

SUMMARY OF OPERATIONS

MONTEREY PENINSULA ASR PROJECT

WATER YEAR 2017



MAY 2019



May 20, 2019 Project No. 12-0049

Monterey Peninsula Water Management District Post Office Box 85 Monterey, California 93942-0085

Attention: Mr. Jonathan Lear, Senior Hydrogeologist

Subject: Monterey Peninsula ASR Project; Water Year 2017 Summary of Operations Report

Dear Jon:

We are transmitting two copies and one digital image (PDF) of the subject report documenting operations of the Monterey Peninsula ASR Project during Water Year 2017 (WY 2017). WY 2017 was classified as an "Extremely Wet" Water Year on the on the Monterey Peninsula, and as a result a commensurately significant volume of water totaling 2,345 acre-feet (af) was able to be diverted from the Carmel River system for recharge in the Seaside Groundwater Basin (SGB) via the ASR-1 through ASR-4 wells. To date, a total volume of approximately 7,430 af of excess Carmel River system water has been successfully injected, stored, and recovered in the SBG since the ASR project was initiated in 2001.

We appreciate the opportunity to provide ongoing assistance to the District on this important community water-supply project. Please contact us with any questions.

Sincerely,

PUEBLO WATER RESOURCES, INC.

Robert C. Marks, P.G., C.Hg

Principal Hydrogeologist

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Copies submitted: 2 hard

1 digital (PDF)



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INTRODUCTION

GENERAL STATEMENT

Presented in this report is a summary of operations of the Monterey Peninsula Aquifer Storage and Recovery (ASR) Project during Water Year 2017 (WY 2017)¹. During WY 2017, approximately 2,345 acre-feet (af) of excess flows were diverted from the Carmel River system for recharge, storage, and subsequent recovery in the Seaside Groundwater Basin (SGB). This report presents a summary of the project operations during WY 2017, an assessment of ASR well performance, aquifer response and water-quality data, and provides recommendations for ongoing operation of the project.

BACKGROUND

The Monterey Peninsula ASR Project is cooperatively implemented by the Monterey Peninsula Water Management District (MPWMD or District) and California American Water (CAW) and involves the diversion of excess winter and spring time flows from the Carmel River system for recharge and storage in the Seaside Groundwater Basin (SGB). The excess water is captured by CAW wells in the Carmel Valley during periods when flows in the Carmel River exceed fisheries bypass flow requirements, treated to potable drinking water standards, and then conveyed through CAW's distribution system to ASR facilities in the SGB.

Aquifer recharge is accomplished via injection of these excess flows into specially designed ASR wells drilled in the SGB. The locations of the ASR wells and associated project monitoring wells in the SGB are shown on **Figure 1**. The recharged water is temporarily stored underground utilizing the available storage space within the aquifer system. During periods of high demand, other existing CAW production wells in the SGB and/or the ASR wells can be used to recover the previously recharged water, which in turn allows for reduced extractions from the Carmel River system during seasonal dry periods.

The District and CAW have been cooperatively developing an ASR project on the Monterey Peninsula since 1996. These efforts have evolved over time, from the performance of various technical feasibility investigations, leading to the construction and testing of pilot- and then full-scale ASR test wells to demonstrate the viability and operational parameters for ASR wells in the SGB. Based on the success of the ASR demonstration testing program, MPWMD and CAW are in the process of implementing a full-scale permanent ASR Project.

The Phase 1 ASR Project (a.k.a. Water Project 1) includes two ASR wells (ASR-1 and ASR-2) located at the Santa Margarita (SM) ASR Facility at 1910 General Jim Moore Blvd. in Seaside. The Phase 1 Project is capable of recharging up to the State Water Resources Control

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¹ Water Year 2017 is the period of October 1, 2016 through September 30, 2017.



Board (SWRCB) water right² maximum annual diversion limit of 2,426 acre-feet per year (afy) at a combined permitted injection rate of approximately 3,000 gallons per minute ([gpm] maximum diversion rate of 6.7 cubic feet per second [cfs]), with an average annual yield of approximately 920 afy. ASR-1 is designed for an injection capacity of 1,000 gpm and ASR-2 is designed for an injection capacity of 1,500 gpm. As-built schematics of ASR-1 and ASR-2 are presented on **Figures 2 and 3**, respectively.

The Phase 2 ASR Project (a.k.a. Water Project 2) also includes two ASR wells (ASR-3 and ASR-4) located at the Seaside Middle School (SMS) ASR Facility at 2111 General Jim Moore Blvd. in Seaside. The Phase 2 Project is designed to be capable of recharging up to the SWRCB water right³ maximum annual diversion limit of 2,900 afy at a combined permitted injection rate of approximately 3,600 gpm (maximum diversion rate of 8.0 cfs), with an average annual yield of approximately 1,000 afy. ASR-3 and ASR-4 are both designed for injection capacities of 1,500 gpm. As-built schematics of ASR-3 and ASR-4 are presented on **Figures 4 and 5**, respectively.

A graphical summary of historical ASR operations in the SGB is shown on **Figure 6**. Shown are the annual injection and recovery volumes since the inception of injection operations at the Santa Margarita ASR Facility in WY 2001 through the current period of WY 2017. Also presented is a delineation of the various phases of project implementation, starting with the Santa Margarita Test Injection Well (SMTIW) in 2001, which became ASR-1 as the project transitioned from a testing program to a permanent project in WY 2008 (Phase 1 ASR Project), through construction and operation of the second well (ASR-2) at the facility in 2010. As shown, having the Santa Margarita Facility in full operation with both ASR-1 and ASR-2 injecting simultaneously in WY 2010 and WY 2011 (combined with above normal rainfall and Carmel River flows during those years) resulted in significant increases in the annual volume injected. During WY 2012 through WY 2015, relatively low volumes were injected due to the extended drought conditions during that period.

WY 2017 was the first year of above normal rainfall and Carmel River flows with all four ASR wells in full operation, and as shown on **Figure 6** over 2,300 af of excess river flows were captured and successfully injected into the SGB. This volume represents over twice the previous largest annual volumes injected (in WY 2010 and WY 2012), and approximately one quarter of the Monterey Peninsula's average annual water supply. Commensurate annual injection volumes are expected to occur in the future (depending on hydrologic conditions in any given year) as the project continues to operate at full capacity.

PURPOSE AND SCOPE

The overall purpose of the ongoing ASR program is to recharge the SGB with excess treated Carmel River system water when it is available during wet periods for storage and later

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² SWRCB water right 20808A for the Phase 1 ASR Project is held jointly by MPWMD and CAW.

³ The SWRCB water right 20808C for the Phase 2 ASR Project is held jointly by MPWMD and CAW.



extraction (recovery) during dry periods. ASR benefits the resources of both systems by raising water levels in the SGB during the recharge and storage periods and reducing extractions from the Carmel River System during dry periods.

The scope of the ongoing data collection, analysis, and reporting program for the ASR program can be categorized into issues generally associated with:

- 1) ASR well hydraulics and performance;
- 2) Aguifer response to injection, and;
- 3) Water-quality issues associated with geochemical interaction and mixing of injected and native groundwaters.

The ongoing data collection and reporting program is intended to monitor and track ASR well performance and aquifer response to injection (both hydraulic and water quality) and to comply with the requirements of the Central Coast Regional Water Quality Control Board (RWQCB) for submitting annual technical reports for the project pursuant to Section 13267 of the California Water Code⁴ and the existing General Waiver for Specific Types of Discharges (Resolution R3-2014-0041).

FINDINGS

WY 2017 ASR OPERATIONS

General Recharge Procedures

Recharge of the SGB occurs via injection of diverted flows from the CAW distribution system into ASR wells during periods of available excess Carmel River system flows. The ASR recharge source water is potable (treated) water provided from the CAW distribution system. The water is currently diverted by various production well sources in Carmel Valley and (after treatment and disinfection to potable standards) then conveyed through the Segunda-Crest pipeline network to the ASR Pipeline in General Jim Moore Blvd and then to the Santa Margarita and Seaside Middle School ASR facilities.

Injection water is introduced into the ASR wells via the pump columns. Injection rates are controlled primarily by downhole flow control valves (FCV's) installed on the pump columns, and secondarily by modulating the automatic flow control valves (i.e., Cla-Vals) installed on the ASR wellhead piping. Injection flow rates and total injected volumes are measured with rate and totalizing meters at each of the wellheads. Positive gauge pressures are maintained at the wellheads during injection to prevent cascading of water into the wells (which can lead to airbinding). Continuous water-level data at each of the ASR wells are collected with submersible pressure transducer data loggers.

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⁴ Letter from Roger W. Briggs, Executive Officer of the Central Coast RWQCB, to Joseph Oliver, Water Resources Manager for MPWMD, dated April 29, 2009.



Injection generally occurs at each of the ASR wells on a continuous basis when flows are available, interrupted only for periodic backflushing, which typically occurs on an approximate weekly basis. Most sources of injection water contain trace amounts of solids that slowly accumulate in the pore spaces in the well's gravel pack and adjacent aquifer materials, and the CAW source water is no exception. Periodic backflushing of the ASR wells is therefore necessary to maintain well performance by removing materials deposited/accumulated around the well bore during injection. The procedure is similar to backwashing a media filter to remove accumulated material deposited during filtration.

The trigger for backflushing is when the amount of water-level drawup during injection equals the available drawdown (as measured from the static water level to the top of the pump bowls) in the well for backflushing, or one week of continuous injection, whichever occurs first. This helps to avoid over-pressurization and compression of plugging materials, thereby maximizing the efficiency of backflushing and limiting the amount of residual plugging. This factor is the basis for the maximum recommended drawup levels referenced in the following section.

The general procedure consists of temporarily stopping injection and then pumping the wells at rates of approximately 2,000 to 3,000 gpm (i.e., at least twice the rate of injection) for a period of approximately 15 to 20 minutes and repeated as necessary to effectively remove particulates from the well screen / gravel pack / aquifer matrix. Backflush water is discharged to the Santa Margarita ASR Facility backflush pit, where it percolates back into the groundwater basin.

Injection Operations Summary

A summary of injection operations at the four ASR wells is presented in **Table 1** below. Field data collected during injection operations are presented in **Appendix A**.

Injection Season Active Injection Rate (gpm) Total Vol Well Start Min End Days Max Avg (af) ASR-1 12/20/16 5/31/17 1,868 1,434 93 270 543.0 ASR-2 12/17/16 5/30/17 155 337 1,449 981.6 1,944 ASR-3 12/17/16 5/22/17 134 600 1,405 996 577.9 4/5/17 ASR-4 5/19/17 45 142 1,590 1,257 242.9 Total 2345.4

Table 1. WY 2017 Injection Operations Summary

As shown in **Table 1**, recharge operations were performed nearly continuously in WY 2017 during the period December 17, 2016 through May 31, 2017. WY 2017 was classified as an "Extremely Wet" Water Year⁵ on the Carmel River with up to 155 days of active injection and

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⁵ Based on 196,291 af of unimpaired Carmel River flow at the Sleepy Hollow Weir in WY 2017.



a total volume of approximately 2,345 acre-feet (af) of water was available for diversion from the CAW system for recharge in the SGB. The recharge water was injected at all four ASR wells into the Santa Margarita Sandstone aquifer with per-well average injection rates ranging from approximately 140 to 1,950 gpm (approximately 0.62 to 8.6 acre-feet per day [afd]).

It is noted that the variability in injection rates at the ASR wells during the injection season is controlled by various factors, including the number of active sources to the CAW system, customer demands on the CAW system, and the ability of CAW's distribution system to maintain piping pressure at the ASR wellheads.

Water-level data collected at ASR-1 through ASR-4 during WY 2017 are presented in **Figures 7 through 10**, respectively, and briefly summarized below:

- ASR-1: The minimum injection water-level was approximately 250 feet below ground surface (bgs) on a relatively consistent basis during the injection season, corresponding to a maximum water-level drawup of approximately 110 feet, which exceeded the maximum recommended drawup level of approximately 100 by 10 feet.
- ASR-2: The minimum injection water-level was approximately 220 feet bgs on a relatively consistent basis during the injection season, corresponding to a maximum water-level drawup of approximately 160 feet, which exceeded the maximum recommended drawup level of approximately 130 by 30 feet.
- ASR-3: The minimum injection water-level was approximately 170 feet bgs on a relatively consistent basis during the injection season, corresponding to a maximum water-level drawup of approximately 190 feet, which exceeded the maximum recommended drawup level of approximately 170 feet by 20 feet.
- ASR-4: The minimum injection water-level was typically maintained approximately 200 to 300 feet bgs, corresponding to water-level drawup of approximately 60 to 160 feet, well below the maximum recommended drawup level of approximately 200 feet; however, on one occasion the injection water level reached a maximum drawup of approximately by 200 feet with a minimum depth to water of approximately 160 ft bgs.

In summary, injection water levels at ASR-1 through ASR-3 frequently exceeded the respective maximum drawup levels by approximately 10 to 30 feet during WY 2017. Injection water levels at ASR-4 were generally maintained below the recommended minimum level below ground surface. The effects of these injection water levels on residual well plugging and well performance is discussed below.

Recovery Operations Summary

When the injected water is recovered via delivery through the CAW system, the recovered water is offset by reduced pumping by CAW from the Carmel River system during the low-flow, high demand periods of the year. During WY 2017, other CAW wells in the SGB were utilized for recovery of previously injected water (ASR-1 was inactive due to a failed FCV). As



shown on **Figure 6**, 1,182 af of water recharged during WY 2017 was recovered into the CAW system, with 1,163 af left in aquifer storage and carried over into WY 2018.

It is noted that in this context, ASR recovery is essentially an accounting / allocation of CAW's various water rights and pumping from the SGB and does not represent a "molecule-for-molecule" recovery of the injected water. Rather, the volume recharged in any given year increases the operational yield of the SGB by the same amount and can be "recovered" by any of CAW's wells in the SGB and / or the ASR wells themselves.

WELL PERFORMANCE

Well performance is generally measured by specific capacity (pumping) and / or specific injectivity (injection), which is the ratio of flow rate (pumping or injection) to water-level change in the well (drawdown or drawup) over a specific elapsed time. The value is typically expressed as gallons per minute per foot of water level change (gpm/ft). The value normalizes well performance by taking into account differing static water levels and flow rates. As such, specific capacity / injectivity data are useful for comparing well performance over time and at differing flow rates. Decreases in specific capacity / injectivity are indicative of decreases in the hydraulic efficiency of a well due to the effects of plugging and/or particle rearrangement.

Injection Performance

Injection performance has been tracked at ASR-1 since the inception of the ASR program in WY 2002 by measurement and comparison of 24-hour injection specific injectivities (a.k.a. injection specific capacity).

ASR-1. A summary of 24-hour specific injectivity for ASR-1 for WY 2002 through 2017 is presented in **Table 2** below:

Table 2. Injection Performance Summary - ASR-1

Water Year	Injection Rate (gpm)	24-hour DUP (feet)	Specific Injectivity (gpm/ft)	Water Year Change	Comments	
WY2002						
Beginning Period	1,570	81.7	19.2		FCV not installed yet in WY2002.	
Ending Period	1,164	199.8	6.4	-67%	No recovery pumping performed.	
WY2003						
Beginning Period	1,070	70.0	15.5		Recovery pumping performed following	
Ending Period	1,007	49.7	20.3	+31%	WY2003 Injection	
WY2004						
Beginning Period	1,383	183.4	7.5		Recovery pumping performed followin	
Ending Period	1,072	67.4	15.9	+112%	WY2004 Injection	



Water Year	Injection Rate (gpm)	24-hour DUP (feet)	Specific Injectivity (gpm/ft)	Water Year Change	Comments
WY2005					
Beginning Period	1,045	46.6	22.4		Injectate dechlorinated in WY2005. No
Ending Period	976	94.1	10.4	-54%	recovery pumping performed.
WY2006					
Beginning Period	1,039	71.5	15.0		Injection procedures consistent and
Ending Period	1,008	62.2	17.5	+17%	performance stable in WY2006. No recovery pumping performed.
WY2007	l		l	1	
Beginning Period	1,098	92.4	11.9		Only one injection period in WY2007.
Ending Period					No recovery pumping performed.
WY2008			•	•	
Beginning Period	979	25.5	38.4		Formal rehabilitation performed prior to
Ending Period	1,063	33.4	31.8	-17%	WY2008 injection
WY 2009	WY 2009				
Beginning Period	1,119	56.1	19.9		Beginning period low specific injectivity due to high plugging rate during initial
Ending Period	1,069	34.3	31.1	+56%	injection period. No recovery pumping performed.
WY 2010					
Beginning Period	1,080	35.6	30.3		Observed decline in performance due
Ending Period	1,326	54.0	24.6	-19%	to residual plugging.
WY 2011					
Beginning Period	1,367	53.0	25.8		Observed decline in performance due
Ending Period	1,454	63.7	22.8	-10%	to residual plugging.
WY 2012					
Beginning Period	NA	NA	NA		No injection at this well this year
Ending Period	NA	NA	NA	NA	No injection at this well this year.
WY 2013			•	•	
Beginning Period	NA	NA	NA		No injection at this well this was
Ending Period	NA	NA	NA	NA	No injection at this well this year.
WY 2014	•		•		
Beginning Period	NA	NA	NA		No injection at this well this year
Ending Period	NA	NA	NA	NA	No injection at this well this year.



Water Year	Injection Rate (gpm)	24-hour DUP (feet)	Specific Injectivity (gpm/ft)	Water Year Change	Comments
WY 2015					
Beginning Period	NA	NA	NA		No beginning period due to datalogger
Ending Period	1,018	40.7	25.0	NA	malfunction.
WY 2016					
Beginning Period	NA	NA	NA		No beginning period due to datalogger
Ending Period	460	14.4	31.9	NA	malfunction.
WY 2017					
Beginning Period	970	39.5	24.6		See discussion below
Ending Period	1,295	60.2	21.5	-13%	See discussion below

As shown in **Table 2**, the 24-hour specific injectivity at the beginning of WY 2017 was 24.6 gpm/ft and at the end of WY 2017 it was 21.5 gpm/ft, representing a decrease of approximately 13 percent, indicating that some residual plugging occurred at ASR-1 over the course of the WY 2017 injection season (discussed further in a following section).

ASR-2. A summary of the beginning and ending injection performance at ASR-2 for WY 2010 through WY 2017 is presented in **Table 3** below:

Table 3. Injection Performance Summary - ASR-2

Water Year	Injection Rate (gpm)	24-hour DUP (feet)	Specific Injectivity (gpm/ft)	Water Year Change	Comments
WY 2010					
Beginning Period	1,017	156.5	6.5		Significant residual plugging
Ending Period	237	85.0	2.8	-57%	Significant residual plugging.
WY 2011					
Beginning Period	1,497	39.5	37.9		Significant improvement as a result
Ending Period	1,292	34.3	37.7	-0.5%	of well rehabilitation. No residual plugging during year.
WY 2012					
Beginning Period	1,830	56.1	32.6		Observed decline in performance
Ending Period	1,817	63.4	28.7	-12%	due to residual plugging.
WY 2013					
Beginning Period	1,087	32.7	33.2		No recidual plugging during year
Ending Period	1,508	44.2	34.1	+3%	No residual plugging during year.



Water Year	Injection Rate (gpm)	24-hour DUP (feet)	Specific Injectivity (gpm/ft)	Water Year Change	Comments
WY 2014					
Beginning Period	NA	NA	NA		No injection at this well this year
Ending Period	NA	NA	NA	NA	No injection at this well this year.
WY 2015					
Beginning Period	1,456	38.9	37.4		Observed decline in performance
Ending Period	1,574	49.1	32.1	-14%	due to residual plugging.
WY 2016					
Beginning Period	1,270	34.9	36.4		Observed decline in performance
Ending Period	1,620	63.9	25.4	-30%	due to residual plugging.
WY 2017					
Beginning Period	822	24.2	33.9		One diamonda halam
Ending Period	907	30.7	29.5	-13%	See discussion below

As shown in **Table 3**, the 24-hour specific injectivity at the beginning of WY 2017 was 33.9 gpm/ft and at the end of WY 2017 it was 29.5 gpm/ft, representing a decrease of approximately 13 percent, indicating that some residual plugging occurred at ASR-2 over the course of the WY 2017 injection season (discussed further in a following section).

ASR-3. A summary of the beginning and ending injection performance at ASR-3 for WY 2013 through WY 2017 is presented in **Table 4** below:

Table 4. Injection Performance Summary – ASR-3

Water Year	Injection Rate (gpm)	24-hour DUP (feet)	Specific Injectivity (gpm/ft)	Water Year Change	Comments	
WY 2013						
Beginning Period	1,044	87.0	12.0		Con diagnosia balan	
Ending Period	822	99.6	8.3	-31%	See discussion below.	
WY 2014						
Beginning Period	NA	NA	NA		No initiation of this wall this was	
Ending Period	NA	NA	NA	NA	No injection at this well this year.	
WY 2015						
Beginning Period	NA	NA	NA		No beninging and date	
Ending Period	892	90.3	9.9	NA	No beginning period data.	



Water Year	Injection Rate (gpm)	24-hour DUP (feet)	Specific Injectivity (gpm/ft)	Water Year Change	Comments	
WY 2016						
Beginning Period	948	83.6	11.3		Clight ingrappy shoot ad	
Ending Period	897	74.1	12.1	+7%	Slight increase observed.	
WY 2017						
Beginning Period	936	107.5	8.7		See discussion below.	
Ending Period	986	105.2	9.4	+8%	See discussion below.	

As shown in **Table 4**, the 24-hour specific injectivity at the beginning of WY 2017 was 8.7 gpm/ft and at the end of WY 2017 it was 9.4 gpm/ft, representing a slight increase of approximately 8 percent, indicating that no residual plugging occurred at ASR-3 over the course of the WY 2017 injection season.

ASR-4 Baseline Injection Testing

WY 2017 was the first year that ASR-4 was able to be placed in full operational mode following the injection "conditioning" conducted at the well in WY 2016 (refer to the WY 2016 Summary of Operations Report). Prior to long-term continuous injection operations in WY 2017, a baseline injection testing program was conducted. The primary purpose of the baseline injection testing was to establish the baseline injection well hydraulics and performance of the new well. Primary issues to be investigated include:

- Determination of injection well efficiency and specific injectivity;
- Evaluation of injection well plugging rates (both active and residual);
- Determination of optimal rates, frequency, and duration of backflushing in order to maintain long-term injection capacity, and;
- Determination of long-term sustainable injection rates.

The baseline testing program included the following steps:

- 1. Pre-injection pumping performance testing;
- 2. 8-hr step-rate injection testing;
- 3. 24-hr constant-rate injection test;
- 4. 6-day constant-rate injection test;
- 5. Backflushing between each injection test, and;
- 6. Post-injection pumping performance testing

Pre-Injection Pumping Performance Test. A pre-injection performance test was conducted on April 4, 2016, which consisted of a 10-minute specific capacity test. As discussed



in the following section, 10-minute specific-capacity tests are typically performed at all project ASR wells following routine backflushing operations to track well pumping performance (and evaluate residual plugging), similar to the tracking of injection performance from 24-hour specific injectivity discussed above.

The static water level in ASR-4 prior to pumping was approximately 333.7 feet bgs⁶. The discharge was maintained at an average rate of approximately 3,000 gpm during the 10-minute test. The pumping level after 10-minutes was approximately 455.5 feet bgs, corresponding to a drawdown of 121.8 feet and a 10-minute specific capacity of approximately 24.6 gpm/ft.

8-hr Step-Rate Injection Test. A variable rate injection test was performed on April 5, 2016. The primary purpose of the test was to assess variations in well specific injectivity (the converse of specific capacity) at differing injection rates and to determine a suitable rate for long-term injection testing. The test consisted of four steps, each at a successively higher rate. The duration of each step was 2 hours. The four test rates were approximately 740, 1130, 1500, and 1860 gpm (i.e., approximately 50, 75, 100 and 125 percent of the design injection capacity of 1,500 gpm). The static water level in the well prior to the test was 331.3 feet bgs. The resulting water-level drawup and specific injectivities associated with each of these steps are shown on **Figure 11** and are summarized below in **Table 5**.

24-hr Constant-Rate Injection Test. Following the step-rate injection test, backflushing (discussed below), and a period of water level recovery overnight, a 24-hour constant rate injection test was initiated on April 6, 2018. This phase of testing consisted of a continuous rate injection test performed at an average injection rate of approximately 1,506 gpm (i.e., the design injection rate). Water-level data for the 24-hour constant-rate injection test are graphically presented on **Figure 12**.

As shown, the static water level in the well prior to injection was 335.9 feet bgs. The injection water level recorded after 24 hours was 244.6 feet bgs, corresponding to a drawup of 91.3 feet and a 24-hour specific injectivity of approximately 16.5 gpm/ft. This value represents approximately 56 percent of the 24-hour pumping specific capacity of 29.4 gpm/ft⁷.

6-day Constant Rate Injection Test. A 6-day constant-rate injection was initiated on April 9 and continued until April 25, 2017. This phase of testing consisted of a continuous rate injection test performed at an average injection rate of approximately 1,490 gpm, with a total volume of approximately 38.2 af injected.

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⁶ ASR-3 was actively injecting at approximately 1,000 during the ASR-4 Baseline Injection Testing program, which causes approximately 30 feet in water level interference (drawup) at ASR-4. Typical static water levels at ASR-4 are approximately 360 feet bgs.

⁷ Pueblo Water Resources, Inc. (2015), *Summary of Operations, Well Construction and Testing, Seaside Middle School ASR-4 Well*, prepared for Monterey Peninsula Water Management District.



During injection, drawup in the well was approximately 66.1, 79.8 and 115.5 feet after 100 minutes, 24 hours and 6 days of injection; respectively, corresponding to specific injectivities of approximately 22.6, 18.7 and 12.9 gpm/ft, respectively. The 24-hour value during this test (18.7 gpm/ft) was slightly greater than the specific injectivities observed during the 24-hour injection test (16.5 gpm/ft), indicating that backflushing of the well between tests (discussed below) was effective at removing plugging materials.

The resulting drawup and specific injectivities associated with each of the various ASR-4 baseline injection tests are summarized below in **Table 5**:

Table 5. ASR-4 Baseline Injection Testing Specific Injectivity Summary

_		Rate	Drawup	Q/s
Test	Duration	(gpm)	(ft)	(gpm/ft)
Step-Rate				
Step 1	2 hrs	742	21.8	34.0
Step 2	2 hrs	1,133	43.7	25.9
Step 3	2 hrs	1,500	76.5	19.6
Step 4	2 hrs	1,858	124.7	14.9
24-hr Constant	1 day	1,506	91.3	16.5
6-day Constant	6 days	1,493	115.7	12.9

As presented in **Table 5**, the specific injectivity ranged between approximately 12.9 and 34.0 gpm/ft, depending on the injection rate and duration of injection. It is important to note that according to well hydraulic theory, specific injectivity is expected to generally decrease with increasing injection rate and duration of injection; therefore, it is important to consider the test duration and injection rate when comparing specific injectivity values.

Backflushing. Following each injection test, backflushing was performed on the well. Backflushing operations consisted of pumping the well to waste at a rate of approximately 3,000 for 20 minutes until discharge clarity had significantly improved. The pump was then stopped and the well allowed to recover for approximately 20 minutes, then the pump was restarted and run for another 20 minutes as described above. This process was performed a total of three times (i.e., a triple-backflush).

During backflushing after the 8-hr step- and 24-hr constant-rate injection tests, the well discharge was initially only slightly turbid (approximately 10 to 20 NTU) followed by a decrease in turbidity to less than 3 NTU after 20 minutes. Discharge water during the subsequent (second and third) pumping/surging cycles was essentially clear, indicating that the majority of particulates were removed from the well during the initial 20 minutes of backflushing. After the 6-day constant-rate injection test, however, the initial backflushing discharge was very turbid (73 NTU) but became essentially clear by the end of the third backflush cycle.



Following each backflushing event, controlled 10-minute specific capacity tests were performed to track well performance and the efficacy of backflushing. The 10-minute specific capacity results are summarized in **Table 6** below:

Table 6. ASR-4 10-Minute Specific Capacity Summary

	Rate	Drawdown	Q/s	%
Test	(gpm)	(ft)	(gpm/ft)	Change ¹
Pre-Injection	3000	121.8	24.6	
Post 8-hr Step-Rate Injection	3000	187.5	16.0	-35.0
Post 24-hr Constant-Rate Injection	3000	200.1	15.0	-39.1
Post 6-Day Constant-Rate Injection	3100	222.9	13.9	-43.5

Notes:

As shown, the well displayed a pre-injection 10-minute specific capacity of approximately 24.6 gpm/ft. Following the initial 8-hr step-rate injection test, the 10-minute specific had declined to approximately 16.0 gpm/ft, representing a loss in performance of approximately 35 percent, indicating that that backflushing was not effective at restoring performance, despite the relatively low turbidity levels observed during backflushing (discussed above). Following the 6-day constant-rate injection test, the specific capacity had declined to 13.9 gpm, representing a total loss in performance over the course of the baseline injection testing program of approximately 44 percent. It is notable that the majority of the total performance occurred after the relatively short-duration 8-hr step-rate injection test. This observation, combined with the very low particulate levels in the injectate throughout the baseline injection testing period, suggest that the loss in performance is not due to particulate plugging, but some other mechanism, such as particle rearrangement and/or geochemical reactions (e.g., solids precipitation or clay swelling).

Plugging Rate Analysis. Experience at injection sites around the world shows that all injection wells are subject to some amount of plugging because no water source is completely free of particulates. During injection, trace amounts of suspended solids are continually being deposited in the gravel pack and aquifer pore spaces, much as a media filter captures particulates in the filter bed. The effect of plugging is to impede the flow of water from the injection well into the aquifer, causing increased injection heads in the well to maintain a given injection rate, or reduced injection rates at a given head level. Well plugging reduces injection and extraction capacity, and consequently, well life.

Plugging can occur due to poor water quality, improper system operation, or poor design practices. In general, plugging issues fall into four general categories: physical plugging (by particulate matter), chemical reaction (between the injectate and native waters or aquifer minerals), biofouling (the proliferation of bacteria in the gravel pack or aquifer), and gas binding (the vapor locking of the aquifer by entrained or evolved gasses in the injectate).

Relative measurements of the particulate matter in the injectate were made through silt density index (SDI) testing during injection. The SDI was originally developed to quantitatively

^{1 -} Compared to pre-injection baseline.



assess particulate concentrations in reverse osmosis feed waters. The SDI involves pressure filtration of source water through a 0.45 micron membrane, and observation of the decrease in flow over time; the resulting value of SDI is dimensionless, and used as a comparative value for tracking relative well plugging rates versus water quality or other parameters. SDI test results are summarized in **Table 7** below:

Table 7. ASR-4 Summary of Silt Density Index (SDI) Test Results

Injection	No. of	Values ¹		
Test	Tests	High	Low	Average
8-hr Step-Rate	2	2.42	0.88	1.65
24-hr Constant-Rate	2	0.46	0.20	0.33
6-Day Constant-Rate	1	0.20	0.20	0.20

Notes:

1 - Dimensionless

As shown in **Table 7**, SDI values during injection testing consistently decreased with duration of the testing program, ranging between approximately 0.2 and 1.7. Values within this range are generally representative of source waters with a very low amount of particulates.

Plugging rate during injection testing of ASR-4 was estimated utilizing the Graphical Observed vs. Theoretical Drawup Method. Water-level rise in an injection well is a combination of both aquifer response and well losses. Theoretically, at any given constant injection rate, well losses should remain constant; therefore, in the absence of plugging, any water level rise in the well would be due only to aquifer response. The difference between the theoretical water level and the observed water can be presumed to be caused by plugging.

It is important to note that the theoretical water level rise corresponds to the water level that would occur if well losses were negligible and well efficiency was 100 percent. In order to account for well efficiency losses, the graphical method involves drawing a straight line through moderate elapsed time data points (e.g., 10 to 1,000 minutes). Assuming no plugging is occurring, the theoretical water level rise during injection would plot on along a straight line on a semi-log plot. The variance from the straight line is assumed to be indicative of the amount of plugging.

The amount of plugging, in feet of water level rise, was calculated for the 6-day constantrate injection test and the plugging rate analysis is presented graphically on **Figure 13**. As shown, there was approximately 28 feet of plugging observed during the 6-day injection test.

ASR-4 WY 2017 Injection Performance. Following the Baseline Injection Testing Program, ASR-4 was placed into injection operational mode. WY 2017 was the first injection season when 24-hr continuous injection operations occurred at ASR-4, and a summary of the beginning and ending injection performance for WY 2017 is presented in **Table 8** below:



Table 8. Injection Performance Summary – ASR-4

Water Year	Injection Rate (gpm)	24-hour DUP (feet)	Specific Injectivity (gpm/ft)	Water Year Change	Comments
WY 2017					
Beginning Period	1,506	91.3	16.5		See discussion below.
Ending Period	1,068	41.3	25.9	+58%	See discussion below.

As shown in **Table 8**, the 24-hour specific injectivity at the beginning of WY 2017 was 16.4 gpm/ft and at the end of WY 2017 it was 23.8 gpm/ft, representing a significant increase of approximately 58 percent.

Injection Performance Summary. The above results indicate a pattern in ASR well performance, with ASR-1 through ASR-4 all having experienced comparably significant declines in performance following initial injection (i.e., the initial variable-rate injection tests performed at each well), followed by a period of relative stability in performance. It was hypothesized that the observed loss in performance may be due to particle rearrangement (mechanical jamming) and/or geochemical reactions (e.g., solids precipitation and/or clay swelling), as opposed to the normal and relatively slow plugging caused by particulates. This phenomenon is the reason for the well "conditioning" effort performed at ASR-4 during WY 2015 and WY 2016.

As shown in **Tables 5 and 6** previously, however, ASR-4 appeared to experience the same initial decline in performance as the other three ASR wells despite the thorough condition effort. These findings suggest that the initial and significant decline in performance consistently observed at all four ASR wells following initial injection testing is likely not due to particle rearrangement, but rather due to a geochemical reaction(s) (e.g., solids precipitation and/or clay swelling). It is also noted that while ASR-3 and ASR-4 have experienced a significant decline in performance following initial injection, (which limits their injection capacities) it is expected that rehabilitation will result in significantly improved performance as has been observed at both ASR-1 and ASR-2.

Pumping Performance and Residual Plugging

Experience at injection well sites around the world shows that all injection wells are subject to some amount of plugging, because no water source is completely free of particulates, bionutrients, or oxidants, all of which can contribute to well plugging; the CAW source water is no exception. During injection, trace amounts of suspended solids are continually being deposited in the gravel pack and aquifer pore spaces, much as a media filter captures particulates in the filter bed. The effect of plugging is to impede the flow of water from the injection well into the aquifer, causing increased injection heads in the well to maintain a given injection rate, or reduced injection rates at a given head level. Well plugging reduces injection and extraction capacity and can result in decreased useful well life if not mitigated.



Relative measurements of the particulate matter in the injectate have historically been made at the Santa Margarita site through Silt Density Index (SDI) testing during the injection season. The SDI was originally developed to quantitatively assess particulate concentrations in reverse-osmosis feed waters. The SDI test involves pressure filtration of source water through a 0.45-micron membrane, and observation of the decrease in flow rate through the membrane over time; the resulting (dimensionless) value of SDI is used as a comparative value for tracking relative declines in well plugging rates associated with particulate plugging during an injection season (i.e., plugging rates tend to increase directly with SDI). During WY 2017 injection operations, SDI values were only measured at the beginning of the injection season and was approximately 4.1 at that time. Other than the SDI testing conducted during the ASR-4 baseline injection testing discussed previously, the SDI during the remainder of the injection season is not known (was not measured).

Following routine backflushing operations and periods of water-level recovery, controlled 10-minute specific-capacity tests are typically performed to track well pumping performance, similar to the tracking of injection performance from 24-hour specific injectivity discussed above. Residual plugging is the plugging that remains following backflush pumping. Residual plugging increases drawdown during pumping and drawup during injection and is manifested as declining specific capacity / injectivity. The presence of residual plugging is indicative of incomplete removal of plugging particulates during backflushing and has the cumulative effect of reducing well performance and capacity over time.

As discussed previously, routine 10-minute specific capacity tests were performed at the ASR wells as part of backflushing events during WY 2017. Presented in **Table 9** below is a summary of the residual plugging calculations for the ASR wells during WY 2017.

Table 9. Pumping Performance and Residual Plugging Summary

Pumping 10-min 10-min Normaliz- Normalize

		Pumping	10-min	10-min	Normaliz-	Normalized	Residual
		Rate	Drawdown	Q/s ¹	ation	Drawdown ²	Plugging
Well	Test	(gpm)	(ft)	(gpm/ft)	Ratio ²	(ft)	(ft)
ASR-1	Pre-Injection	4,600	116.7	39.4	0.65	76.1	
ASK-1	Post-Injection	3,200	103.0	31.1	0.94	96.6	20.5
ASR-2	Pre-Injection	2,600	76.7	33.9	1.15	88.5	
ASN-2	Post-Injection	2,700	100.2	26.9	1.11	111.3	22.8
ASR-3	Pre-Injection	1,500	82.9	18.1	1.33	110.5	
ASK-3	Post-Injection	1,600	117.0	13.7	1.25	146.3	35.7
ASR-4	Pre-Injection	3,000	121.8	24.6	1.00	121.8	
A0N-4	Post-Injection	2,900	164.4	17.6	1.03	170.1	48.3
Notos:	∃' ' <u>'</u>	-	· · · · · · · · · · · · · · · · · · ·	•	· · · · · · · · · · · · · · · · · · ·	·	-

Notes

As shown on **Figures 7 through 9**, injection water levels were not maintained below the recommended maximum available drawup levels at ASR-1 through ASR-3 during WY 2017, and

^{1 -} Specific Capacity. Ratio of pumping rate to drawdown.

^{2 -} Normalized based on ratio of 3,000 gpm to actual test pumping rate for ASR-1, -2 and -4. Based on 2,000 gpm for ASR-3.



as shown in **Table 9**, all three wells experienced residual plugging ranging between approximately 20 and 50 feet and commensurate declines in pumping specific capacity. Although as shown on **Figure 10** and discussed previously, injection water levels and performance at ASR-4 were generally maintained at acceptable levels throughout most of WY 2017, based on the pumping performance shown in **Table 9**, ASR-4 also experienced residual plugging of approximately 50 feet. These results indicate that:

- Injection water levels should be maintained below the recommended minimum levels below ground surface during the injection season to avoid excessive drawup and over pressurization of plugging constituents. These thresholds should not be adjusted during the injection season due to apparent changes in static water levels, and;
- 2. More intensive backflushing (e.g., multiple backflush cycles as opposed to a single cycle) should be implemented at all four ASR wells during WY 2018 to limit residual plugging and maintain performance.

AQUIFER RESPONSE TO INJECTION

The response of the regional aquifer system to injection has been monitored since the SMTIW project was initiated in WY 2002. Submersible water-level transducer/data logger units have been installed at seven offsite monitoring well locations in the SGB as well as three onsite monitoring wells. The locations of each offsite monitoring well are shown on **Figure 1**, and water-level hydrographs for the monitoring wells during WY 2017 are graphically presented on **Figures 14 through 22**. A summary of the regional water-level observations during the WY 2017 injection season is presented in **Table 10** below.

As shown on the water-level hydrographs, water levels in the Santa Margarita Sandstone (Tsm) aquifer at the start of the WY 2017 recharge season ranged between approximately 20 to 50 feet below sea level. Positive response to injection during WY 2017 was observed at 8 of the 9 monitoring wells completed in the Santa Margarita Sandstone aquifer, with apparent water-level responses ranging between approximately 11 to 92 feet, generally decreasing with distance from the ASR wells, which is the typical and expected aquifer response to hydraulic stresses (i.e., injection or pumping). The WY 2017 responses are comparable to those observed in previous water years.

The available water-level data also continue to show that at the majority of the offsite Tsm-only monitoring wells, water levels consistently remained below sea level throughout the injection season. Notable exceptions included the Paralta Test and FO-9 wells, which showed water levels as much as approximately 10 to 8 feet above sea level, respectively. Under these overall basin water-level conditions, little to no offshore groundwater flow from the Tsm aquifer would be expected to occur and any "losses" associated with ASR project operations from water potentially migrating offshore are likely limited.



Table 10. Aquifer Response Summary

Well ID	Distance from Nearest Active ASR Well (feet)	Aquifer Monitored	Fig. No.	Pre- Injection DTW (ft. bgs)	Shallowest Injection DTW (ft. bgs)	Maximum Drawup Response (ft.)	
SMS (Shallow)	25 (ASR-3)	QTp	14	No E	Discernable Res	sponse	
SMS (Deep)	25 (ASK-5)	Tsm	14	371.4	279.7	91.7	
SM MW-1	190 (ASR-2)	Tsm	15	363.7	313.3	50.4	
Paralta Test	650 (ASR-2)	QTp & Tsm	16	348.3	318.9	29.4	
Ord Grove Test	1,820 (ASR-2)	QTp & Tsm	17	No Discernable Response			
Ord Terrace (Shallow)	2,550 (ASR-2)	Tsm	18	258.0	246.9	11.1	
FO-7 (Shallow)	2 700 (ASD 2)	QTp	19	No E	Discernable Res	sponse	
FO-7 (Deep)	3,700 (ASR-3)	Tsm	19	496.4	472.7	23.7	
FO-9 (Deep)	6,130 (ASR-3)	Tsm	20	33.8	10.0	23.8	
PCA East (Shallow)	C 200 (ACD 2)	QTp	24	No E	Discernable Res	ponse	
PCA East (Deep)	6,200 (ASR-3)	Tsm	21	94.9	70.2	24.7	
FO-8 (Deep)	6,450 (ASR-3)	Tsm	22	404.9	384.1	20.8	

Notes:

QTp - Quaternary / Tertiary-age Paso Robles Formation aquifer

Tsm - Tertiary-age Santa Margarita Sandstone aquifer

DTW - Depth to Water

The limited available data for wells completed in the Paso Robles Formation (QTp) also continue to show no discernible response to injection and water levels in this aquifer remained above the water levels in the underlying Tsm aquifer during WY 2016. Under these water-level conditions, little to no flow of water from the Tsm to the QTp aquifer would be expected to occur.

It is further noted that the Ord Grove Test monitoring well (**Figure 17**) continues to show no discernible response to injection operations, as has been observed during previous injection seasons. In addition, most project monitoring wells show no discernible response to the pumping of CAW's Ord Grove production well. These observations suggest that the Ord Terrace Fault or a parallel branch of the fault may represent a hydraulic barrier in the Tsm aquifer.

WATER QUALITY

General

Source water for injection is supplied from the CAW municipal water system, primarily from Carmel River system wells, which is treated at the CAW Begonia Iron Removal Plant (BIRP) for iron and manganese removal. The BIRP product water is also disinfected and maintains a free chlorine residual. A phosphate-based corrosion inhibitor (Zinc Orthophosphate) is also added to the filtered water before entering the CAW distribution system. The finished



product water meets all California Department of Public Health (CADPH) Primary and Secondary water quality standards.

As in previous years, water quality was routinely monitored at the ASR well sites during WY 2017 injection and aquifer storage operations. Far-field water quality was also monitored at the CAW Paralta production well and at the PCE-East Deep monitoring well (PCA-E Deep). Summaries of the collected water-quality data during WY 2017 are presented in **Tables 11 through 18** below. Analytic laboratory reports are presented in **Appendix B**. A discussion of the water-quality data collected during WY 2017 is presented below.

Injection Water Quality

Injection water quality from the CAW system during WY 2017 is presented in **Table 11** below, and the data show injection water quality was typical of recent years. Levels of Trihalomethanes (THM) and Haloacetic Acid (HAA) compounds, as well as bionutrients (oxygen, nitrogen, phosphorous, and organic carbon), were all present at levels similar to previous years.

Water Quality During Aquifer Storage

Tables 12 through 15 present summaries of water-quality data collected at the four ASR wells. Tables 16 and 17 present similar data collected at the on-site monitoring wells SM MW-1 and SMS Deep, respectively; and Table 18 presents the water-quality data collected at the off-site monitoring wells (PCA-E Deep and Paralta). Data for the ASR wells include baseline water quality taken prior to WY 2017 injection (end of WY 2016 Storage) and stored water quality (WY 2017 Storage) collected periodically from the aquifer after WY 2017 injection operations were terminated.

Review of water-quality parameters gathered at the ASR wells, including major anions and cations, redox potential (ORP), and conductivity all showed relatively limited effects of dilution / intermixing of injected water with native groundwater (NGW) during aquifer storage compared to previous water years. The apparent lack of mixing during the WY 2017 storage period is not unexpected, given the significantly greater volume and duration of injection, and the associated relatively short storage period, compared to previous years.

Disinfection Byproducts (DBPs) parameters for the on-site wells collected during the WY 2017 storage period are graphically presented on **Figures 23 through 28** and are summarized below:

 ASR-1: One sample was collected from ASR-1 after approximately 30 days of storage, which showed significant ingrowth of THMs at 89 micrograms per liter (ug/L), exceeding the Maximum Contaminant Level (MCL) of 80 ug/L. As a result of a failure of the pump assembly FCV, no additional samples were collected from this well during WY 2017.



Table 11. Summary of WY 2017 Water Quality Data – Injectate

					Pes	sults			
				CAW Injectate					
Parameter	Unit	PQL	MCL	12/16/16	1/17/17	3/10/17	4/11/17		
Major Cations		Sample D	escription		Inje	ctate			
Calcium	mg/L	0.5		49		1	33		
Magnesium	mg/L	0.5		16			12		
Potasium	mg/L	0.5		3.2			2.6		
Sodium	mg/L	0.5		55			1		
Major Anions									
Alkalinity, Total (as CaCO3)	mg/L	2		144			127		
Chloride	mg/L	1	250	32		27	27		
Sulfate	mg/L	1	250	85			66		
Nitrate (as NO3) Nitrite (as NO2-N)	mg/L mg/L	1	45 1	ND 0.3			0.5		
General Physical	IIIg/L	1	- 1	0.3			0.5		
pH	Std Units			7.6		ſ	7.4		
Specific Conductance (EC)	uS	1	900	555			466		
Total Dissolved Solids	mg/L	10	500	348			280		
Metals						•			
Arsenic (Total)	ug/L	1	10	ND			ND		
Barium (Total)	ug/L	10	1000	0.061			57		
Iron (Dissolved)	ug/L	10		ND			ND		
Iron (Total)	ug/L	10	300	10			ND		
Lithium Manganese (Dissolved)	ug/L ug/L	1 10		10 ND			6 ND		
Manganese (Dissolved) Manganese (Total)	ug/L ug/L	10	50	13			ND ND		
Mercury	ug/L	0.5	2	ND			ND ND		
Molybdenum	ug/L	1	1000	ND.			2		
Nickel	ug/L	10	100	ND			ND		
Selenium	ug/L	2	50	ND			2		
Strontium (Total)	ug/L	5		270			230		
Uranium (by ICP/MS)	ug/L	1	30	ND			ND		
Vanadium (Total)	ug/L	1	1000	ND 242			ND		
Zinc (Total) Miscellaneous	ug/L	10	5000	243			268		
Ammonia-N	mg/L	0.05		ND		1	ND		
Boron	mg/L	0.05		ND			ND ND		
Chloramines	mg/L	0.05		0.12	0.06	0.18	0.18		
Gross Alpha	pCi/L		15	1.23 +/- 1.13			1.27 +/- 1.09		
Kjehldahl Nitrogen (Total)	mg/L	0.5		ND			0.5		
Methane	ug/L	0.1		2.7			1.3		
Nitrogen (Total)	mg/L	0.5		ND			1.3		
o-Phosphate-P	mg/L	0.05		0.4			0.2		
Phosphorous (Total) Radium 226	mg/L pCi/L	0.03	3	0.46 0.295 +/- 0.246			0.4		
Organic Analyses	pCI/L		3	0.295 +/- 0.246			0.066 +/- 0.129		
Haloacetic Acids (Total)	ug/L	1.0	60.0	23.0	9.0	11.9	8.0		
Dibromoacetic Acid	ug/L	1.0	00.0	3.0	2.0	2.1	2.0		
Dichloroacetic Acid	ug/L	1.0		10	4.0	5.5	2.0		
Monobromoacetic Acid	ug/L	1.0		1.0	ND	ND	ND		
Monochloroacetic Acid	ug/L	2.0		ND	ND	ND	ND		
Trichloroacetic Acid		1.0		9.0	3.0	4.3	4.0		
Organic Carbon (Dissolved)	mg/L	0.2		1.5			1.5		
Organic Carbon (Total)	mg/L	0.2	00.0	1.4	20.4	20.4	1.5		
Trihalomethanes (Total) Bromodichloromethane	ug/L ug/L	1.0 0.5	80.0	47.9 15.4	23.1 8.0	23.4 7.8			
Bromodichioromethane	ug/L ug/L	0.5		15.4	1.0				
Chloroform	ug/L ug/L	0.5		18.8	7.2	9.2	6.9		
Dibromochloromethane	ug/L	0.5		11.9	6.9	5.7	4.8		
Field Parameters									
Temperature	°C	0.1		12.9	14.9				
Specific Conductance (EC)	uS	1.0	900	491	458				
pH	Std Units	0.1	6.5 - 8.5	7.4	7.0		7.4		
ORP	mV	1.0		507	664		717		
Free Chlorine Residual	mg/L	0.1 0.01	2 - 5	1.0 5.2	1.9		1.3		
Dissolved Oxygen Silt Density Index	mg/L Std Units	0.01		5.2 4.1	3.9	4.1	3.6		
H ₂ S	mg/L	0.1		ND	ND		ND		
Notes:	_								



Table 12. Summary of WY 2017 Water-Quality Data – ASR-1

						lesults // ASR-1	
Parameter	Unit	PQL	MCL	3/21/01	9/21/16	12/2/16	6/28/17
Falailletei		SR Operation		NGW		Storage	WY 2017 Storage
Elapsed Storage Time	Days				170	242	29
Major Cations							
Calcium	mg/L	0.5		85	68	81	41
Magnesium	mg/L	0.5		19	17	20	13
Potasium	mg/L	0.5		5.3	4	4.6	2.8
Sodium	mg/L	0.5		88	71	72	43
Major Anions							
Alkalinity, Total (as CaCO3)	mg/L	2		224	180	228	138
Chloride	mg/L	1	250	120	72	112	28
Sulfate	mg/L	1	250	95	96	100	68
Nitrate (as NO3) Nitrite (as NO2-N)	mg/L	1	45	ND	0.3	1.0	0.2
General Physical	mg/L	1	1		0.3	0.3	0.2
pH	Std Units			7.1	7.4	7.2	7.5
Specific Conductance (EC)	uS	1	900	1015	763	962	496
Total Dissolved Solids	mg/L	10	500	618	471	583	320
Metals			550	510	.,,,		320
Arsenic (Total)	ug/L	1	10	ND	1	1	1
Barium (Total)	ug/L	10	1000	52	55	71	58
Iron (Dissolved)	ug/L	10		-	ND	12	ND
Iron (Total)	ug/L	10	300	120	ND	16	20
Lithium	ug/L	1			19	29	7
Manganese (Dissolved)	ug/L	10			ND	22	ND
Manganese (Total)	ug/L	10	50	40	ND	21	ND
Mercury	ug/L	0.5	2		ND	ND	ND
Molybdenum	ug/L	1	1000		6	7	3
Nickel	ug/L	10	100		ND	ND	2
Selenium	ug/L	2	50	ND	2	2	6
Strontium (Total)	ug/L	5			308	402	210
Uranium (by ICP/MS)	ug/L	1	30		1	1	ND
Vanadium (Total) Zinc (Total)	ug/L ug/L	10	1000 5000	10	ND 87	ND 70	202
Miscellaneous	ug/L	10	3000	10	01	70	202
Ammonia-N	mg/L	0.05		0.33	ND	0.09	0.1
Boron	mg/L	0.05		0.14	0.08	0.11	ND
Chloramines	mg/L	0.05		0.11	ND	ND	ND
Gross Alpha	pCi/L		15		2.52 +/- 1.55	2.64 +/- 1.89	1.97 +/- 1.27
Kjehldahl Nitrogen (Total)	mg/L	0.5			ND	0.5	ND
Methane	ug/L	0.1			2.2	3.9	0.77
Nitrogen (Total)	mg/L	0.5			0.5	1	0.5
o-Phosphate-P	mg/L	0.05		0.46	0.1	ND	0.3
Phosphorous (Total)	mg/L	0.03			0.13	0.13	0.3
Radium 226	pCi/L		3		0.758 +/- 0.437	1.33 +/- 0.340	0.044 +/- 0.104
Organic Analyses							
Haloacetic Acids (Total)	ug/L	1.0	60.0		ND	0	6
Dibromoacetic Acid		1.0			ND ND	ND	ND
Dichloroacetic Acid		1.0			ND ND	ND	2
Monobromoacetic Acid Monochloroacetic Acid		1.0 2.0			ND ND	ND ND	ND ND
Monochloroacetic Acid Trichloroacetic Acid		1.0			ND ND	ND ND	ND 4
Organic Carbon (Dissolved)	mg/L	0.2			1.0	1.4	1.8
Organic Carbon (Total)	mg/L	0.2		6.3	1.0	1.4	1.5
Trihalomethanes (Total)	ug/L	1.0	80.0	5.5	28.9	14.8	89
Bromodichloromethane		0.5	55.0		7.6	4.0	22
Bromoform		0.5			0.5	ND	1
		0.5			18.8	10.1	56
Chloroform		0.5			2	0.7	10
Dibromochloromethane	ug/L	0.5					
Dibromochloromethane Field Parameters		0.5					
Dibromochloromethane Field Parameters Temperature	°C	0.1			19.4		16.6
Dibromochloromethane Field Parameters Temperature Specific Conductance (EC)	° C uS	0.1 1.0	900	1015	667		440
Dibromochloromethane Field Parameters Temperature Specific Conductance (EC) pH	⁰ C uS Std Units	0.1 1.0 0.1	900 6.5 - 8.5	1015 7.1	667 7.03		440 7.3
Dibromochloromethane Field Parameters Temperature Specific Conductance (EC) pH ORP	⁰ C uS Std Units mV	0.1 1.0 0.1 1.0	6.5 - 8.5		667 7.03 -243		440 7.3 220
Dibromochloromethane Field Parameters Temperature Specific Conductance (EC) pH ORP Free Chlorine Residual	⁰ C uS Std Units mV mg/L	0.1 1.0 0.1 1.0 0.1			667 7.03 -243 ND		440 7.3 220 0.23
Dibromochloromethane Field Parameters Temperature Specific Conductance (EC) pH ORP	⁰ C uS Std Units mV	0.1 1.0 0.1 1.0	6.5 - 8.5		667 7.03 -243		440 7.3 220

Notes:



Table 13. Summary of WY 2017 Water Quality Data – ASR-2

						ults	
						ASR-2	
Parameter	Unit	PQL	MCL	9/27/2016	12/6/16	6/28/17	10/4/17
Elapsed Storage Time	Days	R Operatio	nai Phase	WY 2016	Storage 246	WY 2017 29	Storage 127
Major Cations	Days			170	240	25	121
Calcium	mg/L	0.5		60	66	41	38
Magnesium	mg/L	0.5		19	19	13	14
Potasium	mg/L	0.5		3.8	4.5	2.9	2.8
Sodium	mg/L	0.5		64	59	44	43
Major Anions				1	T		
Alkalinity, Total (as CaCO3)	mg/L	2	250	180	209	134	134
Chloride Sulfate	mg/L	1	250 250	64 81	102 71	28 69	28 70
Nitrate (as NO3)	mg/L mg/L	1	250 45	1	ND	1	0.2
Nitrite (as NO2-N)	mg/L	1	1	0.3	0.3	0.2	NE
General Physical			•				
рН	Std Units			7.5	7.3	7.5	7.4
Specific Conductance (EC)	uS	1	900	707	864	488	495
Total Dissolved Solids	mg/L	10	500	431	514	308	297
Metals						1	ND.
Arsenic (Total)	ug/L	10	1000	1 00	106	ND 50	
Barium (Total) Iron (Dissolved)	ug/L	10 10	1000	83 ND	106 ND	59 ND	62
Iron (Dissolved)	ug/L ug/L	10	300	ND 66	ND 67	ND 57	66
Lithium	ug/L	10	300	14	26	6	7
Manganese (Dissolved)	ug/L	10		10	15	ND	ND.
Manganese (Total)	ug/L	10	50	11	16	ND	NE
Mercury	ug/L	0.5	2		2	ND	NE
Molybdenum	ug/L	1	1000	6	10	4	6
Nickel	ug/L	10	100	ND	ND	2	2
Selenium	ug/L	2	50	2	2	2	3
Strontium (Total)	ug/L	5 1	30	300	374	210 ND	208
Uranium (by ICP/MS) Vanadium (Total)	ug/L ug/L	1	1000	ND	ND	1 ND	NC
Zinc (Total)	ug/L	10	5000	317	360	257	272
Miscellaneous			•				
Ammonia-N	mg/L	0.05		ND	0.08	0.1	ND
Boron	mg/L	0.05		0.06	0.07	ND	ND
Chloramines	mg/L	0.05		ND	ND	ND	ND
Gross Alpha	pCi/L		15	2.59 +/- 2.16	2.24 +/- 1.91	0.775 +/- 0.946	2.04 +/- 1.15
Kjehldahl Nitrogen (Total)	mg/L	0.5		1	0.9	ND	NE
Methane Nitrogen (Total)	ug/L mg/L	0.1 0.5		1.7	1.9 1.3	1.5 ND	0.7 NE
o-Phosphate-P	mg/L	0.05		0.3	0.2	0.3	0.26
Phosphorous (Total)	mg/L	0.03		0.25	0.23	0.4	0.20
Radium 226	pCi/L		3	0.000 +/- 0.246	0.170 +/- 0.132	0.109 +/- 0.128	
Organic Analyses							
Haloacetic Acids (Total)	ug/L	1.0	60.0	0.0	0.0	30.0	4.0
Dibromoacetic Acid	-	1.0		ND	ND	2.0	ND
Dichloroacetic Acid		1.0		ND	ND	14.0	ND
Monobromoacetic Acid		1.0		ND	ND	ND	ND ND
Monochloroacetic Acid		2.0		ND ND	ND	ND	ND 4.0
Trichloroacetic Acid Organic Carbon (Dissolved)	mg/L	1.0 0.2		ND	<i>ND</i> 1.2	14.0 2.0	4.0
Organic Carbon (Total)	mg/L	0.2		1.10	1.2	1.5	1.9
Trihalomethanes (Total)	ug/L	1.0	80.0	47.9	25.3	97.0	87.0
Bromodichloromethane	ug/L	0.5		12.0	6.7	26.0	21.0
Bromoform	ug/L	0.5		0.60	ND	1.0	1.00
Chloroform	ug/L	0.5		29.8	15.4	58.0	55.0
Dibromochloromethane	ug/L	0.5		5.5	3.2	12.0	10.0
Field Parameters Temperature	° C	0.41	1	10.0	20.4	16.4	19.4
Specific Conductance (EC)	uS	0.1 1.0	900	18.0 610	20.4 568	460	428.0
pH	Std Units	0.1	6.5 - 8.5	6.5	7.2	7.3	7.1
ORP	mV	1.0	0.0 0.0	-202.5	-232	470	
Free Chlorine Residual	mg/L	0.1	2 - 5	0.24	ND	0.2	
Dissolved Oxygen	mg/L	0.01		1.01	3.98	3.28	2.03
Silt Density Index	Std Units	0.1					-
H ₂ S	mg/L	0.1		0.02	0.09	ND	



