6 3.000</u>						
ion/c	Na <sub>2</sub> S <sub>2</sub>	O3 + MCAA (CG	Orange Label 531	0H<3		PF	46 E				
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0)	SΡ				S	S P					
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**BSK Associates Laboratory Fresno** 1414 Stanislaus St Fresno, CA 93706 559-497-2888 (Main)

Alfonso Manrique AM Consulting Engineers 7545 N. Del Mar Ave., STE 201 Fresno, CA 93711

#### **RE: Report for A8H3439 General**

Dear Alfonso Manrique,

Thank you for using BSK Associates for your analytical testing needs. In the following pages, you will find the test results for the samples submitted to our laboratory on 8/24/2018. The results have been approved for release by our Laboratory Director as indicated by the authorizing signature below.

The samples were analyzed for the test(s) indicated on the Chain of Custody (see attached) and the results relate only to the samples analyzed. BSK certifies that the testing was performed in accordance with the quality system requirements specified in the 2009 TNI Standard. Any deviations from this standard or from the method requirements for each test procedure performed will be annotated alongside the analytical result or noted in the Case Narrative. Unless otherwise noted, the sample results are reported on an "as received" basis.

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

If additional clarification of any information is required, please contact your Project Manager, Adam Trevarrow, at (800) 877-8310 or (559) 497-2888 x116.

Thank you again for using BSK Associates. We value your business and appreciate your loyalty.

Sincerely,

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Adam Trevarrow, Project Manager



Accredited in Accordance with NELAP ORELAP #4021-009

A8H3439 FINAL 09102018 1315



General



## **Case Narrative**

Project and	Report Details	Invoice Details	5
Client:	AM Consulting Engineers	Invoice To:	AM Consulting Engineers
Report To:	Alfonso Manrique	Invoice Attn:	Alfonso Manrique
Project #:	William Fisher Memorial	Project PO#:	-
Received:	8/24/2018 - 15:17		
Report Due:	9/10/2018		
Sample Red	ceipt Conditions		
Cooler: Defa	ault Cooler	Containers Intact	
Temperature on Receipt °C: 11.2		COC/Labels Agree	
-	-	Received On Blue Ice	
		Sample(s) arrived at lab on same day sampled.	

# **Detailed Narrative**

#### **Analysis Comment**

Date: 9/10/18

Initials: AJT Comment: HPC sample for A8H3439-03 was left on counter instead of inside refrigerator. The result is therefore inconclusive and the sample will be cancelled. Alfonso Manrique notified and will resample.

Packing Material - Other Initial receipt at BSK-FAL

#### **Data Qualifiers**

The following qualifiers have been applied to one or more analytical results:

\*\*\*None applied\*\*\*

#### **Report Distribution**

Recipient(s)	Report Format	CC:
Alfonso Manrique	FINAL.RPT	



## **Certificate of Analysis**

Sample ID: A8H3439-01 Sampled By: Rogelio Ramirez Sample Description: Raw Water (Post-Chlorination) Sample Date - Time: 08/24/18 - 10:00 Matrix: Ground Water Sample Type: Grab

### BSK Associates Laboratory Fresno

Metals

		141	etais						
Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Arsenic	EPA 200.8	20	2.0	ug/L	1	A812669	08/28/18	09/06/18	
		Micro	obiology						
Analyte	Method	Result			Batch	n Prepa	ared	Analyzed	Qual
Coliform, Presence/Ab	sence by Colilert								
E. Coli	SM 9223B	Absent			A81255	53 08/25	5/18 15:36	08/26/18 13:30	
Total Coliform	SM 9223B	Absent			A8125	53 08/25	5/18 15:36	08/26/18 13:30	



## **Certificate of Analysis**

**BSK Associates Laboratory Fresno** 

Sample ID: A8H3439-02 Sampled By: Rogelio Ramirez Sample Description: POU Unit A: Multipure Sample Date - Time: 08/24/18 - 10:00 Matrix: Ground Water Sample Type: Grab

Metals								
Analyte	Method	Result	RL	Units	RL Mult B	atch Prepared	Analyzed	Qual
Arsenic	EPA 200.8	ND	2.0	ug/L	1 A8	12669 08/28/18	09/06/18	
Microbiology								
Analyte	Method	Result			Batch	Prepared	Analyzed	Qual
Coliform, Presence/Absence by (	Colilert							
E. Coli	SM 9223B	Absent			A812553	08/25/18 15:36	08/26/18 13:30	
Total Coliform	SM 9223B	Absent			A812553	08/25/18 15:36	08/26/18 13:30	
Analyte	Method	Result	RL Units		Batch	Prepared	Analyzed	Qual
Heterotrophic Plate Count (48 Ho	our)							
Heterotrophic Plate Count	SM 9215B	370	CFU/ml		A812519	08/24/18 17:49	08/26/18 15:54	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

A8H3439 FINAL 09102018 1315



## **Certificate of Analysis**

Sample ID: A8H3439-03 Sampled By: Rogelio Ramirez Sample Description: POU Unit B: Isolux Sample Date - Time: 08/24/18 - 10:00 Matrix: Ground Water Sample Type: Grab

### BSK Associates Laboratory Fresno

Metals

		IV	etais						
Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Arsenic	EPA 200.8	ND	2.0	ug/L	1	A812669	08/28/18	09/06/18	
		Micro	obiology						
Analyte	Method	Result			Batch	Prep	ared	Analyzed	Qual
Coliform, Presence/Ab	sence by Colilert								
E. Coli	SM 9223B	Absent			A81255	3 08/25	5/18 15:36	08/26/18 13:30	
Total Coliform	SM 9223B	Absent			A81255	3 08/25	5/18 15:36	08/26/18 13:30	

A8H3439 FINAL 09102018 1315



# A8H3439

General

### BSK Associates Laboratory Fresno Metals Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
		EPA 200.8	8 - Qua	ality Co	ntrol						
Batch: A812669										Prepared	d: 8/28/2018
Prep Method: EPA 200.2										Ar	nalyst: MAS
Blank (A812669-BLK1)											
Arsenic	ND	2.0	ug/L							09/06/18	
Blank Spike (A812669-BS1)											
Arsenic	190	2.0	ug/L	200		95	85-115			09/06/18	
Blank Spike Dup (A812669-BSD1)											
Arsenic	190	2.0	ug/L	200		95	85-115	0	20	09/06/18	
Matrix Spike (A812669-MS1), Source:	A8H3420-05										
Arsenic	200	2.0	ug/L	200	2.9	96	70-130			09/06/18	
Matrix Spike (A812669-MS2), Source:	A8H3511-01										
Arsenic	190	2.0	ug/L	200	ND	95	70-130			09/06/18	
Matrix Spike Dup (A812669-MSD1), Se	ource: A8H3420-05										
Arsenic	190	2.0	ug/L	200	2.9	94	70-130	2	20	09/06/18	
Matrix Spike Dup (A812669-MSD2), Se	ource: A8H3511-01										
Arsenic	190	2.0	ug/L	200	ND	97	70-130	2	20	09/06/18	



# **Certificate of Analysis**

#### Notes:

- The Chain of Custody document and Sample Integrity Sheet are part of the analytical report.
- Any remaining sample(s) for testing will be disposed of according to BSK's sample retention policy unless other arrangements are made in advance.
- All positive results for EPA Methods 504.1 and 524.2 require the analysis of a Field Reagent Blank (FRB) to confirm that the results are not a contamination error from field sampling steps. If Field Reagent Blanks were not submitted with the samples, this method requirement has not been performed.
- Samples collected by BSK Analytical Laboratories were collected in accordance with the BSK Sampling and Collection Standard Operating
  Procedures.
- J-value is equivalent to DNQ (Detected, not quantified) which is a trace value. A trace value is an analyte detected between the MDL and the laboratory reporting limit. This result is of an unknown data quality and is only qualitative (estimated). Baseline noise, calibration curve extrapolation below the lowest calibrator, method blank detections, and integration artifacts can all produce apparent DNQ values, which contribute to the un-reliability of these values.
- (1) Residual chlorine and pH analysis have a 15 minute holding time for both drinking and waste water samples as defined by the EPA and 40 CFR 136. Waste water and ground water (monitoring well) samples must be field filtered to meet the 15 minute holding time for dissolved metals.
- Summations of analytes (i.e. Total Trihalomethanes) may appear to add individual amounts incorrectly, due to rounding of analyte values occurring before or after the total value is calculated, as well as rounding of the total value.
- RL Multiplier is the factor used to adjust the reporting limit (RL) due to variations in sample preparation procedures and dilutions required for matrix interferences.
- Due to the subjective nature of the Threshold Odor Method, all characterizations of the detected odor are the opinion of the panel of analysts. The characterizations can be found in Standard Methods 2170B Figure 2170:1.
- · The MCLs provided in this report (if applicable) represent the primary MCLs for that analyte.

#### Definitions

mg/L:	Milligrams/Liter (ppm)	MDL:	Method Detection Limit	MDA95:	Min. Detected Activity
mg/Kg:	Milligrams/Kilogram (ppm)	RL:	Reporting Limit: DL x Dilution	MPN:	Most Probable Number
µg/L:	Micrograms/Liter (ppb)	ND:	None Detected at RL	CFU:	Colony Forming Unit
µg/Kg:	Micrograms/Kilogram (ppb)	pCi/L:	PicoCuries per Liter	Absent:	Less than 1 CFU/100mLs
%:	Percent	RL Mult:	RL Multiplier	Present:	1 or more CFU/100mLs
NR:	Non-Reportable	MCL:	Maximum Contaminant Limit		

Please see the individual Subcontract Lab's report for applicable certifications.

BSK is not accredited under the NELAP p	rogram for the following parameters:	**NA**

Certifications: Please refer to our website for a copy of our Accredited Fields of Testing under each certification.

Fresno					
EPA - UCMR4	CA00079	Los Angeles CSD	9254479	NELAP certified	4021-010
State of California - ELAP	1180	State of Hawaii	4021	State of Nevada	CA000792018-1
State of Oregon - NELAP	4021-010	State of Washington	C997-18		
Sacramento					
State of California - ELAP	2435				
San Bernardino					
Los Angeles CSD	9254478	NELAP certified	4119-003	State of California - ELAP	2993
State of Oregon - NELAP	4119-003				
Vancouver					
NELAP certified	WA100008-011	State of Oregon - NELAP	WA100008-011	State of Washington	C824-17

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

A8H3439 FINAL 09102018 1315





AMCON9177



AM Consulting Engineers



# 08242018

Turnaround: Standard Due Date: 9/10/2018





Printed: 8/24/2018 4:42:59PM Page 1 of 1 Page 8 of 10



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AMCON917 10 S(T) = 288 - 9172 Fax: (55 3) 51 Amcon917 10 Amcon917 10	[COOIIIg Method: Wet Blue None Chilling Pro Payment for services tendenced as note break are use built within 30 days from the date hosized. It not so paid, account balances are determed delengent. Delinquent balances are subject to monthly service charges and intensis specified in BSK's current Standard Term accrowedges the yare either the Clein of the clein of the clein of the clein of the clein of the clein of the clein of the clein of the clein of the clein of the clein of the clein of the clein of the clein of the clein of the clein of the clein of the clein of the clein of the clein of the clein of the clein of the clein of the clein of the clein of the clein of the clein of the clein of the clein of the clein of the clein of the clein of the clein of the clein of the clein of the clein of the clein of the clein of the clein of the clein of the clein of the clein of the clein of the clein of the clein of the clein of the clein of the clein of the clein of the clein of the clein of the clein of the clein of the clein of the clein of the clein of the clein of the clein of the clein of the clein of the clein of the clein of the clein of the clein of the clein of the clein of the clein of the clein of the clein of the clean of the	Custody Se	This way and a balvery and a balvery American a balvery American American American American American American American American American American American American American American American American American American American American American American American American American American American American American American American American American American American American American American American American American American American American American American American American American American American American American American American American American American American American American American American American American American American American American American American American American American American American American American American American American American American American American American American American American American American American American American American American American American American American American American American American American American American American American American American American American American American American American American American American American American American American American American American American American American American American American American American American American American American American American American American American American American American American American American American American American American American American American American American American American American American American American American American American American American American American American American American American American American American American American American American American American American American American American American American American American American American	Received for Layby (Signature and Printed Name)	Relinquished by (Signature and Printed Name) Company Company Date Time Received by (Signature and Printed Name)	Relinguished by: (Signature and Printed Name) Company Date Time Received by: (Signature and Printed Name)								104 UNIT B: ISOINX 8/24 10:00 GW	X POW WAIT A: Multipure \$124 11:00 GW X	A KAW Water (rost - Chiorination) 8/24 10:00 Gw	# Sample Description* Sampled* Matrix* Comments / Station Code / WTRAX	Matrix Types: SW=Surface Water BW=Bottled Water GW=Ground Water WW=Waste Water STW=Storm Water Dw=Drinking Water SO=Solid	Wyew VAWIET / C. C. Imadeia C. Indie Co Geotracker #		Trace (J-Flag)     Swamp     EDD Type:     SWRCB (Drinking Water)     EDT to California SWRCB (Drinking Water)	William Fisher Memorial Reporting Options:	Project: Project Project * CA 93710	Address: City: City: State: Zip: E-mail: o	Additional cos: Rogelib Rammer Pot	AM IMACULITING FINGER ALL Phone Consulting Phone: (	Company/Client Name*: *Required Fields Temp: Thermometer ID:	ASSOCIATES	(559) 497-2888 · Fax (559) 497-2893 Standard - 10 business days
BB-917 IO BB-9172 Fax:(559)51 Marriel Company Company Check PIA#: Inf Company Check Inf Check Inf Check Inf Check Inf Check Inf Check Inf Check Inf Check Inf Check Inf Check Inf Check Inf Check Inf Check Inf Check Inf Check Inf Check Inf Check Inf Check Inf Check Inf Check Inf Check Inf Check Inf Check Inf Check Inf Check Inf Check Inf Check Inf Check Inf Check Inf Check Inf Check Inf Check Inf Check Inf Check Inf Check Inf Check Inf Check Inf Check Inf Check Inf Check Inf Check Inf Check Inf Check Inf Check Inf Check Inf Check Inf Check Inf Check Inf Check Inf Check Inf Check Inf Check Inf Check Inf Check Inf Check Inf Check Inf Check Inf Check Inf Check Inf Check Inf Check Inf Check Inf Check Inf Check Inf Check Inf Check Inf Check Inf Check Inf Check Inf Check Inf Check Inf Check Inf Check Inf Check Inf Check Inf Check Inf Check Inf Check Inf Check Inf Check Inf Check Inf Check Inf Check Inf Check Inf Check Inf Check Inf Check Inf Check Inf Check Inf Check Inf Check Inf Check Inf Check Inf Check Inf Check Inf Check Inf Check Inf Check Inf Check Inf Check Inf Check Inf Check Inf Check Inf Check Inf Check Inf Check Inf Check Inf Check Inf Check Inf Check Inf Check Inf Check Inf Check Inf Check Inf Check Inf Check Inf Check Inf Check Inf Check Inf Check Inf Check Inf Check Inf Check Inf Check Inf Check Inf Check Inf Check Inf Check Inf Check Inf Check Inf Check Inf Check Inf Check Inf Check Inf Check Inf Check Inf Check Inf Check Inf Check Inf Check Inf Check Inf Check Inf Check Inf Check Inf Check Inf Check Inf Check Inf Check Inf Check Inf Check Inf Check Inf Check Inf Check Inf Check Inf Check Inf Check Inf Check Inf Check Inf Check Inf Check Inf Check Inf Check Inf Check Inf Check	ocess Begun	Bal: Y/N/	nount:		P			 			_	_		X	× ×	×	В0 #	с Р	T	-	P/	A		altense		559)21	ſ		AMCC
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08/24/2018 10

BSK A	ssociates SR-FL-0002-19			<u> </u>		
Sa	mple Integrity	¢ ,				
BS	K Bottles: (Yes No Page	e of		\		
	Was temperature within range?	NO NA	Were co	rrect contair	ners and preservatives	Yes No NA
0	Chemistry $\leq 6^{\circ}$ C Micro $< 8^{\circ}$ C		received	for the test	s requested?	
lnf	that chilling has begun?	Yes No (NA	TB Rece	ived? (Che	ck Method Below)	Yes_No MA
Q	Did all bottles arrive unbroken and intact?	(Fes No	Was a su	ufficient amo	ount of sample received	I? (Yes) No
0 C	Did all bottle labels agree with COC?	Ves No	Do samp	oles have a	hold time <72 hours?	Yes Ma
	Was sodium thiosulfate added to CN sample(s) until chlorine was no longer present?	Yes No NA	Was PM PM:	notified of a	discrepancies? By/Time:	Yes No NA
	250ml(A) 500ml(B) 1Liter(C) 40ml VOA(V)	Checks	Passed?		$\mathcal{C}$	
	Bacti Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>			•		
	None (P) <sup>White Cap</sup>	-	_	ł		
	Cr6 (P) Lt. Green Label/Blue Cap NH4OH(NH4)2SO4 DW	CI, pH > 8	PF		and the second second	
lab	Cr6 (P) Pink Label/Blue Cap NH40H(NH4)2SO4 WW	pH 9.3-9.7	PF			
l in the	Cr6 (P) Black Label/Blue Cap NH4OH(NH4)2SO4 7199	рН 9.0-9.5	ΡF	.0		
nec	HNO3(P) <sup>Red Cap</sup> or HCI (P) <sup>Purple Cap/Lt. Blue Label</sup>	_		10		
Lion	H <sub>2</sub> SO <sub>4</sub> (P) or (AG) Yellow Cap/Label	pH < 2	ΡF	10		
e be	NaOH (P) Green Cap	Cl, pH >10	ΡF			
L ar	NaOH + ZnAc (P)	pH > 9	PF			
A 0	Dissolved Oxygen 300ml (g)					
red er N	None (AG) 608/8081/8082, 625, 632/8321, 8151, 8270		4			and Proved and Provide Address
ceiv eith	HCI (AG) <sup>Lt. Blue Label</sup> O&G, Diesel, TCP				1	
Ree	Ascorbic, EDTA, KH <sub>2</sub> Ct (AG) <sup>Pink Label</sup> 525	_				$\cap$
es ecks	Na <sub>2</sub> SO <sub>3</sub> 250mL (AG) <sup>Neon Green Label</sup> 515		-			V LLC
e de la	Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> 1 Liter (Brown P) 549	_	—			15 MAX
la a	Na2S2O3 (AG) <sup>Blue Label</sup> 548, THM, 524		<u> </u>	1.2.3.3	K I	17410
ch o	Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> (CG) <sup>Blue Label</sup> 504, 505, 547					200 01
tion/	Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> + MCAA (CG) <sup>Orange Label</sup> 531	pH < 3	PF			
era	NH4CI (AG) <sup>Purple Label</sup> 552		_			
pres	EDA (AG) <sup>Brown Label</sup> DBPs	-	<u>.</u>	1		
ans	HCL (CG) 524.2, BTEX, Gas, MTBE, 8260/624					
1 me	Buffer pH 4 (CG)			1.10		
]	H <sub>3</sub> PO <sub>4</sub> (CG) <sup>Salmon Label</sup>					
	Other:					
	Asbestos 1L (P) w/ Foil / LL Metals Bottle	-				
	Bottled Water	_				
	Clear Glass 250mL / 500mL / 1 Liter	<u> </u>	<u>1997 <del>- 1</del>998</u>			
	Solids: Blass / Steel / Plastic Bag			Contain	pr Preservative	Date/Time/Initials
<b>Jit</b>	S P		SP	Containe		Bator internitiais
S S	S P		SP			
			√ Ir	ndicates B	lanks Received	
lents			504	524.2	TCP TTHM	537
mmo			8260/624			
U U						





**BSK Associates Laboratory Fresno** 1414 Stanislaus St Fresno, CA 93706 559-497-2888 (Main)

Alfonso Manrique AM Consulting Engineers 7545 N. Del Mar Ave., STE 201 Fresno, CA 93711

#### **RE: Report for A8H4341 General**

Dear Alfonso Manrique,

Thank you for using BSK Associates for your analytical testing needs. In the following pages, you will find the test results for the samples submitted to our laboratory on 8/31/2018. The results have been approved for release by our Laboratory Director as indicated by the authorizing signature below.

The samples were analyzed for the test(s) indicated on the Chain of Custody (see attached) and the results relate only to the samples analyzed. BSK certifies that the testing was performed in accordance with the quality system requirements specified in the 2009 TNI Standard. Any deviations from this standard or from the method requirements for each test procedure performed will be annotated alongside the analytical result or noted in the Case Narrative. Unless otherwise noted, the sample results are reported on an "as received" basis.

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

If additional clarification of any information is required, please contact your Project Manager, Adam Trevarrow, at (800) 877-8310 or (559) 497-2888 x116.

Thank you again for using BSK Associates. We value your business and appreciate your loyalty.

Sincerely,

alam

Adam Trevarrow, Project Manager



Accredited in Accordance with NELAP ORELAP #4021-009



General



## **Case Narrative**

Project and	Report Details	Invoice Details
Client: Report To: Project #: Received: Report Due:	AM Consulting Engineers Alfonso Manrique William Fisher Memorial 8/31/2018 - 14:52 9/17/2018	Invoice To: AM Consulting Engineers Invoice Attn: Alfonso Manrique Project PO#: -
Sample Rec	eipt Conditions	
Cooler: Defa Temperature o	uult Cooler o <b>n Receipt ⁰C:</b> 9.3	Containers Intact COC/Labels Agree Received On Blue Ice Sample(s) arrived at lab on same day sampled. Packing Material - Other Sample(s) were received in temperature range. Initial receipt at BSK-FAL
Data Qualif	iers	
The following	ı qualifiers have been appli	ed to one or more analytical results:

MC Notify Positive Notification: Mark (DW Officer) 9-3-18@1546

#### **Report Distribution**

Recipient(s)	Report Format	CC:
Alfonso Manrique	FINAL.RPT	



# **Certificate of Analysis**

Sample ID: A8H4341-01 Sampled By: Rogelio Ramirez Sample Description: POU Unit A Multipure Sample Date - Time: 08/31/18 - 10:00 Matrix: Ground Water Sample Type: Grab

### **BSK Associates Laboratory Fresno**

Metals

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Arsenic	EPA 200.8	ND	2.0	ug/L	1	A813160	09/06/18	09/14/18	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



## **Certificate of Analysis**

Sample ID: A8H4341-02 Sampled By: Rogelio Ramirez Sample Description: POU Unit B Isolux Sample Date - Time: 08/31/18 - 10:00 Matrix: Ground Water Sample Type: Grab

#### **BSK Associates Laboratory Fresno Metals** RL Analyte Method Result RL Units Batch Prepared Analyzed Qual Mult ND A813160 09/06/18 EPA 200.8 2.0 09/14/18 Arsenic ug/L 1 Microbiology Analyte Method Result Batch Prepared Analyzed Qual Coliform, Presence/Absence by Colilert E. Coli SM 9223B Absent A812956 08/31/18 18:31 09/01/18 14:51 Total Coliform SM 9223B A812956 08/31/18 18:31 09/01/18 14:51 Absent Analyte Method Result **RL Units** Batch Prepared Analyzed Qual Heterotrophic Plate Count (48 Hour) MC Heterotrophic Plate Count CFU/ml SM 9215B 5300 A812952 08/31/18 18:00 09/02/18 15:17 Notify



General

### BSK Associates Laboratory Fresno Metals Quality Control Report

			··· <i>j</i> - ·	••••••							
Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
		EPA 200.8	3 - Qua	ality Co	ntrol						
Batch: A813160										Prepare	ed: 9/6/2018
Prep Method: EPA 200.2										Ar	nalyst: MAS
Blank (A813160-BLK1)											
Arsenic	ND	2.0	ug/L							09/14/18	
Blank Spike (A813160-BS1)											
Arsenic	240	2.0	ug/L	240		98	85-115			09/14/18	
Blank Spike Dup (A813160-BSD1)											
Arsenic	240	2.0	ug/L	240		100	85-115	1	20	09/14/18	
Matrix Spike (A813160-MS1), Source:	A8H4341-01										
Arsenic	240	2.0	ug/L	240	ND	100	70-130			09/14/18	
Matrix Spike (A813160-MS2), Source:	A8I0130-04										
Arsenic	230	2.0	ug/L	240	ND	96	70-130			09/14/18	
Matrix Spike Dup (A813160-MSD1), Se	ource: A8H4341-01										
Arsenic	240	2.0	ug/L	240	ND	100	70-130	0	20	09/14/18	
Matrix Spike Dup (A813160-MSD2), So	ource: A8I0130-04										
Arsenic	230	2.0	ug/L	240	ND	97	70-130	1	20	09/14/18	



# **Certificate of Analysis**

#### Notes:

- The Chain of Custody document and Sample Integrity Sheet are part of the analytical report.
- Any remaining sample(s) for testing will be disposed of according to BSK's sample retention policy unless other arrangements are made in advance.
- All positive results for EPA Methods 504.1 and 524.2 require the analysis of a Field Reagent Blank (FRB) to confirm that the results are not a contamination error from field sampling steps. If Field Reagent Blanks were not submitted with the samples, this method requirement has not been performed.
- Samples collected by BSK Analytical Laboratories were collected in accordance with the BSK Sampling and Collection Standard Operating
  Procedures.
- J-value is equivalent to DNQ (Detected, not quantified) which is a trace value. A trace value is an analyte detected between the MDL and the laboratory reporting limit. This result is of an unknown data quality and is only qualitative (estimated). Baseline noise, calibration curve extrapolation below the lowest calibrator, method blank detections, and integration artifacts can all produce apparent DNQ values, which contribute to the un-reliability of these values.
- (1) Residual chlorine and pH analysis have a 15 minute holding time for both drinking and waste water samples as defined by the EPA and 40 CFR 136. Waste water and ground water (monitoring well) samples must be field filtered to meet the 15 minute holding time for dissolved metals.
- Summations of analytes (i.e. Total Trihalomethanes) may appear to add individual amounts incorrectly, due to rounding of analyte values occurring before or after the total value is calculated, as well as rounding of the total value.
- RL Multiplier is the factor used to adjust the reporting limit (RL) due to variations in sample preparation procedures and dilutions required for matrix interferences.
- Due to the subjective nature of the Threshold Odor Method, all characterizations of the detected odor are the opinion of the panel of analysts. The characterizations can be found in Standard Methods 2170B Figure 2170:1.
- · The MCLs provided in this report (if applicable) represent the primary MCLs for that analyte.

#### Definitions

mg/L:	Milligrams/Liter (ppm)	MDL:	Method Detection Limit	MDA95:	Min. Detected Activity
mg/Kg:	Milligrams/Kilogram (ppm)	RL:	Reporting Limit: DL x Dilution	MPN:	Most Probable Number
µg/L:	Micrograms/Liter (ppb)	ND:	None Detected at RL	CFU:	Colony Forming Unit
µg/Kg:	Micrograms/Kilogram (ppb)	pCi/L:	PicoCuries per Liter	Absent:	Less than 1 CFU/100mLs
%:	Percent	RL Mult:	RL Multiplier	Present:	1 or more CFU/100mLs
NR:	Non-Reportable	MCL:	Maximum Contaminant Limit		

Please see the individual Subcontract Lab's report for applicable certifications.

BSK is not accredited under the NELAP p	rogram for the following parameters:	**NA**

Certifications: Please refer to our website for a copy of our Accredited Fields of Testing under each certification.

Fresno					
EPA - UCMR4	CA00079	Los Angeles CSD	9254479	NELAP certified	4021-010
State of California - ELAP	1180	State of Hawaii	4021	State of Nevada	CA000792018-1
State of Oregon - NELAP	4021-010	State of Washington	C997-18		
Sacramento					
State of California - ELAP	2435				
San Bernardino					
Los Angeles CSD	9254478	NELAP certified	4119-003	State of California - ELAP	2993
State of Oregon - NELAP	4119-003				
Vancouver					
NELAP certified	WA100008-011	State of Oregon - NELAP	WA100008-011	State of Washington	C824-17

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.





# AMCON9177



# AM Consulting Engineers



# 08312018

Turnaround:

Standard Due Date: 9/17/2018





Printed: 8/31/2018 6:03:45PM Page 1 of 1 Page 7 of 9

story Services. The person signing for the Cilen/Company hs and conditions can be found all	d Terms and Conditions Aurabora	I in monthly service charges and internst specthad in BSK's current Standar o BSK's lotms and conditions for laboratory services unless contractually bo	smed delinquent. Delinquent balances are subject e services on this Chain of Custody, and agrees to	the date invoiced. If not so paid, account balances are deinat the Cileni agrees to be responsible for payment for the	<ul> <li>or work of sector and the sector of the sector of the sector of the sector of the sector of the sector of the sector of the sector of the sector of the sector of the sector of the sector of the sector of the sector of the sector of the sector of the sector of the sector of the sector of the sector of the sector of the sector of the sector of the sector of the sector of the sector of the sector of the sector of the sector of the sector of the sector of the sector of the sector of the sector of the sector of the sector of the sector of the sector of the sector of the sector of the sector of the sector of the sector of the sector of the sector of the sector of the sector of the sector of the sector of the sector of the sector of the sector of the sector of the sector of the sector of the sector of the sector of the sector of the sector of the sector of the sector of the sector of the sector of the sector of the sector of the sector of the sector of the sector of the sector of the sector of the sector of the sector of the sector of the sector of the sector of the sector of the sector of the sector of the sector of the sector of the sector of the sector of the sector of the sector of the sector of the sector of the sector of the sector of the sector of the sector of the sector of the sector of the sector of the sector of the sector of the sector of the sector of the sector of the sector of the sector of the sector of the sector of the sector of the sector of the sector of the sector of the sector of the sector of the sector of the sector of the sector of the sector of the sector of the sector of the sector of the sector of the sector of the sector of the sector of the sector of the sector of the sector of the sector of the sector of the sector of the sector of the sector of the sector of the sector of the sector of the sector of the sector of the sector of the sector of the sector of the sector of the sector of the sector of the sector of the sector of the sector of the sector of the sector of the secto</li></ul>
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	Р ( 20	V=Drinking Water SO=Solid	Vaste Water STW=Storm Waler DW	Bottled Water GW=Ground Water WW=V	Matrix Types: SW=Surface Water BW=
	: t	Geotracker #:			Kogelin Kammere
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	> Ħ	EDT to California SWRCB (Drinking Water)	Interiory Careon Copies		Trace (J-Flag) Swamp EDD Type
	V <sub>A</sub>	.*			William Fisher memoria
		CA 93710		124 Fresno	Project
		State*: Zip*:		City":	Address":
antique @ am-ce.com	: alfonso.	O#:	elio Ramirez Po	Additional cc's: Rog.	AM consulting Engineers
1172 Fax: 659)513-8489	b-882( b55).	voice To": Are Lonsuining Engineers Phone	fonso manrigue inv	Report Attention*: A	Company/Client Name*
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ACON917 10	AM	around Time Request tandard - 10 business days	o Turna	lariisiaus Sc, Fresilo, CA 9570 97-2888 · Fax (559) 497-2893	
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Sa	mple Integrity								
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	Was temperature within range? Chemistry $\leq 6^{\circ}$ C Micro $\leq 8^{\circ}$ C	No NA	Were cor	rect contain for the tests	ers and reque	t preserva	nives	Yes	Nto NA
e l	If samples were taken today, is there evidence	Yos No MA	Bubbles I	Present VO	As (524	.2/TCP/T	THM)?	Yes	NO NA
는 는	that chilling has begun?		TB Recei	ved? (Chec	k Meth	od Below	l coived?	Yes	No NG
ö	Did all bottle labels agree with COC2	Yes No	Do samp	les have a t	nold tim	e < 72 ho	urs?	Yes	
0	Was sodium thiosulfate added to CN sample(s)		Was PM	notified of d	iscrepa	incies?		Vac	NON
	until chlorine was no longer present?	res No NA	PM:	-	Bynn	e:		103	
	250ml(A) 500ml(B) 1Liter(C) 40ml VOA(V)	Checks	Passed?		<u> </u>		0.000		
	Bacti Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>					$\vdash$ /			n gang
	None (P) <sup>vvnite Cap</sup>							SS: 22. 21	
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Bottles Received ion/chlorine checks are either N/A or are performed in the lab	Cr6 (P) Pink Label/Blue Cap NH4OH(NH4)2SO4 WW	pH 9.3-9.7	PF		STOCKIO STA				15 No. 1 Aug
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	None (AG) 608/8081/8082, 625, 632/8321, 8151, 8270		_						
	HCI (AG) <sup>Lt. Blue Label</sup> O&G, Diesel, TCP	—	—						
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	Bottled Water		<u> </u>			1			Carl Carlos and Carlos
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Page 9 of 9

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**BSK Associates Laboratory Fresno** 1414 Stanislaus St Fresno, CA 93706 559-497-2888 (Main)

Alfonso Manrique AM Consulting Engineers 7545 N. Del Mar Ave., STE 201 Fresno, CA 93711

#### **RE: Report for A8I0998 General**

Dear Alfonso Manrique,

Thank you for using BSK Associates for your analytical testing needs. In the following pages, you will find the test results for the samples submitted to our laboratory on 9/10/2018. The results have been approved for release by our Laboratory Director as indicated by the authorizing signature below.

The samples were analyzed for the test(s) indicated on the Chain of Custody (see attached) and the results relate only to the samples analyzed. BSK certifies that the testing was performed in accordance with the quality system requirements specified in the 2009 TNI Standard. Any deviations from this standard or from the method requirements for each test procedure performed will be annotated alongside the analytical result or noted in the Case Narrative. Unless otherwise noted, the sample results are reported on an "as received" basis.

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

If additional clarification of any information is required, please contact your Project Manager, Adam Trevarrow, at (800) 877-8310 or (559) 497-2888 x116.

Thank you again for using BSK Associates. We value your business and appreciate your loyalty.

Sincerely,

alam

Adam Trevarrow, Project Manager



Accredited in Accordance with NELAP ORELAP #4021-009

A8I0998 FINAL 09242018 1253



## **Case Narrative**

Project and	Report Details	Invoice Details
Client:	AM Consulting Engineers	Invoice To: AM Consulting Engineers
Report To:	Alfonso Manrique	Invoice Attn: Alfonso Manrique
Project #:	William Fisher Memorial	Project PO#: -
Received:	9/10/2018 - 14:15	
Report Due:	9/24/2018	
Sample Red	ceipt Conditions	
Cooler: Default Cooler		Containers Intact
Temperature	on Receipt ºC: 7.3	COC/Labels Agree
	•	Received On Blue Ice
		Sample(s) arrived at lab on same day sampled.
		Packing Material - Other

Initial receipt at BSK-FAL

#### **Data Qualifiers**

The following qualifiers have been applied to one or more analytical results:

\*\*\*None applied\*\*\*

### **Report Distribution**

Recipient(s)	Report Format	CC:
Alfonso Manrique	FINAL.RPT	

A810998

General



# **Certificate of Analysis**

Sample ID: A810998-01 Sampled By: Rogelio Ramirez Sample Description: Raw Water (Post-Chlorination) Sample Date - Time: 09/10/18 - 10:00 Matrix: Ground Water Sample Type: Grab

### BSK Associates Laboratory Fresno

Metals

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Arsenic	EPA 200.8	20	2.0	ug/L	1	A813553	09/12/18	09/19/18	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

A8I0998 FINAL 09242018 1253



## **Certificate of Analysis**

Sample ID: A810998-02 Sampled By: Rogelio Ramirez Sample Description: POU Unit A: Mulitpure Sample Date - Time: 09/10/18 - 10:00 Matrix: Ground Water Sample Type: Grab

Metals											
Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual		
Arsenic	EPA 200.8	ND	2.0	ug/L	1 /	4813553	09/12/18	09/19/18			
Microbiology											
Analyte	Method	Result			Batch	Prepa	ared	Analyzed	Qual		
Coliform, Presence/Abse	nce by Colilert										
E. Coli	SM 9223B	Absent			A81341	2 09/10	)/18 18:24	09/11/18 15:20			
Total Coliform	SM 9223B	Absent			A81341	2 09/10	)/18 18:24	09/11/18 15:20			

**BSK Associates Laboratory Fresno** 

# The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

A8I0998 FINAL 09242018 1253


**General** William Fisher Memorial

## **Certificate of Analysis**

Sample ID: A810998-03 Sampled By: Rogelio Ramirez Sample Description: POU Unit B: Isolux Sample Date - Time: 09/10/18 - 10:00 Matrix: Ground Water Sample Type: Grab

# BSK Associates Laboratory Fresno

Metals

	metals												
Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual				
Arsenic	EPA 200.8	ND	2.0	ug/L	1	A813553	09/12/18	09/19/18					
Microbiology													
Analyte	Method	Result			Batch	Prep	ared	Analyzed	Qual				
Coliform, Presence/Abs	sence by Colilert												
E. Coli	SM 9223B	Absent			A81341	12 09/10	)/18 18:24	09/11/18 15:20					
Total Coliform	SM 9223B	Absent			A81341	12 09/10	)/18 18:24	09/11/18 15:20					

A8I0998 FINAL 09242018 1253



A810998

General

#### BSK Associates Laboratory Fresno Metals Quality Control Report

			··· <i>j</i> - ·	••••••							
Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
		EPA 200.8	3 - Qua	ality Co	ntrol						
Batch: A813553 Prep Method: EPA 200.2										Prepareo Ar	d: 9/12/2018 nalyst: MAS
Blank (A813553-BLK1)											
Arsenic	ND	2.0	ug/L							09/19/18	
Blank Spike (A813553-BS1)											
Arsenic	200	2.0	ug/L	200		102	85-115			09/19/18	
Blank Spike Dup (A813553-BSD1)											
Arsenic	200	2.0	ug/L	200		102	85-115	0	20	09/19/18	
Matrix Spike (A813553-MS1), Source:	A810932-02										
Arsenic	200	2.0	ug/L	200	ND	102	70-130			09/19/18	
Matrix Spike (A813553-MS2), Source:	A810889-03										
Arsenic	210	2.0	ug/L	200	3.5	101	70-130			09/19/18	
Matrix Spike Dup (A813553-MSD1), So	ource: A8I0932-02										
Arsenic	210	2.0	ug/L	200	ND	103	70-130	1	20	09/19/18	
Matrix Spike Dup (A813553-MSD2), So	ource: A8I0889-03										
Arsenic	200	2.0	ug/L	200	3.5	101	70-130	1	20	09/19/18	

A8I0998 FINAL 09242018 1253



# **Certificate of Analysis**

#### Notes:

- The Chain of Custody document and Sample Integrity Sheet are part of the analytical report.
- Any remaining sample(s) for testing will be disposed of according to BSK's sample retention policy unless other arrangements are made in advance.
- All positive results for EPA Methods 504.1 and 524.2 require the analysis of a Field Reagent Blank (FRB) to confirm that the results are not a contamination error from field sampling steps. If Field Reagent Blanks were not submitted with the samples, this method requirement has not been performed.
- Samples collected by BSK Analytical Laboratories were collected in accordance with the BSK Sampling and Collection Standard Operating
  Procedures.
- J-value is equivalent to DNQ (Detected, not quantified) which is a trace value. A trace value is an analyte detected between the MDL and the laboratory reporting limit. This result is of an unknown data quality and is only qualitative (estimated). Baseline noise, calibration curve extrapolation below the lowest calibrator, method blank detections, and integration artifacts can all produce apparent DNQ values, which contribute to the un-reliability of these values.
- (1) Residual chlorine and pH analysis have a 15 minute holding time for both drinking and waste water samples as defined by the EPA and 40 CFR 136. Waste water and ground water (monitoring well) samples must be field filtered to meet the 15 minute holding time for dissolved metals.
- Summations of analytes (i.e. Total Trihalomethanes) may appear to add individual amounts incorrectly, due to rounding of analyte values occurring before or after the total value is calculated, as well as rounding of the total value.
- RL Multiplier is the factor used to adjust the reporting limit (RL) due to variations in sample preparation procedures and dilutions required for matrix interferences.
- Due to the subjective nature of the Threshold Odor Method, all characterizations of the detected odor are the opinion of the panel of analysts. The characterizations can be found in Standard Methods 2170B Figure 2170:1.
- · The MCLs provided in this report (if applicable) represent the primary MCLs for that analyte.

#### Definitions

mg/L:	Milligrams/Liter (ppm)	MDL:	Method Detection Limit	MDA95:	Min. Detected Activity
mg/Kg:	Milligrams/Kilogram (ppm)	RL:	Reporting Limit: DL x Dilution	MPN:	Most Probable Number
µg/L:	Micrograms/Liter (ppb)	ND:	None Detected at RL	CFU:	Colony Forming Unit
µg/Kg:	Micrograms/Kilogram (ppb)	pCi/L:	PicoCuries per Liter	Absent:	Less than 1 CFU/100mLs
%:	Percent	RL Mult:	RL Multiplier	Present:	1 or more CFU/100mLs
NR:	Non-Reportable	MCL:	Maximum Contaminant Limit		

Please see the individual Subcontract Lab's report for applicable certifications.

BSK is not accredited under the NELAP p	rogram for the following parameters:	**NA**

Certifications: Please refer to our website for a copy of our Accredited Fields of Testing under each certification.

Fresno					
EPA - UCMR4	CA00079	Los Angeles CSD	9254479	NELAP certified	4021-010
State of California - ELAP	1180	State of Hawaii	4021	State of Nevada	CA000792018-1
State of Oregon - NELAP	4021-010	State of Washington	C997-18		
Sacramento					
State of California - ELAP	2435				
San Bernardino					
Los Angeles CSD	9254478	NELAP certified	4119-003	State of California - ELAP	2993
State of Oregon - NELAP	4119-003				
Vancouver					
NELAP certified	WA100008-011	State of Oregon - NELAP	WA100008-011	State of Washington	C824-17

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

A8I0998 FINAL 09242018 1253





# AMCON9177



AM Consulting Engineers

09102018

Turnaround: Standard Due Date: 9/24/2018





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Payment to services rendered as noted references are subject to the orient the date invoced. If not so paid, account balances are deemed delicipant. Deinquent balances are subject to monthy andhowedges that they are other the Cliest or an automized agent to the Client, that the Client agrees to be responsible for payment for the services on this Chain of Custody, and agrees to BSK's te www.balassonates.com/BSKLaa TermsConditions.pdf	International Antiparticipation of the second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second secon
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CL are subject to monthly service charges and internal speedlied in BSK's current SI	V / U pare	Time Payment Received at Delivery:	Hime Received by: (Signature and Printed Name)	0 1:15 (Supramus and Finned Name)	Time Descrited by IChest		2.4 -				Z	Σ	٤	Trix* Comments / Station Code / WTRAX	Water DW=Drinking Water SO=Solid	Geotracker #	o Co System Number*:	Regulatory Compliance EDT to California SWRCB (Drinking Water)		(A 93710	Stale*: 7in*-	PO#	M Invoice Tot: AM CONSULTING	8 th 7	Rush (Surcharge may apply) Date needed:	Standard • 10 business days	Turnaround Time Regulact
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Page 9 of 10

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	Was temperature within range? Chemistry ≤ 6°C Micro < 8°C	Yes No NA	Were con received	rrect contai for the test	ners and pro	eservatives  ?	Yes	NO NA
Info	If samples were taken today, is there evidence that chilling has begun?	Yes No MA	Bubbles	Present VC	DAs (524.2/ ck Method I	TCP/TTHM)? Below)	' Yes Yes	No NA No NA
ပ္ဂ	Did all bottles arrive unbroken and intact?	Yes No	Was a st	ufficient am	ount of sam	ple received	?	S No
ŭ	Did all bottle labels agree with COC?	Yes No.	Do samp	les have a	hold time <	72 hours? es?	<u>Cre</u>	5 NO
	until chlorine was no longer present?	Yes No (NA	PM:		By/Time:		Yes	NO MA
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form	H2SO4 (P) or (AG) Yellow Cap/Label	_pH < 2	PF					
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Page 10 of 10

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**BSK Associates Laboratory Fresno** 1414 Stanislaus St Fresno, CA 93706 559-497-2888 (Main)

Alfonso Manrique AM Consulting Engineers 7545 N. Del Mar Ave., STE 201 Fresno, CA 93711

#### RE: Report for A8I2029 General

Dear Alfonso Manrique,

Thank you for using BSK Associates for your analytical testing needs. In the following pages, you will find the test results for the samples submitted to our laboratory on 9/17/2018. The results have been approved for release by our Laboratory Director as indicated by the authorizing signature below.

The samples were analyzed for the test(s) indicated on the Chain of Custody (see attached) and the results relate only to the samples analyzed. BSK certifies that the testing was performed in accordance with the quality system requirements specified in the 2009 TNI Standard. Any deviations from this standard or from the method requirements for each test procedure performed will be annotated alongside the analytical result or noted in the Case Narrative. Unless otherwise noted, the sample results are reported on an "as received" basis.

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

If additional clarification of any information is required, please contact your Project Manager, Adam Trevarrow, at (800) 877-8310 or (559) 497-2888 x116.

Thank you again for using BSK Associates. We value your business and appreciate your loyalty.

Sincerely,

alam

Adam Trevarrow, Project Manager



Accredited in Accordance with NELAP ORELAP #4021-009

A8I2029 FINAL 09272018 1800



### **Case Narrative**

Project and	Report Details	Invoice Details
Client: Report To: Project #: Received: Report Due:	AM Consulting Engineers Alfonso Manrique William Fisher Memorial 9/17/2018 - 15:25 10/01/2018	Invoice To: AM Consulting Engineers Invoice Attn: Alfonso Manrique Project PO#: -
Sample Rec	eipt Conditions	
Cooler: Defa Temperature o	ault Cooler on Receipt °C: 3.0	Containers Intact COC/Labels Agree Received On Blue Ice Sample(s) arrived at lab on same day sampled. Packing Material - Other Sample(s) were received in temperature range. Initial receipt at BSK-FAL
Data Quali	fiers	

The following qualifiers have been applied to one or more analytical results:

\*\*\*None applied\*\*\*

### **Report Distribution**

Recipient(s)	Report Format	CC:
Alfonso Manrique	FINAL.RPT	

A8I2029

General



General William Fisher Memorial

# **Certificate of Analysis**

Sample ID: A8l2029-01 Sampled By: Randi Anderson Sample Description: POU Unit A Multipure Sample Date - Time: 09/17/18 - 11:00 Matrix: Ground Water Sample Type: Grab

### BSK Associates Laboratory Fresno

Metals

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Arsenic	EPA 200.8	ND	2.0	ug/L	1	A813996	09/20/18	09/26/18	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

A8I2029 FINAL 09272018 1800



General William Fisher Memorial

## **Certificate of Analysis**

Sample ID: A8I2029-02 Sampled By: Randi Anderson Sample Description: POU Unit B Isolux Sample Date - Time: 09/17/18 - 11:00 Matrix: Ground Water Sample Type: Grab

## BSK Associates Laboratory Fresno

Metals

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Arsenic	EPA 200.8	ND	2.0	ug/L	1	A813996	09/20/18	09/26/18	



General

#### BSK Associates Laboratory Fresno Metals Quality Control Report

		tuio duu	<u></u>								
Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
		EPA 200.	8 - Qua	ality Co	ntrol						
Batch: A813996										Prepare	d: 9/20/2018
Prep Method: EPA 200.2										A	nalyst: MAS
Blank (A813996-BLK1)											
Arsenic	ND	2.0	ug/L							09/26/18	
Blank Spike (A813996-BS1)											
Arsenic	200	2.0	ug/L	200		100	85-115			09/26/18	
Blank Spike Dup (A813996-BSD1)											
Arsenic	200	2.0	ug/L	200		99	85-115	1	20	09/26/18	
Matrix Spike (A813996-MS1), Source:	A8I2067-02										
Arsenic	200	2.0	ug/L	200	3.6	96	70-130			09/26/18	
Matrix Spike Dup (A813996-MSD1), So	urce: A8I2067-02										
Arsenic	200	2.0	ug/L	200	3.6	98	70-130	2	20	09/26/18	



# **Certificate of Analysis**

#### Notes:

- The Chain of Custody document and Sample Integrity Sheet are part of the analytical report.
- Any remaining sample(s) for testing will be disposed of according to BSK's sample retention policy unless other arrangements are made in advance.
- All positive results for EPA Methods 504.1 and 524.2 require the analysis of a Field Reagent Blank (FRB) to confirm that the results are not a contamination error from field sampling steps. If Field Reagent Blanks were not submitted with the samples, this method requirement has not been performed.
- Samples collected by BSK Analytical Laboratories were collected in accordance with the BSK Sampling and Collection Standard Operating
  Procedures.
- J-value is equivalent to DNQ (Detected, not quantified) which is a trace value. A trace value is an analyte detected between the MDL and the laboratory reporting limit. This result is of an unknown data quality and is only qualitative (estimated). Baseline noise, calibration curve extrapolation below the lowest calibrator, method blank detections, and integration artifacts can all produce apparent DNQ values, which contribute to the un-reliability of these values.
- (1) Residual chlorine and pH analysis have a 15 minute holding time for both drinking and waste water samples as defined by the EPA and 40 CFR 136. Waste water and ground water (monitoring well) samples must be field filtered to meet the 15 minute holding time for dissolved metals.
- Summations of analytes (i.e. Total Trihalomethanes) may appear to add individual amounts incorrectly, due to rounding of analyte values occurring before or after the total value is calculated, as well as rounding of the total value.
- RL Multiplier is the factor used to adjust the reporting limit (RL) due to variations in sample preparation procedures and dilutions required for matrix interferences.
- Due to the subjective nature of the Threshold Odor Method, all characterizations of the detected odor are the opinion of the panel of analysts. The characterizations can be found in Standard Methods 2170B Figure 2170:1.
- · The MCLs provided in this report (if applicable) represent the primary MCLs for that analyte.

#### Definitions

mg/L:	Milligrams/Liter (ppm)	MDL:	Method Detection Limit	MDA95:	Min. Detected Activity
mg/Kg:	Milligrams/Kilogram (ppm)	RL:	Reporting Limit: DL x Dilution	MPN:	Most Probable Number
µg/L:	Micrograms/Liter (ppb)	ND:	None Detected at RL	CFU:	Colony Forming Unit
µg/Kg:	Micrograms/Kilogram (ppb)	pCi/L:	PicoCuries per Liter	Absent:	Less than 1 CFU/100mLs
%:	Percent	RL Mult:	RL Multiplier	Present:	1 or more CFU/100mLs
NR:	Non-Reportable	MCL:	Maximum Contaminant Limit		

Please see the individual Subcontract Lab's report for applicable certifications.

BSK is not accredited under the NELAP p	rogram for the following parameters:	**NA**

Certifications: Please refer to our website for a copy of our Accredited Fields of Testing under each certification.

Fresno					
EPA - UCMR4	CA00079	Los Angeles CSD	9254479	NELAP certified	4021-010
State of California - ELAP	1180	State of Hawaii	4021	State of Nevada	CA000792018-1
State of Oregon - NELAP	4021-010	State of Washington	C997-18		
Sacramento					
State of California - ELAP	2435				
San Bernardino					
Los Angeles CSD	9254478	NELAP certified	4119-003	State of California - ELAP	2993
State of Oregon - NELAP	4119-003				
Vancouver					
NELAP certified	WA100008-011	State of Oregon - NELAP	WA100008-011	State of Washington	C824-18a

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

A8I2029 FINAL 09272018 1800





# AMCON9177



**AM** Consulting Engineers





# 09172018

Turnaround: Standard Due Date: 10/1/2018



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A rocent balines are damed danguart. Daliquer, Date of the services on the Chain of Custody, and agrees to BSK's terms and conditions for laborator the Chain of Custody, and agrees to BSK's terms and conditions for laboratory services.	Company A CONSULTING Date ENCINEERS 9//17 Time Received by: (Signature and Prin EnCINEERS 9//17 Time Received by: (Signature and Prin Company Date Time Received by: (Signature and Prin	Image: Source of the second second second water a condition of the second second second second water second water second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second seco	Temp:       Thermometar ID:         Thermometar ID:         Thermometar ID:         Thermometar ID:         Thermometar ID:         Clipt:       And CanSUl Av         Clipt:       State:       Thermometar ID:         Clipt:       State:       Thermometar ID:         Clipt:       State:       Thermometar ID:         Clipt:       State:       CanSULAV         Clipt:       State:       Thermometar ID:         Clipt:       State:       CanSULAV         Clipt:       State:       CanSULAV         Clipt:       State:       CanSULAV         Clipt:       State:       CanSULAV         Project #:       Clipt:       State:       Clipt:       State:       Clipt:       Clipt:       Clipt:       Clipt:       Clipt:       Clipt:       Clipt:       Clipt:       <	Turnaround Time Request       (559) 497-2893     Standard - 10 business days       Dm     O       Date needed:     Date needed:
Company Check / Check / Che	led Verney	X X ARSENI	197 Phone: (559)288-9172 Fax:(559)513 E-mail: alfon so man igue @am - ce	AMCON917

#### BSK Associates SR-FL-0002-19

# Sample Integrity



10

BS	K Bottles: (Yes) No Page	e								
	Was temperature within range?	Yes No NA	Were co	prrect containe	ers and preservativ	ies xe	S No	NA		
ę	If samples were taken today, is there evidence		Bubbles	Present VOA	requested ?	IM)? Yes		KCh		
<u>_</u>	that chilling has begun?	Yes No MA	) TB Rece	eived? (Check	Method Below)	Yes	s No	NA		
Ö	Did all bottles arrive unbroken and intact?	Yes No	Was a s	ufficient amou	unt of sample rece	ived?	es/	No		
õ	Did all bottle labels agree with COC?	(Yes No	Do sam	ples have a h	old time <72 hours	<u>? Y</u>	es	No		
	until chlorine was no longer present?	Yes No (NA	PM:	r nounied of di	screpancies (	Yes	s No			
	250ml(A) 500ml(B) 1Liter(C) 40ml VOA(V)	Checks	Passed?	12	,	<b>I</b>				
	Bacti Na2\$2O3	-	-							
	None (P) <sup>White Cap</sup>	_	_							
	Cr6 (P) Lt Green Label/Blue Cap NH40H(NH4)2S04 DW	Cl, pH > 8	PF							
qe	Cr6 (P) Pink Label/Blue Cap NH4OH(NH4)2SO4 WW	pH 9.3-9.7	ΡF				N			
je la	Cr6 (D) Black Label/Blue Cap ANA CHICK MARKAN 2006 7100									
in t	***24 HOUR HOLD TIME***	pH 9.0-9.5	PF				1/			
led	HNO3 (P) Red Cap or HCI (P) Purple Cap/Lt. Blue Label		-	IR			X			
forn	H2SO4 (P) or (AG) Yellow Capitabel	nH<2	PF							
per		CL pH >10	PF							
are	Na()H + 7nAc (P)	oly privile	D E							
\ or		<u> </u>								
ъŽ	Dissolved Oxygen Southi (g)			a construction of the		· · · · · · · · · · · · · · · · · · ·		9.9.9.9.9.000		
Ner Ther	NORE (AG) 606/8081/8082, 625, 632/8321, 8151, 8270	—	1			an,				
e eit	HCI (AG) <sup>Lt. Blue Label</sup> O&G, Diesel, TCP	-	-			11-	18			
Re s are	Ascorbic, EDTA, KH <sub>2</sub> Ct (AG) <sup>Pink Label</sup> 525	·	—							
esk: Bock:	Na2SO3 250mL (AG)Neon Green Laber 515		<u> </u>	2008		yn				
ottl ch	Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> 1 Liter (Brown P) 549	_	_							
<b>B</b> Dine	Na2S2O3 (AG)Blue Label 548, THM, 524		Ì		N N					
chic	Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> (CG) <sup>Blue Label</sup> 504, 505, 547	—								
ion/	Na2S2O3 + MCAA (CG)Onange Label 531	pH≤3	PF			N.				
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ean	HCL (CG) 524.2,BTEX,Gas, MTBE, 8260/624	-	 Activity (1994)				$\square$			
E _	butter pH 4 (CG)	-	-					<u>\</u>		
_  _	H3PO4 (CG)Samon Label	—						<u>ц. – – – – – – – – – – – – – – – – – – –</u>		
	Ashestos 11 (P) w/ Foil / 11 Metals Bottle							1		
	Bottled Water		_					/		
	Clear Glass 250mL / 500mL / 1 Liter		4		Sec. Sec. 1					
	Solids: Brass / Steel / Plastic Bag							ļ		
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**BSK Associates Laboratory Fresno** 1414 Stanislaus St Fresno, CA 93706 559-497-2888 (Main)

Alfonso Manrique AM Consulting Engineers 7545 N. Del Mar Ave., STE 201 Fresno, CA 93711

#### **RE: Report for A8I3008 General**

Dear Alfonso Manrique,

Thank you for using BSK Associates for your analytical testing needs. In the following pages, you will find the test results for the samples submitted to our laboratory on 9/24/2018. The results have been approved for release by our Laboratory Director as indicated by the authorizing signature below.

The samples were analyzed for the test(s) indicated on the Chain of Custody (see attached) and the results relate only to the samples analyzed. BSK certifies that the testing was performed in accordance with the quality system requirements specified in the 2009 TNI Standard. Any deviations from this standard or from the method requirements for each test procedure performed will be annotated alongside the analytical result or noted in the Case Narrative. Unless otherwise noted, the sample results are reported on an "as received" basis.

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

If additional clarification of any information is required, please contact your Project Manager, Adam Trevarrow, at (800) 877-8310 or (559) 497-2888 x116.

Thank you again for using BSK Associates. We value your business and appreciate your loyalty.

Sincerely,

alam

Adam Trevarrow, Project Manager



Accredited in Accordance with NELAP ORELAP #4021-009



### **Case Narrative**

Project and	Report Details	Invoice Details							
Client: Report To: Project #: Received: Report Due:	AM Consulting Engineers Alfonso Manrique William Fisher Memorial 9/24/2018 - 15:30 10/08/2018	Invoice To: AM Consulting Engineers Invoice Attn: Alfonso Manrique Project PO#: -							
Sample Receipt Conditions									
Sample Receipt Conditions Cooler: Default Cooler Temperature on Receipt °C: 9.7		Containers Intact COC/Labels Agree Received On Blue Ice Sample(s) arrived at lab on same day sampled. Packing Material - Other Sample(s) were received in temperature range. Initial receipt at BSK-FAL							
Data Quali	fiers								

The following qualifiers have been applied to one or more analytical results:

\*\*\*None applied\*\*\*

### **Report Distribution**

Recipient(s)	Report Format	CC:
Alfonso Manrique	FINAL.RPT	

A813008

General



William Fisher Memorial

## **Certificate of Analysis**

Sample ID: A8I3008-01 Sampled By: Randi Andreson Sample Description: Raw - Water (Post-Chlorination) Sample Date - Time: 09/24/18 - 11:30 Matrix: Ground Water Sample Type: Grab

#### BSK Associates Laboratory Fresno

Metals

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Arsenic	EPA 200.8	22	2.0	ug/L	1	A814522	09/28/18	10/04/18	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



**General** William Fisher Memorial

## **Certificate of Analysis**

Sample ID: A8I3008-02 Sampled By: Randi Andreson Sample Description: Pou Unit A - Mulitpure Sample Date - Time: 09/24/18 - 11:30 Matrix: Ground Water Sample Type: Grab

			Metals						
Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Arsenic	EPA 200.8	ND	2.0	ug/L	1	A814522	09/28/18	10/04/18	
		Mic	crobiology						
Analyte	Method	Result	RL Units		Batc	h Prepa	ared	Analyzed	Qual
Heterotrophic Plate Count (4	<u>48 Hour)</u>								
Heterotrophic Plate Count	SM 9215B	260	CFU/ml		A8142	39 09/24	/18 17:46	09/26/18 18:46	

**BSK Associates Laboratory Fresno** 

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



**General** William Fisher Memorial

## **Certificate of Analysis**

Sample ID: A8I3008-03 Sampled By: Randi Andreson Sample Description: POU Unit B Isolux Sample Date - Time: 09/24/18 - 11:30 Matrix: Ground Water Sample Type: Grab

			Metals						
Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Arsenic	EPA 200.8	ND	2.0	ug/L	1	A814522	09/28/18	10/04/18	
		Mie	crobiology						
Analyte	Method	Result	RL Units		Bat	ch Prepa	ared	Analyzed	Qual
Heterotrophic Plate Count (4	<u>48 Hour)</u>								
Heterotrophic Plate Count	SM 9215B	370	CFU/ml		A814	239 09/24	/18 17:46	09/26/18 18:46	

**BSK Associates Laboratory Fresno** 

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



A8I3008

General

#### BSK Associates Laboratory Fresno Metals Quality Control Report

			··· <i>j</i> - ·								
Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
		EPA 200.8	3 - Qua	ality Co	ntrol						
Batch: A814522 Prep Method: EPA 200.2										Prepareo Ar	d: 9/28/2018 nalyst: MAS
Blank (A814522-BLK1)											
Arsenic	ND	2.0	ug/L							10/04/18	
Blank Spike (A814522-BS1)											
Arsenic	200	2.0	ug/L	200	ND	98	85-115			10/04/18	
Blank Spike Dup (A814522-BSD1)											
Arsenic	200	2.0	ug/L	200	ND	98	85-115	0	20	10/04/18	
Matrix Spike (A814522-MS1), Source:	A8I3001-01										
Arsenic	210	2.0	ug/L	200	3.0	101	70-130			10/04/18	
Matrix Spike (A814522-MS2), Source:	A8I3018-04										
Arsenic	200	2.0	ug/L	200	ND	98	70-130			10/04/18	
Matrix Spike Dup (A814522-MSD1), So	ource: A8I3001-01										
Arsenic	200	2.0	ug/L	200	3.0	98	70-130	3	20	10/04/18	
Matrix Spike Dup (A814522-MSD2), So	ource: A8I3018-04										
Arsenic	200	2.0	ug/L	200	ND	98	70-130	0	20	10/04/18	



# **Certificate of Analysis**

#### Notes:

- The Chain of Custody document and Sample Integrity Sheet are part of the analytical report.
- Any remaining sample(s) for testing will be disposed of according to BSK's sample retention policy unless other arrangements are made in advance.
- All positive results for EPA Methods 504.1 and 524.2 require the analysis of a Field Reagent Blank (FRB) to confirm that the results are not a contamination error from field sampling steps. If Field Reagent Blanks were not submitted with the samples, this method requirement has not been performed.
- Samples collected by BSK Analytical Laboratories were collected in accordance with the BSK Sampling and Collection Standard Operating
  Procedures.
- J-value is equivalent to DNQ (Detected, not quantified) which is a trace value. A trace value is an analyte detected between the MDL and the laboratory reporting limit. This result is of an unknown data quality and is only qualitative (estimated). Baseline noise, calibration curve extrapolation below the lowest calibrator, method blank detections, and integration artifacts can all produce apparent DNQ values, which contribute to the un-reliability of these values.
- (1) Residual chlorine and pH analysis have a 15 minute holding time for both drinking and waste water samples as defined by the EPA and 40 CFR 136. Waste water and ground water (monitoring well) samples must be field filtered to meet the 15 minute holding time for dissolved metals.
- Summations of analytes (i.e. Total Trihalomethanes) may appear to add individual amounts incorrectly, due to rounding of analyte values occurring before or after the total value is calculated, as well as rounding of the total value.
- RL Multiplier is the factor used to adjust the reporting limit (RL) due to variations in sample preparation procedures and dilutions required for matrix interferences.
- Due to the subjective nature of the Threshold Odor Method, all characterizations of the detected odor are the opinion of the panel of analysts. The characterizations can be found in Standard Methods 2170B Figure 2170:1.
- · The MCLs provided in this report (if applicable) represent the primary MCLs for that analyte.

#### Definitions

mg/L:	Milligrams/Liter (ppm)	MDL:	Method Detection Limit	MDA95:	Min. Detected Activity
mg/Kg:	Milligrams/Kilogram (ppm)	RL:	Reporting Limit: DL x Dilution	MPN:	Most Probable Number
µg/L:	Micrograms/Liter (ppb)	ND:	None Detected at RL	CFU:	Colony Forming Unit
µg/Kg:	Micrograms/Kilogram (ppb)	pCi/L:	PicoCuries per Liter	Absent:	Less than 1 CFU/100mLs
%:	Percent	RL Mult:	RL Multiplier	Present:	1 or more CFU/100mLs
NR:	Non-Reportable	MCL:	Maximum Contaminant Limit		

Please see the individual Subcontract Lab's report for applicable certifications.

BSK is not accredited under the NELAP p	rogram for the following parameters:	**NA**

Certifications: Please refer to our website for a copy of our Accredited Fields of Testing under each certification.

Fresno					
EPA - UCMR4	CA00079	Los Angeles CSD	9254479	NELAP certified	4021-010
State of California - ELAP	1180	State of Hawaii	4021	State of Nevada	CA000792018-1
State of Oregon - NELAP	4021-010	State of Washington	C997-18		
Sacramento					
State of California - ELAP	2435				
San Bernardino					
Los Angeles CSD	9254478	NELAP certified	4119-003	State of California - ELAP	2993
State of Oregon - NELAP	4119-003				
Vancouver					
NELAP certified	WA100008-011	State of Oregon - NELAP	WA100008-011	State of Washington	C824-18a

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# AMCON9177



AM Consulting Engineers



# 09242018

Turnaround: Due Date:

Standard 10/8/2018





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BSK's current Standard Terms and Conditions for Laboratory Services. The person signing for the Client/Comp.	all within 30 days from the date involced. If not so paid, account balances are deemed delinquent, Delinquent balances are subject to monthly service charges and interest specified in BSK	aynienii na services rendered as noted nereis are dus ar

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.0	Chemistry $\leq 6^{\circ}$ C Micro $< 8^{\circ}$ C (	Tes No NA	received Bubbles	for the test	s requested	1? TCP/TTHM)	2 Yes	No MAD
lut	that chilling has begun?	Yes No (NA)	TB Rece	ived? (Che	ck Method I	Below)	Yes	No (NA)
õ	Did all bottles arrive unbroken and intact?	Yes No	Do samo	oles have a	ount of sam hold time <	iple receive 72 hours?	1? res	NO NO
	Was sodium thiosulfate added to CN sample(s)	Yes No (NA)	Was PM	notified of	discrepanci	es?	Yes	No MA)
	250ml(A) 500ml(B) 1Liter(C) 40ml VOA(V)	Checks	Passed?	1-	2-3	-		
	Bacti Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>				1	-		
	None (P) <sup>White Cap</sup>							
	Cr6 (P) LL Green Label/Blue Cap NH4OH(NH4)2SO4 DW	CI, pH > 8	PF					
e lat	Cr6 (P) Philk Label/Blue Cap NH4OH(NH4)2SO4 WW	pH 9.3-9.7						
ir th	Cro (P) best assessed cop NH4OH(NH4)2SO4 7199	pH 9.0-9.5	PF					
ned	HNO3 (P) Red ap or HCI (P) Purple Cap/Lt. Blue Label			[3	18			
arion.	H2SO4 (P) or (AG) Yellow Cap/Label	pH<2	PF					
<u>a</u>	NaOH (P) <sup>Green Cap</sup>	Cl, pH >10	PF					
or a	NaOH + ZnAc (P)	pH>9	PF				my	0
₽ <sup>₹</sup>	Dissolved Oxygen 300ml (g)	—					121	X
ive	NORE (AC) 608/8081/8082, 625, 632/8321, 8151, 6270					$  \langle \epsilon \rangle$		
ece le el	Ascorbic EDTA KHaCt (AC)Pink Label 525						<b></b>	
R S S	Na-SCo 250mL (AG)Neon Green Label 515	_						
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/chic	Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> (CG) <sup>Blue Label</sup> 504, 505, 547							
ation	Na2S2O3 + MCAA (CG)Orange Label 531	pH<3	PF					
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**BSK Associates Laboratory Fresno** 1414 Stanislaus St Fresno, CA 93706 559-497-2888 (Main)

Alfonso Manrique AM Consulting Engineers 7545 N. Del Mar Ave., STE 201 Fresno, CA 93711

#### **RE: Report for A8J0065 General**

Dear Alfonso Manrique,

Thank you for using BSK Associates for your analytical testing needs. In the following pages, you will find the test results for the samples submitted to our laboratory on 10/1/2018. The results have been approved for release by our Laboratory Director as indicated by the authorizing signature below.

The samples were analyzed for the test(s) indicated on the Chain of Custody (see attached) and the results relate only to the samples analyzed. BSK certifies that the testing was performed in accordance with the quality system requirements specified in the 2009 TNI Standard. Any deviations from this standard or from the method requirements for each test procedure performed will be annotated alongside the analytical result or noted in the Case Narrative. Unless otherwise noted, the sample results are reported on an "as received" basis.

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

If additional clarification of any information is required, please contact your Project Manager, Adam Trevarrow, at (800) 877-8310 or (559) 497-2888 x116.

Thank you again for using BSK Associates. We value your business and appreciate your loyalty.

Sincerely,

alam

Adam Trevarrow, Project Manager



Accredited in Accordance with NELAP ORELAP #4021-009



General



## **Case Narrative**

Project and	Report Details	Invoice Details
Client: Report To: Project #: Received: Report Due:	AM Consulting Engineers Alfonso Manrique William Fisher Memorial 10/01/2018 - 14:25 10/15/2018	Invoice To: AM Consulting Engineers Invoice Attn: Alfonso Manrique Project PO#: -
Sample Rec	eipt Conditions	
Cooler: Defa Temperature o	ult Cooler n Receipt ºC: 3.6	Containers Intact COC/Labels Agree Received On Blue Ice Sample(s) arrived at lab on same day sampled. Packing Material - Other Sample(s) were received in temperature range. Initial receipt at BSK-FAL
Data Qualif	iers	
The following	qualifiers have been appli	ed to one or more analytical results:

\*\*\*None applied\*\*\*

### **Report Distribution**

Recipient(s)	Report Format	CC:
Alfonso Manrique	FINAL.RPT	



**General** William Fisher Memorial

# **Certificate of Analysis**

Sample ID: A8J0065-01 Sampled By: Randi Anderson Sample Description: Pou Unit A - Mulitpure Sample Date - Time: 10/01/18 - 10:00 Matrix: Water Sample Type: Grab

### BSK Associates Laboratory Fresno

Metals

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Arsenic	EPA 200.8	ND	2.0	ug/L	1	A814778	10/03/18	10/10/18	



**General** William Fisher Memorial

# **Certificate of Analysis**

Sample ID: A8J0065-02 Sampled By: Randi Anderson Sample Description: POU Unit B: Isolux Sample Date - Time: 10/01/18 - 10:00 Matrix: Water Sample Type: Grab

### BSK Associates Laboratory Fresno

Metals

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Arsenic	EPA 200.8	ND	2.0	ug/L	1	A814778	10/03/18	10/10/18	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



General

#### BSK Associates Laboratory Fresno Metals Quality Control Report

			···, ···								
Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
		EPA 200.8	3 - Qua	ality Co	ntrol						
Batch: A814778 Prep Method: EPA 200.2										Preparec Ar	l: 10/3/2018 alyst: MAS
Blank (A814778-BLK1)											
Arsenic	ND	2.0	ug/L							10/10/18	
Blank Spike (A814778-BS1)											
Arsenic	200	2.0	ug/L	200	ND	102	85-115			10/10/18	
Blank Spike Dup (A814778-BSD1)											
Arsenic	210	2.0	ug/L	200	ND	103	85-115	0	20	10/10/18	
Matrix Spike (A814778-MS1), Source:	A8I3728-01										
Arsenic	220	2.0	ug/L	200	14	103	70-130			10/10/18	
Matrix Spike (A814778-MS2), Source:	A8I3728-04										
Arsenic	190	2.0	ug/L	200	4.3	94	70-130			10/10/18	
Matrix Spike Dup (A814778-MSD1), So	ource: A8I3728-01										
Arsenic	220	2.0	ug/L	200	14	101	70-130	1	20	10/10/18	
Matrix Spike Dup (A814778-MSD2), So	ource: A8I3728-04										
Arsenic	190	2.0	ug/L	200	4.3	95	70-130	1	20	10/10/18	



# **Certificate of Analysis**

#### Notes:

- The Chain of Custody document and Sample Integrity Sheet are part of the analytical report.
- Any remaining sample(s) for testing will be disposed of according to BSK's sample retention policy unless other arrangements are made in advance.
- All positive results for EPA Methods 504.1 and 524.2 require the analysis of a Field Reagent Blank (FRB) to confirm that the results are not a contamination error from field sampling steps. If Field Reagent Blanks were not submitted with the samples, this method requirement has not been performed.
- Samples collected by BSK Analytical Laboratories were collected in accordance with the BSK Sampling and Collection Standard Operating
  Procedures.
- J-value is equivalent to DNQ (Detected, not quantified) which is a trace value. A trace value is an analyte detected between the MDL and the laboratory reporting limit. This result is of an unknown data quality and is only qualitative (estimated). Baseline noise, calibration curve extrapolation below the lowest calibrator, method blank detections, and integration artifacts can all produce apparent DNQ values, which contribute to the un-reliability of these values.
- (1) Residual chlorine and pH analysis have a 15 minute holding time for both drinking and waste water samples as defined by the EPA and 40 CFR 136. Waste water and ground water (monitoring well) samples must be field filtered to meet the 15 minute holding time for dissolved metals.
- Summations of analytes (i.e. Total Trihalomethanes) may appear to add individual amounts incorrectly, due to rounding of analyte values occurring before or after the total value is calculated, as well as rounding of the total value.
- RL Multiplier is the factor used to adjust the reporting limit (RL) due to variations in sample preparation procedures and dilutions required for matrix interferences.
- Due to the subjective nature of the Threshold Odor Method, all characterizations of the detected odor are the opinion of the panel of analysts. The characterizations can be found in Standard Methods 2170B Figure 2170:1.
- · The MCLs provided in this report (if applicable) represent the primary MCLs for that analyte.

#### Definitions

mg/L:	Milligrams/Liter (ppm)	MDL:	Method Detection Limit	MDA95:	Min. Detected Activity
mg/Kg:	Milligrams/Kilogram (ppm)	RL:	Reporting Limit: DL x Dilution	MPN:	Most Probable Number
µg/L:	Micrograms/Liter (ppb)	ND:	None Detected at RL	CFU:	Colony Forming Unit
µg/Kg:	Micrograms/Kilogram (ppb)	pCi/L:	PicoCuries per Liter	Absent:	Less than 1 CFU/100mLs
%:	Percent	RL Mult:	RL Multiplier	Present:	1 or more CFU/100mLs
NR:	Non-Reportable	MCL:	Maximum Contaminant Limit		

Please see the individual Subcontract Lab's report for applicable certifications.

BSK is not accredited under the NELAP pr	ogram for the following parameters:	**NA**

Certifications: Please refer to our website for a copy of our Accredited Fields of Testing under each certification.

Fresno					
EPA - UCMR4	CA00079	Los Angeles CSD	9254479	NELAP certified	4021-010
State of California - ELAP	1180	State of Hawaii	4021	State of Nevada	CA000792018-1
State of Oregon - NELAP	4021-010	State of Washington	C997-18		
Sacramento					
State of California - ELAP	2435				
San Bernardino					
Los Angeles CSD	9254478	NELAP certified	4119-003	State of California - ELAP	2993
State of Oregon - NELAP	4119-003				
Vancouver					
NELAP certified	WA100008-011	State of Oregon - NELAP	WA100008-011	State of Washington	C824-18b

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.





# AMCON9177



# AM Consulting Engineers



# 10012018

Turnaround: Standard Due Date: 10/15/2018





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SR-FL-0012-08

Page 8 of 9

#### BSK Associates SR-FL-0002-19

# Sample Integrity



10/01/2018 10

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BS	К Во	ttles:(Yes	) No	Page	e	_of _			·					
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	Chemi	stry <b>≤ 6°C</b> Micr	ro <b>&lt; 8°C</b>		Tes		received	l for the	tests	requested	?			•A
Ĕ	If samp	les were taken to	day, is there evid	ence	Yes	No	Bubbles	Presen	t VOA	s (524.2/	CP/TTHM)	? Yes	No	JA)
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ŏ	Did all	bottle labels arres	with COC2				Dosam			and time <	pie received			5
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	until ch	lorine was no long	present?	ibie(3)	Yes	No (NA	PM:	11000100	B	v/Time:		Yes	No K	NA
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erb	None	(AG) 508/8081/8082	625, 632/8321, 815	. 8270		4	<u> </u>			· \	Yan			
eith eith	HCI (A	G)Lt. Blue Label Og	G. Diesel, TCP											
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Page 9 of 9



**BSK Associates Laboratory Fresno** 1414 Stanislaus St Fresno, CA 93706 559-497-2888 (Main)

Alfonso Manrique AM Consulting Engineers 7545 N. Del Mar Ave., STE 201 Fresno, CA 93711

#### **RE: Report for A8J1550 General**

Dear Alfonso Manrique,

Thank you for using BSK Associates for your analytical testing needs. In the following pages, you will find the test results for the samples submitted to our laboratory on 10/10/2018. The results have been approved for release by our Laboratory Director as indicated by the authorizing signature below.