Table 14. Summary of WY 2017 Water Quality Data – ASR-3

				Results							
		201				SMS ASR-3					
Parameter	Unit	PQL	MCL	10/22/10	9/21/16	12/9/16	6/27/17	9/6/17			
Elapsed Storage Time	Days	R Operatio	nai Phase	NGW	170	Storage 249	WY 2017 28	Storage 99			
Major Cations	Days				170	249	20	99			
Calcium	mg/L	0.5		76	53	60	43				
Magnesium	ma/L	0.5		18	17	18	14				
Potasium	mg/L	0.5		5	4	4	3.0				
Sodium	mg/L	0.5		102	59	66	46				
Major Anions	mg/L	0.0	-	102	00	- 00	40				
Alkalinity, Total (as CaCO3)	mg/L	2		304	171	178	134				
Chloride	mg/L	1	250	107	58	75	28	36			
Sulfate	mg/L	1	250	56	72	73	71	68			
Nitrate (as NO3)	mg/L	1	45	1	1	ND	1				
Nitrite (as NO2-N)	mg/L	1	1	ND	0.3	0.3	0.2				
General Physical	9. –						*				
pH	Std Units			7.7	7.5	7.3	7.5				
Specific Conductance (EC)	uS	1	900	954	657	740	497	507			
Total Dissolved Solids	mg/L	10	500	575	426	437	314	001			
Metals	9 =						***				
Arsenic (Total)	ug/L	1	10	4	6	5	6				
Barium (Total)	ug/L	10	1000	50	78	88	61				
Iron (Dissolved)	ug/L	10	1000	21	ND	13	ND	NE			
Iron (Total)	ug/L	10	300	21	56	208	173	141			
Lithium	ug/L	1	000	36	14	22	6				
Manganese (Dissolved)	ug/L ug/L	10	+	27	12	15	10	NE			
Manganese (Total)	ug/L	10	50	27	13	16	10	INL			
Mercury	ug/L	0.5	2	21	13	10	ND	NE			
Molybdenum	ug/L	1	1000		21	9	56	INL			
Nickel	ug/L ug/L	10	1000	ND	ND	ND.	2	2.9			
Selenium	ug/L ug/L	2	50	ND	3	3	8	2.8			
			50	403	281	322	211				
Strontium (Total)	ug/L	5 1	20	403	3	322	1				
Uranium (by ICP/MS)	ug/L		30		ND	ND	1				
Vanadium (Total)	ug/L	1 10	1000 5000		266	241	256	250			
Zinc (Total) Miscellaneous	ug/L	10	3000		200	241	230	230			
	/I	0.05	1	249	ND	ND	0.1				
Ammonia-N Boron	mg/L	0.05		ND	0.05	0.07	ND				
Chloramines	mg/L	0.05		0.08	ND	ND	ND ND				
	mg/L	0.05	45	0.08							
Gross Alpha	pCi/L	0.5	15		4.28 +/- 1.73	4.79 +/- 1.87	0.894 +/- 0.980				
Kjehldahl Nitrogen (Total)	mg/L	0.5		ND	1	ND	ND				
Methane	ug/L	0.1		ND	1.4	0.31	1.7				
Nitrogen (Total)	mg/L	0.5		ND	1.5	ND	ND 0.4				
o-Phosphate-P	mg/L	0.05	-	ND	0.2	0.2	0.1				
Phosphorous (Total)	mg/L	0.03		0.03	0.27	0.19	0.37				
Radium 226	pCi/L		3		0.178 +/- 0.302	0.100 +/- 0.139	0.066 +/- 0.114				
Organic Analyses			20.0	ND.			47.0				
Haloacetic Acids (Total)	ug/L	1.0	60.0	ND	3	0.0	17.0				
Dibromoacetic Acid	ug/L	1.0	-	ND	1	ND	ND 2.0				
Dichloroacetic Acid		1.0	-	ND	2	ND	2.0				
Monobromoacetic Acid	ug/L	1.0		ND	ND	ND	ND				
Monochloroacetic Acid	ug/L	2.0		ND	ND	ND	ND 45				
Trichloroacetic Acid		1.0		ND	ND	ND	15				
Organic Carbon (Dissolved)	mg/L	0.2		0.71	0.9	1.3	2.0				
Organic Carbon (Total)	mg/L	0.2	20.5	0.70	1.00	1.4	1.6	1.0			
Trihalomethanes (Total)	ug/L	1.0	80.0	ND	61.40	46.2	112.0				
Bromodichloromethane	ug/L	0.5		ND	15.9	12.0	28.0				
Bromoform	ug/L	0.5		ND	0.8	0.6	1.0				
Chloroform	ug/L	0.5		ND ND	36.7	27.3	71.0				
Dibromochloromethane	ug/L	0.5		ND	8	6.3	12.0				
Field Parameters	0 0	2.1	-	00.0	47.0	100	40.1	40			
Temperature	⁰ C	0.1	222	26.2	17.3	19.9	18.1	19.4			
Specific Conductance (EC)	uS Ctd Unite	1.0	900	991	588	426	462	467			
pH	Std Units	0.1	6.5 - 8.5	7.0	7.07	7.0	7.1	7.			
ORP	mV	1.0		-82	-171.0	-93 ND	166	85			
Free Chlorine Residual	mg/L	0.1	2 - 5	ND	ND 4.07	ND 0.74	0.23	0.26			
Dissolved Oxygen	mg/L	0.01			4.67	3.74	3.26	3.58			
Silt Density Index H ₂ S	Std Units	0.1			710	7.0	NO	, in			
	mg/L	0.1		0.60	ND	ND	ND	NE			



Table 15. Summary of WY 2017 Water Quality Data – ASR-4

						Results ASR-4				
Parameter	Unit	PQL	MCL	9/21/2016	12/2/2016	3/7/2017	6/27/2017	10/4/17		
	AS	R Operation	nal Phase	8	VY 2016 Storag	e	WY 2017	Storage		
Elapsed Storage Time	Days			170	242	337	28	127		
Major Cations										
Calcium	mg/L	0.5		76	68	49	40	36		
Magnesium	mg/L	0.5		16	14	6	13	13		
Potasium Sodium	mg/L mg/L	0.5 0.5		4.6 103	4.0 88	4.2 76	2.8 42	2.7 39		
Major Anions	ilig/L	0.0		103	00	70	72	33		
Alkalinity, Total (as CaCO3)	mg/L	2		234	231	176	134	134		
Chloride	mg/L	1	250	121	123	77	27	27		
Sulfate	mg/L	1	250	55	53	48	69	70		
Nitrate (as NO3)	mg/L	1	45	1.0	2.0	1.0	1	0.2		
Nitrite (as NO2-N)	mg/L	1	1	0.3	0.3	ND	0.2	ND		
General Physical										
pH	Std Units			7.5	7.3	7.6	7.5	7.5		
Specific Conductance (EC)	uS "	1	900	924	937	689	497	487		
Total Dissolved Solids	mg/L	10	500	563	537	437	311	297		
Metals				_	_	_				
Arsenic (Total) Barium (Total)	ug/L	1 10	10 1000	5 54	5 52	7 29	22 58	8		
Iron (Dissolved)	ug/L ug/L	10	1000	54 ND	23	ND	58 ND	60 18		
Iron (Dissolved)	ug/L ug/L	10	300	ND 144	153	135	114	201		
Lithium	ug/L ug/L	10	300	32	34	24	7	7		
Manganese (Dissolved)	ug/L	10		21	21	ND	, ND	13		
Manganese (Total)	ug/L	10	50	21	22	ND	ND	14		
Mercury	ug/L	0.5	2		ND	0.2	ND	ND		
Molybdenum	ug/L	1	1000	6	6	24	62	55		
Nickel	ug/L	10	100	58	68	25	9	23		
Selenium	ug/L	2	50	2	2	5	12	10		
Strontium (Total)	ug/L	5		444	497	456	214	206		
Uranium (by ICP/MS)	ug/L	1	30	1	1	3	1	1.7		
Vanadium (Total)	ug/L	1	1000	ND	7	5	1	ND 404		
Zinc (Total) Miscellaneous	ug/L	10	5000	ND	ND	20	190	104		
Ammonia-N	mg/L	0.05		ND	ND	ND	0.1	ND		
Boron	mg/L	0.05		0.11	0.09	0.08	ND	ND		
Chloramines	mg/L	0.05		ND	ND	ND	ND	ND		
Gross Alpha	pCi/L		15	3.01 +/- 2.64	3.91 +/- 2.17	1.01 +/- 1.67	5.07 +/- 1.71	2.02 +/- 1.14		
Kjehldahl Nitrogen (Total)	mg/L	0.5		0.5	1.3	0.8	ND	ND		
Methane	ug/L	0.1		1.7	1.20	0.51	1.5	0.98		
Nitrogen (Total)	mg/L	0.5		1.00	2.1	1.1	ND	ND		
o-Phosphate-P	mg/L	0.05		ND	ND	0.1	ND	0.16		
Phosphorous (Total)	mg/L	0.03		ND	0.04	0.03	0.24	0.17		
Radium 226	pCi/L		3	0.760 +/- 0.438	0.578 +/- 0.234	0.318 +/- 0.171	0.000 +/- 0.074	0.000 +/088		
Organic Analyses	I	4.0	00.0	0.0	0.0	0.0	40.0	0.0		
Haloacetic Acids (Total) Dibromoacetic Acid	ug/L ug/L	1.0 1.0	60.0	0.0 ND	0.0 ND	0.0 <i>ND</i>	12.0 <i>ND</i>	2.0 ND		
Dibromoacetic Acid		1.0		ND ND	ND ND	ND ND	2.0	ND ND		
Monobromoacetic Acid	· J	1.0		ND ND	ND ND	ND ND	ND	ND ND		
Monochloroacetic Acid	Ü	2.0		ND	ND	ND ND	ND ND	ND ND		
Trichloroacetic Acid		1.0		ND	ND	ND	10	2.0		
Organic Carbon (Dissolved)	mg/L	0.2		2	0.9	0.9	1.6	1.7		
Organic Carbon (Total)	mg/L	0.2		0.6	0.9	0.8	1.6	1.3		
Trihalomethanes (Total)	ug/L	1.0	80.0	0.0	0.0	19.3	98	59		
Bromodichloromethane	ug/L	0.5		ND	ND	5.6	23	16		
Bromoform	ug/L	0.5		ND	ND	0.8	1.0	ND		
Chloroform	_	0.5		ND	ND	9.4	62	34		
Dibromochloromethane	ug/L	0.5		ND	ND	3.5	12	9.0		
Field Parameters	0 0	0.1	1	05.4	20.5	05.0	40 =	10 =		
Temperature Specific Conductance (EC)	°С	0.1 1.0	000	25.1	26.0	25.6	18.5	18.5 415		
pH	uS Std Units	0.1	900 6.5 - 8.5	564 7.08	859 7.2	680 7.3	423 7.2	6.4		
рн ORP	mV	1.0	0.0 - 8.3	-262.0	-297	7.3 54	159	31		
Free Chlorine Residual	mg/L	0.1	2 - 5	-202.0 ND	0.2	34	0.21	0.51		
	g, -	0.1	2 - J	יאט	0.2					
Dissolved Oxygen	ma/L	0.01		0.97	0.52		NU	1.87		
Dissolved Oxygen Silt Density Index	mg/L Std Units	0.01 0.1		0.97	0.52		ND	1.87		



Table 16. Summary of WY 2017 Water Quality Data – SM MW-1

				Results						
				SM MW-1						
Parameter	Unit	PQL	MCL	12/1/16	2/1/17	4/11/17	6/28/17	7/18/17	9/18/17	10/2/17
Elapsed Storage Time	Dovo	Sample D	escription	WY 2016 Storage 241	WY 2017 0	Injection 0	29	WY 2017 49	Storage 111	125
Elapsed Storage Time Major Cations	Days			241	U	U	29	49	- 111	123
Calcium	mg/L	0.5		74		40	44		I	48
Magnesium	mg/L	0.5		22		10	11			13
Potasium	mg/L	0.5		4.6		2.5	2.7			3.2
Sodium	mg/L	0.5		67		41	43			48
Major Anions										
Alkalinity, Total (as CaCO3)	mg/L	2		209		134	135			137
Chloride	mg/L	1	250	109		28	28			28
Sulfate Nitrate (as NO3)	mg/L mg/L	1	250 45	75 ND		68	69			69 0.3
Nitrite (as NO2-N)	mg/L	1	45	0.3		0.5	0.2			ND
General Physical	J								ı	
pH	Std Units			7.3		7.7	7.5			7.5
Specific Conductance (EC)	uS	1	900	890		493	489			491
Total Dissolved Solids	mg/L	10	500	517		288	297			326
Metals										
Arsenic (Total)	ug/L	1	10	2		2	2			2
Barium (Total)	ug/L	10	1000	66		20 ND	21 ND			26
Iron (Dissolved) Iron (Total)	ug/L ug/L	10 10	300	ND ND		ND 72	ND ND			14 ND
Lithium	ug/L ug/L	10	300	25		9	7			4
Manganese (Dissolved)	ug/L	10		16		ND	, ND			ND
Manganese (Total)	ug/L	10	50	17		ND	ND			ND
Mercury	ug/L	0.5	2			0.4	ND			ND
Molybdenum	ug/L	1	1000	10		3	3			5
Nickel	ug/L	10	100	ND		ND	1			ND
Selenium	ug/L	2	50	2		2	9			3
Strontium (Total) Uranium (by ICP/MS)	ug/L ug/L	5	30	388		282	245			213
Vanadium (Total)	ug/L ug/L	1	1000	ND		ND	2			ND
Zinc (Total)	ug/L	10	5000	ND		ND	ND			40
Miscellaneous										
Ammonia-N	mg/L	0.05		ND		ND	0.1			ND
Boron	mg/L	0.05		0.08		ND	ND			ND
Chloramines	mg/L	0.05		ND	0.08	0.08	ND	ND	ND	ND
Gross Alpha	pCi/L	0.5	15	4.70 +/- 2.20		2.31 +/- 1.29	1.77 +/- 1.15			2.88 +/- 1.29
Kjehldahl Nitrogen (Total)	mg/L	0.5 0.1		ND 0.92		0.6 0.68	ND 0.74			0.8 ND
Methane Nitrogen (Total)	ug/L mg/L	0.1		0.92 ND		1.4	0.74 ND			ND
o-Phosphate-P	mg/L	0.05		0.1		ND	ND			ND
Phosphorous (Total)	mg/L	0.03		0.11		0.04	0.1			0.07
Radium 226	pCi/L		3	0.878 +/- 0.282		0.164 +/- 0.170	0.044 +/- 0.104			0.050 +/- 0.120
Organic Analyses										
Haloacetic Acids (Total)	ug/L	1.0	60.0	0.0	21.0		2.0	12.0	1.6	
Dibromoacetic Acid		1.0		ND	2.0	2.0	ND	ND	ND	ND
Dichloroacetic Acid		1.0		ND ND	9.0	8.0	ND	3.0	1.6	ND ND
Monobromoacetic Acid Monochloroacetic Acid		1.0 2.0		ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND
Trichloroacetic Acid		1.0		ND ND	10.0		2.0	0.0	ND ND	
Organic Carbon (Dissolved)	mg/L	0.2		1.3	10.0	1.3	1.4	9.0	IVD	1.8
Organic Carbon (Total)	mg/L	0.2		1.0		1.2	1.3			1.20
Trihalomethanes (Total)	ug/L	1.0	80.0	26.7	69.6	58.0	66.0	77.0	80.8	
Bromodichloromethane		0.5		6.7	14.8	14	17	17	17	
Bromoform		0.5		ND 10.0	1.2	1.0	1.0	ND 55		
Chloroform Dibromochloromethane		0.5		16.9 3.1	45.6 8.0	35 8.0	39 9.0	52	57 6.2	50 5.0
Field Parameters	uy/L	0.5		3.1	8.0	8.0	9.0	8.0	6.2	5.0
Temperature	° C	0.1		20	17.2	18.3	18.8	18.3	19.1	19.5
Specific Conductance (EC)	uS	1.0	900	741	469		426	433	426	
pH	Std Units	0.1	6.5 - 8.5	7.0	7.5		7.3	7.5		
ORP	mV	1.0		-164	35	688	265	178	55	91
Free Chlorine Residual	mg/L	0.1	2 - 5	0.2	0.37	0.21	0.1	0.43	0.29	
Dissolved Oxygen	mg/L	0.01		1.99	4.23	3.94	3.08	1.2	3.99	3.19
Silt Density Index H ₂ S	Std Units mg/L	0.1 0.1		ND	ND	ND	ND	ND	ND	ND
Notes:	mg/L	0.1		טאו	שויו	שויו	טאו	טאו	ND	טאו



Table 17. Summary of WY 2017 Water Quality Data – SMS Deep

						Results		
						SMS Deep		
Parameter	Unit	PQL	MCL	1/18/17	4/11/17	7/18/17	9/18/17	10/2/17
Flores d Oters on Time	D	Sample D	escription		Injection		/Y 2017 Storag	
Elapsed Storage Time Major Cations	Days			0	0	49	111	125
Calcium	ma/l	0.5		51	41			48
Magnesium	mg/L ma/L	0.5		13	12			14
Potasium	mg/L	0.5		3.3	2.7			3.2
Sodium	mg/L	0.5		48	39			48
Major Anions	9/ =	0.0			00			
Alkalinity, Total (as CaCO3)	mg/L	2		145	138			143
Chloride	mg/L	1	250	31	27			29
Sulfate	mg/L	1	250	82	66			70
Nitrate (as NO3)	mg/L	1	45	ND	1.0			0.3
Nitrite (as NO2-N)	mg/L	1	1	ND	0.5			ND
General Physical								
рН	Std Units			7.7	7.6			7.7
Specific Conductance (EC)	uS	1	900	533	490			505
Total Dissolved Solids	mg/L	10	500	331	300			308
Metals								
Arsenic (Total)	ug/L	1	10	1	1			6
Barium (Total)	ug/L	10	1000	45	43			56
Iron (Dissolved)	ug/L	10		ND	ND			ND
Iron (Total)	ug/L	10	300	ND	ND			ND
Lithium	ug/L	1		6	7			4
Manganese (Dissolved)	ug/L	10		ND	ND			ND
Manganese (Total)	ug/L	10	50	ND	ND			ND
Mercury	ug/L	0.5	2	ND	ND			ND
Molybdenum	ug/L	1	1000	3	3			25
Nickel	ug/L	10	100	ND	ND			ND
Selenium	ug/L	2	50	2	2			4
Strontium (Total)	ug/L	5		325	277			250
Uranium (by ICP/MS)	ug/L	1	30	1	1			1
Vanadium (Total)	ug/L	10	1000 5000	ND ND	ND 56			ND 61
Zinc (Total) Miscellaneous	ug/L	10	3000	ND	56			61
Ammonia-N	mg/L	0.05		ND	0.05			ND
Boron	mg/L	0.05		ND ND	ND			ND
Chloramines	mg/L	0.05		0.19	0.14	ND	ND	ND
Gross Alpha	pCi/L	0.00	15	2.84 +/- 1.45	2.20 +/- 1.33	ND	ND	1.80 +/- 1.09
Kjehldahl Nitrogen (Total)	mg/L	0.5	10	ND	0.5			1.00 +/- 1.03 ND
Methane	ug/L	0.1		0.60	1.3			0.39
Nitrogen (Total)	mg/L	0.5		ND	1.3			0.55
o-Phosphate-P	mg/L	0.05		0.2	0.2			ND
Phosphorous (Total)	mg/L	0.03		0.26	0.29			0.09
Radium 226	pCi/L	0.00	3	0.000 +/- 0.171	0.066 +/- 0.129			0.149 +/- 0.154
Organic Analyses	· · -		-					
Haloacetic Acids (Total)	ug/L	1.0	60.0	16.0	11.0	12.0	3.0	6.0
Dibromoacetic Acid	ug/L	1.0		2.0	2.0	ND	ND	ND
Dichloroacetic Acid	Ü	1.0		6.0	3.0	3.0	2.0	1.0
Monobromoacetic Acid	ug/L	1.0		1.0	1.0	ND	ND	ND
Monochloroacetic Acid	ug/L	2.0		ND	ND	ND	ND	ND
Trichloroacetic Acid		1.0		7.0	5.0	9.0	1.0	5
Organic Carbon (Dissolved)	mg/L	0.2		1.6	1.4			1.7
Organic Carbon (Total)	mg/L	0.2		1.5	1.4			1.3
Trihalomethanes (Total)	ug/L	1.0	80.0	41.0	27.0	81.0	81.0	86.0
Bromodichloromethane	ug/L	0.5		13.5	9	21	24	22
Bromoform	ug/L	0.5		1.2	ND	1.0	1.0	1.0
Chloroform	ug/L	0.5		16.5	12	49	45	52
Dibromochloromethane	ug/L	0.5		9.8	6	10	11	11
Field Parameters	10 -						1	1
Temperature	°C	0.1		16.1	16.8	17.1	18.2	18.1
Specific Conductance (EC)	uS	1.0	900	490	429	437	447	444
pH	Std Units	0.1	6.5 - 8.5	7.5	7.7	7.3	7.3	7.1
ORP	mV	1.0		637	731	166	217	148
Free Chlorine Residual	mg/L	0.1	2 - 5	1.4	0.94	0.4	0.27	0.41
Dissolved Oxygen	mg/L	0.01		4.36	4.16	3.68	3.94	3.48
Silt Density Index H ₂ S	Std Units	0.1 0.1		ND	ND	ND	ND	ND
	mg/L	0.1		ND	ND	ND	ND	טא



- ASR-2: Two samples were collected from ASR-2; one after approximately 30 days and another after approximately 130 days of storage. Although some decline in THMs was observed during the period after the initial ingrowth, both samples exceeded the THM MCL with levels of 97 and 87 ug/L, respectively.
- ASR-3: One sample was collected from ASR-3 after approximately 30 days of storage, which showed significant ingrowth of THMs at 112 ug/L, exceeding the MCL of 80 ug/L. The pump was removed from ASR-3 in late September 2017 for well rehabilitation, and no additional samples were collected from this well during WY 2017.
- ASR-4: Two samples were collected from ASR-4; one after approximately 30 days and another after approximately 130 days of storage. The initial sample at 30 days showed significant ingrowth exceeding the THM MCL with a level of 98 ug/L, followed by more significant decline than observed at ASR-2 declining to below the MCL at a level of 59 ug/L.
- SM MW-1: Four samples were collected at SM MW-1 on an approximate monthly basis during the storage period, which showed steady ingrowth of THMs over a period of approximately 110 days reaching a level of 81 ug/L, followed a slight decline after 125 days of storage to a level of 71 ug/L.
- SMS Deep: Three samples were collected at SMS Deep during the storage period, which showed steady ingrowth of THMs over the period of 125 days reaching a level of 86 ug/L.

Historically, THMs at the ASR wells typically show an initial and significant ingrowth during the storage period, which is a result of free chlorine and trace levels of organic carbon in the injected water. THM ingrowth typically peaks in concentration approximately 60 to 120 days after the cessation of injection, followed by a gradual decline during the remainder of the storage period. After approximately 150 to 180 days of storage, THMs typically degrade to below the initial injection levels.

As discussed above, THMs during the WY 2017 storage period showed the above-described typical initial and significant ingrowth; however, their persistence this season differed from the typical pattern of significant degradation after several months of aquifer storage (with the possible exception of ASR-4). The lack of THM degradation observed during the WY 2017 storage period is likely attributable to the significantly greater volume and duration of injection, and the relatively short storage period, compared to previous years. Historically, THM degradation at ASR-1 appeared to have a direct relationship to intermixing with native ground waters, especially from gradient-induced mixing resulting from nearby pumping. Other ASR locations have postulated that changes in aquifer redox conditions and/or bioactivity from subsurface organisms such as Iron Dissimilatory Bacteria facilitate the degradation of the more robust THM compounds (i.e., chloroform and dichlorobromomethane). The large amount of recharge this season would thoroughly purge the proximate well bore areas with highly oxidized and oxygen-rich water, which would inhibit the above-noted degradation mechanisms; the



persistence of elevated redox potential (ORP), dissolved oxygen levels, and measurable free chlorine residuals during this year's storage period confirm the persistence of this condition.

HAA levels at the wells (where sufficient data was collected) generally showed their typical pattern of limited (if any) ingrowth during the initial storage period, followed by complete to near-complete degradation by the end of the storage season. HAA's are much less stable compounds than THM's; their auto-degradation is therefore unremarkable.

Water Quality at Off-Site Monitoring Wells

Water-quality data collected from off-site wells in WY 2017 data are presented in **Table 18**. At PCA-E Deep, the absence of DBP's, in addition to an apparent increasing trend in chloride during the period, suggest that the influence of recharge operations is negligible to date at this location. Paralta is the nearest CAW production well to the ASR wells, and the available THM data show a potential trend of an increasing contribution of injected water quality over the WY 2017 storage season with levels increasing from 4 ug/L prior to the WY 2017 injection season to 15 ug/L near the end of the storage period. These levels are well below the MCL of 80 ug/L; however, the potential for an increasing trend in THMs at Paralta should be tracked during future ASR operations.

Additional Water Quality Investigations

As discussed in the WY 2015 Summary of Operations Report (SOR), at the commencement of WY 2013 recovery pumping of ASR-1, a sample collected by CAW 8 had a Mercury (Hg) concentration of 4 µg/L, exceeding the State MCL of 2 µg/L. Although the occurrence of Hg in surface water and groundwater has been documented elsewhere in the Monterey Bay region, the detection of Hg in SGB water was unusual. The initial Hg detection at ASR-1 was followed up with additional sampling to verify the presence of Hg, and the subsequent sampling identified detectable levels of Hg, although below the MCL. The fact that detectable Hg was identified, and at levels above historical NGW and injectate concentrations has led to the development of an ongoing investigation of Hg occurrence at the ASR wells.

As described in previous technical memoranda and reports regarding this issue, the origin of the detected Hg could be the result one or more mechanisms, including the following:

A. Soluble or insoluble Hg present in the Carmel River System source water that could have accumulated as particulate (insoluble) compounds in the well bore area, similar to the accumulation of other particulate matter present in the Carmel River injectate and CAW conveyance system. Such accumulation would be released during routine backflushing operations and/or early stages of stored water recovery operations.

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⁸ Collected on October 24, 2013.



Table 18. Summary of WY 2017 Water Quality Data – Off-Site Monitoring Wells

Parameter		-					Desulte		
Major Casilors						PCA-F Deen	Results	Par	alta
Mayor Castions	Parameter	Unit	PQL	MCL	12/8/2016		9/11/17		
Calcium	1 313								
Magnesium	Major Cations					•			
Polystem	Calcium	mg/L	0.5		37	46	56	73	56
Solution mg.L 0.5 68 77 88 83 79	Magnesium	mg/L	0.5		7	10	4.4	17	14
Major Annions Major Annion		mg/L							
Albalany, Total (as CaCO3) mg.L 2 188 187 198 223 168 Chorice mg.L 1 200 22 31 33 66 77 Sulfate mg.L 1 200 22 31 33 66 77 Ninte (as NO23) mg.L 1 46 ND ND ND 0.3 ND Ninte (as NO24) mg.L 1 7 0.2 ND ND ND 0.3 ND Ninte (as NO24) mg.L 1 7 0.2 ND ND ND 0.3 ND Ninte (as NO24) mg.L 1 7 0.2 ND ND ND 0.3 ND Ninte (as NO24) mg.L 1 7 0.2 ND ND ND 0.3 ND Ninte (as NO24) mg.L 1 7 7 7 7 7 7 7 7 7		mg/L	0.5		68	77	98	83	78
Chloride	Major Anions			-					
Sulfate									
Nieste (sa NO2-N) mgL f 1 45 ND ND ND 3 1.1 Nieste (sa NO2-N) mgL f 1 1 0.2 ND									
Nitro (an NO2-N)								66	71
Secretic Consustance (EC) US 1 000 576 7.6 7.4 7.3 7.3 7.3 7.4								3	1
Std Units	,	mg/L	1	1	0.2	ND	ND	0.3	ND
Sectific Conductance (EC) US		la	1 1						
Total Dissolved Solicis mgt. 10 500 291 440 463 557 400 **Markats** **Therefore Total)			l .						
Metals									
Amenic (Total) ug/L 1 10 7 7 7 7 3 3 3 3 3 3		mg/L	10	500	291	440	463	557	403
Barlum (Total)		ug/l		40			7		_
Intro Deschweld									3
Incort Critical Up Up Up Up Up Up Up U		_		1000					
Lithium	. ()			200					
Manganese (Dissolved)				300					
Manganese (Total)		Ü							
Moreary Ug/L 0.5 2				50					
Molybdehum								20	
Nickel Ug/L 10 100 26 ND 4 ND ND L 2 2 2 2 2 2 2 2 2	-							12	
Selenium Up.L 2 50 ND ND 1 2 2 2 2 2 2 2 2 2									
Strontum (Total)							1	2	2
Usanium (by ICPMS)							281	379	252
Vanadium (Total)		ŭ		30				1	1
Zinc (Total) ug/L 10 5000 24 27 ND ND ND ND ND ND ND N								5	ND
Ammonia-N mg/L 0.05			10	5000		27	ND	ND	ND
Boron	Miscellaneous								
Chloramines	Ammonia-N	mg/L	0.05		ND	ND	ND	0.1	ND
Gross Alpha pCi/L mg/L 0.5 ND ND ND ND 1.2 ND ND ND ND ND ND ND N	Boron	mg/L	0.05		0.07	0.09	0.10	0.10	0.07
Kjehldahl Nitrogen (Total) mg/L 0.5 ND ND ND 1.2 ND	Chloramines	mg/L	0.05		ND	ND	ND	ND	ND
Methane	Gross Alpha	pCi/L		15	0.489 +/- 1.42	1.38 +/- 1.51	0.986 +/- 1.93	7.19 +/- 2.50	3.77 +/- 1.77
Nitrogen (Total) mg/L 0.5 ND ND ND 1.7 ND o-Phosphate-P mg/L 0.05 ND ND ND 0.2 ND Phosphorous (Total) mg/L 0.03 0.03 0.05 0.02 0.03 0.02 Radium 226 pCi/L 3 0.050 +/- 0.120 0.164 +/- 0.170 0.56 +/- 0.134 1.39 +/- 0.349 0.978 +/- 0.286 Organic Analyses ***********************************									ND
o-Phosphate-P mg/L 0.05 ND ND ND 0.2 ND Phosphorous (Total) mg/L 0.03 0.03 0.03 0.05 0.02 0.03 0.02 Radium 226 pCi/L 3 0.050 +/- 0.120 0.164 +/- 0.170 0.56 +/- 0.134 1.39 +/- 0.349 0.978 +/- 0.285 Organic Analyses Haloacetic Acids (Total) ug/L 1.0 60.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 Dibromoacetic Acid ug/L 1.0 ND	Methane	ug/L	0.1			2.2	2.8		1.6
Phosphorous (Total) mg/L 0.03 0.03 0.05 0.02 0.03 0.02 0.03 0.02 0.03 0.02 0.03 0.02 0.03 0.02 0.03 0.02 0.03 0.02 0.03 0.02 0.03 0.02 0.03 0.02 0.03 0.02 0.03 0.02 0.03 0.02 0.03 0.05 0.02 0.03 0.05 0.02 0.03 0.05 0.02 0.03 0.05							ND	1.7	ND
Radium 226 pCi/L 3 0.050 +/- 0.120 0.164 +/- 0.170 0.56 +/- 0.134 1.39 +/- 0.349 0.978 +/- 0.285 Organic Analyses Operation of Management of Carlot Ug/L 1.0 60.0 0.0	· ·								ND
Display Disp			0.03						
Haloacetic Acids (Total) ug/L 1.0 60.0 0.0		pCi/L		3	0.050 +/- 0.120	0.164 +/- 0.170	0.56 +/- 0.134	1.39 +/- 0.349	0.978 +/- 0.285
Dibromoacetic Acid ug/L 1.0 ND ND ND ND ND ND ND N									
Dichloroacetic Acid ug/L 1.0 ND ND ND ND ND ND ND N		ŭ	_	60.0					
Monobromoacetic Acid ug/L 1.0 ND ND ND ND ND ND ND N									
Monochloroacetic Acid ug/L 2.0 ND ND ND ND ND ND									
Trichloroacetic Acid ug/L 1.0 ND ND ND ND ND ND ND N									
Organic Carbon (Dissolved) mg/L 0.2 0.7 0.5 0.6 1.0 1.1 Organic Carbon (Total) mg/L 0.2 0.8 0.5 0.6 1.0 1.0 Trihalomethanes (Total) ug/L 1.0 80.0 0.0 0.0 0.0 4.3 15.0 Bromodichloromethane ug/L 0.5 ND									
Organic Carbon (Total) mg/L 0.2 0.8 0.5 0.6 1.0 1.0 Trihalomethanes (Total) ug/L 1.0 80.0 0.0 0.0 0.0 4.3 15.0 Bromodichloromethane ug/L 0.5 ND ND ND ND 0.6 3.0 Chloroform ug/L 0.5 ND ND <td>771071107040041071074</td> <td>ug/ =</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>	771071107040041071074	ug/ =							
Trihalomethanes (Total) ug/L 1.0 80.0 0.0 0.0 0.0 4.3 15.0 Bromodichloromethane ug/L 0.5 ND ND ND ND 0.6 3.0 Bromoform ug/L 0.5 ND ND <td< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></td<>									
Bromodichloromethane ug/L 0.5 ND ND ND ND 0.6 3.0				80.0					
Bromoform Lig/L 0.5 ND ND ND ND ND ND ND				00.0					
Chloroform ug/L 0.5 ND 0.2 0.27 Dissolved Oxygen mg/L 0.01 2 - 5 ND ND ND ND 0.2 0.27 Dissolved Oxygen mg/L 0.01 2 - 5 ND 0.46 0.55 2 6.14 Sitl Density Index Std Units 0.1 0.1 0.1 0.46 0.55 2 6.14									
Dibromochloromethane ug/L 0.5 ND 0.2 0.27 Price Chlorine Residual mg/L 0.01 2 - 5 ND ND ND ND 0.2 0.27 Dissolved Oxygen mg/L 0.01 2 - 5 ND 0.46 0.55 2 6.14 Sitl Density Index Std Units 0.7 0.7 0.46 0.55 2 6.14		_							
Field Parameters Temperature ° C 0.1 27.7 27.1 28.8 24.5 22 Specific Conductance (EC) us 1.0 900 554 525 660 785 455 pH Std Units 0.1 6.5 - 8.5 7.5 7.7 7.4 7.2 7.4 ORP mV 1.0 68 75 -64 -211 -47 Free Chlorine Residual mg/L 0.1 2 -5 ND ND ND ND 0.2 0.27 Dissolved Oxygen mg/L 0.01 0.46 0.55 2 6.14 Sitl Density Index Std Units 0.7 0.7 0.46 0.55 2 6.14									ND
Temperature ° C 0.1 27.7 27.1 28.8 24.5 22 Specific Conductance (EC) uS 1.0 900 554 525 660 785 455 pH Std Units 0.1 6.5 - 8.5 7.5 7.7 7.4 7.2 7.4 ORP mV 1.0 68 75 -64 -211 -47 Free Chlorine Residual mg/L 0.1 2 -5 ND ND ND 0.2 0.2 Dissolved Oxygen mg/L 0.01 0.01 0.46 0.55 2 6.14 Sit Density Index Std Units 0.7 0.7 0.46 0.55 0.5 0.2 0.2						-		-	
Specific Conductance (EC) uS 1.0 900 554 525 660 785 455 pH Std Units 0.1 6.5 - 8.5 7.5 7.7 7.4 7.2 7.4 ORP mV 1.0 68 75 -64 -211 -47 Free Chlorine Residual mg/L 0.1 2 - 5 ND ND ND 0.2 0.2 0.27 Dissolved Oxygen mg/L 0.01 0.01 0.46 0.55 2 6.14 Sitl Density Index Std Units 0.1 0.7 0.7 0.7 0.7 0.7 0.7 0.7 0.7 0.7 0.7 0.2		⁰ C	0.1		27.7	27.1	28.8	24.5	22
pH Std Units 0.1 6.5 - 8.5 7.5 7.7 7.4 7.2 7.4 ORP mV 1.0 68 75 -64 -211 -47 Free Chlorine Residual mg/L 0.1 2 - 5 ND ND ND ND 0.2 0.27 Dissolved Oxygen mg/L 0.01 0.01 0.46 0.55 2 6.14 Sitl Density Index Std Units 0.1 0.1 0.2 0.27			_	900					455
ORP mV 1.0 68 75 -64 -211 -47 Free Chlorine Residual mg/L 0.1 2 - 5 ND ND ND 0.2 0.27 Dissolved Oxygen mg/L 0.01 0.46 0.55 2 6.14 Silt Density Index Std Units 0.1 0.1 0.46 0.55 0.55 0.2 0.27									7.4
Free Chlorine Residual mg/L 0.1 2 - 5 ND ND ND 0.2 0.27 Dissolved Oxygen mg/L 0.01 0.46 0.55 2 6.14 Sitt Density Index Std Units 0.1 0.1 0.46 0.55 0.55 0.2 6.14									-47
Dissolved Oxygen mg/L 0.01 0.46 0.55 2 6.14 Silt Density Index Std Units 0.1 0.46 0.55 2 6.14				2 - 5					0.27
Silt Density Index Std Units 0.1								2	6.14
H ₂ S mg/L 0.1 ND ND ND ND	Silt Density Index	Std Units	0.1						
	H₂S	mg/L	0.1		ND	ND	ND		ND

Notes:



- B. Solubilization of naturally occurring Hg minerals present in the Tsm geologic matrix, which could result from geochemical interactions between the injection source water, NGW and aquifer minerals.
- C. Mobilization of insoluble (i.e., particulate) Hg from the Tsm matrix via the dissolution of cementitous materials and subsequent migration of particulate Hg compounds during recovery/pumping operations.
- D. Other anthropogenic sources of Hg in well components or other off-site sources.

During WY 2016, a Supplemental Sampling and Analysis Plan⁹ (SSAP) was developed for additional investigation of the Hg occurrence. In addition to the collection of Hg samples utilizing a variety of EPA-approved laboratory methods and detections limits, the suite of analytes included a variety of constituents that are known to affect (or directly react with) Hg and/or Hg compounds. The sampling performed during WY 2016 resulted in the following preliminary findings:

- The ASR wells showed Hg levels below MCL's, but there was also a positive correlation between declining turbidity and decreasing Hg levels as the duration of pumping increased during well backflushing operations.
- Injection source waters from the Begonia Iron Removal Plant (BIRP) indicated detectable Hg levels in the raw well water plant influent and in the finished product water; however, the Hg levels were all far below MCL's, and even below the detection limits of conventional EPA 200.8 analysis methods, with the Hg detections at subparts-per-trillion levels.

The data collected during WY 2016 suggested that there was a meaningful correlation between Hg content, Turbidity, and pumping time in the produced water from ASR-1. The possible explanation for this phenomenon is that the trace-level Hg present in the Carmel River System injection source waters was accumulating in the near-well-bore area during injection operations, and then released when reverse flows associated with backflushing or recovery operations occurred (per hypothesis (A) above).

Because the occurrence of elevated Hg levels in ASR-1 appeared to be directly correlated to elevated turbidity levels in initial well flush waters, a revised protocol consisting of a new triple-surge well flushing procedure (refer to the WY 2016 SOR for details) was recommended for all regular and special operations in WY 2017. The addition of an on-line Turbidity analyzer at ASR-1 was also recommended to serve as a safeguard against the possible conveyance of turbid (and potentially Hg-noncompliant) waters into the distribution system during ASR recovery (ie production) operations.

WY 2017 Investigation. The Hg occurrence investigation continued in WY 2017 and consisted of the following activities:

⁹ Dated September 4, 2015



- Collection of high-frequency (daily) samples of injectate during the Injection Season to monitor for the presence / absence of Hg in the injected water.
- Performance of 1-hr Cycle Tests for the collection of additional Hg data from all four of the ASR wells.
- Collection of water quality data on a monthly basis from all 4 ASR wells during the storage period to assess time- and mixing-dependant effects on the occurrence of Hg.
- "Breakthrough" sampling at ASR-4 to detect the arrival of the ASR-3 injection front and monitor for associated changes in Hg concentrations.
- Collection of ASR well backflush residue samples for evaluation by a specialty lab to
 establish if the samples have sufficient quantities of Hg-bearing particulates for further
 analysis via specialty analytical laboratory methods to determine the precise
 identification of Hg-bearing particulates (i.e., molecular composition and structure) to
 facilitate refined geochemical modeling to provide an improved understanding of the
 geochemical mechanism(s) responsible for Hg-occurrence.

The results to date of the WY 2017 Hg investigation activities are summarized below:

High-Frequency Injectate Sampling. High frequency sampling of the injectate during WY 2017 was performed to detect the presence of Hg in the injection source water. High frequency composite sampling of the injectate was performed to detect if high flows in the Carmel River Watershed was causing episodic releases of Hg into the river system from soil runoff in the watershed and/or stirring up sediments in the reservoir(s) or floodplains. It was assumed that if Hg was being released from the Carmel River System, the events would occur over several consecutive days when the river flows were high and sediments were being transported. Due to the assumed timing of the hypothetical Hg release mechanism, daily composite samples were used to detect if the events were occurring.

Composite samples of injectate were collected at the ASR-2 wellhead every day the project was operated in injection mode. An automated ISCO sampler was plumbed to the sample port at the ASR-2 wellhead and was programmed to pull 50 ml of water from the injectate stream at a 30-minute sample interval. An aliquot of the water collected by the ISCO was collected by operations staff and sent to the lab at roughly 24-hour intervals. A record of when the samples were collected and what time-period each of the samples represent is included in this report as **Appendix C**. In addition, a record of which Carmel River System wells were producing water to the CAW system was kept in case there was a Hg detection in the injectate. The Carmel Valley production records are also presented in **Appendix C**.

Over the WY 2017 project operation, no Hg was detected in any of the daily composite samples, indicating that the Carmel River System is likely not a source of Hg at the ASR wells as postulated in (A) above. Because no Hg was detected during this WY 2017 sampling, the District does not intend to continue composite sampling of injectate in future operational years.



1-Hr Cycle Testing. Additional Hg sampling and analysis was performed at ASR-2, and ASR-3 and ASR-4 during WY 2017 (prior to the injection season) as part of the expansion of the Hg occurrence investigation beyond ASR-1 to the other ASR project wells. The sampling consisted of 1-hr "Cycle Tests", similar to the sampling that has been conducted at ASR-1 previously, where samples were collected from each well at elapsed pumping/purge times of 0 (initial casing flush water), 1, 2, 5, 10, 30 and 60 mins. The results are summarized in **Table 19** below:

Table 19. Hg "Cycle Test" Data Summary

	Sample	CI-	%	Purge ET (mins) vs. Hg (ug/L) ²						
Well	Date	(mg/L)	NGW ¹	0	1	2	5	10	30	60
ASR-2	11/3/2016	92	61	1.8	0.67	0.23	1.1	2.1	2.5	2.5
	12/6/2016	102	72	0.28	1.8	0.23	0.78	2.4	2.5	2.6
ASR-3	11/1/2016	75	45	0.01	0.01	1.5	0.01	1.3	1.4	1.5
	12/9/2016	87	58	1.5	0.35	0.2	0.19	1.1	1.5	1.5
ASR-4	11/1/2016	91	61	4.5	0.01	0.67	0.33	0.17	0.4	0.36
	12/9/2016	92	61	2.4	0.17	0.58	0.19	0.22	0.38	0.27

Notes:

Constituents exceeding MCLs denoted in BOLD type

- 1 Percent of native groundwater (NGW) in based on Chloride (CI-) data.
- 2 Unfiltered EPA Method 200.8

The cycle test data did not show a correlation between Turbidity and Hg level as noted above during the 2016 testing program. This may be a result of the very low turbidities encountered throughout ASR operations during the 2017 year; it is possible that the Turbidity:Hg correlation is applicable only when there are substantial turbidity spikes at the wells. Because Turbidity is an indirect measurement of particulate matter in water, the correlation between possible Hg occurrence and higher Tu values would appear to be valid, at least at relatively high values, as detected occurrences of Hg have historically been predominantly in an insoluble (particulate) form.

Further analysis of the dataset does, however, suggest that the presence of Hg may have a correlation with the amount of mixing between injected and native ground waters; the magnitude of mixing is presented above in **Table 19** as a percent of NGW in the samples collected based on Chloride ion measurements. While the theory of possible Hg accumulation around the well bore opined in 2016 is not supported by the 2017 test data, the hypothesis of Hg solubilization and/or dissolution from the Tsm matrix (per (B) and (C) above) may still have merit. The data also indicate that during these testing sessions there were occasional occurrences of Hg above the EPA MCL of 2.0 ug/L. These occurrences were the only detections of Hg during WY 2017 that exceeded drinking water standards, and they occurred only at the ASR-2 and ASR-4 wells, which are not currently connected to pump recovery water into the CAW system. Although these samples were not collected during actual production operations, the data illustrate two important issues: (1) the implementation of mandatory flushing of any ASR wells before commencement of production into the Cal-Am potable system is still warranted; and (2) the ASR-2 exceedances occurred when the aquifer conditions contained predominantly older NGW that would be on the outer fringe of the recharge boundary.



Monthly Storage Testing. As described above, supplemental sampling was performed at the wells on a monthly basis during the aquifer storage period. The wells were flushed to waste and samples were collected at 4- and 20-minutes, with laboratory analyses for Hg, Cl- (as an indicator of the percentage of mixing with native ground waters), and a variety of divalent metal ions which are characteristically associated with Hg mineral chemistry – especially Copper (Cu) and Zinc (Zn) ion. The data collected indicated several trends which appear to support the hypothetical mechanisms of solubilization or dissolution of Hg from Tsm aquifer minerals ((B) and (C) above) based on the following:

- In all sample events, the (minor) increase in CI levels indicated increased mixing of injected and native ground waters over time for all wells.
- In most cases, Hg levels increased over time, although in no cases were Hg levels detected at or above Drinking Water Standards.
- In most cases, concentrations of Copper ion (Cu) showed a corresponding increase in concentration when Hg levels increased.

ASR-4 was especially characteristic in this trend, as presented in **Figure 29**. Additional sampling under this protocol is warranted to further evaluate these relationships, as well as reassessment of historical data, if available, to further confirm these trends.

<u>"Breakthrough" Sampling at ASR-4.</u> Because solubilization of naturally occurring Hg present in the Tsm minerals resulting from geochemical interactions between the injection source water, NGW, and aquifer minerals was identified as one potential mechanism for the Hg occurrences, sampling for Hg was performed at ASR-4 in an effort to observe the arrival of the ASR-3 injection front and any associated changes in Hg concentrations that could be attributable to solubilization and mobilization of naturally occurring Hg present in Tsm minerals.

ASR-3 began essentially continuous injection on January 4, 2017 (there was some minor intermittent injection at this well during the period December 17 and 21, 2016). First arrival time of ASR-3 injectate at ASR-4 was roughly estimated at approximately 30 days¹⁰. Chloride concentrations were intermittently monitored at ASR-4 to detect the arrival of ASR-3 injectate (the pre-injection groundwater concentration of chloride was approximately 120 mg/L, whereas the average injectate CI- concentration was approximately 30 mg/L), after which samples were collected for Hg analysis.

The collected data are graphically presented on **Figure 30**. As shown, the chloride concentration at ASR-4 was observed to gradually decline as injectate from ASR-3 began to arrive. Samples were collected from ASR-4 for Hg analysis on March 7 and 15, 2017 (approximately 60 and 70 days after ASR-3 began injecting), with resulting Hg concentrations of 0.14 and 0.12 ug/L, respectively, which were significantly less than the pre-injection

¹⁰ Based on the Calculated Fixed Radius (CFR) equation and an average ASR-3 injection rate of 1,000 gpm.



concentration of Hg (by as much as 0.40 ug/L). These observations suggest that injection at ASR-3 and the subsequent influx of Carmel River injected waters did not result in the direct/immediate solubilization and mobilization of Hg that would impact ASR-4. This is an important finding, but it does not rule out the solubilization or dissolution/mobilization mechanisms postulated in (B and (C) above; rather it demonstrates only that the geochemical processes may not be immediate.

Injection operations were subsequently initiated at ASR-4 on April 5, 2017. Samples were collected following backflushing of ASR-4 after an 8-hr Step-Rate Injection Test (April 5 and 6, 2017) for Hg analysis. As shown on **Figure 30**, the Hg concentration at ASR-4 was observed to essentially double compared to the pre-injection baseline, with both samples at concentrations of 0.80 ug/L. Although these concentrations are below the MCL of 2.0 ug/L, these observations suggest that the initial injection at ASR-4 in WY 2017 may have resulted in solubilization or dissolution of Hg from the Tsm mineralogy. This data warrants further geochemical assessment.

Further review of **Figure 30** shows that as injection at ASR-4 continued, and then into the storage period, samples collected from the well began to display essentially the pure Carmel River injectate concentrations of chloride and Hg, reflecting the essentially complete displacement of NGW from ASR-4 during WY 2017. Again, the return of Hg levels to background level further support the displacement mechanism.

Backflush Residue Sampling. A critical factor in the assessment of the occurrence of Hg and determination of the cause(s) and mitigation of the occurrences is to establish the geochemical mechanism(s) associated with the reactions. Although the investigation thus far has been successful in establishing the presence and quantification of the levels of Hg during the various operations of the ASR program, the precise speciation of the original Hg compounds has not been achieved. The reason for this is a result of the exceptionally low levels of Hg mineral occurrence and the lack of sufficiently large quantities of mineral samples for analysis.

In an effort to obtain solid residue samples of Hg-containing materials, the WY 2017 investigation focused on the capture of granular materials ejected from the wells during routine backflush operations. The technique utilized involved the routing of a slipstream of water from each well during the first minutes of backflushing into a clean 100-gallon Nalgene container; the flush water is then isolated and allowed to settle for several days, after which the supernatant water is decanted, and the granular sludge materials are captured and isolated for laboratory analysis. The sludge samples typically amount to less than 10 grams of material and are first analyzed for total Hg content to determine their suitability for further Hg speciation analyses. Current mineralogical analysis techniques are, however, limited to detection thresholds of >10-20 mg/kg levels for Hg compounds.

A total of 6 sludge samples were collected during WY 2017; 2 each from the ASR-2, -3, and -4 wells (no samples were able to be collected from ASR-1 due to mechanical problems at this well). The results ranged from a low of 1.4 mg/kg at ASR-3 to a high of only 11 mg/kg at ASR-4. The full analytic laboratory results are provided in **Appendix D**. Note that in all sludge



sampling cases, the supernatant was analyzed after separation and Hg levels were essentially non-detect.

Unfortunately, none of the WY 2017 collected samples had a high enough concentration of Hg to warrant additional speciation analysis. It is recommended that this program be continued in WY 2018 in the hopes of obtaining a sample with a sufficiently high Hg concentration for speciation analysis.

Another alternative for obtaining granular solids samples for mineralogical analysis is the collection of cuttings from other proximate wells soon to be drilled through the Tsm formation; such samples can be obtained in large quantities, and therefore easily analyzed for bulk Hg concentrations. If the initial screening analysis for Hg is sufficiently high, additional samples can be speciated. It is our understanding that this work can be implemented in Summer 2018.

Next Steps. The investigation of the occurrence of Hg has not yet sufficiently identified the source(s), mechanism(s), and potential mitigations for this issue, and it is therefore recommended that investigation be continued during the WY 2018 program. Based on the previous work and the information gleaned from the current study, we recommend the following activities be implemented during WY2018:

- The water quality program outlined in the SSAP, specifically the collection of monthly 4- and 20-minute samples from each of the four ASR wells, should be continued for WY 2018.
- 2. Collection and screening analysis of Tsm cuttings from upcoming proximate wells should be implemented, with subsequent speciation analyses performed on samples with Hg concentrations > 20 mg/kg.
- Geochemical interaction modeling of the ASR program should be performed in the event that mineralized Hg compounds can be positively identified or inferred from other sources.
- 4. If possible, perform extended pumping tests of ASR-2 and ASR-4 with SSAP analytic parameters analyses to assess the long-term water quality trends at these wells.

These recommended next steps are intended to facilitate long-term operational improvement considerations for the Aquifer Storage and Recovery program. As the Hg investigation continues, additional findings, conclusions, and recommendations will be documented in the WY 2018 SOR to facilitate ongoing operation of the ASR project.



CONCLUSIONS

Based on the findings developed from operation of Monterey Peninsula ASR Project during WY 2017, we conclude the following:

WY 2017 Recharge Operations

WY 2017 was classified as an Extremely Wet Water Year on the Monterey Peninsula and a total volume of 2,345 af of water was recharged into the Seaside Groundwater Basin at the Santa Margarita and Seaside Middle Schools ASR Facilities during the WY 2016 injection season.

ASR Well Performance

ASR-1. Pertinent well performance conclusions for ASR-1 during WY 2017 are summarized below:

- <u>Injection Rates:</u> Ranged between approximately 270 to 1870 gpm, averaging approximately 1,435 gpm.
- <u>Water Levels:</u> Consistently less than 260 ft. bgs prior to backflushing, exceeding the recommended maximum drawup level of 100 ft.
- Specific Injectivity: Ranged between approximately 21 to 25 gpm/ft with an overall negative trend in 24-hr specific injectivity.
- Residual Plugging: Approximately 21 feet of residual plugging occurred.
- General Conclusions: ASR-1 performed well during WY 2017; however, the well did
 experience a moderate level residual plugging. The negative trend in performance at
 injection rates ranging up to 1,870 gpm suggests the injection rate at this well should
 be maintained at or below the design rate of 1,500 gpm in WY 2018.

ASR-2. Pertinent well performance conclusions for ASR-2 during WY 2017 are summarized below:

- <u>Injection Rates:</u> Ranged between approximately 340 to 1,940 gpm, averaging approximately 1,450 gpm.
- <u>Water Levels:</u> Consistently less than 250 ft. bgs prior to backflushing, exceeding the recommended maximum drawup level of 130 ft.
- <u>Specific Injectivity:</u> Ranged between approximately 30 to 34 gpm/ft with an overall negative trend in 24-hr specific injectivity.
- Residual Plugging: Approximately 23 feet of residual plugging occurred.



• <u>General Conclusions:</u> ASR-2 performed well during WY 2017; however, the well did experience a moderate level residual plugging. The negative trend in performance at injection rates ranging up to 1,940 gpm suggests the injection rate at this well should be maintained at or below the design rate of 1,500 gpm in WY 2018.

ASR-3. Pertinent well performance conclusions for ASR-3 during WY 2017 are summarized below:

- <u>Injection Rates:</u> Ranged between approximately 600 to 1,405 gpm, averaging approximately 995 gpm.
- <u>Water Levels:</u> Consistently less than 190 ft. bgs prior to backflushing, exceeding the recommended maximum drawup level of 170 ft.
- <u>Specific Injectivity:</u> Ranged between approximately 8.7 to 9.4 gpm/ft and overall stable trend in 24-hr specific injectivity.
- Residual Plugging: Approximately 36 feet of residual plugging occurred.
- General Conclusions: ASR-3 performance appeared to be relatively stable compared to the significant declines observed in WY 2012. The pattern of relative performance stabilization followed by the initial significant decline in well performance observed at ASR-3 is very similar to the pattern observed at both ASR-1 and ASR-2 when they were initially brought on-line. The stable performance at injection rates ranging between 700 to 1,010 gpm suggests the injection rate should be maintained at or below 1,000 gpm to maintain performance until the well is rehabilitated (planned for WY 2018).

ASR-4. Pertinent well performance conclusions for ASR-4 during WY 2017 are summarized below:

- <u>Injection Rates:</u> Ranged between approximately 140 to 1,860 gpm, averaging approximately 1,260 gpm.
- Water Levels: Generally maintained greater than 160 ft bgs, with approximately 50 feet of available "freeboard" remaining below the maximum recommended drawup level (when operated at the design injection rate of 1,500 gpm)
- <u>Specific Injectivity:</u> Ranged between approximately 16 to 26 gpm/ft with an overall increasing trend in 24-hr specific injectivity over the course of the injection season.
- Residual Plugging: Approximately 36 feet of residual plugging occurred.
- General Conclusions: ASR-4 performance appeared to decline significantly following the initial 8-hr step-rate injection test, then stabilize and actually increase during the course of the injection season, whereas the pumping performance decreased over



the course of the injection season. At this time, it is unclear why this well displayed apparent contradictory performance during WY 2017. Accordingly, these observations suggest the injection rate should be maintained at or below the design rate of 1,500 gpm until the performance trends at this well can be evaluated more fully in WY 2018.

Water Quality

Significant conclusions regarding the water-quality investigation during WY 2017 include the following:

- Consistent with previous observations, no significant ion exchange, acid-base, or precipitation reactions were observed at the ASR sites.
- THMs during the WY 2017 storage period showed the typical initial and significant ingrowth; however, they differed from the typical pattern in that significant degradation of THMs was not observed during the storage period at most wells (with the possible exception of ASR-4). The lack of THM degradation observed during the WY 2017 storage period is attributable the significantly greater volume and duration of injection, and the relatively short storage period, compared to previous years.
- HAAs at the wells with sufficient data generally showed their typical pattern of limited (if any) ingrowth during the initial storage period, followed by complete to nearcomplete degradation by the end of the storage season.
- The investigation of sporadic occurrences of Hg in the various wells has not conclusively identified the origins and mechanisms of the process to date; however, the following conclusions were developed based on the current years' data:
 - High frequency source sampling of Carmel River waters established that the river does not appear to be the source of Hg at the wells.
 - Source water Hg levels were all below detection limits.
 - In contrast to earlier data, Hg occurrences in WY 2017 generally consisted of soluble Hg rather than Insoluble (particulate) Hg; this was particularly evident in ASR- 2 and ASR-3; whereas ASR-4 Hg occurrences were approximately 1:1 in soluble:insoluble speciation.
 - A trend was observed in increasing Hg levels over time during aquifer storage, and a corresponding increase in the presence of Cu ion. This may represent a possible geochemical reaction mechanism related to the solubilization of Hg from Tsm minerals.