The samples were analyzed for the test(s) indicated on the Chain of Custody (see attached) and the results relate only to the samples analyzed. BSK certifies that the testing was performed in accordance with the quality system requirements specified in the 2009 TNI Standard. Any deviations from this standard or from the method requirements for each test procedure performed will be annotated alongside the analytical result or noted in the Case Narrative. Unless otherwise noted, the sample results are reported on an "as received" basis.

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

If additional clarification of any information is required, please contact your Project Manager, Adam Trevarrow, at (800) 877-8310 or (559) 497-2888 x116.

Thank you again for using BSK Associates. We value your business and appreciate your loyalty.

Sincerely,

alam

Adam Trevarrow, Project Manager



Accredited in Accordance with NELAP ORELAP #4021-009

A8J1550 FINAL 10222018 1642



# A8J1550

General

### **Case Narrative**

Project and	Report Details	Invoice Details
Client: Report To: Project #: Received: Report Due:	AM Consulting Engineers Alfonso Manrique William Fisher Memorial 10/10/2018 - 15:15 10/24/2018	Invoice To: AM Consulting Engineers Invoice Attn: Alfonso Manrique Project PO#: -
Sample Rec	eipt Conditions	
Cooler: Default Cooler Temperature on Receipt °C: 3.9		Containers Intact COC/Labels Agree Sample(s) arrived at lab on same day sampled. Packing Material - Other Initial receipt at BSK-FAL
Data Qualif	iers	
The following	ı qualifiers have been appli	ed to one or more analytical results:
***None applied	]***	

### **Report Distribution**

Recipient(s)	Report Format	CC:
Alfonso Manrique	FINAL.RPT	


## **Certificate of Analysis**

Sample ID: A8J1550-01 Sampled By: Randi Anderson Sample Description: Raw Water (Post-Chlorination) Sample Date - Time: 10/10/18 - 11:00 Matrix: Water Sample Type: Grab

#### BSK Associates Laboratory Fresno

Metals

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Arsenic	EPA 200.8	20	2.0	ug/L	1	A815394	10/15/18	10/22/18	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



### **Certificate of Analysis**

Sample ID: A8J1550-02 Sampled By: Randi Anderson Sample Description: POU Unit A : Multipure Sample Date - Time: 10/10/18 - 11:00 Matrix: Water Sample Type: Grab

Metals											
Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual		
Arsenic	EPA 200.8	ND	2.0	ug/L	1 /	4815394	10/15/18	10/22/18			
		Micro	obiology								
Analyte	Method	Result			Batch	Prepa	ared	Analyzed	Qual		
Coliform, Presence/Ab	sence by Colilert										
E. Coli	SM 9223B	Absent			A81527	3 10/10	)/18 17:45	10/11/18 14:08			
Total Coliform	SM 9223B	Absent			A81527	3 10/10	)/18 17:45	10/11/18 14:08			

**BSK Associates Laboratory Fresno** 

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



### **Certificate of Analysis**

Sample ID: A8J1550-03 Sampled By: Randi Anderson Sample Description: POU Unit B: Isolux Sample Date - Time: 10/10/18 - 11:00 Matrix: Water Sample Type: Grab

Metals											
Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual		
Arsenic	EPA 200.8	2.1	2.0	ug/L	1 /	A815394	10/15/18	10/22/18			
		Micro	obiology								
Analyte	Method	Result			Batch	Prepa	ared	Analyzed	Qual		
Coliform, Presence/Ab	sence by Colilert										
E. Coli	SM 9223B	Absent			A81527	3 10/10	)/18 17:45	10/11/18 14:08			
Total Coliform	SM 9223B	Absent			A81527	3 10/10	)/18 17:45	10/11/18 14:08			

BSK Associates Laboratory Fresno



General

#### BSK Associates Laboratory Fresno Metals Quality Control Report

			<i>j</i> -								
Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
		EPA 200.8	3 - Qua	ality Co	ntrol						
Batch: A815394				-						Prepared:	10/15/2018
Prep Method: EPA 200.2										Ar	nalyst: MAS
Blank (A815394-BLK1)											
Arsenic	ND	2.0	ug/L							10/22/18	
Blank Spike (A815394-BS1)											
Arsenic	200	2.0	ug/L	200	ND	100	85-115			10/22/18	
Blank Spike Dup (A815394-BSD1)											
Arsenic	200	2.0	ug/L	200	ND	98	85-115	2	20	10/22/18	
Matrix Spike (A815394-MS1), Source:	A8J1624-08										
Arsenic	210	2.0	ug/L	200	16	99	70-130			10/22/18	
Matrix Spike (A815394-MS2), Source:	A8J1624-03										
Arsenic	200	2.0	ug/L	200	4.5	99	70-130			10/22/18	
Matrix Spike Dup (A815394-MSD1), So	ource: A8J1624-08										
Arsenic	210	2.0	ug/L	200	16	98	70-130	0	20	10/22/18	
Matrix Spike Dup (A815394-MSD2), So	ource: A8J1624-03										
Arsenic	200	2.0	ug/L	200	4.5	99	70-130	0	20	10/22/18	



## **Certificate of Analysis**

#### Notes:

- The Chain of Custody document and Sample Integrity Sheet are part of the analytical report.
- Any remaining sample(s) for testing will be disposed of according to BSK's sample retention policy unless other arrangements are made in advance.
- All positive results for EPA Methods 504.1 and 524.2 require the analysis of a Field Reagent Blank (FRB) to confirm that the results are not a contamination error from field sampling steps. If Field Reagent Blanks were not submitted with the samples, this method requirement has not been performed.
- Samples collected by BSK Analytical Laboratories were collected in accordance with the BSK Sampling and Collection Standard Operating
  Procedures.
- J-value is equivalent to DNQ (Detected, not quantified) which is a trace value. A trace value is an analyte detected between the MDL and the laboratory reporting limit. This result is of an unknown data quality and is only qualitative (estimated). Baseline noise, calibration curve extrapolation below the lowest calibrator, method blank detections, and integration artifacts can all produce apparent DNQ values, which contribute to the un-reliability of these values.
- (1) Residual chlorine and pH analysis have a 15 minute holding time for both drinking and waste water samples as defined by the EPA and 40 CFR 136. Waste water and ground water (monitoring well) samples must be field filtered to meet the 15 minute holding time for dissolved metals.
- Summations of analytes (i.e. Total Trihalomethanes) may appear to add individual amounts incorrectly, due to rounding of analyte values occurring before or after the total value is calculated, as well as rounding of the total value.
- RL Multiplier is the factor used to adjust the reporting limit (RL) due to variations in sample preparation procedures and dilutions required for matrix interferences.
- Due to the subjective nature of the Threshold Odor Method, all characterizations of the detected odor are the opinion of the panel of analysts. The characterizations can be found in Standard Methods 2170B Figure 2170:1.
- · The MCLs provided in this report (if applicable) represent the primary MCLs for that analyte.

#### Definitions

mg/L:	Milligrams/Liter (ppm)	MDL:	Method Detection Limit	MDA95:	Min. Detected Activity
mg/Kg:	Milligrams/Kilogram (ppm)	RL:	Reporting Limit: DL x Dilution	MPN:	Most Probable Number
µg/L:	Micrograms/Liter (ppb)	ND:	None Detected at RL	CFU:	Colony Forming Unit
µg/Kg:	Micrograms/Kilogram (ppb)	pCi/L:	PicoCuries per Liter	Absent:	Less than 1 CFU/100mLs
%:	Percent	RL Mult:	RL Multiplier	Present:	1 or more CFU/100mLs
NR:	Non-Reportable	MCL:	Maximum Contaminant Limit		

Please see the individual Subcontract Lab's report for applicable certifications.

BSK is not accredited under the NELAP p	rogram for the following parameters:	**NA**

Certifications: Please refer to our website for a copy of our Accredited Fields of Testing under each certification.

Fresno					
EPA - UCMR4	CA00079	Los Angeles CSD	9254479	NELAP certified	4021-010
State of California - ELAP	1180	State of Hawaii	4021	State of Nevada	CA000792019-1
State of Oregon - NELAP	4021-010	State of Washington	C997-18		
Sacramento					
State of California - ELAP	2435				
San Bernardino					
Los Angeles CSD	9254478	NELAP certified	4119-003	State of California - ELAP	2993
State of Oregon - NELAP	4119-003				
Vancouver					
NELAP certified	WA100008-011	State of Oregon - NELAP	WA100008-011	State of Washington	C824-18b

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.





## AMCON9177



## AM Consulting Engineers



# 10102018

Turnaround: Due Date:

: Standard : 10/24/2018





Printed: 10/10/2018 6:32:22PM Page 1 of 1 Page 8 of 10

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SAMAN. ociates.com/BSKLabTermsConditions.pdf ä He for payment for the services on this Chain of Custody, and agrees to BSK's terms and conditions for laboratory services unless onitiadually bound of herms and Conditions for laboratory services. The person signing for the Client/Company Services unless contractually bound otherwise. BSK's current terms and conditions can be found at

Cooling Method: Wet None Parmari for services and the full within 30 days from the data innoced. If not so paid, according within the data innoced. If not so paid, according to the data innoced if not so paid, according to the data innoced. If not so paid, according to the data innoced if not so paid, according to the data innoced. If not so paid, according to the data innoced if not so paid, according to the data innoced. If not so paid, according to the data innoced if not so paid, according to the data innoced. If not so paid, according to the data innoced if not so paid, according to the data innoced. If not so paid, according to the data innoced if not so paid, according to the data innoced.	Shipping Method: ONTRAC UPS CSO TO	A NA WA	Received (Cab by: (Signature and Printed Name)		Render Undleggen / Kandy Huderson (		Dalino			101014	1 Erc				3 DOLLAR OLANDELITURE	7 DWI (INITA: MILITIDUOS		# Sample Description*	Matrix Types: SW=Surface Water BW=Bottled Water GW=Group	Rand Andresson & in	Sampler Name (Printed/Signature)*:	Trace (J-Flag) Swamp EDD Type:	Recording of Fisher Memorial	FISO N. Sixth St. J Shite 124	Address": Address":	AM Constitution Constitution	Company/Client Name*: *Required Fields Report		ASSOCIATES www.bskassociates.com	1414 Stanislaus St., Fresn (559) 497-2888 · Fax (559)	
VILLA balances are deemed definition. Delington balances are subject to monthly service channes and interest on the United States and the service channes and interest on the United States and the service channes and interest on the United States and the service channes and interest on the United States and the service channes and interest on the United States and the service channes and interest on the United States and the service channes and interest on the United States and the service channes and interest on the service channes and interest on the service channes and interest on the service channes and interest on the service channes and interest on the service channes and interest on the service channes and interest on the service channes and interest on the service channes and interest on the service channes and interest on the service channes and interest on the service channes and interest on the service channes and interest on the service channes and interest on the service channes and interest on the service channes and interest on the service channes and interest on the service channes and interest on the service channes and interest on the service channes and interest on the service channes and interest on the service channes and interest on the service channes and interest on the service channes and interest on the service channes and interest on the service channes and interest on the service channes and interest on the service channes and interest on the service channes and interest on the service channes and interest on the service channes and interest on the service channes and interest on the service channes and interest on the service channes and interest on the service channes and interest on the service channes and interest on the service channes and interest on the service channes and interest on the service channes and interest on the service channes and interest on the service channes and interest on the service channes and interest on the service channes and interest on the service chan	IVAR WAS Date:	Date Time Payment Received at Delivery		Company () U Date Time Received by: (Signature and Prin	AM Consulting Engles 10/10/18 3:15 / En	Company Date Time Received by: Signature and Prin								ao:11 x/o1/al	10/10/18 (1:00	10/10/18 11:00	Date Time Matrix Comments / Station Code / WT	Sampled* Sampled*	Geotracker #	Madera Co	Merced Co Fresno Co System Number*	Regulatory Carbon Copies Regulatory Compliance SWRCB (Drinking Water)	Project #	Fresho CA 93710	City.	malaces: MILTONIO (PIQNRIGUE	Temp: 3 G Thermometer ID: #S	Date needed:	Rush (Surcharge may apply)	no, CA 93706 Turnaround Time Request	
Custody Seal: Y/N Chilling Process Begun: Y/N	Amount: PIA#: Int.	Check / Cash		ed Name)	Vinitania									XX		X	E	<u>A</u> F <u>3a</u>	cT			4			E-mail": ALFONSO . MANRIQUE@AM-CE, COM	Phone: (559)288-9172 Fax: (559)513-8449				A&J1550 AMCON917 10 10	

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BSK Associates SR-FL-0002-19 .



10/10/2018

Sa	mpie	e inte	egrit	У									
BSI	K Bot	ttles:	Yes	No	Page	of			•••••••				
	Was ter	mperature	within ra	ange?	(	Yes No NA	Were co	rrect cor	ntainers a	and pre	servatives	Yes	No NA
e E	If samp	les were	taken tod	ay, is there evide	nce	Yes No (NA	) Bubbles	Present	VOAs (	524.2/T	CP/TTHM)	? Yes	NO NA
ō	Did all t	ottles ar	ive unbro	oken and intact?		Mes No	Was a si	ufficient	amount	of sam	ole received		No No
<u> </u>	Did all b	oottle labe	els agree	with COC?		No No	Do samp	les have	e a hold	time <7	2 hours?	Tes	No No
_	Was so	dium thio	sulfate a	dded to CN samp	le(s)	Yes No (NA	Was PM	notified	of discre Bv/T	epancie ime:	is?	Yes	No (A)
	250ml(/	A) 500ml	(B) 1Liter	r(C) 40ml VOA(V)	)	Checks	Passed?		2-3				
	Bacti N	la2S2O3	14 A. 2			<b>—</b> 2003	-		1			~~	
	None (	P)White Ca	ıp			·							
	Cr6 (P	y LL Green L	abel/Blue Ci	<sup>ф</sup> NH40H(NH4)2SO4	DW	CI, pH > 8	PF						
<u>e</u>	Cr6 (P	) Pink Label	/Blue Cap	NH4OH(NH4)2SO4	ww	pH 9.3-9.7	ΡF						
Je lå	Cr6 (P	Y Black Leb	WBlue Cap	NHAOHINHAV2SOA	7199								
in t		***24	HOUR HO	DLD TIME		pH 9.0-9.5	PF					/	
ned	HNO <sub>3</sub>	RearCa	or HCI	(P) Purple Cap/Lt. Blue	Label			18	1	8			
for	H2SO4	(P) ¢	r (AG)	Yellow Cap/Label		pH<2	PF						
e pe	NaOH	(P) Green	Сар			Cl, pH >10	ΡF						
r are	NaOH	+ ZnAc	(P)			pH > 9	PF					101019	
A o	Dissol	ved Oxy	gen 300	ml (g)								que	
ed N	None (	AG) 608/	8081/8082,	625, 632/8321, 8151	8270	-							
eithe	HCI (A	G)Lt. Biue	Label O&	G. Diesel, TCP			_						
	Ascort	pic. EDT	A. KH <sub>2</sub> C	t (AG)Pink Label 5	25		_					$\mathbf{X}$	
S F S	Nasso	01 250ml	(AG)Ne	on Green Label 515			<u> </u>						
che Che	Na <sub>2</sub> S <sub>2</sub>	O <sub>3</sub> 1 Lite	r (Brown	P) 549									λ.
<b>B</b> <u>a</u>	Nass	Da (AG)	live Label	548 THM 524		_	- <u>-</u>		S. 19			201	IX
hlor The	Na <sub>2</sub> S <sub>2</sub>	O3 (CG)	Blue Labei	504, 505, 547			_				<u> </u>		
on/c	Nass	On+ MC	AA (CG	Orange Label 531		oH<3	PF						
rvat		(AG)Purp	le Label 5	52	· · · · · · · · · · · · · · · · · · ·		_						
lese	EDA (	ACIBrown	Label DE	IPs .									
la st	HCL (	CG) 524	2 BTEX G	as MTBE 8260/62	4	_	<u></u>			1999 - State State State State State State State State State State State State State State State State State St State State			
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'	Other:	· · · · · /											
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	Bottlee	d Water			5	—							
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**BSK Associates Laboratory Fresno** 1414 Stanislaus St Fresno, CA 93706 559-497-2888 (Main)

Alfonso Manrique AM Consulting Engineers 7545 N. Del Mar Ave., STE 201 Fresno, CA 93711

#### **RE: Report for A8J2131 General**

Dear Alfonso Manrique,

Thank you for using BSK Associates for your analytical testing needs. In the following pages, you will find the test results for the samples submitted to our laboratory on 10/16/2018. The results have been approved for release by our Laboratory Director as indicated by the authorizing signature below.

The samples were analyzed for the test(s) indicated on the Chain of Custody (see attached) and the results relate only to the samples analyzed. BSK certifies that the testing was performed in accordance with the quality system requirements specified in the 2009 TNI Standard. Any deviations from this standard or from the method requirements for each test procedure performed will be annotated alongside the analytical result or noted in the Case Narrative. Unless otherwise noted, the sample results are reported on an "as received" basis.

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

If additional clarification of any information is required, please contact your Project Manager, Adam Trevarrow, at (800) 877-8310 or (559) 497-2888 x116.

Thank you again for using BSK Associates. We value your business and appreciate your loyalty.

Sincerely,

alam

Adam Trevarrow, Project Manager



Accredited in Accordance with NELAP ORELAP #4021-009



## A8J2131

General

### **Case Narrative**

Project and	Report Details	Invoice Details
Client:	AM Consulting Engineers	Invoice To: AM Consulting Engineers
Report To:	Alfonso Manrique	Invoice Attn: Alfonso Manrique
Project #:	William Fisher Memorial	Project PO#: -
Received:	10/16/2018 - 11:22	
Report Due:	10/30/2018	
Sample Rec	eipt Conditions	
Cooler: Defa Temperature o	ult Cooler <b>n Receipt ºC:</b> 1.1	Containers Intact COC/Labels Agree Received On Blue Ice Packing Material - Other Sample(s) were received in temperature range.

Initial receipt at BSK-FAL

#### **Data Qualifiers**

The following qualifiers have been applied to one or more analytical results:

\*\*\*None applied\*\*\*

### **Report Distribution**

Recipient(s)	Report Format	CC:
Alfonso Manrique	FINAL.RPT	



William Fisher Memorial

**Certificate of Analysis** 

Sample ID: A8J2131-01 Sampled By: Randi Anderson Sample Description: POU Unit A: Mulitpure Sample Date - Time: 10/15/18 - 12:00 Matrix: Water Sample Type: Grab

#### BSK Associates Laboratory Fresno

Metals

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Arsenic	EPA 200.8	ND	2.0	ug/L	1	A815658	10/17/18	10/25/18	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



William Fisher Memorial

General

**Certificate of Analysis** 

Sample ID: A8J2131-02 Sampled By: Randi Anderson Sample Description: POU Unit B: Isolux Sample Date - Time: 10/15/18 - 12:00 Matrix: Water Sample Type: Grab

#### **BSK Associates Laboratory Fresno**

Metals

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Arsenic	EPA 200.8	ND	2.0	ug/L	1	A815658	10/17/18	10/25/18	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



General

#### BSK Associates Laboratory Fresno Metals Quality Control Report

			<b>,</b>								
Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
		EPA 200.8	8 - Qua	ality Co	ntrol						
Batch: A815658 Prep Method: EPA 200.2										Prepared: Ar	10/17/2018 nalyst: MAS
Blank (A815658-BLK1)											
Arsenic	ND	2.0	ug/L							10/25/18	
Blank Spike (A815658-BS1)											
Arsenic	200	2.0	ug/L	200	ND	101	85-115			10/25/18	
Blank Spike Dup (A815658-BSD1)											
Arsenic	210	2.0	ug/L	200	ND	103	85-115	2	20	10/25/18	
Matrix Spike (A815658-MS1), Source	: A8J2058-01										
Arsenic	210	2.0	ug/L	200	ND	103	70-130			10/25/18	
Matrix Spike (A815658-MS2), Source	: A8J2229-01										
Arsenic	210	2.0	ug/L	200	4.0	101	70-130			10/25/18	
Matrix Spike Dup (A815658-MSD1), S	ource: A8J2058-01										
Arsenic	210	2.0	ug/L	200	ND	103	70-130	0	20	10/25/18	
Matrix Spike Dup (A815658-MSD2), S	ource: A8J2229-01										
Arsenic	210	2.0	ug/L	200	4.0	102	70-130	1	20	10/25/18	



### **Certificate of Analysis**

#### Notes:

- The Chain of Custody document and Sample Integrity Sheet are part of the analytical report.
- Any remaining sample(s) for testing will be disposed of according to BSK's sample retention policy unless other arrangements are made in advance.
- All positive results for EPA Methods 504.1 and 524.2 require the analysis of a Field Reagent Blank (FRB) to confirm that the results are not a contamination error from field sampling steps. If Field Reagent Blanks were not submitted with the samples, this method requirement has not been performed.
- Samples collected by BSK Analytical Laboratories were collected in accordance with the BSK Sampling and Collection Standard Operating
  Procedures.
- J-value is equivalent to DNQ (Detected, not quantified) which is a trace value. A trace value is an analyte detected between the MDL and the laboratory reporting limit. This result is of an unknown data quality and is only qualitative (estimated). Baseline noise, calibration curve extrapolation below the lowest calibrator, method blank detections, and integration artifacts can all produce apparent DNQ values, which contribute to the un-reliability of these values.
- (1) Residual chlorine and pH analysis have a 15 minute holding time for both drinking and waste water samples as defined by the EPA and 40 CFR 136. Waste water and ground water (monitoring well) samples must be field filtered to meet the 15 minute holding time for dissolved metals.
- Summations of analytes (i.e. Total Trihalomethanes) may appear to add individual amounts incorrectly, due to rounding of analyte values occurring before or after the total value is calculated, as well as rounding of the total value.
- RL Multiplier is the factor used to adjust the reporting limit (RL) due to variations in sample preparation procedures and dilutions required for matrix interferences.
- Due to the subjective nature of the Threshold Odor Method, all characterizations of the detected odor are the opinion of the panel of analysts. The characterizations can be found in Standard Methods 2170B Figure 2170:1.
- · The MCLs provided in this report (if applicable) represent the primary MCLs for that analyte.

#### Definitions

mg/L:	Milligrams/Liter (ppm)	MDL:	Method Detection Limit	MDA95:	Min. Detected Activity
mg/Kg:	Milligrams/Kilogram (ppm)	RL:	Reporting Limit: DL x Dilution	MPN:	Most Probable Number
µg/L:	Micrograms/Liter (ppb)	ND:	None Detected at RL	CFU:	Colony Forming Unit
µg/Kg:	Micrograms/Kilogram (ppb)	pCi/L:	PicoCuries per Liter	Absent:	Less than 1 CFU/100mLs
%:	Percent	RL Mult:	RL Multiplier	Present:	1 or more CFU/100mLs
NR:	Non-Reportable	MCL:	Maximum Contaminant Limit		

Please see the individual Subcontract Lab's report for applicable certifications.

BSK is not accredited under the NELAP progra	m for the following parameters: **NA	**

Certifications: Please refer to our website for a copy of our Accredited Fields of Testing under each certification.

Fresno					
EPA - UCMR4	CA00079	Los Angeles CSD	9254479	NELAP certified	4021-010
State of California - ELAP	1180	State of Hawaii	4021	State of Nevada	CA000792019-1
State of Oregon - NELAP	4021-010	State of Washington	C997-18		
Sacramento					
State of California - ELAP	2435				
San Bernardino					
Los Angeles CSD	9254478	NELAP certified	4119-003	State of California - ELAP	2993
State of Oregon - NELAP	4119-003				
Vancouver					
NELAP certified	WA100008-011	State of Oregon - NELAP	WA100008-011	State of Washington	C824-18b

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.





## AMCON9177



## AM Consulting Engineers



## 10162018

Turnaround: S Due Date: 1

l: Standard b: 10/30/2018



Printed: 10/16/2018 4:56:40PM Page 1 of 1 Page 7 of 9

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Company Date Time Received by (Signature and Printed Name)										10/15/18 12 em	2 PAU INITA: 19/11/1/1/2 10/15/18/12 PM	I PAN riv IT A . MANIT ID IT DATE Date Time Matrix* Comments / Station Code / WTRAX	# Matrix Types: SW-Sourice Water BW-Bottled Water GW=Ground Water WWWAste Water STW-Storm Water DW=Dinktion Water GO-Souries	Kandi Anderson Kandi a la anon Madera co Truère co System number:	Sampler Name (Printed/Signature):	Trace (J-Flag) Swamp EDD Type: Regulatory Carbon Copies Regulatory Compliance	Reporting Options: FISMER MEMORIAL Project #	Project, N. Sixth St. Shite 124 FRESHO CA 92710 The REDNOD. MANNELQUE CAM-CE. COM	Address: DUT UDADULTING ENGINEERS U Engineers U Engineers U Engineers U Engineers U Engineers U	DAM Principle Intermeter 12: Intermometer  Company/Citerri Name: *Required Fields Fields	ASSOCIATES www.bekassociates.com	(559) 497-2888 · Fax (559) 497-2893 Turnaround Time Request A&3/2131 10/16/2018		
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SR-FL-0012-08

BSK Associates SR-FL-0002-19

	A8J2131	
i.	AMCON917	



Sa	mple Integrity																		
BS	K Bot	tles:	Nes	) No	P	age	(	of											
	Was ten Chemist	nperatur try <b>≤ 6</b> °	re within r C Micr	range? to < 8°C		<u>.</u>	6	No	NA	Were of receive	correct co d for the	ontaine e tests	ers ar reque	nd pre	servative	s	Yes	No	NA
Info	If sampl that chill	es were ling has	taken too begun?	day, is there	eviden	ce	es	No	NA	Bubble TB Red	s Preser ceived? (	nt VOA (Check	As (52 KMet	24.2/T hod E	CP/TTHN Below)	A)?	Yes Yes	No No	B
8	Did all b	ottles a	rrive unbr	oken and in	tact?		e	2	No	Was a	sufficien	tamo	unt of	fsam	ole receiv	ed?	<u>Re</u>	<u>)</u>	No
U	Was so	dium thi	osulfate a	added to CN	sample	e(s)	e	<u>ع</u> لي	NO	Was P	npies na M notifie	d of di	screp	ancie	2 nours?		Te:	<u>&gt;</u>	
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e a		Right 1 of	al/Blue Con	NH4UH(NH	4)2504	****	рп	9.3-9											
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led	HNO3	P)Red Ca	<sup>ap</sup> or HCl	(P) Purple Ca	p/Lt. Blue La	abel	19.02997/4/				13				1999 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 -				
	H <sub>2</sub> SO <sub>4</sub>	(P)	or (AG	Yellow C	ap/Label		. p	H < 2		PF					6.00				
Der	NaOH	(P) Green	n Cap	*			Cl,	pH >	10	ΡF									
ae ae	NaOH	+ ZnAc	(P)				q	H > 9		PF									
A or	Dissolv	ed Oxy	gen 300	ml (g)				<u></u>				<i>,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,</i>		0103973570				<u>,</u>	
v a	None (	AG) 508	/8081/8082.	625. 632/8321	. 8151. 82	270				-									
eithe	HCI (A	G)Lt. Blue	Label O8	G. Diesel. T	CP										1				
Sec	Ascorb	ic, EDT	A, KH <sub>2</sub> C	Ct (AG)Pink L	abel 525	5		_							M	e		1	
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l Hage	Na <sub>2</sub> S <sub>2</sub> C	D₃ 1 Lite	er (Brown	n P) 549												16			
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- Sue	HCL (C	G) 524	2,BTEX,G	as, MTBE, 8	260/624														
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@



**BSK Associates Laboratory Fresno** 1414 Stanislaus St Fresno, CA 93706 559-497-2888 (Main)

Alfonso Manrique AM Consulting Engineers 7545 N. Del Mar Ave., STE 201 Fresno, CA 93711

#### **RE: Report for A8J3786 General**

Dear Alfonso Manrique,

Thank you for using BSK Associates for your analytical testing needs. In the following pages, you will find the test results for the samples submitted to our laboratory on 10/30/2018. The results have been approved for release by our Laboratory Director as indicated by the authorizing signature below.

The samples were analyzed for the test(s) indicated on the Chain of Custody (see attached) and the results relate only to the samples analyzed. BSK certifies that the testing was performed in accordance with the quality system requirements specified in the 2009 TNI Standard. Any deviations from this standard or from the method requirements for each test procedure performed will be annotated alongside the analytical result or noted in the Case Narrative. Unless otherwise noted, the sample results are reported on an "as received" basis.

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

If additional clarification of any information is required, please contact your Project Manager, Adam Trevarrow, at (800) 877-8310 or (559) 497-2888 x116.

Thank you again for using BSK Associates. We value your business and appreciate your loyalty.

Sincerely,

alam

Adam Trevarrow, Project Manager



Accredited in Accordance with NELAP ORELAP #4021-009



General



### **Case Narrative**

Project and	Report Details	Invoice Details
Client:	AM Consulting Engineers	Invoice To: AM Consulting Engineers
Report To:	Alfonso Manrique	Invoice Attn: Alfonso Manrique
Project #:	William Fisher Memorial	Project PO#: -
Received:	10/30/2018 - 12:23	
Report Due:	11/13/2018	
Sample Red	ceipt Conditions	
Cooler: Defa	ault Cooler	Containers Intact
Temperature	on Receipt ºC: 1.6	COC/Labels Agree
-	-	Received On Blue Ice
		Sample(s) arrived at lab on same day sampled.

### **Detailed Narrative**

#### **Analysis Comment**

Date: 10/31/18

Initials: AJT

Comment: HPC samples received outside of hold time. Samples cancelled and Alfonso Manrique will recollect.

Packing Material - Other Initial receipt at BSK-FAL

#### **Data Qualifiers**

The following qualifiers have been applied to one or more analytical results:

\*\*\*None applied\*\*\*

#### **Report Distribution**

Recipient(s)	Report Format	CC:
Alfonso Manrique	FINAL.RPT	



## **Certificate of Analysis**

Sample ID: A8J3786-01 Sampled By: Randi Anderson Sample Description: Raw Water (Post Chlorination) Sample Date - Time: 10/29/18 - 13:00 Matrix: Water Sample Type: Grab

### BSK Associates Laboratory Fresno

Metals

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Arsenic	EPA 200.8	20	2.0	ug/L	1	A816499	11/01/18	11/09/18	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



## **Certificate of Analysis**

Sample ID: A8J3786-02 Sampled By: Randi Anderson Sample Description: POU Unit A: Multipure Sample Date - Time: 10/29/18 - 13:00 Matrix: Water Sample Type: Grab

### BSK Associates Laboratory Fresno

Metals

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Arsenic	EPA 200.8	ND	2.0	ug/L	1	A816499	11/01/18	11/09/18	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



## **Certificate of Analysis**

Sample ID: A8J3786-03 Sampled By: Randi Anderson Sample Description: POU Unit B: Isolux Sample Date - Time: 10/29/18 - 13:00 Matrix: Water Sample Type: Grab

#### BSK Associates Laboratory Fresno

Metals

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Arsenic	EPA 200.8	ND	2.0	ug/L	1	A816499	11/01/18	11/09/18	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



General

#### BSK Associates Laboratory Fresno Metals Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual	
		EPA 200.	B - Qua	ality Co	ntrol							
Batch: A816499										Prepare	d: 11/1/2018	
Prep Method: EPA 200.2										Ar	nalyst: MAS	
Blank (A816499-BLK1)												
Arsenic	ND	2.0	ug/L							11/09/18		
Blank Spike (A816499-BS1)												
Arsenic	200	2.0	ug/L	200	ND	98	85-115			11/09/18		
Blank Spike Dup (A816499-BSD1)												
Arsenic	200	2.0	ug/L	200	ND	101	85-115	2	20	11/09/18		
Matrix Spike (A816499-MS1), Source:	A8J3764-01											
Arsenic	210	2.0	ug/L	200	ND	103	70-130			11/09/18		
Matrix Spike Dup (A816499-MSD1), So	ource: A8J3764-01											
Arsenic	200	2.0	ug/L	200	ND	100	70-130	3	20	11/09/18		



## **Certificate of Analysis**

#### Notes:

- · The Chain of Custody document and Sample Integrity Sheet are part of the analytical report.
- Any remaining sample(s) for testing will be disposed of according to BSK's sample retention policy unless other arrangements are made in advance.
- All positive results for EPA Methods 504.1 and 524.2 require the analysis of a Field Reagent Blank (FRB) to confirm that the results are not a contamination error from field sampling steps. If Field Reagent Blanks were not submitted with the samples, this method requirement has not been performed.
- Samples collected by BSK Analytical Laboratories were collected in accordance with the BSK Sampling and Collection Standard Operating
  Procedures.
- J-value is equivalent to DNQ (Detected, not quantified) which is a trace value. A trace value is an analyte detected between the MDL and the laboratory reporting limit. This result is of an unknown data quality and is only qualitative (estimated). Baseline noise, calibration curve extrapolation below the lowest calibrator, method blank detections, and integration artifacts can all produce apparent DNQ values, which contribute to the un-reliability of these values.
- (1) Residual chlorine and pH analysis have a 15 minute holding time for both drinking and waste water samples as defined by the EPA and 40 CFR 136. Waste water and ground water (monitoring well) samples must be field filtered to meet the 15 minute holding time for dissolved metals.
- Summations of analytes (i.e. Total Trihalomethanes) may appear to add individual amounts incorrectly, due to rounding of analyte values occurring before or after the total value is calculated, as well as rounding of the total value.
- RL Multiplier is the factor used to adjust the reporting limit (RL) due to variations in sample preparation procedures and dilutions required for matrix interferences.
- Due to the subjective nature of the Threshold Odor Method, all characterizations of the detected odor are the opinion of the panel of analysts. The characterizations can be found in Standard Methods 2170B Figure 2170:1.
- · The MCLs provided in this report (if applicable) represent the primary MCLs for that analyte.

#### Definitions

mg/L:	Milligrams/Liter (ppm)	MDL:	Method Detection Limit	MDA95:	Min. Detected Activity
mg/Kg:	Milligrams/Kilogram (ppm)	RL:	Reporting Limit: DL x Dilution	MPN:	Most Probable Number
µg/L:	Micrograms/Liter (ppb)	ND:	None Detected at RL	CFU:	Colony Forming Unit
µg/Kg:	Micrograms/Kilogram (ppb)	pCi/L:	PicoCuries per Liter	Absent:	Less than 1 CFU/100mLs
%:	Percent	RL Mult:	RL Multiplier	Present:	1 or more CFU/100mLs
NR:	Non-Reportable	MCL:	Maximum Contaminant Limit		

Please see the individual Subcontract Lab's report for applicable certifications.

BSK is not accredited under the NELAP p	rogram for the following parameters:	**NA**

Certifications: Please refer to our website for a copy of our Accredited Fields of Testing under each certification.

Fresno					
EPA - UCMR4	CA00079	Los Angeles CSD	9254479	NELAP certified	4021-010
State of California - ELAP	1180	State of Hawaii	4021	State of Nevada	CA000792019-1
State of Oregon - NELAP	4021-010	State of Washington	C997-18		
Sacramento					
State of California - ELAP	2435				
San Bernardino					
Los Angeles CSD	9254478	NELAP certified	4119-003	State of California - ELAP	2993
State of Oregon - NELAP	4119-003				
Vancouver					
NELAP certified	WA100008-011	State of Oregon - NELAP	WA100008-011	State of Washington	C824-18b

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.





## AMCON9177



## AM Consulting Engineers

# 10302018

Turnaround: Sta Due Date: 11/

Standard 11/13/2018



Printed: 10/30/2018 4:29:41PM Page 1 of 1 Page 8 of 10



acknowledges that they never as numerican air due in full within 30 days from the date involved. If not so paid, account balances are deemed definitient, www.bikasocialas.com/BSKLab TermicConstitions.pdf	Peyment for sankess temperat a non-training Blue None	Contracting with the contracting of the contracting with the contracting of the contracting of the contracting of the contracting of the contracting of the contracting of the contracting of the contracting of the contracting of the contracting of the contracting of the contracting of the contracting of the contracting of the contracting of the contracting of the contracting of the contracting of the contracting of the contracting of the contracting of the contracting of the contracting of the contracting of the contracting of the contracting of the contracting of the contracting of the contracting of the contracting of the contracting of the contracting of the contracting of the contracting of the contracting of the contracting of the contracting of the contracting of the contracting of the contracting of the contracting of the contracting of the contracting of the contracting of the contracting of the contracting of the contracting of the contracting of the contracting of the contracting of the contracting of the contracting of the contracting of the contracting of the contracting of the contracting of the contracting of the contracting of the contracting of the contracting of the contracting of the contracting of the contracting of the contracting of the contracting of the contracting of the contracting of the contracting of the contracting of the contracting of the contracting of the contracting of the contracting of the contracting of the contracting of the contracting of the contracting of the contracting of the contracting of the contracting of the contracting of the contracting of the contracting of the contracting of the contracting of the contracting of the contracting of the contracting of the contracting of the contracting of the contracting of the contracting of the contracting of the contracting of the contracting of the contracting of the contracting of the contracting of the contracting of the contracting of the contracting of the contracting of the contracting of the contracting of the contracti	Necestred for Lab by: (Signature and Printed Name)	Company Company	Removes or isonature and Brown RANDI ANDERSON AM CONVITANC	Beinguished by (Signature and Printed Name).					10/22/18	3 DOU UN FR. : 101 11/15 10/2018 1	2 POU UNITE A: MILITIANO TO 10/22/18	1 RAW WATER (PORT ALL ARING Date Date	# Sample Description* Sample	Marik Types: SW=Burface Water BM=Burface BM=Burface Water BM=Burface BM=Burface BM=Burface BM=Burface BM=Burface BM=Burface BM=Burface BM=Burface BM=Burface BM=Burface BM=Burface BM=Burface BM=Burface BM=Burface BM=Burface BM=Burface BM=Burface BM=Burface BM=Burface BM=Burface BM=Burface BM=Burface BM=Burface BM=Burface BM=Burface BM=Burface BM=Burface BM=Burface BM=Burface BM=Burface BM=Burface BM=Burface BM=Burface BM=Burface BM=Burface BM=Burface BM=Burface BM=Burface BM=Burface BM=Burface BM=Burface BM=Burface BM=Burface BM=Burface BM=Burface BM=Burface BM=Burface BM=Burface BM=Burface BM=Burface BM=Burface BM=Burface BM=Burface BM=Burface BM=Burface BM=Burface BM=Burface BM=Burface BM=Burface BM=Burface BM=Burface BM=Burface BM=Burface BM=Burface BM=Burface BM=Burface BM=Burface BM=Burface BM=Burface BM=Burface BM=Burface BM=Burface BM=Bur		Image: Sampler Name (Printed/Signature):       EDD Type:       SWRCB (Drinking	Reporting Options: FISHER MEMORIAL	Project IN. UNTH JT., SUITE 124 FRESNO		AM CONSULTING CNGINEERS Additional cc.s.	Company/Client Name*: required Fields Report Attention*: A For Inc.		ASSOCIATES WWW.bskassociates.com	(559) 497-2888 · Fax (559) 497-2893	1414 Stanislaus St. Freenin CA 03706
Chilling Process Delinquent basinces an subject to monthly service charges and interest specified in BSK's current Standard Terms and a Chain of Custody, and agrees to BSK's terms and conditions for laboratory services unless contractually bound otherwite	-X Courier: Custody Seat:	10/30/18 /122 3 Date: Amoun		Date Time Received by: (Signature and Printed Name)	Date Time Received by: (Signature and Printed Name)	-DI-10130118					IPM × ×	PM A	PM X	Time Matrix* Comments / Station Code / WTRAX	ter STW=Storm Water DW=Drinking Water SO=Solid	Geotracter #	Fresho Co System Number:	Indon Copies Regulatory Compliance		01426 VU	E-mail*: A	O MANKIQUE	Temp: Thermometer ID:	Date needed:	Rush (Surcharge may apply)	Turnaround Time Request	
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Page 9 of 10

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BS	K Bottles Yes No	Page of _		<u> </u>					
	Chemistry ≤ 6°C Micro < 8°C	No NA	received	for the tests re	quested?	Ves No NA			
nfo	If samples were taken today, is there evide	nce	Bubbles	Present VOAs	(524.2/TCP/TTHM	)? Yes No NA			
	Did all bottles arrive unbroken and intact?	Yes No	Was a si	ufficient amoun	t of sample receive	nd? YES NO			
С	Did all bottle labels agree with COC?	No No	Do samp	oles have a hold	time <72 hours?	Yes (ND)			
	until chlorine was no longer present?	lle(S) Yes No NA		notified of disc	repancies ? Time: <b>10/35/18</b> /24	SDR (YES NO DE !!!			
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or an	NaOH + ZnAc (P)	pH>9	P F	Contraction of the second second second second second second second second second second second second second s		a far marte and a start of the			
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	Clear Glass 250mL / 500mL / 1	Liter —	_						
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Page 10 of 10

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**BSK Associates Laboratory Fresno** 1414 Stanislaus St Fresno, CA 93706 559-497-2888 (Main)

Alfonso Manrique AM Consulting Engineers 5150 N. Sixth St., Ste. 124 Fresno, CA 93710

#### **RE: Report for A8K0708 General**

Dear Alfonso Manrique,

Thank you for using BSK Associates for your analytical testing needs. In the following pages, you will find the test results for the samples submitted to our laboratory on 11/7/2018. The results have been approved for release by our Laboratory Director as indicated by the authorizing signature below.

The samples were analyzed for the test(s) indicated on the Chain of Custody (see attached) and the results relate only to the samples analyzed. BSK certifies that the testing was performed in accordance with the quality system requirements specified in the 2009 TNI Standard. Any deviations from this standard or from the method requirements for each test procedure performed will be annotated alongside the analytical result or noted in the Case Narrative. Unless otherwise noted, the sample results are reported on an "as received" basis.

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

If additional clarification of any information is required, please contact your Project Manager, Adam Trevarrow, at (800) 877-8310 or (559) 497-2888 x116.

Thank you again for using BSK Associates. We value your business and appreciate your loyalty.

Sincerely,

alam

Adam Trevarrow, Project Manager



Accredited in Accordance with NELAP ORELAP #4021-009

A8K0708 FINAL 11202018 1456



## A8K0708

General

### **Case Narrative**

Project and	Report Details	Invoice Details
Client:	AM Consulting Engineers	Invoice To: AM Consulting Engineers
Report To:	Alfonso Manrique	Invoice Attn: Alfonso Manrique
Project #:	William Fisher Memorial	Project PO#: -
Received:	11/07/2018 - 16:20	
Report Due:	11/21/2018	
Sample Red	ceipt Conditions	
Cooler: Def Temperature	ault Cooler on Receipt ºC: 0.6	Containers Intact COC/Labels Agree Received On Blue Ice Sample(s) arrived at lab on same day sampled. Packing Material - Other

Initial receipt at BSK-FAL

#### **Data Qualifiers**

The following qualifiers have been applied to one or more analytical results:

\*\*\*None applied\*\*\*

### **Report Distribution**

Recipient(s)	Report Format	CC:
Alfonso Manrique	FINAL.RPT	



### **Certificate of Analysis**

Sample ID: A8K0708-01 Sampled By: Randi Anderson Sample Description: POU Unit A: Multipure Sample Date - Time: 11/07/18 - 11:00 Matrix: Water Sample Type: Grab

#### **BSK Associates Laboratory Fresno** Metals RL Analyte Method Result RL Units Batch Prepared Analyzed Qual Mult ND A816826 11/08/18 EPA 200.8 2.0 11/16/18 Arsenic ug/L 1 Microbiology Analyte Method Result Batch Prepared Analyzed Qual Coliform, Presence/Absence by Colilert E. Coli SM 9223B Absent A816789 11/07/18 18:57 11/08/18 13:36 Total Coliform SM 9223B A816789 11/07/18 18:57 11/08/18 13:36 Absent Analyte Method Result **RL Units** Batch Prepared Analyzed Qual Heterotrophic Plate Count (48 Hour) CFU/ml Heterotrophic Plate Count SM 9215B 99 A816780 11/07/18 17:14 11/09/18 16:43

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

A8K0708 FINAL 11202018 1456



## **Certificate of Analysis**

Sample ID: A8K0708-02 Sampled By: Randi Anderson Sample Description: POU Unit B: Isolux Sample Date - Time: 11/07/18 - 11:00 Matrix: Water Sample Type: Grab

### BSK Associates Laboratory Fresno

Metals

Mic(d)5												
Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual			
Arsenic	EPA 200.8	ND	2.0	ug/L	1	A816826	11/08/18	11/16/18				
Microbiology												
Analyte	Method	Result			Batc	h Prep	ared	Analyzed	Qual			
Coliform, Presence/Absence	by Colilert											
E. Coli	SM 9223B	Absent			A8167	89 11/07	//18 18:57	11/08/18 13:36				
Total Coliform	SM 9223B	Absent			A8167	89 11/07	/18 18:57	11/08/18 13:36				
Analyte	Method	Result	RL Units		Batc	h Prep	ared	Analyzed	Qual			
Heterotrophic Plate Count (4	<u>8 Hour)</u>											
Heterotrophic Plate Count	SM 9215B	420	CFU/ml		A8167	80 11/07	/18 17:14	11/09/18 16:43				



## A8K0708

General

#### BSK Associates Laboratory Fresno Metals Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual	
		EPA 200.8	8 - Qua	ality Co	ntrol							
Batch: A816826										Prepare	d: 11/8/2018	
Prep Method: EPA 200.2										Ar	nalyst: MAS	
Blank (A816826-BLK1)												
Arsenic	ND	2.0	ug/L							11/16/18		
Blank Spike (A816826-BS1)												
Arsenic	200	2.0	ug/L	200	ND	102	85-115			11/16/18		
Blank Spike Dup (A816826-BSD1)												
Arsenic	200	2.0	ug/L	200	ND	101	85-115	1	20	11/16/18		
Matrix Spike (A816826-MS2), Source: A	A8K0708-02											
Arsenic	210	2.0	ug/L	200	ND	103	70-130			11/16/18		
Matrix Spike Dup (A816826-MSD2), So	urce: A8K0708-02											
Arsenic	210	2.0	ug/L	200	ND	103	70-130	0	20	11/16/18		



## **Certificate of Analysis**

#### Notes:

- The Chain of Custody document and Sample Integrity Sheet are part of the analytical report.
- Any remaining sample(s) for testing will be disposed of according to BSK's sample retention policy unless other arrangements are made in advance.
- All positive results for EPA Methods 504.1 and 524.2 require the analysis of a Field Reagent Blank (FRB) to confirm that the results are not a contamination error from field sampling steps. If Field Reagent Blanks were not submitted with the samples, this method requirement has not been performed.
- Samples collected by BSK Analytical Laboratories were collected in accordance with the BSK Sampling and Collection Standard Operating
  Procedures.
- J-value is equivalent to DNQ (Detected, not quantified) which is a trace value. A trace value is an analyte detected between the MDL and the laboratory reporting limit. This result is of an unknown data quality and is only qualitative (estimated). Baseline noise, calibration curve extrapolation below the lowest calibrator, method blank detections, and integration artifacts can all produce apparent DNQ values, which contribute to the un-reliability of these values.
- (1) Residual chlorine and pH analysis have a 15 minute holding time for both drinking and waste water samples as defined by the EPA and 40 CFR 136. Waste water and ground water (monitoring well) samples must be field filtered to meet the 15 minute holding time for dissolved metals.
- Summations of analytes (i.e. Total Trihalomethanes) may appear to add individual amounts incorrectly, due to rounding of analyte values occurring before or after the total value is calculated, as well as rounding of the total value.
- RL Multiplier is the factor used to adjust the reporting limit (RL) due to variations in sample preparation procedures and dilutions required for matrix interferences.
- Due to the subjective nature of the Threshold Odor Method, all characterizations of the detected odor are the opinion of the panel of analysts. The characterizations can be found in Standard Methods 2170B Figure 2170:1.
- · The MCLs provided in this report (if applicable) represent the primary MCLs for that analyte.

#### Definitions

mg/L:	Milligrams/Liter (ppm)	MDL:	Method Detection Limit	MDA95:	Min. Detected Activity
mg/Kg:	Milligrams/Kilogram (ppm)	RL:	Reporting Limit: DL x Dilution	MPN:	Most Probable Number
µg/L:	Micrograms/Liter (ppb)	ND:	None Detected at RL	CFU:	Colony Forming Unit
µg/Kg:	Micrograms/Kilogram (ppb)	pCi/L:	PicoCuries per Liter	Absent:	Less than 1 CFU/100mLs
%:	Percent	RL Mult:	RL Multiplier	Present:	1 or more CFU/100mLs
NR:	Non-Reportable	MCL:	Maximum Contaminant Limit		

Please see the individual Subcontract Lab's report for applicable certifications.

BSK is not accredited under the NELAP p	rogram for the following parameters:	**NA**

Certifications: Please refer to our website for a copy of our Accredited Fields of Testing under each certification.

Fresno					
EPA - UCMR4	CA00079	Los Angeles CSD	9254479	NELAP certified	4021-010
State of California - ELAP	1180	State of Hawaii	4021	State of Nevada	CA000792019-1
State of Oregon - NELAP	4021-010	State of Washington	C997-18		
Sacramento					
State of California - ELAP	2435				
San Bernardino					
Los Angeles CSD	9254478	NELAP certified	4119-003	State of California - ELAP	2993
State of Oregon - NELAP	4119-003				
Vancouver					
NELAP certified	WA100008-011	State of Oregon - NELAP	WA100008-011	State of Washington	C824-18b

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

A8K0708 FINAL 11202018 1456





## **AMCON9177**



## **AM Consulting Engineers**



## 11072018

Turnaround: Standard Due Date:







Printed: 11/7/2018 5:52:47PM Page 1 of 1 Page 7 of 9

	Synna for services endered as noted humanes and finds within 30 days from the date invoiced. If not so paid, account balances are deemed definition. Delirquent balances are subject Conveloges that they are either the Client or an authorized agent to the Client, that the Client agrees to be manomethy for more than the deemed definition. Delirquent balances are subject www.balancesas.com/Sky.int	Cooling Method: Wet Blue None WWW PED EX Courier	Shipping Method: ONTRAC UPS CSO	Reamon Table and Printed Name	Reinquished by: (Signature and Printed Name) A 119/1 ANUL KUDN MM UDNULTING ENGOTIL ALIS IN Company Date Inc	Advances for printed Names								MAIL BITTIN	2 DON UNIT B: 150LUX ILTIB ILTIS	1 YOU UNITA: MULTIPURE	Sample Description*     Sampled*     Sampled*     Matrix*	Matrix Types: SW=Surface Water BW=Bottled Water GW=Ground Water WW=Waste Waster Water GW=Ground Water WW=Waste Waster Ww=Waster WW		Correct Grant Copies     Swamp     Copies     Sampler Name (Printed/Signature)*:     Swamp De DD Type:     Swamp De DD Type:	Reporting Options: TISHER MEMORIAL	Project: N. UNTH JT., SUITE 124 FRESNO	Address": VONIVILTING ENGINEERS Address City:	AM A A A A A A A A A A A A A A A A A A	Company/Client Name*: *Required Fields Temp: O- C		1414 Stanislaus St., Fresno, CA 93706	
BSK's terms and conditions for laboratory services unless constactu	to monthly service channes and	2	Date:	All and the second second	ne Received of Skorna ina and Samuel V	The Received by: (Signature and Printed Name)										Comments / Station Code / WIRAX	DW=Drinking Water SO=Solid	Geotracker #:	System Number*:	Regulatory Compliance	-	State*: ztp*: CA 93710	PO# ENGINELES	Invoice Tot: AM CONSULTING	Thermometer in.	Rush (Surcharge may apply)	maround Time Request	
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SR-FL-0012-08

BSK A	Associates SR-FL-0002-19		A8K0708 11/07/2018 AMCON917 10						
BS	K Bottles: Yes No Page	e							
0	Was temperature within range? Chemistry ≤ 6°C Micro < 8°C	Yes No NA	Were co received	for the tests re	s and preservatives equested?	Yes No NA	1		
Infe	It samples were taken today, is there evidence that chilling has begun?	Yes No NA	Bubbles	Present VOAs ived? (Check l	(524.2/TCP/TTHM)? Method Below)	Yes No MA	5		
SC	Did all bottles arrive unbroken and intact?	Yes No	Was a s	ufficient amour	nt of sample received	? (Tes) No			
ŭ	Did all bottle labels agree with COC?	Kyds No	Do samp	oles have a hol	d time <72 hours?	No No	·		
	until chlorine was no longer present?	Yes No 🕅	PM:	nouned of disc By	/Time:	Yes No	Å		
	250ml(A) 500ml(B) 1Liter(C) 40ml VOA(V)	Checks	Passed?	1-2	· .				
	Bacti Na2S2O3		1	2		$\overline{\mathbf{x}}$			
	None (P) <sup>White Cap</sup>				د				
	Cr6 (P) Lt. Green Label/Blue Cap NH4OH(NH4)2SO4 DW	Cl, pH > 8	PF						
lab	Cr6 (P) <sup>Pink Label/Blue Cap</sup> NH4OH(NH4)2SO4 WW	pH 9.3-9.7	ΡF						
in the	Cr6 (P) Black Label/Blue Cap NH4OH(NH4)2SO4 7199	pH 9.0-9.5	PF						
ned	HNO3 (P) Red of or HCI (P) Purple Cap/Lt. Blue Label		_	18					
forn	H2SO4 (P) or (AG) Yellow Cap/Label	pH < 2	PF						
bei	NaOH (P) Green Cap	CI, pH >10	ΡF						
are	NaOH + ZnAc (P)	pH > 9	PF						
A 0	Dissolved Oxygen 300ml (g)	_	_		1 11-7	<u>a</u>			
ير d	None (AG) 608/8081/8082 625 632/8321 8151 8270	_			1 11/4	<u>8 - 8 - 8 - 8 - 8 - 8 - 8 - 8 - 8 - 8 -</u>			
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	Ascorbic EDTA KH2Ct (AG) <sup>Pink Label</sup> 525				12		—		
S F Sks a	Na2SO: 250mL (AG)Neon Green Label 515								
ttle chea	Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> 1 Liter (Brown P) 549		_						
ine <b>Bo</b>	Na2S2O3 (AG)Blue Label 548 THM 524	_	-						
hlor	Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> (CG) <sup>Blue Label</sup> 504, 505, 547	_	_	1. A 1					
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_'	Other:								
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	Bottled Water		· _						
	Clear Glass 250mL / 500mL / 1 Liter	—	1						
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Labeled by: 87 @1434 Labels checked by: 10 @1678 RUSH Paged by: @ Page 9 of 9


**BSK Associates Laboratory Fresno** 1414 Stanislaus St Fresno, CA 93706 559-497-2888 (Main)

Alfonso Manrique AM Consulting Engineers 5150 N. Sixth St., Ste. 124 Fresno, CA 93710

#### **RE: Report for A8K1671 General**

Dear Alfonso Manrique,

Thank you for using BSK Associates for your analytical testing needs. In the following pages, you will find the test results for the samples submitted to our laboratory on 11/14/2018. The results have been approved for release by our Laboratory Director as indicated by the authorizing signature below.

The samples were analyzed for the test(s) indicated on the Chain of Custody (see attached) and the results relate only to the samples analyzed. BSK certifies that the testing was performed in accordance with the quality system requirements specified in the 2009 TNI Standard. Any deviations from this standard or from the method requirements for each test procedure performed will be annotated alongside the analytical result or noted in the Case Narrative. Unless otherwise noted, the sample results are reported on an "as received" basis.

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

If additional clarification of any information is required, please contact your Project Manager, Adam Trevarrow, at (800) 877-8310 or (559) 497-2888 x116.

Thank you again for using BSK Associates. We value your business and appreciate your loyalty.

Sincerely,

alam

Adam Trevarrow, Project Manager



Accredited in Accordance with NELAP ORELAP #4021-009

A8K1671 FINAL 11282018 1346



# A8K1671

General

## **Case Narrative**

Project and	Report Details	Invoice Details
Client: Report To: Project #: Received: Report Due:	AM Consulting Engineers Alfonso Manrique William Fisher Memorial 11/14/2018 - 15:56 11/30/2018	Invoice To: AM Consulting Engineers Invoice Attn: Alfonso Manrique Project PO#: -
Sample Rec	eipt Conditions	
Cooler: Defa Temperature o	ult Cooler n Receipt °C: 4.0	Containers Intact COC/Labels Agree Received On Blue Ice Sample(s) arrived at lab on same day sampled. Packing Material - Other Sample(s) were received in temperature range. Initial receipt at BSK-FAL
Data Qualif	iers	
The following	qualifiers have been appli	ed to one or more analytical results:
***None appliec	j***	

### **Report Distribution**

Recipient(s)	Report Format	CC:
Alfonso Manrique	FINAL.RPT	



**General** William Fisher Memorial

## **Certificate of Analysis**

Sample ID: A8K1671-01 Sampled By: Randi Anderson Sample Description: Raw Water (Post Chlorination) Sample Date - Time: 11/14/18 - 11:00 Matrix: Water Sample Type: Grab

#### BSK Associates Laboratory Fresno

Metals

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Arsenic	EPA 200.8	20	2.0	ug/L	1 .	A817246	11/16/18	11/19/18	
		Micro	obiology						
Analyte	Method	Result			Batch	Prep	ared	Analyzed	Qual
Coliform, Presence/Ab	sence by Colilert								
E. Coli	SM 9223B	Absent			A81721	1 11/14	/18 18:28	11/15/18 14:38	
Total Coliform	SM 9223B	Absent			A81721	1 11/14	/18 18:28	11/15/18 14:38	



# **Certificate of Analysis**

Sample ID: A8K1671-02 Sampled By: Randi Anderson Sample Description: POU Unit A Multipure Sample Date - Time: 11/14/18 - 11:00 Matrix: Water Sample Type: Grab

### BSK Associates Laboratory Fresno

Metals

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Arsenic	EPA 200.8	ND	2.0	ug/L	1	A817246	11/16/18	11/19/18	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

A8K1671 FINAL 11282018 1346



# **Certificate of Analysis**

Sample ID: A8K1671-03 Sampled By: Randi Anderson Sample Description: POU Unit B Isolux Sample Date - Time: 11/14/18 - 11:00 Matrix: Water Sample Type: Grab

### BSK Associates Laboratory Fresno

Metals

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Arsenic	EPA 200.8	ND	2.0	ug/L	1	A817246	11/16/18	11/19/18	



General

### BSK Associates Laboratory Fresno Metals Quality Control Report

			···, ···								
Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
		EPA 200.8	3 - Qua	ality Co	ntrol						
Batch: A817246 Prep Method: EPA 200.2										Prepared Ar	: 11/16/2018 nalyst: MAS
Blank (A817246-BLK1)											
Arsenic	ND	2.0	ug/L							11/19/18	
Blank Spike (A817246-BS1)											
Arsenic	200	2.0	ug/L	200	ND	99	85-115			11/19/18	
Blank Spike Dup (A817246-BSD1)											
Arsenic	200	2.0	ug/L	200	ND	100	85-115	1	20	11/19/18	
Matrix Spike (A817246-MS1), Source:	A8K1676-01										
Arsenic	200	2.0	ug/L	200	6.9	98	70-130			11/19/18	
Matrix Spike (A817246-MS2), Source:	A8K1679-03										
Arsenic	200	2.0	ug/L	200	ND	101	70-130			11/19/18	
Matrix Spike Dup (A817246-MSD1), So	ource: A8K1676-01										
Arsenic	200	2.0	ug/L	200	6.9	98	70-130	0	20	11/19/18	
Matrix Spike Dup (A817246-MSD2), Se	ource: A8K1679-03										
Arsenic	200	2.0	ug/L	200	ND	100	70-130	1	20	11/19/18	

A8K1671 FINAL 11282018 1346



# **Certificate of Analysis**

#### Notes:

- The Chain of Custody document and Sample Integrity Sheet are part of the analytical report.
- Any remaining sample(s) for testing will be disposed of according to BSK's sample retention policy unless other arrangements are made in advance.
- All positive results for EPA Methods 504.1 and 524.2 require the analysis of a Field Reagent Blank (FRB) to confirm that the results are not a contamination error from field sampling steps. If Field Reagent Blanks were not submitted with the samples, this method requirement has not been performed.
- Samples collected by BSK Analytical Laboratories were collected in accordance with the BSK Sampling and Collection Standard Operating
  Procedures.
- J-value is equivalent to DNQ (Detected, not quantified) which is a trace value. A trace value is an analyte detected between the MDL and the laboratory reporting limit. This result is of an unknown data quality and is only qualitative (estimated). Baseline noise, calibration curve extrapolation below the lowest calibrator, method blank detections, and integration artifacts can all produce apparent DNQ values, which contribute to the un-reliability of these values.
- (1) Residual chlorine and pH analysis have a 15 minute holding time for both drinking and waste water samples as defined by the EPA and 40 CFR 136. Waste water and ground water (monitoring well) samples must be field filtered to meet the 15 minute holding time for dissolved metals.
- Summations of analytes (i.e. Total Trihalomethanes) may appear to add individual amounts incorrectly, due to rounding of analyte values occurring before or after the total value is calculated, as well as rounding of the total value.
- RL Multiplier is the factor used to adjust the reporting limit (RL) due to variations in sample preparation procedures and dilutions required for matrix interferences.
- Due to the subjective nature of the Threshold Odor Method, all characterizations of the detected odor are the opinion of the panel of analysts. The characterizations can be found in Standard Methods 2170B Figure 2170:1.
- · The MCLs provided in this report (if applicable) represent the primary MCLs for that analyte.

#### Definitions

mg/L:	Milligrams/Liter (ppm)	MDL:	Method Detection Limit	MDA95:	Min. Detected Activity
mg/Kg:	Milligrams/Kilogram (ppm)	RL:	Reporting Limit: DL x Dilution	MPN:	Most Probable Number
µg/L:	Micrograms/Liter (ppb)	ND:	None Detected at RL	CFU:	Colony Forming Unit
µg/Kg:	Micrograms/Kilogram (ppb)	pCi/L:	PicoCuries per Liter	Absent:	Less than 1 CFU/100mLs
%:	Percent	RL Mult:	RL Multiplier	Present:	1 or more CFU/100mLs
NR:	Non-Reportable	MCL:	Maximum Contaminant Limit		

Please see the individual Subcontract Lab's report for applicable certifications.

BSK is not accredited under the NELAP p	rogram for the following parameters:	**NA**

Certifications: Please refer to our website for a copy of our Accredited Fields of Testing under each certification.

Fresno					
EPA - UCMR4	CA00079	Los Angeles CSD	9254479	NELAP certified	4021-010
State of California - ELAP	1180	State of Hawaii	4021	State of Nevada	CA000792019-1
State of Oregon - NELAP	4021-010	State of Washington	C997-18		
Sacramento					
State of California - ELAP	2435				
San Bernardino					
Los Angeles CSD	9254478	NELAP certified	4119-003	State of California - ELAP	2993
State of Oregon - NELAP	4119-003				
Vancouver					
NELAP certified	WA100008-011	State of Oregon - NELAP	WA100008-011	State of Washington	C824-18b

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A8K1671 FINAL 11282018 1346





# AMCON9177



# AM Consulting Engineers



# 11142018

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Payment for sevence. Welt Blue None Countral and the full within 30 days from the date invoked. If not ap paid, account balances are determed delinquent. Delinquent balances are subject to monthly services chan where the section where the section is a service of the countral section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the	Shipping Method: ONTRAC UPS GSO WAIKING FED EX Course	Received for tem by: (Signature and Printed Name)	Beinguished by (Signature and Printed Name) Reproductive Charles - RANDI ANTERINA AM ANNI ANTERINA AM ANNI COMPANY			00:11 31/h1/1	2 POU UNITA: MULTIPURE IN/11/10/ 11/14/18 11:00	#     Sample Description*     Sampled*     Matrix*     Comments       I     RAW WATTR / OCT_CATION (International)     Date     Time     Matrix*     Comments	Maine (Printed/Signature):     Marced Co     Fresno Co     System N       CAND I ANDER ON Notation     On of LS Arrow     Merced Co     Fresno Co     System N       Maine Types: SW-Burlace Water BW-Bottled Water Crive Concert Marcow     Other:     Geotracker	Reporting Options:     Control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the co	MILLIAM FISHED MEMORY PROJECT RESNO CA	AM VONSULTING ENGINEERS Additional cost: PO#: EN	Required Fields	ASSOCIATEC www.bskaesociates.com
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C L	that chi	lling has begun?	alson and intereto			$\sim$	TB Received? (Check Method Below) Yes No.						
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0	Was so	dium thiosulfate a	dded to CN sampl	e(s)		6	Was PM	notified of	discrepan	cies?	Ve	INO AR	
	until ch	lorine was no long	er present?		Tes NO I	<u> </u>	<sup>1</sup> PM:		By/Time:				
	250ml()	A) 500ml(B) 1Lite	r(C) 40ml VOA(V)		Checks		Passed?	1	2-5				
	None	DWhite Cap											
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ц Ц	ruo (P	***24 HOUR H	NH40H(NH4)2SO4	7199	pH 9.0-9.5		PF						
ed	HNO	(P) Red Capor HCI	(P) Purple Cap/Lt. Blue I	Label	_			18	8	1 /			
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**BSK Associates Laboratory Fresno** 1414 Stanislaus St Fresno, CA 93706 559-497-2888 (Main)

Alfonso Manrique AM Consulting Engineers 5150 N. Sixth St., Ste. 124 Fresno, CA 93710

#### **RE: Report for A8K3186 General**

Dear Alfonso Manrique,

Thank you for using BSK Associates for your analytical testing needs. In the following pages, you will find the test results for the samples submitted to our laboratory on 11/28/2018. The results have been approved for release by our Laboratory Director as indicated by the authorizing signature below.

The samples were analyzed for the test(s) indicated on the Chain of Custody (see attached) and the results relate only to the samples analyzed. BSK certifies that the testing was performed in accordance with the quality system requirements specified in the 2009 TNI Standard. Any deviations from this standard or from the method requirements for each test procedure performed will be annotated alongside the analytical result or noted in the Case Narrative. Unless otherwise noted, the sample results are reported on an "as received" basis.

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

If additional clarification of any information is required, please contact your Project Manager, Adam Trevarrow, at (800) 877-8310 or (559) 497-2888 x116.

Thank you again for using BSK Associates. We value your business and appreciate your loyalty.

Sincerely,

alam

Adam Trevarrow, Project Manager



Accredited in Accordance with NELAP ORELAP #4021-009



# A8K3186

General

## **Case Narrative**

Project and	Report Details	Invoice Details						
Client: Report To: Project #: Received: Report Due:	AM Consulting Engineers Alfonso Manrique William Fisher Memorial 11/28/2018 - 16:32 12/12/2018	Invoice To: AM Consulting Engineers Invoice Attn: Alfonso Manrique Project PO#: -						
Sample Rec	eipt Conditions							
Cooler: Default Cooler Temperature on Receipt °C: 4.5		Containers Intact COC/Labels Agree Received On Blue Ice Sample(s) arrived at lab on same day sampled. Packing Material - Other Sample(s) were received in temperature range. Initial receipt at BSK-FAL						
Data Qualif	iers							
The following	The following qualifiers have been applied to one or more analytical results:							
***None applied	]***							

### **Report Distribution**

Recipient(s)	Report Format	CC:
Alfonso Manrique	FINAL.RPT	



**General** William Fisher Memorial

# **Certificate of Analysis**

Sample ID: A8K3186-01 Sampled By: Randi Anderson Sample Description: POU Unit A : Multipure Sample Date - Time: 11/28/18 - 11:00 Matrix: Water Sample Type: Grab

### BSK Associates Laboratory Fresno

Metals

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Arsenic	EPA 200.8	ND	2.0	ug/L	1	A817878	11/29/18	12/04/18	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



**General** William Fisher Memorial

# **Certificate of Analysis**

Sample ID: A8K3186-02 Sampled By: Randi Anderson Sample Description: POU Unit B : Isolux Sample Date - Time: 11/28/18 - 11:00 Matrix: Water Sample Type: Grab

### BSK Associates Laboratory Fresno

Metals

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Arsenic	EPA 200.8	2.3	2.0	ug/L	1	A817878	11/29/18	12/04/18	



General

### BSK Associates Laboratory Fresno Metals Quality Control Report

			<b>j</b> -								
Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
		EPA 200.8	8 - Qua	ality Co	ntrol						
Batch: A817878 Prep Method: EPA 200.2				-						Prepared: Ar	: 11/29/2018 nalyst: MAS
Blank (A817878-BLK1)											
Arsenic	ND	2.0	ug/L							12/04/18	
Blank Spike (A817878-BS1)											
Arsenic	200	2.0	ug/L	200	ND	101	85-115			12/04/18	
Blank Spike Dup (A817878-BSD1)											
Arsenic	200	2.0	ug/L	200	ND	102	85-115	0	20	12/04/18	
Matrix Spike (A817878-MS1), Source:	A8K3117-01										
Arsenic	200	2.0	ug/L	200	2.1	101	70-130			12/04/18	
Matrix Spike (A817878-MS2), Source:	A8K3186-01										
Arsenic	210	2.0	ug/L	200	ND	104	70-130			12/04/18	
Matrix Spike Dup (A817878-MSD1), Sc	ource: A8K3117-01										
Arsenic	200	2.0	ug/L	200	2.1	101	70-130	0	20	12/04/18	
Matrix Spike Dup (A817878-MSD2), Sc	ource: A8K3186-01										
Arsenic	210	2.0	ug/L	200	ND	104	70-130	0	20	12/04/18	



# **Certificate of Analysis**

#### Notes:

- The Chain of Custody document and Sample Integrity Sheet are part of the analytical report.
- Any remaining sample(s) for testing will be disposed of according to BSK's sample retention policy unless other arrangements are made in advance.
- All positive results for EPA Methods 504.1 and 524.2 require the analysis of a Field Reagent Blank (FRB) to confirm that the results are not a contamination error from field sampling steps. If Field Reagent Blanks were not submitted with the samples, this method requirement has not been performed.
- Samples collected by BSK Analytical Laboratories were collected in accordance with the BSK Sampling and Collection Standard Operating
  Procedures.
- J-value is equivalent to DNQ (Detected, not quantified) which is a trace value. A trace value is an analyte detected between the MDL and the laboratory reporting limit. This result is of an unknown data quality and is only qualitative (estimated). Baseline noise, calibration curve extrapolation below the lowest calibrator, method blank detections, and integration artifacts can all produce apparent DNQ values, which contribute to the un-reliability of these values.
- (1) Residual chlorine and pH analysis have a 15 minute holding time for both drinking and waste water samples as defined by the EPA and 40 CFR 136. Waste water and ground water (monitoring well) samples must be field filtered to meet the 15 minute holding time for dissolved metals.
- Summations of analytes (i.e. Total Trihalomethanes) may appear to add individual amounts incorrectly, due to rounding of analyte values occurring before or after the total value is calculated, as well as rounding of the total value.
- RL Multiplier is the factor used to adjust the reporting limit (RL) due to variations in sample preparation procedures and dilutions required for matrix interferences.
- Due to the subjective nature of the Threshold Odor Method, all characterizations of the detected odor are the opinion of the panel of analysts. The characterizations can be found in Standard Methods 2170B Figure 2170:1.
- · The MCLs provided in this report (if applicable) represent the primary MCLs for that analyte.

#### Definitions

mg/L:	Milligrams/Liter (ppm)	MDL:	Method Detection Limit	MDA95:	Min. Detected Activity
mg/Kg:	Milligrams/Kilogram (ppm)	RL:	Reporting Limit: DL x Dilution	MPN:	Most Probable Number
µg/L:	Micrograms/Liter (ppb)	ND:	None Detected at RL	CFU:	Colony Forming Unit
µg/Kg:	Micrograms/Kilogram (ppb)	pCi/L:	PicoCuries per Liter	Absent:	Less than 1 CFU/100mLs
%:	Percent	RL Mult:	RL Multiplier	Present:	1 or more CFU/100mLs
NR:	Non-Reportable	MCL:	Maximum Contaminant Limit		

Please see the individual Subcontract Lab's report for applicable certifications.

BSK is not accredited under the NELAP p	rogram for the following parameters:	**NA**

Certifications: Please refer to our website for a copy of our Accredited Fields of Testing under each certification.

Fresno					
EPA - UCMR4	CA00079	Los Angeles CSD	9254479	NELAP certified	4021-010
State of California - ELAP	1180	State of Hawaii	4021	State of Nevada	CA000792019-1
State of Oregon - NELAP	4021-010	State of Washington	C997-18		
Sacramento					
State of California - ELAP	2435				
San Bernardino					
Los Angeles CSD	9254478	NELAP certified	4119-003	State of California - ELAP	2993
State of Oregon - NELAP	4119-003				
Vancouver					
NELAP certified	WA100008-011	State of Oregon - NELAP	WA100008-011	State of Washington	C824-18b

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.





# AMCON9177



# AM Consulting Engineers





# 11282018

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Standard 12/12/2018

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Company Company Check / //2X/(15 Check / Cash		11/28/2018 10 GUE@AM-CE.Com

Page 8 of 9

BSK Assoc	iates	SR-FL-0002-19	
		_	

# Sample Integrity

A8K3186	
AMCON917	



BSI	K Bottles (Yes) No Page	of (	··· <b>*</b>		
	Was temperature within range?	Yes No NA	Were correct container	rs and preservatives	YES NO NA
<u>_</u> 0	Chemistry $\leq 6^{\circ}$ C Micro $< 8^{\circ}$ C		Bubbles Present VOA	equested ? s (524.2/TCP/TTHM)?	Yes No (NA)
Ξ	that chilling has begun?	Tes No NA	TB Received? (Check	Method Below)	Yes No NA
ö	Did all bottles arrive unbroken and intact?	No No	Do samples have a ho	Id time <72 hours?	Yes (NO)
ပ	Was sodium thiosulfate added to CN sample(s)	Vice No The	Was PM notified of dis	crepancies?	Yes No (NA)
	until chlorine was no longer present?	Yes NO (NA	PM: By	//Time:	
	250ml(A) 500ml(B) 1Liter(C) 40ml VOA(V)	Checks	Passed?		
	Bacil Na202V3				
		0	0 5		
	Cro (P) Birk Label/Blue Can				
e lat	Crb (P) Fink Laber Dide Cap NH4OH(NH4)2SO4 WW	p⊓ 9.3-9.7			
u tř	Cr6 (P) black Laper Fulle Lap NH40H(NH4)2S04 7199	pH 9.0-9.5	PF	···	
- Pe	HNO2 (P) Red Cat or HCI (P) Purple Cap/Lt. Blue Label		- IB		
E Lo	H-SO (P) or (AG) Yellow Capitabel	pH<2	PF		
per		Cl. pH >10	PF		
are	NaOH + ZnAc (P)	pH>9	PF		
o l	Dissolved Oxygen 300ml (g)		_		07
τ					invite .
eive ithe		_			II POICE
e ce	Assorbic EDTA KHaCt (AG)Pink Label 525				
R S R	Na. CO. DEAmil (A/CyNeon Green Label 515		_		
ottle: chec	NacSoOs 1 Liter (Brown P) 549	_			
Bol	Na-S-Q. (AC)Blue table S48 THM 524	- T	· .		
	Na2S2O3 (CG) <sup>Blue Label</sup> 504 505 547	_	_		
2/40		DH<3	PF		
vati.			_		
1000					
		_			
100	Differential (CC)				
1	Builer pri 4 (00)	<u> </u>	_		
3	Other:				
	Asbestos 1L (P) w/ Foil / LL Metals Bottle	. – 1	<u> </u>		
	Bottled Water				
	Clear Glass 250mL / 500mL / 1 Liter		<u> </u>		
	Container Preservative Da	te/Time/Initials	Containe	r Preservative I	Date/Time/Initials
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			✓ Indicates B	anks Received	
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C			8260/624		
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**BSK Associates Laboratory Fresno** 1414 Stanislaus St Fresno, CA 93706 559-497-2888 (Main)

Alfonso Manrique AM Consulting Engineers 5150 N. Sixth St., Ste. 124 Fresno, CA 93710

#### RE: Report for A8L0672 General

Dear Alfonso Manrique,

Thank you for using BSK Associates for your analytical testing needs. In the following pages, you will find the test results for the samples submitted to our laboratory on 12/5/2018. The results have been approved for release by our Laboratory Director as indicated by the authorizing signature below.

The samples were analyzed for the test(s) indicated on the Chain of Custody (see attached) and the results relate only to the samples analyzed. BSK certifies that the testing was performed in accordance with the quality system requirements specified in the 2009 TNI Standard. Any deviations from this standard or from the method requirements for each test procedure performed will be annotated alongside the analytical result or noted in the Case Narrative. Unless otherwise noted, the sample results are reported on an "as received" basis.