RECOMMENDATIONS

Based on the WY 2017 ASR program results and our experience with similar ASR projects, we offer the following recommendations for continued and future operations of the Monterey Peninsula ASR Project wells:

ASR-1 Well Operational Parameters

- <u>Injection Rate</u>: Based on the amount of residual plugging that occurred during WY 2017 with the well injecting up to 1,870 gpm, we recommend the injection rate be limited to approximately 1,500 gpm or less in order to limit residual plugging and maintain long-term performance.
- Water-Level Drawup: Under the present local water-level conditions, the amount of water-level drawup should be limited to approximately 100 feet. This amount of water-level drawup during injection equals the typical available drawdown in the well for backflushing. This helps to avoid over-pressurization and compression of plugging materials, thereby maximizing the efficiency of backflushing and limiting the amount of residual plugging. Furthermore, the drawup calculation should not be adjusted during the injection based on apparent changes in the static water level, and injection water levels should be maintained greater than 260 feet bgs at all times.
- <u>Backflushing Frequency</u>: During the recharge season, routine backflushing should continue to be performed on an approximate weekly basis, or when the amount of water-level drawup in the casing reaches a depth to water level of approximately 260 feet bgs, whichever occurs first. Backflushing should consist of the triple-flush procedure initiated in WY 2017.

ASR-2 Well Operational Parameters

- <u>Injection Rate</u>: Based on the amount of residual plugging that occurred during WY 2017 with the well injecting up to 1,945 gpm, we recommend the injection rate be limited to the design rate of approximately 1,500 gpm or less in order to limit residual plugging and maintain long-term performance.
- Water-Level Drawup: Under the present local water-level conditions, the amount of water-level drawup should be limited to approximately 130 feet, which is equal to the typical amount of available drawdown in the well for backflushing. Again, this helps to avoid over-pressurization and compression of plugging materials and limiting the amount of residual plugging. Furthermore, the drawup calculation should not be adjusted during the injection based on apparent changes in the static water level, and injection water levels should be maintained greater than 250 feet bgs at all times.
- Backflushing Frequency: During the recharge season, routine backflushing should continue to be performed on an approximate weekly basis, or when the amount of



water-level drawup in the casing reaches a depth to water level of approximately **250 feet bgs**, whichever occurs first. Backflushing should consist of the triple-flush procedure initiated in WY 2017.

ASR-3 Well Operational Parameters

- <u>Injection Rate</u>: Based on the amount of residual plugging that occurred during WY 2017 with the well injecting up to 1,405 gpm, we recommend the injection rate continue to be limited to 1,000 gpm in order to limit residual plugging and maintain long-term performance.
- Water-Level Drawup: Under the present local water-level conditions, the amount of water-level drawup should be limited to approximately 170 feet, which is equal to the typical amount of available drawdown in the well for backflushing. Again, this helps to avoid over-pressurization and compression of plugging materials and limiting the amount of residual plugging. Furthermore, the drawup calculation should not be adjusted during the injection based on apparent changes in the static water level, and injection water levels should be maintained greater than 190 feet bgs at all times.
- <u>Backflushing Frequency</u>: During the recharge season, routine backflushing should continue to be performed on an approximate weekly basis, or when the amount of water-level drawup in the casing reaches a depth to water level of approximately 190 feet bgs, whichever occurs first. Backflushing should consist of the triple-flush procedure initiated in WY 2017.

ASR-3 should undergo formal rehabilitation to improve well performance and injection capacity, similar to that performed at ASR-1 and ASR-2. It is believed that following rehabilitation, the well will be able to operate at its design injection rate of 1,500 gpm (i.e., 50 percent greater than the current capacity of 1,000 gpm).

ASR-4 Well Operational Parameters

- <u>Injection Rate</u>: Based on the amount of residual plugging that occurred during WY 2017 with the well injecting up to 1,590 gpm, we recommend the injection rate be limited to the design rate of approximately **1,500 gpm or less** in order to limit residual plugging and maintain long-term performance.
- <u>Water-Level Drawup</u>: Under the present local water-level conditions, the amount of water-level drawup should be limited to approximately 200 feet, which is equal to the typical amount of available drawdown in the well for backflushing. Again, this helps to avoid over-pressurization and compression of plugging materials and limiting the amount of residual plugging. Furthermore, the drawup calculation should not be adjusted during the injection based on apparent changes in the static water level, and injection water levels should be maintained **greater than 160 feet bgs** at all times.



 <u>Backflushing Frequency</u>: During the recharge season, routine backflushing should continue to be performed on an approximate weekly basis, or when the amount of water-level drawup in the casing reaches a depth to water level of approximately 160 feet bgs, whichever occurs first. Backflushing should consist of the triple-flush procedure initiated in WY 2017.

Supplemental Water Quality Investigations

- 1. The water quality program outlined in the SSAP, specifically the collection of monthly 4- and 20-minute samples from each of the four ASR wells, should be continued for WY 2018.
- 2. Collection and screening analysis of Tsm cuttings from upcoming proximate wells should be implemented, with subsequent speciation analyses performed on samples with Hg concentrations > 20 mg/kg.
- Geochemical interaction modeling of the ASR program should be performed in the event that mineralized Hg compounds can be positively identified or inferred from other sources.
- 4. Data from the ASR-4 baseline injection testing should be further analyzed via geochemical modeling to evaluate the possible mechanism(s) associated with the anomalous spike in Hg immediately after initial injection testing.
- 5. If possible, perform extended pumping tests of ASR-2 and ASR-4 with SSAP analytic parameters analyses to assess the long-term water quality trends at these wells.

CLOSURE

This report has been prepared exclusively for the Monterey Peninsula Water Management District for the specific application to the ASR Project on the Monterey Peninsula. The findings and conclusions presented herein were prepared in accordance with generally accepted hydrogeologic and engineering practices. No other warranty, express or implied, is made.

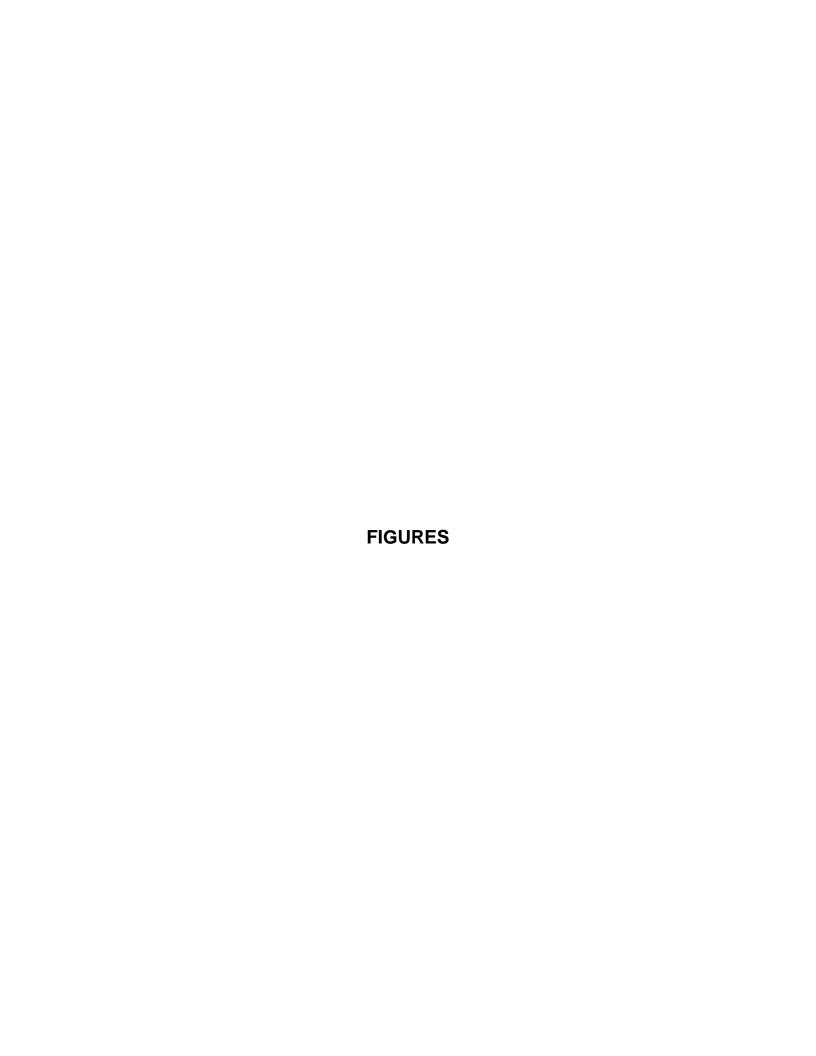


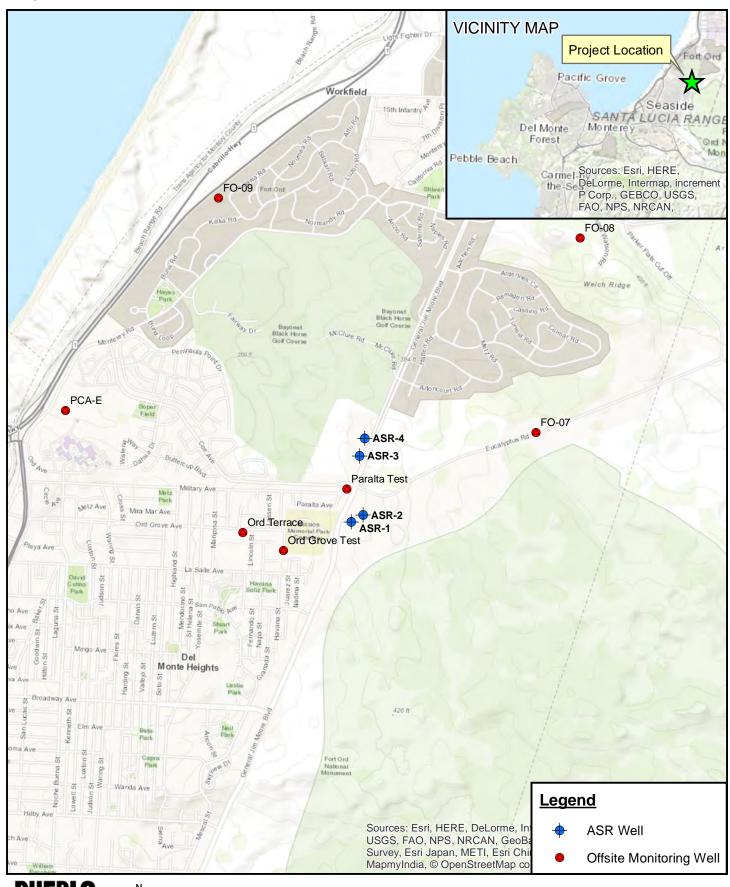
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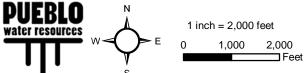
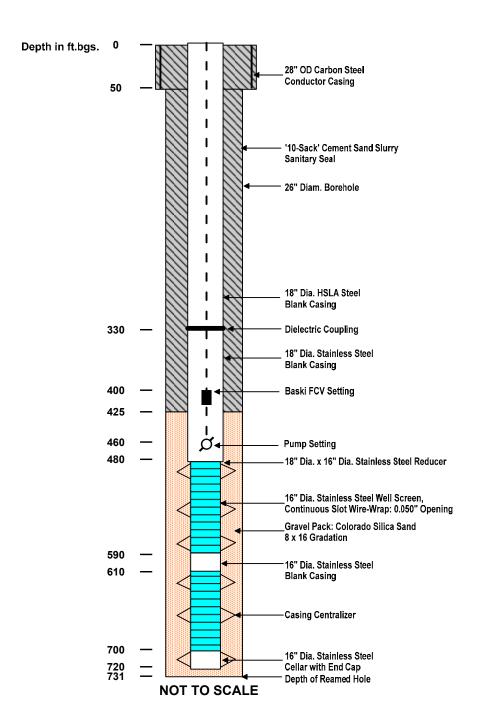


FIGURE 1. SITE LOCATION MAP WY 2017 ASR Program Monterey Peninsula Water Management District



Pump Assembly Notes:

Hp: 600

Bowls: 16ENL, 7 stage Col. Pipe Dia: 12" Col. Pipe Length: 20'

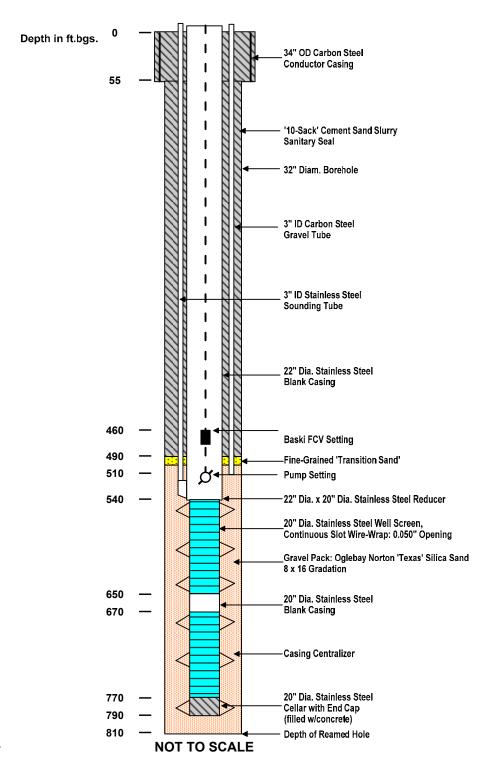
Assy. Type: Water Lube/Open Shaft

Baski FCV Setting: 400' - 410'

Top of Bowls: 460' Bowl Length: 10.5' Suction Length: 10' Intake: 480.5'



FIGURE 2. ASR-1 AS-BUILT SCHEMATIC WY 2017 ASR Program Monterey Peninsula Water Management District



Pump Assembly Notes:

Hp: 600

Bowls: 16ENL, 7 stage Col. Pipe Dia: 12" Col. Pipe Length: 20'

Assy. Type: Water Flush/Enclosed Shaft

Baski FCV Setting: 460' - 470'

Top of Bowls: 510' Bowl Length: 10.5' Suction Length: 10' Intake: 530.5'



FIGURE 3. ASR-2 AS-BUILT SCHEMATIC
WY 2017 ASR Program
Monterey Peninsula Water Management District

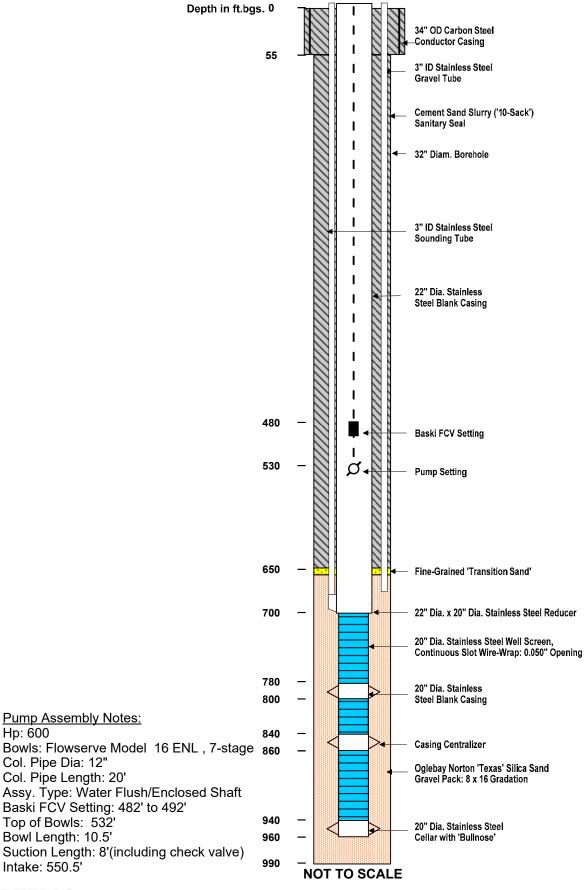




FIGURE 4. ASR-3 AS-BUILT SCHEMATIC
WY 2017 ASR Program
Monterey Peninsula Water Management District

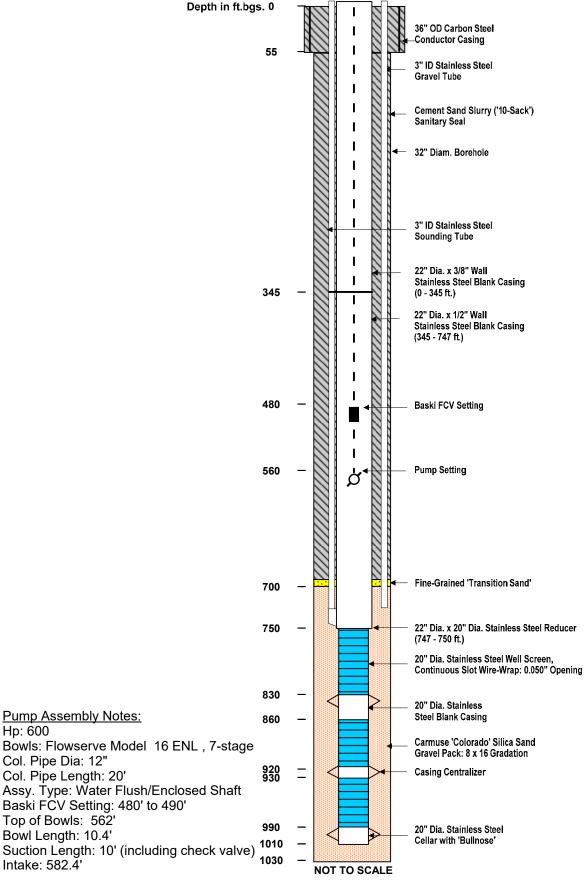




FIGURE 5. ASR-4 AS-BUILT SCHEMATIC WY 2017 ASR Program Monterey Peninsula Water Management District

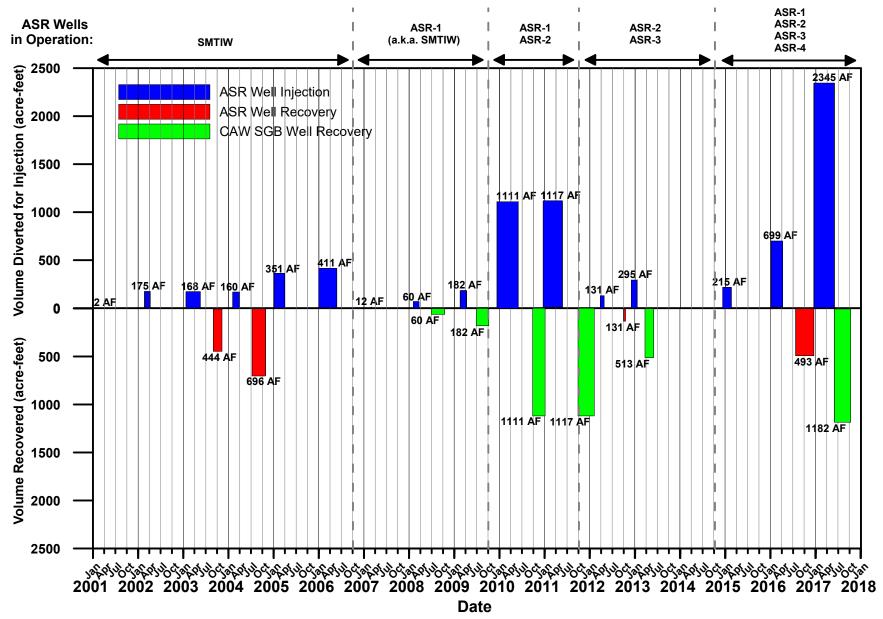




FIGURE 6. SUMMARY OF ASR OPERATIONS (WY 2001 - WY 2017)
WY 2017 ASR Program
Monterey Peninsula Water Management District

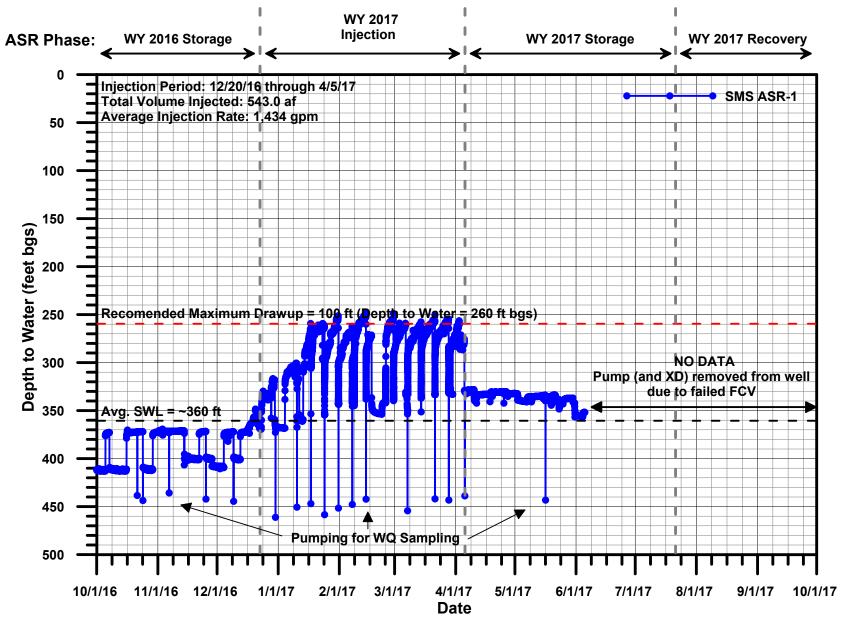




FIGURE 7. ASR-1 WATER-LEVEL DATA WY 2017 ASR Program Monterey Peninsula Water Management District

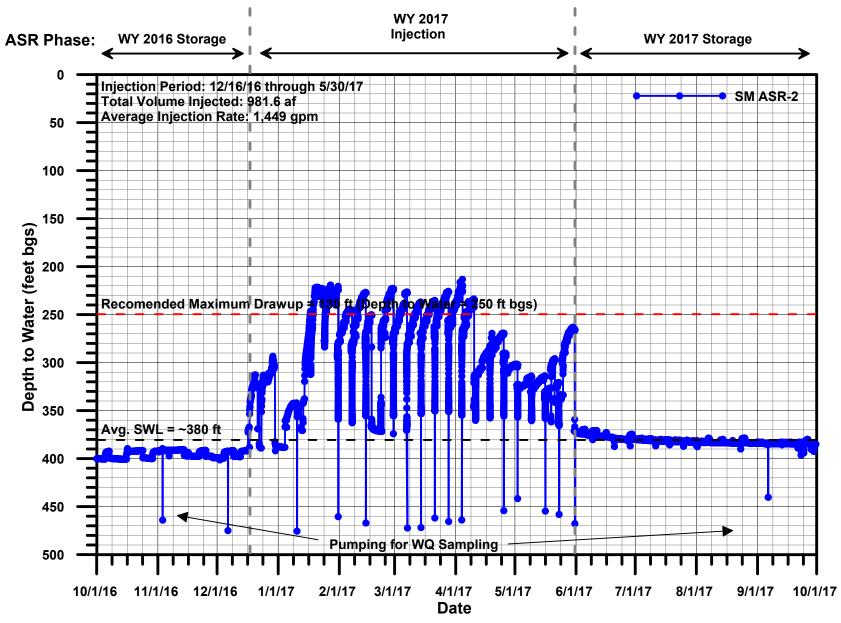




FIGURE 8. ASR-2 WATER-LEVEL DATA WY 2017 ASR Program Monterey Peninsula Water Management District

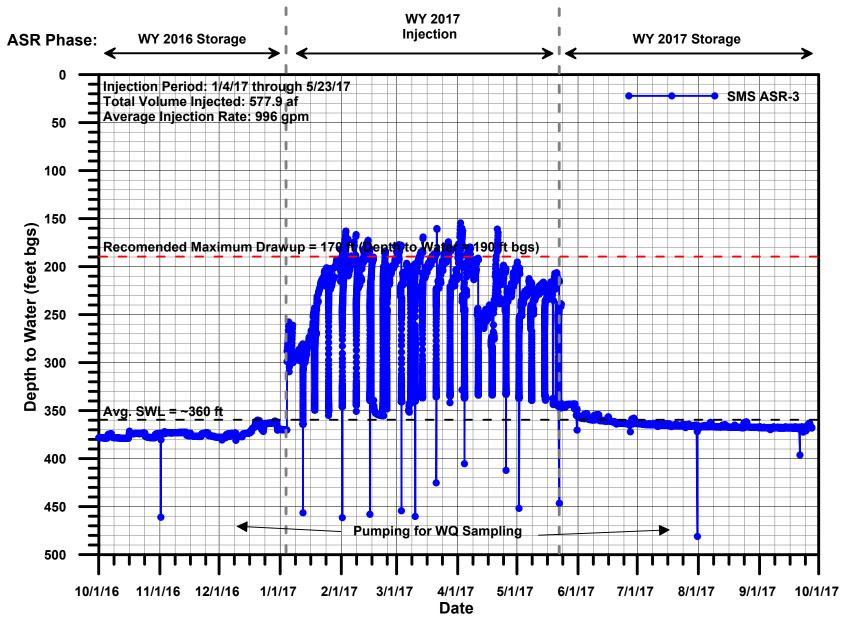




FIGURE 9. ASR-3 WATER-LEVEL DATA WY 2017 ASR Program Monterey Peninsula Water Management District

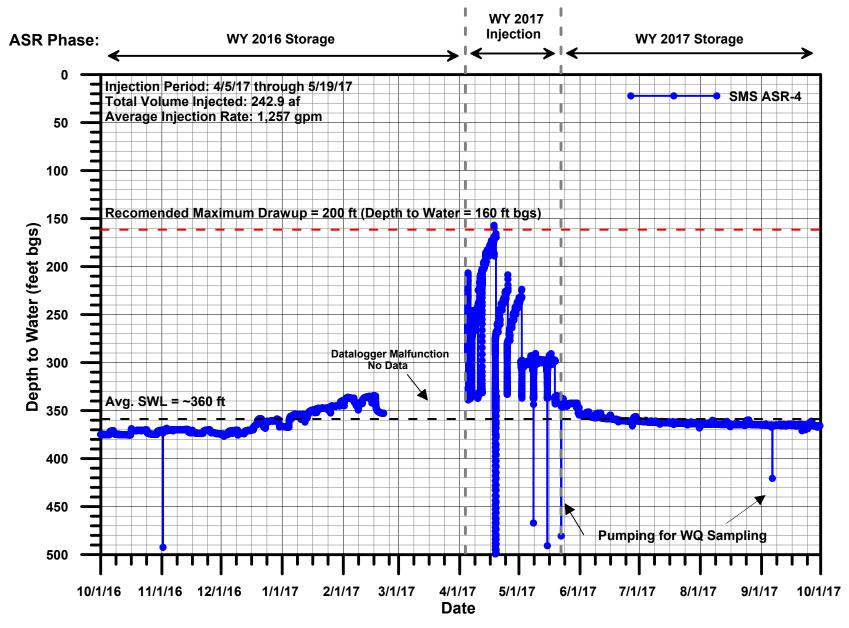




FIGURE 10. ASR-4 WATER-LEVEL DATA WY 2017 ASR Program Monterey Peninsula Water Management District

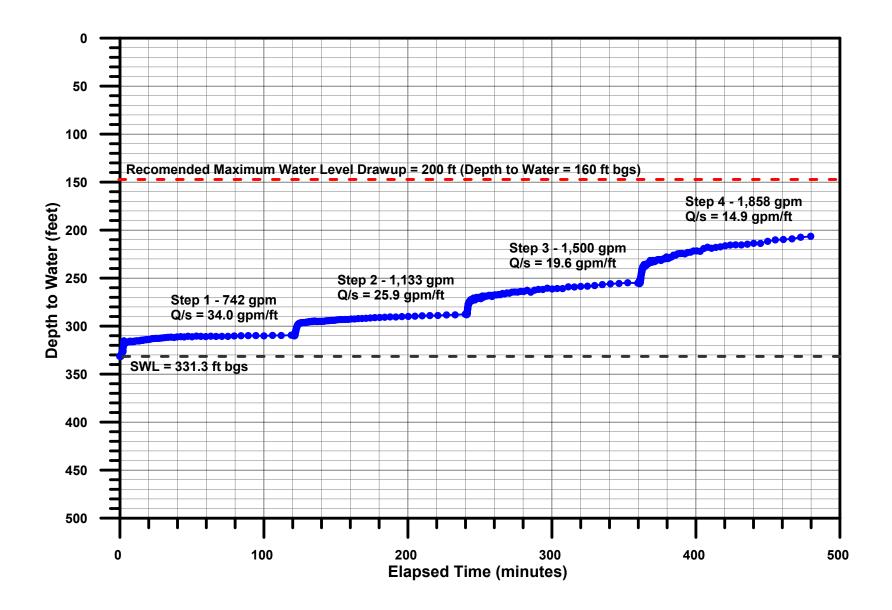




FIGURE 11. ASR-4 BASELINE INJECTION TESTING - 8-HR STEP-RATE INJECTION TEST
WY 2017 ASR Program
Monterey Peninsula Water Management District

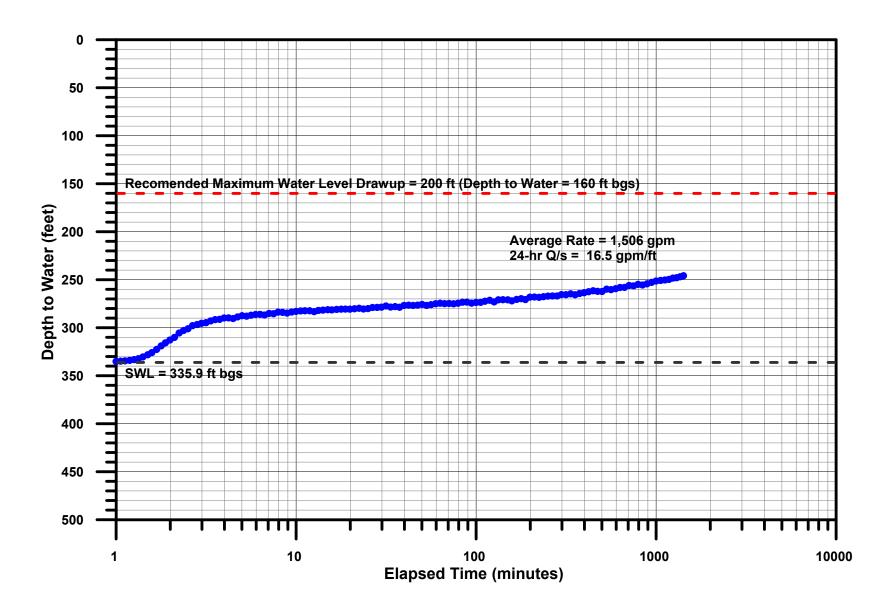




FIGURE 12. ASR-4 BASELINE INJECTION TESTING - 24-HR CONSTANT RATE INJECTION TEST
WY 2017 ASR Program
Monterey Peninsula Water Management District

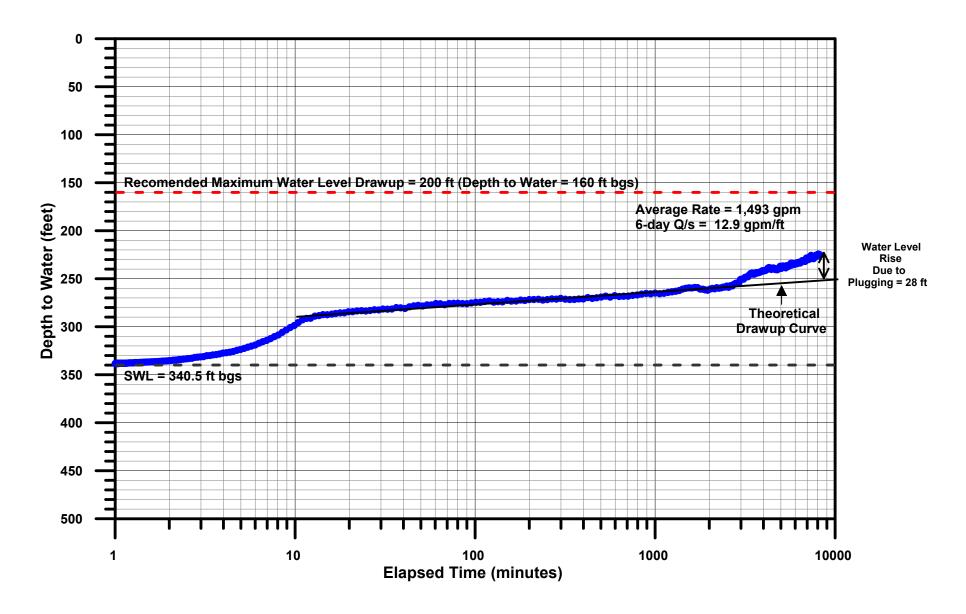




FIGURE 13. ASR-4 BASELINE INJECTION TESTING - 6-DAY CONSTANT RATE INJECTION TEST
WY 2017 ASR Program
Monterey Peninsula Water Management District

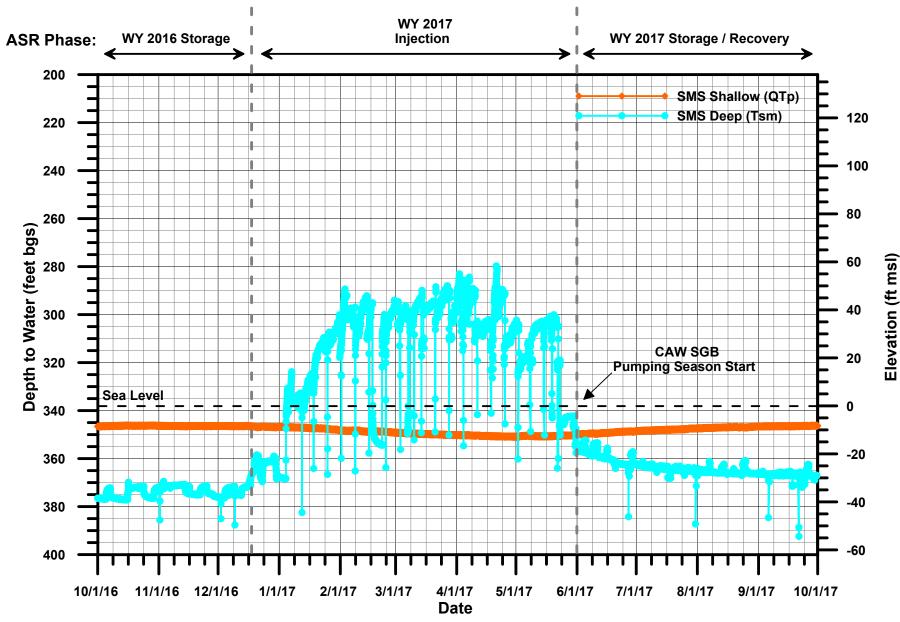




FIGURE 14. SMS MW WATER-LEVEL DATA WY 2017 ASR Program Monterey Peninsula Water Management District

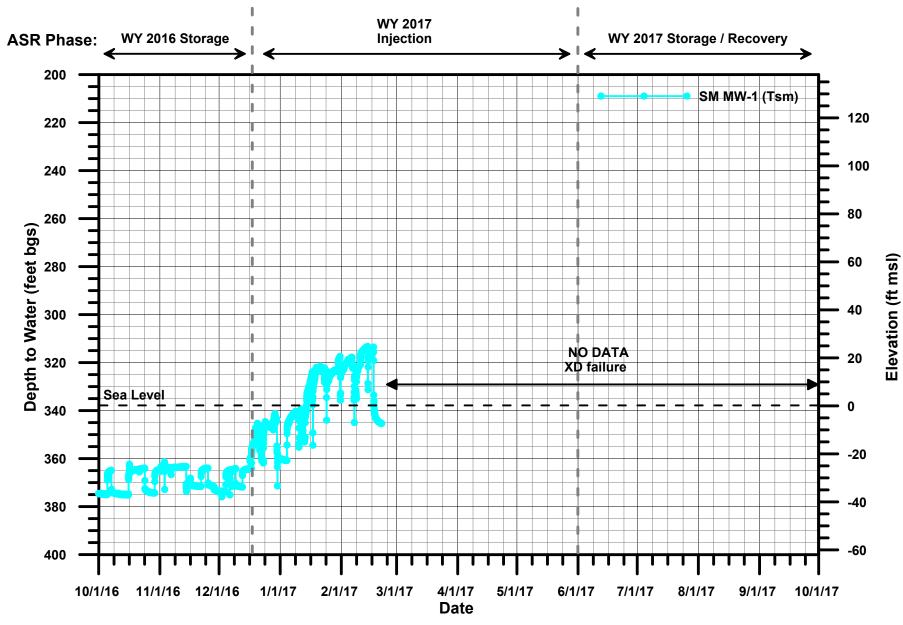




FIGURE 15. SM MW-1 WATER-LEVEL DATA WY 2017 ASR Program Monterey Peninsula Water Management District

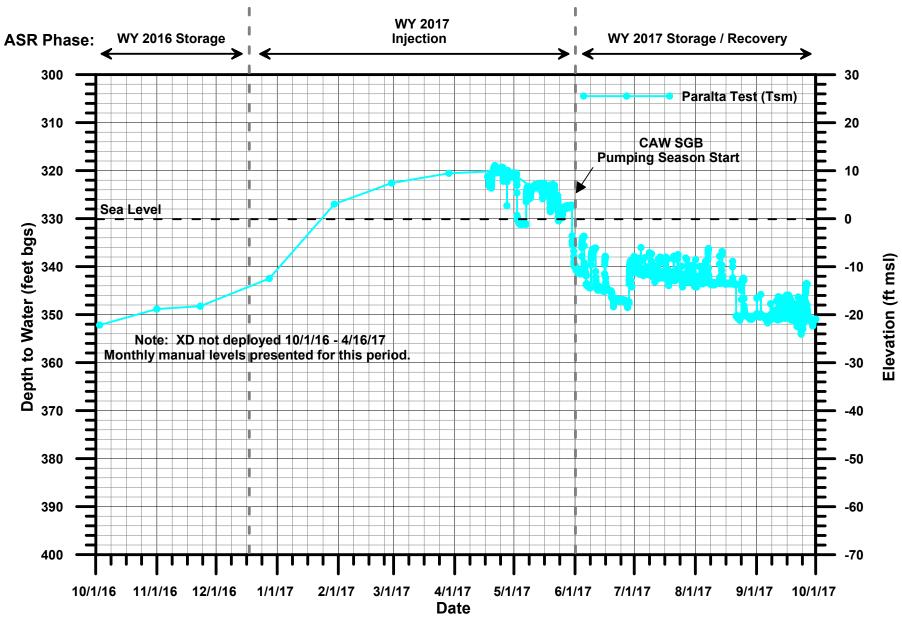




FIGURE 16. PARALTA TEST WATER-LEVEL DATA
WY 2017 ASR Program
Monterey Peninsula Water Management District

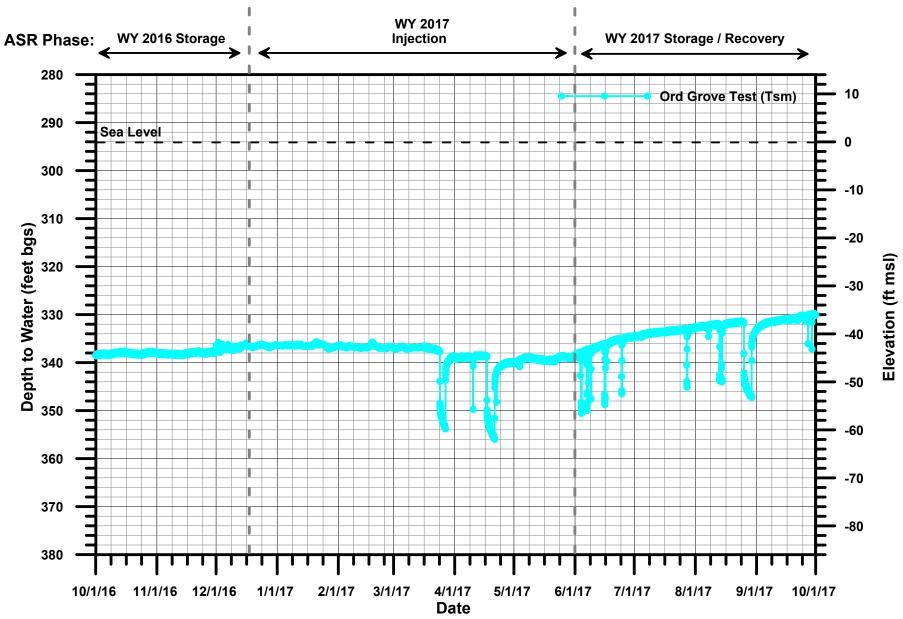




FIGURE 17. ORD GROVE TEST WATER-LEVEL DATA
WY 2017 ASR Program
Monterey Peninsula Water Management District

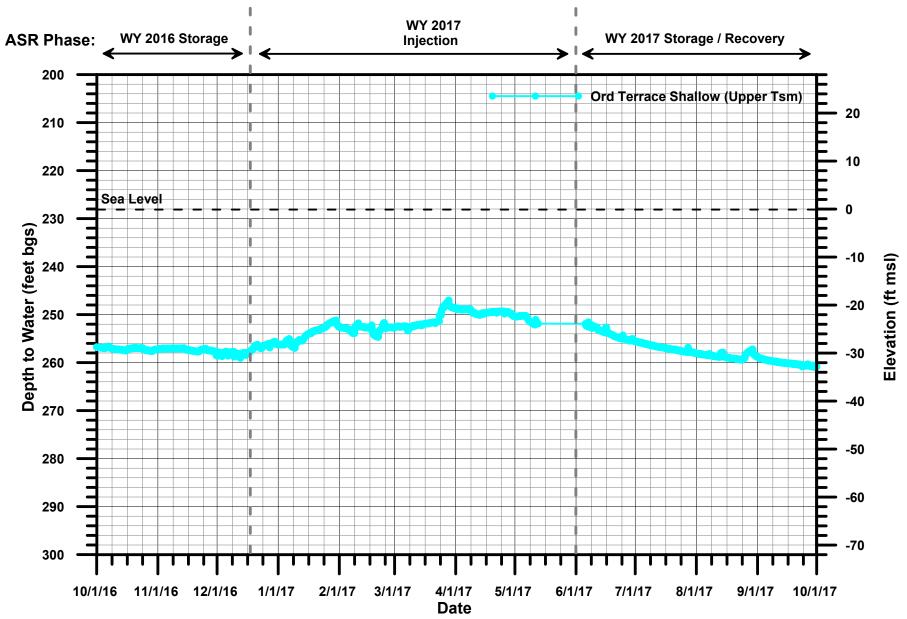




FIGURE 18. ORD TERRACE WATER-LEVEL DATA WY 2017 ASR Program Monterey Peninsula Water Management District

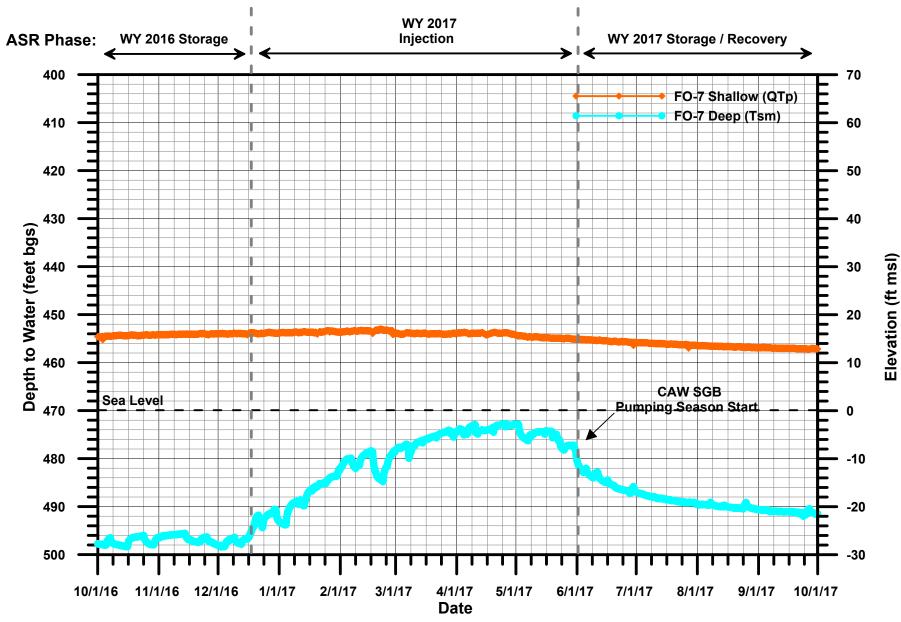




FIGURE 19. FO-7 WATER-LEVEL DATA WY 2017 ASR Program Monterey Peninsula Water Management District

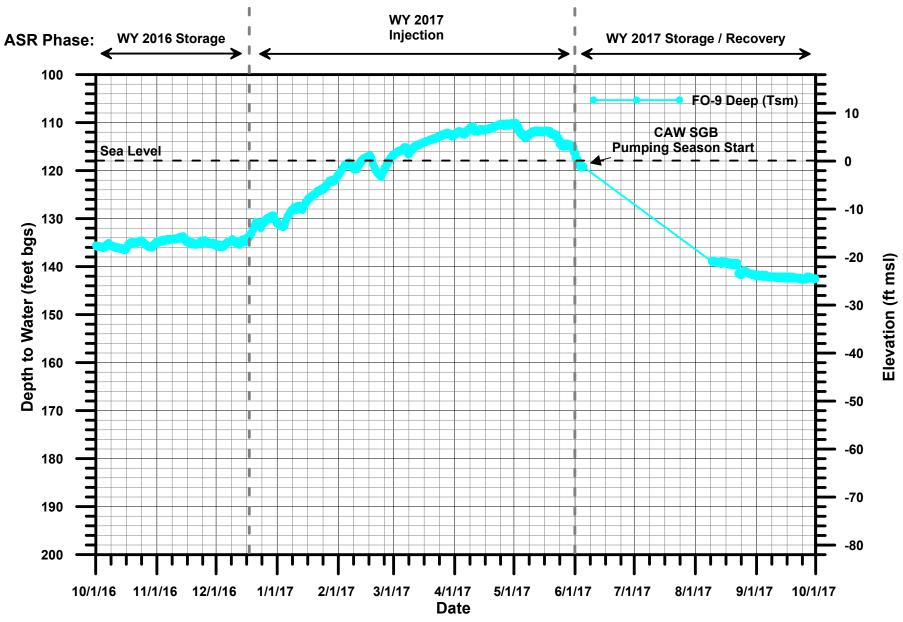




FIGURE 20. FO-9 WATER-LEVEL DATA WY 2017 ASR Program Monterey Peninsula Water Management District

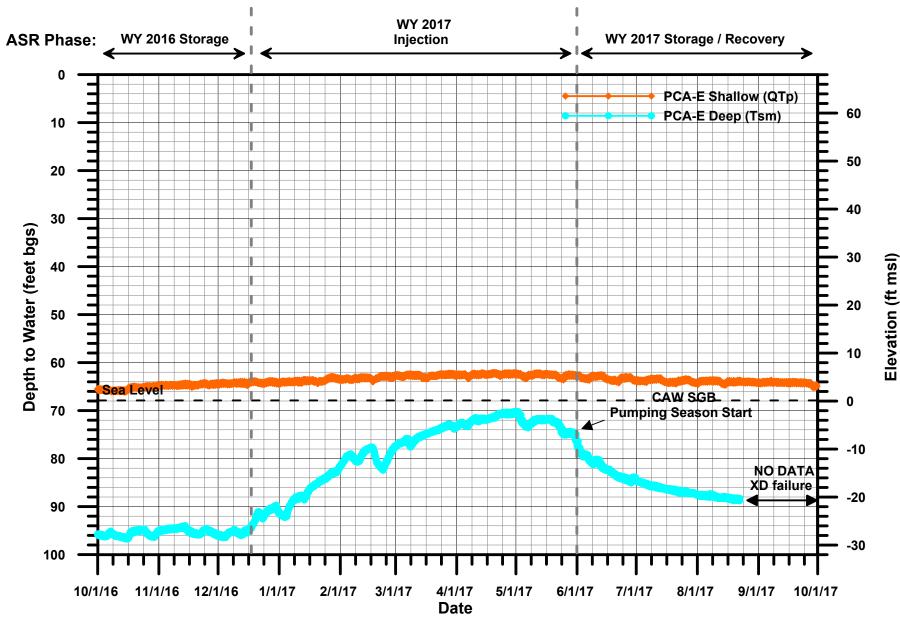




FIGURE 21. PCA-EAST WATER-LEVEL DATA WY 2017 ASR Program Monterey Peninsula Water Management District

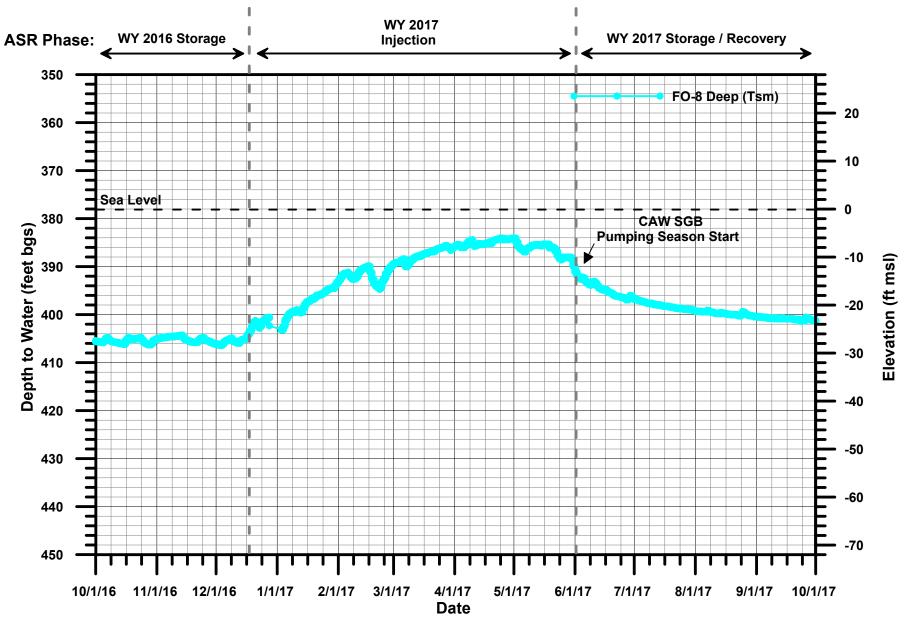
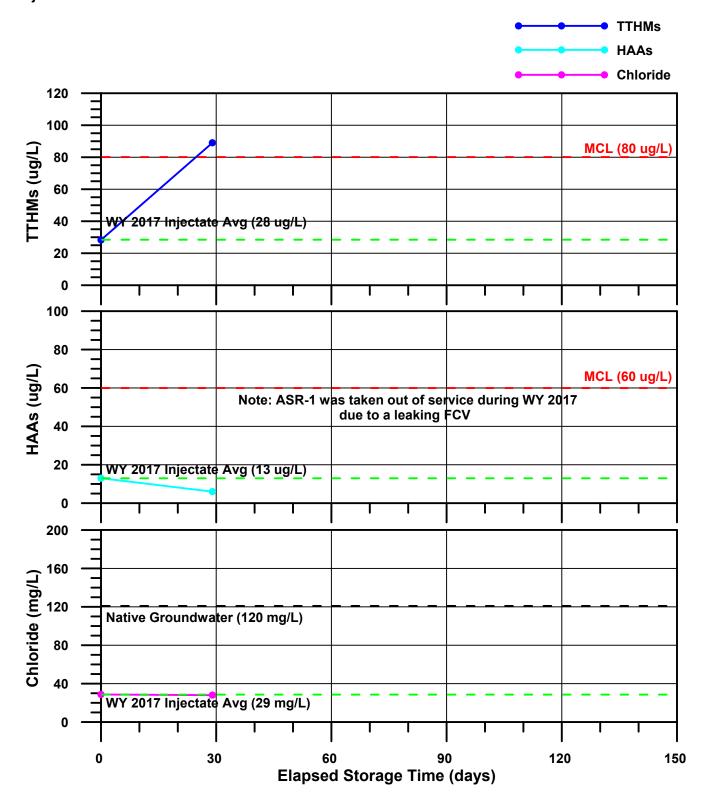
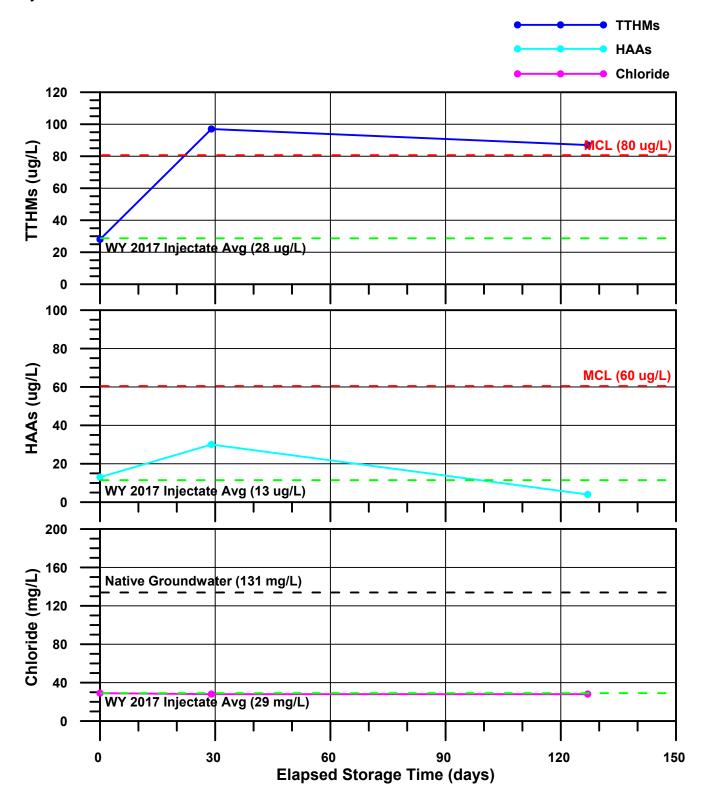




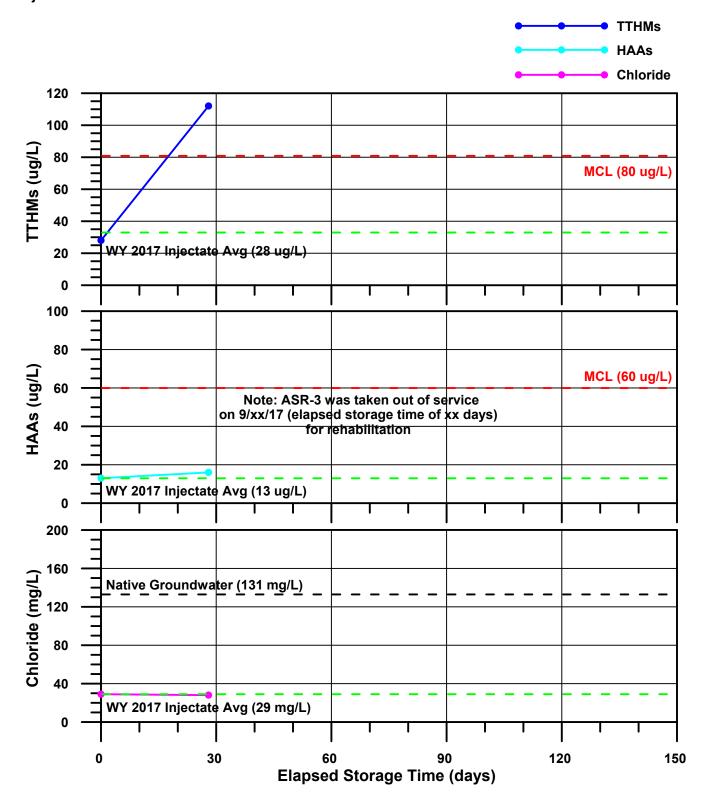
FIGURE 22. FO-8 WATER-LEVEL DATA WY 2017 ASR Program Monterey Peninsula Water Management District