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

If additional clarification of any information is required, please contact your Project Manager, Adam Trevarrow, at (800) 877-8310 or (559) 497-2888 x116.

Thank you again for using BSK Associates. We value your business and appreciate your loyalty.

Sincerely,

alam

Adam Trevarrow, Project Manager



Accredited in Accordance with NELAP ORELAP #4021-009



# A8L0672

General

## **Case Narrative**

Project and	Report Details	Invoice Details
Client: Report To: Project #: Received:	AM Consulting Engineers Alfonso Manrique William Fisher Memorial 12/05/2018 - 16:36	Invoice To: AM Consulting Engineers Invoice Attn: Alfonso Manrique Project PO#: -
Report Due:	12/19/2018	
Sample Rec Cooler: Defa Temperature o	ceipt Conditions ault Cooler on Receipt °C: 5.9	Containers Intact COC/Labels Agree Received On Blue Ice Sample(s) arrived at lab on same day sampled. Packing Material - Other Sample(s) were received in temperature range. Initial receipt at BSK-FAL
Data Quali	fiers	
The following	g qualifiers have been appli	ed to one or more analytical results:
***None applie	d***	

### **Report Distribution**

Recipient(s)	Report Format	CC:
Alfonso Manrique	FINAL.RPT	



## **Certificate of Analysis**

Sample ID: A8L0672-01 Sampled By: Randi Anderson Sample Description: Raw Water (Post Chlorination) Sample Date - Time: 12/05/18 - 12:00 Matrix: Water Sample Type: Grab

### BSK Associates Laboratory Fresno

Metals

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Arsenic	EPA 200.8	19	2.0	ug/L	1	A818329	12/08/18	12/14/18	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



# **Certificate of Analysis**

Sample ID: A8L0672-02 Sampled By: Randi Anderson Sample Description: POU Unit A: Multipure Sample Date - Time: 12/05/18 - 12:00 Matrix: Water Sample Type: Grab

### BSK Associates Laboratory Fresno

Metals

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Arsenic	EPA 200.8	ND	2.0	ug/L	1	A818329	12/08/18	12/14/18	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



# **Certificate of Analysis**

Sample ID: A8L0672-03 Sampled By: Randi Anderson Sample Description: POU Unit B: Isolux Sample Date - Time: 12/05/18 - 12:00 Matrix: Water Sample Type: Grab

### BSK Associates Laboratory Fresno

Metals

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Arsenic	EPA 200.8	4.1	2.0	ug/L	1	A818329	12/08/18	12/14/18	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



General

#### BSK Associates Laboratory Fresno Metals Quality Control Report

		uio duui	<u></u>								
Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
		EPA 200.8	B - Qua	ality Co	ntrol						
Batch: A818329										Prepare	d: 12/8/2018
Prep Method: EPA 200.2										Ai	nalyst: MAS
Blank (A818329-BLK1)											
Arsenic	ND	2.0	ug/L							12/14/18	
Blank Spike (A818329-BS1)											
Arsenic	200	2.0	ug/L	200	ND	100	85-115			12/14/18	
Blank Spike Dup (A818329-BSD1)											
Arsenic	200	2.0	ug/L	200	ND	100	85-115	1	20	12/14/18	
Matrix Spike (A818329-MS1), Source: A	A8L0665-01										
Arsenic	210	2.0	ug/L	200	2.1	102	70-130			12/14/18	
Matrix Spike Dup (A818329-MSD1), So	urce: A8L0665-01										
Arsenic	200	2.0	ug/L	200	2.1	101	70-130	1	20	12/14/18	



# **Certificate of Analysis**

#### Notes:

- The Chain of Custody document and Sample Integrity Sheet are part of the analytical report.
- Any remaining sample(s) for testing will be disposed of according to BSK's sample retention policy unless other arrangements are made in advance.
- All positive results for EPA Methods 504.1 and 524.2 require the analysis of a Field Reagent Blank (FRB) to confirm that the results are not a contamination error from field sampling steps. If Field Reagent Blanks were not submitted with the samples, this method requirement has not been performed.
- Samples collected by BSK Analytical Laboratories were collected in accordance with the BSK Sampling and Collection Standard Operating
  Procedures.
- J-value is equivalent to DNQ (Detected, not quantified) which is a trace value. A trace value is an analyte detected between the MDL and the laboratory reporting limit. This result is of an unknown data quality and is only qualitative (estimated). Baseline noise, calibration curve extrapolation below the lowest calibrator, method blank detections, and integration artifacts can all produce apparent DNQ values, which contribute to the un-reliability of these values.
- (1) Residual chlorine and pH analysis have a 15 minute holding time for both drinking and waste water samples as defined by the EPA and 40 CFR 136. Waste water and ground water (monitoring well) samples must be field filtered to meet the 15 minute holding time for dissolved metals.
- Summations of analytes (i.e. Total Trihalomethanes) may appear to add individual amounts incorrectly, due to rounding of analyte values occurring before or after the total value is calculated, as well as rounding of the total value.
- RL Multiplier is the factor used to adjust the reporting limit (RL) due to variations in sample preparation procedures and dilutions required for matrix interferences.
- Due to the subjective nature of the Threshold Odor Method, all characterizations of the detected odor are the opinion of the panel of analysts. The characterizations can be found in Standard Methods 2170B Figure 2170:1.
- · The MCLs provided in this report (if applicable) represent the primary MCLs for that analyte.

#### Definitions

mg/L:	Milligrams/Liter (ppm)	MDL:	Method Detection Limit	MDA95:	Min. Detected Activity
mg/Kg:	Milligrams/Kilogram (ppm)	RL:	Reporting Limit: DL x Dilution	MPN:	Most Probable Number
µg/L:	Micrograms/Liter (ppb)	ND:	None Detected at RL	CFU:	Colony Forming Unit
µg/Kg:	Micrograms/Kilogram (ppb)	pCi/L:	PicoCuries per Liter	Absent:	Less than 1 CFU/100mLs
%:	Percent	RL Mult:	RL Multiplier	Present:	1 or more CFU/100mLs
NR:	Non-Reportable	MCL:	Maximum Contaminant Limit		

Please see the individual Subcontract Lab's report for applicable certifications.

BSK is not accredited under the NELAP p	rogram for the following parameters:	**NA**

Certifications: Please refer to our website for a copy of our Accredited Fields of Testing under each certification.

Fresno					
EPA - UCMR4	CA00079	Los Angeles CSD	9254479	NELAP certified	4021-010
State of California - ELAP	1180	State of Hawaii	4021	State of Nevada	CA000792019-1
State of Oregon - NELAP	4021-010	State of Washington	C997-18		
Sacramento					
State of California - ELAP	2435				
San Bernardino					
Los Angeles CSD	9254478	NELAP certified	4119-003	State of California - ELAP	2993
State of Oregon - NELAP	4119-003				
Vancouver					
NELAP certified	WA100008-011	State of Oregon - NELAP	WA100008-011	State of Washington	C824-18b

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.





# AMCON9177



# AM Consulting Engineers



# 12052018

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any Date Time Received by (Signature and Printed Name) <u>DONSULTING ENGO 12/5/18</u> 1/0:9-0 Pade Time Received by (Signature and Printed Name) Date Time Payment Received at Delivery: -IN FED EX Courier:		Regulatory Carbon Copies       Regulatory Compliance         SWRCB (Drinking Water)       EDT to California SWRCB (Drinking Water)         Merced Co       Freano Co         Madera Co       Tulare Co         Onher:       Geotracter #:         Image:       Tulare Co         Sampled*       Geotracter #:         Date       Time         Matrix*       Comments / Station Code / WTRAX         12/5/18       12:00         12/5/18       12:00	CA 93706 Turnaround Time Request 97-2893 Temp: 5:97 Temp: 5:97 Thermometer ID: ce:::::::::::::::::::::::::::::::::::
Company Company Amount: PIA#: Check / .	12-5-18	××× Arsenic	A8L0672 12/05/2018 AMCON917 10 Internet: (559) 288-9172 Far(559) 513-8 E-mail: ALFONSO. MANR JQUE@AM-CE.Co

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Page 9 of 10

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BSK A	ssociates	SR-FL-0002-19						A		917 	, and and the second	10 10		
Sa	mple	e Integrit	у У						ļ ļ					
BSI	K Bo	ttles: Yes	) No f	Page	l	of /								Jane 1
	Was te	mperature within r	ange?	Ĭ	Yes) I	No NA	Were con	rect contai	ners an	d pr∈	eservatives	Yes	N	NA
2	If samp	bles were taken too	o < 8°C lay, is there evider	ice (			Bubbles	Present VC	)As (52	4.2/T	CP/TTHM)	? Yes	N	NA
5	that chi	illing has begun?	oken and intact?			<u>No</u>	TB Rece	ived? (Che ifficient am	ck Metl	lod E sam	Below) ple receive	d? Yes	NO NO	No
ğ	Did all	bottle labels agree	with COC?		(Yes	No	Do samp	iles have a	hold tir	ne <7	2 hours?	Ye	\$	No
-	Was so	dium thiosulfate a	dded to CN sample	e(s)	Yes I	NO (NA)	Was PM	notified of	discrep By/Tim	ancie le:	es?	Yes	N	NA
	250ml(	A) 500ml(B) 1Lite	r(C) 40ml VOA(V)		Che	cks	Passed?	1-3						
	Bacti	Va <sub>2</sub> S <sub>2</sub> O <sub>3</sub>				•	4							
	None	(P) <sup>White Cap</sup>				-	<u> </u>			<b>2</b> 60572				
	Cr6 (P	y LL Green Label/Blue C	ap NH4OH(NH4)2SO4	DW	Cl, pl	1>8	PF				/			
e lab	Cr6 (P		NH4OH(NH4)2SO4	ww	рН 9.	3-9.7	-			$\square$				
n th	Cr6 (F	) Black Label/Blue Cap	NH4OH(NH4)2SO4	7199	pH 9.	0-9.5	PF			1		12-5	3-/	B
ed	HNO <sub>3</sub>	(P) Red Cap or HCI	(P) Purple Cap/Lt. Blue L	.abei	_	_		IB	1					
form	H <sub>2</sub> SO.	i (P) or (AG	Yellow Cap/Label		pH	<2	PF					· · · · · · · · · · · · · · · · · · ·		
e per	NaOH	(P) Green Cap			Cl, pł	<del>1</del> >10	PF							
ir are	NaOH	+ ZnAc (P)	and an an an an		pH	>9	PF							
I/A o	Dissol	ved Oxygen 300	ml (g)		***	-						,		
ved Ier N	None	(AG) 608/8081/8082,	625, 632/8321, 8151, 8	270	4 (A) (4	-	1							
ceiv eith	HCI (A	G) <sup>Lt. Blue Label</sup> O8	G, Diesel, TCP		_	-								-
Re. s are	Ascor	bic, EDTA, KH₂C	t (AG) <sup>Pink Label</sup> 52	5	_	_								
cles neck	Na <sub>2</sub> S(	Da 250mL (AG)™	ion Green Label 515	in solid		<u> </u>								
e ct Soft	Na <sub>2</sub> S <sub>2</sub>	O <sub>3</sub> 1 Liter (Brown	1 P) 549	1.00 L	-	-	—		a second					
	Na252		548, 1HM, 524		-	- 11								<u>yennen († 1</u>
on/ct	Na202				nH	- 7	D E							
vatio			<b>)</b>		, pri	~ •								
eser			20=				_		1.1.1.1	234				
l st	HCL	(CG) 524 2 BTEX G	as MTBE 8260/624		_	_	_							<u></u>
near	Buffer	DH 4 (CG)			-									
   _	HsPO	4 (CG)Selmon Label	1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 -	4	-	<del></del>	-	12 57			1			
3	Other													
	Asber Bottle	stos 1L (P) w/ Fo od Water	II / LL Metals E	onle	-	_	-							
	Clear	Glass 250mL	/ 500mL / 1	Liter		ui t	-							
	Solids	s: Brass / Stee	I / Plastic Bag		-			Cantair		Drag		Date/T	ime	Initiale
H	S P	Container	Preservative	Date	e/Time/	Initials	S P	Contair		Fies	Servative	Dateri		II IIII AIS
S d	S P					,	SP							
		]	1				✓ I	ndicates	Blanks	Re	ceived			
nts							504	524.2	тср		TTHM	537		
Inme	1									<u> </u>				
Co							8260/624							
			· · · · · · · · · · · · · · · · · · ·				<u> </u>	;	•					
		MAY 1-	= 75			-								
Labe	eled bv:		Labe	ls che	ecked b	y:	Rel	528	RU	SH F	aged by:	· · · ·	@_	

Page 10 of 10



**BSK Associates Laboratory Fresno** 1414 Stanislaus St Fresno, CA 93706 559-497-2888 (Main)

Alfonso Manrique AM Consulting Engineers 5150 N. Sixth St., Ste. 124 Fresno, CA 93710

#### **RE: Report for A8L1819 General**

Dear Alfonso Manrique,

Thank you for using BSK Associates for your analytical testing needs. In the following pages, you will find the test results for the samples submitted to our laboratory on 12/13/2018. The results have been approved for release by our Laboratory Director as indicated by the authorizing signature below.

The samples were analyzed for the test(s) indicated on the Chain of Custody (see attached) and the results relate only to the samples analyzed. BSK certifies that the testing was performed in accordance with the quality system requirements specified in the 2009 TNI Standard. Any deviations from this standard or from the method requirements for each test procedure performed will be annotated alongside the analytical result or noted in the Case Narrative. Unless otherwise noted, the sample results are reported on an "as received" basis.

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

If additional clarification of any information is required, please contact your Project Manager, Adam Trevarrow, at (800) 877-8310 or (559) 497-2888 x116.

Thank you again for using BSK Associates. We value your business and appreciate your loyalty.

Sincerely,

alam

Adam Trevarrow, Project Manager



Accredited in Accordance with NELAP ORELAP #4021-009



General



## **Case Narrative**

Project and	Report Details		Invoice Details					
Client:	AM Consulting Engineers		Invoice To: AM Consulting Engineers					
Report To:	Alfonso Manrique		Invoice Attn: Alfonso Manrique					
Project #:	William Fisher Memorial		Project PO#: -					
Received:	12/13/2018 - 13:35							
Report Due:	12/28/2018							
Sample Rec	ceipt Conditions							
Cooler: Defa	ault Cooler	Containers Intact						
Temperature on Receipt °C: 1.4		COC/Labels Agree						
-	-	Received On Blue Ice						
		Packing Material - Other						

Sample(s) were received in temperature range.

Initial receipt at BSK-FAL

#### **Data Qualifiers**

The following qualifiers have been applied to one or more analytical results:

\*\*\*None applied\*\*\*

### **Report Distribution**

Recipient(s)	Report Format	CC:
Alfonso Manrique	FINAL.RPT	



## **Certificate of Analysis**

Sample ID: A8L1819-01 Sampled By: Randi Anderson Sample Description: POU Unit A: Multipure Sample Date - Time: 12/12/18 - 13:00 Matrix: Water Sample Type: Grab

### **BSK Associates Laboratory Fresno**

Metals

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Arsenic	EPA 200.8	ND	2.0	ug/L	1	A818741	12/16/18	12/18/18	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



## **Certificate of Analysis**

Sample ID: A8L1819-02 Sampled By: Randi Anderson Sample Description: POU Unit B: ISOLUX Sample Date - Time: 12/12/18 - 13:00 Matrix: Water Sample Type: Grab

### **BSK Associates Laboratory Fresno**

Metals

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Arsenic	EPA 200.8	7.7	2.0	ug/L	1	A818741	12/16/18	12/18/18	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



General

### BSK Associates Laboratory Fresno Metals Quality Control Report

			··· <b>j</b>								
Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 200.8 - Quality Control											
Batch: A818741 Prep Method: EPA 200.2										Prepared: Ar	: 12/16/2018 nalyst: MAS
Blank (A818741-BLK1)											
Arsenic	ND	2.0	ug/L							12/18/18	
Blank Spike (A818741-BS1)											
Arsenic	210	2.0	ug/L	200	ND	103	85-115			12/18/18	
Blank Spike Dup (A818741-BSD1)											
Arsenic	200	2.0	ug/L	200	ND	102	85-115	1	20	12/18/18	
Matrix Spike (A818741-MS1), Source	: A8L1819-01										
Arsenic	210	2.0	ug/L	200	ND	105	70-130			12/18/18	
Matrix Spike (A818741-MS2), Source	: A8L1819-02										
Arsenic	210	2.0	ug/L	200	7.7	102	70-130			12/18/18	
Matrix Spike Dup (A818741-MSD1), S	ource: A8L1819-01										
Arsenic	210	2.0	ug/L	200	ND	103	70-130	1	20	12/18/18	
Matrix Spike Dup (A818741-MSD2), S	ource: A8L1819-02										
Arsenic	210	2.0	ug/L	200	7.7	102	70-130	1	20	12/18/18	



# **Certificate of Analysis**

#### Notes:

- The Chain of Custody document and Sample Integrity Sheet are part of the analytical report.
- Any remaining sample(s) for testing will be disposed of according to BSK's sample retention policy unless other arrangements are made in advance.
- All positive results for EPA Methods 504.1 and 524.2 require the analysis of a Field Reagent Blank (FRB) to confirm that the results are not a contamination error from field sampling steps. If Field Reagent Blanks were not submitted with the samples, this method requirement has not been performed.
- Samples collected by BSK Analytical Laboratories were collected in accordance with the BSK Sampling and Collection Standard Operating
  Procedures.
- J-value is equivalent to DNQ (Detected, not quantified) which is a trace value. A trace value is an analyte detected between the MDL and the laboratory reporting limit. This result is of an unknown data quality and is only qualitative (estimated). Baseline noise, calibration curve extrapolation below the lowest calibrator, method blank detections, and integration artifacts can all produce apparent DNQ values, which contribute to the un-reliability of these values.
- (1) Residual chlorine and pH analysis have a 15 minute holding time for both drinking and waste water samples as defined by the EPA and 40 CFR 136. Waste water and ground water (monitoring well) samples must be field filtered to meet the 15 minute holding time for dissolved metals.
- Summations of analytes (i.e. Total Trihalomethanes) may appear to add individual amounts incorrectly, due to rounding of analyte values occurring before or after the total value is calculated, as well as rounding of the total value.
- RL Multiplier is the factor used to adjust the reporting limit (RL) due to variations in sample preparation procedures and dilutions required for matrix interferences.
- Due to the subjective nature of the Threshold Odor Method, all characterizations of the detected odor are the opinion of the panel of analysts. The characterizations can be found in Standard Methods 2170B Figure 2170:1.
- · The MCLs provided in this report (if applicable) represent the primary MCLs for that analyte.

#### Definitions

mg/L:	Milligrams/Liter (ppm)	MDL:	Method Detection Limit	MDA95:	Min. Detected Activity
mg/Kg:	Milligrams/Kilogram (ppm)	RL:	Reporting Limit: DL x Dilution	MPN:	Most Probable Number
µg/L:	Micrograms/Liter (ppb)	ND:	None Detected at RL	CFU:	Colony Forming Unit
µg/Kg:	Micrograms/Kilogram (ppb)	pCi/L:	PicoCuries per Liter	Absent:	Less than 1 CFU/100mLs
%:	Percent	RL Mult:	RL Multiplier	Present:	1 or more CFU/100mLs
NR:	Non-Reportable	MCL:	Maximum Contaminant Limit		

Please see the individual Subcontract Lab's report for applicable certifications.

BSK is not accredited under the NELAP p	rogram for the following parameters:	**NA**

Certifications: Please refer to our website for a copy of our Accredited Fields of Testing under each certification.

Fresno					
EPA - UCMR4	CA00079	Los Angeles CSD	9254479	NELAP certified	4021-010
State of California - ELAP	1180	State of Hawaii	4021	State of Nevada	CA000792019-1
State of Oregon - NELAP	4021-010	State of Washington	C997-18		
Sacramento					
State of California - ELAP	2435				
San Bernardino					
Los Angeles CSD	9254478	NELAP certified	4119-003	State of California - ELAP	2993
State of Oregon - NELAP	4119-003				
Vancouver					
NELAP certified	WA100008-011	State of Oregon - NELAP	WA100008-011	State of Washington	C824-18b

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.





# AMCON9177



# AM Consulting Engineers





Turnaround: Standard Due Date: 12/28/2018

12132018

Printed: 12/13/2018 6:46:16PN Page 1 of Page 7 of 9
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om/d SKLabTermsConditions.pdf ġ payment for the services on this Chain of Chacody, and agrees to BSK's terms and conditions for laboratory services and chacodians for Laboratory Services. The person signing for the Client/Company payment for the services on this Chain of Chacody, and agrees to BSK's terms and conditions for laboratory services unless contractually bound otherwise. BSK's current ferms and conditions can be found at

Relinquisited by (Signature and Printed Name)     INIX INIX     INIX INIX     INIX CONSULTING     INIX IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII	Beinquished by: (Signature and Printed Name)	2-1398	KANDLANDERSON     Kurdar     Inductor     In	SISO       N. SIXTH       State:       Zip:       Email:       ALFONSIG.         Project:       MILLIAM       FISHER       MEMORIAL       Project #:       QA       93710         MILLIAM       FISHER       MEMORIAL       Project #:       QA       93710       QA       93710         Sampler Name (Printed/Signature):       EDD Type:       Image: Swarce Co       Regulatory Carbon Copies       Regulatory Compliance       Q       4	Additional cost: ASSOCIATES 1414 Stanislaus St., Fresno, CA 93706 (559) 497-2888 · Fax (559) 497-2893 Www.bskassociates.com Company/Otherit Name: Company/Otherit Name: Company Company Additional cost: Company/Otherit Name: Company Company Additional cost: Company Company Company Company Additional cost: Company Company
Company Company Check / * Cash				ME@AM-CE.Com	12/13/2018

BSK Associates	SR-FL-0002-19
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A8L18	19		
AMCC	N9	17	•



BSK A	ssociates	SR-FL-0002-19								i Mili ini min dani ua	
Sa	mple	e Integrit	S <b>y</b>								
BS	K Ro	ttles <sup>.</sup> Yes		Page ) of (				+			
	Was ter	mperature within r	ange?		Were co	prrect contair	ners and p	orese	rvatives		
	Chemis	stry ≤ 6°C Micr	o < 8°C	Yes No N	A received	I for the test	s requeste	ed?			
nfo	If samp	les were taken too	lay, is there evider	nce Yes No (Ñ	Bubbles	Present VO	As (524.2			? Yes	No (NA)
- U	Did all	hottles arrive unbr	oken and intact?		Wasas	ufficient amo	ount of sa	mple	receive	d? /	No
8	Did all I	bottle labels agree	with COC?		Do sam	ples have a	hold time	4721	ours?	Yes	NO
Ŭ	Was so	dium thiosulfate a	dded to CN sampl	e(s) Yes No A	Was PM	I notified of a	liscrepan	cies?		Yes	No GA
	until ch	lorine was no long	er present?		/ PM:	1.0	By/Time:	-			+
	250mi()	A) 500mi(B) 1Lite	r(C) 40mi VOA(V)	Checks	Passed?	F6					
	None	Vd2O2O3									
		(F)	500				• S. Marchar				
		Disk Lebel/Rive Con	-+· NH4OH(NH4)2SO4	UW CI, pri 26							
lab	Cr6 (P		NH4OH(NH4)2SO4	WW pH 9.3-9.7							
he l	Cr6 (P	Black Label/Blue Cap	NH4OH(NH4)2SO4	7199 pH 9.0-9.5	PF						
i pč			(D) Purple Cap/Lt Rive	Label		17					
L L	HNQ3	(P) or HCI	(P) Topic Capital Dide		-	18					Contraction of the
erfo	H25U4	(P) of (AG	) Tonon capitation	pri < 2	F F						
	NaOH	(P) Green Cap		CI, pH >10			- 				
ora	NaOH	+ ZnAc (P)		pH>9	P r			/			<u>.</u>
_≸_	Dissol	ved Oxygen 300	ml (g)		—						
er le	None	(AG) 608/8081/8082,	625, 632/8321, 8151, 1	1270 —	-			V.	12-	1378	
eit	HCI (A	G) <sup>Lt. Blue Label</sup> O&	G, Diesel, <b>TCP</b>	_	-			N	1 C		
Re	Ascort	bic, EDTA, KH₂C	t (AG) <sup>Pink Label</sup> 52						<u>N</u>		
es cks	Na <sub>2</sub> SC	)∋ 250mL (AG) <sup>№</sup>	on Green Label 515	-	-						
E S	Na <sub>2</sub> S <sub>2</sub>	O <sub>3</sub> 1 Liter (Browr	ר P) 549		<u> </u>						
ja a	Na <sub>2</sub> S <sub>2</sub>	O3 (AG) <sup>Blue Label</sup>	548, THM, 524		-						
chlo	Na <sub>2</sub> S <sub>2</sub>	O3 (CG) <sup>Blue Label</sup>	504, 505, 547	_	—						
tion/	Na <sub>2</sub> S <sub>2</sub>	O3+ MCAA (CG	Orange Label 531	pH < 3	PF						$\Lambda$
	NH <sub>4</sub> Cl	(AG) <sup>Purple Label</sup> 5	552		_	(1990) - 200					$\Box$
les	EDA (	AG) <sup>Brown Label</sup> DI	BPs								
us n	HCL (	CG) 524.2,BTEX,G	as, MTBE, 8260/624		_		2.240.000				$\nabla$
nea	Buffer	pH 4 (CG)		-						مستست	
- "	H <sub>3</sub> PO	(CG)Salmon Label		-	-						
	Other:						BC Store Provention				
	Asbes	tos 1L (P) w/ Fo	il / LL Metals B	lottle —		1					
	Bottle	d Water	1 500-1 1 1		, <u> </u>				n Alfred Hall		
	Solids	Brass / Stee	/ Duomit / I								
	Condo	Container	Preservative	Date/Time/Initials		Contain	er Pro	esen	rative	Date/Tim	e/Initials
plit	SP				SP						
S	SP				SP						
					<b>√</b>	ndicates E	Blanks R	ecei	ved		
Its					504	524.2	TCP	ТТ	нм	537	
umei										Т	a series
Con					8260/624	4		· · · ·			
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L	L							<u> </u>			

Labeled by: MH @ [7:55

E 1803 Labels checked by:

RUSH Paged by:

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**BSK Associates Laboratory Fresno** 1414 Stanislaus St Fresno, CA 93706 559-497-2888 (Main)

Alfonso Manrique AM Consulting Engineers 5150 N. Sixth St., Ste. 124 Fresno, CA 93710

#### RE: Report for A8L2575 General

Dear Alfonso Manrique,

Thank you for using BSK Associates for your analytical testing needs. In the following pages, you will find the test results for the samples submitted to our laboratory on 12/19/2018. The results have been approved for release by our Laboratory Director as indicated by the authorizing signature below.

The samples were analyzed for the test(s) indicated on the Chain of Custody (see attached) and the results relate only to the samples analyzed. BSK certifies that the testing was performed in accordance with the quality system requirements specified in the 2009 TNI Standard. Any deviations from this standard or from the method requirements for each test procedure performed will be annotated alongside the analytical result or noted in the Case Narrative. Unless otherwise noted, the sample results are reported on an "as received" basis.

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

If additional clarification of any information is required, please contact your Project Manager, Adam Trevarrow, at (800) 877-8310 or (559) 497-2888 x116.

Thank you again for using BSK Associates. We value your business and appreciate your loyalty.

Sincerely,

alam

Adam Trevarrow, Project Manager



Accredited in Accordance with NELAP ORELAP #4021-009

A8L2575 FINAL 12312018 1043



## A8L2575

General

### **Case Narrative**

Project and	Report Details	Invoice Details
Client: Report To: Project #: Received: Report Due:	AM Consulting Engineers Alfonso Manrique William Fisher Memorial 12/19/2018 - 16:54 1/04/2019	Invoice To: AM Consulting Engineers Invoice Attn: Alfonso Manrique Project PO#: -
Sample Rec	eipt Conditions	
Cooler: Defa Temperature o	ult Cooler n Receipt °C: 5.7	Containers Intact COC/Labels Agree Received On Blue Ice Sample(s) arrived at lab on same day sampled. Packing Material - Other Sample(s) were received in temperature range. Initial receipt at BSK-FAL
Data Qualif	iers	
The following	ı qualifiers have been appli	ed to one or more analytical results:
***None applied	J***	

#### **Report Distribution**

Recipient(s)	Report Format	CC:
Alfonso Manrique	FINAL.RPT	



### **Certificate of Analysis**

Sample ID: A8L2575-01 Sampled By: Randi Anderson Sample Description: Raw - Water (Post-Chlorination) Sample Date - Time: 12/19/18 - 12:30 Matrix: Water Sample Type: Grab

#### Metals RL Analyte Method Result RL Units Batch Prepared Analyzed Qual Mult A819090 12/21/18 EPA 200.8 18 2.0 12/28/18 Arsenic ug/L 1 Microbiology Analyte Method Result Batch Prepared Analyzed Qual Coliform, Presence/Absence by Colilert E. Coli SM 9223B Absent A818984 12/19/18 18:43 12/20/18 15:35 Total Coliform SM 9223B Absent A818984 12/19/18 18:43 12/20/18 15:35

**BSK Associates Laboratory Fresno** 

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

A8L2575 FINAL 12312018 1043



### **Certificate of Analysis**

**BSK Associates Laboratory Fresno** 

Sample ID: A8L2575-02 Sampled By: Randi Anderson Sample Description: Pou Unit A - Mulitpure Sample Date - Time: 12/19/18 - 12:30 Matrix: Water Sample Type: Grab

#### **Metals** RL Analyte Method Result RL Units Batch Prepared Analyzed Qual Mult ND A819090 12/21/18 EPA 200.8 2.0 12/28/18 Arsenic ug/L 1 Microbiology Analyte Method Result Batch Prepared Analyzed Qual Coliform, Presence/Absence by Colilert E. Coli SM 9223B Absent A818984 12/19/18 18:43 12/20/18 15:35 Total Coliform SM 9223B A818984 12/19/18 18:43 12/20/18 15:35 Absent Analyte Method Result **RL Units** Batch Prepared Analyzed Qual Heterotrophic Plate Count (48 Hour) CFU/ml Heterotrophic Plate Count SM 9215B <1 A818983 12/19/18 19:05 12/22/18 15:14

A8L2575 FINAL 12312018 1043



### **Certificate of Analysis**

Sample ID: A8L2575-03 Sampled By: Randi Anderson Sample Description: POU Unit B : Isolux Sample Date - Time: 12/19/18 - 12:30 Matrix: Water Sample Type: Grab

## BSK Associates Laboratory Fresno

Metals

	initial of the second									
Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual	
Arsenic	EPA 200.8	9.9	2.0	ug/L	1	A819090	12/21/18	12/28/18		
Microbiology										
Analyte	Method	Result			Bato	h Prep	ared	Analyzed	Qual	
Coliform, Presence/Absence	e by Colilert									
E. Coli	SM 9223B	Absent			A8189	984 12/19	9/18 18:43	12/20/18 15:35		
Total Coliform	SM 9223B	Absent			A8189	984 12/19	9/18 18:43	12/20/18 15:35		
Analyte	Method	Result	RL Units		Bato	h Prep	ared	Analyzed	Qual	
Heterotrophic Plate Count (4	<u>48 Hour)</u>									
Heterotrophic Plate Count	SM 9215B	140	CFU/ml		A8189	983 12/19	9/18 19:05	12/22/18 15:14		



General

#### BSK Associates Laboratory Fresno Metals Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
		EPA 200.8	3 - Qua	ality Co	ntrol						
Batch: A819090										Prepared	12/21/2018
Prep Method: EPA 200.2										Ar	nalyst: MAS
Blank (A819090-BLK1)											
Arsenic	ND	2.0	ug/L							12/28/18	
Blank Spike (A819090-BS1)											
Arsenic	200	2.0	ug/L	200	ND	98	85-115			12/28/18	
Blank Spike Dup (A819090-BSD1)											
Arsenic	200	2.0	ug/L	200	ND	98	85-115	0	20	12/28/18	
Matrix Spike (A819090-MS1), Source:	A8L2634-02										
Arsenic	200	2.0	ug/L	200	ND	98	70-130			12/28/18	
Matrix Spike (A819090-MS2), Source:	A8L2648-01										
Arsenic	200	2.0	ug/L	200	ND	101	70-130			12/28/18	
Matrix Spike Dup (A819090-MSD1), Sc	ource: A8L2634-02										
Arsenic	200	2.0	ug/L	200	ND	99	70-130	1	20	12/28/18	
Matrix Spike Dup (A819090-MSD2), Sc	ource: A8L2648-01										
Arsenic	200	2.0	ug/L	200	ND	100	70-130	1	20	12/28/18	

A8L2575 FINAL 12312018 1043



#### Notes:

- The Chain of Custody document and Sample Integrity Sheet are part of the analytical report.
- Any remaining sample(s) for testing will be disposed of according to BSK's sample retention policy unless other arrangements are made in advance.
- All positive results for EPA Methods 504.1 and 524.2 require the analysis of a Field Reagent Blank (FRB) to confirm that the results are not a contamination error from field sampling steps. If Field Reagent Blanks were not submitted with the samples, this method requirement has not been performed.
- Samples collected by BSK Analytical Laboratories were collected in accordance with the BSK Sampling and Collection Standard Operating
  Procedures.
- J-value is equivalent to DNQ (Detected, not quantified) which is a trace value. A trace value is an analyte detected between the MDL and the laboratory reporting limit. This result is of an unknown data quality and is only qualitative (estimated). Baseline noise, calibration curve extrapolation below the lowest calibrator, method blank detections, and integration artifacts can all produce apparent DNQ values, which contribute to the un-reliability of these values.
- (1) Residual chlorine and pH analysis have a 15 minute holding time for both drinking and waste water samples as defined by the EPA and 40 CFR 136. Waste water and ground water (monitoring well) samples must be field filtered to meet the 15 minute holding time for dissolved metals.
- Summations of analytes (i.e. Total Trihalomethanes) may appear to add individual amounts incorrectly, due to rounding of analyte values occurring before or after the total value is calculated, as well as rounding of the total value.
- RL Multiplier is the factor used to adjust the reporting limit (RL) due to variations in sample preparation procedures and dilutions required for matrix interferences.
- Due to the subjective nature of the Threshold Odor Method, all characterizations of the detected odor are the opinion of the panel of analysts. The characterizations can be found in Standard Methods 2170B Figure 2170:1.
- · The MCLs provided in this report (if applicable) represent the primary MCLs for that analyte.

#### Definitions

mg/L:	Milligrams/Liter (ppm)	MDL:	Method Detection Limit	MDA95:	Min. Detected Activity
mg/Kg:	Milligrams/Kilogram (ppm)	RL:	Reporting Limit: DL x Dilution	MPN:	Most Probable Number
µg/L:	Micrograms/Liter (ppb)	ND:	None Detected at RL	CFU:	Colony Forming Unit
µg/Kg:	Micrograms/Kilogram (ppb)	pCi/L:	PicoCuries per Liter	Absent:	Less than 1 CFU/100mLs
%:	Percent	RL Mult:	RL Multiplier	Present:	1 or more CFU/100mLs
NR:	Non-Reportable	MCL:	Maximum Contaminant Limit		

Please see the individual Subcontract Lab's report for applicable certifications.

BSK is not accredited under the NELAP progra	m for the following parameters: **NA	**

Certifications: Please refer to our website for a copy of our Accredited Fields of Testing under each certification.

Fresno					
EPA - UCMR4	CA00079	Los Angeles CSD	9254479	NELAP certified	4021-010
State of California - ELAP	1180	State of Hawaii	4021	State of Nevada	CA000792019-1
State of Oregon - NELAP	4021-010	State of Washington	C997-18		
Sacramento					
State of California - ELAP	2435				
San Bernardino					
Los Angeles CSD	9254478	NELAP certified	4119-003	State of California - ELAP	2993
State of Oregon - NELAP	4119-003				
Vancouver					
NELAP certified	WA100008-011	State of Oregon - NELAP	WA100008-011	State of Washington	C824-18b

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

A8L2575 FINAL 12312018 1043





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## AMCON9177



## AM Consulting Engineers

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Printed: 12/19/2018 6:59:58PM Page 1 of 1 Page 8 of 10

## 12192018

Turnaround: Standard Due Date: 1/4/2019

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SR-FL-0012-08

	,			A8L2575	12/19/2018
BSK A	ssociates SR-FL-0002-19		(		
Sa	mple Integrity				
BS	K Bottles: Yes No Page	of	<del>-</del>		
	Was temperature within range? Chemistry ≤ 6°C Micro < 8°C	Pes No NA	Were correct cor received for the	ntainers and preservative tests requested?	S Yes No NA
nfo	If samples were taken today, is there evidence	Yes No 🕅	Bubbles Present	VOAs (524.2/TCP/TTHM	A)? Yes No (NA) Yes No (NA)
	Did all bottles arrive unbroken and intact?	Ve No	Was a sufficient	amount of sample receiv	ed? Ces No
UN S	Did all bottle labels agree with COC?	(Ye)s No	Do samples have	e a hold time <72 hours?	(es No
	until chlorine was no longer present?	Yes No	PM:	By/Time:	Yes No (NA)
	250ml(A) 500ml(B) 1Liter(C) 40ml VOA(V)	Checks	Passed?	2-3	
	Dacu Naz 203	<u> </u>			
	Crf (P) ti Green Label/Blue Cap NHADHINHA/2504 DW		PF	E E	
ą	Cr6 (P) Pink Label/Blue Cap NH40H(NH4)2S04 WW	pH 9.3-9.7	PF		
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i T	*****************	pri 9.0-9.5			
lmec	HNO <sub>3</sub> (P) <sup>Řed</sup> or HCI (P) <sup>Purple Cap/Lt. Blue Label</sup>	_	- 18	8	
erfo	HeSO4 (P) or (AG) Yellow Capitabel	pH<2	P R		
lie p	NaOH (P) Green Cap	CI, pH >10	PF		
or	Naurt + 200c (r)	per > g			12-185
p	Dissolved Oxygen Soomi (g)				a l
either ither		_			
tece are e	Ascorbic FDTA KH <sub>2</sub> Ct (AG) <sup>Pink Label</sup> 525				
S R S R	Na2SO2 250mL (AG)Neon Green Label 515		<u> </u>		
ottle	Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> 1 Liter (Brown P) 549				
B. B.	Na2S2O3 (AG)Blue Label				
(chlo	Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> (CG) <sup>Blue Label</sup> 504, 505, 547				
tion	Na2S203+ MCAA (CG)Orange Label 531	pH < 3	PF		
. Serve	NH₄CI (AG) <sup>Purple Label</sup> 552	<u> </u>			
. OTA	EDA (AG) <sup>Brown Label</sup> DBPs	· · · · · · · · · · · · · · · · · · ·	<u> </u>		
ans	HCL (CG) 524.2,BTEX,Gas, MTBE, 8260/624				
	Buffer pH 4 (CG)				
ļ	H3PO4 (CG)Salmon Label		<del></del>		
	Asbestos 1L (P) w/ Foil / LL Metals Bottle				
	Bottled Water				
	Clear Glass 250mL / 500mL / 1 Liter		- 1		
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**BSK Associates Laboratory Fresno** 1414 Stanislaus St Fresno, CA 93706 559-497-2888 (Main)

Alfonso Manrique AM Consulting Engineers 5150 N. Sixth St., Ste. 124 Fresno, CA 93710

#### **RE: Report for A9A0105 General**

Dear Alfonso Manrique,

Thank you for using BSK Associates for your analytical testing needs. In the following pages, you will find the test results for the samples submitted to our laboratory on 1/2/2019. The results have been approved for release by our Laboratory Director as indicated by the authorizing signature below.

The samples were analyzed for the test(s) indicated on the Chain of Custody (see attached) and the results relate only to the samples analyzed. BSK certifies that the testing was performed in accordance with the quality system requirements specified in the 2009 TNI Standard. Any deviations from this standard or from the method requirements for each test procedure performed will be annotated alongside the analytical result or noted in the Case Narrative. Unless otherwise noted, the sample results are reported on an "as received" basis.

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

If additional clarification of any information is required, please contact your Project Manager, Adam Trevarrow, at (800) 877-8310 or (559) 497-2888 x116.

Thank you again for using BSK Associates. We value your business and appreciate your loyalty.

Sincerely,

Adam Trevarrow, Project Manager



Accredited in Accordance with NELAP ORELAP #4021-009

A9A0105 FINAL 01142019 1117



## A9A0105

General

### **Case Narrative**

Project and	Report Details	Invoice Details
Client:	AM Consulting Engineers	Invoice To: AM Consulting Engineers
Report To:	Alfonso Manrique	Invoice Attn: Alfonso Manrique
Project #:	William Fisher Memorial	Project PO#: -
Received:	1/02/2019 - 15:30	
Report Due:	1/16/2019	
Sample Rec	eipt Conditions	
Cooler: Defa	ault Cooler	Containers Intact
Temperature of	on Receipt ºC: 13.3	COC/Labels Agree
		Received with no thermal preservation.
		Packing Material - Other
		Sample(s) were received in temperature range.
		Initial receipt at BSK-FAL

#### **Data Qualifiers**

The following qualifiers have been applied to one or more analytical results:

\*\*\*None applied\*\*\*

#### **Report Distribution**

Recipient(s)	Report Format	CC:
Alfonso Manrique	FINAL.RPT	



William Fisher Memorial

## **Certificate of Analysis**

Sample ID: A9A0105-01 Sampled By: Randi Anderson Sample Description: POU Unit A : Multipure Sample Date - Time: 01/02/19 - 11:30 Matrix: Ground Water Sample Type: Grab

#### BSK Associates Laboratory Fresno

Metals

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Arsenic	EPA 200.8	ND	2.0	ug/L	1	A900075	01/03/19	01/09/19	



## **Certificate of Analysis**

Sample ID: A9A0105-02 Sampled By: Randi Anderson Sample Description: Pou Unit B - Isolux Sample Date - Time: 01/02/19 - 11:30 Matrix: Ground Water Sample Type: Grab

#### BSK Associates Laboratory Fresno

Metals

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Arsenic	EPA 200.8	13	2.0	ug/L	1	A900075	01/03/19	01/09/19	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

A9A0105 FINAL 01142019 1117



General

#### BSK Associates Laboratory Fresno Metals Quality Control Report

	100	tuis duui	<u></u>								
Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
		EPA 200.8	8 - Qua	ality Co	ntrol						
Batch: A900075										Prepare	ed: 1/3/2019
Prep Method: EPA 200.2										Ar	nalyst: MAS
Blank (A900075-BLK1)											
Arsenic	ND	2.0	ug/L							01/09/19	
Blank Spike (A900075-BS1)											
Arsenic	200	2.0	ug/L	200	ND	101	85-115			01/09/19	
Blank Spike Dup (A900075-BSD1)											
Arsenic	200	2.0	ug/L	200	ND	100	85-115	0	20	01/09/19	
Matrix Spike (A900075-MS2), Source: A	<b>A9A0105-01</b>										
Arsenic	200	2.0	ug/L	200	ND	102	70-130			01/09/19	
Matrix Spike Dup (A900075-MSD2), So	urce: A9A0105-01										
Arsenic	200	2.0	ug/L	200	ND	102	70-130	0	20	01/09/19	



#### Notes:

- The Chain of Custody document and Sample Integrity Sheet are part of the analytical report.
- Any remaining sample(s) for testing will be disposed of according to BSK's sample retention policy unless other arrangements are made in advance.
- All positive results for EPA Methods 504.1 and 524.2 require the analysis of a Field Reagent Blank (FRB) to confirm that the results are not a contamination error from field sampling steps. If Field Reagent Blanks were not submitted with the samples, this method requirement has not been performed.
- Samples collected by BSK Analytical Laboratories were collected in accordance with the BSK Sampling and Collection Standard Operating
  Procedures.
- J-value is equivalent to DNQ (Detected, not quantified) which is a trace value. A trace value is an analyte detected between the MDL and the laboratory reporting limit. This result is of an unknown data quality and is only qualitative (estimated). Baseline noise, calibration curve extrapolation below the lowest calibrator, method blank detections, and integration artifacts can all produce apparent DNQ values, which contribute to the un-reliability of these values.
- (1) Residual chlorine and pH analysis have a 15 minute holding time for both drinking and waste water samples as defined by the EPA and 40 CFR 136. Waste water and ground water (monitoring well) samples must be field filtered to meet the 15 minute holding time for dissolved metals.
- Summations of analytes (i.e. Total Trihalomethanes) may appear to add individual amounts incorrectly, due to rounding of analyte values occurring before or after the total value is calculated, as well as rounding of the total value.
- RL Multiplier is the factor used to adjust the reporting limit (RL) due to variations in sample preparation procedures and dilutions required for matrix interferences.
- Due to the subjective nature of the Threshold Odor Method, all characterizations of the detected odor are the opinion of the panel of analysts. The characterizations can be found in Standard Methods 2170B Figure 2170:1.
- · The MCLs provided in this report (if applicable) represent the primary MCLs for that analyte.

#### Definitions

mg/L:	Milligrams/Liter (ppm)	MDL:	Method Detection Limit	MDA95:	Min. Detected Activity
mg/Kg:	Milligrams/Kilogram (ppm)	RL:	Reporting Limit: DL x Dilution	MPN:	Most Probable Number
µg/L:	Micrograms/Liter (ppb)	ND:	None Detected at RL	CFU:	Colony Forming Unit
µg/Kg:	Micrograms/Kilogram (ppb)	pCi/L:	PicoCuries per Liter	Absent:	Less than 1 CFU/100mLs
%:	Percent	RL Mult:	RL Multiplier	Present:	1 or more CFU/100mLs
NR:	Non-Reportable	MCL:	Maximum Contaminant Limit		

Please see the individual Subcontract Lab's report for applicable certifications.

BSK is not accredited under the NELAP p	rogram for the following parameters:	**NA**

Certifications: Please refer to our website for a copy of our Accredited Fields of Testing under each certification.

Fresno					
EPA - UCMR4	CA00079	Los Angeles CSD	9254479	NELAP certified	4021-010
State of California - ELAP	1180	State of Hawaii	4021	State of Nevada	CA000792019-1
State of Oregon - NELAP	4021-010	State of Washington	C997-18		
Sacramento					
State of California - ELAP	2435				
San Bernardino					
Los Angeles CSD	9254478	NELAP certified	4119-003	State of California - ELAP	2993
State of Oregon - NELAP	4119-003				
Vancouver					
NELAP certified	WA100008-011	State of Oregon - NELAP	WA100008-011	State of Washington	C824-18b

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

A9A0105 FINAL 01142019 1117





## AMCON9177



# AM Consulting Engineers



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Turnaround:	Standard
Due Date:	1/16/2019
Printed:	1/2/2019 5:48:05PM
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				A9A0105	01/02/2019
BSK A	ssociates SR-FL-0002-19		· · · · · · · · · · · · · · · · · · ·		
Sa	mple Integrity				
DCI	( Rottlas ( Vac) No. De-	1	-		
	Was temperature within range?		Were correct contain	ners and preservative	
•	Chemistry ≤ 6°C Micro < 8°C	res No NA	received for the test	s requested?	V2 Vas No MA
lu	that chilling has begun?	Yes No (NA)	TB Received? (Che	ck Method Below)	Yes No NA
ö	Did all bottles arrive unbroken and intact?	Yes No	Was a sufficient am	ount of sample receiv	ed? Cres No
С С	Was sodium thiosulfate added to CN sample(s)	Ves No (NA)	Was PM notified of	discrepancies?	Yes No NA
	until chlorine was no longer present? 250ml(A) 500ml(B) 11 iter(C) 40ml (OA(V)	Checks	PM: Passed?	By/Time:	
	Bacti Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>	-	·		
	None (P) <sup>White Cap</sup>	_			
	Cr6 (P) Lt. Green Label/Blue Cap NH40H(NH4)2SO4 DW	CI, pH > 8	PF		
e lab	Cr6 (P) <sup>Pink Label/Blue Cap</sup> NH4OH(NH4)2SO4 WW	pH 9.3-9.7	<u>PF</u>		
n the	Cr6 (P) Black Label/Blos Cap NH4OH(NH4)2SO4 7199	pH 9.0-9.5	P F		
ied i	HNO3 (P) Red ap or HCI (P) Purple Cap/Lt. Blue Label		- 13		
rforn	H2SOs (P) or (AG) Yellow Cap/Label	pH < 2	PF		
e pe	NaOH (P) <sup>Green Cap</sup>	Cl, pH >10	PF		
or an	NaOH + ZnAc (P)	pH > 9	PF		
N/A	Dissolved Oxygen 300ml (g)			1-2-	<u>H7</u>
ivec her I	None (AG) 608/8081/8082, 625, 632/8321, 8151, 8270			16	
ttles Recei	HCI (AG) <sup>Lt. Blue Label</sup> O&G, Diesel, TCP		_		
	Ascorbic, EDTA, KH <sub>2</sub> Ct (AG) <sup>PINK Label</sup> 525	—			
	Na2S2O3 1 Liter (Brown P) 549		_		
Bo.	Na2S2O3 (AG) <sup>Bios Label</sup> 548, THM, 524		- *		
chloi	Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> (CG) <sup>Blue Label</sup> 504, 505, 547				
tion/	Na2S2O3 + MCAA (CG)Orange Label 531	pH < 3	P F		
erva	NH4CI (AG) <sup>Purple Label</sup> 552	_			
pres	EDA (AG)Brown Label DBPs	-			
ans	HCL (CG) 524.2,BTEX,Gas, MTBE, 8260/624		-		
Ĕ.	Buffer pH 4 (CG)	-			
ļ	MaPO4 (UG parmon Labor Other:		<u> </u>		
	Asbestos (L (P) w/ Foll / LL Metals Bottle	-			
	Bottled Water		<u> </u>		
	Solids: Brass / Steel / Plastic Bag	_	_		
it	Container Preservative Dat	e/Time/Initials	Contain	er Preservative	Date/Time/Initials
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**BSK Associates Laboratory Fresno** 1414 Stanislaus St Fresno, CA 93706 559-497-2888 (Main)

Alfonso Manrique AM Consulting Engineers 5150 N. Sixth St., Ste. 124 Fresno, CA 93710

#### **RE: Report for A9A2339 General**

Dear Alfonso Manrique,

Thank you for using BSK Associates for your analytical testing needs. In the following pages, you will find the test results for the samples submitted to our laboratory on 1/18/2019. The results have been approved for release by our Laboratory Director as indicated by the authorizing signature below.

The samples were analyzed for the test(s) indicated on the Chain of Custody (see attached) and the results relate only to the samples analyzed. BSK certifies that the testing was performed in accordance with the quality system requirements specified in the 2009 TNI Standard. Any deviations from this standard or from the method requirements for each test procedure performed will be annotated alongside the analytical result or noted in the Case Narrative. Unless otherwise noted, the sample results are reported on an "as received" basis.

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

If additional clarification of any information is required, please contact your Project Manager, Adam Trevarrow, at (800) 877-8310 or (559) 497-2888 x116.

Thank you again for using BSK Associates. We value your business and appreciate your loyalty.

Sincerely,

Adam Trevarrow, Project Manager



Accredited in Accordance with NELAP ORELAP #4021-009



## A9A2339

General

#### **Case Narrative**

Project and	Report Details	Invoice Details
Client: Report To: Project #: Received: Report Due:	AM Consulting Engineers Alfonso Manrique - 1/18/2019 - 12:14 2/01/2019	Invoice To: AM Consulting Engineers Invoice Attn: Alfonso Manrique Project PO#: -
Sample Rec	eipt Conditions	
Cooler: Defa Temperature o	ault Cooler on Receipt °C: 9.6	Containers Intact COC/Labels Agree Received On Blue Ice Sample(s) arrived at lab on same day sampled. Packing Material - Other Sample(s) were received in temperature range. Initial receipt at BSK-FAL
Data Qualif	iers	
The following	g qualifiers have been appli	ed to one or more analytical results:
***None applied	<u>j</u> ***	
Report Dist	tribution	

 Recipient(s)
 Report Format
 CC:

 Alfonso Manrique
 FINAL.RPT
 CC:



Sample ID: A9A2339-01 Sampled By: Client Sample Description: William Fisher Raw Water Sample Date - Time: 01/18/19 - 08:30 Matrix: Water Sample Type: Grab

### BSK Associates Laboratory Fresno

Metals

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Arsenic	EPA 200.8	18	2.0	ug/L	1	A900907	01/21/19	01/24/19	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Sample ID: A9A2339-02 Sampled By: Client Sample Description: William Fisher Multipure Sample Date - Time: 01/18/19 - 08:30 Matrix: Water Sample Type: Grab

### BSK Associates Laboratory Fresno

Metals

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Arsenic	EPA 200.8	ND	2.0	ug/L	1	A900907	01/21/19	01/24/19	



Sample ID: A9A2339-03 Sampled By: Client Sample Description: William Fisher Isolux Sample Date - Time: 01/18/19 - 08:30 Matrix: Water Sample Type: Grab

### BSK Associates Laboratory Fresno

Metals

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Arsenic	EPA 200.8	16	2.0	ug/L	1	A900907	01/21/19	01/24/19	



General

#### BSK Associates Laboratory Fresno Metals Quality Control Report

motale Quanty control Report											
Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
		EPA 200.	8 - Qua	ality Co	ntrol						
Batch: A900907										Prepare	d: 1/21/2019
Prep Method: EPA 200.2										Ar	nalyst: MAS
Blank (A900907-BLK1)											
Arsenic	ND	2.0	ug/L							01/24/19	
Blank Spike (A900907-BS1)											
Arsenic	190	2.0	ug/L	200	ND	96	85-115			01/24/19	
Blank Spike Dup (A900907-BSD1)											
Arsenic	190	2.0	ug/L	200	ND	96	85-115	0	20	01/24/19	
Matrix Spike (A900907-MS2), Source:	A9A2382-01										
Arsenic	200	2.0	ug/L	200	ND	98	70-130			01/24/19	
Matrix Spike Dup (A900907-MSD2), So	ource: A9A2382-01										
Arsenic	190	2.0	ug/L	200	ND	97	70-130	1	20	01/24/19	



#### Notes:

- The Chain of Custody document and Sample Integrity Sheet are part of the analytical report.
- Any remaining sample(s) for testing will be disposed of according to BSK's sample retention policy unless other arrangements are made in advance.
- All positive results for EPA Methods 504.1 and 524.2 require the analysis of a Field Reagent Blank (FRB) to confirm that the results are not a contamination error from field sampling steps. If Field Reagent Blanks were not submitted with the samples, this method requirement has not been performed.
- Samples collected by BSK Analytical Laboratories were collected in accordance with the BSK Sampling and Collection Standard Operating
  Procedures.
- J-value is equivalent to DNQ (Detected, not quantified) which is a trace value. A trace value is an analyte detected between the MDL and the laboratory reporting limit. This result is of an unknown data quality and is only qualitative (estimated). Baseline noise, calibration curve extrapolation below the lowest calibrator, method blank detections, and integration artifacts can all produce apparent DNQ values, which contribute to the un-reliability of these values.
- (1) Residual chlorine and pH analysis have a 15 minute holding time for both drinking and waste water samples as defined by the EPA and 40 CFR 136. Waste water and ground water (monitoring well) samples must be field filtered to meet the 15 minute holding time for dissolved metals.
- Summations of analytes (i.e. Total Trihalomethanes) may appear to add individual amounts incorrectly, due to rounding of analyte values occurring before or after the total value is calculated, as well as rounding of the total value.
- RL Multiplier is the factor used to adjust the reporting limit (RL) due to variations in sample preparation procedures and dilutions required for matrix interferences.
- Due to the subjective nature of the Threshold Odor Method, all characterizations of the detected odor are the opinion of the panel of analysts. The characterizations can be found in Standard Methods 2170B Figure 2170:1.
- · The MCLs provided in this report (if applicable) represent the primary MCLs for that analyte.

#### Definitions

mg/L:	Milligrams/Liter (ppm)	MDL:	Method Detection Limit	MDA95:	Min. Detected Activity
mg/Kg:	Milligrams/Kilogram (ppm)	RL:	Reporting Limit: DL x Dilution	MPN:	Most Probable Number
µg/L:	Micrograms/Liter (ppb)	ND:	None Detected at RL	CFU:	Colony Forming Unit
µg/Kg:	Micrograms/Kilogram (ppb)	pCi/L:	PicoCuries per Liter	Absent:	Less than 1 CFU/100mLs
%:	Percent	RL Mult:	RL Multiplier	Present:	1 or more CFU/100mLs
NR:	Non-Reportable	MCL:	Maximum Contaminant Limit		

Please see the individual Subcontract Lab's report for applicable certifications.

BSK is not accredited under the NELAP progra	m for the following parameters: **NA	**

Certifications: Please refer to our website for a copy of our Accredited Fields of Testing under each certification.

Fresno					
EPA - UCMR4	CA00079	Los Angeles CSD	9254479	NELAP certified	4021-010
State of California - ELAP	1180	State of Hawaii	4021	State of Nevada	CA000792019-1
State of Oregon - NELAP	4021-010	State of Washington	C997-18		
Sacramento					
State of California - ELAP	2435				
San Bernardino					
Los Angeles CSD	9254478	NELAP certified	4119-003	State of California - ELAP	2993
State of Oregon - NELAP	4119-003				
Vancouver					
NELAP certified	WA100008-011	State of Oregon - NELAP	WA100008-011	State of Washington	C824-18b

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.





## AMCON9177



## AM Consulting Engineers



Printed: 1/18/2019 5:51:14PM Page 1 of 1 Page 8 of 10

Standard 2/1/2019

01182019

Turnaround:

Due Date:

Shipping Method:         ONTRAC         UPS         GS0           Cooling Method:         Wet         Privet for services instead as noted brein facture fruit within 30 days from the date involved. If not so paid activities are either the Clent or an adhorized agent in the Clent, that the Clent agnees to be reagivery bideascodes.com/BSULE TransCondition_advised agent in the Clent, that the Clent agnees to be reagivery bideascodes.com/BSULE TransCondition_advised agent in the Clent, that the Clent agnees to be reagivery bideascodes.com/BSULE TransCondition_advised agent in the Clent, that the Clent agnees to be reagivery bideascodes.com/BSULE TransCondition_advised agent in the Clent, that the Clent agnees to be reagivery bideascodes.com/BSULE TransCondition_advised agent in the Clent, that the Clent agnees to be reagivery bideascodes.com/BSULE TransCondition_advised agent in the Clent, that the Clent agnees to be reagivery bideascodescodes.com/BSULE TransCondition_advised agent in the Clent, that the Clent agnees to be reagivery bideascodescodescodescodescodescodescodescode	Remarked by (Signature and Printed Name)			1 alliam . Finker . John X	2 Alilian Fishe - Hultzand	# Sample Description*	EDD Type: Sampler Name (Printed/Signature)*: Matrix Types: SW=Surface Water BW=Bottled Water GW=G	Reporting Options:	SISO N. GIXH. Street, suite 124	Company/Client Name": Required Fields Re AM (INSULTING CONSIDERS) Ad	ASSOCIATES www.bskassociates.co
Date     Time     Date       WeCK-N     FED EX     Counter:       4. account balances are deemed delivativet. Delivativet balances are subject to monthly service charges and interest specified in BSK's of ponsible for payment for the services on the Chain of Cualody, and agrees to BSK's terms and conditions for tetroniony services.	Company A M C n cull by 1/15/19 8: > Received by: (Sufficience and Printed Name Company Company Date Time Received by: (Sufficience and Printed Name Time Received by: (Sufficience and Printed Name Time	WH JOID		*	4 4 4 V	Date Time Matrix* Comments / Station Code / WTRAX	SWRCB (Drinking Water)     BEDT to California SWRCB (Drinking Water)     Matersed Co     Tuiare Co     System Number*:     Other:     Other:     Geotracker #:	Regulatory Carbon Copies Regulatory Compliance	City: State*: Zip*: Froject #: Characteristic CA 93710	BOOT Attention": Temp: 7.6 Thermometer iD: 454 ALFONSO HANTRIQUE Invoice To": Iditional cos: PO#:	resno, CA 93706 559) 497-2893 M Turnaround Time Request Standard - 10 business days Rush (Surcharge may apply) Date needed:
Check / Amount: PIA#: Ing Custody Seal: Y/ PIA#: Ing Chilling Process Begun: (Y) PIA#: is the classical of t	ame) Company Ine) r						r>cnic			Phone: (559)473-1371 Email: 01/0000	AMCON917 10

BSK Associates	SR-FL-0002-19
Sample	Integrity

A9A2339	
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60		mes. (	es		Page	,	of		<u> </u>	•				
	$Chemistry \leq 6^{\circ}C  Micro < 8^{\circ}C$					Yes	No) NA	were c	received for the tests requ			ervatives	Yes	No NA
lfo	If samples were taken today, is there evidence							Bubble	Bubbles Present VOAs (5			P/TTHM)	? Yes	No (NA)
1	that chilling has begun?							TB Red	eived? (Ch	eck Met	hod Be	low)	Yes	No MA
ŏ	Did all bottle labels agree with COC2					No No		Was a	sufficient an	nount o	f sample	e received		No Ala
	Was sodium thiosulfate added to CN sample(s)					res no		Was Pl	I notified of	discrer	ancies	10015 - 2	Tes	
	until ch	lorine was no	longe	r present?	(d)	Yes	NO (NA	PM:		By/Tir	ne:		Yes	NONA
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	Bactil	Na2S2O3				· .	-							
	None	(P) <sup>White Cap</sup>				-	<u> </u>							
	Cr6 (F	) tt. Green Label	/Blue Ca	<sup>P</sup> NH4OH(NH4)2	so4 DW	CI, p	H>8	PF						
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led	HNO <sub>3</sub>	(P) Pod Col or	HCI (	P) Purple Cap/Lt.	Blue Label	-	_	_	IB					
lorn	Hoso	(P) or	(AG)	Yellow Cap/L	abel	nH	< 2	PF					9.00	
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F A	Dissolved Oxygen 300ml (g)				-	_								
	None (AG) 608/8081/8082, 625, 632/8321, 8151, 8270				-	-								
cei eit	HCI (A	G)Lt. Blue Labe	080	6, Diesel, TCP		-						12		
Re	Ascorbic, EDTA, KH2Ct (AG)Pink Label 525				· -		—			× 1.	(r)			
es scks	Na2SO3 250mL (AG)Noon Green Laber 515					-						19/1		
che	Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> 1 Liter (Brown P) 549				-	_					1	10		
<b>ğ</b>	Na2S2O3 (AG) Blue Label 548, THM, 524						-							Sector Sector
ploi	Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> (CG) <sup>Blue Laber</sup> 504, 505, 547					-								
ov/o	No.S.O. + MCAA (CC)Orange Label cor					mL	23	DE						
vati					- Pri							and the second second second second second second second second second second second second second second second	400 ( Sec. 40)	
ser	NH4CI (AG) <sup>Purple Label</sup> 552					-	-		1					
Dig	EDA (AG) <sup>Brown Label</sup> : DBPs					-	<del></del>	÷						
sues	HCL (	HCL (CG) 524.2, BTEX, Gas, MTBE, 8260/624				-								
Ĕ	Buffer pH 4 (CG)												Sec. 1	
<u> </u>	HaPO4 (CG)Salmon Label							1						
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Appendix D – Historical Water Quality Results

#### Water Quality Sampling Results

Storet Number	Group/Constituent Identification	Sampling Date	XMOD	Result	MCL	DLR	Trigger	Unit
A-075	RADIUM 228 MDA95	2008-02-12		.5000	1.001	0.000	0.000	PCI/L
A-075	RADIUM 228 MDA95	2008-04-15		.5500	1.001	0.000	0.000	PCI/L
A-075	RADIUM 228 MDA95	2008-09-16		.2570	1.001	0.000	0.000	PCI/L
A-072	GROSS ALPHA MDA95	2008-02-12		.9100	3.000	0.000	0.000	PCI/L
A-072	GROSS ALPHA MDA95	2008-04-15		.7900	3.000	0.000	0.000	PCI/L
A-072	GROSS ALPHA MDA95	2008-09-16		.8600	3.000	0.000	0.000	PCI/L
A-072	GROSS ALPHA MDA95	2009-07-07		.9900	3.000	0.000	0.000	PCI/L
A-072	GROSS ALPHA MDA95	2012-08-14		1.0000	3.000	0.000	0.000	PCI/L
A-072	GROSS ALPHA MDA95	2015-07-21		0.90	3.000	0.000	0.000	PCI/L
A-072	GROSS ALPHA MDA95	2019-01-23		1.49	3.000	0.000	0.000	PCI/L
A-072	GROSS ALPHA MDA95	2019-02-06		1.06	3.000	0.000	0.000	PCI/L
A-034	TERT-AMYL-METHYL ETHER (TAME)	2008-01-08	<	.0000	0.000	3.000	0.000	UG/L
A-034	TERT-AMYL-METHYL ETHER (TAME)	2008-04-15	<	.0000	0.000	3.000	0.000	UG/L
A-034	TERT-AMYL-METHYL ETHER (TAME)	2008-06-17	<	.0000	0.000	3.000	0.000	UG/L
A-033	ETHYL-TERT-BUTYL ETHER	2008-01-08	<	.0000	0.000	3.000	0.000	UG/L
A-033	ETHYL-TERT-BUTYL ETHER	2008-04-15	<	.0000	0.000	3.000	0.000	UG/L
A-033	ETHYL-TERT-BUTYL ETHER	2008-06-17	<	.0000	0.000	3.000	0.000	UG/L
A-031	PERCHLORATE	2008-01-08	<	.0000	6.000	4.000	4.000	UG/L
A-031	PERCHLORATE	2008-03-18	<	.0000	6.000	4.000	4.000	UG/L
A-031	PERCHLORATE	2008-08-05	<	.0000	6.000	4.000	4.000	UG/L
A-031	PERCHLORATE	2008-12-16	<	.0000	6.000	4.000	4.000	UG/L
A-031	PERCHLORATE	2009-05-05	<	.0000	6.000	4.000	4.000	UG/L
A-031	PERCHLORATE	2009-07-07	<	.0000	6.000	4.000	4.000	UG/L
A-031	PERCHLORATE	2009-10-06	<	.0000	6.000	4.000	4.000	UG/L
A-031	PERCHLORATE	2010-05-04	<	.0000	6.000	4.000	4.000	UG/L
A-031	PERCHLORATE	2012-08-14	<	.0000	6.000	4.000	4.000	UG/L
A-031	PERCHLORATE	2015-07-21	<	0000000000	6.000	4.000	4.000	UG/L
A-031	PERCHLORATE	2018-10-03	<	4.0	6.000	4.000	4.000	UG/L
A-031	PERCHLORATE	2018-10-03	<	4.0	6.000	4.000	4.000	UG/L
A-029	NITRATE + NITRITE (AS N)	2008-01-08		880.0000	10000.000	400.000	5000.000	UG/L
A-029	NITRATE + NITRITE (AS N)	2009-07-07		790.0000	10000.000	400.000	5000.000	UG/L
A-029	NITRATE + NITRITE (AS N)	2012-08-14		970.0000	10000.000	400.000	5000.000	UG/L
A-029	NITRATE + NITRITE (AS N)	2015-07-21		770	10000.000	400.000	5000.000	UG/L
Search	Search	Search	Search	Search	Search	Sear	Search	Sea

#### Water Quality Sampling Results

Storet Number	Group/Constituent Identification	Sampling Date	XMOD	Result	MCL	DLR	Trigger	Unit
A-026	DI(2-ETHYLHEXYL)ADIPATE	2008-01-08	<	5.0000	400.000	5.000	5.000	UG/L
A-026	DI(2-ETHYLHEXYL)ADIPATE	2008-04-15	<	.0000	400.000	5.000	5.000	UG/L
A-026	DI(2-ETHYLHEXYL)ADIPATE	2008-06-17	<	.0000	400.000	5.000	5.000	UG/L
A-026	DI(2-ETHYLHEXYL)ADIPATE	2009-07-07	<	.0000	400.000	5.000	5.000	UG/L
A-026	DI(2-ETHYLHEXYL)ADIPATE	2012-08-14	<	.0000	400.000	5.000	5.000	UG/L
A-026	DI(2-ETHYLHEXYL)ADIPATE	2015-07-21	<	0000000000	400.000	5.000	5.000	UG/L
A-014	M,P-XYLENE	2008-04-15	<	.0000	1750.000	0.500	1750.000	UG/L
A-014	M,P-XYLENE	2008-06-17	<	.0000	1750.000	0.500	1750.000	UG/L
A-014	M,P-XYLENE	2009-07-07	<	.0000	1750.000	0.500	1750.000	UG/L
A-014	M,P-XYLENE	2012-08-14	<	.0000	1750.000	0.500	1750.000	UG/L
A-014	M,P-XYLENE	2015-07-21	<	0000000000	0.000	0.500	0.000	UG/L
A-001	THIOBENCARB	2008-01-08	<	1.0000	70.000	1.000	1.000	UG/L
A-001	THIOBENCARB	2008-04-15	<	.0000	70.000	1.000	1.000	UG/L
A-001	THIOBENCARB	2008-06-17	<	.0000	70.000	1.000	1.000	UG/L
A-001	THIOBENCARB	2009-07-07	<	.0000	70.000	1.000	1.000	UG/L
A-001	THIOBENCARB	2012-08-14	<	.0000	70.000	1.000	1.000	UG/L
A-001	THIOBENCARB	2015-07-21	<	0000000000	70.000	1.000	1.000	UG/L
82383	AGGRSSIVE INDEX (CORROSIVITY)	2008-01-08		11.5300	0.000	0.000	0.000	
82383	AGGRSSIVE INDEX (CORROSIVITY)	2009-07-07		12.2700	0.000	0.000	0.000	
82383	AGGRSSIVE INDEX (CORROSIVITY)	2012-08-14		11.1700	0.000	0.000	0.000	
82383	AGGRSSIVE INDEX (CORROSIVITY)	2015-07-21		11.80	0.000	0.000	0.000	
82199	MOLINATE	2008-01-08	<	2.0000	20.000	2.000	2.000	UG/L
82199	MOLINATE	2008-04-15	<	.0000	20.000	2.000	2.000	UG/L
82199	MOLINATE	2008-06-17	<	.0000	20.000	2.000	2.000	UG/L
82199	MOLINATE	2009-07-07	<	.0000	20.000	2.000	2.000	UG/L
82199	MOLINATE	2012-08-14	<	.0000	20.000	2.000	2.000	UG/L
82199	MOLINATE	2015-07-21	<	0000000000	20.000	2.000	2.000	UG/L
82080	TOTAL TRIHALOMETHANES	2008-04-15	<	.0000	80.000	0.000	80.000	UG/L
82080	TOTAL TRIHALOMETHANES	2008-06-17	<	.0000	80.000	0.000	80.000	UG/L
82080	TOTAL TRIHALOMETHANES	2009-07-07	<	.0000	80.000	0.000	80.000	UG/L
82080	TOTAL TRIHALOMETHANES	2012-08-14	<	.0000	80.000	0.000	80.000	UG/L
82080	TOTAL TRIHALOMETHANES	2015-07-21	<	0000000000	80.000	0.000	80.000	UG/L

Search

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#### Water Quality Sampling Results

Storet Number	Group/Constituent Identification	Sampling Date	XMOD	Result	MCL	DLR	Trigger	Unit
82079	TURBIDITY, LABORATORY	2008-01-08		.1000	5.000	0.100	5.000	NTU
82079	TURBIDITY, LABORATORY	2009-07-07		.1000	5.000	0.100	5.000	NTU
82079	TURBIDITY, LABORATORY	2012-08-14		.1000	5.000	0.100	5.000	NTU
82079	TURBIDITY, LABORATORY	2015-07-21	<	0000000000	5.000	0.100	5.000	NTU
82079	TURBIDITY, LABORATORY	2018-07-18	<	0.10	5.000	0.100	5.000	NTU
81855	ASBESTOS	2008-01-08	<	.0000	7.000	0.200	7.000	MFL
81855	ASBESTOS	2009-07-07	<	.0000	7.000	0.200	7.000	MFL
81855	ASBESTOS	2012-08-14	<	.0000	7.000	0.200	7.000	MFL
81855	ASBESTOS	2015-07-21	<	.0000	7.000	0.200	7.000	MFL
81611	TRICHLOROTRIFLUOROETHANE (FREON 113)	2008-04-15	<	.0000	1200.000	10.000	10.000	UG/L
81611	TRICHLOROTRIFLUOROETHANE (FREON 113)	2008-06-17	<	.0000	1200.000	10.000	10.000	UG/L
81611	TRICHLOROTRIFLUOROETHANE (FREON 113)	2009-07-07	<	.0000	1200.000	10.000	10.000	UG/L
81611	TRICHLOROTRIFLUOROETHANE (FREON 113)	2012-08-14	<	.0000	1200.000	10.000	10.000	UG/L
81611	TRICHLOROTRIFLUOROETHANE (FREON 113)	2015-07-21	<	0000000000	1200.000	10.000	10.000	UG/L
81551	XYLENES (TOTAL)	2008-04-15	<	.0000	1750.000	0.500	1750.000	UG/L
81551	XYLENES (TOTAL)	2008-06-17	<	.0000	1750.000	0.500	1750.000	UG/L
81551	XYLENES (TOTAL)	2009-07-07	<	.0000	1750.000	0.500	1750.000	UG/L
81551	XYLENES (TOTAL)	2012-08-14	<	.0000	1750.000	0.500	1750.000	UG/L
81551	XYLENES (TOTAL)	2015-07-21	<	0000000000	1750.000	0.500	1750.000	UG/L
81405	CARBOFURAN	2008-01-08	<	.0000	18.000	5.000	5.000	UG/L
81405	CARBOFURAN	2008-04-15	<	.0000	18.000	5.000	5.000	UG/L
81405	CARBOFURAN	2008-06-17	<	.0000	18.000	5.000	5.000	UG/L
81405	CARBOFURAN	2009-07-07	<	.0000	18.000	5.000	5.000	UG/L
81405	CARBOFURAN	2012-08-14	<	.0000	18.000	5.000	5.000	UG/L
81405	CARBOFURAN	2015-07-21	<	0000000000	18.000	5.000	5.000	UG/L
81287	DINOSEB	2008-01-08	<	.0000	7.000	2.000	2.000	UG/L
81287	DINOSEB	2008-04-15	<	.0000	7.000	2.000	2.000	UG/L
81287	DINOSEB	2008-06-17	<	.0000	7.000	2.000	2.000	UG/L
81287	DINOSEB	2009-07-07	<	.0000	7.000	2.000	2.000	UG/L
81287	DINOSEB	2012-08-14	<	.0000	7.000	2.000	2.000	UG/L
81287	DINOSEB	2015-07-21	<	0000000000	7.000	2.000	2.000	UG/L
79743	GLYPHOSATE	2008-01-08	<	.0000	700.000	25.000	25.000	UG/L
Search	Search	Search	Search	Search	Search	Sear	Search	Sea