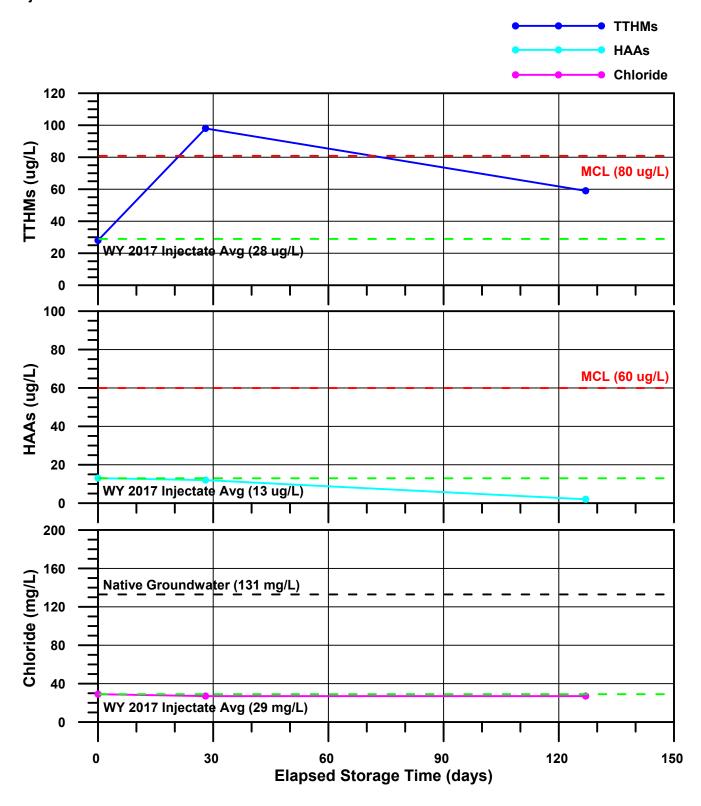




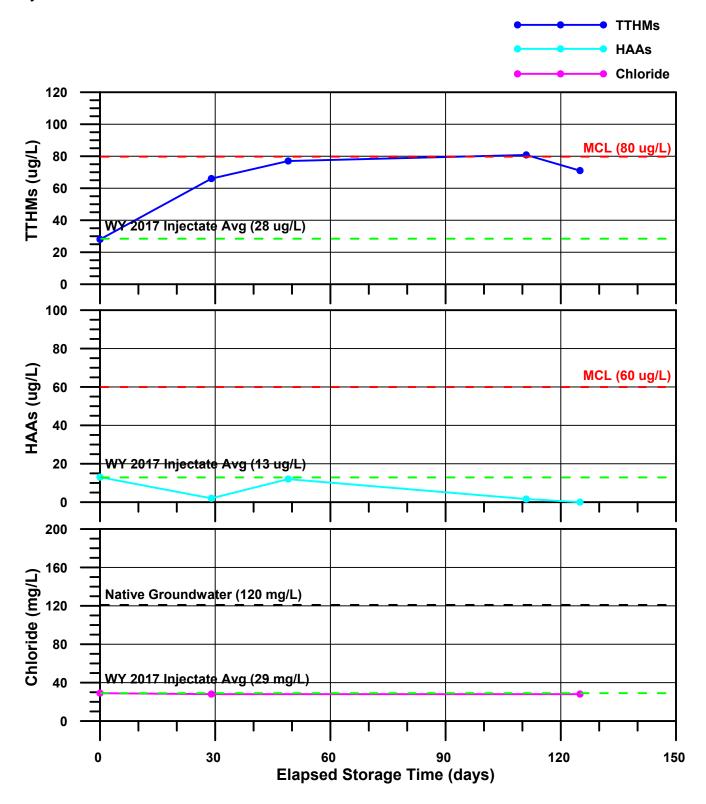




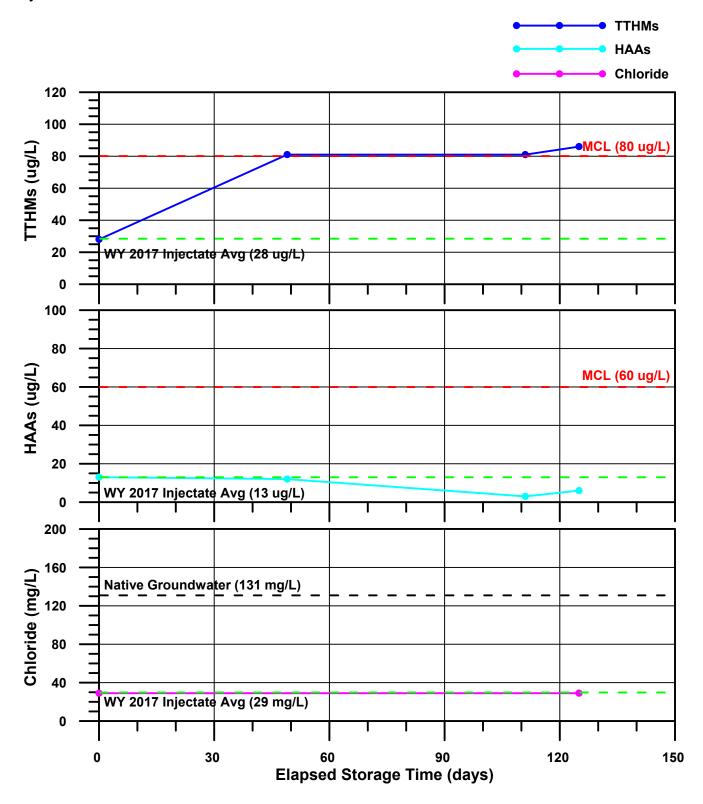




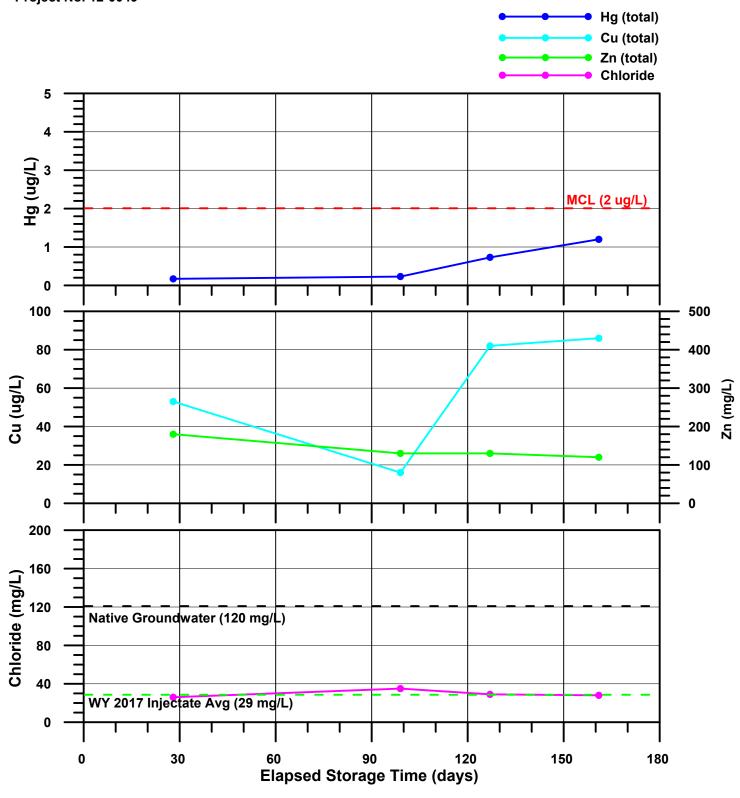














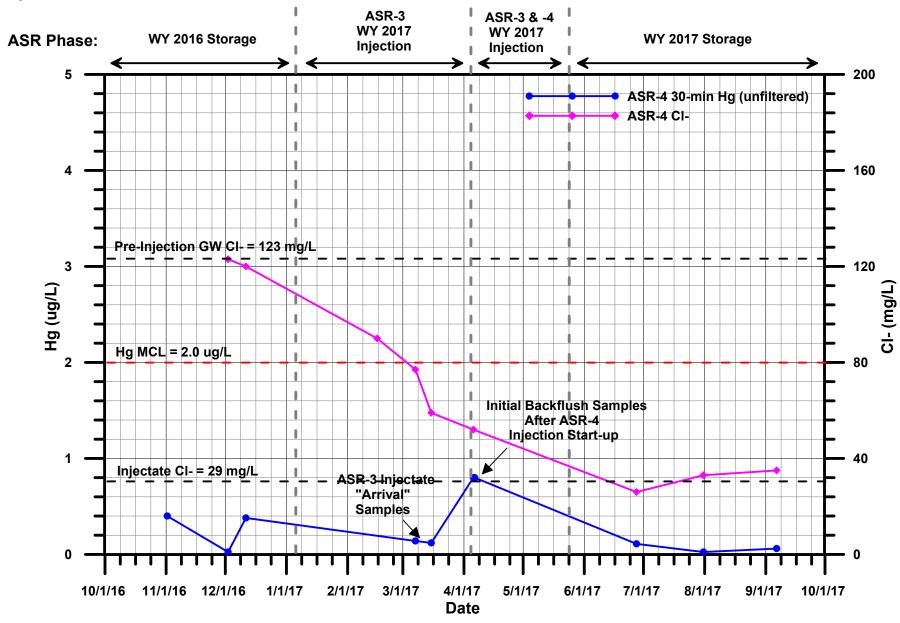




FIGURE 30. ASR-4 - ASR-3 Hg "BREAKTHROUGH" MONITORING DATA WY 2017 ASR Program Monterey Peninsula Water Management District



		11	
Well:	ASR	#	1

ASR Period /V JIZ C 770 V

Sheet 1

MONTEREY PENINSULA
TER
MANAGEMENT DISTRICT

Weather Test: Well Lube DTW Draw Up Inj Rate Lube / Skid Line Head N₂ (psi) Comments Date Time Pressure Meter (gal) (isa) (feet) (GPM) (psi) (feet) Up/Down (psi) 1156570 12/20/16 0936 428039 1218405 7/802 330 75 0 1600 35592 0

Wal some 135003 setty nteduced in-neg nete togste lieture "contput religional".

and 250 gpm, A+ 11:30 dished #1 in 200 gpm @ 184 FCV, then

TC went up to ASR-Z to reduce flow 315@#1 and 1455@ #2 0 1140 REVERSENT -377 GAM relaced an ad Not 330+1445=17755pm 1420 1145 1345 #1 het aget up to 405 gpm, timed it donnto 350 gpm by princhy down HV 102 one complete turn. #2 responded by gang from 1,450 to 1,460 gpm INSECTION OFF 12/2/18/0930 428039 1218588 71810 205 95 40 1600 356.65 12/2/16/1530 CAL-AM WATTER SAMY 1500 369,27 > 12/23/16 0940 428039 1218589 -71810 By INJ. @ 300gpm 300 100 0 N375 184 40 188 77 N 767 39 ZIS tanddam to 890 with hand value 102 12/14/6/030 428039 122033 07/8/0 1,110 175 79 38 1500 1500 33469 34.58 890 12-25-16 0845 428039 122/193 07/8/0 46. 175 TONONDT 33264 36.63 902 1227712 071810 1450 12.26-16 1300 428039 83 176 LIBEON 1160650 30 12.77-16 1040 428039 1223766 336.83 754 945 NO- ADS PRESSURE YOU 175 1350 (771810 Turbidity (NTU) min after start Post Purge Temp Cond ORP/ DO H₂S Sampler / Pre Purge Date Time Purge Volume [Cl₂] (mg/L) (mg/L) Meter Read Meter Read (µ/cm) Laboratory 0 1 1 1 2 1 5 1 10 1 15 1 20 (°C) Zobell

Well: ASRI -

ASR Period INTECTION

Sheet Z

MONTEREY PENINSULA

Test: (Continued)

Weather

Date	Time	Tiger [F] (gal) ×1000	Tiger [R] (gal) ×1000	BF (gal) ×1000	FCV (psi)	Line (psi)	Well Head (psi)	N ₂ (psi)	DTW (feet)	Draw Up (feet)	Inj Rate (GPM)	Lube / Skid Meter (gal)	Pressu Up/Dov	wn		Comr			
12/28/16	09:40	428039	1224848	71810	172	65	33	1300	335,73	34/04	734	1165040	575	ON	o A), 4	- Lub	e on	a
, .	11:00				173	63	32				747		/	Rec	. Call f	I mar	Bowen	130	Dypn
														JL	open	hand.	salve,	w+ 2	0
										Hor			/	P	BU	2 tur	ns		
	11:45				174	72	Ø		Swars	s Feet	Ø			BA	ski J	alox c	losed		
	12:00				166		9 = = =	*****	I feet		1070		/						
	12:15			- 1	160	75	36		1		1035		/				tel 1+	2	
12/29/16	0845	428039	1226289	071810	159	76	32	1300	3158		1175	116946	65/6	Y 28	951	And,	edi		
,					175	79	42	1300			1090		/	10	901	590	2680	T	
													/						
12/30/16	0030	428039	1227780	071810	350	105	\$	1150	_		Ø		/	8	NI	Down	U-1	2_	
		42839	1277786	Check			1	1	37035	+		1175120	عاطا	3 3	XIO B	F			
	1	1	1	PURGE					Ç				/						
				Vol Berow									/						
	V	V	V					1					1						
				71948萬	350	105	ø	1150				1175320	/						
							1						1						
													/						
													/						
Date	Time	Pre Purge Meter Read	Post Purge Meter Read	Purge Volume	Temp (°C)	Cond (µ/cm)	pН	ORP/ Zobell	[Cl ₂]	DO (mg/L)	H ₂ S (mg/L)	Sampler / Laboratory	0	Turbio	lity (N		min af		
12.28/16	1330	71810	71856	46									7.4	19.18	20.1	32.3	169		
1	1350	71856	71902	46									11.4	4.39	592	4.97	3.98		
	1410	71902	71948	46									5,51	7.17	3.91	2.10	1,39		
4				138							<u> </u>				-				
																		14 15	
										-									î
									-										
														1		-			1

Well: ASR-1	ASR Period N
Test:	Weather SUN COLD

Sheet 1



Date	Time	Tiger [F] (gal) ×1000	Tiger [R] (gal) ×1000	BF (gal) ×1000	FCV (psi)	Line (psi)	Well Head (psi)	N ₂ (psi)	DTW (feet)	Draw Up (feet)	Inj Rate (GPM)	Lube / Skid Meter (gal)	Lube Pressure Up/Down	Comments
-4-17	0950	428039	1227781	871948	372×	-100	4	1,150	3681		-280			Hank was closed, FeV w
	1045	428039	1227811	071949	the	43	93	11100			1560			begn 14j ~ 1020 -
											1500			
:4-17	1200	428039	1227913	071949	160	72	42	1100			1500			
.5.17	0900	428039	1229811	6719419	160	68	40	1000	313,34		1491			LEFT SEMNGS
16.17	0900	428039	1231896	671949	158	74	40	1000	30818		1467			LEFT SETTINGS
/7/17	0830	428039	1233897	071949	157	69	36	1000	307.09		1410			
-8-17	0980	11 (11	1236061	h 111	157	73	36	999	303,46		1485			Ady FOLL-167, 1400gpm
-9-17	0900		1238032		158	77	45	900	305.83		1365			Left sittings - JL WEGON FOR BFOOD VIOLIT
1-10-17	1000	11.	1240176	V.	162	75	42	875	300,81		1510	1179800		WEEDN FOR BFOON 1/10/17
	1106		1240179		320	92	ø				ø			
- 1		- ×		07P54			1		356.75			1180276		3X BACKFLUSH
				71987					447.19					
	_		-	72018										LUBE+ NO OFF
				72056										
- 1										39				
					d									
Date	Time	Pre Purge Meter Read	Post Purge Meter Read	Purge Volume	Temp (°C)	Cond (µ/cm)	рН	ORP/ Zobell	[Cl ₂]	DO (mg/L)	H ₂ S (mg/L)	Sampler / Laboratory	0	arbidity (NTU) min after start 1 2 5 10 15 1
- 10-17	1200	671959	71987			4								1.0 115 14.9 8.37
1	1220	071987	72018	40-	-			/		/			7.38 4	92 5.79 5.57 4.09
	1240	72018	72056										4.22 3	.61 296 2.62 192
6								/		1				
						-		/	_ ^		j.			
			1,70	4				/						
							- L	/		1				
				7.6										

10

10

13.8

+ 7510

MPWMD ASR DATA SHEET

Well:	ASR 1	ASR Period	

Sheet 1

MONTEREY PENINSULA
TER
MANAGEMENT DISTRICT

Test: Weather 90 of. Tiger [F] (gal) Tiger [R] (gal) BF (gal) ×1000 Well FCV Lube Line DTW Draw Up Inj Rate Lube / Skid Date Time Head N₂ (psi) Pressure Comments ×1000 ×1000 (psi) (feet) (feet) (GPM) Meter (gal) Up/Down (psi) 3674! 428039 124097 72056 350 95 3 1-10-17 1515 \$ 2000 d POSTARTINT 30 1470 151 85 7000 124 1765 2278 1.11.17 6900 4128039 145 22 1465 opened HV FOR MORE O 72056 2000 316.12 148 78 31 1640 TURNED HU STURNS POU 1.11.17 1630 THENED OFF 1242470 355 91 1-12-17 10900 1900 8 72056 1242532 365 428039 1850 359.34 1.14.17 1600 Ø CESTARTED INI 160 80 YD 1420 OPENHY. THEN FRU TO CONSET PT OPEN FOU TO 1700 1700 307.8 1-15-17 1244033 153 60 29 1290 52 35 156 1700 293.9 1690 TURNED HU 1750 TO 1690 1.4.17 0810 428039 1246106 72056 156 53 37 285.9 1600 1525 JS - No change 11802-10 1-16/7 0935 128039 72056 37 1600 279.22 84.19 45 TL-WO AST. Culy to for 1248431 55 15% 1505 1615 118517 4.17 1249 428639 1250978 155 3148 30 72056 265,22 1550 428039 1250987 33 118524 72056 350 74 1475 436,29 964 Start Builfloth RUNTY 1305 rust 2/325 18528 428039 1250987 72089 350.52 52 E8 RUN #2 350 74 1475 7.5 1416.64 66.12 72-118 flommacita 428039 VIA K3 1345 72125 0 1250987 352,32 Restart In: WHV + FCV 155 118548 8 1425 77773 75 428039 1250687 354,93) Pre Purge Post Purge Cond Turbidity (NTU) min after start Temp DO H₂S ORP/ Sampler / Time Purge Volume $[Cl_2]$ Meter Read Meter Read (°C) (µ/cm) (mg/L) Zobell (mg/L) Laboratory 0 1 1 2 1 5 1 10 1 15 20 1.17.17 72089 03300 1305 72056 3.3 255 101 20.2 3.82 015.0016.3 Evanover in his 1325 72689 36,000 Y.99 8.67 R.2 8.68 3.10 12125 LO-ND TL+33 1-17 98,000 15.6 460 7.03 479 3/1.18 4.49 72125 1345 72223 4.29 6.94740 4.93 1.71

mu sed

RUNHZ RUNHZ RUNHZ 1750+ 1900 = 1

1750+1400 => 1450-1640-

118

2 creptyp 1440+1690+800=3930 1456-1600+1,000

MPWMD ASR DATA SHEET

ASR 1 Well: ASR Period INVECTION

Sheet 2 90

MONTEREY PENINSULA TER

	Test			Weather				-	90)	of	2				NAGE				
Date	Time	Tiger [F] (gal) ×1000	Tiger [R] (gal) ×1000	BF (gal) ×1000	FCV (psi)	Line (psi)	Well Head (psi)	N ₂ (psi)	DTW (feet)	Draw Up (feet)	inj Rate (GPM)	Lube / Skid Meter (çal)		be sure Down		Cor	nment	s	
1.17.17	1525				154						1695		-	+					
			1251068	1251068	155						1590		/	1				DTU	1-2
1.18.17	0910	428039	125 6739	72273	155	49	34	1300	784.58			118548	0					afte	y as
		428039	1255041		155	53	33		259.31		1675	1100	/	0 5	JO A	9 -	75	1	
1-20-17				72223	165	56	41			89.03	1375		/	1	L +03	FCU	to 166	1/2/14	140
	0915	1000		1000	13.00	20	111	-	26290	89,03		Cha- + 1010	6		1	105	1 -	-	
21-17	1000	428039	1259199	72223	164	4	40	1150	259.d			Organ ap	93						
					165	100	70		266,73		1424	1193590	/					1	-31
1.22.17	0830	478039	1266907		166	57	40		764.97			1111	/		TENL	DU	BEOF	F	
1.23.17	0845		1262801	72223	166	60	39		262.31		1291		/	-					
			1264549	72223		-	34				1294		/	7	URNO	D 01	v Lu	BE.	
1.24.17		428039	1264809	72223	350	60	-1		Z62.68 349.7		1301	198500		-			10		
				72255	مادد				7.776		ø I	178300	/				2.		
					350						-		/						
				1000	155	49	34	3	349.7		kh m 1	1986B				. ^			
					130	, ,		3	-		1400 1		/					test	
														A	APT I	N TO	MADO		
											-		/						
										-	-		/	-					
Date	Time	Pre Purge Meter Read	Post Purge Meter Read	Purge Volume	Temp (°C)	Cond (µ/cm)	pН	ORP/ Zobell	[Cl ₂]	DO (mg/L)	H ₂ S (mg/L)	Sampler / Laboratory	_		dity (N	TU)	min a	fter sta	rt
24-17	1300	72223	72255					/		((mg/L)	Laboratory	35	28	115	5	10	15	20
_	1320	-	72323		- 1								5.4	-	11.7				
V	1350	723213	72341							-			- 1	_	8.4				
													215	1.01	0.7	9,0	1-1	2-1	
											-								
								/							1 0				
							1	/			-			-					
								/	-		-		-			-	_		
					-	-	-						- 1			- 1			

Well:	AS	8	1	

ASR Period INJECTION

Sheet 1



MANAGEMENT DISTRICT Test: Weather 90 may Well FCV Line DTW Draw Up Inj Rate Lube / Skid Lube Date Time Head N₂ (psi) Pressure Comments (psi) (psi) (feet) (feet) (GPM) Meter (gal) (psi) Up/Down 1.24.17 1410 428039 119868 349.7 12641809 72341 155 1400 COPIED FROM PREVIOUS SHOET 1.25.17 0925 428039 2266464 147 52 25 291.29 900 1363 JS- No Asi 1.26.4 6850 428039 1268351 59 25 875 285.06 1370 1.27-17 1315 IL-TURNED UP SOGPM 4HTV 27606 73.7 428039 150 850 1432 1270690 1-25-A 1005 428039 TT - pingland back w HV-1520 263,338,239 1272651 5 800 151 1600 1-29-17-1045 428039 1274924 151 51 26 750 265.1 84.67 1550 LUBEON Left Settings 1-30-17 0845 428039 1276992 72341 27 149 COF 261.19 1568 1.31.17 0850 428039 675 253.32 72341 1279244 150 27 54 120290 Prepare to BF 1300 HZ55 120382 72341 350 # 339.00 447.75 1310 1433 120382 1425 478039 1279665 650 (344.13 55 72446 163 Restart Ini Pre Purge Post Purge Temp Cond ORP/ DO H₂S Sampler / Turbidity (NTU) min after start Time Date Purge Volume pH $[Cl_2]$ Meter Read Meter Read (°C) (µ/cm) Zobell (mg/L) (mg/L) Laboratory 0 1 1 2 1 5 1 10 1 15 1 20 1-31-17 1300 72341 72376 2.74 4.26 47.7 14.6 4.80 1322 72376 3.49 4.21 6.73 7.15 2.54 72409 1343 72409 72446 3.04 3.07 4.99 6.63 2.51

101

18mg/LECV

8	Well:	ASRI	N	ASR Period						Sheet	1	٨	MONTER V	PENINSULA T E R
7,	Test:			Weather		3.7				90 mos			M	ANAGEMENT DISTRICT
Date	Time	Tiger [F] (gal) ×1000	Tiger [R] (gal) ×1000	BF (gal) ×1000	FCV (psi)	Line (psi)	Well Head (psi)	N ₂ (psi)	DTW (feet)	Draw Up (feet)		Lube / Skid Meter (gal)	Lube Pressure Up/Down	Comments
1.31.17	1425	428039	1279665	72446	163	55	37	650	344.1		1433	120382		JS - Restart I
2-1-17		428039	1281160	72446	162	52	39	575	295,44	48.66	1380	120382	/	
2.2.17	1030	428039	1283342	72446	162	44	22		2905		1300			THENED HUT JL
2-3-17	0840	428039	1285235	72446	162	57	27	2010		62.87	1466		/	TI WULOT,
2.4.17	900	428639	1287389	72446	157	54	27	2000	27316	71	1541		/	JL - NOADT
2.5.17	0820	428039	1289492	72446	154	53	31	1950		71,82	1510			JS - No Ad;
2.6.17	4960	428039	1291724	72446	151	51	28	1850	268.51			1203830	/	JE-CUBE ON
7.7.17	1000	428039	1294018	72446	15	5	28	900	270.81	74	1525	1208410		BF-TODAY-JL
	1245			72446	0				3		0			Fix No leak- Still
	1325		72446 ->	72479					342.81					SAM BF/
	1335			77479					449,00					
	1425	428039	1794780	72554	0			- 4	345,42	3	\$ (1209180	00	Fix Ny Izak again
	1445	428039	1294304	72554	151	50	30	1625	345,42		1490(504180	8/	Restruct Inj.
2.8-17	6900	428039	1295844	72554	330		15		343.15		Ø		/	
2				3.5					1					* See Notes in SILE
2.9.17	6900	428039	197913	72554	148	44.	ZI		280		1900			
							1.0			-				
D. 4	T'	Pre Purge	Post Purge	D	Temp	Cond		ORP/	011	DO	H ₂ S	Sampler /	Tu	rbidity (NTU) min after
Date	Time	Meter Read	Meter Read	Purge Volume	(°C)	(µ/cm)	pH	Zobell	[Cl ₂]	(mg/L)	(mg/L)	Laboratory	0 1	1 2 5 10
4417	0930	0285516	0285833	317	17.2	469	1-48	34.753	0.59	4.13	NUL	ST DBP- MBAS	1	
21212	1220	2244/	72483				-	/					2 . 7 11	101611111111111111111111111111111111111
41717		72446												06 6.69 5.87 2.17
		72518	77518											63 6.68 4.57 2.10
-	1.100	7010	1000	-							-		0, 01	1010 MIN 7110

VO LULY E	Well:	ASR 1	N	ASR Period				Т		Sheet	1	٨	MONTER V	V (9	ENIN	F	3
3	Test:			Weather						90MAX of	1		M	ANAC	SEMEN	IT DIS	TRIC	т
Date	Time	Tiger [F] (gal) ×1000	Tiger [R] (gal) ×1000	BF (gal) ×1000	FCV (psi)	Line (psi)	Weli Head (psi)	N ₂ (psi)	DTW	Draw Up (feet)		Lube / Skid Meter (gal)	Lube Pressure Up/Down		Co	ommer	nts	
2.9.17	6900	428039	1297913	72554	148	44	21	1600	280.15		1525	10209180	1	INIT	MALD	0.12	44.1	
2-10-17			1300169	72554	142	49	18	1500	266.4	77.7	1525				ADJ.			
7.11.17		428039	1302211	72554	140	51	18	1400		86.49	1520	1209180			Adj do		N= 14	6 T.
2-12-14	10905	428039	(303467)	72554	144	51	19	1310	255.65	-	1460		/		-510			
2.13.17		428639	1306479	72554	141	49	19	199	752.57		4		1/		3E on			
2.14.17			1308445	72554	145	48	19	1300	-	93,45		1213280	5648				5F-	IS
	1225	428039	1368791	72534	350				333.12		Ø	1213940	56/52	1	7-70			
	1250			77586					443,66	-	-		1	F				
	1345	428039	1308791	72659	150	44	28	1300	338.5		1540	1214130	/	Re	start	Twi	T	<
2.15.17	0840	428039	1310489	72659	150	48	31	1775	281,31	57.2		1214130	/		start	2.3		
		428639	1312742	72659	151	45	29	1200		62.36		1214130	/	les	4 ,,7	thin	21	-
2-17-17	-		1314707	72659	150	46	29	1200		67.59		1214130	/	-4	4 sit	· Ad	1.	
			1314799													-		
2.24.17	1200	428039	1314806	72659	330	20	Ø	600	341,32	,	Ø	1214130	X	-Re	sturt	Thi		
	1225				181	80			-		750		1			J		
7.74.17	1445	428039	(3)4958	72659	154	57	33	600	748.16		1550	1214130	/	AZ	UP per	CallAn		
2.75 .17	0830	428039	1316510	72659	151	49	30	575	268.42		1480	1214130	X		· 1458			5
	0840				151	48	33				1550			_	12,0			
2-26-17	0855	428039	1318751	32659	151	48	32	550	260.7	80.62	1550				-140			
Date	Time	Pre Purge Meter Read	Post Purge Meter Read	Purge Volume	Temp (°C)	Cond (µ/cm)	pH	ORP/ Zobell	[Cl ₂]	DO (mg/L)	H ₂ S (mg/L)	Sampler / Laboratory	0	1 1	(NTU 2 5	1	0	
2.14.17		72554	77589					/				53	3,39 4	_				
		72589	72623									15	2.43 4	.14 4	94 40	23 1.6	,4	
	1320	72623	72659					/	.0-			35	1.58 2.	58 4	,71 3,1	49 2.0	7	
	111/0					1		230.0 @ 2371	14,50							4	_	
2-14-17	1440				17.9	497	7.17	2371	0.22	3.76	0.11	36	4.91				1	
2-14-17								/	21.400					\perp				
								/										-
								/										

Well: ASR 1

Test:

ASR Period INSECTION

Weather

Sheet 1



90MAY Well Tiger [F] (gal) Tiger [R] (gal) FCV Line DTW Draw Up Inj Rate Lube / Skid BF (gal) ×1000 Head Date Time N₂ (psi) Comments Pressure ×1000 (psi) (psi) (feet) (GPM) Meter (gal) (feet) Up/Down (psi) 2-26-12-0855 428039 48 550 2607 1318751 32689 151 32 1220 TRANSCRIBED FROM PROUSHEST 1320947 49 2.27 17 0845 428039 32659 150 500 257.54 540 1547 1219400 3.28.170950 428039 JS-ASR rounds 72659 49 1323147 151 500 254.19 1218860 53 52 JS-13F 1120 72659 350 69 334.4 72691 1190 444.77 10 min 500 (339.04) 1235 428039 1550 1219110 33 72768 JS - Restort Inj 1373427 154 46 428039 0840 154 44 34 28497 1325226 72768 400 3.1.17 1524 24 263,19 142 41 2200 3.2.17 77768 1868 0840 428639 1327773 MENTO DOWN - IL 27869 49 155 1500 NO ITLEN 3.3.17 0850 428639 72768 155 0119151 1329880 49 2100 271.01 JS- No A); 1500 1332091 154 49 ZL6,74 JL-NOADI 3.4.17 0900 77768 31 1507 428039 2100 72768 51 36 26476 74.78 TL-NOD 0915 428039 1334275 2000 1480 155 1487 JL. ONADJ LUBEON 1336367 428639 77768 36.17 6845 156 51 34 2050 261.57 1723620 317-17-0850 428039 1336985 72768 330 54 50 Js-Roomls, Noin, per Cal And 108 82 341.19 1950 1345 72768 349.91 1774600 56 52 JS-BF 1405 72799 454.14 10 min SC 72871 1724810 1455 JS- No Inj, No Read BR Logs 1336985 346.47 72871 428639 154 1495 3.717 HUD IT THRUS. 1700 1724810 3.817 428039 428039 4280 397ge Post Purge 1340713 1657 6900 282,71 72871 21 280,18 34.17 Date 14His Temp Cond DO Turbidity (NTU) min after start ORP/ Sampler / Purge Volume pH [Cl₂] Meter Read Meter Read (°C) (µ/cm) Zobell (mg/L) (mg/L) Laboratory 1.32 2.75 35.8 9.96 3.26 72694 2.28.17 1130 72659 6.11 3,32 5.78 3.98 1.70 72694 1150 72728 3,182,99 587 3,27 2,19 72728 72768 1210 3,73 24,730.9 8.85 2.52 3.7.17 1355 72768 72801 16.2 4.80 7.18 4.57 3.85 72835 1415 72861 32.0 7.77 5.54 3.33 1.48 Chloride = 30 pm 1435 72835 72871

10000

	1001
Well:	ASRI
well:	1300

Test:

ASR Period WIECTON

Weather

Sheet 1



90 mas Well FCV Draw Up Inj Rate Lube Line DTW Lube / Skid Date Time Head N₂ (psi) Pressure Comments (psi) (psi) (feet) (feet) (GPM) Meter (gal) Up/Down (psi) 346 H7 428039 72871 3.9.17 0900 1340713 141 52 280.18 66.29 147 1950 418039 1513 1234810 3-10-17 0830 1342868 72871 144 51 21 1900 273.56 JS- ASR Rounds JS. ASR Rounds By P to 1500 3-1117 0820 271.04 75.43 1476 1224810 428039 1345042 72871 144 48 15 1875 3-12-17-1020* 428039 72871 142 26630 80.17 1347317 44 1515 1900 TL-NOADJ 3-13.17 0850 1349319 143 76399 72871 428039 1900 1228980 428039 1351430 72871 145 49 1482 3.14.17 0815 261.70 JS-ASR Bound + BF 22 1800 5348 1729500 7-1 428039 FZ871 350 69 1800 33250 1351717 1110 BF 1125 72902 441,93 10 min- SC 1570 1229700 1900 337.12 \$ 478039 1351729 156 44 36 72976 1230 Restart Inj - JJ 1467 1229700 3-15.17 0850 478039 1725 279.77 57.35 1353591 72976 156 50 36 JS-Rounds A3; Upus/AWA 1525 150 1229900 8-16-17 0900 46 SL- LEFT SEHINGS 428639 72976 341 1725 271.52 1355911 156 1358039 3-17-17 0855 72976 268112 69 428039 37 1555 1700 TL-NOA 3.18.17 0820 428039 72976 48 37 265.11 72.01 1542 1229700 156 1360237 1650 JS- No Adi 3-19-17 0930 261.0 76.12 1565 72976 428039 37 No ADS-TI 1362583 155 1625 229700 3.20.17 0915 136 4785 155 428039 72976 LUBEON almost ZOPS 47 38 1600 257.76 3.21.17 0835 1237840 155 255,97 81,75 1558 36 47 428639 1366951 72976 1625 JS. HSR ROUNDS - DE 1734320 72976 350 1120 330,85 LOM BF 1190 73007 439,14 10 min SC 428039 1555 1234530 73082 156 37 1625 (334.17) 1367221 1235 JS- Restart In Pre Purge Post Purge Cond ORP/ H-S Turbidity (NTU) min after start Temp DO Sampler / Purge Volume $[Cl_2]$ Date Time Meter Read Meter Read (°C) (µ/cm) Zobell (mg/L) Laboratory (mg/L) 0 1 1 2 1 5 1 10 1 15 1 20 3.14.17 1115 13 72871 2.49 5.16 29.7 11.9 3.75 72903 72903 8,58 7,43 6,58 4,87 1,98 1135 72939 1155 Chlorile = 3% ppm 12.2 6.79 4.07 3.63 1.68 72939 72976 461 7.11 659 0 18 10C - 3.15.17 1345 18.1 35 Chloride = 32 pm 4,27 ,72 73011 @ 21.4°C 7.26 15.0 27.2 10,2 3.21.17 1130 72976 9.15 1150 73011 73045 5.74 4,00 5.54 4.35 2.69 1210 73045 73082 4.11 3.01

FIMWI

Well:	ASR-1	ASR Period
TY CII.	11011	ASK I CITO

d Injection

Sheet

MONTEREY PENINSULA

Test:

Weather

90 MAX OF_

	1 est;			weather					90	NAX OI			_					
Date	Time	Tiger [F] (gal) ×1000	Tiger [R] (gal) ×1000	BF (gal) ×1000	FCV (psi)	Line (psi)	Well Head (psi)	N ₂ (psi)	DTW (feet)	Draw Up (feet)	Inj Rate (GPM)	Lube / Skid Meter (gal)	Lube Pressure Up/Down		Com	ments		
3.21.17	1235	428039	136722)	73082	156	44	37-	1625 8	334.17	}	1555	1234530	>	Js- 5	Resta	art -	JA j	
3.22.17	1130	428039	1369345	73082	157	44	35	1600	2764	57.53	1531			11-1	A S1	thugs	New	N
1.23.17	0905	428639	1371298	73092	159	47	38	1550	272.39	61,79	1518	1234530	X	JS. AD.				
3.24.17	1230	428639	1373814	7882	156	44	38	1950	268,32		1526				1	,		
25:17	08085	428039	1375762	73082	157	46	39	1450	764-15	70.02				JC-NO	SANT			
.2617	0825	428039	1377758	7308Z	160	47	40	1425	261-33	72.84	1523	1234530	1	JS-N	o Aa	5		
27-17	1230	428039	1380335	73082	156	42	34	1425	755.61		1585			K- WR	N60 c	N CUI	RE	
28.17		428039	1382086	73082	160	46	38	1325	255,49	78.68	1515	1238000	56/52	35-12				
	1110			73082	350			L.	330.03		Ø	1238520	5752	BF				
	1135			73113					437,45					10 m	IN S	C		
	1230	428039	1382352	73189	156	44	37	1400	333.85	3	1542	1238740	X	JS-R	esteri	T +	i	
29-17	0900	428639	1384072	73189	157	44	40	1300	281:07		1495			Toup.	shine s	Cours 1	· · · ·	x
-30-13	1006		1384076		330	76	70	1250	.010.4000					5+1/4				
	1130		1384106		160	47	40	1200	332.9	1	1385			120-5tar	+ Inj	TL		
	1615		1384562		160	48	39	250			1535			Noad	E(1.	TL		
-31-14	0840	428039	1385967	73189	148	46	39	1225	273.6	6 59.19	1525			TL	-			
1.17	0840	418039	1388016	73189	159	47	39	1100	270,52	63.33	1513	1238740	1	55 Adi	اس ج	Fev-1	55,15	66
1-2-12	1020	428039	1390484	73189	154	41	33	1100		7085	1595			TL				
1-3-17	0830	428039	1391263	73189	165	50	36	1075	280,94	57.91	1129	1238740	X	J5- N	10 A2	;		
Date	Time	Pre Purge Meter Read	Post Purge Meter Read	Purge Volume	Temp (°C)	Cond (µ/cm)	рН	ORP / Zobell	[Cl ₂]	DO (mg/L)	H ₂ S (mg/L)	Sampler / Laboratory		rbidity (N				
18.17	1125	75082	73116					/				35		18 28,4				
	1145	73116	73151										_	33 4.46		-		
	1205	73151	73189										9,71 2	,68 3,93	2,88	2.87		
								0	12.80€									
.29.14	1500		Chlorite=	32 ppm	17.8	456	7.07	678 234	0.18	3.74	ho	35	0.90			,		
								/	C 23°C									

	A	
	ASR-1	
Well-	16 13 - 1	

ASR Period Injection

	- 1	
Sheet		1

PENINSULA

Weather Test:

KAMOP

VV C	EK
MANAGEMENT	DISTRICT

Date	Time	Tiger [F] (gal) ×1000	Tiger [R] (gal) ×1000	BF (gal) ×1000	FCV (psi)	Line (psi)	Well Head (psi)	N ₂ (psi)	(feet) 333.85	Draw Up (feet)	(GPM)	Meter (gal)	Pressu Up/Do	re		Comi	ments		
4.3.17	0830	428039	1392263	73189	165	50	36	1075	280.94	52,91	1129	1238740	X	13	5-1	Jo A	5;		
4.4.17	0815	428039	1393861	73189	165		37	1050	277.22	56.64	1150	1238740	X	3	5-1	Vo p	10.		
4.5.17	0810	428039	1395467	73189	165	52	37	1025	275.42	58,43	1154	1238740	X	3	9-10	blive	on, sk	n 2000	it ,
	0930		h		350						Ø		/	13	5-5	wit	Sow	n	,
	1420			73189	350				329,50		Ø	1239940	545	23	55-B	F			
	1435			73721		-			437.75					13	TS -10	mi	n S	C	
4.5.17	1530	428039	1395560	73297	350	47	17	1000	333,15	\$	ø	1240130	X	IS	- Sho	+ Jow	n ASR	1	
									MM										
4-11-17	1215	428039	1395560		340	74	52	4508	337,59	3	Ø			-	UVLO	in Fel	r Cal	Aun	
		428039			186	69		2175			420				W.	Say	r Cal	2	
	1245	428039	1395564		340			2178		- ×	Ø		1	1	off 2	2° d f	ante		
			, , ,								/								
0													/						
													/						
								1-		0 -			/						
													/						
													/						
													/						
											1		/						
Date	Time	Pre Purge Meter Read	Post Purge Meter Read	Purge Volume	Temp (°C)	Cond (µ/cm)	рН	ORP / Zobell	[Cl ₂]	DO (mg/L)	H ₂ S (mg/L)	Sampler / Laboratory	0	Turbio	lity (N	TU) 5	min afi	ter star	20
4,5,17	1425	73189	73275	7 - 1							_	15			26.3				
	1444	73225	73261						8				3.65	3,55	4.79	4.43	2.69		
	1505	73261	73297			ļ.							2.61	2,74	3,92	3,35	2.69	-5	
	100							/	313°C					1					
4.11.17	1520			Chloride= 3/pm	18:3	444	7.48	688 234	0.21	3,94	Lo	rs	3,40						
								/	21.506										
											J. In the								
						K T		/	1										

Well:	ASB-1	
VY CII.	1012 1	

Injection ASR Period

MONTEREY PENINSULA

Weather

	Test:			Weather				-		of										
Date	Time	Tiger [F] (gal) ×1000	Tiger [R] (gal) ×1000	BF (gal) ×1000	FCV (psi)	Line (psi)	Well Head (psi)	N ₂ (psi)	DTW (feet)	Draw Up (feet)	Inj Rate (GPM)	Lube / Skid Meter (gal) 1240130	Lube Pressur Up/Dow		-	Comm	ents			
4.11.17	1245	428039	1395564		340		200	2175			Ø			Tro	yer	hed	fron	n Pa	ev.	
5.16.17	1215				- 4			2150	- 1				/	Ne		Uz To				
	12.35	431648	1396184	73297	350	63	0	2150	335,92		0	1243680	56 52	Is	-BF					
	1255			73330					442.99				/		nin	Sc				
	1350		1396184	73406	350	64	Ø	2190	339.51		Ø	1243890	X			DBF,	No	Inj		
5.17.17	0815	431648	1396184	73406	350	68	0	2050	336.62		Ø	1243890	/	75	-13	ounds	>			
5.22.17	0810	431648	1396247	73406	350	88	0	1625	340.48	-	Ø	1243890	X	J5-	Row	ds -	Tiner	Drit	10.4	1
		431648	1396248	73406	353	34	Ø	1625	342,60		Ø	1243890	X			some				
5.27.17	0815	431664	1396419	73406	354	83	Ø	1250	337.49		\$	1243890	X			ger i		-	- 1	
5.30.17	0810	431664	1396574	73406	356	83	0	1250	337.12	T Li	0	1243890	X			som			mift.	
5.31.17	0820	431664	1396644	73406	356	100	0	1250	346,83		0	1243890	X		11					
6.2017	0930	NA	MA	73524	344	99	0	2025			0	1251800		- Xi-	Clark	Val Rep	mir Y	>)=00a	√ 8F	
	1000			73524	011	1.1	0	-	360,72		Ø		/			7 50				
	1120	NA	· NA	73713								1252160	X			Am				
													/							
														_						
														-						
Date	Time	Pre Purge Meter Read	Post Purge Meter Read	Purge Volume	Temp (°C)	Cond (µ/cm)	pН	ORP/ Zobell	[Cl ₂]	DO (mg/L)	H ₂ S (mg/L)	Sampler / Laboratory	0 1	urbidit	ty (NT	(U) r	nin aft	ter star	t 20	
5.16.17	1745	73297	73333									JS	681.0					- 1		
	1305		73369							1 18			2,39	18.7	4.41	1.96	1,44			
	1325		73406													1.99				
5.73.17	1130		Chloride=	30 ppm	(8,3)	419	7.25	685 202		10.67	40	19	1.51		_		-			
									@ 24,00				-		= 1	\dashv				2
6.20.17	1000		Chlinde = 1	48 ppm	16,1	452	7.04	251205	-0.05	3,73	Lo	1S	311.0	33,2	1,27	5.65	.80	1.36	1,74	-
			W 1	1 1 1	-	-			@18.5°C		N10		-		-		,		2.4.6	-

Well: ASR 1

ASR Period STORAGE

MONTEREY PENINSULA

Test: QUARTERLY SIGIDBP

Weather Fog

	Date	Time	Tiger [F] (gal) ×1000	Tiger [R] (gal) ×1000	BF (gal) ×1000	FCV (psi)	Line (psi)	Well Head (psi)	N ₂ (psi)	DTW (feet)	Draw Up (feet)		Lube / Skid Meter (gal)	Lube Pressu Up/Dov	re		Comr	nents		
-	6-28-17	طاالا			73713	344	96	0	1300	361.95										
	12 78				£ 0		4			× 1				/	1					
					73745					46492				/	1					
					73837									/					1	
														/	+					
1															+					
		-												/	+					
H									-		•				1					
l															1					
											Y.									
														/						
				"A"										/						
														/						
															-					
									-					/	-					
	Date	Time	Pre Purge Meter Read	Post Purge Meter Read	Purge Volume	Temp (°C)	Cond (µ/cm)	рН	ORP / Zobell	[Cl ₂]	DO (mg/L)	H ₂ S (mg/L)	Sampler / Laboratory	0	Turbio	lity (N	TU)	min af	iter sta	rt 20
1												(TUBBIDITY	0	1	.2	3	4	5	10
														175	16.6	8.60	7.83	4.44	2.92	0.9
														15	20	Z	30			
									/					2.26		X	2.76			
				10000			Π.ΙΛ	0	100		111		CHLORIDE	1	5	10		20	25 X	30
4	62817		73713	73808		16.6	440	7.30	110	0.23	3117	ND		40	30	30	30	30	×	30
	6/28/17	14/5	Z1.1.	ride= 32 ppr	Α.	100	u1 (7.11	2.65	-A 16	2 .0	Lo	75	2 11/	-					
T	0/20/14	1410	Chi	Live = > c bb.	1	10,0	446	ナッコム	211	23.000	2108	L0		2,14						

Well:	ASR-1	ASR Period	Storage	

Sheet \

MONTEREY

	7 0945 1005 1045 17 1035 17 1000 1015 1100 1117 1205 17 1000 1117 1205			Weather				- <		of			^	MAN	AGEM	IENT	DISTR	ICT	
Date	Time	Tiger [F] (gal) ×1000	Tiger [R] (gal) ×1000	BF (gal) ×1000	FCV (psi)	Line (psi)	Well Head (psi)	N ₂ (psi)	DTW (feet)	Draw Up (feet)	Inj Rate (GPM)	Lube / Skid Meter (gal)	Lube Pressu Up/Dov	re		Com	ments		
7.11.17	0945	NO	NA	73837	360	103	Ø	1200	363.2	7	0	1260930	565	2 3	5- BF	=/H1	1 Cal	Am So	ink pl
	1005			73870					464.05				/			150			
	1045	NA	NA	73970	355	103	0	1700	368,50		0	1261140	X	J	5- En	FØ 6.	/San	apk E	veet
													1					2	
		NA	NA		350	100	0	1150	-		0	1761140	56		5-1	ubel	ive.	on	
71817	1000	NN	NA	73970	177	102	0	9	363,94		Ø	1265830	565	2 7	S- G	5=/50	mple	Evert	-
	1015			73999					461.77					1.1	m C	in S	(
	1100	NA	NA	74101	177	104	0	Ø	369,40		0	1266040	X	E	19	F/S	unp le	Even	T
7.24.17	1725	WA	AN	74101	0	100	0	0	/		0	1266040	55 4	8 3	5-10	heli	ne o	1	
7.25.17	1000	NA	NA	74101	Ø	102	0	0	364,32			1769400						ampl	,
													/					A JA	
		NA	NA	74101	350	100	0	875	364.83		0					ZAN			
	1115			74131					458,39				/			in S			
		AU	ACI	74243	184	101	0	200	368.19		Ø	1269790	X	3	3-E	End B	F/sa	wipl	•
													/						
					1														
Date	Time	Pre Purge	Post Purge	Purge Volume	Temp	Cond	pН	ORP/	[Cl ₂]	DO	H ₂ S	Sampler /		Turbio	lity (N	TU)	min a	fter star	rt
		Meter Read	Meter Read		(°C)	(μ/cm)		Zobell		(mg/L)	(mg/L)	Laboratory						15	
4.11.17	6995	73837	Chloride=	34 ppm	15.8	431	+,7+	142		3,64	Lo	35			+.50	2.7)	3,60	2.43	1, 20
									e 18,5%	-				30					
									-				3,59	1.84			- 00		
7 1/2 17	0020		ahl	Z2 . = m1	18,3	437	7.110	178 201	A U2	120	Lo	75	- 11						
tiront	0750		Chloride =	25 bhm	1017	179	7,98	201	0190	1120	20	12	0.19		-				
1.10.13	LARE	79370	(61,0)-	21/ 500	16.6	200	7 11 2	97 190,			Lo	J5	105	8 1/	6/4	1 00	1 37	2,09	12/
1.10.11	100	71270	Chloride =	Jy ppm	1610	4334	1113	190,	@18.0°C	בדוכ				30	10.07	2,10	3.76	E LU [11 78
	HO TO												4.38						2
7 750,9	1465		Chloride =	32.00M	10.16	198	7.30	161	10.40	12,81	ho	75	86,1		34.3	874	2.74	3.14	120

56.742

* INFLATED BASKI TO 310 PSI & REMOVED BASKI FROM REGULATOR TO INSTALL PRESSURE VALUE. BY THE TIME WE OPENED THE VALUE, BASKI PRESSURE WAS @ 228 PSI @ To. When we are unjecting, we hold for pressure @ 155 PSI showing the leak not grately. ZIOPSIC SMIN 15 MIN: 205 psi

MPWMD	ASR DA	TA SHE	FT
IVII VVIVID	TOIL DE		

PENINSULA MONTEREY ASR-1 ASR Period Storage Well: Sheet MANAGEMENT DISTRICT Test: Weather

	Test:			Weather				-		of									
Date	Time	Tiger [F] (gal) ×1000	Tiger [R] (gal) ×1000	BF (gal) ×1000	FCV (psi)	Line (psi)	Well Head (psi)	N ₂ (psi)	DTW (feet)	Draw Up (feet)	Inj Rate (GPM)	Lube / Skid Meter (gal)	Lube Pressu Up/Dov	re		Com	ments	t _{ie}	
7.25.17	1205	NA	NA	74243	184	101	Ø	200	368, F	/	Ø	1269790	X	7	3-	ENI	BF/	CalA	m Sa
1.17	0930	NA	NA	74243	350	105	0	1650	365,50		0	1273830	574	8 5.	SAP	FI.			
			Well Head	Tim Ø	222									10	im C	n 5			
		-	T. 1/6.	Time 15 min Time 30 min				-					/	he	ako	ety	tien	^	
	1145	NA	NA	74243	330	99	0	2000	365,63		Ø	1274300	54 4	9 5	SAP	/F/	-		
	1245	NA	NA	74275	162	101	0	400	4605		2700	1274470	X			n Sc			
		7471	70.71				4				9				.,,,,	201013			
5.13.17		NA	NA NA	74337	NA	102	_	NA	NA		0	1276060	/	/				- 22	
a	1115	1010	IVA	7-1201	NA	105	4	AM	NA		9			=	- N) 0	+ 10	157 FA	4Z17	1-3,
8.23.17			1	74387				-				1277600		-	BE 0				
8.2417	1030			3444Z								1278000	/	SA	TMP	E	TH	M	
																,			- 4
		-1				-	-						/						
Date	Time	Pre Purge Meter Read	Post Purge Meter Read	Purge Volume	Temp (°C)	Cond (µ/cm)	рН	ORP / Zobell	[Cl ₂]	DO (mg/L)	H ₂ S (mg/L)	Sampler / Laboratory	4	Turbid	lity (N	TU)	min a	fter sta	rt
3.1.17	1200				17,0	363	7.12	155 124	0.33	3.65	ND	Jurbidity	0	1	Z	3	4	5	10
								/	@ 27.0°	c			74.2		_	4,72 1,72		1.14	1.00
		de .											1.38		1.05	1172			
								/				Chloride	5	10		20			
	1.												32	2]	>0	54	30		
								/											
																=			

		Well: Test:	15R-	ζ	ASR Period Weather			Ψ.			Shee			MONT	N	NAGEMEN		R		
	Date	Time	Tiger [F] (gal) ×1000	Tiger [R] (gal) ×1000	BF (gal) ×1000	FCV (psi)		Well Head (psi)	N ₂ (psi)	DTW (feet)	Draw Up (feet)	(GPM)	Lube / Skid Meter (gal)	Lube Pressu Up/Dov	ire	Co	mment	s		
	11-3-16	1020	31189	256689	287891	800	92	Ø	335	3,89,4	5 0	4	22862	489.	6	ナレ/ナで				
												1.		1						
V	11-3-16				287914					461,1	7			/						
					- // -								- 11	/				•		
	11-3-16	1120	31339	256689	288043				338				22884	/		OFF				
H									2 close	1 Inot	well			/						i
1														/	1					
H														/	1					
1												al.		/	1					
1														/	1					
11							-							/	1					
11														/	-					
1															-					
lt										+				/						
1														/	-					
11														/	+					_
															-					
										100	201 20			/	+					
-	Date	Time	Pre Purge	Post Purge	Purge Volume	Temp	Cond	pН	ORP/	DOM:	DO DO	H ₂ S	Sampler /	7	Furb	idity (NTII)	mina	fler sto	-	
1	11-3-16	1070	Meter Read	Meter Read		(°C)	(µ/cm)		Zobell	ICIE		(mg/L)	Laboratory	0	1	idity (NTU)	1 10	1 15	20	
1 1		TV LA	201011	200-19		195	670	7.0	799.4	0,24	1.12	NO	10/10	197	24	2 5	5.89	1.68	2.60	1
1																				
1																				
1						-														
1																				
														-						
1						-								+ +						

Well: ASR Z

ASR Period STORAGE

Sheet 4

PENINSULA

MONTEREY

Test: QUARTERLY SAMPLE Weather SUN/COLD

Date	Time	Tiger [F] (gal) ×1000	Tiger [R] (gal) ×1000	BF (gal) ×1000	FCV (psi)	Line (psi)	Well Head (psi)	N ₂ (psi)	DTW (feet)	Draw Up (feet)	Inj Rate (GPM)	Lube / Skid Meter (gal)	Lube Pressure Up/Down	1		ments		
2/6/16	1200	31739	526688	288043	344	93	Ø	2100	392.41	_	\$ 2700	23236	46 48	Hacy	UE G	VARTER	evy san	PLE
		34	256688	288669			,		469,11		2700			2.				
	1400	31960	3000	288267	-	-					-	13267		FCV.	LUBE	OFF		
Y- 1																		
					.,,								/					
															1			
													/					
													/					
													/	-				
													/	-				
														_				
													/	-				_
													/	-				
													//					
													/		-			
													/					
Date	Time	Pre Purge Meter Read	Post Purge Meter Read	Purge Volume	Temp (°C)	Cond (µ/cm)	pН	ORP/ Zobell	[Cl ₂]	DO (mg/L)	H ₂ S (mg/L)	Sampler / Laboratory	0 T	urbidity (1 2 317 59.3	NTU)	min af	fter star	t 20
2/6/16	1200	288043	286267	224000	20,4	832	7.19	131.9	DU	3.98	0.09	Laboratory	128 3	317 59:	16.4	851	11.1	8.83
								/										
								/										
								/			1		\perp					
				-				/		-					-			
													-		-			
								/			-		+		-	-		-
						-									1			

Well: ASR 2

ASR Period INSECTION

MONTEREY PENINSULA

Test: LINE FLUSH TO INT

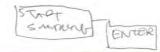
Weather COUD / RAIN LASTNIGHT / FIRST DAY of

MANAGEMENT DISTRICT

Date	Time	Tiger [F] (gal) ×1000	Tiger [R] (gal) ×1000	BF (gal) ×1000	FCV (psi)	Line (psi)	Well Head (psi)	N ₂ (psi)	DTW (feet)	Draw Up (feet)	Inj Rate (GPM)	Lube / Skid Meter (gal)	Lube Pressure Up/Down		nments	
2016.16	0900	31963	256688	288267	350	94	ø	1800	391.82	_	Ø	23268	26	LUBEON -	JL	
1	2001	lumber.	at im	and the	1 141	un	ed to	2,00	0					LINE FLUST		
Jin	NICH	ols stopy	sed by I	o see the	e le	4	luste	ing 7	Bash	ud				See SP	TESTS	
ali	aut	emeigen	cy flush	ing peats	col	0		U						Sheets		
2.16.16	1600	31963	256688	288154										STAPPED	LINE FL	USH
2-11-1	11 nc	3913	25686.	2 88954	350	94	48	1800	39149	_	ø			BEGINT		-
4 16 10	1605	3 102	- 200	1	211	45	45		391.49		805			setusci		
														SOML @		
													/			
																6
0															1	
Date	Time	Pre Purge Meter Read	Post Purge Meter Read	Purge Volume	Temp (°C)	Cond (µ/cm)	рН	ORP/ Zobell	[Cl ₂]	DO (mg/L)	H ₂ S (mg/L)	Sampler / Laboratory		rbidity (NTU)		
		288267	288954	687,000									-	+		-
															7	1
			AL.													
	1												+ +			7
	1/8-							/								
-																

LINEFLYS





MPWMD ASR DATA SHEET

Well: ASR 2 12/16-12/21 ASR Period INSECTION

MONTEREY PENINSULA

Test: FIRST 24 CHE MANAGEMENT DISTRICT

		Test:	F1857 24 C	YCLE	Weather						of		(140 MAY)			GEME				
	Date	Time	Tiger [F] (gal) ×1000	Tiger [R] (gal) ×1000	BF (gal) ×1000	FCV (psi)	Line (psi)	Well Head (psi)	N ₂ (psi)	DTW (feet)	Draw Up (feet)	Inj Rate (GPM)	Lube / Skid Meter (gal)	Lube Pressur Up/Dow		c	Comm	ents		
	12-16-16	1605	31936	256688	288267	ZII	86	45	1800		3-	805	23268	26/24	B	5 IN	BEU	2011		
								3/3		un	5		2345 T	43/45			9			
	12-17-16	0910	31936	257530	288954	221	89	43	1808	367,29	24,2	864	23657	4845	DL	RING	11	1712	CT1	b.
	-																			
7	12/17/16	0945	31936	257555	288954	350	90	0	11	388,29		0			54	UT 0	DOW	VII	5	
7	1 1				288983					475.31				/						.j.
Г					288983					37,77				/	3x	BACK	FLU!	H		
L					289013									/	1					
-					289013						-			/						
L		Ÿ		1	289042									/						
					201-12									/	20	U1318	0	F/F		
	12/17/16	1100	32049	257555	289042	350	83	46	1820	394.32			23685	00	51	ART 1	WJ			
	1	1/15		1		213						1480		/	1					
	12/18	1325	32049	259999	289042		83	40	1800	333,2	58,29	1615	off	/	180	wens	25	wea	au s	d
				d1.+1500 SAN		209				1		1740		/	0	ès :		200		
	12/19/16	080	32049	261965	289041	209	82	42	1610	322.35	69,14	1735	14		1	duft	م له	eker	d	
	phall	0850	32049	264484	289041	209	64	47	1610	B12.90		1710		/	100	1140	4	1453	5000	re
	7 3/1	1145				216	65	39				1445		/	e	1140)	0		
	12/21/16	0945	32049	266634	289041	2/8	86	42	1600	327.53	-	1400	M	/	Re	nt i	50	091	5	
	Date	Time	Pre Purge Meter Read	Post Purge Meter Read	Purge Volume	Temp (°C)	-	рН	ORP/ Zobell		DO (mg/L)	H ₂ S (mg/L)	Sampler / Laboratory	0	urbid	ity (NTI	U)	min aft	er start	1 2
1	12-17-16	1000	288954	288983										1.26	85.3	27.5 2	19.4	3.35	1	
3)	[22-		288983	289013												9.995				
3)			789013	289042		_	_					-		2,57	8:36	624 4	12	1.73		
										99,39C					77					
E	12-17-16	1130				12.9	491	7.38			5.16	ND	SAGADBP TL- MBAS			+		+		-
														+				-		
														1				-		-
								-						+ +		+		-	-	-