3/4/2020

#### Water Quality Sampling Results

Storet Number	Group/Constituent Identification	Sampling Date	XMOD	Result	MCL	DLR	Trigger	Unit
79743	GLYPHOSATE	2008-06-17	<	.0000	700.000	25.000	25.000	UG/L
79743	GLYPHOSATE	2009-07-07	<	.0000	700.000	25.000	25.000	UG/L
79743	GLYPHOSATE	2012-08-14	<	.0000	700.000	25.000	25.000	UG/L
79743	GLYPHOSATE	2015-07-21	<	0000000000	700.000	25.000	25.000	UG/L
78885	DIQUAT	2008-01-08	<	4.0000	20.000	4.000	4.000	UG/L
78885	DIQUAT	2009-07-07	<	.0000	20.000	4.000	4.000	UG/L
78885	DIQUAT	2012-08-14	<	4.0000	20.000	4.000	4.000	UG/L
78885	DIQUAT	2015-07-21	<	4.0000	20.000	4.000	4.000	UG/L
78885	DIQUAT	2015-07-21	<	0000000000	20.000	4.000	4.000	UG/L
77825	ALACHLOR	2008-01-08	<	1.0000	2.000	1.000	1.000	UG/L
77825	ALACHLOR	2008-04-15	<	.0000	2.000	1.000	1.000	UG/L
77825	ALACHLOR	2008-06-17	<	.0000	2.000	1.000	1.000	UG/L
77825	ALACHLOR	2009-07-07	<	.0000	2.000	1.000	1.000	UG/L
77825	ALACHLOR	2012-08-14	<	.0000	2.000	1.000	1.000	UG/L
77825	ALACHLOR	2015-07-21	<	0000000000	2.000	1.000	1.000	UG/L
77651	ETHYLENE DIBROMIDE (EDB)	2008-04-15	<	.0000	0.050	0.020	0.020	UG/L
77651	ETHYLENE DIBROMIDE (EDB)	2008-06-17	<	.0000	0.050	0.020	0.020	UG/L
77651	ETHYLENE DIBROMIDE (EDB)	2009-07-07	<	.0000	0.050	0.020	0.020	UG/L
77651	ETHYLENE DIBROMIDE (EDB)	2012-08-14	<	.0000	0.050	0.020	0.020	UG/L
77651	ETHYLENE DIBROMIDE (EDB)	2015-07-21	<	0000000000	0.050	0.020	0.020	UG/L
7744X	1,2,3-TRICHLOROPROPANE (1,2,3- TCP)	2016-08-16	<	0000000000	0.000	0.005	0.005	UG/L
77443	1,2,3-TRICHLOROPROPANE (1,2,3- TCP)	2018-01-10	<	0.0050	0.005	0.005	0.005	UG/L
77443	1,2,3-TRICHLOROPROPANE (1,2,3- TCP)	2018-04-05	<	0.0050	0.005	0.005	0.005	UG/L
77443	1,2,3-TRICHLOROPROPANE (1,2,3- TCP)	2018-07-10	<	0.0050	0.005	0.005	0.005	UG/L
77443	1,2,3-TRICHLOROPROPANE (1,2,3- TCP)	2018-10-03	<	0.0050	0.005	0.005	0.005	UG/L
77135	O-XYLENE	2008-04-15	<	.0000	1750.000	0.500	1750.000	UG/L
77135	O-XYLENE	2008-06-17	<	.0000	1750.000	0.500	1750.000	UG/L
77135	O-XYLENE	2009-07-07	<	.0000	1750.000	0.500	1750.000	UG/L
77135	O-XYLENE	2012-08-14	<	.0000	1750.000	0.500	1750.000	UG/L
77135	O-XYLENE	2015-07-21	<	0000000000	0.000	0.500	0.000	UG/L
77128	STYRENE	2008-04-15	<	.0000	100.000	0.500	0.500	UG/L
77128	STYRENE	2008-06-17	<	.0000	100.000	0.500	0.500	UG/L
Search	Search	Search	Search	Search	Search	Sear	Search	Sea
#### Water Quality Sampling Results

Storet Number	Group/Constituent Identification	Sampling Date	XMOD	Result	MCL	DLR	Trigger	Unit
77128	STYRENE	2009-07-07	<	.0000	100.000	0.500	0.500	UG/L
77128	STYRENE	2012-08-14	<	.0000	100.000	0.500	0.500	UG/L
77128	STYRENE	2015-07-21	<	0000000000	100.000	0.500	0.500	UG/L
77093	CIS-1,2-DICHLOROETHYLENE	2008-04-15	<	.0000	6.000	0.500	0.500	UG/L
77093	CIS-1,2-DICHLOROETHYLENE	2008-06-17	<	.0000	6.000	0.500	0.500	UG/L
77093	CIS-1,2-DICHLOROETHYLENE	2009-07-07	<	.0000	6.000	0.500	0.500	UG/L
77093	CIS-1,2-DICHLOROETHYLENE	2012-08-14	<	.0000	6.000	0.500	0.500	UG/L
77093	CIS-1,2-DICHLOROETHYLENE	2015-07-21	<	0000000000	6.000	0.500	0.500	UG/L
77035	TERT-BUTYL ALCOHOL (TBA)	2008-01-08	<	.0000	0.000	2.000	12.000	UG/L
77035	TERT-BUTYL ALCOHOL (TBA)	2008-04-15	<	.0000	0.000	2.000	12.000	UG/L
77035	TERT-BUTYL ALCOHOL (TBA)	2008-06-17	<	.0000	0.000	2.000	12.000	UG/L
71900	MERCURY	2008-01-08	<	.0000	2.000	1.000	2.000	UG/L
71900	MERCURY	2009-07-07	<	.0000	2.000	1.000	2.000	UG/L
71900	MERCURY	2012-08-14	<	.0000	2.000	1.000	2.000	UG/L
71900	MERCURY	2015-07-21	<	0000000000	2.000	1.000	2.000	UG/L
71900	MERCURY	2018-07-18	<	0.20	2.000	1.000	2.000	UG/L
71850	NITRATE (AS NO3)	2008-01-08		3.9000	45.000	2.000	23.000	MG/L
71850	NITRATE (AS NO3)	2008-06-03		3.7000	45.000	2.000	23.000	MG/L
71850	NITRATE (AS NO3)	2009-07-07		3.5000	45.000	2.000	23.000	MG/L
71850	NITRATE (AS NO3)	2010-06-22		3.9000	45.000	2.000	23.000	MG/L
71850	NITRATE (AS NO3)	2011-07-12		3.4000	45.000	2.000	23.000	MG/L
71850	NITRATE (AS NO3)	2012-07-10		2.6000	45.000	2.000	23.000	MG/L
71850	NITRATE (AS NO3)	2012-08-14		4.3000	45.000	2.000	23.000	MG/L
71850	NITRATE (AS NO3)	2013-07-23		3.9000	45.000	2.000	23.000	MG/L
71850	NITRATE (AS NO3)	2014-07-08		3.8000	45.000	2.000	23.000	MG/L
71850	NITRATE (AS NO3)	2015-07-21		3.4	45.000	2.000	23.000	MG/L
71830	HYDROXIDE ALKALINITY	2008-01-08	<	.0000	0.000	0.000	0.000	MG/L
71830	HYDROXIDE ALKALINITY	2009-07-07	<	.0000	0.000	0.000	0.000	MG/L
71830	HYDROXIDE ALKALINITY	2012-08-14	<	.0000	0.000	0.000	0.000	MG/L
71830	HYDROXIDE ALKALINITY	2015-07-21	<	0000000000	0.000	0.000	0.000	MG/L
71830	HYDROXIDE ALKALINITY	2018-07-18	<	1.4	0.000	0.000	0.000	MG/L
71814	LANGELIER INDEX AT SOURCE TEMP.	2008-01-08	-	.4000	0.000	0.000	0.000	
71814	LANGELIER INDEX AT SOURCE TEMP.	2009-07-07		.3300	0.000	0.000	0.000	

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Storet Number	Group/Constituent Identification	Sampling Date	XMOD	Result	MCL	DLR	Trigger	Unit
71814	LANGELIER INDEX AT SOURCE TEMP.	2012-08-14	-	.6400	0.000	0.000	0.000	
71814	LANGELIER INDEX AT SOURCE TEMP.	2015-07-21		-0.009	0.000	0.000	0.000	
71813	LANGELIER INDEX @ 60 C	2008-01-08		.3000	0.000	0.000	0.000	
71813	LANGELIER INDEX @ 60 C	2009-07-07		1.0300	0.000	0.000	0.000	
71813	LANGELIER INDEX @ 60 C	2012-08-14	-	.0300	0.000	0.000	0.000	
71813	LANGELIER INDEX @ 60 C	2015-07-21		0.60	0.000	0.000	0.000	
70300	TOTAL DISSOLVED SOLIDS	2008-01-08		240.0000	1000.000	0.000	500.000	MG/L
70300	TOTAL DISSOLVED SOLIDS	2009-07-07		260.0000	1000.000	0.000	500.000	MG/L
70300	TOTAL DISSOLVED SOLIDS	2012-08-14		250.0000	1000.000	0.000	500.000	MG/L
70300	TOTAL DISSOLVED SOLIDS	2015-07-21		250	1000.000	0.000	500.000	MG/L
70300	TOTAL DISSOLVED SOLIDS	2018-07-18		280	1000.000	0.000	500.000	MG/L
46491	METHYL-TERT-BUTYL-ETHER (MTBE)	2008-03-11	<	.0000	13.000	3.000	3.000	UG/L
46491	METHYL-TERT-BUTYL-ETHER (MTBE)	2008-04-15	<	.0000	13.000	3.000	3.000	UG/L
46491	METHYL-TERT-BUTYL-ETHER (MTBE)	2008-06-03	<	.0000	13.000	3.000	3.000	UG/L
46491	METHYL-TERT-BUTYL-ETHER (MTBE)	2008-06-17	<	.0000	13.000	3.000	3.000	UG/L
46491	METHYL-TERT-BUTYL-ETHER (MTBE)	2008-08-05	<	.0000	13.000	3.000	3.000	UG/L
46491	METHYL-TERT-BUTYL-ETHER (MTBE)	2008-10-21	<	.0000	13.000	3.000	3.000	UG/L
46491	METHYL-TERT-BUTYL-ETHER (MTBE)	2009-02-17	<	.0000	13.000	3.000	3.000	UG/L
46491	METHYL-TERT-BUTYL-ETHER (MTBE)	2009-05-05	<	.0000	13.000	3.000	3.000	UG/L
46491	METHYL-TERT-BUTYL-ETHER (MTBE)	2009-07-07	<	.0000	13.000	3.000	3.000	UG/L
46491	METHYL-TERT-BUTYL-ETHER (MTBE)	2009-08-18	<	.0000	13.000	3.000	3.000	UG/L
46491	METHYL-TERT-BUTYL-ETHER (MTBE)	2009-11-03	<	.0000	13.000	3.000	3.000	UG/L
46491	METHYL-TERT-BUTYL-ETHER (MTBE)	2010-02-09	<	.0000	13.000	3.000	3.000	UG/L
46491	METHYL-TERT-BUTYL-ETHER (MTBE)	2010-06-01	<	.0000	13.000	3.000	3.000	UG/L
46491	METHYL-TERT-BUTYL-ETHER (MTBE)	2010-08-24	<	.0000	13.000	3.000	3.000	UG/L
46491	METHYL-TERT-BUTYL-ETHER (MTBE)	2010-11-09	<	.0000	13.000	3.000	3.000	UG/L
Search	Search	Search	Search	Search	Search	Sear	Search	Sea

Storet Number	Group/Constituent Identification	Sampling Date	XMOD	Result	MCL	DLR	Trigger	Unit
46491	METHYL-TERT-BUTYL-ETHER (MTBE)	2011-02-15	<	.0000	13.000	3.000	3.000	UG/L
46491	METHYL-TERT-BUTYL-ETHER (MTBE)	2011-06-14	<	.0000	13.000	3.000	3.000	UG/L
46491	METHYL-TERT-BUTYL-ETHER (MTBE)	2011-08-16	<	.0000	13.000	3.000	3.000	UG/L
46491	METHYL-TERT-BUTYL-ETHER (MTBE)	2011-11-08	<	.0000	13.000	3.000	3.000	UG/L
46491	METHYL-TERT-BUTYL-ETHER (MTBE)	2012-02-14	<	.0000	13.000	3.000	3.000	UG/L
46491	METHYL-TERT-BUTYL-ETHER (MTBE)	2012-05-29	<	.0000	13.000	3.000	3.000	UG/L
46491	METHYL-TERT-BUTYL-ETHER (MTBE)	2012-08-07	<	.0000	13.000	3.000	3.000	UG/L
46491	METHYL-TERT-BUTYL-ETHER (MTBE)	2012-08-14	<	.0000	13.000	3.000	3.000	UG/L
46491	METHYL-TERT-BUTYL-ETHER (MTBE)	2012-11-13	<	.0000	13.000	3.000	3.000	UG/L
46491	METHYL-TERT-BUTYL-ETHER (MTBE)	2013-02-19	<	.0000	13.000	3.000	3.000	UG/L
46491	METHYL-TERT-BUTYL-ETHER (MTBE)	2013-05-14	<	.0000	13.000	3.000	3.000	UG/L
46491	METHYL-TERT-BUTYL-ETHER (MTBE)	2013-08-13	<	.0000	13.000	3.000	3.000	UG/L
46491	METHYL-TERT-BUTYL-ETHER (MTBE)	2013-11-12	<	.0000	13.000	3.000	3.000	UG/L
46491	METHYL-TERT-BUTYL-ETHER (MTBE)	2014-02-18	<	.0000	13.000	3.000	3.000	UG/L
46491	METHYL-TERT-BUTYL-ETHER (MTBE)	2014-05-06	<	.0000	13.000	3.000	3.000	UG/L
46491	METHYL-TERT-BUTYL-ETHER (MTBE)	2014-08-19	<	.0000	13.000	3.000	3.000	UG/L
46491	METHYL-TERT-BUTYL-ETHER (MTBE)	2014-11-18	<	.0000	13.000	3.000	3.000	UG/L
46491	METHYL-TERT-BUTYL-ETHER (MTBE)	2015-02-17	<	.0000	13.000	3.000	3.000	UG/L
46491	METHYL-TERT-BUTYL-ETHER (MTBE)	2015-05-19	<	.0000	13.000	3.000	3.000	UG/L
46491	METHYL-TERT-BUTYL-ETHER (MTBE)	2015-07-21	<	0000000000	13.000	3.000	3.000	UG/L
46491	METHYL-TERT-BUTYL-ETHER (MTBE)	2015-08-25	<	0000000000	13.000	3.000	3.000	UG/L
46491	METHYL-TERT-BUTYL-ETHER (MTBE)	2015-12-08	<	0000000000	13.000	3.000	3.000	UG/L
46491	METHYL-TERT-BUTYL-ETHER (MTBE)	2015-12-15	<	0000000000	13.000	3.000	3.000	UG/L
Search	Search	Search	Search	Search	Search	Sear	Search	Sea

Storet Number	Group/Constituent Identification	Sampling Date	XMOD	Result	MCL	DLR	Trigger	Unit
46491	METHYL-TERT-BUTYL-ETHER (MTBE)	2016-03-15	<	0000000000	13.000	3.000	3.000	UG/L
46491	METHYL-TERT-BUTYL-ETHER (MTBE)	2016-06-07	<	0000000000	13.000	3.000	3.000	UG/L
46491	METHYL-TERT-BUTYL-ETHER (MTBE)	2016-09-06	<	0000000000	13.000	3.000	3.000	UG/L
46491	METHYL-TERT-BUTYL-ETHER (MTBE)	2016-11-29	<	0000000000	13.000	3.000	3.000	UG/L
46491	METHYL-TERT-BUTYL-ETHER (MTBE)	2017-02-28	<	0000000000	13.000	3.000	3.000	UG/L
39730	2,4-D	2008-01-08	<	.0000	70.000	10.000	10.000	UG/L
39730	2,4-D	2008-04-15	<	.0000	70.000	10.000	10.000	UG/L
39730	2,4-D	2008-06-17	<	.0000	70.000	10.000	10.000	UG/L
39730	2,4-D	2009-07-07	<	.0000	70.000	10.000	10.000	UG/L
39730	2,4-D	2012-08-14	<	.0000	70.000	10.000	10.000	UG/L
39730	2,4-D	2015-07-21	<	0000000000	70.000	10.000	10.000	UG/L
39720	PICLORAM	2008-01-08	<	.0000	500.000	1.000	1.000	UG/L
39720	PICLORAM	2008-04-15	<	.0000	500.000	1.000	1.000	UG/L
39720	PICLORAM	2008-06-17	<	.0000	500.000	1.000	1.000	UG/L
39720	PICLORAM	2009-07-07	<	.0000	500.000	1.000	1.000	UG/L
39720	PICLORAM	2012-08-14	<	.0000	500.000	1.000	1.000	UG/L
39720	PICLORAM	2015-07-21	<	0000000000	500.000	1.000	1.000	UG/L
39700	HEXACHLOROBENZENE	2008-01-08	<	.0000	1.000	0.500	0.500	UG/L
39700	HEXACHLOROBENZENE	2008-04-15	<	.0000	1.000	0.500	0.500	UG/L
39700	HEXACHLOROBENZENE	2008-06-17	<	.0000	1.000	0.500	0.500	UG/L
39700	HEXACHLOROBENZENE	2009-07-07	<	.0000	1.000	0.500	0.500	UG/L
39700	HEXACHLOROBENZENE	2012-08-14	<	.0000	1.000	0.500	0.500	UG/L
39700	HEXACHLOROBENZENE	2015-07-21	<	0000000000	1.000	0.500	0.500	UG/L
39516	POLYCHLORINATED BIPHENYLS, TOTAL, AS DCB	2008-01-08	<	.0000	0.500	0.500	0.500	UG/L
39516	POLYCHLORINATED BIPHENYLS, TOTAL, AS DCB	2008-04-15	<	.0000	0.500	0.500	0.500	UG/L
39516	POLYCHLORINATED BIPHENYLS, TOTAL, AS DCB	2008-06-17	<	.0000	0.500	0.500	0.500	UG/L
39516	POLYCHLORINATED BIPHENYLS, TOTAL, AS DCB	2009-07-07	<	.0000	0.500	0.500	0.500	UG/L
39516	POLYCHLORINATED BIPHENYLS, TOTAL, AS DCB	2012-08-14	<	.0000	0.500	0.500	0.500	UG/L
39516	POLYCHLORINATED BIPHENYLS, TOTAL, AS DCB	2015-07-21	<	0000000000	0.500	0.500	0.500	UG/L
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#### Water Quality Sampling Results

Storet Number	Group/Constituent Identification	Sampling Date	XMOD	Result	MCL	DLR	Trigger	Unit
39480	METHOXYCHLOR	2008-04-15	<	.0000	30.000	10.000	10.000	UG/L
39480	METHOXYCHLOR	2008-06-17	<	.0000	30.000	10.000	10.000	UG/L
39480	METHOXYCHLOR	2009-07-07	<	.0000	30.000	10.000	10.000	UG/L
39480	METHOXYCHLOR	2012-08-14	<	.0000	30.000	10.000	10.000	UG/L
39480	METHOXYCHLOR	2015-07-21	<	0000000000	30.000	10.000	10.000	UG/L
39420	HEPTACHLOR EPOXIDE	2008-04-15	<	.0000	0.010	0.010	0.010	UG/L
39420	HEPTACHLOR EPOXIDE	2008-06-17	<	.0000	0.010	0.010	0.010	UG/L
39420	HEPTACHLOR EPOXIDE	2009-07-07	<	.0000	0.010	0.010	0.010	UG/L
39420	HEPTACHLOR EPOXIDE	2012-08-14	<	.0000	0.010	0.010	0.010	UG/L
39420	HEPTACHLOR EPOXIDE	2015-07-21	<	0000000000	0.010	0.010	0.010	UG/L
39410	HEPTACHLOR	2008-04-15	<	.0000	0.010	0.010	0.010	UG/L
39410	HEPTACHLOR	2008-06-17	<	.0000	0.010	0.010	0.010	UG/L
39410	HEPTACHLOR	2009-07-07	<	.0000	0.010	0.010	0.010	UG/L
39410	HEPTACHLOR	2012-08-14	<	.0000	0.010	0.010	0.010	UG/L
39410	HEPTACHLOR	2015-07-21	<	0000000000	0.010	0.010	0.010	UG/L
39400	TOXAPHENE	2008-04-15	<	.0000	3.000	1.000	1.000	UG/L
39400	TOXAPHENE	2008-06-17	<	.0000	3.000	1.000	1.000	UG/L
39400	TOXAPHENE	2009-07-07	<	.0000	3.000	1.000	1.000	UG/L
39400	TOXAPHENE	2012-08-14	<	.0000	3.000	1.000	1.000	UG/L
39400	TOXAPHENE	2015-07-21	<	0000000000	3.000	1.000	1.000	UG/L
39390	ENDRIN	2008-04-15	<	.0000	2.000	0.100	0.100	UG/L
39390	ENDRIN	2008-06-17	<	.0000	2.000	0.100	0.100	UG/L
39390	ENDRIN	2009-07-07	<	.0000	2.000	0.100	0.100	UG/L
39390	ENDRIN	2012-08-14	<	.0000	2.000	0.100	0.100	UG/L
39390	ENDRIN	2015-07-21	<	0000000000	2.000	0.100	0.100	UG/L
39350	CHLORDANE	2008-04-15	<	.0000	0.100	0.100	0.100	UG/L
39350	CHLORDANE	2008-06-17	<	.0000	0.100	0.100	0.100	UG/L
39350	CHLORDANE	2009-07-07	<	.0000	0.100	0.100	0.100	UG/L
39350	CHLORDANE	2012-08-14	<	.0000	0.100	0.100	0.100	UG/L
39350	CHLORDANE	2015-07-21	<	0000000000	0.100	0.100	0.100	UG/L
39340	LINDANE	2008-04-15	<	.0000	0.200	0.200	0.200	UG/L
39340	LINDANE	2008-06-17	<	.0000	0.200	0.200	0.200	UG/L
39340	LINDANE	2009-07-07	<	.0000	0.200	0.200	0.200	UG/L
39340	LINDANE	2012-08-14	<	.0000	0.200	0.200	0.200	UG/L

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#### Water Quality Sampling Results

Storet Number	Group/Constituent Identification	Sampling Date	XMOD	Result	MCL	DLR	Trigger	Unit
39340	LINDANE	2015-07-21	<	0000000000	0.200	0.200	0.200	UG/L
39180	TRICHLOROETHYLENE	2008-04-15	<	.0000	5.000	0.500	0.500	UG/L
39180	TRICHLOROETHYLENE	2008-06-17	<	.0000	5.000	0.500	0.500	UG/L
39180	TRICHLOROETHYLENE	2009-07-07	<	.0000	5.000	0.500	0.500	UG/L
39180	TRICHLOROETHYLENE	2012-08-14	<	.0000	5.000	0.500	0.500	UG/L
39180	TRICHLOROETHYLENE	2015-07-21	<	0000000000	5.000	0.500	0.500	UG/L
39175	VINYL CHLORIDE	2008-04-15	<	.0000	0.500	0.500	0.500	UG/L
39175	VINYL CHLORIDE	2008-06-17	<	.0000	0.500	0.500	0.500	UG/L
39175	VINYL CHLORIDE	2009-07-07	<	.0000	0.500	0.500	0.500	UG/L
39175	VINYL CHLORIDE	2012-08-14	<	.0000	0.500	0.500	0.500	UG/L
39175	VINYL CHLORIDE	2015-07-21	<	0000000000	0.500	0.500	0.500	UG/L
39100	DI(2-ETHYLHEXYL)PHTHALATE	2008-01-08	<	3.0000	4.000	3.000	3.000	UG/L
39100	DI(2-ETHYLHEXYL)PHTHALATE	2008-04-15	<	.0000	4.000	3.000	3.000	UG/L
39100	DI(2-ETHYLHEXYL)PHTHALATE	2008-06-17	<	.0000	4.000	3.000	3.000	UG/L
39100	DI(2-ETHYLHEXYL)PHTHALATE	2009-07-07	<	.0000	4.000	3.000	3.000	UG/L
39100	DI(2-ETHYLHEXYL)PHTHALATE	2012-08-14	<	.0000	4.000	3.000	3.000	UG/L
39100	DI(2-ETHYLHEXYL)PHTHALATE	2015-07-21	<	0000000000	4.000	3.000	3.000	UG/L
39055	SIMAZINE	2008-01-08	<	1.0000	4.000	1.000	1.000	UG/L
39055	SIMAZINE	2008-04-15	<	.0000	4.000	1.000	1.000	UG/L
39055	SIMAZINE	2008-06-17	<	.0000	4.000	1.000	1.000	UG/L
39055	SIMAZINE	2009-07-07	<	.0000	4.000	1.000	1.000	UG/L
39055	SIMAZINE	2012-08-14	<	.0000	4.000	1.000	1.000	UG/L
39055	SIMAZINE	2015-07-21	<	0000000000	4.000	1.000	1.000	UG/L
39045	2,4,5-TP (SILVEX)	2008-01-08	<	.0000	50.000	1.000	1.000	UG/L
39045	2,4,5-TP (SILVEX)	2008-04-15	<	.0000	50.000	1.000	1.000	UG/L
39045	2,4,5-TP (SILVEX)	2008-06-17	<	.0000	50.000	1.000	1.000	UG/L
39045	2,4,5-TP (SILVEX)	2009-07-07	<	.0000	50.000	1.000	1.000	UG/L
39045	2,4,5-TP (SILVEX)	2012-08-14	<	.0000	50.000	1.000	1.000	UG/L
39045	2,4,5-TP (SILVEX)	2015-07-21	<	0000000000	50.000	1.000	1.000	UG/L
39033	ATRAZINE	2008-01-08	<	.5000	1.000	0.500	0.500	UG/L
39033	ATRAZINE	2008-04-15	<	.0000	1.000	0.500	0.500	UG/L
39033	ATRAZINE	2008-06-17	<	.0000	1.000	0.500	0.500	UG/L
39033	ATRAZINE	2009-07-07	<	.0000	1.000	0.500	0.500	UG/L
39033	ATRAZINE	2012-08-14	<	.0000	1.000	0.500	0.500	UG/L

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Storet Number	Group/Constituent Identification	Sampling Date	XMOD	Result	MCL	DLR	Trigger	Unit
39033	ATRAZINE	2015-07-21	<	0000000000	1.000	0.500	0.500	UG/L
39032	PENTACHLOROPHENOL	2008-01-08	<	.0000	1.000	0.200	0.200	UG/L
39032	PENTACHLOROPHENOL	2008-04-15	<	.0000	1.000	0.200	0.200	UG/L
39032	PENTACHLOROPHENOL	2008-06-17	<	.0000	1.000	0.200	0.200	UG/L
39032	PENTACHLOROPHENOL	2009-07-07	<	.0000	1.000	0.200	0.200	UG/L
39032	PENTACHLOROPHENOL	2012-08-14	<	.0000	1.000	0.200	0.200	UG/L
39032	PENTACHLOROPHENOL	2015-07-21	<	0000000000	1.000	0.200	0.200	UG/L
38926	ENDOTHALL	2008-01-08	<	45.0000	100.000	45.000	45.000	UG/L
38926	ENDOTHALL	2009-07-07	<	.0000	100.000	45.000	45.000	UG/L
38926	ENDOTHALL	2012-08-14	<	.0000	100.000	45.000	45.000	UG/L
38926	ENDOTHALL	2015-07-21	<	0000000000	100.000	45.000	45.000	UG/L
38865	OXAMYL	2008-01-08	<	.0000	50.000	20.000	20.000	UG/L
38865	OXAMYL	2008-04-15	<	.0000	50.000	20.000	20.000	UG/L
38865	OXAMYL	2008-06-17	<	.0000	50.000	20.000	20.000	UG/L
38865	OXAMYL	2009-07-07	<	.0000	50.000	20.000	20.000	UG/L
38865	OXAMYL	2012-08-14	<	.0000	50.000	20.000	20.000	UG/L
38865	OXAMYL	2015-07-21	<	0000000000	50.000	20.000	20.000	UG/L
38761	DIBROMOCHLOROPROPANE (DBCP)	2008-04-15	<	.0000	0.200	0.010	0.010	UG/L
38761	DIBROMOCHLOROPROPANE (DBCP)	2008-06-17	<	.0000	0.200	0.010	0.010	UG/L
38761	DIBROMOCHLOROPROPANE (DBCP)	2009-07-07	<	.0000	0.200	0.010	0.010	UG/L
38761	DIBROMOCHLOROPROPANE (DBCP)	2012-08-14	<	.0000	0.200	0.010	0.010	UG/L
38761	DIBROMOCHLOROPROPANE (DBCP)	2015-07-21	<	0000000000	0.200	0.010	0.010	UG/L
38710	BENTAZON	2008-04-15	<	.0000	18.000	2.000	2.000	UG/L
38710	BENTAZON	2008-06-17	<	.0000	18.000	2.000	2.000	UG/L
38710	BENTAZON	2009-07-07	<	.0000	18.000	2.000	2.000	UG/L
38710	BENTAZON	2012-08-14	<	.0000	18.000	2.000	2.000	UG/L
38710	BENTAZON	2015-07-21	<	0000000000	18.000	2.000	2.000	UG/L
38432	DALAPON	2008-01-08	<	.0000	200.000	10.000	10.000	UG/L
38432	DALAPON	2008-04-15	<	.0000	200.000	10.000	10.000	UG/L
38432	DALAPON	2008-06-17	<	.0000	200.000	10.000	10.000	UG/L
38432	DALAPON	2009-07-07	<	.0000	200.000	10.000	10.000	UG/L
38432	DALAPON	2012-08-14	<	.0000	200.000	10.000	10.000	UG/L
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#### Water Quality Sampling Results

Storet Number	Group/Constituent Identification	Sampling Date	XMOD	Result	MCL	DLR	Trigger	Unit
38432	DALAPON	2015-07-21	<	0000000000	200.000	10.000	10.000	UG/L
38260	FOAMING AGENTS (MBAS)	2008-01-08	<	.0000	0.500	0.000	0.500	MG/L
38260	FOAMING AGENTS (MBAS)	2009-07-07	<	.0000	0.500	0.000	0.500	MG/L
38260	FOAMING AGENTS (MBAS)	2012-08-14	<	.0000	0.500	0.000	0.500	MG/L
38260	FOAMING AGENTS (MBAS)	2015-07-21	<	0000000000	0.500	0.000	0.500	MG/L
38260	FOAMING AGENTS (MBAS)	2018-07-18	<	0.10	0.500	0.000	0.500	MG/L
34676	2,3,7,8-TCDD (DIOXIN)	2008-06-17	<	.0000	30.000	5.000	5.000	PG/L
34676	2,3,7,8-TCDD (DIOXIN)	2009-07-07	<	.0000	30.000	5.000	5.000	PG/L
34676	2,3,7,8-TCDD (DIOXIN)	2012-08-14	<	5.0000	30.000	5.000	5.000	PG/L
34676	2,3,7,8-TCDD (DIOXIN)	2015-07-21	<	5.0000	30.000	5.000	5.000	PG/L
34668	DICHLORODIFLUOROMETHANE (FREON 12)	2008-01-08	<	.0000	0.000	0.500	1000.000	UG/L
34668	DICHLORODIFLUOROMETHANE (FREON 12)	2008-04-15	<	.0000	0.000	0.500	1000.000	UG/L
34668	DICHLORODIFLUOROMETHANE (FREON 12)	2008-06-17	<	.0000	0.000	0.500	1000.000	UG/L
34571	1,4-DICHLOROBENZENE	2008-04-15	<	.0000	5.000	0.500	0.500	UG/L
34571	1,4-DICHLOROBENZENE	2008-06-17	<	.0000	5.000	0.500	0.500	UG/L
34571	1,4-DICHLOROBENZENE	2009-07-07	<	.0000	5.000	0.500	0.500	UG/L
34571	1,4-DICHLOROBENZENE	2012-08-14	<	.0000	5.000	0.500	0.500	UG/L
34571	1,4-DICHLOROBENZENE	2015-07-21	<	0000000000	5.000	0.500	0.500	UG/L
34561	1,3-DICHLOROPROPENE (TOTAL)	2008-04-15	<	.0000	0.500	0.500	0.500	UG/L
34561	1,3-DICHLOROPROPENE (TOTAL)	2008-06-17	<	.0000	0.500	0.500	0.500	UG/L
34561	1,3-DICHLOROPROPENE (TOTAL)	2009-07-07	<	.0000	0.500	0.500	0.500	UG/L
34561	1,3-DICHLOROPROPENE (TOTAL)	2012-08-14	<	.0000	0.500	0.500	0.500	UG/L
34561	1,3-DICHLOROPROPENE (TOTAL)	2015-07-21	<	0000000000	0.500	0.500	0.500	UG/L
34551	1,2,4-TRICHLOROBENZENE	2008-04-15	<	.0000	5.000	0.500	0.500	UG/L
34551	1,2,4-TRICHLOROBENZENE	2008-06-17	<	.0000	5.000	0.500	0.500	UG/L
34551	1,2,4-TRICHLOROBENZENE	2009-07-07	<	.0000	5.000	0.500	0.500	UG/L
34551	1,2,4-TRICHLOROBENZENE	2012-08-14	<	.0000	5.000	0.500	0.500	UG/L
34551	1,2,4-TRICHLOROBENZENE	2015-07-21	<	0000000000	5.000	0.500	0.500	UG/L
34546	TRANS-1,2-DICHLOROETHYLENE	2008-04-15	<	.0000	10.000	0.500	0.500	UG/L
34546	TRANS-1,2-DICHLOROETHYLENE	2008-06-17	<	.0000	10.000	0.500	0.500	UG/L
34546	TRANS-1,2-DICHLOROETHYLENE	2009-07-07	<	.0000	10.000	0.500	0.500	UG/L
34546	TRANS-1,2-DICHLOROETHYLENE	2012-08-14	<	.0000	10.000	0.500	0.500	UG/L
34546	TRANS-1,2-DICHLOROETHYLENE	2015-07-21	<	0000000000	10.000	0.500	0.500	UG/L
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Storet Number	Group/Constituent Identification	Sampling Date	XMOD	Result	MCL	DLR	Trigger	Unit
34541	1,2-DICHLOROPROPANE	2008-04-15	<	.0000	5.000	0.500	0.500	UG/L
34541	1,2-DICHLOROPROPANE	2008-06-17	<	.0000	5.000	0.500	0.500	UG/L
34541	1,2-DICHLOROPROPANE	2009-07-07	<	.0000	5.000	0.500	0.500	UG/L
34541	1,2-DICHLOROPROPANE	2012-08-14	<	.0000	5.000	0.500	0.500	UG/L
34541	1,2-DICHLOROPROPANE	2015-07-21	<	0000000000	5.000	0.500	0.500	UG/L
34536	1,2-DICHLOROBENZENE	2008-04-15	<	.0000	600.000	0.500	0.500	UG/L
34536	1,2-DICHLOROBENZENE	2008-06-17	<	.0000	600.000	0.500	0.500	UG/L
34536	1,2-DICHLOROBENZENE	2009-07-07	<	.0000	600.000	0.500	0.500	UG/L
34536	1,2-DICHLOROBENZENE	2012-08-14	<	.0000	600.000	0.500	0.500	UG/L
34536	1,2-DICHLOROBENZENE	2015-07-21	<	0000000000	600.000	0.500	0.500	UG/L
34531	1,2-DICHLOROETHANE	2008-04-15	<	.0000	0.500	0.500	0.500	UG/L
34531	1,2-DICHLOROETHANE	2008-06-17	<	.0000	0.500	0.500	0.500	UG/L
34531	1,2-DICHLOROETHANE	2009-07-07	<	.0000	0.500	0.500	0.500	UG/L
34531	1,2-DICHLOROETHANE	2012-08-14	<	.0000	0.500	0.500	0.500	UG/L
34531	1,2-DICHLOROETHANE	2015-07-21	<	0000000000	0.500	0.500	0.500	UG/L
34516	1,1,2,2-TETRACHLOROETHANE	2008-04-15	<	.0000	1.000	0.500	0.500	UG/L
34516	1,1,2,2-TETRACHLOROETHANE	2008-06-17	<	.0000	1.000	0.500	0.500	UG/L
34516	1,1,2,2-TETRACHLOROETHANE	2009-07-07	<	.0000	1.000	0.500	0.500	UG/L
34516	1,1,2,2-TETRACHLOROETHANE	2012-08-14	<	.0000	1.000	0.500	0.500	UG/L
34516	1,1,2,2-TETRACHLOROETHANE	2015-07-21	<	0000000000	1.000	0.500	0.500	UG/L
34511	1,1,2-TRICHLOROETHANE	2008-04-15	<	.0000	5.000	0.500	0.500	UG/L
34511	1,1,2-TRICHLOROETHANE	2008-06-17	<	.0000	5.000	0.500	0.500	UG/L
34511	1,1,2-TRICHLOROETHANE	2009-07-07	<	.0000	5.000	0.500	0.500	UG/L
34511	1,1,2-TRICHLOROETHANE	2012-08-14	<	.0000	5.000	0.500	0.500	UG/L
34511	1,1,2-TRICHLOROETHANE	2015-07-21	<	0000000000	5.000	0.500	0.500	UG/L
34506	1,1,1-TRICHLOROETHANE	2008-04-15	<	.0000	200.000	0.500	0.500	UG/L
34506	1,1,1-TRICHLOROETHANE	2008-06-17	<	.0000	200.000	0.500	0.500	UG/L
34506	1,1,1-TRICHLOROETHANE	2009-07-07	<	.0000	200.000	0.500	0.500	UG/L
34506	1,1,1-TRICHLOROETHANE	2012-08-14	<	.0000	200.000	0.500	0.500	UG/L
34506	1,1,1-TRICHLOROETHANE	2015-07-21	<	0000000000	200.000	0.500	0.500	UG/L
34501	1,1-DICHLOROETHYLENE	2008-04-15	<	.0000	6.000	0.500	0.500	UG/L
34501	1,1-DICHLOROETHYLENE	2008-06-17	<	.0000	6.000	0.500	0.500	UG/L
34501	1,1-DICHLOROETHYLENE	2009-07-07	<	.0000	6.000	0.500	0.500	UG/L
34501	1,1-DICHLOROETHYLENE	2012-08-14	<	.0000	6.000	0.500	0.500	UG/L