40 840	
Noemy	12/1
10	12:2
	12.2
3 XIU BF	D:

Well: ASR 2 12/16-(CONTINUE 1)

ASR Period INDECTION

Weather PAIN 12-23-16

Sheet 1

of

MONTEREY PENINSULA
T E R
MANAGEMENT DISTRICT

Date	Time	Tiger [F] (gal) ×1000	Tiger [R] (gal) ×1000	BF (gal) ×1000	FCV (psi)	Line (psi)	Well Head (psi)	N ₂ (psi)	DTW (feet)	Draw Up (feet)	Inj Rate (GPM)	Lube / Skid Meter (gal)	Lube Pressure Up/Dow	n		Comm		
12/21/16	0945	32049	266634	289041	218	86	42	1600	322.5	3	1400	off		R.	ple	1500	0	915
n/a./	19.00	22000	2//07/		270						565			RAN	10 DO	own	Time Ju	65,
44/16	1350	32049	266976		232						1425			50 1	112 Q	40	line fo	100A-
	1620	2-101/4	210401	289241	216	0.2	42	1600	322,3		1480			1	1	7)	
1472416	0900	32049	268496	20 011	350	0.1	72	10-0	3061	6	1400	-	41/2	Shu	tolow	W, <4	OCFS H	mi
	0105		Cle 8 3 70		150							63603	125	the	day			
12-23-16	INIO	32049	268530	289041	356	86	Ø	1450	388.53	_	ø	24108	5148					
144016	1010	00091	-00000	289068	220		7	1130	474.65		100		/	1				
													/		13	co t	iust	Sher
	3												/	1-				
12.23.16	1130	32133	268530	289125	350		40	1450	388,53	-	ø	OFF 24129		STE	ROT IN	11		
12.23.16	1200				218	84	41	1400	31295	_	-1485		/	RE	STAK	75	1500	1
12/24/1	1100	32133	270676	289125	214	73	45	1450	312.95		1660		/	tw	udd	own	to 1,4	10%
	1115				221						1410							
1215-16	0900	- 1	277585	289125		76	45	1375	319,56	68.97	1415			14	15+	890	= 2430	590
12-2616				289125	220	74		-		74.03		24129	12015	NO			BEON)
12-27-16	1040	32133	796833	289125	220	57	47	1400	315.75		1400	24455	4845	ND	AD-	5		
Date	Time	Pre Purge	Post Purge	Purge Volume		Cond	pН	ORP/	[Cl ₂]	DO	H ₂ S	Sampler /					nin after	
12.23.16		Meter Read	Meter Read		(°C)	(µ/cm)		Zobell		(mg/L)	(mg/L)	Laboratory	8.79				10 1	2
12.53.16		289070	289,099		,	-									7.34		1.77	
	1090	289099	289125				-	/					4.69					
4		201011	601.62					/					1401	المارة				
								/	4		7							
						5		/		-								
								/										
								/						16		- 4		
						1 - 1		/						1		- 3		

Well: ASR 2

ASR Period INJECTION

Sheet 2

MONTEREY PENINSULA
TER

Test: (continued)

Weather SUN

of 2

Date	Time	Tiger [F] (gal) ×1000	Tiger [R] (gal) ×1000	BF (gal) ×1000	FCV (psi)	Line (psi)	Well Head (psi)	N ₂ (psi)	DTW (feet)	Draw Up (feet)	Inj Rate (GPM)	Lube / Skid Meter (gal)	Lube Pressure Up/Down	
2/28/16	08:55	32133	278820	289125	220	55	47	1300	309,41	6.34	1505	24804	47	Shot James to be / No flow
12-29-16	0850	32133	281057	289125	221	63	52	1300	292.60		1720	25158	1846	
					226						1590		/	TL.
2:30-16	0200	32133	283618	289125	356	88	\$	1150			\$	25509		STOPPED IN -J.
							-				/		/	RIFFLES NOT PASS
		32183	283018		ar.	40			20512		ad		/	
5.30.16	1230	25/92	283018	289132	350	88		1120	38523		ø		/	3×10 BF Some HzO
				See									1	through BF TO Close
				PURGE									1	nolius.
				Boson									/	
	1440	32216	283018	289217								25614	/	LUBE OFF /NO OFF
	. 1 10	32214	203018	201214									/	102 000
														92K TOTAL THROUGH
														BF MATHE SOMET
														CLOSE VALVES ALT
													/	IN BF TOTAL Ubung
													/	
Date	Time	Pre Purge Meter Read	Post Purge Meter Read	Purge Volume	Temp (°C)	Cond (µ/cm)	pН	ORP / Zobell	[Cl ₂]	DO (mg/L)	H ₂ S (mg/L)	Sampler / Laboratory	0 1	rbidity (NTU) min after start
12.28.16	200	289132	289 160	28									10.57 3	47 17.48 Z3.33 18.61
	1220	289160	289.188	28										121 4.96 5.61 10.42
-	1240	289188	289217	29				/					3,99 7	1.14 5.59 2.11 1.73
				29 85				/						
								/						
								/		X.	4		-	
			To the		-								-	
														+

10

Well: ASR-Z

ASR Period INJECTION

Sheet 1

Test:

Weather AFTER RAIN

of I

MONTEREY PENINSULA
T E R
MANAGEMENT DISTRICT

Date	Time	Tiger [F] (gal) ×1000	Tiger [R] (gal) ×1000	BF (gal) ×1000	FCV (psi)	Line (psi)	Well Head (psi)	N ₂ (psi)	DTW (feet)	Draw Up (feet)	Inj Rate (GPM)	Lube / Skid Meter (gal)	Lube Pressure Up/Down		Con	nments		
1-4-17		32222	283018	289217	205	76	4	7120	384.7	3 0	Ø			Som	e. line	- flu	ili	
1-4-17	1144				221	66	43	1150	* I		706					ection		
1-5.17	6900	32222	283832	289226	238	68	45	1100	367,4	1 1	337			1 mail	- N	mal	7	
-6-17	0900	32222	284938	289226	228	68	48	1100	350x		850			(SOLA)	TOW VA	weave	50	
1/19/17	0835	32222	286142	.289226	221	59	38	1100	346,79		860		/				- 1/3	
-8-17		32222	287456	289226	222		37	1080	343.10	41.63	925		/	Als 1	271	1000 5	Restau	C.A.
-9-17	0900	32222	288745	289 226	223	69	44 .	1000	343.46		890		/	mt acc		1051,8	223	000
-10-17	1000	32222	290084			-	43	1000	392,23		861	25988	48 47	NORD	Juse	ON FORT	7	
		32222	290229	289230			0		38074		1		1	CTARR	50 5	RBF	-	
				289258	1		-		461.23					NOIL	op ra	W OF		
				289286						-								
	3	32306	290229	289315			5	A S		-	9		/	FINI	Citer	BE		
				-Aves		4	_			- 3		11			2016-6	0.2		
							1											
-																	-	
					4		- partie			_								
							*			- 3	-							
							- de											
Date	Time	Pre Purge Meter Read	Post Purge Meter Read	Purge Volume	Temp (°C)	Cond (µ/cm)	pН	ORP/ Zobell		DO (mg/L)	H ₂ S (mg/L)	Sampler / Laboratory	Tu	bidity (NTU)	min aft		
10-17	1315	289230	289258										9.743				10	
		289258	289286										129 8	31 66	11.09	4.38	1 3	
	*	28 9286	289315										6.55 3	.97 4.4	12.03	1.19		
									-						e-	1.0		
7								/				1		~				
				1 6	- 1													
							. 1											
			11		- View	Th												

1/7/17

10

Well:	Well:	AR	7
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ASR Period IN YECTION

Sheet 4



MANAGEMENT DISTRICT Test: Weather We!I Tiger [F] (gal) | Tiger [R] (gal) | BF (gal) ×1000 FCV Line DTW Lube Draw Up Inj Rate Lube / Skid Date Time Head N2 (psi) Pressure Comments (psi) (psi) (feet) (feet) (GPM) Meter (gal) Up/Down 1-10-17 500 92 32306 26047 290229 289315 3410 900 380.57 B RESTART IN T 84 900 860 44 348.03 SET TO RED BK 32306 234 1-11-17 0900 291246 289315 65 900 44 930 LEFT SOHNES 1.12.17 344,78 0900 32306 29278D 289315 82 44 900 724 1171 1.13.17 293640 0900 32306 289315 235 88 900 374 suss truel down in un 900 341,53 86 222 860 900 3585 1530 32306 27.6 84 740 1606 222 1,005 1.14.17 0930 32306 295052 337.41 43 298315 60 226 1100 33 68 223 PRV SET TO 33 NOW 36 320.00 60 1685 205 AD) FCV 10 1700 1/15 170750 32306 797360 298314 42 195 28 900 288,18 1764 No AD; - JS 1760 2604I 1-16-12 0915 32306 300023 298314 195 43 27 27246 10769 849 Noudi -tc 1-17-17 0935 37306 302588 1750 26390 289314 195 41 25 898 247.10 JAN 1010 32306 307624 289313 350 71 Z639+ (363.86) 898 START Backflish 289343 466.84 1020 swagned INZ, resimit in resimital test 32448 302640 289457 199 40 31 2000 31560 1720 11/0 Pre Purge Post Purge Temp Cond ORP/ DO H2S Sampler / Turbidity (NTU) min after start Date Time Purge Volume [Cl2] Meter Read Meter Read (°C) (µ/cm) Zobell (mg/L) (mg/L) Laboratory 0 1 1 2 1 5 1 10 1 15 1 20 30 289457 1-17.17 1010 7.89313 492 7.40 7.67 13.9 57.1 39.8 14.0 6.1 4.16 2 LOND TZ 1.24 13.09 68.90

DS STOP COCK TO # CONTROLS ON PRU will cause to close. * check all stop cohe on PEV pure to intorting my.

MPWMD ASR DATA SHEET

A'SRZ

Test:

ASR Period Injection

Weather

Sheet Z

3.30 LOW TL+ JS

PENINSULA MONTEREY A MANAGEMENT DISTRICT

Well Lube Line DTW Draw Up Inj Rate Lube / Skid Date Time Head N₂ (psi) Comments Pressure (psi) (feet) (psi) (feet) (GPM) Meter (gal) Up/Down (psi) 289457 202 1.18.17 0900 32448 304859 40 263,43 J5- No Ad; 1900 1670 289457 204 233,81 150,05 1640 1-14-17 0830 32448 307231 No dropping taster than expe 1-2017 0810 32448 309644 289457 704 2220 143,85 1700 DTW still accounty 2275 138,36 1625 0855 ADS. USPUS HIV 289457 206 1-21-17 1000 32448 312139 43 72197 143 TURNED DOWN WHY FRY 1560 415 1465 34 211 1.72.17 0825 32448 289457 37 225.60 314 090 47 212 1200 1470 112317 0845 32448 1446 316232 212 289457 724.46 TURNOP ON LURB 31 8194 0845 289457 1.24-17 32448 216 51 1100 234.19 1300 289467 LF 1-24117 NOD 26774 350 363,73 Ø 1.24.17 1130 289467 70 3X BF IDMIN 289491 483.46 LUBE OFF 26786 373.1 2895LD 350 70 1.24.17 1220 318194 204 43 34 1750 RESTART INT ORP/ PILL |Cl2| Cond DO H,S Sampler / Turbidity (NTU) min after start Pre Purge Post Purge Temp Time Purge Volume Date Meter Read Meter Read (°C) (µ/cm) (mg/L) Laboratory (mg/L) 1-18-17 0930 1.87 3.86 458 \$210.6°C

mw-1

10

1.18.17 1000

1.24.17

1130

1150

1210

11.80 8.56 37.8 20.5 32.1 289491 289467 289491 13,7 74 10,11 5.78 289530 289560 5.98 4,2 3,89 3.62 1.78 289530

0.26

452 7.35

Vell:	ASRZ	ASR Period	MAGCOUN	

Sheet 1



Test: Weather Well Tiger [F] (gal) Tiger [R] (gal) ×1000 Lube FCV Line DTW Draw Up Inj Rate Lube / Skid BF (gal) ×1000 **Head** N₂ (psi) Date Time Pressure Comments (psi) (psi) (feet) (feet) (GPM) Meter (gal) Up/Down (psi) 373.16 1.24 17 1230 32448 318194 289560 1750 34 204 43 1000 POSTARTED TEST + 15CO 243,27 129.83 1740 26786 289560 1.25.170915 32540 320572 41 32 925 35-100 00; 204 1680 26786 1.26.170845 32540 372993 289560 925 230.16 204 40 31 order new toute Mon 325957 218.54 155 289560 204 1750 1.27.17 1305 32540 1575 ZID DRIVED DOWN TO Hybeat 650 229.9 143.2 1-28-14/000 32540 327844 289560 212 43 1495 Pinched backeto 1460 W/HV 34 289560 227-88 14522 11 11 +0 1375 W/HV-n_ 1-29-17 1035 32,540 329980 33 1430 212 600 1330 76786 1400 27109 1-30-17 0845 32540 331767 289560 232 LEAK IN FOU NO. IL-TANK FROM ASKY FOR 212 33 500 1410 1.31-17-0840 32540 333686 289560 209 44 1975 20.99 31 1.3117 1005 32540 333798 289560 350 352.99 JS- Start BF 66 27150 789588 972.16 1025 1049 27150 1140 32651 289673 361.00 Restart Inj - TS 2000 359,13 1407- 1407- 27150 333812 299673 268 1150 32651 44 29 1540 27150 334066 44 JS. AST UP 289673 204 27 1435 32651 1975 Pre Purge Post Purge DO H2S Temp Cond ORP/ Sampler / Turbidity (NTU) min after start Purge Volume pH [Cl₂] Date Time Meter Read Meter Read (mg/L) (mg/L) (°C) (µ/cm) Zobell Laboratory 1 10 1 15 1 20 289561 13.23.14 37.4 98,9 11.2 1.3117 1075 289588 189588 7.57 8.39 9,67 13 1 4.69 789616 1045 289673 6.43 4.84 7.25 8.27 3.24 3.73 2.26 259616 1105

1000

18mg/LECI

Well:	ASR2	ASR Period	,

iod Injection Sheet

Sheet \

MONTEREY PENINSULA
TER

MANAGEMENT DISTRICT

Test: Weather 140 of Well Lube FCV Line DTW Draw Up Inj Rate Lube / Skid Date Time Head N2 (psi) Pressure Comments (psi) (feet) (feet) (GPM) Meter (gal) Up/Down (psi) 1540 27150 1975 \$359.13 } Is - Restart Inj/Adjus 1.31.17 1435 32651 289673 204 334066 44 27 1505 27150 2.1.17 0875 32651 289673 204 335694 45 30 1800 277.23 1430 JS-AN UP 200 1587 32651 289673 200 338172 40 1925 26.96 2.2.17 1030 1530 2-3-17 6830 32651 1880 2627 96.42 289673 340081 38 23 1450 200 TL-NO ADS 342314 289673 204 254.3 105 1510 2.4.17 0930 32651 25 JL- TUENTOUP FOUZO 2000 32651 344436 289673 26 249.3 109.83 1552 2.5.17 0815 200 43 1850 JS- No Adi 1545 2715 2.6.17 346736 289673 JL-NO ADJ STAKT LUBE 0845 11 73 1850 24492 115 32651 200 27500 289673 349101 JL- BF TODAY 2-7-17 000 41 23 245.59 32651 900 1557 17511 35- Prep for BF + BF 789673 350 356,87 5050 69 0 473.0 1115 289701 1630 2753 289784 349179 32766 194 1800 363.74 Ristart Ini TOOK AS 1 DOWN & DTK 32766 289784 34 269.16 1866 2.8.17 1200 351582 202 61 1850 289784 353570 32760 270.31 2.9-17 0900 504 Pre Purge Post Purge Temp Cond ORP/ DO H,S Sampler / Turbidity (NTU) min after start Time Purge Volume Date [Cl₂] Meter Read Meter Read (mg/L) (mg/L) (°C) (µ/cm) Zobell Laboratory 2 | 5 | 10 | 15 | 20 299673 289701 2,7,17 1105 289701 3,31 189779 6.03 289729 789784 3.03 324 145

19 mic

Well:	ASRZ	ASR Period	NIGCTION

Sheet 1



Weather Test: 140 MAN Well Lube Tiger [F] (gal) Tiger [R] (gal) ×1000 FCV Line DTW Draw Up Ini Rate Lube / Skid BF (gal) ×1000 Head N₂ (psi) Pressure Comments Date Time (feet) (GPM) (psi) (psi) (feet) Meter (gal) Up/Down (psi) 32760 289784 1504 INITIAL DOW => 363,24 202 2.9.17 0900 353570 1850 2703 194 23 2525 110,74 1670 1800 NO 405. TL 32760 355954 289782 7-10-17 09.00 241.45 121.59 1685 27532 40 800 J5- No Al; 358275 289782 28 32760 197 2-11-17 0810 2897817 197 23600 127.23 1675 TL-NOADT 360776 23 32760 1800 2-12-17-0900 289779 39 37760 363240 1672 21 23094 1800 2-13-17 0900 227, 24 136.00 1670 27842 5047 Prepare for BF- JS 289778 38 32760 365558 2.14.170835 21 800 289778 348.63 350 Ø START BF 1010 289806 466.66 365708 1025 32788 289877 1647 27881 32857 1875 356.18 365708 196 37 1130 20 RESTART IN; - IS 1658 27881 2.15.170825 32857 367817 289877 39 1750 265.27 91.01 195 22 27881 2-16-17 0830 32857 1725 257,03 370270 289876 197 36 1639 1750 250,46 105.87 1648 27881 2.17.17 0710 32857 36 J5- No Ad; 372481 289875 196 20 2.18.17 372578 189875 370.Z1 305 Line Fluch - JS 92. 1700 0 2.19.17 6840 32857 289961 JAP lineflush- , sup Ing 0930 32871 372579 360 85 1750 370,21 302 2.21.17 1330 289961 32917 372581 1435 290065 1371,33 B 233 1700 1440 500 7.21.17 DO Sampler / Turbidity (NTU) min after start Pre Purge Post Purge Temp Cond ORP/ H,S Purge Volume $[Cl_2]$ Time Date Meter Read (mg/L) Laboratory 2 1 5 1 10 1 15 1 20 Meter Read (°C) (µ/cm) Zobell (mg/L) 1,49 2.13 147 41.2 6.73 289807 1015 189778 2.14.17 6.67 6.63 6,30 (0.6 3.95 289807 289 835 35 1035 1055 289835 3.56 4.20 4.74 6,85 3.0Z Z.77 289877 4 55 7.02 63513 425 4,71 2-14.17 15.3 0.65 1.57 1140 Lo @ 17.1°C Line flosh - 2.19.17 0845 289875 289961 86000

No Restar izer CalAm LINE FLUSH

ASR Period INJECTION Well: ASR 2

Sheet 1

MONTEREY PENINSULA MANAGEMENT DISTRICT

Test:

Weather SUN

140 MAX

Date	Time	Tiger [F] (gal) ×1000	Tiger [R] (gal) ×1000	BF (gal) ×1000	FCV (psi)	Line (psi)	Well Head (psi)	N ₂ (psi)	DTW (feet)	Draw Up (feet)	Inj Rate (GPM)	Lube / Skid Meter (gal)	Lube Pressure Up/Down	Comments
2.22:17	1440	32917	372581	290065	233	88	42	1700	2412		500			RESTARTED INJ
2:2317	0830	32917	374124	290065	226	68	49	1700	259,17		1500			NO ADJ - JL
2.24.17		32917	376537	290065	225	71	49		753.85		1540	74881	X	ASR Rounds - IS
	1525	32917	376914	290065	211	45	37	1725	246.45		1590			Adj UP per Cal Am
2.25.17	0810	32917	378417	290065	211	42	36		244.08	127.25		27871		JS- ASR Romas
	0825				206	40	32	1625			1595			J5 - Adj JP
2-26-17	0845	32917	380781	290065	204	38	32	1700	2323	8 13895	1605		/	TL -NO Adj.
2.27.17	0845	32917	383088	290065	206	38	32	1700	2276		1613			
2.28.17	0835	32917	385428	290065	207	39	31	1700	225.01		1605	28200	5047	ASR - Rands- JS
	0940			290065	350				348,95		Ø			JS-BF
	1000			290093		y			467.06					End 10 min
	1055	33003	385543	290152	204	39	31	1700	355.92		1615	28731	/	JS- Kestart Ini
3.1.17	0830	33003	387658	290152	206	39	31	1700	2669		1598			1
3.2.17	6840	33003	389873	290182	207	36	29	1700	26226		1490			
3,3.17		33003	392116	290152	208	40	32	1700	255.73		1567	28231	X	JS-No Adj
													/	
													/	
													/	
			-						120					

xe	Date	Time	Pre Purge Meter Read	Post Purge Meter Read	Purge Volume	Temp (°C)	Cond (µ/cm)		ORP/ Zobell®		DO (mg/L)	H ₂ S (mg/L)	Sampler / Laboratory	0	Turbid	lity (N	TU)	min afi	-
-	2.74.17	1546		Chloride = 32	Ppm	14.4	456	7.06	329.7	1.52	3.56	0.16	75	1,70					
		1				14.2				E11.90									
			*																
1	2.28.17	0950	210065	290094					/				75					7.89	
1		1010	290094	290122										9,19	7.05	9.25	11,7	4.37	
	-	1030	290122	290152										7.68	5.46	5.37	7.72	2.95	
		†																	
L	3.3.17	1310		Chloride = :	32 PPM	14,9	436	7.12	NANA	1.06	3,56	0.18	IS	0.76					
1					,		V -												

Weather

	AC	D	7
Well:	AS	11	-/

Test:

ASR Period Injection

Sheet

140 max of

PENINSULA MONTEREY TER MANAGEMENT DISTRICT

Well Lube Tiger [F] (gal) Tiger [R] (gal) FCV Line DTW Draw Up Inj Rate Lube / Skid BF (gal) ×1000 Head N₂ (psi) Date Time Comments Pressure ×1000 ×1000 (psi) (psi) (fee') (feet) (GPM) Meter (gal) Up/Down (psi) 355.92 255.73 100.19 1567 28231 40 32 1700 3.3.17 6640 33003 392116 290152 208 JS-No Adi 3.4.17 0900 33003 394461 92 33 JL-NOADI 2003 1750 1605 290152 Z48.58 244,32 111.6 3-5-17 0900 396805 290152 202 1630 33003 1650 33 42 399181 270152 206 3.6.17 0845 239.10 33003 1600 1650 28548 3.7.17 0835 1675 357.42 401759 290152 334 IS - Raws, No In ger CMAN 33003 93 Ø 365.46 19609 290152 1225 J5-BF 478.55 1240 290179 10 min SC 1675 370.05 28627 401759 290251 336 95 JS- No Inj No RK reset 1330 33099 290251 367,31 \$ 2.7.17 1445 33099 401759 221 86 48 1550 PESTADITEDINI 60 48 296751 125 284.30 3.8,170900 33699 463309 1600 39.17 0830 405461 38 1270,41 33099 29025 216 44 1700 1450 1585 28627 3.10.17 0815 33099 407699 290251 207 41 33 1650 259.07 JS- ASR Rounds 28627 3-11-17 0810 33099 409999 290251 IS. ASR Provide. No Adj. 206 40 31 1650 252.60 114.71 1591 206 290251 38 1700 Z47.61 119.69 33099 412391 29 TE-NO ADJ 39 414574 203 3/13/17 0844 33079 30 1700 290251 241.62 621 28943 49 47 JS. AGR Rounds + BF 3/14/17/0800 33099 1635 416847 290251 205 39 30 1650 237.24 28964 0920 33099 416970 DE 125005 350 64 1700 346,60 0940 33127 464.87 10Min - SC 290278 Pre Purge Post Purge Temp Cond DO H,S Sampler / Turbidity (NTU) min after start ORP/ pH Purge Volume [Cl₂] Date Time Meter Read Meter Read (°C) (µ/cm) Zobell (mg/L) (mg/L) Laboratory 0 1 1 2 5 1 10 15 20 33 2.45 11.2 20,0 43.7 7.52 3.7.17 (30 290152 290181 1250 290181 9.25 7.51 8.24 11,8 3.51 290208 29.0208 290251 6.90 4.69 6.96 8.09 4,69 2.92 Chloride = 30 ppm 1310 3-14-17 0930 290251 35 4.42 27.4 18.8 43.5 7.42 290279 0950 290279 290308 8.20 7.69 6.99 13.0 3.82 1010 290308 290364 8. 70 6.91 5.63 8.29 3.36 3.54 2.94 Chloride = 32 ppm

Well: ASR-Z

ASR Period

Injection

Sheet \

MONTEREY PENINSULA
TER

Test:

Weather

140 maxof

	1 cst.			weather			-	-	14	O Maxo				
Date	Time	Tiger [F] (gal) ×1000	Tiger [R] (gal) ×1000	BF (gal) ×1000	FCV (psi)	Line (psi)	Well Read (psi)	N ₂ (psi)	(lest)	Draw Up (feet)	Inj Rate (GPM)	Lube / Skid Weter (gal)	Lube Pressure Up/Down	
3-14-17	1045	33211	416970	290364	205	380	29	1725	354,32		1648	28982	X	JS - Restart Ini
3.15.17	0820	33211	419403	290364	209	42	34			81.77	1525	28982	X	JS- Rounds, Ad, up Feu 203 2 14
3.16.17	6900	33211	421541	270364	202	38	78	1625	260.09		1641		/	JL - LEAT SECTINGS
517-17	0850	33211	423838	290364	203	37	27	1600	254A	199.6	1645		/	TL-NO.
3.18.17	0810	33211	426151	290364	203	38	29			104.77	1655	28182	X	
3-19-17		33211	428685	290364	202	37	28	1600	244.45	109.87	1655		/	TL-NO ADJ.
3-2017	0915	33211	431055	290364	201	36	28	1	240.52		1663		1	Luse on
3-24,17	0825	33211	433384	290364	ZOZ	37	28	1600	235.61	118,71		29296	5047	IS- NOR Rounis -> BF
	0940			290365	350				346.07		Ø	29314	48 46	BF
	1005			790393	0.74				461.97		1		-/	10 min SC
	1055	33296	433508	790457	196	36	26	15501	350.57		1760	29332	X	Is Ristary Eng
3.22.17	1115	33296	436093	290452	199	37	26	1550	258.IR		1753	29332		IL-NOADÍ
3.23.17	0840	33296	438368	290452	199	37.	27	1525	250,72	99.85	1770	29332	X	JS-NO AS,
3.24.17	1230	33296	441342	290452	199	37	25	1500	246.89	103.68	1750		/	JL-NOADT
3,25,17	0800	33296	443494	29,0452	199	36	24	1500	238,11	112.46	1760			JL- NOADJ
3.26.17	0815	33296	445849	290452	202	37	28	1550		112.07	1697		X	IS- Adj up W/HU FEU +199 }
3.24.17	1230	33296	448830	290452	198	34	24	1550	230,21		1743	29332	/	I-LUBEON.
3.28.17	0810	33296	450878	290452	200	36	26	1500	226.00	124.57		29592	49 46	JS- Remis > BF
								1					1/	

PH ORP/ Zobell 5 [Cl₂]

7.14 73 240 1.12 Pre Purge Post Purge Turbidity (NTU) min after start Temp Cond DO H₂S Sampler / Purge Volume Date Time Meter Read Meter Read (°C) (µ/cm) (mg/L) 1 1 1 2 1 5 1 10 1 15 1 20 (mg/L) Laboratory 15.8 IS 3.15.17 1310 450 4.08 Chloride = 32 ppm 1.42 Lo 193°C 3.21.17 0955 290366 290394 15 3,05 2.47 10.7 38.3 6.36 290422 290394 1015 34 6.18 6.08 9.71 290452 290422 3.73 5,20 4,94 6.66

FI-Inj

853V-

Well: ASR-Z

290598

290629

ASR Period Injection

Sheet \

MONTEREY PENINSULA
TER
MANAGEMENT DISTRICT

7.43 6.30 4.14 6.83 2.77

Test: Weather 140MAR-Well Tiger [F] (gal) Tiger [R] (gal) Lube FCV Line DTW Draw Up Inj Rate Lube / Skid BF (gal) ×1000 Date Time Head N2 (psi) Pressure Comments ×1000 ×1000 (feet) (psi) (psi) (feet) (GPM) Meter (gal) Up/Down (psi) 350.57 1500 226.00 124.57 1766 729592 290492 3.28.40810 33296 450878 200 36 26 IS- Rounds > BF 0945 33296 29614 290 452 350 34431 BF 459.99 290479 1000 10 min 50 1817 29629 1105 33383 451031 35 23 290540 197 1600 (351.581 JS-Restart Ini 96.38 1800-0850 33383 37 1500 255,2 3-29 199 453458 290540 NO to 5 shis husceporate 60 2070 213 223 1810 0915 405-TI_ 330-17 0225 33383 53 455468 258.3 290540 223 67 1475 1800 restant of #1, adj here Th 1/135 198 1560 1850 456817 740 1620 199 38 28 1500 TL-NOADT 3-31-19 0830 33383 1550244.25 107.33 458539 25 290540 36 1794 29629 461060 290540 37 4-1-17 0805 33383 28 1475 238,77 (12.81 JS-NOAD; 201 22 463754 290540 198 33 1500 23237 119,21 1005 33383 1837 29629 4.3.17 0810 466136 290540 33383 1475 227.87 123.71 JS . NO AD, 201. 40 4.4.17 0805 1450 221.50 130.08 1907 29857 33383 468854 290540 203 45 33 JS-Rounds > BF 29907 33383 350 13F 1315 290540 350.64 1335 290566 33412 10 min 56 464,85 1840 29923 1430 33471 469444 290629 200 42 30 1475 [356.05] JS- Restart Int Pre Purge Post Purge Temp Cond DO H,S Sampler / Turbidity (NTU) min after start ORP/ Purge Volume Time pH $[Cl_2]$ Meter Read Meter Read (°C) (µ/cm) Zobell (mg/L) (mg/L) Laboratory 0 1 1 1 2 1 5 1 10 1 15 1 20 2,22 1.47 11.2 40.4 6.57 3.28.17 0950 290452 290480 35 290480 12.5 590 5.90 9.90 3.07 1010 290510 1030 290510 2,99 3,57 4,63 6,67 2.56 290540 Sife 6,81 736 D.12 3,93 3.29.17 1430 IS Chloride= 32 ppm 15,7 431 0.11 3,46 @21.5°C 69.6 5.39 10,5 46.5 9.83 4.4.17 1325 290540 290568 15 1345 290568 290598 9,48 10.1 6.56 12.0 3.71

61- IN

PER-Z

ASP2 -

Well: ASR-Z

ASR Period Injection

225

4656 46

Sheet \

1350

MONTEREY PENINSULA
TER
MANAGEMENT DISTRICT

JS-AD; HV+FCV got db

Test:

Weather

140 MAX of_

Well FCV Line DTW Draw Up Inj Rate Lube / Skid Date Time Head N₂ (psi) Comments Pressure (psi) (GPM) (psi) (feet) (feet) Meter (gal) Up/Down (psi) 29923 1840 4.4.17 1430 33471 469444 290629 1475 356.05 200 42 30 JS-Restart Inj 29923 1425 261.93 4.5.17 0800 33471 471423 290629 42 30 1890 200 JS No Ad; 1820 EACS 474742 290629 25 1400 259,15 4.6.17 33471 36 IC-NOADT 1200 477015 4.7.17 0900 290629 249.14 33471 JC NO ADJ 1810 242.64 113.41 1865 29923 4.8.17 0805 479661 199 33471 29 JS-No ASi 290629 40 400 4-9-17-0940 482535 238,12 11793 1875 33471 199 290629 39 TL-NO ADE 28 1500 4.10.17 6800 237.96 118.09 1790 485019 30 29923 290629 203 40 33471 1400 JS, JL- AS; Down FCV, 250 pm 30291 290629 238 311.00 45.05 4.11 17 0800 33421 485778 67 55 1400 678 IS- Rounds > BF 290629 350 355.08 33471 30377 1320 BF 33501 290658 467.39 10 min SC 1340 \$359.06 1205 30390 290718 1425 IS - Restort In 1435 33559 485993 232 56 48 487350 232 1206 30390 59 3124 33559 290718 1400 4-12,17 6900 1221 30390 4.13.17 0900 400097 290718 307,62 33559 232 1400 60 4-14-17-0840 33559 290718 236 60 52 1550 305,49 5327 490836 1215 JS - Nojupu/Fru. Well shakes 49 1385 1825 1350 230 51 JS - A); down not of Baski Herranie 1855 56 1340 1330 30390 4.15.17 0750 33559 492618 231 57 1325 296,75 62,31 JS- Romb 290718

Pre Purge Post Purge Cond ORP/Zobell DO H₂S Temp Sampler / Turbidity (NTU) min after start Purge Volume Meter Read Meter Read (µ/cm) (°C) (mg/L) Laboratory (mg/L) 0 1 1 2 1 5 1 10 1 15 1 20 7.42 717 4.11.17 0840 Chloride = J5 32 MM 14.8 442 250, 1,28 3,6% 13.00c 1330 290629 4.11.17 290659 17.0 348 18,4 29,9 5,12 35 1350 290659 290688 6,45 6,76 6,35 10.3 3.04 290718 1410 290688 3,53 3,72 5,77 6,56 2,33

1375

ADRZ.

0905

P5836 -

Well: ASR-Z

ASR Period Injection

Sheet \

PENINSULA MONTEREY

Test:

Weather

140 max of_

MANAGEMENT DISTRICT

Date	Time	Tiger [F] (gal) ×1000	Tiger [R] (gal) ×1000	BF (gal) ×1000	FCV (psi)	Line (psi)	Well Head (psi)	N ₂ (psi)	DTW (feet)	Draw Up (feet)	Inj Rate (GPM)	Lube / Skid Meter (gal)	Lube Pressure Up/Down	Comments
1.15.17	0750	33559	492618	290718	231	57	52	1325		62,31	1330	30390	X	Js- Rounds
	0905				225	56	46	1375			1350			JS- AD; HU+FEV See 26
	0850	33559	494634	290718	223	56	46	1350	291.9	1	1345			
1.17.17	0805	33559	496515	290718	225	56	46	1350	289.68	69.38	Par 4 m	30390	X	JS-No AJ;
1.18.17	0830	33559	498490	290718	225	56	47	1350	287.35	71,71	1000	36634	53 51	JS-Romis -7 BF
	0930			290718	350				352.63		Ø	30646	3250	13F
	0945			290746					462,05					10 min SC
	1040	33646	498554	190807	209	30	39	13009	357.74		1725	30665	X	Is. Restart Inj
	1430		-		208	47	35	1350			1735			IS AD , Up w/ FeV
1.19.17		33646	500756	290807	208	47	36	.1500	280,68	76.56	1700	30665	X	JS-No Ad;
	1415				214						1505			TS Adj Down w/ FU+H
1.20.17		33646	562989	290807	212		36	1300	284.41		MII			JL-055-CATION
	4500	33646	505528	296867	216	42	34	1300	279.98		1406			LASTOIGEDOFBF 1/2 Juny
1-22-17	0940	33646	507135	290806	216	42	37	1325	27776	79.84	1445			hetway 5 and 6 Th
4-231		33646	509187	290806	213	47	35	1300	2743	2	1470			
4.24.17		33646	511223	290806	213	47	35	1300	272.64	84.60		30665	634	IS- No Adj, Turned on lake
4-15-17	0815	33646	513314	290806	213	46	35	1300	270,72	86,52	1457	31010	" 50	JS-Rounds > BF
Data		Pre Purge	Post Purge	Purge Volume	Temp	Cond	рH	ORP/	ICI ₃ 1	DO	H ₂ S	Sampler /	Tu	urbidity (NTU) min after start

Date	Time	Pre Purge Meter Read	Post Purge Meter Read	Purge Volume	(°C)	(µ/cm)	pН	Zobell	[Cl ₂]	(mg/L)	(mg/L)	Laboratory	0	1 1	1 2	1 5	10	15	20
4.18.17	0935	_	290747									75				_	6.20		
		290747	290777										_	_	_		2.98		
		290777											16.8	4.31	4,89	5.91	2.00		
											12								
									, ,							0 = 1			
											0 21								



	100	7
Well:	4918 -	6

ASR Period Injection

Sheet

MONTEREY PENINSULA
TER

MANAGEMENT DISTRICT

Test:

Weather

of

Well Lube Tiger [F] (gal) Tiger [R] (gal) **FCV** Line DTW Draw Up Inj Rate Lube / Skid BF (gal) ×1000 Date Time Head N₂ (psi) Comments Pressure ×1000 ×1000 (psi) (psi) (feet) (GPM) (feet) Meter (gal) Up/Down (psi) 357.ZY 140 MAX 31010 290806 35 1457 4.25.17 0815 513314 46 1300 Z70.72 86.52 33646 213 IS- Rounds >BF 290806 350 0910 349.82 Ø 13F 290834 459.41 0930 10 min 56 1497 31040 33735 513388 290895 212 45 1300 (355.60) IS- Restart Inj 35 1030 48 33735 515497 290895 211 JC-NO ADJ 4-26-17 6900 36 1300 291,05 1550 4.27.17 55 48 33735 577330 308.56 0900 290895 298 1300 1104 JC-NOAOT 48 290895 59 1250 302.11 33735 1103 4.2817 0900 578845 238 JL-NOADI 520518 290895 238 52 47 1300 304,57 33735 1092 JL- NO ADT 4.29.17 0946 4.30-17 0800 521979 290895 236 54 33735 1250 303.0 52.50 1097 35 - No Adi 5.1.17 0800 1300 303,41 52,19 1064 31040 52 33735 523542 290895 236 47 JS- No Adj - Weline on 5.2.17 235 52 1300 36450 57.10 33735 1022 31409 0805 525074 290895 47 J. Rounds -> BF 0855 Z90895 351.58 0 BF 350 190924 458.10 0915 10 min SC 1100 31438 JS - Bestart Inj 33825 525122 49 1015 390986 231 43 1300 356.00 235 1094 IS · Ady DOWN W/FCV 1500 5.3.17 0900 33825 526615 290986 \$236 GH 49 1300 327.06 JC- NO ADJ 1077 290986 236 JL-NOADT 5.4.17 6900 33825 528139 1250 1068

	Date	Time	Pre Purge	Post Purge	Purge Volume	Temp	Cond	рН	ORP/	ICII	DO	H ₂ S	Sampler /		Turbio	lity (N	TU)	min af	ter star	t
~			Meter Read	Meter Read	ruige volume	(°C)	(µ/cm)	pii	Zobell	[Cl ₂]	(mg/L)	(mg/L)	Laboratory	0	1 1	1 2	1 5	1 10	15	20
1	4.25.17	0920	290806	290835									75	3,79	221.0	9.87	23.9	4,77		
1		0940	290835	290865										12.5	4.47	4,93	7,72	2.38		
1		1000	290 865	290895										2.95	3,23	3.69	5.75	2.05		
									0.15	18°C										
-	4.25.17	1535		Chloride =	32ppm	15.8	320	7,38	743015	1.01	4,83	Lo	75	0.49						
										20,0℃										
	5.2.17	0905	290895	290926									75	(,27	10.4	14,8	16.0	3.66		
		0925	290926	290956										6,43	4.02	4.66	6.59	2.22	4	
		0945	290956	290986										6.88	3.15	3.52	4.86	1,88		

A5R.2

InjeASR2

	ASRZ
Well:	HOKE

ASR Period #

MANAGEMENT DISTRICT

PENINSULA

MONTEREY

Test:

Weather

Date	Time	Tiger [F] (gal) ×1000	Tiger [R] (gal) ×1000	BF (gal) ×1000	FCV (psi)	Line (psi)	Weli Head (psi)	N ₂ (psi)	DTW (feet) 356.66	Draw Up (feet)		Lube / Skid Meter (gal)	Lube Pressure Up/Down		Co	mmen	ts	
5-4.17	0900	33825	\$ 528139	290986	2360	63	49	1250	207.44	130,33	1068			1.	- NO A	M		
5.5.17	6900	33825	529690	290986	236	64	51	1250	323,93		1801							/
5-6-17	OYOL	33875	53137	290986	234	63	50	1250	32289		1088			+				
5-4-14	1220	33825	533048	290986	236	59	49	1250	31756	,	1090			TL	-			
5.8.17	0800	33825	534333	290986	235	61	50	1250	315,99	40.01		31438	X	JS	No A	164		
5.9.17	0810	33825	535917	290986	235	60	50	1250	314.15	41.45	1097	31674	54 51		- Rav		BF	
	0940			290986	350				354,81		Ø				F ,			
	1005			291014					458.29		-			10	min :	SC		
	1170	33914	536015	291076	235	60	48	1200	359,87	3	1010	31715	X		Rest.		Eni	
5.10.17	0830	33914	537341	291676	236	62	48	1130	324.88		185 w31						thug	?
5.11.17		33914	538857	291076	234	63	49	1150	324.12		1055				7	41	7	
5-1217		2	540384	291076	234	59	49	1200	32/198		1085			+	ر الد	70.5		
5-13-17		33914	541942		235	59	52	1200	312,32	40,55		31715	X		Non			
5-14.17	_	33914	543778	291076	236	28	SZ	1200	318.57		1156				NOA			
5.15.17		33914	545266	291076	234	58	51	1200	315,46	44,41	1186	31715	X		- No A			
) n							
Date	Time	Pre Purge Meter Read	Post Purge Meter Read	Purge Volume	Temp (°C)	Cond (µ/cm)	рН	ORP/ Zobell	[Cl ₂]	DO (mg/L)	H ₂ S (mg/L)	Sampler / Laboratory			(NTU) 2 1 5		after st	art
5.9.17	0955	290986	291015									35	3.22 2					
	1015	291015	291045										2,713	60 4	43 5.0	6 2.0	1	
	1035	291045	291076					/		T = 1	1 3		474 2	_	_	_	_	
		- 4						10	15.50									1
59.17	5145		Chlorile =	32 ppm	15.5	423	7.28	755	0.87	4.63	ho	JS	3.74	,		1		
- 2				11	10				2 20.5						10.0			
		3	-		- 4			/3	9°L		0		1.00					
5.9.17	1215		Chloride=	32 ppm	17.9	428	7.38	6600	0.05	3.61	Lo	73	1,08					
		-		The state of the s			-	411			P- P			_	_	_		

Well:	ASP	-7
** ***	1 100	-

ASR Period Injection

MONTEREY PENINSULA

Weather Test:

of

MANAGEMENT DISTRICT

Date	Time	Tiger [F] (gal) ×1000	Tiger [R] (gal) ×1000	BF (gal) ×1000	FCV (psi)	Line (psi)	Well Head (psi)	N ₂ (psi)	DTW (feet) 357.27	Draw Up (feet)	Inj Rate (GPM)	Meter (gal)	Lube Pressu Up/Dov	re		Comn	nents		
		33914	545266	291076	134	58	51	1200	315.46	44.41	1100	31715	X	3	5-1	So A	10;	Luke	lin
5.16.17	0815	33914	546967	291076	230	52	45	1200	314.60	45.27	1153	31989	47	3	5-Ro		4 ,		
_=_1	0930			291076	350				354.21		0		/	3	F				
	1005			291105					455,71 358,59				/	10	min	SC		3	
	1100	34004	547059	291168	236	55	49	1190 4	358.59	1	1000	32029	X	35	· Rest	net :	Ini		
1.17.17	0800	34004	548178	291168	237	57	49	1150	398,83	19,76	648	32029	X		· No				
	0845			2291168	233	57	4.8	1180			938		/	12	5- Ad	جن ز	1/2	FOV	
5.18.17	0830	34004	549611	34004-	234	58	48	1200	3276		976		/	1.31	- NOA	DT			
1.19.17		34004	550786	291168									/	1		-			
	1130				218	64	48				1689		/	1	L- Re	STAR	TEO	ikli	
-20-17	0908	34004	552955	291168	216	58	46	1/25	300.06		1670		/		L-N			7	
4-17	0615	34004	555068	291168	217	63	47	0011	296.73		1690		/		11-1				
22-17			556403	291168	242		51		342.11		532	37029	/	IS	- Kou	nds.	No i	161	
	0945	34004	556457		232	73	49				1010		/		- Adj				
23.17	0800	34064	557636	291168	230	22	20	1100	357.10	1,49	0	32307	52 50		- Ing				
	0920	34004	557653	291168	350				361.01		Ø		/	3			,		
	0940	34034		291196					459.11				/	10	min S	SC			
	1100	34106	557653	291272	350				364,51		Ø	32347	X		- No				
	1625	34106	557653	291272	234	87	49	1100 4	364.29		900	32347	X		S- 1			In	
Date	Time	Pre Purge Meter Read	Post Purge Meter Read	Purge Volume	Temp (°C)	Cond (µ/cm)	рН	ORP/ Zobell	[Cl ₂]	DO (mg/L)	H ₂ S (mg/L)	Sampler / Laboratory	0 1	Turbid	ity (NT	U) 1	min af	ter start	t
16.17	0955	291076	291106									75			8.26				
	1015	291106	291137										20,5	5.26	5.25 5	,25	2.31		
	1035	291137	291168										11.6	2.92	3.57 3	1.69	1.38		
23.17	0930	291168	291198									15	1,75	40,3	9.93	4,2	3,85		
	0950	291198	291228										2.63	3.48	4.12 5	11.	171		
	1010	291228	291272										2.33	3,79	2.973	61	2.14	1.05	
23 - 17	1035		Chloride: 32	POW	16.0	327	7.34	763	1,21	10,47	60	J5	0,72			\dashv			
42 11			101.00	17.11	10.1-		11-1	1	18,0°C	.0111			- 111						_

Walls	ASR	-7
Well:	1751	

ASR Period Injection

Sheet

MONTEREY PENINSULA MANAGEMENT DISTRICT

	Test:			Weather						of			,	MAN	AGE.V	NENT	DISTR	ICT	
Date	Time	Tiger [F] (gal) ×1000	Tiger [R] (gal) ×1000	BF (gal) ×1000	FCV (psi)	Line (psi)	₩ell Head (psi)	N ₂ (psi)	DT'# (feet)	\낙이 KM Draw Up (feet)	inj Rate	Lube / Skid Meter (gal)	Lub Press Up/Do	ure		Com	ments		
5.23.17	1625	34106	557653	291272	234	87	49	1100	364.29	5	900	32347	X	13	75-1	2.+	art	\sum_{n}	
5-24-17	०९५०	34106	558583	291272	233	87	50	1100	335,71		930		/		TL-			=1.0	
	1640				232						986		/				~98	500	14
5-25-17	0830	34106	559887	291272	233	84	49	1050	333.73		955		/	/	a_	- 10		2 3)	
	1100				219	76	52				1705		/		HO-3		/_ '	wag	ole of
	1530			J. H. VS	222	75	51				1735		1				ریان		
5-4-17	0820	34106	562358				56	1025	28491		1850		/				0403		
	1601	D			222		57				1875		1	N	MON	OI	TL		
		34106	565307	291271	221	7-2,	53	1010	276.98	87,31		32347	X		15-	- /			
5.28.17	0800	34106	567798	291270	218	73	53			93.63			X				, BF,	nater	DOSET
5-29-17	0935	34106	570783	201269	217	72	53	1010	268.3	3	1920		/	1-1					
5.30.17	0800	34106	573400	291268		72	52	1025	264.67	99.62	1931	32347	X	3:	5- 1.	s beli	ne o	~	
5.31.17	0755	34106	576216	291267	219	72	53	1025	266.14	98.15	1955	32690	53	1 3					c+ 2414
	0805	34106	576227	291267	350	91	Ø	1010	361.33	2.96	0	32693	514) In		
	0945			291267	350				36765		Ø		/	/	F			-	
	0950			291295					468.15					10	min	50			
	1040	34195	576227	291358	350	88	0	1010	373.40		0	32733	X	3	S. E	nd BF	, No	200	
													/				, ,	20.1	
6.20.17	0925	M	NA	291358	344	92	0	1010			9	32733	/	3:	5 - R	· Gran	Clay	ひん) た	epair
Date	Time	Pre Purge Meter Read	Post Purge Meter Read	Purge Volume	Temp (°C)	Cond (µ/cm)	рН	ORP / Zobell	[Cl ₂]	DO (ma/L)	H ₂ S	Sampler /		Turbio	lity (N	TU)	min at	ter sta	rt
5.31.17	0940	291267	291297		()	(perm)		Zobell		(mg/L)	(mg/L)	Laboratory	1 02	11.2	12 2	3V N	10 8.54	15	20
	1000		291326										-		5.00				
	1020	291326	291358										_		3.94	-			
													2,02	7.21	3,17	7.63	1.60		
													1						
													+						
																	,		
															- S				

Well:	A5R-2	ASR Period 5%	age_
VV CIII.	11011	ASK FEITOU JO	and

Sheet

MONTEREY PENINSULA

Test:

Weather

of

MANAGEMENT DISTRICT

	Test:			Weather						of	_								
Date	Time	Tiger [F] (gal) ×1000	Tiger [R] (gal) ×1000	BF (gal) ×1000	FCV (psi)	Line (psi)	Weil Head (psi)	N ₂ (psi)	DTW (feet)	Draw Up (feet)	Inj Rate (GPM)	Lube / Skid Meter (gal)	Lub Press Up/Do	ure		Comi	ments		
6.20.17	0925	MA	NΑ	291358	344	92	Ø	1010			0	3Z735	/	77	ansa	rike	two	m ×	vest.
					344						- 1							,	
6 .28.17	0935	NA	NA	291358	344		P	980	380,29		0	33017	450	(3 J	5-13	F/S	James	e eve	4.7
				291385					480.5						0 W.				
				291465								3303 F	1						
			7.55										1						
1-1-17	1415	NA	NA	291465	351	91	0	2125	383,70		0	33434	514	9 1	3F/s	SAP	Saw	عاد	
	1440			291485					1146.20				1		10 m				
	1510	NA	AU	291526	351	42	0	2200	MA		0	33448	X		End				
							7						1					-1-	
													/		10				
										1		•	/		-				
													/						
													/						
											-		/						
													1						
							-						1						
													1						
Date	Time	Pre Purge Meter Read	Post Purge Meter Read	Purge Volume	Temp (°C)	Cond (µ/cm)	pН	ORP/ Zobell	(Cl ₂)	DO (mg/L)	H ₂ S (mg/L)	Sampler / Laboratory	0	Turbi	dity (N	TU)	min at	fter star	rt 1 20
1												Tubbiny	0	F	2	3	7	5	10
128.17	10:35	291358	291433		16.4	460	73	430	0.20	3,28	ND		117	56,4	28.2	38,6	1.57	5.65	1.9
													15	20	30				
													1.62	1,71	129				
												Chloride	1	5	16	15	20	30	
									200				X	30	30	30	20	30	
3.1.31	1430				18.4	446	6.90	16724	0.93	3.31	LO	Turbitity	55.6	68.4	21.4	155	143	27.1	2.1
								/					1.89	194	146				
												Chlorise	X			15	20	30	

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Well:	ASR-Z	ASR Period	Storage
	121.		

Sheet 1



Test: Weather Tiger [F] (gal) | Tiger [R] (gal) | BF (gal) ×1000 Well **FCV** Line DTW Lube Draw Up Inj Rate Lube / Skid Date Time Head N₂ (psi) Pressure Comments (psi) (psi) (feet) (feet) (GPM) Meter (gal) Up/Down (psi) 33448 8.1.17 1510 NA NA 291526 351 28 2200 NA Transcribed 9.6.17 0850 33710 291526 350 91 NA 0 2150 384.3 Sample event 291545 1010 440,58 10 min SC 291584 1040 NA NA 350 93 33737 2150 386.82 END SSAF 33737 576227 291384 354 93 3470[2200 10.2.170900 NA JS-tubeline on Pre Purge Post Purge Temp Cond ORP/ DO H₂S Sampler / Turbidity (NTU) min after start Time Purge Volume Date $[Cl_2]$ Meter Read Meter Read (°C) (µ/cm) Zobell (mg/L) (mg/L) Laboratory 0 1 1 1 2 1 5 1 10 1 15 1 20 TURBITTY 2 4 10 Minutes 9.6.17 1000 17.7 428 7.46 58.8 16.9 26.3 131 10.8 11.8 2.32 NTU 0.25 7.78 ND 15 20 30 m'nutes 2.41 1.55 1.00 NTU Chloride Minutes 10 15 20 30 X 37 28 32 30 PPM

		Well:	ASR #		ASR Period						Sheet		~	ONTER	EY/	PENIN	E R	
		Test:			Weather						of			M	NAGE	MENT DI		
	Date	Time	Tiger [F] (gal) ×1000	Tiger [R] (gal) ×1000	BF (gal) ×1000	FCV (psi)	Line (psi)	Well Head (psi)	N ₂ (psi)	DTW (feet)	Draw Up (feet)	Inj Rate (GPM)	Lube / Skid Meter (gal)	Lube Pressure Up/Down	s	Comme	nts	
	12/9/16	1215	70682	75605	8038	360	41	0	1200	375.4Z			243440	60/4				
	//													/	BFO	@ 120	OGA	4
+	12/9/16				8053					458.2	7							
													0					
	12/9/16	1301			9110								143620		Lus	0 0//		
																//		
														/				
l																		
														/				
							-							/				
										-								_
	Date	Time	Pre Purge Meter Read	Post Purge Meter Read	Purge Volume	Temp (°C)	Cond (µ/cm)	pH	ORP/ (2) Zobell	Cl ₂	DO (mg/L)	H ₂ S (mg/L)	Sampler / Laboratory	Tu 0 1	rbidity (1	151	in after sta	1 2
+	129-16	1230	8038	8110		19.9	426	6.96	-92.53	Un	3.74	NO	Laboratory	145 6	25 38.9	24.3 6.	04 5,4	5.
											per l		131					
1						4												
			Y		v													

160 MIX DVa-UD

MPWMD ASR DATA SHEET

Weather SUN RAIN

Well: ASR3

Test:

ASR Period NEETON

Sheet 2

PENINSULA MONTEREY E R MANAGEMENT DISTRICT

364,36 INITION Tiger [F] (gal) Tiger [R] (gal) BF (gal) ×1000 Well Lube FCV Line DTW Draw Up Ini Rate Lube / Skid Date Time Head N₂ (psi) Pressure Comments ×1000 ×1000 (psi) (psi) (feet) (feet) (GPM) Meter (gal) (psi) Up/Down 87 788127 8327 225 45 1.6.17 0830 70687 900 300,17 680 TRASCIBLED FROM SHEET 1 79413 258.24 106.06 1090 117/17/0900 721 65 45 9:00 70682 8321 MAX DRAW UP 160 Reduced Flow too high Lord sate 25 Tunns 1/7/17 0925 79439 233 49 72 660 233 73 200 296,4 1/8/17/0921 20377 48 660 2321 TL - LEFT SEMNGS 85 48 19117 0830 135 294.15 652 81794 FRATACI 850 16- GEFT SEMMES 1/0/17 0930 70682 832 82297 234 48 74 650 293.5 820 TURNED ON LUBE 4/11/17 73 48 297.16 0830 83198 234 800 711-87 8321 639 LEFT SCHOOLS 1-12-17 90 84197 52 735. 0830 70682 8321 234 800 781.26 PRESIDENT FIRMA 1-12-17 1315 340 800 706-82 84396 100+ 358,13 0 2321 STAPPEDINI FOR BF 3X BF WMIN 8321 465.67 TINE FLUSH 1430 8376 340 100+ Z52220 RESET TEST REPLACE NZ 1-12-17 70687 Ø 364.74 84396 2000 TURNED HUTO HOLD FLOX 89 42 227 2000 1.13.17 0830 70682 85287 8376 291,79 35 217 97 2000 850 1-14-17-1040 298.7 Adi. PRV+HV+FCV 1055 70687 86500 215 35 2150 289,0 8376 51 800 1.15.17 0825 87515 70682 8376 38 1950 2819 215 JS - No Change 51 770 1-17-17-0950 7-0687 88738 2000 276.64 87.64 51 38 8276 215 775 TUNGAST 883 252220 5955 SMELD = 00484 1-17-17 1910 70682 90176 8376 214 46 38 2050 259,47 254164 1-18-17 0905 4.8 37 24417-120,57 930 20687 91160 2/3 60 02 TI - COMPULE TO BF 3468 2000 Pre Purge Post Purge Cond Temp DO H,S ORP/ Sampler / Turbidity (NTU) min after start Time Date Purge Volume $[Cl_2]$ Meter Read Meter Read (°C) (µ/cm) Zobell (mg/L) (mg/L) Laboratory 0 1 1 2 1 5 1 10 1 15 1 20 4.85 274 23,2 40,2 35,5 -- 5 C1- 35pm 1:12.17 1320 8327 8345 5.51 330 33.2 16.1 11.8 8356 1340 3.17 7.74 8,71 11.2 5.45 2.71 8345 8376 16.1°C 1400 8356 7.45 637 1,40 4,36 490 TL+ 1.18.17 1045 16.1 Low 12.6%

10

5M5(D) 7

1456/1640+480=4120

MPWMD ASR DATA SHEET

Weather

Well: ASR Period

Test:

Sheet of



Well Lube FCV DTW Draw Up Inj Rate Lube / Skid Line Pressure Comments Date Time Head N₂ (psi) (feet) (GPM) (psi) (psi) (feet) Meter (gal) Up/Down (psi) 91274 38 1-18-17 1110 70682 8376 214 2416 Present for BF 348.52 Start Badeflush 8391 461.52 Biml 399:11 Start BF 2 8406 460,87 Bon 2 1210 354.08 5turn BF3 91276 1240 70682 8428 340 340 Prop for Inj/Rewhog 84Z8 0 91276 1250 7068Z 0 355.38 796 70682 91280 8428 213 50 39 1950 300 37 1300 Ady to 775 gpm/216-ps1 1950 242:01 11537/1035 92320 8428 1-19-17-0800 70687 46 212 Ready for 980 year Turnel it down to 1000 gpm usuz had section 1700 Crest 40 to 1,080 Bph-1-20-170750 70682 1950 236.5 118.88 970 52 93713 8428 212 NO ADJ. TL 0420 204 1045 ADJ FCV+HV 95365 70682 8428 702 50 2050 1-21-17 1000 32 220084 1050 96836 1.72.4 0840 8428 33 70682 203 55 1960 213.76 1088 1.23-17 0830 98392 202 210.12 1082 70692 8428 33 1900 Temp Cond DO H2S Sampler / Turbidity (NTU) min after start Pre Purge Post Purge ORP/ Date Time Purge Volume pH [Cl₂] Meter Read Meter Read (°C) (µ/cm) (mg/L) Laboratory 0 1 1 2 5 1 10 1 15 20 Zobell (mg/L)

| Date | Time | Pre Purge | Meter Read | Me

Ron L Ron L

ASR3 Well:

ASR Period Injection

Sheet)



	Test:		12833412	Weather		44	22	71.90	270972	1603	1329				-			
Date	Time	Tiger [F] (gal) ×1000	Tiger [R] (gal) ×1000	BF (gal) ×1000	FCV (psi)	Line (psi)	Well Head (psi)	N ₂ (psi)	DTW (feet)	Draw Up (feet)	Inj Rate (GPM)	Lube / Skid Meter (gal)	Lube Pressur Up/Dow		Con	nments		
211.17	0850	7068L	117106	8513	217	52	43	1850	191.56	164.03	105F	295260	5956	Pres	for	BF	3	5
	1100	70682	117243	8513	350	69			336,97		Ø	195470	/	BF	-			1
									459.03									3
-	1240	70682	117757	8591	211	49	40	1900 6	344.69	3	1046	259660	/	Rest	art !	Inj.	55	
2-7-17	1100	70682	113821	8591	209	43	41	900	197.58		1300		/					
2-3-17	0850	70682	115519	8591	209	43	10	1900	162.23	184,46	1405		/	Reduc	等几	FCV 2	06-2	log
7.4.17	0900	70682	117436	8591	207	45	37	900	171,39	175,3	-1250			TUENE	195;	TU Z1	DU 15	10.91
2.5.17	0835	70692	118827	8591	226	51	46	1800	204.5	142,13	980		/	ADITE	(030	, Fev	155:	
2-6-17	0830	70682	120337	8591	220	48	44	1875	190		1050		/	1-1	JO AND	T		
2.7.17		70682	121973	8591	270	48	44	1875	191,09	155,6	1057	759660	/					
28.17	123D	70682	123729	8591	225	69	50	1900	168.46		1273		/	1000	DGAL	LINE	FLUSH	
										439.	\$5			PRESS	RE UP	FROM	194	T DOWN
-												1200						
2.8.17	1440	70682	123729	8648	210	80	40	1900		1	-1086	16910	/	10-0	Aug	Early	lust	4.
													/			- 1		
2.9.17	0930	70682	125047	8648	210	44	40	1828	19593	150	-1285			TUEN	ED I	NWO	N	
					215	48	40		22152		-1089	261920						
							1						/					
									00									
Date	Time	Pre Purge Meter Read	Post Purge Meter Read	Purge Volume	Temp (°C)	Cond (µ/cm)	pН	ORP/ Zobel	Cl2]	DO (mg/L)	H ₂ S (mg/L)	Sampler / Laboratory	0 1	Turbidity	(NTU)	min :	after sta	
2-1.17	1100	00609	(5m5(D)	1		7,2	522.5	0.98	4,20	NDLO	11/32						
	1113	8513	8529	-	M			1					1.09	2.70 58	16 111	0 28:	7	
	1134	8529	8546										31.8	24.014	610.	57.7	3	
	1154	85 46	8591							-			11.6	13,9 20	8 33.	5 10.4	4.85	3.42
	13		*					/						30min				
			DASR3										7.U	2.65	1			
		INYCTATE						160	2 15.00						1			
11.0	1305			-	15.0	396	6.81	568.55	1.11	4,68	0.05	31 J2						7
4.11 4		-						10	16.10	6								

ASR Period	INJECTION
	ASR Period

Sheet 1

MONTEREY PENINSULA
TER
MANAGEMENT DISTRICT

25.1 19.1 13,2 7,37 6.89

25 min 30 min 12.2 1.37

9.64 9.04 18,4 12.5 13.6 17.1 11.7

Test:

8680

8725

86690

1125

1145

Weather

160 MART 1

							_	-		160 MAY			-	_				
Date	Time	Tiger [F] (gal) ×1000	Tiger [R] (gal) ×1000	BF (gal) ×1000	FCV (psi)	Line (psi)	Well Head (psi)	N ₂ (psi)	DTW (feet)	Draw Up (feet)	Inj Rate (GPM)	Lube / Skid Meter (gal)	Lube Pressur Up/Dow		Comm	nents		
2.9.17	0900	70682	125047	8648	215	48	40	1825	22.52		1089		/	INTH	AL DT	w =)	> 346	.17
	0920	70683	126491		215	48	41	(800)	218.00	128,12	-990		/	1	DJ.TL			-
	0830	70683	127844	8648	216	47	40	1775	213,78	132,39	945		/	JS- A)	i up FC	:15 = v	Inj=1	015
1119	0922	70683	129445	86 48	213	46	40	1780	192.55	15362	1080		/		DJ. T		- 1	
13.17	0900	70683	13/015	8648	ZII	46	40	1800	188 HZ	. 101	1080		/					
.14.17	0900	70683	132675	8648	212	45	39	1850	174.7	171,58	1166	261920	/	JS ,	45 R Z	Lound	5	
	1410	70683	133047	8648	214	46	40	1800	197.5	148.58		761920	575	Adj d.	wn. Pr	ep fra	BF	
.15,17	0850	70683	134217	8649	213	46	40	1750	192,70	163.47	1065	263780		Prepa				
	1030	70683	134325	8648	350				335,50		Ø	263990	/		T BF			
	1115			8663					457,87				/					
	1230	70683	134337	8775	213	46	40	1775	342,61	3	1035	264170	/	Resta	art In	i,		
. 16.17	0830	70683	135662	8725	209	44	41	1700	205.14		1179		/				2	
2.17.17	0735	70683	137315	8725	210	44	40	1700	191,21	151.40	1195	264170	/	J8-	No AZ	Sid		
	0840				350	91	90				Ø		/	Shut a	Sown C	A PW	212	000
-22-17	1320			289960									/	Lane	1205	4-		
.22-17	1510			8725					35545	2	B	1	/					-11
				8728									/					
222.17	1530				210	91	40		0,		1040		/					
Date	Time	Pre Purge Meter Read	Post Purge Meter Read	Purge Volume	Temp (°C)	Cond (µ/cm)	pН	ORP/ Zobell	Ib [Cl ₂]	DO (mg/L)	H ₂ S (mg/L)	Sampler / Laboratory		Turbidity (1		min aft	er start	
1.15.17	0940		Chloride =	32 ppm	16,7	434	7.48	64612	1160	5.54	40	75	2.64	2.41 757	24.5			
								/	61311	c								
	11.30	0.640	CV CV	1-		(-	/					120	2 42 05-	1346	27 11	-	
(3.14	1105	8648	8664										1,57	2,42 25.7	(4.)	26.7		

3

(5ms(0)

P6734

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Well:	TOR	-

Test:

ASR Period INFECTION

Weather

Sheet 1

PENINSULA MONTEREY MANAGEMENT DISTRICT

60 MAX Well Lube Tiger [F] (gal) Tiger [R] (gal) ×1000 **FCV** Line DTW Draw Up Inj Rate Lube / Skid BF (gal) ×1000 Head N₂ (psi) Comments Date Pressure (psi) (psi) (feet) (feet) (GPM) Meter (gal) Up/Down (psi) 355.45 8728 210 91 1040 1700 2.22.17 1530 70683 137315 40 REGIARIED IN1 STARTED LUBBE SOME FLUTTERING ON FLUVALLE-YL 1240 264170 179500 18500 8728 1700 170,39 2.73.17 0830 70705 210 40 138843 51 TYPHED DOWN TO 1000 USED HU TO LOW FLOW 143.69 212 211.76 910 267250 8728 78 218.35 137.10 140200 43 THE - BF - IS 2.24.17 1245 70705 1650 222 8728 350 341.02 Stop Inj -> BF 1255 8742 4160.50 10 min 267440 8790 773 \$344.72 68 47 Restart Inj - IS 2.24.17 1430 140216 1660 1050 70705 267440 2.7517 0850 70705 (41404 8790 JS- ASR reunds 217 46 43 213.35 1550 1550 JS- AZ; JOHNW/ FCV 0855 220 46 44 1050 2-26-17 0925 47 TL -WOAD 220 47 1625 70705 8790 ZOGA4 11298 1880 142985 144475 46 1600 202.42 2.27.17 0830 70705 8790 220 44 47 44 267440 F0705 8790 222 1650 1067 2.28.17 0900 146065 197.68 JS. ASRrounds 44 147655 31.17 0830 46 70705 8790 219 1600 189.46 1097 8790 43 1034 JL-left SEHINGS 3,2,17 70705 149 192 221 44 1625 19168 0830 59 56 JS - DR - BF 269820 1109 8790 47 3.3.17 0900 150830 44 179.11 70705 220 1600 Stop Inj + BF 10min 2790 350 731.21 0 1050 70505 455.09 8805 1115 215 nim 01 1055 270190 JS- Restart Inj 8866 1125 215 48 40 341.98 70705 150971 1600 DO H,S Sampler / Turbidity (NTU) min after start Pre Purge Post Purge Cond Temp ORP/ Purge Volume [Cl2] Date Time Meter Read (°C) (µ/cm) (mg/L) (mg/L) Laboratory 1 1 2 1 5 1 10 1 15 1 20 Meter Read Zobell 0.69 4.10 9.56 12.4 23.9 1.24.17 1305 8744 8728 18.4 14.0 6.13 5.15 8744 8759 1325 8759 8790 8.37 7.91 6.53 4.14 3.47 3.05 1.94 1345 16.6 433 7.22 Not the 28 0.91 3.73 -3.3.17 (630 Chlorik 3 30 pm .53 2,25 16.6 23.0 ZO.1 3.3.17 1105 8790 8806 21.3 180 24.6 21.5 8806 8822 4.93 1125 8866 18.2 14.7 19.6 11.9 20.1 12.6 13.8 1145 8822 25min 30min

400	2
MOK	- 5
	ASB

ASR Period Injection

Sheet \

MONTEREY PENINSULA
T E R
MANAGEMENT DISTRICT

Test:

Weather

160 max of_

Date	Time	Tiger [F] (gal) ×1000	Tiger [R] (gal) ×1000	BF (gal) ×1000	FCV (psi)	Line (psi)	Well Head (psi)	N ₂ (psi)	DTW (feet)	Draw Up (feet)	Inj Rate (GPM)	Lube / Skid Meter (gal)	Lube Pressure Up/Down		mments		
3.3.17	1125	70705	150971	8866	215	48	40	1600	341.98	8	1055	270190		75- R	start	tr	ni.
3.4.17	0845	70705	152224	8866	214	48	41	1600	215,34		1037		/	LECT SE			0
3-5-17	0925	70705	153811	8866	215	49	42	1500	209.18	132.8	1045		/	TL - NO			
36.17	0930	70705	155256	8866	214	48	42	1500	207.47		1036		/	JL-NOA	T		
3-7-17	6900	70705	156697	8866	365	106+	21	1550	340.94		Ø	270190	X	35- Rounds,	NoInjy	et Cu	MA
3.8.17													/				
3.9.17	0815	70705	157742	8866	209	52	37	1550	200.5		1060		/				
3.10.17	0840	70705	159235	8866	210	49	37	1475	197.82)	1020	271870	58 56	35- ASR R.	onds -	BF	
	0945			8966	350				337.68	1	Ø		/	Prep for	BF		
	1005			8880					455.82				/	10min S	->B	F	
	1110	70705	159314	8929	193	42	30	1500	341.00	Ì	1090	272140	X	Ristart	Inj		
3-11-17	0840	70705	160722	8919	187	47	26			138.81	1112	272140	X	JS- ASR ROW	N5, No	Al;	
3-12-17	1030	70705	162411	8929	188	44	24	1515	195.18	145,82	1130		/	TL - NO. A	et		
	1								1847				/				
3-14-17	0815	70705	165480	8929	187	46	7.6	1425	184.36		ull	274500	5958	JS ASR RO	unds >	BF	
	1330			8929	350				333.40		Ø		/	JS- BF			
	1350			8944					455.96				/	10 min	SC		
	1510	76705	165844	9014	236	44	49	1450 8	341.11		1080	275190	X	JS - Resto	I Tr	j.	
													/				
Date	Time	Pre Purge Meter Read	Post Purge Meter Read	Purge Volume	Temp (°C)	Cond (µ/cm)	рН	ORP / Zobell	[Cl ₂]	DO (mg/L)	H ₂ S (mg/L)	Sampler / Laboratory	-	urbidity (NTU)		fter star	
3.10.17	0955	8866	9882									J3		.99 9.44 22.			
	1015	8882	8898										24.1	9.4 15.4 18.	6 5.42		
	1035	8898	8929	Chlor	ribe =	52 034	i.						8.93 8	3.23 7.23 13.	6 4.35	7.16	2.19
								/							6 -		
3.14.17	1340	8979	8945					/				35	7.96	0.3 13.8 24	3 18.9		
	1400	8945	8962					/					_	31.0 31.7 12.	_		
	1420	8962	9014	Chloric	e= 3	10 ppm		/					9,39 1	6.8 9.80 17.	1 16.8	8,59	9,97
								/						30 min 35 min			1
						-		/						3,19 1,64			

62 6.68 5,03

8 4 -

15 x -

A513-3 Well:

PENINSULA MONTEREY / TFR MANAGEMENT DISTRICT

ASR Period Injection NEED TO REPLACE GAGE

NEED TO REPLACE GAGE Test: Weather 160 max of Well Lube FCV Line DTW Draw Up Inj Rate Lube / Skid Date Time Head N₂ (psi) Comments Pressure (psi) (psi) (feet) (GPM) (feet) Meter (gal) Up/Down (psi) 1080 275190 3.14.17 1510 70705 1450 341.113 44 49 230 IS - Restart Ini 165844 9014 3.15.17 0905 70705 1375 211.80 179.31 1080 275190 167024 232 9014 46 51 JS- Romas, No Adj 1375 204.50 3-16-17 0845 70705 231 43 1075 275190 168608 9014 JL - LEFT SETTINGS 9014 233 44 50 1425 200,48 140,43 TL-NOX 3-17-17-0965 70705 170142 1075 1350 197,92 143,19 1057 275190 9014 232 50 3.18.17 6840 70705 171664 44 IS- NO Ad, 3-19-17-0915 70705 43 1350 193,87 142.74 173247 252 1060 TL-NO 405 9014 3,20,17 0915 70705 174774 9014 44 42 1300 189.54 151.57 1055 231 JL- NO APT, LURGON 3.21.17 0845 70705 1069 277540 44 176309 9014 232 46 1325 186.71 JS-ASR-Rounds, BF 278000 1330 9014 350 331,10 BF 455.95 1350 9029 10 min 1075 278160 1350 (339.45) 1500 70705 9086 216 43 JS Restruct Inj 176652 30 70705 1350 203.78 322-17 1100 177890 9086 43. 1075 216 JL-NOADJ 1300 213.76 176.19 1020 278160 43 3-23-17 0920 70705 179753 9086 216 35-Adjup W/FCUZI4 to 1055 181042 3.24-17-0830 70705 9086 216 1300 20247 136.89 1150 44 42 1 CAON - X 1300 195.44 144.04 1150 276160 3.25-17 845 70705 183502 9086 214 44 41 IL WILL TRANSCRIBE MONDAY 1078 278160 3.26.17 0835 70705 44 JS-Nb Ad; 183952 9086 214 1300 192,44 1134 178160 3.27.17 1230 70705 185385 9086 214 41 18/64 1400 40 JL- TURNEDONLURF 1300 183.27 156.18 1084 280130 3.28.17 0830 70705 9086 (87198 215 43 JS- Rounds 7 BF Pre Purge Post Purge Temp Cond DO H₂S ORP/ Sampler / Turbidity (NTU) min after start Purge Volume pH $[Cl_2]$ Time Date (°C) (µ/cm) Meter Read Meter Read (mg/L) (mg/L) Zobell Laboratory 0 1 1 1 2 1 5 1 10 1 15 1 20 17.1 376 7.28 730 17.00 0.83 Chloride = 32 ppm 3.15.17 1415 4.22 60 JS 2.55 71.5°C 9031 1.38 10.7 24.7 16.3 19.8 3.21-17 1340 9014 9048 26.5 25.4 16.6 10.9 9.60 1400 9031 9086 9049 13.6 12.8 11.2 5.47 4.59 5.07 4.50 1420 25 min 30 min 2.51

	10	-	7
Well:	AS	15-	5

ASR Period Injection

Sheet

MONTEREY PENINSULA
T E R
MANAGEMENT DISTRICT

Test: Weather 160 MAX of Well Tiger [F] (gal) Tiger [R] (gal) **FCV** Line DTW Draw Up Inj Rate Lube Lube / Skid BF (gal) ×1000 Date Time Head N₂ (psi) Pressure Comments ×1000 ×1000 (psi) (psi) (feet) (GPM) (feet) Meter (gal) Up/Down (psi) 339,45 5956 JS-Bounds -> BF 3.28.17 0830 70705 280130 1300 183,27156,18 1084 187198 215 43 41 9086 9086 JS-BF 1345 330,47 280650 187539 350 9101 453,09 1405 10 Min SC 1070 280800 1510 70705 43 1300 (337.77) 187539 40 JS- Restast Inj 9151 213 3-29-17-0937 73 After adi 0#1+#2 9151 216 70705 188685 39 219:12 1030 1250 3-30-17 0835 215 73 40 70705 190112 1250 219,49 NO ADJ.-TL 9151 1015 3-31-17 0900 70705 39 1300 208,02 129.5 1035 191619 915 215 43 NO ADJ-TL 280800 43 4.1.17 0850 70705 193090 9151 256 1300 208,61 129,16 999 35- AZj sp w/ FCV-27 1095 915 4-217 1020 76705 194994 38 42 1544 18397 1355 208 1250 4.3.17 0845 167.68 170,09 1202 280800 70705 196468 9151 210 46 40 1200 JJ. No Adi JL- Abi bown 4.4.17 0825 70705 197760 9151 216.72 121.05 857 282550 53 216 40 1200 JS-Rowls + BF 287690 329,99 9151 0950 350 BF 455,66 9165 1010 10 min SC 282860 1120 70705 40 1250 (338,238 50 990 IS. Resturt Inj 197829 9221 214 Pre Purge Post Purge Temp Cond DO H,S Sampler / Turbidity (NTU) min after start ORP/ Purge Volume Date Time pH $[Cl_2]$ Meter Read Meter Read (°C) (µ/cm) (mg/L) (mg/L) Zobell Laboratory 0 1 1 2 1 5 1 10 1 15 1 20 9102 3.28.17 1355 IS 6,70 17.0 21.0 24.1 21.1 9086 9102 1415 22.1 49.0 15.46.55 6.49 9119 12,9 9,39 6,63 4,77 5.11 3.51 1:83 1435 91.19 9151 @ 18.1°C 462 7.23 73234, 0.78 4.47 3.29.17 1530 Chloride= 33 32 ppm 18.1 0.71 @ 22.5°C 9151 4.4.17 1000 9167 19 5,61 3,65 11 9 22.7 25.5

FI SMS(D)

13. P. J.

1020

1040

9167

9183

9183

9221

Chloride = 32 Hpm

25min 2.50

28,9 30,6 20,2 13,9 10,3

22.7 21.1 10,8 10.2, 9.31 6.29 3.56

Well: ASR-3

ASR Period Injection

Sheet \



Date	Time	Tiger [F] (gal) ×1000	Tiger [R] (gal) ×1000	BF (gal) ×1000	FCV (psi)	Line (psi)	Well Head (psi)	N ₂ (psi)	DTW (feet)	Draw Up (feet)	Inj Rate (GPM)	Lube / Skid Meter (gal)	Lube Pressure Up/Down	
4.4.17	1/20	70705	197829	9221	214	50	40	1250 8	338.73		990	282860	X	JS-Restart Inj
4.5.17	0825	70705	199097	9221	214	48	40	1200	725.88		1014	582860	X	JS-NO Adj
1.6.17	1200	70705	200838	9221	214	42	40	1200	18615	4	1075		X	JC-NOADT
4.7.17	6830	70705	202145	9221	214	40	90	1500	171.08		1050			RIM WILL TURN DOWN AFT ASKY ZUNY TEST IS ON
4.8.17	0830	70705	203430	9221	218	47	40			130,67	835	2,82860	X	J5-No A2;
1-9-11	0945	70705	204720	9221	218	45	68	1180	2097	8128.45	800	A		TL-NO ADS
4-10-17	0830	70705	205853	9221	219	FI	40	1190	203,35	134.88	823	282860	X	JS - N. Adj, lubline
1.11.17	0815	70705	207120	9221	216	73	40	1120	192,03	146.20	894	285350	7270	IS-Rounds >BF
	1020			9221	350				326,70		Ø	288560	84 82	GF
	1040			9736					452.61			286 730	X	10 mix SC
	1145	70705	207728	9284	215	72	40	1150 8	337.IZ	3	850	285730	X	IS . Restart Inj
1.12.17	0830	70705	208215		219	89	40	震	258-1		700	week 5		
4.1517	0830	76705	209217	9284	218.	65	40	1150	256.84		670	-		
4-14-17	0905	70705	210173		221	64	40	1125	26374	73.86	600			NO ADJTL
4.15.17	0180	70705	211070	9284	120	64	40	1100	256.09	81.03	638	285730	X	1
4-16-17	0910	70705	212086	9-284	219	63	40	1000	1391de	€?	660			NO ADJ-TL
4.17.17	0825	70705	213023	9284	218	62	40	1100	248.58	88.54		285730	X	JS- No AS;
4.18.17	0815	70705	214001	9284	219	63	40	2090	248,41	88.71	660	287820	67,59	JS- Remos > BF
		Day Days	Past Dunas		Tamp			ODD/		DO.	11.6	Sampley /		whillity (NITH)in after start

	Date	Time	Pre Purge	Post Purge	Purge Volume		Cond	рН	ORP/	[Cl ₂]	DO	H ₂ S	Sampler /		Turbio	lity (N			fter star	
L			Meter Read	Meter Read		(°C)	(µ/cm)		Zobell		(mg/L)	(mg/L)	Laboratory	0	11	1 2	1 5	10	15	20
									16	\$C		1.71							y	
4	4.11.17	(000)		Chloride =	32 ppn	16.8	429	7,70	m 21"	6,94	4.16	Lo.	35	0.77						
								1		15.5°C										
		1					-			1			/ Install							
5	4.11.17	1030	9221	923F									75	1.66	6.78	26.5	19,6	27.7		
1		1050	9237	9253														6,46		
1		1110	9253	9284										17,5	17,2	8,34	8.04	12.9	4,66	2,36
		1																	0.0	
1																			7	

SMS(P)

ASR3

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Well:	ACO	-3

ASR Period Injection
Weather Rain

Sheet

MONTEREY PENINSULA

Test:

of

MANAGEMENT DISTRICT

	Test:			Weather	Na					of								
Date	Time	Tiger [F] (gal) ×1000	Tiger [R] (gal) ×1000	BF (gal) ×1000	FCV (psi)	Line (psi)	Well Head (psi)	N ₂ (psi)	DTW (feet)	Draw Up (feet)	Inj Rate (GPM)	Lube / Skid Meter (gal)	Lube Pressure Up/Down		Com	ments		
1/7/17	1035	70705	202265	9221	211	67	40	1150	186.6		1065			1040	d; Q	V		
//	1050				216	70	40		207.8		905				-			
	1,30				216		40				913							
	1455				215		40		200.8		940			Adi 1	av			
	1500				216	45	40				890							
	1615		202577		216						895							
	=																	
										= 11	1							
				1.4														
								3										
-								-										
Date	Time	Pre Purge Meter Read	Post Purge Meter Read	Purge Volume	Temp (°C)	Cond (µ/cm)	рН	ORP/ Zobell	[Cl ₂]	DO (mg/L)	H ₂ S (mg/L)	Sampler / Laboratory	O I	rbidity (N	TU)	min af	ter star	t 20
			-															
	1											/						
														11/67	_			
								/					1					

Well: ASR-3

ASR Period Injection

Sheet \

MONTEREY PENINSULA
T E R
MANAGEMENT DISTRICT

Test:

Weather

160 maxer 1

Date	Time	Tiger [F] (gal) ×1000	Tiger [R] (gal) ×1000	BF (gal) ×1000	FCV (psi)	Line (psi)	Well Head (psi)	N ₂ (psi)	DTW (feet)	Draw Up (feet)	Inj Rate (GPM)	Lube / Skid Meter (gal)	Lube Pressure Up/Down	Comments
4.18.17	0815	70705	214001	9284	719	63	40	1090	-0000	88,71	660	287820	62 59	JS-Rounds+13F
	1115			9284	350				379,70		Ø	288160	66/62	BF
	1140			9299	1				449.53					10 min SC
	1745	70705	214121	9348	216	57	40?	1050	334.41	3	668	288310	X	JS- Restart Inj
	1520				218			1050	-		663		/	Js- Adj down w/ Fer
4.19.17	0830	70705	214916	9348	217	54	40	1100	270,52	63.89	689	288310	X	JS-No ADi
	1530				213	54	40	1075		-	857			JS-Adjuquo/Fer
4.2017	0830	76705	216349	9348	210	53	40	1075	220.17		1066			JL-NOAPI
4.21.17	1500	70705	218585	9348	214	52	48	1050	1985	7	980		/	TURNED DOWN FROM
4-22-19	T005	70705	219556	9479	217	53	40	1100	234,06	100:35	765			turned upto 850 72
4-23-19	0940	70705	220795	9479	217	53	40	1100	216,56		855		/	
4,24,17	0850	70705	232017	9479	216	53	40	2505	210,44	12.97	875	288310	5654	II- No Ali, Turned on lube
4.25.17	0840	70705	223317	9479	216	53	40			131.05		290710	5958	Js-Rounds > BF
	1100			9479	350				325,88		Ø		/	BF
	1125			9494					450.37				/	10 min SC
	1240	70705	223445	9559	215	50	40	1025	333,71	3	960	291140	X	JS - RESTART Inj
4.26.17	0830	70705	224528	9559	214	55	40	950	273.18		893		/	JL- NO AOT
4.27.17		70705	225857	9559	216	62	40	950	240.80	289.33	900		/	JL- NO ADJ
4.28.17		70705	227137	9559	216	61	40	1000	230.58		862		/	JL-NO ADJ
Date	Time	Pre Purge	Post Purge	Purge Volume	Temp	Cond	рН	ORP/	[Cb]	DO	H ₂ S	Sampler /	Tu	urbidity (NTU) min after start

- 1	Date	Time	Pre Purge	Post Purge	Purge Volume	Temp	Cond	рН	ORP/	[Cl ₂]	DO	H ₂ S	Sampler /		Turbio	dity (N	TU)	min a	fter sta	rt
	Date	Time	Meter Read	Meter Read	Turge volume	(°C)	(µ/cm)	pii	Zobell	[Ci2]	(mg/L)	(mg/L)	Laboratory	0	1 1	1 2	1 5	1 10	1 15	20
5	4.18.17	1130	9284	9301									73	16.5	12.4	25,5	15.6	23.9		
1		1150	9301	9317										16.8	17.9	24.5	14.8	10.1		
1		1210	9317	9348	= =	-								14.3	17.4	11.5	7.66	8.65	3,59	2.59
				-																
1	4.25.17	1115	9479	9495							-			39.8	2.79	23.7	58,8	24.9		
3		1135	9495	9512											0			7.83		
1		1155	9512	9559										16.6	13,2	8.90	11.7	7,01	6,87	14.8
1														75min	30m					
L														2.23	1,32					

N5231-

Ph. Ph.

	ASR	2
Well:	112	_

9663

9694

9647

9663

1200 1220

Test:

ASR Period INJECTION

Weather

Sheet 1

MONTEREY PENINSULA MANAGEMENT DISTRICT

21.5 22.2 18,1 7,22 12.6

47.8 26.5 15.4 7.23 8.04 3.70 2.66

160 MAX > of 1 Well Tiger [F] (gal) Tiger [R] (gal) FCV Line DTW Draw Up Inj Rate Lube / Skid Date Time BF (gal) ×1000 Head N₂ (psi) Pressure Comments ×1000 ×1000 (psi) (psi) Meter (gal) (feet) (feet) (GPM) Up/Down (psi) 333.71 4.2817 0830 9559 227137 40 862 70705 216 1000 230,58 TRANSCRIBED FROM REVIOUS SHOET 228547 9559 216 ZITID 4.29.17 0930 70705 58 40 1000 954 IL-NO ADI 9559 4.30.17 0820 229891 215 214,35 119,36 955 70705 40 1000 IS- No Adi 291140 231325 9559 216 57 40 1000 208,24 125,47 986 5.1.17 0820 70705 IS NOAD, , lubeline on 1000 202.66 131.05 1005 293570 59 57 IS. Ronds -> ISF 232803 9559 5.2.17 0825 70705 214 57-40 9559 1240 350 331,60 BF 9573 1300 450,90 10 min SC 880 294180 733061 9629 (337.747) 70705 950 1430 214 67 40 IS - Restart Inj 5.3.17 0830 70705 9629 1000 215,77 953 JC- NO ADI 234094 40 216 5.4.17 70705 735532 9629 214 69 0830 207.41 1-NO ADI 40 900 1016 5.5.17 201.77 237039 9629 0830 70705 211 68 40 850 1027 L-NOADIT 5-6-17 1055 9679 40 890 22661 111.12 1046 70705 238628 212 029480 IT - timed luce on 5-7-17 1235 70705 240780 9629 64 39 216,87 213 920 296270 5.8.17 0825 66 64 JS- Roads >> BF 9629 217.89 119.85 1028 70705 241525 213 67 40 890 1130 9629 350 333,71 BF 9645 10 min SC 1150 450 34 1010 296770 70705 241720 340.070 JS- Restart Ini 1300 9694 214 IS Restart Ini Pre Purge Post Purge Temp Cond ORP/ DO H,S Sampler / Turbidity (NTU) min after start Date Time Purge Volume pH $[Cl_2]$ Meter Read Meter Read (°C) (µ/cm) Zobell (mg/L) (mg/L) Laboratory 1 1 2 1 5 1 10 1 15 1 20 9575 13.7 23.2 40.0 26.8 30.8 9559 5.2.17 1250 IS 25,7 30.4 22,3 14,7 9.87 9592 1310 9575 9629 18.7 19,8 12.8 11.4 8.71 3.51 3.96 1330 9592 25 min 30M 5.8.17 1140 9647 9629 4.64 331.0 20.7 23.7 15.6

167.3 -

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Well:	ASR	-5

ASR Period Injection

Sheet

MONTEREY PENINSULA

Test:

Weather

MANAGEMENT DISTRICT

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Date	Time	Tiger [F] (gal) ×1000	Tiger [R] (gal) ×1000	BF (gal) ×1000	FCV (psi)	Line (psi)	Well Head (psi)	N ₂ (psi)	DTW (feet)	Draw Up (feet)	Inj Rate	Lube / Skid Meter (gal)	Lube Pressu Up/Dov	ire		Comi	ments		
5.8.17	1300	70705	241720	9694	214	66	39	8904	340,07		1010	296770	X	Tr	anscr	ibed 1	mor)	ptev.	she
5.9.17	0830	70705	242819	9694	215	65	40	850	247.41	92.66	898	296770	X	3	5-1	Jo A	2,		
5-10-17	6830	70705	244236	9694	ZIZ	68	40	800	241.32	98.75	1007				- N				
5-11-17	0830	70705	245717	9694	212	70	66	800	228,34		1070		/	1	L-NO		AG	3	
5-12-17	0905	70705	247220	9694	214	65	39	900	226,	19	1015		1	-	T	- 1	•		
5.13.17	0830	70705	248653	9694	214	64	39			115,90		296770	X	-	5-1	No A	16		
5.14.17	1045	70705	25 0269	9694	211	64	40		218,47		to tem	296790	/	11				1045	
5.15.17	0825	70705	251605	9694	212	64	40	800	218.80	121.27	1015	299050	63/6	13	5-13	Sound	57	BF	
	1135			9694	350				334,71		Ø		/		F				
	1200			9708					450.54	1/			/	10	Min	56			
	1305	70705	251797	9757	212	62	39	8001	339.47		995	299550	X	I	5- 1	Zesta	MI	ini	
5.16.17	0830	70705	253007	9757	211	57	39	800	230,68	108,79	1064	299550	X		5- N				
	1615				213						1030		/				-	v/FC	V
5.17.17	0830	70705	254519	9757	214	62,	39	800	229.21	110,76	1035	299550	X		5- N				
511817	0830	70705	256045	9757	212	62	40	860	225.21	- 1	1040		/		- NO				
5.19.17	1130	70705	757392	9757	213	62	40	800			1000		/	/				NOTE	-9
5.201	10930	76705	258823	9757	211	66	39	800	219.13	- 21	1100	-470	/		TL				
5-21-17	0635	70705	260237	9757	211	68	399	700	21939	1	1065 0	299550	/		CL				
5.27.17	0830	70705	261970	9757	211	86	39	700		125.12	1100	302420	858	3]	5- 1	Somo	5 ->	BF	
Date	Time	Pre Purge Meter Read	Post Purge Meter Read	Purge Volume	Temp (°C)	Cond (µ/cm)	pН	ORP / Zobell	[Cl ₂]	DO (mg/L)	H ₂ S (mg/L)	Sampler / Laboratory	0	Turbio	lity (N	TU)	min a	fter sta	rt 20
									17.60										
5,9.17	1300		Chloride =	32ppm	17.60	462	7.38	737211	0.64	5,07	bo	22	2.16						
									23.50										
								/						10					
5.15.17	1150	9694	9710									75	23.6	11.5	23,2	23.1	18.1		
	1210	9710	9726										-	_	14.0				
	1230	9726	9757										45.7	17,8	19.0	18,5	9.85	3,47	1.78
								/											

Well: ASRY

Sheet 1

MONTEREY PENINSULA MANAGEMENT DISTRICT

ASR Period STORAGE Test: MONTHLY FIELD; Hacycle Weather SUN

Date	Time	Tiger [F] (gal) ×1000	Tiger [R] (gal) ×1000	BF (gal) ×1000	FCV (psi)	Line (psi)	Well Head (psi)	N ₂ (psi)	DTW (feet)	Draw Up (feet)	Inj Rate (GPM)	Lube / Skid Meter (gal)	Lube Pressure Up/Dowr		Com	ments			
11116	1329	23039	114152	4502	345	105	Ø	2000	37083		Ø	64570	95/100	Ho	Cucle	TocT			
				4531					493.61		1		/	1.2	5,20	30.6	0		
				4675	_	-						64720	X		1				1
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	-												/						
		D. D.	D. A.D.						1.0										
Date	Time	Pre Purge Meter Read	Post Purge Meter Read	Purge Volume	(°C)	Cond (µ/cm)	pН	ORP / Zobell / - 129.7	[Cl ₂]	DO (mg/L)	H ₂ S (mg/L)	Sampler / Laboratory	0 T	ırbidity 1	(NTU) 2 5 269	min a	fter star	t 	
11/16	1330	4502	4675	173000	24.6	881	7.13	-129.4	NO	3.43	0.04	Hg-MH MCCAMBELL	88	129 11	26.9	11.7	9.69	-	5
			,																
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																	4		
																			1
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	Well: Test:		N	ASR Period Weather					1	Sheet		٨	MON	W		PEN T	E	R	
Date	Time	Tiger [F] (gal) ×1000	Tiger [R] (gal) ×1000				Well	N ₂ (psi)	DTW (feet)	Draw Up		Lube / Skid Meter (gal)	Lubo Pressi Up/Do	ure		Comn	nents		
12/2/16	9.45	23039	114664	004675	330	40	10	1900	374.4	Ø		0065920	194	4				_	
7.5	1002-	Stert back	fush							1			4	1	3= 7	200 -		SAA	iple of DB
	IONY	J		4703					499.95	-			/		-(C	1000	ppn	Si	OH DIN
			114864		343			1900	1.10			069100	/						$\overline{}$
		1		00 1 2 2									1						
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													1						
													/						
										100	- 3	16	/						
									all	2.500	231	IMIN	/						
Date	Time	Pre Purge Meter Read	Post Purge Meter Read	Purge Volume	Temp (°C)	Cond (µ/cm)	pН	ORP/ Zobell	S[CI2]	DO (mg/L)	H ₂ S (mg/L)	Sampler /	0	Turbic	lity (N	TU)	min af	ter star	20
12/2/4	1002	4675	4855	180,000	260	859	3-7	247	0.2	0.52	1378	MINH	5(4	175	INC	14.0	281	3.1	3,2
1-1-4											12.0				. 0	1,10		-	
													17						
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		Well:	ASRI		ASR Period		AIA	2'HE	.1		Shee	. \	~	TMO	EREY	4		E		
		Test:			Weather		- (of			٨	AAN	AGEM	ENT [
Da	ate	Time	Tiger [F] (gal) ×1000	Tiger [R] (gal) ×1000	BF (gal) ×1000	FCV (psi)	Line (psi)	Well Head (psi)	N ₂ (psi)	DTW (feet)	Draw Up	Inj Rate (GPM)	Lube / Skid Meter (gal)	Lube Pressu Up/Dov	ire		Comr	ments		
2.15	5.17	1505	73039	116450	4855	/	45	/	/	/		Ø	69110	545	2 5	S - T	י חזעי	on l	heli	N
											1			/	1					
3.	1.17	0909	23039	116960	4970	350	100+	/	2200	343.98		4		/	1	L- 5	DMAL	c me	TER P)į
1					35004	UEA	3			462.13					-					
					-	65.				100113			127		1	nie	TED	. 11	,	-
					2101	390	100 +						00735610	1	+	Sur	CRIM	ATEN	7	_
					1.									/						_
3.18	5.17	1000	23039	117390	5101					33286										_
-	-				5131					452.99				/	C	oue	CHEC) H	g +	
-	-				1.			-							-	Sur	CRN	octen	7.	_
-	-														-					_
-	-														-					-
1					- 31			-												-
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L																				
	ate	Time	Pre Purge Meter Read	Post Purge Meter Read	Purge Volume	(°C)	Cond (µ/cm)	pН	ORP/ Zobell	[Cl ₂]	DO (mg/L)	H ₂ S (mg/L)	Sampler / Laboratory	0	Turbio	dity (N	TU)	min at	ter sta	rt
3.	7.17		4855	5101					/	ND		ND		336	145	89.6	7,47	2:30	6.83	1
	_												HQ MCGAMBER 52,61,08P MBAS	4						ļ
	-1		5101										MBAS	-					-	1
2	-0			(2.1)	011				/	5 10 M	1.		H9 MICAMBA		0				200	1
3.1	12-17		5101	5211	Chlori	DE =				0.19mg	12		MICAMBA	18.0	77.8	61.0	6.20	4.12	78.2	1
-														\vdash						+
-	-																			+
-	-													-		-				ł

540 ML on 30 Min FILTER TOTAL RUN TIME = 39.20 Min

315.8550 ML ON 1MN FLIER 520 ML ON 6 MIN FLIER

		Well:	ASR-U)	ASR Period		-	4851NAC	SAMBOIL	40)	Sheet			V	V C		DISTRIC		
		Test:	-		Weather	SUN)		-		of	-/-		. /	ANAGE	MENI	DISTRIC	.1	
	Date	Time	Tiger [F] (gal) ×1000	Tiger [R] (gal) ×1000	BF (gal) ×1000	FCV (psi)	Line (psi)	Well Head (psi)	N ₂ (psi)	DTW (feet)	Draw Up (feet)	Inj Rate (GPM)	Meter (gal)	Lube Pressure Up/Down		Con	nments		
4.	-4-17	1015	23039	118312	005211	354	68	q	2100	333,73	ø	ø	0078410	5051	Befo	e BF	1 Salma	in	
					5241					45552			12	/			1 Saly	1	
4.	4-17	1335	23039	118312		364	83	p	2100	-		00	07879	5150	off	afte	-101 A	NINS.	BI
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						4	-4							/					
	Date	Time	Pre Purge Meter Read	Post Purge Meter Read	Purge Volume	Temp (°C)	Cond (µ/cm)	pН	ORP/ Zobell	[Cl ₂]	DO (mg/L)	H ₂ S (mg/L)	Sampler / Laboratory	0 1	1 1 2	1 5	min afte	15 1 3	20
- 4	-4-17		5211			FLOW	ELL	ACTIVE					HIG MCLAMPELS	34 7	9.0 60	6 6,78	3.00 1	78 (,3	4
			5241	Onlor	De: 52 ppm					0.22	10,17				7				
_							2.						,						1
1	MINI	buck	cet=75.	ul Cache	0=9,50	1/w)													
10	SMIN	Buel	at = 37	5 ml (ac	tral 2 15	SM	w)				===	9							
3	50 MIN	Bu	hed = 34	5 ml	1.														
				- 3	T.				/										

Well: ASR-4

MPWMD ASR DATA SHEET

ASR Period Injuction

Weather Purtly Cloudy

Sheet

Test: Step In (#1)

MANAGEMENT DISTRICT

Date	Time	Tiger [F] (gal) ×1000	Tiger [R] (gal) ×1000	BF (gal) ×1000	FCV (psi)	Line (psi)	Well Head (psi)	N ₂ (psi)	DTW (feet)	Draw Up (feet)	Inj Rate (GPM)	Lube / Skid Meter (gal)	Lube Pressure Up/Down		mments	
7/5/17	900	23039	118348	5507	355	50	0	2000	331,3		_			935 2:	a flus	h
- /														2000 8TO	jon ma	×
							<u> </u>							945 500	5	
	1000	23039	118361	5518			75		33,3		_			Stort:	In;	
	1005				265	59	64		316,5		752					
	1000	23039	118367							15.5	757			Start:	n Aug	
	10 15								314.9		757	80925	4545	Ų,	0	-
	1020				265	57	63			18.0	752					
	1030								312.1	1	758					
~	10 40				264		63		310.7		767			400 Q.	L	
	1050				265	58	64	-			761					
	1100				2.66	. 7	12		30.5		767			a/a		
	11/0				265	57	63			20.8						
•	1120							<u> </u>	3/0.2		757					
	1140						<u> </u>		309.9		764			a/a		
	1150				246				309.8		757			34	0 spm/f	*
		01.20	118450		265				309.6		757			/		
	1200	23039	118730	5518	265	57	حم		2015	21.8	100			Q1(S	42	<u>,</u>
Date	Time	Pre Purge Meter Read	Post Purge Meter Read	Purge Volume	Temp		pН	ORP/	[Cl ₂]	DO	H ₂ S	Sampler/	Tu	Ave = 77 rbidity (NTU)	min after st	art
		Meter Read	Meter Read		(°C)	(µ/cm)		Zobeli		(mg/L)	(mg/L)	Laboratory	10 +	$\frac{1}{1} + \frac{2}{5} + \frac{5}{5}$	$+\frac{10}{10} + \frac{15}{15}$	20
																+-
															+	+
																-
															+	-
																+-
													-		+	+-
															+	+
														+	+-	1

Well: ASR-4

ASR Period Injection

Sheet 2

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MONTEREY

PENINSULA

Test: Step In (#2)

Weather Partly Cloudy

of 4

MANAGEMENT DISTRICT

Date	Time	Tiger [F] (gal) ×1000	Tiger [R] (gal) ×1000	BF (gal) ×1000	FCV (psi)	Line (psi)	Well Head (psi)	N ₂ (psi)	DTW (feet)	Draw Up (feet)	Inj Rate (GPM)	Lube / Skid Meter (gal)	Lube Pressure Up/Down		Con	nments		
4/5/17	1200	23039	118450	5518	265	57	63		309.5	21.8	753			G '	1			
	1205				255	51	55		297.1		1132							
	סיבו		118461						295.7	35.6	1127			1100	90-	Aug		
	1215				255	51	55		294.9		1142			Hero Adis	لا فحا	, 0	-	
	1220				256	50			294.9		1124			,				
	1230								293.8		1127							
	1240								-	_	-							
	1250								-		-							
	1300		118518		257	50	55		291.2	40.1	1/35			1/33	S 0-	m 4		
	1310		_						280,5		1134			1/33	di	-1-10	~	
	1320								289.9		1133							
	1330				257	50	55		289.3		1135				-			
	1340								288.7		1137							
	1350								-	_	_							
		23039	118586	55/8	252	50	66		247.6	43.7				1123		. 1		
					, , ,		30		20110	13.7	1112		//	1133 Q/s=	125	9 0	10	
														5/3	- ~ ~	· V	-/ +	\supset
Date	Time	Pre Purge Meter Read	Post Purge Meter Read	Purge Volume	Temp		pН	ORP/	[Cl ₂]	DO	H ₂ S	Sampler /		rbidity (N				
		Wieler Reau	Meter Read		(°C)	(µ/cm)		Zobell		(mg/L)	(mg/L)	Laboratory	0	$\frac{1}{2}$	1-5	10	15	_20
					-									\dashv	-			
															-	-+		
		 							-						-			
											+			\dashv		\Box		
																\vdash		
														-				
					\										-		_	
					1					l i					1	1 1	- 1	

Sheet 3

MONTEREY

Well: ASR-4

Test: Step In; (#3)

MPWMD ASR DATA SHEET

ASR Period In; ection

Weather Partly Cloudy

Date	Time	1	Tiger [R] (gal) ×1000	BF (gal) ×1000	FCV (psi)	Line (psi)	Well Head (psi)	N ₂ (psi)	DTW (feet)	Draw Up (feet)		Lube / Skid Meter (gal)	Lube Pressure Up/Down		Com	ments		
4/5/17	140	23039	118586	5518	257	50	55		287.6		1142		/	a	1			
	1410		118600		240	40	46		2727	62.0	1505			1400	2.040	1,,		
	1413		.,						268.3	02.0	1508			1400	J	J		
	14 ³⁰				-(10	43	45		267.7		1510							
	1440				240	43	43		264.4	65,7	1508			ļ				
	1450				240	43	45		2628		1503							
	1500								261.1	70.2	150S							
	152.				240	43	45		259.4		1503							
	15 ² 15 ³⁰ 15 ⁴⁰ 15 ⁵⁰				240	42	46		257.7 256.4		1507 1507							
	1550				W 10		10		255.6		1508							
	/6°0	23039	118766	5518	240	42	45		254.6	76.7	1508			15cm	ge.	<u> </u>	8	
														19/5	= /	9.6	2	14)
Date	Time	Pre Purge Meter Read	Post Purge Meter Read	Purge Volume	Temp (°C)	Cond (µ/cm)	pН	ORP/ Zobell	[Cl ₂]	DO (mg/L)	H ₂ S	Sampler / Laboratory	Ti	urbidity (1	NTU)	min af	ter star	rt 20
					(6)	(10000)		Zooch		(g/2)	(mg/L)	Laboratory		1 2		10	13	20
													-	-	ļ			
																		-

Well: ASR-4

ASR Period Injection

Sheet 4

MONTEREY PENINSULA MANAGEMENT DISTRICT

Test: Stop Try

Weather over cast

Date	Time	Tiger [F] (gal) ×1000	Tiger [R] (gal) ×1000	BF (gal) ×1000	FCV (psi)	Line (psi)	Well Head (psi)	N ₂ (psi)	DTW (feet)	Draw Up (feet)		Lube / Skid Meter (gal)	Lube Pressure Up/Down		Com	ments		
1/5/17	1600	23039	118766	5518	240	42	45		254.6		1508			a 1	٨			
. ,	1605								236.4		1870							
	160		118784		224	36	37		231.8	99.5	1873			1800	9000	Aug		
	1615				224				231.4		1864				()	(
	1620				224	36	37		227.9		1860			01				
	1630				224	36	37		225,2		1870							
	1640				224			_	-		1850			01	,			
	1650				223	36	37		218.9		1860							
	1700				224					116.7	1870							
	17'0				224				214.7		1862			Q 1	_			
	1720								_		-							
	1730				224				212.3		1864							
	17 40				225	36	38		209.7		1863							
	1750								208,9		1867							
	1800	23039	114989	5518	225	36	37		2063	125.0	1864			STUP	In	ż		
														Back	Plus	7		
	1813	23039	118992	5518	380	69	0		3282					Short	- ດ			
	1825								517.8	000				10-m	:- Q/	5=1	9.0	sa
	1835			5580					522.3	(194.1)				Stop rbidity (PJ.	2		0.
Date	Time	Pre Purge Meter Read	Post Purge Meter Read	Purge Volume	Temp (°C)	Cond (µ/cm)	pН	ORP / Zobell	$[Cl_2]$	DO (mg/L)	H ₂ S (mg/L)	Sampler / Laboratory	Tu 0	rbidity (NTU)	min af	ter star	rt 1 2
													1	7 11	21	4	3.6	2.5
															1			
																		\Box
		I		1				K							+	1		

10-

Well: ASR-4 Test: Backflushing

ASR Period Injection
Weather Over cast

Sheet (

MONTEREY PENINSULA MANAGEMENT DISTRICT

Date	Time	Tiger [F] (gal) ×1000	Tiger [R] (gal) ×1000	BF (gal) ×1000	FCV (psi)	Line (psi)	Well Head (psi)	N₂ (psi)	DTW (feet)	Draw Up (feet)	Inj Rate (GPM)	Lube / Skid Meter (gal)	Lube Pressu Up/Dov	re		Com	ments	:	
4/6/12	820	23039	118992	5582	362	69	0	1900	333.5	_	ø	83135	54 ₅	3					
	!										L			B	ack	flo	shin Pum Vs=	5	
	835			5582					333.5	DON				ી ડ	star	+ 1	Pum	0 (5	& A
	845			5610					511.3	177.8				10	2-m	0	1/5 =	15.7	2
	835 845 855			5643					525,8	DON (77.8)				5	top				
	- ()						ļ						$ \angle $						
	905			5643			-	-	337.8					5	far	+ P.	c _m	(60	H
	915			5673		-	-			187.5			\leq	10	-m:	~ Q	15-	16.0	<u> </u>
	925	-		5705		-			531.3					51	د ت		/s = ,		_
														+					_
														1					
															-				_
														+					
														+					-
														+					
Date	Time	Pre Purge Meter Read	Post Purge Meter Read	Purge Volume	Temp (°C)	Cond (µ/cm)	рН	ORP / Zobell	[Cl ₂]	DO (mg/L)	H ₂ S (mg/L)	Sampler / Laboratory	0	Turbic	dity (N	ITU)	min at 10 4.1	fter sta	rt
4/6/12	835				()					(g)	(mg/L)		Ť	16.2	13.2	7.1	4.1	4.3	2
4/6/17	905		-											5.0	5.6	3.3	19	2.7	1
						-									<u> </u>		_		L
						<u> </u>							-						-
	1					1	i		I				1 1		I	I	I		1

Well: AS2-4

ASR Period Injection
Weather Over cost

MANAGEMENT DISTRICT

MONTEREY

Test: 24-hr C. Rate

Date			Tiger [R] (gal) ×1000			Line (psi)	(psi)	N ₂ (psi)	(leet)	Draw Up (feet)	Inj Rate (GPM)	Lube / Skid Meter (gal)	Lube Pressure Up/Down		mments	
4/6/	17/000	23039	118992	5705	360	68	74	1900	335.9	_	0			Start 1	m'ectio	·^
									287.4		1505					
	100		119005		239	42	45		283.4	52.5	1504			1300 500	n Ang	
	10'5								281.6		1505			0'		
	1020						<u> </u>		280.4		1503					
	1030	-	119035		240	42	45		278.3		1507			501: 60	=29 se	23
	1040				239				277.7		1515			65	-30	
	1050								276.2		1511			tio	:30	
	1100				239	42	45	1	275.9		1515			£,6	130	
	1120	-	0 1 -						274.3		1518			SPT=	0.2	
	1140	 	119140		239	42	45		273.9	62.0	1513					
	1330		.00.0		24/2											
	15		119307		270	42	45		268.9		1510					
	40													1505 a Adj a SDI't	om Aug	
	1540		119504		240				263,4		1527			Adj a	Vslight	17
4/2/	16 ¹⁰ 7 8 ³⁵		119548		241				264.3		1505			SDITE	=27 secs	
1/7/	1812		121034		210	42	45		2469		1501			£, ≤	= 24 sec	5
	1000				141		11.6		5 11/1 4		1/ 2			SOI = 0		
L		Pre Purge	121161 Post Purge		Temp	42 Cond			244.6	DO	1503 H,s	Sampler /		STOP :		
Date	Time	Meter Read	Meter Read	Purge Volume		(µ/cm)	pН	ORP/ Zobell	[Cl ₂]	(mg/L)		Laboratory		rbidity (NTU)		

	Well:	ASR-4	N	ASR Period	ASR D	ATA:	SHEE	T		Sheet	.)	K	, ЛОNТ \	EREY	A	PEN	NINSU	JLA D	
	Test:	Back fl	سوه:ملعد	ASR Period Weather	R	2: _^		_					,	MAN	AGEN	MENT	L. Distr	ICT	
Date	į.			BF (gal) ×1000	1	İ	Well	N ₂ (psi)	DTW (feet)	Draw Up (feet)	Inj Rate (GPM)	Lube / Skid Meter (gal)	Lube Pressu Up/Dov	ire		Com	ments		
1/7/17	1010	23039	121164	5705	364	69	0	1900	327,4	000			515.	3 4	U6e	~/,	6 900	١. ≤	>1
, , ,	1020			5705 5735				1900	524.8	(197.4)				10	- m:	· a/s	6 gp~	a	
	1030			5766					530.8					5	top	- /-			
				~											-				
	1105			5766				1	332.5					13	tar	+ 1	Dun	0	
	1115			5796						202.0				/			15=1		
	1125			5827					5385						top				
														1-	P				
	1140			5827	364	-			335.4	2000				15	tar	+			
	1150			5859					535.5	(200.1)				1,,) -m	.ha	15=	15.0)
	1200			5888					541,2					1	+0	2	/5=	0	_
				300					77.10					1	101	1	,	/-	
														1					
														1					
																			-
														1					_
	1													1					
														1					
Date	Time	Pre Purge Meter Read	Post Purge Meter Read	Purge Volume	Temp (°C)	Cond (µ/cm)	рН	ORP / Zobell	[Cl ₂]	DO (mg/L)	H ₂ S (mg/L)	Sampler / Laboratory	0 1	Turbid	lity (N	TU)	min at	ter sta	rt I
4/7	1000													110	5.4	16.1	10 4.1	3.2	٥
	1105													3,7	37	2.9	1.9	2.4	1
	1140													3.5	2.9	2.1	1.3	1.9	1
																			Γ
																			Γ
																			Γ
																			Γ
													7 1						

Sheet /



Well: ASR-4 ASR Period Frigection
Test: 7-Day Const. Rate Weather Overcust MANAGEMENT DISTRICT 190 MAX Well Lube DTW Draw Up Inj Rate Lube / Skid Head N₂ (psi) Pressure Comments Date (feet) (feet) (GPM) Meter (gal) Up/Down 4/7/17 14³⁰ 23039 121164 5889 (psi) 77 1900 333,7 -362 65 242 45 47 286.4 1504 121178 242 45 48 282.1 51.6 1507 1505 280.4 1450 1507 280.1 1500 15'0 47 277.3 242 45 1512 1520 48 243 45 277.5 1505 1530 243 45 48 1506 276.9 SDI: + = 30 secs 121252 1600 2763 1503 6,5 = 31 secs 243 48 1630 23039 SAT: 0.2 243 45 275.6 58.1 1505 121342 5889 1850 262.94 70.76 1499 85970 4.8.17 0825 23039 127776 5889 245 46 JS - No Adj 50 243 46 1900 25000 4-9-17-09-55 23039 48 1530 125118 5889 1875 244.98 88.72 1530 85970 66 5889 257 4.10.17 0810 23039 127116 69 TS-ADI DOWN SEE 25. 1920 232,73 100,97 1310 87440 411117 0810 23039 128489 5889 17F 73 77 277 72 1488 4.12.17 0830 23039 130747 5889 1800 202.95 67 4.1317 6830 23039 132849 198,77 1475 <889 278 56 45 1801 NO ADI 192,02 141,63 1500 5889 265 71 67 23039 135016 1800 4-14-17 0910 NO 405- th 1470 89520 1800 186,42 4.15.17 0815 23039 5889 265 71 66 137076 IS- No Adi Turbidity (NTU) min after start Temp Cond DO H₂S Post Purge ORP/ Sampler / Pre Purge [Cl₂] Purge Volume Date Time (mg/L) (mg/L) Meter Read Meter Read (°C) (µ/cm) Zobell Laboratory 0 1 1 2 1 5 1 10 1 15 1 20

Well: ASR-4

ASR Period Injection

Sheet 2

MONTEREY PENINSULA MANAGEMENT DISTRICT

Test: 7- Day Const. Bate

	Test:	T- Uny	Const. Nate	Weather				_		of				
Date	Time	Tiger [F] (gal) ×1000	Tiger [R] (gal) ×1000	BF (gal) ×1000	(psi)	Line (psi)	Well Head (psi)	N ₂ (psi)	DTW (feet)	Draw Up (feet)	Inj Rate (GPM)	Lube / Skid Meter (gal)	Lube Pressure Up/Down	Comments
4.15.17	0815	23039	137076	5889	265	71	66	1800	186,42		1470	89520	X	JS- No Adj TR-NO ADJ N=139273?
4-16-17	0915	23039	139273	5 489	253	70	64	1750	181.26		1460			TI-NO ADJ A=1392735
4.17.17		23039	141306	5989	264	71	65	1775	176.39	157,31	1472	89526	X	JS-No Adj
4,18.17	0810	23039	143420	5889	265	70	65	1780		161.89	1458	89570	X	JS- ROUNDS.
	1300				156	63	57				1496			IS-Adjup w/ FCV
	1530				257	63	56				1490			Is-Adj down W/Fer
4-19-17			145538	5889	257	54	57	1800	167.24		1449	91020	5952	JS-Bounds 7.BF
	0930			5889	350				330,76		Ø	91110		BF
1	0950			5920					553.11					10 min Sc
	1135		11-	6018					335,4					100 min SC Stant
	1315			6302					561.96					NOTENOUGH PSION UNE
		23039	145626	6307										FORSDI COLLECTION
	1335	23039	145626	6307	252	60	55	1790	340.50	3	1485	91550	X	JS-Restart Inj
	1540				253	53	56	1800	-,0		1505			Js-Adj down w/ FCV
1.2017	0830	23039	147276	6307	253	56	54	1800	265.01		1440			St- NO AND
4.21.17	1500	23039	149824	6307	254	56	54	1800	249.08		1473			JC-NOAPJ
4-22-17	1010	23039	151622	6307	251	53	54	1800	241,70	986	1590			TL-10 405.
4-2317	0945	23039	153798	6307	252	53	54	1750	237,41	163.89	1520			TL-NO 705
4.24.17	0845	23039	155902	60.6307	252	52	55	1700	230,40	110.10	1522	91550	5048	1
Date	Time	Pre Purge Meter Read	Post Purge Meter Read	Purge Volume	Temp (°C)	Cond (µ/cm)	pН	ORP/ Zobell	[Cl ₂]	DO (mg/L)	H ₂ S (mg/L)	Sampler / Laboratory	0	rbidity (NTU) min after start 1 2 5 10 15 20
4.14.17	0940	5989	5973					/				IS	10.9 7	3,4 33,7 54,7 (2,7

13.3 22.7 6.9 15.9 6.58 5956 5923 1000 23.4 36,3 5,64 7,27 3,40 3,27 2,13 1020 5956 6018 ASR 4.19.17 1135 6018 9,8612.7 4.34 5.60 3.31 3.51 2.44 6307 30min 40 50 60 70 80 90 1.71 1,40 1.36 1.27 1.31 2.03 1.14 100 1,64

	1	1.3
Well:	ASB-	- 4

Date

Time

4.25.17.0835 23039

1310

1335

4.26.17 0830 23039

4-27-47 0830 73039

4.28.17 0830 23039

4.29.17 0930 23039

4.30-17 0815 23039

5.1.17 0815 23039

5.2.17 0820 23039

1055

1115

1215

1440

5.3.17 0830

5-4.17 0830

23039

23039

23039

1435 23039

Tiger [F] (gal) Tiger [R] (gal) ×1000

158079

158532

160025

162216

164338

166693

168804

171024

173756

173509

174707

176679

ASR Period Injection

FCV

(psi)

253

350

256

256

255

257

2.56

255

350

273

278

276

276

257 62

BF (gal) ×1000

6307

6307

6339

6423

6423

6423

6423

6423

6423

6423

6423

6423

6455

6540

6540

6540

Line

(psi)

52

54

55

58

58

57

56

66

66

65

255 53

Well

(psi)

54

56

58

62

58

59

61

60

58

69

64

数刊

Head N2 (psi)

1700

	3
Sheet	1

MONTEREY PENINSULA TFR

Test: Weather

of

1511

0

1532

1537

1549

Ø

1005

970 956

KAM OP!