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Storet Number	Group/Constituent Identification	Sampling Date	XMOD	Result	MCL	DLR	Trigger	Unit
34501	1,1-DICHLOROETHYLENE	2015-07-21	<	0000000000	6.000	0.500	0.500	UG/L
34496	1,1-DICHLOROETHANE	2008-04-15	<	.0000	5.000	0.500	0.500	UG/L
34496	1,1-DICHLOROETHANE	2008-06-17	<	.0000	5.000	0.500	0.500	UG/L
34496	1,1-DICHLOROETHANE	2009-07-07	<	.0000	5.000	0.500	0.500	UG/L
34496	1,1-DICHLOROETHANE	2012-08-14	<	.0000	5.000	0.500	0.500	UG/L
34496	1,1-DICHLOROETHANE	2015-07-21	<	0000000000	5.000	0.500	0.500	UG/L
34488	TRICHLOROFLUOROMETHANE FREON 11	2008-04-15	<	.0000	150.000	5.000	5.000	UG/L
34488	TRICHLOROFLUOROMETHANE FREON 11	2008-06-17	<	.0000	150.000	5.000	5.000	UG/L
34488	TRICHLOROFLUOROMETHANE FREON 11	2009-07-07	<	.0000	150.000	5.000	5.000	UG/L
34488	TRICHLOROFLUOROMETHANE FREON 11	2012-08-14	<	.0000	150.000	5.000	5.000	UG/L
34488	TRICHLOROFLUOROMETHANE FREON 11	2015-07-21	<	0000000000	150.000	5.000	5.000	UG/L
34475	TETRACHLOROETHYLENE	2008-04-15	<	.0000	5.000	0.500	0.500	UG/L
34475	TETRACHLOROETHYLENE	2008-06-17	<	.0000	5.000	0.500	0.500	UG/L
34475	TETRACHLOROETHYLENE	2009-07-07	<	.0000	5.000	0.500	0.500	UG/L
34475	TETRACHLOROETHYLENE	2012-08-14	<	.0000	5.000	0.500	0.500	UG/L
34475	TETRACHLOROETHYLENE	2015-07-21	<	0000000000	5.000	0.500	0.500	UG/L
34423	DICHLOROMETHANE	2008-04-15	<	.0000	5.000	0.500	0.500	UG/L
34423	DICHLOROMETHANE	2008-06-17	<	.0000	5.000	0.500	0.500	UG/L
34423	DICHLOROMETHANE	2009-07-07	<	.0000	5.000	0.500	0.500	UG/L
34423	DICHLOROMETHANE	2012-08-14	<	.0000	5.000	0.500	0.500	UG/L
34423	DICHLOROMETHANE	2015-07-21	<	0000000000	5.000	0.500	0.500	UG/L
34386	HEXACHLOROCYCLOPENTADIENE	2008-01-08	<	.0000	50.000	1.000	1.000	UG/L
34386	HEXACHLOROCYCLOPENTADIENE	2008-04-15	<	.0000	50.000	1.000	1.000	UG/L
34386	HEXACHLOROCYCLOPENTADIENE	2008-06-17	<	.0000	50.000	1.000	1.000	UG/L
34386	HEXACHLOROCYCLOPENTADIENE	2009-07-07	<	.0000	50.000	1.000	1.000	UG/L
34386	HEXACHLOROCYCLOPENTADIENE	2012-08-14	<	.0000	50.000	1.000	1.000	UG/L
34386	HEXACHLOROCYCLOPENTADIENE	2015-07-21	<	0000000000	50.000	1.000	1.000	UG/L
34371	ETHYL BENZENE	2008-04-15	<	.0000	300.000	0.500	0.500	UG/L
34371	ETHYL BENZENE	2008-06-17	<	.0000	300.000	0.500	0.500	UG/L
34371	ETHYL BENZENE	2009-07-07	<	.0000	300.000	0.500	0.500	UG/L
34371	ETHYL BENZENE	2012-08-14	<	.0000	300.000	0.500	0.500	UG/L
34371	ETHYL BENZENE	2015-07-21	<	0000000000	300.000	0.500	0.500	UG/L
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Storet Number	Group/Constituent Identification	Sampling Date	XMOD	Result	MCL	DLR	Trigger	Unit
34301	MONOCHLOROBENZENE	2008-04-15	<	.0000	70.000	0.500	0.500	UG/L
34301	MONOCHLOROBENZENE	2008-06-17	<	.0000	70.000	0.500	0.500	UG/L
34301	MONOCHLOROBENZENE	2009-07-07	<	.0000	70.000	0.500	0.500	UG/L
34301	MONOCHLOROBENZENE	2012-08-14	<	.0000	70.000	0.500	0.500	UG/L
34301	MONOCHLOROBENZENE	2015-07-21	<	0000000000	70.000	0.500	0.500	UG/L
34247	BENZO (A) PYRENE	2008-01-08	<	.1000	0.200	0.100	0.100	UG/L
34247	BENZO (A) PYRENE	2008-04-15	<	.0000	0.200	0.100	0.100	UG/L
34247	BENZO (A) PYRENE	2008-06-17	<	.0000	0.200	0.100	0.100	UG/L
34247	BENZO (A) PYRENE	2009-07-07	<	.0000	0.200	0.100	0.100	UG/L
34247	BENZO (A) PYRENE	2012-08-14	<	.0000	0.200	0.100	0.100	UG/L
34247	BENZO (A) PYRENE	2015-07-21	<	0000000000	0.200	0.100	0.100	UG/L
34030	BENZENE	2008-04-15	<	.0000	1.000	0.500	0.500	UG/L
34030	BENZENE	2008-06-17	<	.0000	1.000	0.500	0.500	UG/L
34030	BENZENE	2009-07-07	<	.0000	1.000	0.500	0.500	UG/L
34030	BENZENE	2012-08-14	<	.0000	1.000	0.500	0.500	UG/L
34030	BENZENE	2015-07-21	<	0000000000	1.000	0.500	0.500	UG/L
34010	TOLUENE	2008-04-15	<	.0000	150.000	0.500	0.500	UG/L
34010	TOLUENE	2008-06-17	<	.0000	150.000	0.500	0.500	UG/L
34010	TOLUENE	2009-07-07	<	.0000	150.000	0.500	0.500	UG/L
34010	TOLUENE	2012-08-14	<	.0000	150.000	0.500	0.500	UG/L
34010	TOLUENE	2015-07-21	<	0000000000	150.000	0.500	0.500	UG/L
32106	CHLOROFORM (THM)	2008-04-15	<	.0000	80.000	1.000	80.000	UG/L
32106	CHLOROFORM (THM)	2008-06-17	<	.0000	80.000	1.000	80.000	UG/L
32106	CHLOROFORM (THM)	2009-07-07	<	.0000	80.000	1.000	80.000	UG/L
32106	CHLOROFORM (THM)	2012-08-14	<	.0000	80.000	1.000	80.000	UG/L
32106	CHLOROFORM (THM)	2015-07-21	<	0000000000	0.000	1.000	0.000	UG/L
32105	DIBROMOCHLOROMETHANE (THM)	2008-04-15	<	.0000	80.000	1.000	80.000	UG/L
32105	DIBROMOCHLOROMETHANE (THM)	2008-06-17	<	.0000	80.000	1.000	80.000	UG/L
32105	DIBROMOCHLOROMETHANE (THM)	2009-07-07	<	.0000	80.000	1.000	80.000	UG/L
32105	DIBROMOCHLOROMETHANE (THM)	2012-08-14	<	.0000	80.000	1.000	80.000	UG/L
32105	DIBROMOCHLOROMETHANE (THM)	2015-07-21	<	0000000000	0.000	1.000	0.000	UG/L
32104	BROMOFORM (THM)	2008-04-15	<	.0000	80.000	1.000	80.000	UG/L
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Storet Number	Group/Constituent Identification	Sampling Date	XMOD	Result	MCL	DLR	Trigger	Unit
32104	BROMOFORM (THM)	2008-06-17	<	.0000	80.000	1.000	80.000	UG/L
32104	BROMOFORM (THM)	2009-07-07	<	.0000	80.000	1.000	80.000	UG/L
32104	BROMOFORM (THM)	2012-08-14	<	.0000	80.000	1.000	80.000	UG/L
32104	BROMOFORM (THM)	2015-07-21	<	0000000000	0.000	1.000	0.000	UG/L
32102	CARBON TETRACHLORIDE	2008-04-15	<	.0000	0.500	0.500	0.500	UG/L
32102	CARBON TETRACHLORIDE	2008-06-17	<	.0000	0.500	0.500	0.500	UG/L
32102	CARBON TETRACHLORIDE	2009-07-07	<	.0000	0.500	0.500	0.500	UG/L
32102	CARBON TETRACHLORIDE	2012-08-14	<	.0000	0.500	0.500	0.500	UG/L
32102	CARBON TETRACHLORIDE	2015-07-21	<	0000000000	0.500	0.500	0.500	UG/L
32101	BROMODICHLOROMETHANE (THM)	2008-04-15	<	.0000	80.000	1.000	80.000	UG/L
32101	BROMODICHLOROMETHANE (THM)	2008-06-17	<	.0000	80.000	1.000	80.000	UG/L
32101	BROMODICHLOROMETHANE (THM)	2009-07-07	<	.0000	80.000	1.000	80.000	UG/L
32101	BROMODICHLOROMETHANE (THM)	2012-08-14	<	.0000	80.000	1.000	80.000	UG/L
32101	BROMODICHLOROMETHANE (THM)	2015-07-21	<	0000000000	0.000	1.000	0.000	UG/L
28012	URANIUM (PCI/L)	2019-01-23		1.3	20.000	1.000	20.000	PCI/L
28012	URANIUM (PCI/L)	2019-02-06		1.2	20.000	1.000	20.000	PCI/L
11502	RADIUM 228 COUNTING ERROR	2008-02-12		.5770	0.000	0.000	0.000	PCI/L
11502	RADIUM 228 COUNTING ERROR	2008-04-15		.5260	0.000	0.000	0.000	PCI/L
11502	RADIUM 228 COUNTING ERROR	2008-09-16		.8470	0.000	0.000	0.000	PCI/L
11501	RADIUM 228	2008-02-12		.2490	0.000	1.000	0.000	PCI/L
11501	RADIUM 228	2008-04-15	<	.0000	0.000	1.000	0.000	PCI/L
11501	RADIUM 228	2008-09-16		.5120	0.000	1.000	0.000	PCI/L
01502	GROSS ALPHA COUNTING ERROR	2008-02-12		.9300	0.000	0.000	0.000	PCI/L
01502	GROSS ALPHA COUNTING ERROR	2008-04-15		.8700	0.000	0.000	0.000	PCI/L
01502	GROSS ALPHA COUNTING ERROR	2008-09-16		.9900	0.000	0.000	0.000	PCI/L
01502	GROSS ALPHA COUNTING ERROR	2009-07-07		.9400	0.000	0.000	0.000	PCI/L
01502	GROSS ALPHA COUNTING ERROR	2012-08-14		1.0000	0.000	0.000	0.000	PCI/L
01502	GROSS ALPHA COUNTING ERROR	2015-07-21		1.5	0.000	0.000	0.000	PCI/L
01502	GROSS ALPHA COUNTING ERROR	2019-01-23		0.269	0.000	0.000	0.000	PCI/L
01502	GROSS ALPHA COUNTING ERROR	2019-02-06		0.191	0.000	0.000	0.000	PCI/L
01501	GROSS ALPHA	2008-02-12	<	.0000	15.000	3.000	5.000	PCI/L
01501	GROSS ALPHA	2008-04-15	<	.0000	15.000	3.000	5.000	PCI/L
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Storet Number	Group/Constituent Identification	Sampling Date	XMOD	Result	MCL	DLR	Trigger	Unit
01501	GROSS ALPHA	2008-09-16	<	.0000	15.000	3.000	5.000	PCI/L
01501	GROSS ALPHA	2009-07-07	<	.0000	15.000	3.000	5.000	PCI/L
01501	GROSS ALPHA	2012-08-14	<	.0000	15.000	3.000	5.000	PCI/L
01501	GROSS ALPHA	2015-07-21		6.6	15.000	3.000	5.000	PCI/L
01501	GROSS ALPHA	2019-01-23	<	0000000000	15.000	3.000	5.000	PCI/L
01501	GROSS ALPHA	2019-02-06	<	0000000000	15.000	3.000	5.000	PCI/L
01291	CYANIDE	2008-01-08	<	.0000	150.000	100.000	150.000	UG/L
01291	CYANIDE	2009-07-07	<	.0000	150.000	100.000	150.000	UG/L
01291	CYANIDE	2012-08-14	<	.0000	150.000	100.000	150.000	UG/L
01291	CYANIDE	2015-07-21	<	0000000000	150.000	100.000	150.000	UG/L
01147	SELENIUM	2008-01-08	<	.0000	50.000	5.000	50.000	UG/L
01147	SELENIUM	2009-07-07	<	.0000	50.000	5.000	50.000	UG/L
01147	SELENIUM	2012-08-14	<	.0000	50.000	5.000	50.000	UG/L
01147	SELENIUM	2015-07-21	<	0000000000	50.000	5.000	50.000	UG/L
01147	SELENIUM	2018-07-18	<	2.0	50.000	5.000	50.000	UG/L
01105	ALUMINUM	2008-01-08	<	.0000	1000.000	50.000	200.000	UG/L
01105	ALUMINUM	2009-07-07	<	.0000	1000.000	50.000	200.000	UG/L
01105	ALUMINUM	2012-08-14	<	.0000	1000.000	50.000	200.000	UG/L
01105	ALUMINUM	2015-07-21	<	0000000000	1000.000	50.000	200.000	UG/L
01105	ALUMINUM	2018-07-18	<	50	1000.000	50.000	200.000	UG/L
01097	ANTIMONY	2008-01-08	<	.0000	6.000	6.000	6.000	UG/L
01097	ANTIMONY	2009-07-07	<	.0000	6.000	6.000	6.000	UG/L
01097	ANTIMONY	2012-08-14	<	.0000	6.000	6.000	6.000	UG/L
01097	ANTIMONY	2015-07-21	<	0000000000	6.000	6.000	6.000	UG/L
01097	ANTIMONY	2018-07-18	<	2.0	6.000	6.000	6.000	UG/L
01092	ZINC	2008-01-08	<	.0000	5000.000	50.000	5000.000	UG/L
01092	ZINC	2009-07-07	<	.0000	5000.000	50.000	5000.000	UG/L
01092	ZINC	2012-08-14	<	.0000	5000.000	50.000	5000.000	UG/L
01092	ZINC	2015-07-21	<	0000000000	5000.000	50.000	5000.000	UG/L
01092	ZINC	2018-07-18	<	50	5000.000	50.000	5000.000	UG/L
01087	VANADIUM	2008-01-08		16.0000	0.000	3.000	50.000	UG/L
01087	VANADIUM	2009-07-07		22.0000	0.000	3.000	50.000	UG/L
01087	VANADIUM	2012-08-14		18.0000	0.000	3.000	50.000	UG/L
01087	VANADIUM	2015-07-21		19	0.000	3.000	50.000	UG/L

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Storet Number	Group/Constituent Identification	Sampling Date	XMOD	Result	MCL	DLR	Trigger	Unit
01077	SILVER	2008-01-08	<	.0000	100.000	10.000	100.000	UG/L
01077	SILVER	2009-07-07	<	.0000	100.000	10.000	100.000	UG/L
01077	SILVER	2012-08-14	<	.0000	100.000	10.000	100.000	UG/L
01077	SILVER	2015-07-21	<	0000000000	100.000	10.000	100.000	UG/L
01077	SILVER	2018-07-18	<	10	100.000	10.000	100.000	UG/L
01067	NICKEL	2008-01-08	<	.0000	100.000	10.000	100.000	UG/L
01067	NICKEL	2009-07-07	<	.0000	100.000	10.000	100.000	UG/L
01067	NICKEL	2012-08-14	<	.0000	100.000	10.000	100.000	UG/L
01067	NICKEL	2015-07-21	<	0000000000	100.000	10.000	100.000	UG/L
01067	NICKEL	2018-07-18	<	10	100.000	10.000	100.000	UG/L
01059	THALLIUM	2008-01-08	<	.0000	2.000	1.000	2.000	UG/L
01059	THALLIUM	2009-07-07	<	.0000	2.000	1.000	2.000	UG/L
01059	THALLIUM	2012-08-14	<	.0000	2.000	1.000	2.000	UG/L
01059	THALLIUM	2015-07-21	<	0000000000	2.000	1.000	2.000	UG/L
01059	THALLIUM	2018-07-18	<	1.0	2.000	1.000	2.000	UG/L
01055	MANGANESE	2008-01-08	<	.0000	50.000	20.000	50.000	UG/L
01055	MANGANESE	2009-07-07	<	.0000	50.000	20.000	50.000	UG/L
01055	MANGANESE	2012-08-14	<	.0000	50.000	20.000	50.000	UG/L
01055	MANGANESE	2015-07-21	<	0000000000	50.000	20.000	50.000	UG/L
01055	MANGANESE	2018-07-18	<	10	50.000	20.000	50.000	UG/L
01051	LEAD	2008-01-08	<	.0000	0.000	5.000	15.000	UG/L
01051	LEAD	2009-07-07	<	.0000	0.000	5.000	15.000	UG/L
01051	LEAD	2012-08-14	<	.0000	0.000	5.000	15.000	UG/L
01051	LEAD	2015-07-21	<	0000000000	0.000	5.000	15.000	UG/L
01051	LEAD	2018-07-18	<	1.0	0.000	5.000	15.000	UG/L
01045	IRON	2008-01-08	<	.0000	300.000	100.000	300.000	UG/L
01045	IRON	2009-07-07	<	.0000	300.000	100.000	300.000	UG/L
01045	IRON	2012-08-14	<	.0000	300.000	100.000	300.000	UG/L
01045	IRON	2015-07-21	<	0000000000	300.000	100.000	300.000	UG/L
01045	IRON	2018-07-18	<	50	300.000	100.000	300.000	UG/L
01042	COPPER	2008-01-08	<	.0000	1000.000	50.000	1000.000	UG/L
01042	COPPER	2009-07-07	<	.0000	1000.000	50.000	1000.000	UG/L
01042	COPPER	2012-08-14	<	.0000	1000.000	50.000	1000.000	UG/L
01042	COPPER	2015-07-21	<	0000000000	1000.000	50.000	1000.000	UG/L

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01042	COPPER	2018-07-18	<	10	1000.000	50.000	1000.000	UG/L
01034	CHROMIUM (TOTAL)	2008-01-08	<	.0000	50.000	10.000	50.000	UG/L
01034	CHROMIUM (TOTAL)	2009-07-07	<	.0000	50.000	10.000	50.000	UG/L
01034	CHROMIUM (TOTAL)	2012-08-14	<	.0000	50.000	10.000	50.000	UG/L
01034	CHROMIUM (TOTAL)	2015-07-21	<	0000000000	50.000	10.000	50.000	UG/L
01034	CHROMIUM (TOTAL)	2015-11-17	<	0000000000	50.000	10.000	50.000	UG/L
01034	CHROMIUM (TOTAL)	2018-07-18	<	10	50.000	10.000	50.000	UG/L
01032	CHROMIUM, HEXAVALENT	2013-05-14		8.1000	0.000	0.000	0.000	UG/L
01032	CHROMIUM, HEXAVALENT	2015-07-21		7.5	10.000	1.000	10.000	UG/L
01032	CHROMIUM, HEXAVALENT	2015-08-25		7.7	10.000	1.000	10.000	UG/L
01032	CHROMIUM, HEXAVALENT	2015-12-15		8.1	10.000	1.000	10.000	UG/L
01032	CHROMIUM, HEXAVALENT	2016-03-15		8.4	10.000	1.000	10.000	UG/L
01032	CHROMIUM, HEXAVALENT	2016-06-07		7.5	10.000	1.000	10.000	UG/L
01032	CHROMIUM, HEXAVALENT	2016-09-06		7.8	10.000	1.000	10.000	UG/L
01032	CHROMIUM, HEXAVALENT	2016-11-29		3.1	10.000	1.000	10.000	UG/L
01032	CHROMIUM, HEXAVALENT	2017-02-28		8.2	10.000	1.000	10.000	UG/L
01027	CADMIUM	2008-01-08	<	.0000	5.000	1.000	5.000	UG/L
01027	CADMIUM	2009-07-07	<	.0000	5.000	1.000	5.000	UG/L
01027	CADMIUM	2012-08-14	<	.0000	5.000	1.000	5.000	UG/L
01027	CADMIUM	2015-07-21	<	0000000000	5.000	1.000	5.000	UG/L
01027	CADMIUM	2018-07-18	<	1.0	5.000	1.000	5.000	UG/L
01020	BORON	2008-01-08	<	.0000	0.000	100.000	1000.000	UG/L
01020	BORON	2009-07-07		110.0000	0.000	100.000	1000.000	UG/L
01020	BORON	2012-08-14	<	.0000	0.000	100.000	1000.000	UG/L
01020	BORON	2015-07-21		130	0.000	100.000	1000.000	UG/L
01012	BERYLLIUM	2008-01-08	<	.0000	4.000	1.000	4.000	UG/L
01012	BERYLLIUM	2009-07-07	<	.0000	4.000	1.000	4.000	UG/L
01012	BERYLLIUM	2012-08-14	<	.0000	4.000	1.000	4.000	UG/L
01012	BERYLLIUM	2015-07-21	<	0000000000	4.000	1.000	4.000	UG/L
01012	BERYLLIUM	2018-07-18	<	1.0	4.000	1.000	4.000	UG/L
01007	BARIUM	2008-01-08	<	.0000	1000.000	100.000	1000.000	UG/L
01007	BARIUM	2009-07-07	<	.0000	1000.000	100.000	1000.000	UG/L
01007	BARIUM	2012-08-14	<	.0000	1000.000	100.000	1000.000	UG/L
01007	BARIUM	2015-07-21	<	0000000000	1000.000	100.000	1000.000	UG/L

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01007	BARIUM	2018-07-18		38	1000.000	100.000	1000.000	UG/L
01002	ARSENIC	2008-01-08		16.0000	10.000	2.000	5.000	UG/L
01002	ARSENIC	2008-02-12		18.0000	10.000	2.000	5.000	UG/L
01002	ARSENIC	2008-05-06		8.8000	10.000	2.000	5.000	UG/L
01002	ARSENIC	2008-08-05		18.0000	10.000	2.000	5.000	UG/L
01002	ARSENIC	2008-12-16		16.0000	10.000	2.000	5.000	UG/L
01002	ARSENIC	2009-02-17		15.0000	10.000	2.000	5.000	UG/L
01002	ARSENIC	2009-05-05		15.0000	10.000	2.000	5.000	UG/L
01002	ARSENIC	2009-06-09		17.0000	10.000	2.000	5.000	UG/L
01002	ARSENIC	2009-07-07		18.0000	10.000	2.000	5.000	UG/L
01002	ARSENIC	2009-08-18		18.0000	10.000	2.000	5.000	UG/L
01002	ARSENIC	2009-11-03		17.0000	10.000	2.000	5.000	UG/L
01002	ARSENIC	2010-02-09		14.0000	10.000	2.000	5.000	UG/L
01002	ARSENIC	2010-06-01		20.0000	10.000	2.000	5.000	UG/L
01002	ARSENIC	2010-08-24		19.0000	10.000	2.000	5.000	UG/L
01002	ARSENIC	2010-11-09		18.0000	10.000	2.000	5.000	UG/L
01002	ARSENIC	2011-02-15		13.0000	10.000	2.000	5.000	UG/L
01002	ARSENIC	2011-06-14		18.0000	10.000	2.000	5.000	UG/L
01002	ARSENIC	2011-08-16		18.0000	10.000	2.000	5.000	UG/L
01002	ARSENIC	2011-11-08		18.0000	10.000	2.000	5.000	UG/L
01002	ARSENIC	2012-02-14		19.0000	10.000	2.000	5.000	UG/L
01002	ARSENIC	2012-05-29		18.0000	10.000	2.000	5.000	UG/L
01002	ARSENIC	2012-08-07		19.0000	10.000	2.000	5.000	UG/L
01002	ARSENIC	2012-08-14		18.0000	10.000	2.000	5.000	UG/L
01002	ARSENIC	2012-11-13		18.0000	10.000	2.000	5.000	UG/L
01002	ARSENIC	2013-02-19		18.0000	10.000	2.000	5.000	UG/L
01002	ARSENIC	2013-05-14		19.0000	10.000	2.000	5.000	UG/L
01002	ARSENIC	2013-08-13		19.0000	10.000	2.000	5.000	UG/L
01002	ARSENIC	2013-11-12		19.0000	10.000	2.000	5.000	UG/L
01002	ARSENIC	2014-02-18		18.0000	10.000	2.000	5.000	UG/L
01002	ARSENIC	2014-05-06		19.0000	10.000	2.000	5.000	UG/L
01002	ARSENIC	2014-08-19		21.0000	10.000	2.000	5.000	UG/L
01002	ARSENIC	2014-11-18		17.0000	10.000	2.000	5.000	UG/L
01002	ARSENIC	2015-02-17		18.0000	10.000	2.000	5.000	UG/L

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01002	ARSENIC	2015-05-19		21.0000	10.000	2.000	5.000	UG/L
01002	ARSENIC	2015-07-21		19	10.000	2.000	5.000	UG/L
01002	ARSENIC	2015-08-25		20	10.000	2.000	5.000	UG/L
01002	ARSENIC	2015-11-17		18	10.000	2.000	5.000	UG/L
01002	ARSENIC	2016-03-15		19	10.000	2.000	5.000	UG/L
01002	ARSENIC	2016-06-07		31	10.000	2.000	5.000	UG/L
01002	ARSENIC	2016-06-28		24	10.000	2.000	5.000	UG/L
01002	ARSENIC	2016-09-06		26	10.000	2.000	5.000	UG/L
01002	ARSENIC	2016-11-29		14	10.000	2.000	5.000	UG/L
01002	ARSENIC	2017-02-28		17	10.000	2.000	5.000	UG/L
01002	ARSENIC	2017-04-03		18	10.000	2.000	5.000	UG/L
01002	ARSENIC	2017-09-07		23	10.000	2.000	5.000	UG/L
01002	ARSENIC	2017-10-03		22	10.000	2.000	5.000	UG/L
01002	ARSENIC	2018-01-10		20	10.000	2.000	5.000	UG/L
01002	ARSENIC	2018-04-05		19	10.000	2.000	5.000	UG/L
01002	ARSENIC	2018-07-18		22	10.000	2.000	5.000	UG/L
01002	ARSENIC	2018-10-03		22	10.000	2.000	5.000	UG/L
01002	ARSENIC	2018-10-03		20	10.000	2.000	5.000	UG/L
01002	ARSENIC	2019-02-06		21	10.000	2.000	5.000	UG/L
01002	ARSENIC	2019-08-07		22	10.000	2.000	5.000	UG/L
01002	ARSENIC	2019-11-06		21	10.000	2.000	5.000	UG/L
01002	ARSENIC	2020-01-02		19	10.000	2.000	5.000	UG/L
00951	FLUORIDE (F) (NATURAL-SOURCE)	2008-01-08		.1500	2.000	0.100	2.000	MG/L
00951	FLUORIDE (F) (NATURAL-SOURCE)	2009-07-07		.1800	2.000	0.100	2.000	MG/L
00951	FLUORIDE (F) (NATURAL-SOURCE)	2012-08-14		.1800	2.000	0.100	2.000	MG/L
00951	FLUORIDE (F) (NATURAL-SOURCE)	2015-07-21		0.17	2.000	0.100	2.000	MG/L
00951	FLUORIDE (F) (NATURAL-SOURCE)	2018-07-18		0.12	2.000	0.100	2.000	MG/L
00945	SULFATE	2008-01-08		66.0000	500.000	0.500	250.000	MG/L
00945	SULFATE	2009-07-07		63.0000	500.000	0.500	250.000	MG/L
00945	SULFATE	2012-08-14		73.0000	500.000	0.500	250.000	MG/L
00945	SULFATE	2015-07-21		66	500.000	0.500	250.000	MG/L
00945	SULFATE	2018-07-18		63	500.000	0.500	250.000	MG/L
00940	CHLORIDE	2008-01-08		13.0000	500.000	0.000	250.000	MG/L
00940	CHLORIDE	2009-07-07		15.0000	500.000	0.000	250.000	MG/L

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#### Water Quality Sampling Results

Storet Number	Group/Constituent Identification	Sampling Date	XMOD	Result	MCL	DLR	Trigger	Unit
00940	CHLORIDE	2012-08-14		16.0000	500.000	0.000	250.000	MG/L
00940	CHLORIDE	2015-07-21		13	500.000	0.000	250.000	MG/L
00940	CHLORIDE	2018-07-18		14	500.000	0.000	250.000	MG/L
00937	POTASSIUM	2008-01-08		1.8000	0.000	0.000	0.000	MG/L
00937	POTASSIUM	2009-07-07		2.0000	0.000	0.000	0.000	MG/L
00937	POTASSIUM	2012-08-14		1.6000	0.000	0.000	0.000	MG/L
00937	POTASSIUM	2015-07-21		1.9	0.000	0.000	0.000	MG/L
00937	POTASSIUM	2018-07-18		1.7	0.000	0.000	0.000	MG/L
00929	SODIUM	2008-01-08		42.0000	0.000	0.000	0.000	MG/L
00929	SODIUM	2009-07-07		48.0000	0.000	0.000	0.000	MG/L
00929	SODIUM	2012-08-14		50.0000	0.000	0.000	0.000	MG/L
00929	SODIUM	2015-07-21		44	0.000	0.000	0.000	MG/L
00929	SODIUM	2018-07-18		47	0.000	0.000	0.000	MG/L
00927	MAGNESIUM	2008-01-08		5.1000	0.000	0.000	0.000	MG/L
00927	MAGNESIUM	2009-07-07		5.1000	0.000	0.000	0.000	MG/L
00927	MAGNESIUM	2012-08-14		4.9000	0.000	0.000	0.000	MG/L
00927	MAGNESIUM	2015-07-21		5.2	0.000	0.000	0.000	MG/L
00927	MAGNESIUM	2018-07-18		4.9	0.000	0.000	0.000	MG/L
00916	CALCIUM	2008-01-08		38.0000	0.000	0.000	0.000	MG/L
00916	CALCIUM	2009-07-07		33.0000	0.000	0.000	0.000	MG/L
00916	CALCIUM	2012-08-14		27.0000	0.000	0.000	0.000	MG/L
00916	CALCIUM	2015-07-21		33	0.000	0.000	0.000	MG/L
00916	CALCIUM	2018-07-18		32	0.000	0.000	0.000	MG/L
00900	HARDNESS (TOTAL) AS CACO3	2008-01-08		110.0000	0.000	0.000	0.000	MG/L
00900	HARDNESS (TOTAL) AS CACO3	2009-07-07		100.0000	0.000	0.000	0.000	MG/L
00900	HARDNESS (TOTAL) AS CACO3	2012-08-14		88.0000	0.000	0.000	0.000	MG/L
00900	HARDNESS (TOTAL) AS CACO3	2015-07-21		100	0.000	0.000	0.000	MG/L
00900	HARDNESS (TOTAL) AS CACO3	2018-07-18		100	0.000	0.000	0.000	MG/L
00620	NITRITE (AS N)	2008-01-08	<	.0000	1000.000	400.000	500.000	UG/L
00620	NITRITE (AS N)	2009-07-07	<	.0000	1000.000	400.000	500.000	UG/L
00620	NITRITE (AS N)	2012-08-14	<	.0000	1000.000	400.000	500.000	UG/L
00620	NITRITE (AS N)	2015-07-21	<	0000000000	1000.000	400.000	500.000	UG/L
00620	NITRITE (AS N)	2018-07-18	<	0.050	1.000	0.400	0.500	mg/L
00618	NITRATE (AS N)	2016-08-16		0.85	10.000	0.400	5.000	mg/L

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#### Water Quality Sampling Results

Storet Number	Group/Constituent Identification	Sampling Date	XMOD	Result	MCL	DLR	Trigger	Unit
00618	NITRATE (AS N)	2017-09-07		0.90	10.000	0.400	5.000	mg/L
00618	NITRATE (AS N)	2018-07-18		0.90	10.000	0.400	5.000	mg/L
00618	NITRATE (AS N)	2019-08-07		0.90	10.000	0.400	5.000	mg/L
00445	CARBONATE ALKALINITY	2008-01-08	<	.0000	0.000	0.000	0.000	MG/L
00445	CARBONATE ALKALINITY	2009-07-07	<	.0000	0.000	0.000	0.000	MG/L
00445	CARBONATE ALKALINITY	2012-08-14	<	.0000	0.000	0.000	0.000	MG/L
00445	CARBONATE ALKALINITY	2015-07-21	<	0000000000	0.000	0.000	0.000	MG/L
00445	CARBONATE ALKALINITY	2018-07-18	<	2.5	0.000	0.000	0.000	MG/L
00440	BICARBONATE ALKALINITY	2008-01-08		140.0000	0.000	0.000	0.000	MG/L
00440	BICARBONATE ALKALINITY	2009-07-07		140.0000	0.000	0.000	0.000	MG/L
00440	BICARBONATE ALKALINITY	2012-08-14		130.0000	0.000	0.000	0.000	MG/L
00440	BICARBONATE ALKALINITY	2015-07-21		130	0.000	0.000	0.000	MG/L
00440	BICARBONATE ALKALINITY	2018-07-18		130	0.000	0.000	0.000	MG/L
00410	ALKALINITY (TOTAL) AS CACO3	2008-01-08		110.0000	0.000	0.000	0.000	MG/L
00410	ALKALINITY (TOTAL) AS CACO3	2009-07-07		110.0000	0.000	0.000	0.000	MG/L
00410	ALKALINITY (TOTAL) AS CACO3	2012-08-14		110.0000	0.000	0.000	0.000	MG/L
00410	ALKALINITY (TOTAL) AS CACO3	2015-07-21		110	0.000	0.000	0.000	MG/L
00410	ALKALINITY (TOTAL) AS CACO3	2018-07-18		110	0.000	0.000	0.000	MG/L
00403	PH, LABORATORY	2008-01-08		7.5000	0.000	0.000	0.000	
00403	PH, LABORATORY	2009-07-07		8.3000	0.000	0.000	0.000	
00403	PH, LABORATORY	2012-08-14		7.3000	0.000	0.000	0.000	
00403	PH, LABORATORY	2015-07-21		7.9	0.000	0.000	0.000	
00403	PH, LABORATORY	2018-07-18		7.95	0.000	0.000	0.000	
00095	SPECIFIC CONDUCTANCE	2008-01-08		390.0000	1600.000	0.000	900.000	US
00095	SPECIFIC CONDUCTANCE	2009-07-07		410.0000	1600.000	0.000	900.000	US
00095	SPECIFIC CONDUCTANCE	2012-08-14		410.0000	1600.000	0.000	900.000	US
00095	SPECIFIC CONDUCTANCE	2015-07-21		400	1600.000	0.000	900.000	US
00095	SPECIFIC CONDUCTANCE	2018-07-18		413	1600.000	0.000	900.000	US
00086	ODOR THRESHOLD @ 60 C	2008-01-08		1.0000	3.000	1.000	3.000	TON
00086	ODOR THRESHOLD @ 60 C	2009-07-07		1.0000	3.000	1.000	3.000	TON
00086	ODOR THRESHOLD @ 60 C	2012-08-14		1.0000	3.000	1.000	3.000	TON
00086	ODOR THRESHOLD @ 60 C	2015-07-21		1	3.000	1.000	3.000	TON
00086	ODOR THRESHOLD @ 60 C	2018-07-18		0000000000	3.000	1.000	3.000	TON
00081	COLOR	2008-01-08	<	.0000	15.000	0.000	15.000	UNITS

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Storet Number	Group/Constituent Identification	Sampling Date	XMOD	Result	MCL	DLR	Trigger	Unit
00081	COLOR	2009-07-07	<	.0000	15.000	0.000	15.000	UNITS
00081	COLOR	2012-08-14	<	.0000	15.000	0.000	15.000	UNITS
00081	COLOR	2015-07-21	<	0000000000	15.000	0.000	15.000	UNITS
00081	COLOR	2018-07-18		1.0	15.000	0.000	15.000	UNITS
00010	SOURCE TEMPERATURE C	2008-01-08		20.0000	0.000	0.000	0.000	С
00010	SOURCE TEMPERATURE C	2009-07-07		20.0000	0.000	0.000	0.000	С
00010	SOURCE TEMPERATURE C	2012-08-14		20.0000	0.000	0.000	0.000	С
00010	SOURCE TEMPERATURE C	2015-07-21		20	0.000	0.000	0.000	С
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Appendix E -

## Isolux 50 gpm Arsenic Removal Treatment System Budgetary Proposal



# WATER TREATMENT DIVISION

Date	: August 17, 2019	Quote No: WT	19-08-1323			
<b>TO:</b> AM ( 5150 Fres	Alfonso Manrique Consulting Engineers ) N 6 <sup>th</sup> St, Suite 124 no, CA 93710	Phone: 559-473-1371 Email: alfonso.manrique@am-ce.com				
RE: Page	es: 2	Deliverv To: TB	D			
Est.	Delivery: 4 to 6 weeks ARO	, , , , , , , , , , , , , , , , , , ,				
Quot	ed By: Richard Sinclair	Phone: (480) 998-4097 Fax: (480) 951-8434 Email: richards@apewater.com				
	To place an order email to	o <u>orders@apewater.</u>	<u>com</u>			
QTY	Description		Unit Price	Amount		
1	<ul> <li>ISOLUX Arsenic Removal 50 GPM Skid System         <ul> <li>(p/n ISO-50-SK), 64"L x 18"D x 75" H, as follows:</li> <li>1. Skid with two stainless steel 25 gpm ISOLUX vessels</li> <li>2. Ten 42" ISOLUX Cartridge, with the patented ISOLUX zirconium media (p/n FL-042)</li> <li>3. One stand-alone Pre-filter Housing, Stainless Steel (p/n PFFL-U 01) with any here (cartridge) filter.</li> </ul> </li> </ul>			\$52,000.00		
	<ol> <li>Required valves, ports and gauges</li> <li>One Installation &amp; Maintenance manual</li> </ol>					
	Estimated Ship Weight with cartridges: 885 lbs. (padditional)	prefilter housing				
	Estimated Shippi	ng & Handling:		TBD		
	This Quote does not include shipping or applicable Minimum order \$50.00. Credit card charges will incur a	e sales tax. surcharge of 3%.	Total:	\$52,000.00		

Appendix F -

## Isolux 5 gpm Arsenic Removal Treatment System Budgetary Proposal



# WATER TREATMENT DIVISION

Date	: September 25, 2019	Quote No: WT	19-09-1335				
TO:	Brandon Cauble	Phone: 559-4	73-1371 Ext 1	08,			
AM (	Consulting Engineers	C: 209	-596-8344				
5150	) N Sixth Street, Suite 124		- ·· -				
Fres	no, CA 93710	Email: Brando	n.Cauble@am-	·ce.com			
DE.	William Fisher Development						
RE:		Delivery To: TB	П				
Faye	<b>Delivery:</b> Six available 2 – 3 days: from stock		D				
Rem	aining ten $-10 - 12$ weeks.						
F.O.I	<b>3.:</b> Scottsdale, AZ						
Quo	ed By: Richard Sinclair	Phone: (480) 998	<b>Phone:</b> (480) 998-4097				
		Fax: (480) 951-8	434				
		Email: richards@	2apewater.com				
	To place an order email to	o <u>orders @apewater.</u>	<u>com</u>				
QTY	Description		Unit Price	Amount			
16	<b>ISOLUX 5 gpm Arsenic Removal System</b> Model ISO-5-SS (NOTE: MSRP \$3,995.00)		\$2,997.00	\$47,952.00			
	System includes:						
	<ul> <li>1) ISOLUX cartridge,</li> </ul>						
	<ul> <li>1) Air relief valve,</li> </ul>						
	• 1) 1-micron inlet filter;						
	• 1) Check valve						
	• 1) O&IVI manual						
	NOTE: Replacement cartridge price: \$600.00						
	1						
	L						
	Estimated Shippi	ng & Handling:		TBD			
	This Quote does not include applicable sale	s tax.	Total	\$47,952.00			
	winimum order \$50.00. Credit card charges will incur a	surcharge of 3%.		<i>•••••••••••••••••••••••••••••••••••••</i>			