(feet)

DTW

(feet)

340,50

331.64

542.47

246.74

1650 242,12 91.17

330.85

519.86

1700 9 337.033

1700

1600

1700 (333.29)

1525 273.18

1700 26080

1625 25499

1700

223,90 116,70

MANAGEMENT DISTRICT Lube Draw Up Inj Rate Lube / Skid Pressure Comments (GPM) Meter (gal) Up/Down 93640 JS-Romas + BF 13F 10 min SC 1400 94170 JS- Restart Inj V- NO ART 1370 JL-NOADI JL-NO ADJ JL-NO ADT 1537 JS-No Adi 1675 237.55 95,74 1546 94170 5248 Is- No Ni, lubling on 1675 231.66 101.63 1526 96310 JS. Rands -> BF BF 10 min SC 998 96660

IS- RUSTERT Ini

JL NO ADJ.

JL-NOADI

JS. Ad; down w/ FCV

Date	Time	Pre Purge Meter Read	Post Purge Meter Read	Purge Volume	Temp (°C)	Cond (µ/cm)	рН	ORP/ Zobell	[Cl ₂]	DO (mg/L)	H ₂ S (mg/L)	Sampler / Laboratory	0	Turbi	dity (N	TU)	min af	ter star	
4.25.17	1325	6307	6341			-5	1	1				I 5	3.47	11.4	12.8	19.5	5.37		
	1345	6341	6374										31,1	10.8	5,83	5.34	3.26		
	1405	6374	6423														3,88		
							-								1 - 3				
5.2.17	1105	6423	6457									75	2.68	14.4	15.4	21,7	5.39	. 1	
	1125	6457	6490										22.3	10,2	5,08	6.60	4.50		
	1145	6490	6540 .										35.0	9.53	3,94	4.37	3.83	2.62	
			50.4	-	-												* *		
					200							1		2					

	Acces
Well:	ASR4

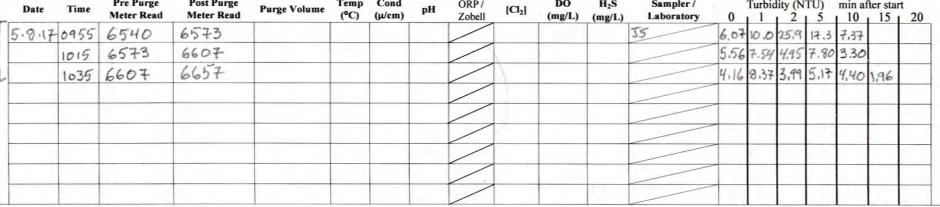
ASR Period IN

MONTEREY PENINSULA

Weather

MANAGEMENT DISTRICT

	Test:			Weather				-		of			1417	ANAGEMENT DISTRICT
Date	Time	Tiger [F] (gal) ×1000	Tiger [R] (gal) ×1000	BF (gal) ×1000	FCV (psi)	Line (psi)	Well Head (psi)	N ₂ (psi)	190 May DTW (feet) 337.03	Draw Up (feet)	Inj Rate (GPM)	Lube / Skid Meter (gal)	Lube Pressure Up/Down	Comments
5.4.17	6830	23039	176079	6540	226	65	74	1600			956			JL-NOADJ
5.5.17	0830	23039	177444	6540	236	70	74	1600	242,88	90.41	940			JL-NO APJ
5-6-17	11.00	23039	178937	6540	277	66	74	1600	299.07	35.01	945			ti
717	1245	23039	180395	6540	273	67	31	1600	294/7	1	950	00966660		Turancura to
.8.17	0815	23039	181477	6540	277	-	72	1600	-	43.39		98630	65 64	Is. Rounds -> BF
	0945			6540	350				333,90	-	Ø			BF
	1005			6571		-			523.22					10 min SC
	1105	23039	181550	6657	273	68	70	15908	339.67		950	98910	X	JS- Restart Inj
	1325				27-5	68	69				990			JS-AD, down w/ FCV
19.17	0825	23039	182905	6657	272	67.	68	1575	296.78	42.89	1093	98910	X	Js-No Adj
	1315				27F						990			IS- Adj down w/ Fer
5.10.17	0830	23039	184358	6657	276	6	71	1500	299.55	40.12	942		/	L-NOADS
5.11.17	0830	23039	185739	6657	274		70	1500	-	14.70	946			JL-NOADT
5-12-17	8910	23039	187101	6657	275	68	78	1575	297,78		910			a-NIADY
5-13-17	0835	23039	198378	6657	275	68	68	1550		41,77		98910	X	35- No A);
5.14.17		23039	189763	6657	271	68	67	1500	298.30			98910		JL- CUBEON
5.15.17	0820	23039	190861	6657	275	67-	69	1525		39,99		101070	6362	JS-Rown 15 -> BF
													/	Dr Hoviery 7 io
Date	Time	Pre Purge Meter Read	Post Purge Meter Read	Purge Volume	Temp (°C)	Cond (µ/cm)	рН	ORP / Zobell	[Cl ₂]	DO (mg/L)	H ₂ S (mg/L)	Sampler / Laboratory		rbidity (NTU) min after start 1
1.8.17	0955	6540	6573									75		0.0 25.9 17.3 7.37
	1015	6573	6607						\				5.56 7.	54 4.95 7.80 3.30
	1035	6607	6657						1				4168	37 3,99 5,17 4,40 1,96



ZMIN ISSEC TO FILL DAY TANKS FLOW CELL ON @ 8MIN

FILTER YMIN SOOML+ COISh MIMIOS

PENINSULA

MPWMD ASR DATA SHEET

Well: ASR-4 ASR Period Injection > Storage

Sheet \

MANAGEMENT DISTRICT

MONTEREY

190 MAX = Well FCV Line DTW Draw Up Inj Rate Lube / Skid Date Head N₂ (psi) Pressure Comments (psi) (psi) (feet) (feet) (GPM) Meter (gal) Up/Down (psi) 513017 0820 23039 107050 1425 342.16 197656 6957 352 81 JS-Tiger Dritt Noted 107050 5.31.17 0830 23039 197858 6957 352 99 1425, 347,93 6.70.17 0825 23069 6957 201890 351 107090 100t 1200 JS. Rounds - Clay Wal Repair 368 100 1200 360,80 6.27.17 1040 23069 23101 6960 109410 525,20 6989 7900 ZILIDAL 109680 7088 117500 7-31-17 0910 23070 374 100+ 204010 363,45 13F/55AP/FI 7088 0 800 7118 523.15 10 Min SC 354 98 117710 23070 207010 875 369.64 1105 7197 ENd Sample/13F 5 Pre Purge ORP/ CICI2 Turbidity (NTU) min after start Post Purge Temp Cond DO H₂S Sampler / Time Purge Volume Date Meter Read Meter Read (µ/cm) (°C) (mg/L) (mg/L) Laboratory 6.27.17 211308 Furbidity 7.21 159210 5,3 197 440 21.4 665 1.63 6960 18.5 473 0.21 7047 NO 15 20 30 7088 349 387 202 15 5 20 30 60 CHLORIDE X 40 40 40 742 6926 2,80 % 369 50,0 19.7 14.1 5.87 2.23 1.50 3.00 19.20 431 7.31.17 7176 0.41 Turbidity 50 22 Chloride

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PARAM FOR FIELD

Well: ASR-4 ASR Period Storage

Sheet \

MANAGEMENT DISTRICT

PENINSULA

MONTEREY

Cost: Weather

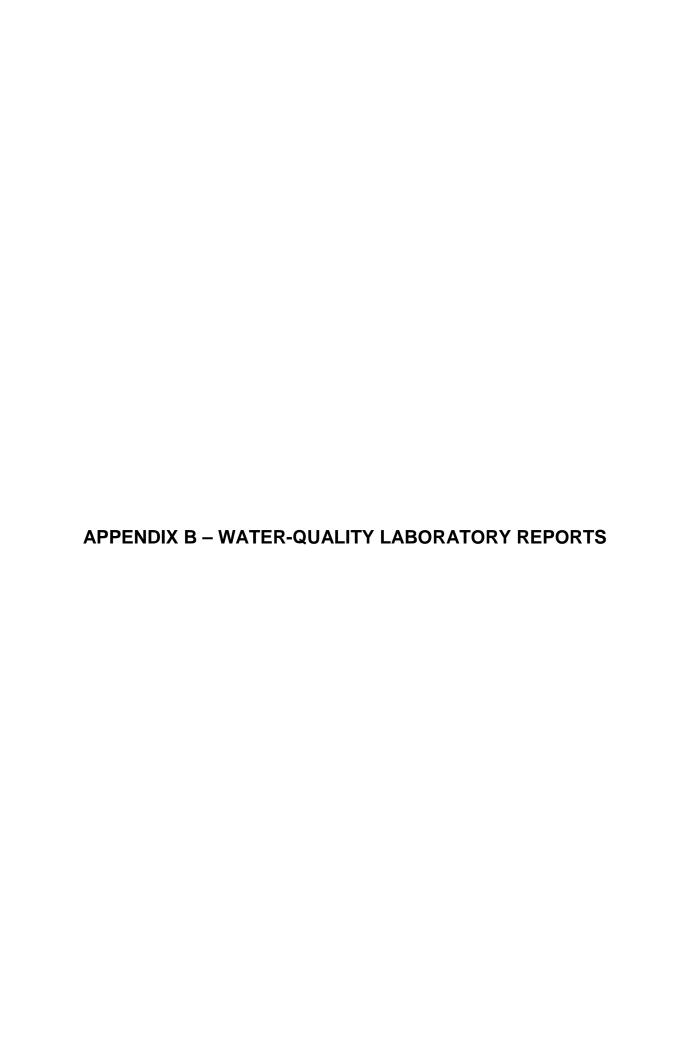
of

	Test:			Weather				-		of				
Date	Time	Tiger [F] (gal) ×1000	Tiger [R] (gal) ×1000	BF (gal) ×1000	FCV (psi)	Line (psi)	Well Head (psi)	N ₂ (psi)	DTW (feet)	Draw Up (feet)	Inj Rate (GPM)	Lube / Skid Meter (gal)	Lube Pressure Up/Down	Comments
7.31.17	1105	23070	207010	7197	357	98	0	875	369.64		0	117710	X	Transcribed
9.6.17	1130	23070	210733	7207	350	100+	0	900	365.6		0	120680	100	SSAP
	1155			7219					424,77	7				10 min SC
		23070	210737	7250	354	100+	0	925	367,46		0	120790	X	End SSAP
														AMPS HZ FLOW
9.21.17	1000	23070	210737	7250	354	100+	ø	950	36527		Ø	123080		661 58.26 2950
				7272					75067	3,				
										4				DISCOURCED VALUE
		12						-						TO BASKI WAS NOT
														OPEN AND WHEN
														REGULATOR DISPLAYED
														350+ PSI, BASKI
														WAS DEFLATING.
										4	- 1			OPENED VALUE +
			-											PRODUCTION INCREASEL
														TO 3000 GPM - JL
														9.21.17
													1/	

Temp Cond Turbidity (NTU) Pre Purge Post Purge ORP/ DO H₂S Sampler / min after start Purge Volume $[Cl_2]$ Time Date 10 1 15 20 Meter Read Meter Read (°C) (µ/cm) Zobell (mg/L) (mg/L) Laboratory Chloride= 62 ppm Zobell temp= 18,0° 22.0 455 7,44 -4232 0.27 22 6.14 Lo 8.15.17 1020 2.27 Chloride = 116 ppm Zolul tenp=19,52 23.8 822 7,36 25/227 0.33 IS 8.15.17 1100 2.42 0.65 6,97 28 NO 2.6 LO 19.4 461 Turbidity 10 57.8 32.1 9.6.17 1145 63.1 26.4 153 6.18 NTO @ 24,0°C 20 min 5,03 NTU 15 0 10 20 30 Chloride Min

peralta

10





4 Justin Court Suite D, Monterey, CA 93940 831.375.MBAS

www.MBASinc.com ELAP Certification Number: 2385

Wednesday, November 02, 2016

Lab Number: AB54457

Collection Date/Time: 9/21/2016 10:30 Sample Collector: LEAR J Client Sample #:
Submittal Date/Time: 9/28/2016 15:30 Sample ID Coliform Designation:

							3	
		Sam	ple Description:	ASR4				
Analyte	Method	Unit	Result	Qual	PQL	MCL	Date Analyzed	Analyst:
Alkalinity, Total (as CaCO3)	SM2320B	mg/L	234		10		9/30/2016	BS
Aluminum, Total	EPA200.8	μg/L	Not Detected	LN	10	1000	10/11/2016	SM
Ammonia-N	SM4500NH3 D	mg/L	Not Detected	IH, PH	0.05		10/3/2016	MW
Arsenic, Total	EPA200.8	μg/L	5		1	10	10/11/2016	SM
Barium, Total	EPA200.8	μg/L	54		10	1000	10/11/2016	SM
Bicarbonate (as HCO3-)	SM2320B	mg/L	285		10		9/30/2016	MP
Boron	EPA200.7	mg/L	0.11		0.05		10/5/2016	MW
Bromide	EPA300.0	mg/L	0.4		0.1		9/29/2016	НМ
Calcium	EPA200.7	mg/L	76		0.5		10/5/2016	MW
Carbonate as CaCO3	SM2320B	mg/L	Not Detected		10		9/30/2016	MP
Chloramines	SM4500-CI G	mg/L	Not Detected		0.05		9/28/2016	LRH
Chloride	EPA300.0	mg/L	121		1	250	9/29/2016	НМ
DOC	SM5310C	mg/L	Not Collected		0.2		9/21/2016	JL
Fluoride	EPA300.0	mg/L	0.2		0.1	2.0	9/29/2016	НМ
Gross Alpha	EPA900.0	pCi/L	3.01 ± 2.64	E		15	10/7/2016	FGL
Haloacetic Acids	EPA552	μg/L	Not Detected	E		60	10/5/2016	FGL
Iron	EPA200.7	μg/L	144		10	300	10/5/2016	MW
ron, Dissolved	EPA200.7	μg/L	Not Detected		10	300	10/5/2016	MW
Kjehldahl Nitrogen	SM4500-NH3 B,C.	mg/L	0.5		0.5		10/6/2016	BS
Lithium	EPA200.8	μg/L	32		1		10/11/2016	SM
Magnesium	EPA200.7	mg/L	16		0.5		10/5/2016	MW
Manganese, Dissolved	EPA200.7	μg/L	21		10	50	10/5/2016	MW
Manganese, Total	EPA200.7	μg/L	21		10	50	10/5/2016	MW
Mercury, Total	EPA200.8	μg/L	1		0.5	2	10/11/2016	SM
Methane	EPA174/175	μg/L	1.7	ΗE	0.1		10/6/2016	MCCAM
Molybdenum, Total	EPA200.8	μg/L	6		1	1000	10/11/2016	SM
Nickel, Total	EPA200.8	μg/L	58		10	100	10/11/2016	SM
Nitrate as NO3	EPA300.0	mg/L	1	Н	1	45	9/29/2016	НМ
Nitrate as NO3-N	EPA300.0	mg/L	0.2	Н	0.1	10	9/29/2016	НМ
Nitrate+Nitrite as N	EPA300.0	mg/L	0.5	Н	0.1		9/29/2016	НМ
Nitrite as NO2-N	EPA300.0	mg/L	0.3	Н	0.1	1.0	9/29/2016	НМ
o-Phosphate-P, Dissolved	EPA300.0	mg/L	Not Detected	Н	0.1		9/29/2016	НМ

mg/L: Milligrams per liter (=ppm)

ug/L : Micrograms per liter (=ppb)

PQL: Practical Quantitation Limit

H = Analyzed ouside of hold time

E = Analysis performed by External Laboratory; See External Laboratory Report attachments.

T = Temperature Exceedance

D = Method deviates from standard method due to insufficient sample for MS/MSD



4 Justin Court Suite D, Monterey, CA 93940 831.375.MBAS

www.MBASinc.com ELAP Certification Number: 2385

Wednesday, November 02, 2016

Lab Number: AB54457

Collection Date/Time: 9/21/2016 10:30 Sample Collector: LEAR J Client Sample #:
Submittal Date/Time: 9/28/2016 15:30 Sample ID Coliform Designation:

		Sample	Description:	ASR4			-	
Analyte	Method	Unit	Result	Qual	PQL	MCL	Date Analyzed	Analyst:
pH (Laboratory)	SM4500-H+B	pH (H)	7.5		0.1		9/28/2016	BS
Phosphorus, Total	HACH 8190	mg/L	Not Detected	PH	0.03		10/4/2016	LRH
Potassium	EPA200.7	mg/L	4.6		0.5		10/5/2016	MW
QC Anion Sum x 100	Calculation	%	100%				9/30/2016	MP
QC Anion-Cation Balance	Calculation	%	2				10/7/2016	MW
QC Cation Sum x 100	Calculation	%	105%				10/7/2016	MW
QC Ratio TDS/SEC	Calculation		0.61				10/4/2016	MP
Selenium, Total	EPA200.8	μg/L	2		2	50	10/11/2016	SM
Silica as SiO2, Total	EPA200.7	mg/L	46		0.5		10/5/2016	MW
Sodium	EPA200.7	mg/L	103		0.5		10/5/2016	MW
Specific Conductance (E.C)	SM2510B	µmhos/cm	924		1	900	9/30/2016	НМ
Strontium, Total	EPA200.8	μg/L	444		5		10/11/2016	SM
Sulfate	EPA300.0	mg/L	55		1	250	9/29/2016	НМ
TOC	SM5310C	mg/L	0.6		0.2		10/19/2016	MW
Total Diss. Solids	SM2540C	mg/L	563	Н	10	500	9/29/2016	MP
Total Nitrogen	Calculation	mg/L	1.0		0.5		10/6/2016	MP
Total Radium 226	EPA903.0	pCi/L	0.760 ± 0.438	E		3	10/12/2016	FGL
Trihalomethanes	EPA524.2	μg/L	Not Detected	E		80	10/3/2016	FGL
Uranium by ICP/MS	EPA200.8	μg/L	1		1	30	10/11/2016	SM
Vanadium, Total	EPA200.8	μg/L	Not Detected		5	1000	10/11/2016	SM
Zinc, Total	EPA200.8	μg/L	Not Detected		20	5000	10/11/2016	SM

Sample Comments:

H: Analyzed outside of holding time. (Received at 7 days/5 hours) IH: ICV and/or CCV below acceptance limits

PH: Preserved after the reccomended time. (Pres at 7 days/5 hour

limits.

Report Approved by

David Holland, Laboratory Director

mg/L: Milligrams per liter (=ppm)

ug/L : Micrograms per liter (=ppb)

PQL: Practical Quantitation Limit

H = Analyzed ouside of hold time

E = Analysis performed by External Laboratory; See External Laboratory Report attachments.

xterrial Laboratory Report attachment

D = Method deviates from standard method due to insufficient sample for MS/MSD



831.375.MBAS www.MBASinc.com

ELAP Certification Number: 2385

Wednesday, November 02, 2016

Lab Number: **AB54458**

Collection Date/Time: 9/21/2016 9:30 Sample Collector: LEAR J Client Sample #: Submittal Date/Time: 9/28/2016 Sample ID Coliform Designation: 15:30

		Sam	ple Description:	ASR1				
Analyte	Method	Unit	Result	Qual	PQL	MCL	Date Analyzed	Analyst:
Alkalinity, Total (as CaCO3)	SM2320B	mg/L	180		10		9/30/2016	BS
Aluminum, Total	EPA200.8	μg/L	Not Detected	LN	10	1000	10/11/2016	SM
Ammonia-N	SM4500NH3 D	mg/L	Not Detected	IH, PH	0.05		10/3/2016	MW
Arsenic, Total	EPA200.8	μg/L	1		1	10	10/11/2016	SM
Barium, Total	EPA200.8	μg/L	55		10	1000	10/11/2016	SM
Bicarbonate (as HCO3-)	SM2320B	mg/L	220		10		9/30/2016	MP
Boron	EPA200.7	mg/L	0.08		0.05		10/5/2016	MW
Bromide	EPA300.0	mg/L	0.2		0.1		9/29/2016	НМ
Calcium	EPA200.7	mg/L	68		0.5		10/5/2016	MW
Carbonate as CaCO3	SM2320B	mg/L	Not Detected		10		9/30/2016	MP
Chloramines	SM4500-CI G	mg/L	Not Detected		0.05		9/28/2016	LRH
Chloride	EPA300.0	mg/L	72		1	250	9/29/2016	НМ
DOC	SM5310C	mg/L	1.0		0.2		10/19/2016	MW
Fluoride	EPA300.0	mg/L	0.3		0.1	2.0	9/29/2016	НМ
Gross Alpha	EPA900.0	pCi/L	2.52 ± 1.55	Е		15	10/10/2016	FGL
Haloacetic Acids	EPA552	μg/L	Not Detected	Е		60	10/5/2016	FGL
Iron	EPA200.7	μg/L	Not Detected		10	300	10/5/2016	MW
Iron, Dissolved	EPA200.7	μg/L	Not Detected		10	300	10/5/2016	MW
Kjehldahl Nitrogen	SM4500-NH3 B,C.	mg/L	Not Detected		0.5		10/6/2016	BS
Lithium	EPA200.8	μg/L	19		1		10/11/2016	SM
Magnesium	EPA200.7	mg/L	17		0.5		10/5/2016	MW
Manganese, Dissolved	EPA200.7	μg/L	Not Detected		10	50	10/5/2016	MW
Manganese, Total	EPA200.7	μg/L	Not Detected		10	50	10/5/2016	MW
Mercury, Total	EPA200.8	μg/L	Not Detected		0.5	2	10/11/2016	SM
Methane	EPA174/175	μg/L	2.2	ΗE	0.1		10/6/2016	MCCAM
Molybdenum, Total	EPA200.8	μg/L	6		1	1000	10/11/2016	SM
Nickel, Total	EPA200.8	μg/L	Not Detected		10	100	10/11/2016	SM
Nitrate as NO3	EPA300.0	mg/L	1	Н	1	45	9/29/2016	НМ
Nitrate as NO3-N	EPA300.0	mg/L	0.2	Н	0.1	10	9/29/2016	НМ
Nitrate+Nitrite as N	EPA300.0	mg/L	0.4	Н	0.1		9/29/2016	НМ
Nitrite as NO2-N	EPA300.0	mg/L	0.3	Н	0.1	1.0	9/29/2016	НМ
o-Phosphate-P, Dissolved	EPA300.0	mg/L	0.1	Н	0.1		9/29/2016	НМ

mg/L: Milligrams per liter (=ppm)

ug/L: Micrograms per liter (=ppb)

PQL: Practical Quantitation Limit

H = Analyzed ouside of hold time

E = Analysis performed by External Laboratory; See External Laboratory Report attachments.

D = Method deviates from standard method due to insufficient sample for MS/MSD



Monterey Bay Analytical Services 4 Justin Court Suite D, Monterey, CA 93940 831.375.MBAS

www.MBASinc.com ELAP Certification Number: 2385

Wednesday, November 02, 2016

Lab Number: AB54458

Collection Date/Time: 9/21/2016 9:30 Sample Collector: LEAR J Client Sample #:
Submittal Date/Time: 9/28/2016 15:30 Sample ID Coliform Designation:

Cubilitial Bato, Tillio: 0/20/2	010 10:00	Campio ID				<u> </u>	ooigi iatioi i.	
		Sample	Description:	ASR1				
Analyte	Method	Unit	Result	Qual	PQL	MCL	Date Analyzed	Analyst:
pH (Laboratory)	SM4500-H+B	pH (H)	7.4		0.1		9/28/2016	BS
Phosphorus, Total	HACH 8190	mg/L	0.13	PH	0.03		10/4/2016	LRH
Potassium	EPA200.7	mg/L	4.0		0.5		10/5/2016	MW
QC Anion Sum x 100	Calculation	%	100%				9/30/2016	MP
QC Anion-Cation Balance	Calculation	%	2				10/7/2016	MW
QC Cation Sum x 100	Calculation	%	105%				10/7/2016	MW
QC Ratio TDS/SEC	Calculation		0.62				10/4/2016	MP
Selenium, Total	EPA200.8	μg/L	2		2	50	10/11/2016	SM
Silica as SiO2, Total	EPA200.7	mg/L	33		0.5		10/5/2016	MW
Sodium	EPA200.7	mg/L	71		0.5		10/5/2016	MW
Specific Conductance (E.C)	SM2510B	µmhos/cm	763		1	900	9/30/2016	HM
Strontium, Total	EPA200.8	μg/L	308		5		10/11/2016	SM
Sulfate	EPA300.0	mg/L	96		1	250	9/29/2016	HM
TOC	SM5310C	mg/L	1.0		0.2		10/19/2016	MW
Total Diss. Solids	SM2540C	mg/L	471	Н	10	500	9/29/2016	MP
Total Nitrogen	Calculation	mg/L	0.5		0.5		10/6/2016	MP
Total Radium 226	EPA903.0	pCi/L	0.758 ± 0.437	E		3	10/12/2016	FGL
Trihalomethanes	EPA524.2	μg/L	28.9	E		80	10/4/2016	FGL
Uranium by ICP/MS	EPA200.8	μg/L	1		1	30	10/11/2016	SM
Vanadium, Total	EPA200.8	μg/L	Not Detected		5	1000	10/11/2016	SM
Zinc, Total	EPA200.8	μg/L	87		20	5000	10/11/2016	SM

Sample Comments:

H: Analyzed outside of holding time. (Received at 7 days/6 hours) IH: ICV and/or CCV below acceptance limits

PH: Preserved after the reccomended time. (Pres at 7 days/6 hour

limits.

Report Approved by

David Holland, Laboratory Director

mg/L: Milligrams per liter (=ppm)

ug/L : Micrograms per liter (=ppb)

PQL : Practical Quantitation Limit

H = Analyzed ouside of hold time

E = Analysis performed by External Laboratory; See External Laboratory Report attachments.

ternal Laboratory Report attacrimer

D = Method deviates from standard method due to insufficient sample for MS/MSD



4 Justin Court Suite D, Monterey, CA 93940 831.375.MBAS www.MBASinc.com

ELAP Certification Number: 2385

Wednesday, November 02, 2016

Lab Number: AB54459

Collection Date/Time: 9/21/2016 13:00 Sample Collector: LEAR J Client Sample #:
Submittal Date/Time: 9/28/2016 15:30 Sample ID Coliform Designation:

Alkalinity, Total (as CaCO3) SM2320B mg/L 171 10 9/30/2016 Aluminum, Total EPA200.8 μg/L 13 LN 10 1000 10/11/2016 Ammonia-N SM4500NH3 D mg/L Not Detected IH, PH 0.05 10/3/2016 Arsenic, Total EPA200.8 μg/L 6 1 10 10/11/2016 Barium, Total EPA200.8 μg/L 78 10 1000 10/11/2016 Bicarbonate (as HCO3-) SM2320B mg/L 209 10 9/30/2016 Bromide EPA200.7 mg/L 0.05 0.05 10/5/2016 Bromide EPA300.0 mg/L 0.2 0.1 9/29/2016 Calcium EPA200.7 mg/L 53 0.5 10/5/2016 Chloramines SM4500-CI G mg/L Not Detected 10 9/30/2016 Chloride EPA300.0 mg/L Not Detected 10 9/29/2016 Chloride EPA300.0 mg/					ASR3	scription:	Sample		
Aluminum, Total EPA200.8 μg/L 13 LN 10 10/01 10/11/2016 Ammonia-N SM4500NH3 D mg/L Not Detected IH, PH 0.05 10/3/2016 Arsenic, Total EPA200.8 μg/L 6 1 10 10/11/2016 Barium, Total EPA200.8 μg/L 78 10 1000 10/11/2016 Bicarbonate (as HCO3-) SM2320B mg/L 209 10 9/30/2016 Brom EPA200.7 mg/L 0.05 0.05 10/5/2016 Bromide EPA300.0 mg/L 0.2 0.1 9/29/2016 Calcium EPA200.7 mg/L Not Detected 10 9/30/2016 Carbonate as CaCO3 SM2320B mg/L Not Detected 10 9/30/2016 Carbonatines SM4500-CI G mg/L Not Detected 10 9/29/2016 Chloramines SM4500-CI G mg/L Not Detected 0.05 9/29/2016 Chloride EPA300.0 mg/L<	l Analyst:	Date Analyzed	MCL	PQL	Qual	Result	Unit	Method	Analyte
Ammonia-N SM4500NH3 D mg/L Not Detected III, PH 0.05 10/3/2016 Arsenic, Total EPA200.8 μg/L 6 1 10 10/11/2016 Barium, Total EPA200.8 μg/L 78 10 1000 10/11/2016 Bicarbonate (as HCO3-) SM2320B mg/L 209 10 9/30/2016 Brom EPA200.7 mg/L 0.05 0.05 10/5/2016 Bromide EPA300.0 mg/L 0.2 0.1 9/29/2016 Calcium EPA300.0 mg/L 53 0.5 10/5/2016 Carbonate as CaCO3 SM2320B mg/L Not Detected 10 9/30/2016 Chloramines SM4500-CI G mg/L Not Detected 0.05 9/28/2016 Chloride EPA300.0 mg/L Not Detected 0.05 9/28/2016 Chloride EPA300.0 mg/L 0.9* 0.2 10/19/2016 Fluoride EPA300.0 mg/L 0.9* 0.2<	BS	9/30/2016		10		171	mg/L	SM2320B	Alkalinity, Total (as CaCO3)
Arsenic, Total EPA200.8 µg/L 6 1 10 10/11/2016 Barium, Total EPA200.8 µg/L 78 10 1000 10/11/2016 Bicarbonate (as HCO3-) SM2320B mg/L 209 10 9/30/2016 Boron EPA200.7 mg/L 0.05 0.05 10/5/2016 Bromide EPA300.0 mg/L 0.2 0.1 9/29/2016 Calcium EPA200.7 mg/L 53 0.5 10/5/2016 Carbonate as CaCO3 SM2320B mg/L Not Detected 10 9/30/2016 Carbonate as CaCO3 SM2320B mg/L Not Detected 10 9/30/2016 Chloramines SM4500-CI G mg/L Not Detected 10.0 9/30/2016 Chloride EPA300.0 mg/L Not Detected 0.05 9/28/2016 Chloride EPA300.0 mg/L 0.9* 0.2 10/19/2016 Fluoride EPA300.0 mg/L 0.9* 0.2 10/1	SM	10/11/2016	1000	10	LN	13	μg/L	EPA200.8	Aluminum, Total
Barium, Total EPA200.8 μg/L 78 10 1000 10/11/2016 Bicarbonate (as HCO3-) SM2320B mg/L 209 10 9/30/2016 Boron EPA200.7 mg/L 0.05 0.05 10/5/2016 Bromide EPA300.0 mg/L 0.2 0.1 9/29/2016 Calcium EPA200.7 mg/L 53 0.5 10/5/2016 Carbonate as CaCO3 SM2320B mg/L Not Detected 10 9/30/2016 Chloramines SM4500-CI G mg/L Not Detected 10 9/28/2016 Chloride EPA300.0 mg/L Not Detected 1.0 9/28/2016 DOC SM6310C mg/L 0.9* 0.2 10/19/2016 Fluoride EPA300.0 mg/L 0.9* 0.2 10/19/2016 Gross Alpha EPA900.0 pCi/L 4.28 ± 1.73 E 15 10/7/2016 Haloacetic Acids EPA52 µg/L 3 E 60 1	MW	10/3/2016		0.05	IH, PH	ot Detected	mg/L	SM4500NH3 D	Ammonia-N
Bicarbonate (as HCO3-) SM2320B mg/L 209 10 9/30/2016 Boron EPA200.7 mg/L 0.05 0.05 10/5/2016 Bromide EPA300.0 mg/L 0.2 0.1 9/29/2016 Calcium EPA200.7 mg/L 53 0.5 10/5/2016 Carbonate as CaCO3 SM2320B mg/L Not Detected 10 9/30/2016 Chloramines SM4500-Cl G mg/L Not Detected 0.05 9/28/2016 Chloride EPA300.0 mg/L 58 1 250 9/29/2016 Chloride EPA300.0 mg/L 0.9* 0.2 10/19/2016 Chloride EPA300.0 mg/L 0.9* 0.2 10/19/2016 Fluoride EPA300.0 mg/L 0.9* 0.2 10/19/2016 Fluoride EPA300.0 mg/L 4.28 ± 1.73 E 15 10/71/2016 Gross Alpha EPA900.0 pCi/L 4.28 ± 1.73 E 15 10	SM	10/11/2016	10	1		6	μg/L	EPA200.8	Arsenic, Total
Boron EPA200.7 mg/L 0.05 0.05 10/5/2016 Bromide EPA300.0 mg/L 0.2 0.1 9/29/2016 Calcium EPA200.7 mg/L 53 0.5 10/5/2016 Carbonate as CaCO3 SM2320B mg/L Not Detected 10 9/30/2016 Chloramines SM4500-CI G mg/L Not Detected 0.05 9/28/2016 Chloride EPA300.0 mg/L 58 1 250 9/29/2016 DOC SM5310C mg/L 0.9* 0.2 10/19/2016 Fluoride EPA300.0 mg/L 0.3 0.1 2.0 9/29/2016 Gross Alpha EPA300.0 mg/L 4.28 ± 1.73 E 15 10/7/2016 Haloacetic Acids EPA552 μg/L 3 E 60 10/5/2016 Iron EPA200.7 μg/L 56 10 300 10/5/2016 Iron, Dissolved EPA200.7 μg/L Not Detected <td< td=""><td>SM</td><td>10/11/2016</td><td>1000</td><td>10</td><td></td><td>78</td><td>μg/L</td><td>EPA200.8</td><td>Barium, Total</td></td<>	SM	10/11/2016	1000	10		78	μg/L	EPA200.8	Barium, Total
Bromide EPA300.0 mg/L 0.2 0.1 9/29/2016 Calcium EPA200.7 mg/L 53 0.5 10/5/2016 Carbonate as CaCO3 SM2320B mg/L Not Detected 10 9/30/2016 Chloramines SM4500-CI G mg/L Not Detected 0.05 9/28/2016 Chloride EPA300.0 mg/L 58 1 250 9/29/2016 DOC SM5310C mg/L 0.9* 0.2 10/19/2016 Fluoride EPA300.0 mg/L 0.3 0.1 2.0 9/29/2016 Gross Alpha EPA300.0 mg/L 4.28 ± 1.73 E 15 10/7/2016 Haloacetic Acids EPA552 µg/L 3 E 60 10/5/2016 Iron EPA200.7 µg/L 56 10 300 10/5/2016 Iron, Dissolved EPA200.7 µg/L Not Detected 10 300 10/5/2016 Kjehldahl Nitrogen SM4500-NH3 B,C. mg/L	MP	9/30/2016		10		209	mg/L	SM2320B	Bicarbonate (as HCO3-)
Calcium EPA200.7 mg/L 53 0.5 10/5/2016 Carbonate as CaCO3 SM2320B mg/L Not Detected 10 9/30/2016 Chloramines SM4500-CI G mg/L Not Detected 0.05 9/28/2016 Chloride EPA300.0 mg/L 58 1 250 9/29/2016 DOC SM5310C mg/L 0.9* 0.2 10/19/2016 Fluoride EPA300.0 mg/L 0.3 0.1 2.0 9/29/2016 Gross Alpha EPA900.0 pCi/L 4.28 ± 1.73 E 15 10/7/2016 Haloacetic Acids EPA552 µg/L 3 E 60 10/5/2016 Iron EPA200.7 µg/L 56 10 300 10/5/2016 Iron, Dissolved EPA200.7 µg/L Not Detected 10 300 10/5/2016 Iron, Dissolved EPA200.7 µg/L 1 2 10/6/2016 Kjehldahl Nitrogen SM4500-NH3 B,C.	MW	10/5/2016		0.05		0.05	mg/L	EPA200.7	Boron
Carbonate as CaCO3 SM2320B mg/L Not Detected 10 9/30/2016 Chloramines SM4500-Cl G mg/L Not Detected 0.05 9/28/2016 Chloride EPA300.0 mg/L 58 1 250 9/28/2016 DOC SM5310C mg/L 0.9* 0.2 10/19/2016 Fluoride EPA300.0 mg/L 0.3 0.1 2.0 9/29/2016 Gross Alpha EPA300.0 pCi/L 4.28 ± 1.73 E 15 10/7/2016 Haloacetic Acids EPA552 µg/L 3 E 60 10/5/2016 Iron EPA200.7 µg/L Not Detected 10 300 10/5/2016 Iron, Dissolved EPA200.7 µg/L Not Detected 10 300 10/5/2016 Iron, Dissolved EPA200.7 µg/L Not Detected 10 300 10/5/2016 Iron, Dissolved EPA200.8 µg/L 14 1 10/6/2016 Kjehldahl Nitrogen </td <td>НМ</td> <td>9/29/2016</td> <td></td> <td>0.1</td> <td></td> <td>0.2</td> <td>mg/L</td> <td>EPA300.0</td> <td>Bromide</td>	НМ	9/29/2016		0.1		0.2	mg/L	EPA300.0	Bromide
Chloramines SM4500-CI G mg/L Not Detected 0.05 9/28/2016 Chloride EPA300.0 mg/L 58 1 250 9/29/2016 DOC SM5310C mg/L 0.9* 0.2 10/19/2016 Fluoride EPA300.0 mg/L 0.3 0.1 2.0 9/29/2016 Gross Alpha EPA900.0 pCi/L 4.28 ± 1.73 E 15 10/7/2016 Gross Alpha EPA900.0 pCi/L 4.28 ± 1.73 E 15 10/7/2016 Haloacetic Acids EPA552 µg/L 3 E 60 10/5/2016 Iron EPA552 µg/L 56 10 300 10/5/2016 Iron EPA200.7 µg/L Not Detected 10 300 10/5/2016 Iron, Dissolved EPA200.8 µg/L 1 1 2 10/6/2016 Itihium EPA200.8 µg/L 17 0.5 10/5/2016 Manganesium EPA200.7	MW	10/5/2016		0.5		53	mg/L	EPA200.7	Calcium
Chloride EPA300.0 mg/L 58 1 250 9/29/2016 DOC SM5310C mg/L 0.9* 0.2 10/19/2016 Fluoride EPA300.0 mg/L 0.3 0.1 2.0 9/29/2016 Gross Alpha EPA900.0 pCi/L 4.28 ± 1.73 E 15 10/7/2016 Haloacetic Acids EPA552 μg/L 3 E 60 10/5/2016 Iron EPA200.7 μg/L 56 10 300 10/5/2016 Iron, Dissolved EPA200.7 μg/L Not Detected 10 300 10/5/2016 Iron, Dissolved EPA200.7 μg/L Not Detected 10 300 10/5/2016 Iron, Dissolved EPA200.7 μg/L 1 2 10/6/2016 Kjehldahl Nitrogen SM4500-NH3 B,C. mg/L 14 1 10/11/2016 Magnesium EPA200.8 μg/L 17 0.5 10/5/2016 Manganese, Dissolved EPA200.7 </td <td>MP</td> <td>9/30/2016</td> <td></td> <td>10</td> <td></td> <td>ot Detected</td> <td>mg/L</td> <td>SM2320B</td> <td>Carbonate as CaCO3</td>	MP	9/30/2016		10		ot Detected	mg/L	SM2320B	Carbonate as CaCO3
DOC SM5310C mg/L 0.9* 0.2 10/19/2016 Fluoride EPA300.0 mg/L 0.3 0.1 2.0 9/29/2016 Gross Alpha EPA900.0 pCi/L 4.28 ± 1.73 E 15 10/7/2016 Haloacetic Acids EPA552 μg/L 3 E 60 10/5/2016 Iron EPA200.7 μg/L 56 10 300 10/5/2016 Iron, Dissolved EPA200.7 μg/L Not Detected 10 300 10/5/2016 Kjehldahl Nitrogen SM4500-NH3 B,C. mg/L 1 2 10/6/2016 Lithium EPA200.8 μg/L 14 1 10/11/2016 Magnesium EPA200.7 mg/L 17 0.5 10/5/2016 Manganese, Dissolved EPA200.7 μg/L 12 10 50 10/5/2016 Mercury, Total EPA200.8 μg/L 1 0.5 2 10/11/2016 Methane EPA174/175 μg/	LRH	9/28/2016		0.05		ot Detected	mg/L	SM4500-CI G	Chloramines
Fluoride EPA300.0 mg/L 0.3 0.1 2.0 9/29/2016 Gross Alpha EPA900.0 pCi/L 4.28 ± 1.73 E 15 10/7/2016 Haloacetic Acids EPA552 μg/L 3 E 60 10/5/2016 Iron EPA200.7 μg/L 56 10 300 10/5/2016 Iron, Dissolved EPA200.7 μg/L Not Detected 10 300 10/5/2016 Kjehldahl Nitrogen SM4500-NH3 B,C. mg/L 1 2 10/6/2016 Lithium EPA200.8 μg/L 14 1 10/11/2016 Magnesium EPA200.7 mg/L 17 0.5 10/5/2016 Manganese, Dissolved EPA200.7 μg/L 12 10 50 10/5/2016 Mercury, Total EPA200.8 μg/L 13 10 50 10/5/2016 Methane EPA174/175 μg/L 1.4 H E 0.1 10/6/2016 Molybdenum, Total	НМ	9/29/2016	250	1		58	mg/L	EPA300.0	Chloride
Gross Alpha EPA900.0 pCi/L 4.28 ± 1.73 E 15 10/7/2016 Haloacetic Acids EPA552 μg/L 3 E 60 10/5/2016 Iron EPA200.7 μg/L 56 10 300 10/5/2016 Iron, Dissolved EPA200.7 μg/L Not Detected 10 300 10/5/2016 Kjehldahl Nitrogen SM4500-NH3 B,C. mg/L 1 2 10/6/2016 Kjehldahl Nitrogen SM4500-NH3 B,C. mg/L 14 1 10/11/2016 Magnesium EPA200.8 μg/L 14 1 10/11/2016 Manganese, Dissolved EPA200.7 μg/L 12 10 50 10/5/2016 Manganese, Total EPA200.7 μg/L 13 10 50 10/5/2016 Mercury, Total EPA200.8 μg/L 1 0.5 2 10/11/2016 Methane EPA174/175 μg/L 1.4 H E 0.1 10/6/2016 Molybdenum, Total EPA200.	MW	10/19/2016		0.2		0.9*	mg/L	SM5310C	DOC
Haloacetic Acids EPA552 μg/L 3 E 60 10/5/2016 Iron EPA200.7 μg/L 56 10 300 10/5/2016 Iron, Dissolved EPA200.7 μg/L Not Detected 10 300 10/5/2016 Kjehldahl Nitrogen SM4500-NH3 B,C. mg/L 1 2 10/6/2016 Lithium EPA200.8 μg/L 14 1 10/11/2016 Magnesium EPA200.7 mg/L 17 0.5 10/5/2016 Manganese, Dissolved EPA200.7 μg/L 12 10 50 10/5/2016 Manganese, Total EPA200.7 μg/L 13 10 50 10/5/2016 Mercury, Total EPA200.8 μg/L 1 0.5 2 10/11/2016 Methane EPA174/175 μg/L 1.4 H E 0.1 10/6/2016 Molybdenum, Total EPA200.8 μg/L Not Detected 10 100 10/11/2016 Nitrate as NO3 </td <td>НМ</td> <td>9/29/2016</td> <td>2.0</td> <td>0.1</td> <td></td> <td>0.3</td> <td>mg/L</td> <td>EPA300.0</td> <td>Fluoride</td>	НМ	9/29/2016	2.0	0.1		0.3	mg/L	EPA300.0	Fluoride
Iron EPA200.7 μg/L 56 10 300 10/5/2016 Iron, Dissolved EPA200.7 μg/L Not Detected 10 300 10/5/2016 Kjehldahl Nitrogen SM4500-NH3 B,C. mg/L 1 2 10/6/2016 Lithium EPA200.8 μg/L 14 1 10/11/2016 Magnesium EPA200.7 mg/L 17 0.5 10/5/2016 Manganese, Dissolved EPA200.7 μg/L 12 10 50 10/5/2016 Manganese, Total EPA200.7 μg/L 13 10 50 10/5/2016 Mercury, Total EPA200.8 μg/L 1 0.5 2 10/11/2016 Methane EPA174/175 μg/L 1.4 H E 0.1 10/6/2016 Molybdenum, Total EPA200.8 μg/L 21 1 1000 10/11/2016 Nickel, Total EPA200.8 μg/L Not Detected 10 10 10/11/2016 Nitrate as NO3	FGL	10/7/2016	15		E	4.28 ± 1.73	pCi/L	EPA900.0	Gross Alpha
Iron, Dissolved EPA200.7 μg/L Not Detected 10 300 10/5/2016 Kjehldahl Nitrogen SM4500-NH3 B,C. mg/L 1 2 10/6/2016 Lithium EPA200.8 μg/L 14 1 10/11/2016 Magnesium EPA200.7 mg/L 17 0.5 10/5/2016 Manganese, Dissolved EPA200.7 μg/L 12 10 50 10/5/2016 Manganese, Total EPA200.7 μg/L 13 10 50 10/5/2016 Mercury, Total EPA200.8 μg/L 1 0.5 2 10/11/2016 Methane EPA174/175 μg/L 1.4 H E 0.1 10/6/2016 Molybdenum, Total EPA200.8 μg/L 21 1 1000 10/11/2016 Nickel, Total EPA200.8 μg/L Not Detected 10 10/0 10/11/2016 Nitrate as NO3 EPA300.0 mg/L 1 H 1 45 9/29/2016 Not Detected 10 10/11/2016 Not Detected 10/11/2016 Not Detected 10/11/2016 Not Detected 10/11/2016 Not	FGL	10/5/2016	60		E	3	μg/L	EPA552	Haloacetic Acids
Kjehldahl Nitrogen SM4500-NH3 B,C. mg/L 1 2 10/6/2016 Lithium EPA200.8 μg/L 14 1 10/11/2016 Magnesium EPA200.7 mg/L 17 0.5 10/5/2016 Manganese, Dissolved EPA200.7 μg/L 12 10 50 10/5/2016 Manganese, Total EPA200.7 μg/L 13 10 50 10/5/2016 Mercury, Total EPA200.8 μg/L 1 0.5 2 10/11/2016 Methane EPA174/175 μg/L 1.4 H E 0.1 10/6/2016 Molybdenum, Total EPA200.8 μg/L 21 1 1000 10/11/2016 Nickel, Total EPA200.8 μg/L Not Detected 10 10/11/2016 Nitrate as NO3 EPA300.0 mg/L 1 H 1 45 9/29/2016	MW	10/5/2016	300	10		56	μg/L	EPA200.7	Iron
Lithium EPA200.8 μg/L 14 1 10/11/2016 Magnesium EPA200.7 mg/L 17 0.5 10/5/2016 Manganese, Dissolved EPA200.7 μg/L 12 10 50 10/5/2016 Manganese, Total EPA200.7 μg/L 13 10 50 10/5/2016 Mercury, Total EPA200.8 μg/L 1 0.5 2 10/11/2016 Methane EPA174/175 μg/L 1.4 H E 0.1 10/6/2016 Molybdenum, Total EPA200.8 μg/L 21 1 1000 10/11/2016 Nickel, Total EPA200.8 μg/L Not Detected 10 100 10/11/2016 Nitrate as NO3 EPA300.0 mg/L 1 H 1 45 9/29/2016	MW	10/5/2016	300	10		ot Detected	μg/L	EPA200.7	Iron, Dissolved
Magnesium EPA200.7 mg/L 17 0.5 10/5/2016 Manganese, Dissolved EPA200.7 μg/L 12 10 50 10/5/2016 Manganese, Total EPA200.7 μg/L 13 10 50 10/5/2016 Mercury, Total EPA200.8 μg/L 1 0.5 2 10/11/2016 Methane EPA174/175 μg/L 1.4 H E 0.1 10/6/2016 Molybdenum, Total EPA200.8 μg/L 21 1 1000 10/11/2016 Nickel, Total EPA200.8 μg/L Not Detected 10 100 10/11/2016 Nitrate as NO3 EPA300.0 mg/L 1 H 1 45 9/29/2016	BS	10/6/2016		2		1	mg/L	SM4500-NH3 B,C.	Kjehldahl Nitrogen
Manganese, Dissolved EPA200.7 μg/L 12 10 50 10/5/2016 Manganese, Total EPA200.7 μg/L 13 10 50 10/5/2016 Mercury, Total EPA200.8 μg/L 1 0.5 2 10/11/2016 Methane EPA174/175 μg/L 1.4 H E 0.1 10/6/2016 Molybdenum, Total EPA200.8 μg/L 21 1 1000 10/11/2016 Nickel, Total EPA200.8 μg/L Not Detected 10 100 10/11/2016 Nitrate as NO3 EPA300.0 mg/L 1 H 1 45 9/29/2016	SM	10/11/2016		1		14	μg/L	EPA200.8	Lithium
Manganese, Total EPA200.7 μg/L 13 10 50 10/5/2016 Mercury, Total EPA200.8 μg/L 1 0.5 2 10/11/2016 Methane EPA174/175 μg/L 1.4 H E 0.1 10/6/2016 Molybdenum, Total EPA200.8 μg/L 21 1 1000 10/11/2016 Nickel, Total EPA200.8 μg/L Not Detected 10 100 10/11/2016 Nitrate as NO3 EPA300.0 mg/L 1 H 1 45 9/29/2016	MW	10/5/2016		0.5		17	mg/L	EPA200.7	Magnesium
Mercury, Total EPA200.8 μg/L 1 0.5 2 10/11/2016 Methane EPA174/175 μg/L 1.4 H E 0.1 10/6/2016 Molybdenum, Total EPA200.8 μg/L 21 1 1000 10/11/2016 Nickel, Total EPA200.8 μg/L Not Detected 10 100 10/11/2016 Nitrate as NO3 EPA300.0 mg/L 1 H 1 45 9/29/2016	MW	10/5/2016	50	10		12	μg/L	EPA200.7	Manganese, Dissolved
Methane EPA174/175 μg/L 1.4 H E 0.1 10/6/2016 Molybdenum, Total EPA200.8 μg/L 21 1 1000 10/11/2016 Nickel, Total EPA200.8 μg/L Not Detected 10 100 10/11/2016 Nitrate as NO3 EPA300.0 mg/L 1 H 1 45 9/29/2016	MW	10/5/2016	50	10		13	μg/L	EPA200.7	Manganese, Total
Molybdenum, Total EPA200.8 μg/L 21 1 1000 10/11/2016 Nickel, Total EPA200.8 μg/L Not Detected 10 100 10/11/2016 Nitrate as NO3 EPA300.0 mg/L 1 H 1 45 9/29/2016	SM	10/11/2016	2	0.5		1	μg/L	EPA200.8	Mercury, Total
Nickel, Total EPA200.8 μg/L Not Detected 10 100 10/11/2016 Nitrate as NO3 EPA300.0 mg/L 1 H 1 45 9/29/2016	MCCAM	10/6/2016		0.1	ΗE	1.4	μg/L	EPA174/175	Methane
Nitrate as NO3 EPA300.0 mg/L 1 H 1 45 9/29/2016	SM	10/11/2016	1000	1		21	μg/L	EPA200.8	Molybdenum, Total
	SM	10/11/2016	100	10		ot Detected	μg/L	EPA200.8	Nickel, Total
	НМ	9/29/2016	45	1	Н	1	mg/L	EPA300.0	Nitrate as NO3
Nitrate as NO3-N EPA300.0 mg/L 0.2 H 0.1 10 9/29/2016	НМ	9/29/2016	10	0.1	Н	0.2	mg/L	EPA300.0	Nitrate as NO3-N
Nitrate+Nitrite as N EPA300.0 mg/L 0.4 H 0.1 9/29/2016	НМ	9/29/2016		0.1	Н	0.4	mg/L	EPA300.0	Nitrate+Nitrite as N
Nitrite as NO2-N EPA300.0 mg/L 0.3 H 0.1 1.0 9/29/2016	НМ	9/29/2016	1.0	0.1	Н	0.3	mg/L	EPA300.0	Nitrite as NO2-N
o-Phosphate-P, Dissolved EPA300.0 mg/L 0.2 H 0.1 9/29/2016	НМ	9/29/2016		0.1	Н	0.2	mg/L	EPA300.0	o-Phosphate-P, Dissolved

mg/L: Milligrams per liter (=ppm)

ug/L : Micrograms per liter (=ppb)

PQL: Practical Quantitation Limit

H = Analyzed ouside of hold time

E = Analysis performed by External Laboratory; See External Laboratory Report attachments.

 $\label{eq:decomposition} D = \mbox{Method deviates from standard method due to insufficient sample for MS/MSD}$



Monterey Bay Analytical Services
4 Justin Court Suite D, Monterey, CA 93940
831.375.MBAS

www.MBASinc.com ELAP Certification Number: 2385

Wednesday, November 02, 2016

Lab Number: AB54459

Collection Date/Time: 9/21/2016 13:00 Sample Collector: LEAR J Client Sample #:
Submittal Date/Time: 9/28/2016 15:30 Sample ID Coliform Designation:

		Sample	Description:	ASR3				
Analyte	Method	Unit	Result	Qual	PQL	MCL	Date Analyzed	Analyst:
pH (Laboratory)	SM4500-H+B	pH (H)	7.5		0.1		9/28/2016	BS
Phosphorus, Total	HACH 8190	mg/L	0.27	PH	0.03		10/4/2016	LRH
Potassium	EPA200.7	mg/L	3.6		0.5		10/5/2016	MW
QC Anion Sum x 100	Calculation	%	100%				9/30/2016	MP
QC Anion-Cation Balance	Calculation	%	1				10/7/2016	MW
QC Cation Sum x 100	Calculation	%	102%				10/7/2016	MW
QC Ratio TDS/SEC	Calculation		0.65				10/4/2016	MP
Selenium, Total	EPA200.8	μg/L	3		2	50	10/11/2016	SM
Silica as SiO2, Total	EPA200.7	mg/L	29		0.5		10/5/2016	MW
Sodium	EPA200.7	mg/L	59		0.5		10/5/2016	MW
Specific Conductance (E.C)	SM2510B	µmhos/cm	657		1	900	9/30/2016	HM
Strontium, Total	EPA200.8	μg/L	281		5		10/11/2016	SM
Sulfate	EPA300.0	mg/L	72		1	250	9/29/2016	HM
TOC	SM5310C	mg/L	1.0		0.2		10/19/2016	MW
Total Diss. Solids	SM2540C	mg/L	426	Н	10	500	9/29/2016	MP
Total Nitrogen	Calculation	mg/L	1.5		0.5		10/6/2016	MP
Total Radium 226	EPA903.0	pCi/L	0.178 ± 0.302	E		3	10/12/2016	FGL
Trihalomethanes	EPA524.2	μg/L	61.4	E		80	10/3/2016	FGL
Uranium by ICP/MS	EPA200.8	μg/L	3		1	30	10/11/2016	SM
Vanadium, Total	EPA200.8	μg/L	Not Detected		5	1000	10/11/2016	SM
Zinc, Total	EPA200.8	μg/L	266		20	5000	10/11/2016	SM

Sample Comments:

H: Analyzed outside of holding time. (Received at 7 days/2.5 hours) IH: ICV and/or CCV below acceptance limit

PH: Preserved after the reccomended time. (Pres at 7 days/2.5 ho

limits.

Report Approved by

David Holland, Laboratory Director

mg/L: Milligrams per liter (=ppm)

ug/L : Micrograms per liter (=ppb)

PQL: Practical Quantitation Limit

H = Analyzed ouside of hold time

E = Analysis performed by External Laboratory; See External Laboratory Report attachments.

kternar Laboratory Report attacrime

D = Method deviates from standard method due to insufficient sample for MS/MSD



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ELAP Certification Number: 2385

Wednesday, November 02, 2016

Lab Number: **AB54460**

Collection Date/Time: 9/27/2016 10:00 Sample Collector: LEAR J Client Sample #: Submittal Date/Time: Sample ID Coliform Designation: 9/28/2016 15:30

ikalinity, Total (as CaCO3) SM2320B mg/L 180 10 9/30/2016 BS Aluminum, Total EPA220.8 μg/L Not Detected LN 10 1000 10/11/2016 SM mmonia-N SM4500NH3 D mg/L Not Detected IH 0.05 10/3/2016 MW vrsenic, Total EPA200.8 μg/L 1 1 10 10/11/2016 SM vrsenic, Total EPA200.8 μg/L 83 10 1000 10/11/2016 SM vrsenic, Total EPA200.8 μg/L 83 10 1000 10/11/2016 SM vrsenic EPA200.7 mg/L 0.06 0.05 10/5/2016 MW vromide EPA200.7 mg/L 0.0 0.05 10/5/2016 MW vromide EPA200.7 mg/L 60 0.5 10/5/2016 MW vromide EPA200.7 mg/L 60 0.5 10/5/2016 MW vrationaries SM4500-CIG	Sample Description: ASR2										
Internation Internation	Analyte	Method	Unit	Result	Qual	PQL	MCL	Date Analyzed	Analyst:		
Margin M	Alkalinity, Total (as CaCO3)	SM2320B	mg/L	180		10		9/30/2016	BS		
Parameter Par	Aluminum, Total	EPA200.8	μg/L	Not Detected	LN	10	1000	10/11/2016	SM		
tarium, Total EPA200.8 μg/L 83 10 1000 10/11/2016 SM dicarbonate (as HCO3-) SM2320B mg/L 220 10 9/30/2016 MP oron EPA200.7 mg/L 0.06 0.05 10/5/2016 MW romide EPA200.7 mg/L 0.2 0.1 9/29/2016 HM ratioum EPA200.7 mg/L 60 0.5 10/5/2016 MW rationate as CaCO3 SM2320B mg/L Not Detected 10 9/30/2016 MP rationate as CaCO3 SM2320B mg/L Not Detected 0.05 9/28/2016 LRH rationate as CaCO3 SM3500-CI G mg/L Not Detected 0.05 9/28/2016 LRH rationate as CaCO3 SM3500-CI G mg/L Not Detected 0.05 9/28/2016 LRH rationate as CaCO3 SM3500-CI G mg/L Not Detected 0.2 9/27/2016 HM rationate as CaCO3 SM3510C mg	Ammonia-N	SM4500NH3 D	mg/L	Not Detected	IH	0.05		10/3/2016	MW		
SM2320B mg/L SM2	Arsenic, Total	EPA200.8	μg/L	1		1	10	10/11/2016	SM		
Page Page	Barium, Total	EPA200.8	μg/L	83		10	1000	10/11/2016	SM		
romide EPA300.0 mg/L 0.2 0.1 9/29/2016 HM elacidum EPA200.7 mg/L 60 0.5 10/5/2016 MW elactronate as CaCO3 SM2320B mg/L Not Detected 10 9/30/2016 MP elactronate as CaCO3 SM2320B mg/L Not Detected 10 9/30/2016 MP elactronate as CaCO3 SM2320B mg/L Not Detected 0.05 9/28/2016 LRH elactronate as CaCO3 SM4500-C1 G mg/L Not Detected 0.05 9/28/2016 LRH elactronate as CaCO3 SM4500-C1 G mg/L Not Detected 0.05 9/28/2016 LRH elactronate as CaCO3 SM5310C mg/L Not Collected 0.2 9/27/2016 JL elactronate as CaCO3 SM5310C mg/L Not Collected 0.2 9/27/2016 JL elactronate as CaCO3 SM5310C mg/L Not Collected 0.2 9/27/2016 JL elactronate as CaCO3 SM5310C mg/L Not Collected 0.2 9/29/2016 HM elactronate as CaCO3 SM5310C mg/L Not Detected E 15 10/10/2016 FGL elactronate as CaCO3 SM5310C mg/L Not Detected E 60 10/6/2016 FGL elactronate as CaCO3 SM5310C mg/L Not Detected E 60 10/6/2016 FGL elactronate as CaCO3 SM5310C mg/L Not Detected E 60 10/6/2016 FGL elactronate as CaCO3 SM5310C mg/L Not Detected E 60 10/6/2016 MW elactronate as CaCO3 SM5310C mg/L Not Detected E 60 10/6/2016 MW elactronate as CaCO3 SM5310C mg/L 1 2 10/6/2016 MW elactronate as CaCO3 SM5310C mg/L 14 1 1 10/11/2016 SM elactronate as CaCO3 SM5310C mg/L 14 1 1 10/11/2016 SM elactronate as CaCO3 SM5310C mg/L 11 1 1 10 50 10/5/2016 MW elactronate as CaCO3 SM5310C mg/L 11 1 1 10 50 10/5/2016 MW elactronate as CaCO3 SM5310C mg/L 11 1 1 10 50 10/5/2016 MW elactronate as CaCO3 SM5310C mg/L 11 1 1 10 50 10/5/2016 MW elactronate as CaCO3 SM5310C mg/L 1 1 1 1 45 9/29/2016 HM elicited as NO3 PA300.0 mg/L 0.2 0.1 10 9/29/2016 HM elicited as NO3-N EPA300.0 mg/L 0.5 0.1 9/29/2016 HM elicited as NO3-N EPA300.0 mg/L 0.5 0.1 10 9/29/2016 HM elicited as NO3-N EPA300.0 mg/L 0.5 0.1 10 9/29/2016 HM elicited as NO3-N EPA300.0 mg/L 0.5 0.1 10 9/29/2016 HM elicited as NO3-N EPA300.0 mg/L 0.5 0.1 10 9/29/2016 HM	Bicarbonate (as HCO3-)	SM2320B	mg/L	220		10		9/30/2016	MP		
EPA200.7 mg/L GO O.5 10/5/2016 MW	Boron	EPA200.7	mg/L	0.06		0.05		10/5/2016	MW		
Not Detected 10 9/30/2016 MP Not Detected 10 9/30/2016 MP Not Detected 10 9/30/2016 LRH Not Detected 10 10 9/29/2016 LRH Not Detected 10 10 10 10 10 10 10 1	Bromide	EPA300.0	mg/L	0.2		0.1		9/29/2016	HM		
Not Detected Detec	Calcium	EPA200.7	mg/L	60		0.5		10/5/2016	MW		
thloride EPA300.0 mg/L 64 1 250 9/29/2016 HM COC SM5310C mg/L Not Collected 0.2 9/27/2016 JL Ruoride EPA300.0 mg/L 0.3 0.1 2.0 9/29/2016 HM For Sas Alpha EPA900.0 pCi/L 2.59 ± 2.16 E 15 10/10/2016 FGL Railoacetic Acids EPA552 μg/L Not Detected E 60 10/6/2016 FGL Railoacetic Acids EPA552 μg/L Not Detected E 60 10/6/2016 FGL Railoacetic Acids EPA500.7 μg/L 66 10 300 10/5/2016 MW Railon EPA200.7 μg/L Not Detected 10 300 10/5/2016 MW Railon EPA200.7 μg/L Not Detected 10 300 10/5/2016 MW Railon EPA200.8 μg/L 14 1 1 10/11/2016 SM Rainganesium EPA200.7 mg/L 19 0.5 10/5/2016 MW Rainganese, Dissolved EPA200.7 μg/L 10 10 50 10/5/2016 MW Rainganese, Total EPA200.7 μg/L 11 10 50 10/5/2016 MW Rainganese, Total EPA200.7 μg/L 11 10 50 10/5/2016 MW Rainganese, Total EPA200.8 μg/L 11 10 50 10/5/2016 MW Rainganese, Total EPA200.8 μg/L 1.7 H E 0.1 10/6/2016 SM Refethane EPA174/175 μg/L 1.7 H E 0.1 10/6/2016 SM Roilokel, Total EPA200.8 μg/L 1.7 H E 0.1 10/6/2016 SM Roilokel, Total EPA200.8 μg/L 1.7 H E 0.1 10/6/2016 SM Roilokel, Total EPA200.8 μg/L 1.7 H E 0.1 10/6/2016 SM Roilokel, Total EPA200.8 μg/L 1.7 H E 0.1 10/6/2016 SM Roilokel, Total EPA200.8 μg/L 1.7 H E 0.1 10/6/2016 SM Roilokel, Total EPA200.8 μg/L Not Detected 10 100 10/11/2016 SM Roilitrate as NO3 EPA300.0 mg/L 0.2 0.1 10 9/29/2016 HM Roilitrate as NO3-N EPA300.0 mg/L 0.2 0.1 10 9/29/2016 HM Roilitrate as NO3-N EPA300.0 mg/L 0.5 0.1 9/29/2016 HM	Carbonate as CaCO3	SM2320B	mg/L	Not Detected		10		9/30/2016	MP		
Not Collected 0.2 9/27/2016 JL	Chloramines	SM4500-CI G	mg/L	Not Detected		0.05		9/28/2016	LRH		
Illuroride	Chloride	EPA300.0	mg/L	64		1	250	9/29/2016	HM		
Gross Alpha EPA900.0 pCi/L 2.59 ± 2.16 E 15 10/10/2016 FGL Ialoacetic Acids EPA552 μg/L Not Detected E 60 10/6/2016 FGL on EPA200.7 μg/L 66 10 300 10/5/2016 MW on, Dissolved EPA200.7 μg/L Not Detected 10 300 10/5/2016 MW on, Dissolved EPA200.8 μg/L 1 2 10/6/2016 BS ithium EPA200.8 μg/L 14 1 10/11/2016 SM Magnesium EPA200.7 mg/L 19 0.5 10/5/2016 MW Manganese, Dissolved EPA200.7 μg/L 10 10 50 10/5/2016 MW Manganese, Total EPA200.7 μg/L 11 10 50 10/5/2016 MW Metcury, Total EPA200.8 μg/L 1 0.5 2 10/11/2016 SM Molybdenum,	DOC	SM5310C	mg/L	Not Collected		0.2		9/27/2016	JL		
FPA552 μg/L Not Detected E 60 10/6/2016 FGL	Fluoride	EPA300.0	mg/L	0.3		0.1	2.0	9/29/2016	HM		
con EPA200.7 µg/L 66 10 300 10/5/2016 MW con, Dissolved EPA200.7 µg/L Not Detected 10 300 10/5/2016 MW cijehldahl Nitrogen SM4500-NH3 B,C. mg/L 1 2 10/6/2016 BS sithium EPA200.8 µg/L 14 1 10/11/2016 SM flagnesium EPA200.7 mg/L 19 0.5 10/5/2016 MW flanganese, Dissolved EPA200.7 µg/L 10 10 50 10/5/2016 MW flanganese, Dissolved EPA200.7 µg/L 10 10 50 10/5/2016 MW flanganese, Dissolved EPA200.7 µg/L 10 10 50 10/5/2016 MW flanganese, Dissolved EPA200.7 µg/L 10 10 50 10/5/2016 MW flercury, Total EPA200.8 µg/L 1 0.5 2 10/11/2016 SM	Gross Alpha	EPA900.0	pCi/L	2.59 ± 2.16	Е		15	10/10/2016	FGL		
Not Detected 10 300 10/5/2016 MW	Haloacetic Acids	EPA552	μg/L	Not Detected	Е		60	10/6/2016	FGL		
SM4500-NH3 B,C. mg/L	Iron	EPA200.7	μg/L	66		10	300	10/5/2016	MW		
ithium EPA200.8 μg/L 14 1 10/11/2016 SM Magnesium EPA200.7 mg/L 19 0.5 10/5/2016 MW Manganese, Dissolved EPA200.7 μg/L 10 10 50 10/5/2016 MW Manganese, Total EPA200.7 μg/L 11 10 50 10/5/2016 MW Mercury, Total EPA200.8 μg/L 1 0.5 2 10/11/2016 SM Methane EPA174/175 μg/L 1.7 H E 0.1 10/6/2016 MCCAM Molybdenum, Total EPA200.8 μg/L 6 1 1000 10/11/2016 SM lickel, Total EPA200.8 μg/L Not Detected 10 10 10/11/2016 SM litrate as NO3 EPA300.0 mg/L 1 1 45 9/29/2016 HM litrate+Nitrite as N EPA300.0 mg/L 0.5 0.1 1 9/29/2016 HM <tr< td=""><td>Iron, Dissolved</td><td>EPA200.7</td><td>μg/L</td><td>Not Detected</td><td></td><td>10</td><td>300</td><td>10/5/2016</td><td>MW</td></tr<>	Iron, Dissolved	EPA200.7	μg/L	Not Detected		10	300	10/5/2016	MW		
Magnesium EPA200.7 mg/L 19 0.5 10/5/2016 MW Manganese, Dissolved EPA200.7 μg/L 10 10 50 10/5/2016 MW Manganese, Total EPA200.7 μg/L 11 10 50 10/5/2016 MW Mercury, Total EPA200.8 μg/L 1 0.5 2 10/11/2016 SM Methane EPA174/175 μg/L 1.7 H E 0.1 10/6/2016 MCCAM Molybdenum, Total EPA200.8 μg/L 6 1 1000 10/11/2016 SM Mickel, Total EPA200.8 μg/L Not Detected 10 10 10/11/2016 SM Ilitrate as NO3 EPA300.0 mg/L 1 1 45 9/29/2016 HM Ilitrate +Nitrite as N EPA300.0 mg/L 0.5 0.1 10 9/29/2016 HM Ilitrate as NO2-N EPA300.0 mg/L 0.3 0.1 1.0 9/29/2016	Kjehldahl Nitrogen	SM4500-NH3 B,C.	mg/L	1		2		10/6/2016	BS		
Manganese, Dissolved EPA200.7 μg/L 10 10 50 10/5/2016 MW Manganese, Total EPA200.7 μg/L 11 10 50 10/5/2016 MW Mercury, Total EPA200.8 μg/L 1 0.5 2 10/11/2016 SM Methane EPA174/175 μg/L 1.7 H E 0.1 10/6/2016 MCCAM Molybdenum, Total EPA200.8 μg/L 6 1 1000 10/11/2016 SM Mickel, Total EPA200.8 μg/L Not Detected 10 100 10/11/2016 SM Mitrate as NO3 EPA300.0 mg/L 1 1 45 9/29/2016 HM Molitrate as NO3-N EPA300.0 mg/L 0.2 0.1 10 9/29/2016 HM Molitrate as NO2-N EPA300.0 mg/L 0.3 0.1 1.0 9/29/2016 HM Molitrate as NO2-N EPA300.0 mg/L 0.3 0.1 1.0 9/29/2016 HM	Lithium	EPA200.8	μg/L	14		1		10/11/2016	SM		
Manganese, Total EPA200.7 μg/L 11 10 50 10/5/2016 MW Mercury, Total EPA200.8 μg/L 1 0.5 2 10/11/2016 SM Methane EPA174/175 μg/L 1.7 H E 0.1 10/6/2016 MCCAM Molybdenum, Total EPA200.8 μg/L 6 1 1000 10/11/2016 SM Mickel, Total EPA200.8 μg/L Not Detected 10 100 10/11/2016 SM Mitrate as NO3 EPA300.0 mg/L 1 1 45 9/29/2016 HM Mitrate as NO3-N EPA300.0 mg/L 0.2 0.1 10 9/29/2016 HM Mitrate +Nitrite as N EPA300.0 mg/L 0.5 0.1 9/29/2016 HM Mitrate as NO2-N EPA300.0 mg/L 0.3 0.1 1.0 9/29/2016 HM	Magnesium	EPA200.7	mg/L	19		0.5		10/5/2016	MW		
Mercury, Total EPA200.8 μg/L 1 0.5 2 10/11/2016 SM Methane EPA174/175 μg/L 1.7 H E 0.1 10/6/2016 MCCAM Molybdenum, Total EPA200.8 μg/L 6 1 1000 10/11/2016 SM lickel, Total EPA200.8 μg/L Not Detected 10 100 10/11/2016 SM litrate as NO3 EPA300.0 mg/L 1 1 45 9/29/2016 HM litrate as NO3-N EPA300.0 mg/L 0.2 0.1 10 9/29/2016 HM litrate+Nitrite as N EPA300.0 mg/L 0.5 0.1 9/29/2016 HM litrite as NO2-N EPA300.0 mg/L 0.3 0.1 1.0 9/29/2016 HM	Manganese, Dissolved	EPA200.7	μg/L	10		10	50	10/5/2016	MW		
Methane EPA174/175 μg/L 1.7 H E 0.1 10/6/2016 MCCAM Molybdenum, Total EPA200.8 μg/L 6 1 1000 10/11/2016 SM lickel, Total EPA200.8 μg/L Not Detected 10 100 10/11/2016 SM litrate as NO3 EPA300.0 mg/L 1 1 45 9/29/2016 HM litrate as NO3-N EPA300.0 mg/L 0.2 0.1 10 9/29/2016 HM litrate+Nitrite as N EPA300.0 mg/L 0.5 0.1 9/29/2016 HM litrite as NO2-N EPA300.0 mg/L 0.3 0.1 1.0 9/29/2016 HM	Manganese, Total	EPA200.7	μg/L	11		10	50	10/5/2016	MW		
Molybdenum, Total EPA200.8 μg/L 6 1 1000 10/11/2016 SM lickel, Total EPA200.8 μg/L Not Detected 10 100 10/11/2016 SM litrate as NO3 EPA300.0 mg/L 1 1 45 9/29/2016 HM litrate as NO3-N EPA300.0 mg/L 0.2 0.1 10 9/29/2016 HM litrate+Nitrite as N EPA300.0 mg/L 0.5 0.1 9/29/2016 HM litrate as NO2-N EPA300.0 mg/L 0.3 0.1 1.0 9/29/2016 HM	Mercury, Total	EPA200.8	<mark>μg/L</mark>	1		0.5	2	10/11/2016	SM		
Lickel, Total EPA200.8 μg/L Not Detected 10 100 10/11/2016 SM Litrate as NO3 EPA300.0 mg/L 1 1 45 9/29/2016 HM Litrate as NO3-N EPA300.0 mg/L 0.2 0.1 10 9/29/2016 HM Litrate+Nitrite as N EPA300.0 mg/L 0.5 0.1 9/29/2016 HM Litrite as NO2-N EPA300.0 mg/L 0.3 0.1 1.0 9/29/2016 HM	Methane	EPA174/175	μg/L	1.7	ΗE	0.1		10/6/2016	MCCAM		
litrate as NO3 EPA300.0 mg/L 1 1 45 9/29/2016 HM litrate as NO3-N EPA300.0 mg/L 0.2 0.1 10 9/29/2016 HM litrate+Nitrite as N EPA300.0 mg/L 0.5 0.1 9/29/2016 HM litrite as NO2-N EPA300.0 mg/L 0.3 0.1 1.0 9/29/2016 HM	Molybdenum, Total	EPA200.8	μg/L	6		1	1000	10/11/2016	SM		
litrate as NO3-N EPA300.0 mg/L 0.2 0.1 10 9/29/2016 HM litrate+Nitrite as N EPA300.0 mg/L 0.5 0.1 9/29/2016 HM litrite as NO2-N EPA300.0 mg/L 0.3 0.1 1.0 9/29/2016 HM	Nickel, Total	EPA200.8	μg/L	Not Detected		10	100	10/11/2016	SM		
litrate+Nitrite as N EPA300.0 mg/L 0.5 0.1 9/29/2016 HM litrite as NO2-N EPA300.0 mg/L 0.3 0.1 1.0 9/29/2016 HM	Nitrate as NO3	EPA300.0	mg/L	11		1	45	9/29/2016	НМ		
litrite as NO2-N EPA300.0 mg/L 0.3 0.1 1.0 9/29/2016 HM	Nitrate as NO3-N	EPA300.0	mg/L	0.2		0.1	10	9/29/2016	НМ		
5 OF THE RESERVE TO T	Nitrate+Nitrite as N	EPA300.0	mg/L	0.5		0.1		9/29/2016	HM		
-Phosphate-P, Dissolved EPA300.0 mg/L 0.3 0.1 9/29/2016 HM	Nitrite as NO2-N	EPA300.0	mg/L	0.3		0.1	1.0	9/29/2016	HM		
	o-Phosphate-P, Dissolved	EPA300.0	mg/L	0.3		0.1		9/29/2016	НМ		

mg/L: Milligrams per liter (=ppm)

ug/L: Micrograms per liter (=ppb)

PQL: Practical Quantitation Limit

H = Analyzed ouside of hold time

E = Analysis performed by External Laboratory; See External Laboratory Report attachments.

D = Method deviates from standard method due to insufficient sample for MS/MSD



Monterey Bay Analytical Services
4 Justin Court Suite D, Monterey, CA 93940
831.375.MBAS

www.MBASinc.com

ELAP Certification Number: 2385

Wednesday, November 02, 2016

Lab Number: AB54460

Collection Date/Time: 9/27/2016 10:00 Sample Collector: LEAR J Client Sample #:
Submittal Date/Time: 9/28/2016 15:30 Sample ID Coliform Designation:

		Sample	Description: ASR2				
Analyte	Method	Unit	Result Qual	PQL	MCL	Date Analyzed	Analyst:
pH (Laboratory)	SM4500-H+B	pH (H)	7.5	0.1		9/28/2016	BS
Phosphorus, Total	HACH 8190	mg/L	0.25	0.03		10/4/2016	LRH
Potassium	EPA200.7	mg/L	3.8	0.5		10/5/2016	MW
QC Anion Sum x 100	Calculation	%	101%			9/30/2016	MP
QC Anion-Cation Balance	Calculation	%	2			10/7/2016	MW
QC Cation Sum x 100	Calculation	%	105%			10/7/2016	MW
QC Ratio TDS/SEC	Calculation		0.61			10/4/2016	MP
Selenium, Total	EPA200.8	μg/L	2	2	50	10/11/2016	SM
Silica as SiO2, Total	EPA200.7	mg/L	29	0.5		10/5/2016	MW
Sodium	EPA200.7	mg/L	64	0.5		10/5/2016	MW
Specific Conductance (E.C)	SM2510B	µmhos/cm	707	1	900	9/30/2016	НМ
Strontium, Total	EPA200.8	μg/L	300	5		10/11/2016	SM
Sulfate	EPA300.0	mg/L	81	1	250	9/29/2016	НМ
TOC	SM5310C	mg/L	1.1	0.2		10/19/2016	MW
Total Diss. Solids	SM2540C	mg/L	431	10	500	9/29/2016	MP
Total Nitrogen	Calculation	mg/L	1.5	0.5		10/6/2016	MP
Total Radium 226	EPA903.0	pCi/L	0.000 ± 0.246 E		3	10/12/2016	FGL
Trihalomethanes	EPA524.2	μg/L	47.9 E		80	10/4/2016	FGL
Uranium by ICP/MS	EPA200.8	μg/L	1	1	30	10/11/2016	SM
Vanadium, Total	EPA200.8	μg/L	Not Detected	5	1000	10/11/2016	SM
Zinc, Total	EPA200.8	μg/L	317	20	5000	10/11/2016	SM

Sample Comments: IH: ICV and/or CCV below acceptance limits. LN: MS and/or MSD below acceptance limit

Report Approved by

 $mg/L: \ Milligrams \ per \ liter \ (=ppm) \qquad \qquad ug/L: \ Micrograms \ per \ liter \ (=ppb) \qquad \qquad PQL: \ Practical \ Quantitation \ Limit$

H = Analyzed ouside of hold time E = Analysis performed by External Laboratory; See External Laboratory Report attachments.

D = Method deviates from standard method due to insufficient sample for MS/MSD



831.375.MBAS

www.MBASinc.com **ELAP Certification Number: 2385**

Wednesday, November 02, 2016

Lab Number: AB54461

Collection Date/Time: 9/27/2016 11:00 Sample Collector: LEAR J Client Sample #: Submittal Date/Time: 9/28/2016 Sample ID Coliform Designation: 15:30

Sample Description: MW1										
Analyte	Method	Unit	Result Qual	PQL	MCL	Date Analyzed	Analyst:			
Chloramines	SM4500-CI G	mg/L	Not Detected	0.05		9/28/2016	LRH			
Chloride	EPA300.0	mg/L	47	1	250	9/29/2016	НМ			
Haloacetic Acids	EPA552	μg/L	Not Detected E		60	10/6/2016	FGL			
Trihalomethanes	EPA524.2	μg/L	1.9 E		80	10/3/2016	FGL			

Sample Comments:

Report Approved by

mg/L: Milligrams per liter (=ppm) H = Analyzed ouside of hold time

ug/L: Micrograms per liter (=ppb) E = Analysis performed by External Laboratory; See External Laboratory Report attachments.

PQL: Practical Quantitation Limit

D = Method deviates from standard method due to insufficient sample for MS/MSD

October 14, 2016

Monterey Bay Analytical Services Lab ID : SP 1611647 4 Justin Court Customer : 2-19144

Monterey, CA 93940

Laboratory Report

Introduction: This report package contains total of 14 pages divided into 3 sections:

Case Narrative (2 pages): An overview of the work performed at FGL.

Sample Results (9 pages): Results for each sample submitted.

Quality Control (3 pages) : Supporting Quality Control (QC) results.

Case Narrative

This Case Narrative pertains to the following samples:

Sample Description	Date Sampled	Date Received	FGL Lab ID#	Matrix
ASR4	09/21/2016	09/30/2016	SP 1611647-001	W
ASR1	09/21/2016	09/30/2016	SP 1611647-002	W
ASR3	09/21/2016	09/30/2016	SP 1611647-003	W
ASR2	09/27/2016	09/30/2016	SP 1611647-004	W
MW1	09/27/2016	09/30/2016	SP 1611647-005	W

Sampling and Receipt Information: All samples were received in acceptable condition and within temperature requirements, unless noted on the Condition Upon Receipt (CUR) form. All samples arrived at 6 °C. All samples were prepared and analyzed within the method specified hold time. All samples were checked for pH if acid or base preservation is required (except for VOAs). For details of sample receipt information, please see the attached Chain of Custody and Condition Upon Receipt Form.

Quality Control: All samples were prepared and analyzed according to the following tables:

Organic QC

551.1	10/03/2016:214445 All analysis quality controls are within established criteria.
	10/04/2016:214446 All analysis quality controls are within established criteria.
	10/03/2016:211902 All preparation quality controls are within established criteria, except: The following note applies to Decafluorobiphenyl: 435 Sample matrix may be affecting this analyte. Data was accepted based on the LCS or CCV recovery.
552	10/04/2016:211980 All preparation quality controls are within established criteria, except: The following note applies to Monochloroacetic Acid: 435 Sample matrix may be affecting this analyte. Data was accepted based on the LCS or CCV recovery.

October 14, 2016 **Monterey Bay Analytical Services**

Customer : 2-19144

: SP 1611647

Organic QC

Lab ID

552.2	10/05/2016:214521 All analysis quality controls are within established criteria.
	10/06/2016:214521 All analysis quality controls are within established criteria.

Radio QC

900.0	10/10/2016:214770 All analysis quality controls are within established criteria.
	10/07/2016:214771 All analysis quality controls are within established criteria.
	10/06/2016:212066 All preparation quality controls are within established criteria.
903.0	10/12/2016:214916 All analysis quality controls are within established criteria.
	10/10/2016:212044 All preparation quality controls are within established criteria.

Certification:: I certify that this data package is in compliance with ELAP standards, both technically and for completeness, except for any conditions listed above. Release of the data contained in this data package is authorized by the Laboratory Director or his designee, as verified by the following electronic signature.

KD:DMB

Approved By Kelly A. Dunnahoo, B.S.





October 14, 2016 Lab ID : SP 1611647-001

Customer ID : 2-19144

Monterey Bay Analytical Services

4 Justin Court Sampled On : September 21, 2016-10:30

: Jonathan Lear Monterey, CA 93940 Sampled By

Received On: September 30, 2016-12:00

Matrix : Water

Description : ASR4 **Project** : MPWMD

Sample Result - Organic

Constituent	Result	PQL	Units	Note	Sample	Preparation	Samp	le Analysis
	Result	1 QL	Omts	Note	Method	Date/ID	Method	Date/ID
EPA 551.1 ^{VOA:1'15}								
Decafluorobiphenyl [‡]	101	80-120	%		551.1	10/03/16:211902	551.1	10/03/16:214445
Bromodichloromethane	ND	0.5	ug/L		551.1	10/03/16:211902	551.1	10/03/16:214445
Bromoform	ND	0.5	ug/L		551.1	10/03/16:211902	551.1	10/03/16:214445
Chloroform	ND	0.5	ug/L		551.1	10/03/16:211902	551.1	10/03/16:214445
Dibromochloromethane	ND	0.5	ug/L		551.1	10/03/16:211902	551.1	10/03/16:214445
Total Trihalomethanes	ND		ug/L		551.1	10/03/16:211902	551.1	10/03/16:214445
EPA 552.2 ^{AGT:1'12}								
2,3-Dibromopropionic Acid [‡]	101	70-130	%		552	10/04/16:211980	552.2	10/05/16:214521
Bromoacetic Acid	ND	1	ug/L		552	10/04/16:211980	552.2	10/05/16:214521
Chloroacetic Acid	ND	2	ug/L		552	10/04/16:211980	552.2	10/05/16:214521
Dibromoacetic Acid	ND	1	ug/L		552	10/04/16:211980	552.2	10/05/16:214521
Dichloroacetic Acid	ND	1	ug/L		552	10/04/16:211980	552.2	10/05/16:214521
Trichloroacetic Acid	ND	1	ug/L		552	10/04/16:211980	552.2	10/05/16:214521
Haloacetic acids (five)	ND		ug/L		552	10/04/16:211980	552.2	10/05/16:214521

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (AGT) Amber Glass TFE-Cap, (P) Plastic, (VOA) VOA Preservatives: NH4Cl, HNO3 pH < 2, Na2SO3 ‡Surrogate. * PQL adjusted for dilution.

Analytical Chemists

October 14, 2016 Lab ID : SP 1611647-001

Customer ID : 2-19144

Monterey Bay Analytical Services

4 Justin Court Sampled On : September 21, 2016-10:30

Sampled By : Jonathan Lear Monterey, CA 93940

Received On: September 30, 2016-12:00

: Water Matrix

Description : ASR4 **Project** : MPWMD

Sample Result - Radio

Constituent	Result ± Error	MDA	Unite	Units MCL/AL		Preparation	Sampl	e Analysis
Constituent	Result ± Ellor	int ± Error MDA Onits MCL/AL		Method	Date/ID	Method	Date/ID	
Radio Chemistry P:1'5								
Gross Alpha	3.01 ± 2.64	2.78	pCi/L	15/5	900.0	10/06/16-09:04 2P1612066	900.0	10/07/16-13:00 2A1614771
Total Alpha Radium (226)	0.760 ± 0.438	0.470	pCi/L	3	903.0	10/10/16-17:00 2P1612044	903.0	10/12/16-10:40 2A1614916

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (AGT) Amber Glass TFE-Cap, (P) Plastic, (VOA) VOA Preservatives: NH4Cl, HNO3 pH < 2, Na2SO3 * PQL adjusted for dilution.

MDA = Minimum Detectable Activity (Calculated at the 95% confidence level) = Data utilized by DHS to determine matrix interference. MCL / AL = Maximum Contamination Level / Action Level. Alpha's Action Level of 5 pCi/L is based on the Assigned Value (AV). AV = Assigned Value(Gross Alpha Result + (0.84 x Error)). CCR Section 64442: Drinking Water Compliance Note: Do the following If Gross Alpha's (AV) exceeds 5 pCi/L run Uranium. If Gross Alpha's (AV) minus Uranium exceeds 5 pCi/L run Radium 226.

Drinking Water Compliance:

Gross Alpha (AV) minus Uranium is less than or equal to 15 pCi/L Uranium is less than or equal to 20 pCi/L

Radium 226 + Radium 228 is less than or equal to 5 pCi/L

Note: Samples are held for 3-6 months prior to disposal.



Analytical Chemists

: SP 1611647-002 October 14, 2016 Lab ID

Customer ID : 2-19144

Monterey Bay Analytical Services

4 Justin Court Sampled On : September 21, 2016-09:30

: Jonathan Lear Monterey, CA 93940 Sampled By

Received On: September 30, 2016-12:00

Matrix : Water

Description : ASR1 **Project** : MPWMD

Sample Result - Organic

Constituent	Result	PQL	Units	Note	Sample	Preparation	Samp	le Analysis
	Result	1 QL	Onts	14010	Method	Date/ID	Method	Date/ID
EPA 551.1 ^{VOA:1'15}								
Decafluorobiphenyl [‡]	116	80-120	%		551.1	10/03/16:211902	551.1	10/04/16:214446
Bromodichloromethane	7.6	0.5	ug/L		551.1	10/03/16:211902	551.1	10/04/16:214446
Bromoform	0.5	0.5	ug/L		551.1	10/03/16:211902	551.1	10/04/16:214446
Chloroform	18.8	0.5	ug/L		551.1	10/03/16:211902	551.1	10/04/16:214446
Dibromochloromethane	2.0	0.5	ug/L		551.1	10/03/16:211902	551.1	10/04/16:214446
Total Trihalomethanes	28.9		ug/L		551.1	10/03/16:211902	551.1	10/04/16:214446
EPA 552.2 ^{AGT:1'12}								
2,3-Dibromopropionic Acid [‡]	106	70-130	%		552	10/04/16:211980	552.2	10/05/16:214521
Bromoacetic Acid	ND	1	ug/L		552	10/04/16:211980	552.2	10/05/16:214521
Chloroacetic Acid	ND	2	ug/L		552	10/04/16:211980	552.2	10/05/16:214521
Dibromoacetic Acid	ND	1	ug/L		552	10/04/16:211980	552.2	10/05/16:214521
Dichloroacetic Acid	ND	1	ug/L		552	10/04/16:211980	552.2	10/05/16:214521
Trichloroacetic Acid	ND	1	ug/L		552	10/04/16:211980	552.2	10/05/16:214521
Haloacetic acids (five)	ND		ug/L		552	10/04/16:211980	552.2	10/05/16:214521

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (AGT) Amber Glass TFE-Cap, (P) Plastic, (VOA) VOA Preservatives: NH4Cl, HNO3 pH < 2, Na2SO3 ‡Surrogate. * PQL adjusted for dilution.

October 14, 2016 Lab ID : SP 1611647-002

Customer ID : 2-19144

Monterey Bay Analytical Services

4 Justin Court Sampled On : September 21, 2016-09:30

: Jonathan Lear Monterey, CA 93940 Sampled By

Received On: September 30, 2016-12:00

: Water Matrix

Description : ASR1 **Project** : MPWMD

Sample Result - Radio

Constituent	Result ± Error	MDA	Units	MCL/AL	Sample	Preparation	Sampl	e Analysis
	Result ± Effor	MDA	Omts	WICL/AL	Method	Date/ID	Method	Date/ID
Radio Chemistry P:1'5								
Gross Alpha	2.52 ± 1.55	1.51	pCi/L	15/5	900.0	10/06/16-09:04 2P1612066	900.0	10/10/16-07:00 2A1614770
Total Alpha Radium (226)	0.758 ± 0.437	0.470	pCi/L	3	903.0	10/10/16-17:00 2P1612044	903.0	10/12/16-11:00 2A1614916

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (AGT) Amber Glass TFE-Cap, (P) Plastic, (VOA) VOA Preservatives: NH4Cl, HNO3 pH < 2, Na2SO3 * PQL adjusted for dilution.

MDA = Minimum Detectable Activity (Calculated at the 95% confidence level) = Data utilized by DHS to determine matrix interference. MCL / AL = Maximum Contamination Level / Action Level. Alpha's Action Level of 5 pCi/L is based on the Assigned Value (AV). AV = Assigned Value(Gross Alpha Result + (0.84 x Error)). CCR Section 64442: Drinking Water Compliance Note: Do the following If Gross Alpha's (AV) exceeds 5 pCi/L run Uranium. If Gross Alpha's (AV) minus Uranium exceeds 5 pCi/L run Radium 226.

Drinking Water Compliance:

Gross Alpha (AV) minus Uranium is less than or equal to 15 pCi/L Uranium is less than or equal to 20 pCi/L Radium 226 + Radium 228 is less than or equal to 5 pCi/L

Note: Samples are held for 3-6 months prior to disposal.



: SP 1611647-003 October 14, 2016 Lab ID

Customer ID : 2-19144

Monterey Bay Analytical Services

4 Justin Court Sampled On : September 21, 2016-13:00

: Jonathan Lear Monterey, CA 93940 Sampled By

Received On: September 30, 2016-12:00

Matrix : Water

Description : ASR3 **Project** : MPWMD

Sample Result - Organic

Constituent	Result	PQL	Units	Note	Sample Preparation		Samp	le Analysis
	Kesuit	1 QL	Omts	Note	Method	Date/ID	Method	Date/ID
EPA 551.1 ^{VOA:1'15}								
Decafluorobiphenyl [‡]	88.7	80-120	%		551.1	10/03/16:211902	551.1	10/03/16:214445
Bromodichloromethane	15.9	0.5	ug/L		551.1	10/03/16:211902	551.1	10/03/16:214445
Bromoform	0.8	0.5	ug/L		551.1	10/03/16:211902	551.1	10/03/16:214445
Chloroform	36.7	0.5	ug/L		551.1	10/03/16:211902	551.1	10/03/16:214445
Dibromochloromethane	8.0	0.5	ug/L		551.1	10/03/16:211902	551.1	10/03/16:214445
Total Trihalomethanes	61.4		ug/L		551.1	10/03/16:211902	551.1	10/03/16:214445
EPA 552.2 ^{AGT:1'12}								
2,3-Dibromopropionic Acid [‡]	108	70-130	%		552	10/04/16:211980	552.2	10/05/16:214521
Bromoacetic Acid	ND	1	ug/L		552	10/04/16:211980	552.2	10/05/16:214521
Chloroacetic Acid	ND	2	ug/L		552	10/04/16:211980	552.2	10/05/16:214521
Dibromoacetic Acid	1	1	ug/L		552	10/04/16:211980	552.2	10/05/16:214521
Dichloroacetic Acid	2	1	ug/L		552	10/04/16:211980	552.2	10/05/16:214521
Trichloroacetic Acid	ND	1	ug/L		552	10/04/16:211980	552.2	10/05/16:214521
Haloacetic acids (five)	3		ug/L		552	10/04/16:211980	552.2	10/05/16:214521

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (AGT) Amber Glass TFE-Cap, (P) Plastic, (VOA) VOA Preservatives: NH4Cl, HNO3 pH < 2, Na2SO3 ‡Surrogate. * PQL adjusted for dilution.

October 14, 2016 Lab ID : SP 1611647-003

Customer ID : 2-19144

Monterey Bay Analytical Services

4 Justin Court Sampled On : September 21, 2016-13:00

: Jonathan Lear Monterey, CA 93940 Sampled By

Received On: September 30, 2016-12:00

: Water Matrix

Description : ASR3 **Project** : MPWMD

Sample Result - Radio

Constituent	Result ± Error	MDA	Units	MCL/AL	Sample	Preparation	Sampl	e Analysis
	Result ± Effor	MDA	Omts	WICL/AL	Method	Date/ID	Method	Date/ID
Radio Chemistry ^{P:1'5}								
Gross Alpha	4.28 ± 1.73	1.47	pCi/L	15/5	900.0	10/06/16-09:04 2P1612066	900.0	10/07/16-14:00 2A1614771
Total Alpha Radium (226)	0.178 ± 0.302	0.470	pCi/L	3	903.0	10/10/16-17:00 2P1612044	903.0	10/12/16-11:20 2A1614916

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (AGT) Amber Glass TFE-Cap, (P) Plastic, (VOA) VOA Preservatives: NH4Cl, HNO3 pH < 2, Na2SO3 * PQL adjusted for dilution.

MDA = Minimum Detectable Activity (Calculated at the 95% confidence level) = Data utilized by DHS to determine matrix interference. MCL / AL = Maximum Contamination Level / Action Level. Alpha's Action Level of 5 pCi/L is based on the Assigned Value (AV). AV = Assigned Value(Gross Alpha Result + (0.84 x Error)). CCR Section 64442: Drinking Water Compliance Note: Do the following If Gross Alpha's (AV) exceeds 5 pCi/L run Uranium. If Gross Alpha's (AV) minus Uranium exceeds 5 pCi/L run Radium 226.

Drinking Water Compliance:

Gross Alpha (AV) minus Uranium is less than or equal to 15 pCi/L Uranium is less than or equal to 20 pCi/L

Radium 226 + Radium 228 is less than or equal to 5 pCi/L

Note: Samples are held for 3-6 months prior to disposal.



: SP 1611647-004 October 14, 2016 Lab ID

Customer ID : 2-19144

Monterey Bay Analytical Services

4 Justin Court Sampled On : September 27, 2016-10:00

: Jonathan Lear Monterey, CA 93940 Sampled By

Received On: September 30, 2016-12:00

Matrix : Water

Description : ASR2 **Project** : MPWMD

Sample Result - Organic

Constituent	Result	PQL	Units	Note	Sample Preparation		Samp	le Analysis
	Kesuit	1 QL	Omts	Note	Method	Date/ID	Method	Date/ID
EPA 551.1 ^{VOA:1'15}								
Decafluorobiphenyl [‡]	98.0	80-120	%		551.1	10/03/16:211902	551.1	10/04/16:214446
Bromodichloromethane	12.0	0.5	ug/L		551.1	10/03/16:211902	551.1	10/04/16:214446
Bromoform	0.6	0.5	ug/L		551.1	10/03/16:211902	551.1	10/04/16:214446
Chloroform	29.8	0.5	ug/L		551.1	10/03/16:211902	551.1	10/04/16:214446
Dibromochloromethane	5.5	0.5	ug/L		551.1	10/03/16:211902	551.1	10/04/16:214446
Total Trihalomethanes	47.9		ug/L		551.1	10/03/16:211902	551.1	10/04/16:214446
EPA 552.2 ^{AGT:1'12}								
2,3-Dibromopropionic Acid [‡]	102	70-130	%		552	10/04/16:211980	552.2	10/06/16:214521
Bromoacetic Acid	ND	1	ug/L		552	10/04/16:211980	552.2	10/06/16:214521
Chloroacetic Acid	ND	2	ug/L		552	10/04/16:211980	552.2	10/06/16:214521
Dibromoacetic Acid	ND	1	ug/L		552	10/04/16:211980	552.2	10/06/16:214521
Dichloroacetic Acid	ND	1	ug/L		552	10/04/16:211980	552.2	10/06/16:214521
Trichloroacetic Acid	ND	1	ug/L		552	10/04/16:211980	552.2	10/06/16:214521
Haloacetic acids (five)	ND		ug/L		552	10/04/16:211980	552.2	10/06/16:214521

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (AGT) Amber Glass TFE-Cap, (P) Plastic, (VOA) VOA Preservatives: NH4Cl, HNO3 pH < 2, Na2SO3 ‡Surrogate. * PQL adjusted for dilution.

Analytical Chemists

October 14, 2016 Lab ID : SP 1611647-004

Customer ID : 2-19144

Monterey Bay Analytical Services

4 Justin Court Sampled On : September 27, 2016-10:00

Sampled By : Jonathan Lear Monterey, CA 93940

Received On: September 30, 2016-12:00

: Water Matrix

Description : ASR2 **Project** : MPWMD

Sample Result - Radio

Constituent	Result + Error	MDA	Units	MCL/AL	Sample	Preparation	Sampl	e Analysis
Constituent	Result ± Ellor	MDA	Omts	WICL/AL	Method	Date/ID	Method	Date/ID
Radio Chemistry P:1'5								
Gross Alpha	2.59 ± 2.16	2.05	pCi/L	15/5	900.0	10/06/16-09:04 2P1612066	900.0	10/10/16-09:00 2A1614770
Total Alpha Radium (226)	0.000 ± 0.246	0.470	pCi/L	3	903.0	10/10/16-17:00 2P1612044	903.0	10/12/16-11:40 2A1614916

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (AGT) Amber Glass TFE-Cap, (P) Plastic, (VOA) VOA Preservatives: NH4Cl, HNO3 pH < 2, Na2SO3 * PQL adjusted for dilution.

MDA = Minimum Detectable Activity (Calculated at the 95% confidence level) = Data utilized by DHS to determine matrix interference. MCL / AL = Maximum Contamination Level / Action Level. Alpha's Action Level of 5 pCi/L is based on the Assigned Value (AV). AV = Assigned Value(Gross Alpha Result + (0.84 x Error)). CCR Section 64442: Drinking Water Compliance Note: Do the following If Gross Alpha's (AV) exceeds 5 pCi/L run Uranium. If Gross Alpha's (AV) minus Uranium exceeds 5 pCi/L run Radium 226.

Drinking Water Compliance:

Gross Alpha (AV) minus Uranium is less than or equal to 15 pCi/L Uranium is less than or equal to 20 pCi/L

Radium 226 + Radium 228 is less than or equal to 5 pCi/L

Note: Samples are held for 3-6 months prior to disposal.



Analytical Chemists

: SP 1611647-005 October 14, 2016 Lab ID

Customer ID : 2-19144

Monterey Bay Analytical Services

4 Justin Court Sampled On : September 27, 2016-11:00

: Jonathan Lear Monterey, CA 93940 Sampled By

Received On: September 30, 2016-12:00

Matrix : Water

Description : MW1 **Project** : MPWMD

Sample Result - Organic

Constituent	Result	PQL	Units	Note	Sample Preparation		Samp	le Analysis
	Kesuit	1 QL	Omts	Note	Method	Date/ID	Method	Date/ID
EPA 551.1 ^{VOA:1'15}								
Decafluorobiphenyl [‡]	94.3	80-120	%		551.1	10/03/16:211902	551.1	10/03/16:214445
Bromodichloromethane	0.7	0.5	ug/L		551.1	10/03/16:211902	551.1	10/03/16:214445
Bromoform	ND	0.5	ug/L		551.1	10/03/16:211902	551.1	10/03/16:214445
Chloroform	1.2	0.5	ug/L		551.1	10/03/16:211902	551.1	10/03/16:214445
Dibromochloromethane	ND	0.5	ug/L		551.1	10/03/16:211902	551.1	10/03/16:214445
Total Trihalomethanes	1.9		ug/L		551.1	10/03/16:211902	551.1	10/03/16:214445
EPA 552.2 ^{AGT:1'12}								
2,3-Dibromopropionic Acid [‡]	105	70-130	%		552	10/04/16:211980	552.2	10/06/16:214521
Bromoacetic Acid	ND	1	ug/L		552	10/04/16:211980	552.2	10/06/16:214521
Chloroacetic Acid	ND	2	ug/L		552	10/04/16:211980	552.2	10/06/16:214521
Dibromoacetic Acid	ND	1	ug/L		552	10/04/16:211980	552.2	10/06/16:214521
Dichloroacetic Acid	ND	1	ug/L		552	10/04/16:211980	552.2	10/06/16:214521
Trichloroacetic Acid	ND	1	ug/L		552	10/04/16:211980	552.2	10/06/16:214521
Haloacetic acids (five)	ND		ug/L		552	10/04/16:211980	552.2	10/06/16:214521

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (AGT) Amber Glass TFE-Cap, (P) Plastic, (VOA) VOA Preservatives: NH4Cl, HNO3 pH < 2, Na2SO3 ‡Surrogate. * PQL adjusted for dilution.

October 14, 2016 Lab ID **Monterey Bay Analytical Services** Customer

Quality Control - Organic

Constituent	Method	Date/ID	Туре	Units	Conc.	QC Data	DQO	Note
Organic								
Bromodichloromethane	551.1	10/03/16:211902SBL	Blank	ug/L		ND	< 0.5	
			LCS	ug/L	9.706	116 %	80-120	
			MS	ug/L	9.983	104 %	80-120	
		(SP 1611385-001)	MSD	ug/L	10.35	105 %	80-120	
			MSRPD	ug/L	10.35	4.0%	≤20	
	551.1	10/03/16:214445SBL	CCV	ug/L	83.33	90.8 %	80-120	
			CCV	ug/L	166.7	119 %	80-120	
	551.1	10/04/16:214446SBL	CCV	ug/L	83.33	90.7 %	80-120	
			CCV	ug/L	166.7	90.2 %	80-120	
Bromoform	551.1	10/03/16:211902SBL	Blank	ug/L	0.704	ND	<0.5	
			LCS MS	ug/L	9.706	119 %	80-120	
		(SP 1611385-001)	MSD	ug/L	9.983	102 %	80-120	
		(SP 1011383-001)	MSRPD	ug/L ug/L	10.35 10.35	104 % 5.3%	80-120 ≤20	
	551.1	10/03/16:214445SBL	CCV	ug/L ug/L	83.33	97.7 %	80-120	
	331.1	10/03/10.21 414 33BL	CCV	ug/L ug/L	166.7	120 %	80-120	
	551.1	10/04/16:214446SBL	CCV	ug/L ug/L	83.33	83.2 %	80-120	
	331.1	10/04/10.2144403DL	CCV	ug/L ug/L	166.7	94.2 %	80-120	
Chloroform	551.1	10/03/16:211902SBL	Blank	ug/L	10017	ND	<0.5	
Cinorororin	331.1	10/03/10.211702552	LCS	ug/L	9.706	116 %	80-120	
			MS	ug/L	9.983	99.1 %	80-120	
		(SP 1611385-001)	MSD	ug/L	10.35	101 %	80-120	
			MSRPD	ug/L	10.35	4.9%	≤20	
	551.1	10/03/16:214445SBL	CCV	ug/L	83.33	94.1 %	80-120	
			CCV	ug/L	166.7	116 %	80-120	
	551.1	10/04/16:214446SBL	CCV	ug/L	83.33	86.9 %	80-120	
			CCV	ug/L	166.7	88.9 %	80-120	
Decafluorobiphenyl	551.1	10/03/16:211902SBL	Blank	ug/L	18.72	83.3 %	80-120	
			LCS	ug/L	19.41	91.6 %	80-120	
			MS	ug/L	19.97	77.0 %	80-120	435
		(SP 1611385-001)	MSD	ug/L	20.70	89.0 %	80-120	
		10/02/15 21 11 15 27	MSRPD	ug/L	10.35	18.0%	≤20.0	
	551.1	10/03/16:214445SBL	CCV	ug/L	166.7	99.7 %	80-120	
	551.1	10/04/16 214446CDI	CCV	ug/L	333.3	93.3 %	80-120	
	551.1	10/04/16:214446SBL	CCV CCV	ug/L	166.7	114 %	80-120	
Dibromochloromethane	551.1	10/03/16:211902SBL	Blank	ug/L	333.3	80.1 % ND	80-120 <0.5	
Dibromochioromethane	331.1	10/05/10:2119025BL	LCS	ug/L ug/L	9.706	120 %	80-120	
			MS	ug/L ug/L	9.983	108 %	80-120	
		(SP 1611385-001)	MSD	ug/L ug/L	10.35	109 %	80-120	
		(31 1311131 331)	MSRPD	ug/L	10.35	3.9%	≤20	
	551.1	10/03/16:214445SBL	CCV	ug/L	83.33	98.2 %	80-120	
			CCV	ug/L	166.7	120 %	80-120	
	551.1	10/04/16:214446SBL	CCV	ug/L	83.33	94.8 %	80-120	
			CCV	ug/L	166.7	91.6 %	80-120	
2,3-Dibromopropionic Acid	552	10/04/16:211980sbl	Blank	ug/L	5.000	97.9 %	70-130	
			LCS	ug/L	5.000	117 %	70-130	
		(00 4 444 5 15 00 11	MS	ug/L	5.000	109 %	70-130	
		(SP 1611647-001)	MSD	ug/L	5.000	104 %	70-130	
57		10/04/16 211000 11	MSRPD	ug/L	5.000	5.0%	≤20.0	
Dibromoacetic Acid	552	10/04/16:211980sb1	Blank	ug/L	10.00	ND	<1	
			LCS	ug/L	10.00	98.0 %	70-130	
		(SP 1611647-001)	MS MSD	ug/L	10.00 10.00	106 %	70-130 70-130	
		(31 1011047-001)	MSRPD	ug/L ug/L	5.000	111 % 4.7%	≤20.0	
		1	MINIM D	ug/L	5.000	T. / /0	_20.0	

: SP 1611647

: 2-19144

October 14, 2016 Lab ID

Monterey Bay Analytical Services Customer

Quality Control - Organic

: SP 1611647

: 2-19144

Constituent	Method	Date/ID	Туре	Units	Conc.	QC Data	DQO	Note
Organic								
Dichloroacetic Acid	552	10/04/16:211980sbl	Blank	ug/L		ND	<1	
7.0	552	10/0 // 10/211/00001	LCS	ug/L	10.00	103 %	70-130	
			MS	ug/L	10.00	111 %	70-130	
		(SP 1611647-001)	MSD	ug/L	10.00	119 %	70-130	
		(4)	MSRPD	ug/L	5.000	6.5%	≤20.0	
Monobromoacetic Acid	552	10/04/16:211980sbl	Blank	ug/L		ND	<1	
			LCS	ug/L	10.00	103 %	70-130	
			MS	ug/L	10.00	107 %	70-130	
		(SP 1611647-001)	MSD	ug/L	10.00	115 %	70-130	
			MSRPD	ug/L	5.000	7.8%	≤20.0	
Monochloroacetic Acid	552	10/04/16:211980sbl	Blank	ug/L		ND	<2	
			LCS	ug/L	10.00	109 %	70-130	
			MS	ug/L	10.00	117 %	70-130	
		(SP 1611647-001)	MSD	ug/L	10.00	132 %	70-130	435
			MSRPD	ug/L	5.000	12.5%	≤20.0	
Trichloroacetic Acid	552	10/04/16:211980sbl	Blank	ug/L		ND	<1	
			LCS	ug/L	10.00	73.9 %	70-130	
			MS	ug/L	10.00	84.6 %	70-130	
		(SP 1611647-001)	MSD	ug/L	10.00	92.9 %	70-130	
			MSRPD	ug/L	5.000	8.8%	≤20.0	
2,3-Dibromopropionic Acid	552.2	10/05/16:214521SBL		ug/L	50.00	95.6 %	70-130	
			CCV	ug/L	75.00	86.6 %	70-130	
			CCV	ug/L	75.00	89.8 %	70-130	
Dibromoacetic Acid	552.2	10/05/16:214521SBL	CCV	ug/L	100.0	106 %	70-130	
			CCV	ug/L	150.0	110 %	70-130	
			CCV	ug/L	150.0	111 %	70-130	
Dichloroacetic Acid	552.2	10/05/16:214521SBL	CCV	ug/L	100.0	116 %	70-130	
			CCV	ug/L	150.0	114 %	70-130	
			CCV	ug/L	150.0	111 %	70-130	
Monobromoacetic Acid	552.2	10/05/16:214521SBL		ug/L	100.0	111 %	70-130	
			CCV	ug/L	150.0	110 %	70-130	
			CCV	ug/L	150.0	107 %	70-130	
Monochloroacetic Acid	552.2	10/05/16:214521SBL	CCV	ug/L	100.0	130 %	70-130	
			CCV	ug/L	150.0	128 %	70-130	
			CCV	ug/L	150.0	97.9 %	70-130	
Trichloroacetic Acid	552.2	10/05/16:214521SBL	CCV	ug/L	100.0	91.4 %	70-130	
			CCV	ug/L	150.0	93.0 %	70-130	
		<u> </u>	CCV	ug/L	150.0	96.6 %	70-130	

Definition CCV

MS

: Continuing Calibration Verification - Analyzed to verify the instrument calibration is within criteria.

Blank : Method Blank - Prepared to verify that the preparation process is not contributing contamination to the samples.

LCS : Laboratory Control Standard/Sample - Prepared to verify that the preparation process is not affecting analyte recovery.

: Matrix Spikes - A random sample is spiked with a known amount of analyte. The recoveries are an indication of how that sample

matrix affects analyte recovery.

MSD : Matrix Spike Duplicate of MS/MSD pair - A random sample duplicate is spiked with a known amount of analyted. The recoveries

are an indication of how that sample matrix affects analyte recovery.

MSRPD : MS/MSD Relative Percent Difference (RPD) - The MS relative percent difference is an indication of precision for the preparation

and analysis.

ND : Non-detect - Result was below the DQO listed for the analyte.

DQO : Data Quality Objective - This is the criteria against which the quality control data is compared.

Explanation

435 : Sample matrix may be affecting this analyte. Data was accepted based on the LCS or CCV recovery.

October 14, 2016 Lab ID : SP 1611647

Monterey Bay Analytical Services Customer : 2-19144

Quality Control - Radio

Constituent	Method	Date/ID	Туре	Units	Conc.	QC Data	DQO	Note
Radio								
Alpha	900.0	10/07/16:214771caa	CCV CCB	cpm cpm	8566	42.3 % 0.100	39 - 47 0.18	
	900.0	10/10/16:214770caa	CCV CCB	cpm cpm	8566	42.3 % 0.100	39 - 48 0.14	
Gross Alpha	900.0	10/06/16:212066RMM (SP 1611632-001)	Blank LCS MS MSD MSRPD	pCi/L pCi/L pCi/L pCi/L pCi/L	107.4 107.4 107.4 107.4	1.12 105 % 113 % 127 % 11.2%	3 75-125 60-140 60-140 ≤30	
Alpha	903.0	10/12/16:214916caa	CCV CCB	cpm cpm	8562	42.3 % 0.1200	38 - 47 0.19	
Total Alpha Radium (226)	903.0	10/10/16:212044emv	RgBlk LCS BS BSD BSRPD	pCi/L pCi/L pCi/L pCi/L pCi/L	21.86 21.86 21.86 21.86	0.09 102 % 88.7 % 88.1 % 0.7%	2 52-107 43-111 43-111 ≤35.5	

Definition CCV $: Continuing\ Calibration\ Verification\ -\ Analyzed\ to\ verify\ the\ instrument\ calibration\ is\ within\ criteria.$ CCB : Continuing Calibration Blank - Analyzed to verify the instrument baseline is within criteria. Blank : Method Blank - Prepared to verify that the preparation process is not contributing contamination to the samples. RgBlk : Method Reagent Blank - Prepared to correct for any reagent contributions to sample result. LCS : Laboratory Control Standard/Sample - Prepared to verify that the preparation process is not affecting analyte recovery. : Matrix Spikes - A random sample is spiked with a known amount of analyte. The recoveries are an indication of how that sample MS matrix affects analyte recovery. : Matrix Spike Duplicate of MS/MSD pair - A random sample duplicate is spiked with a known amount of analyted. The recoveries MSD are an indication of how that sample matrix affects analyte recovery. : Blank Spikes - A blank is spiked with a known amount of analyte. It is prepared to verify that the preparation process is not BS affecting analyte recovery. : Blank Spike Duplicate of BS/BSD pair - A blank duplicate is spiked with a known amount of analyte. It is prepared to verify that BSD the preparation process is not affecting analyte recovery. : MS/MSD Relative Percent Difference (RPD) - The MS relative percent difference is an indication of precision for the preparation MSRPD : BS/BSD Relative Percent Difference (RPD) - The BS relative percent difference is an indication of precision for the preparation

: Data Quality Objective - This is the criteria against which the quality control data is compared.

BSRPD

DQO

and analysis.



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CHAIN OF CUSTODY AND ANALYSIS REQUEST DOCUMENT

	Monterey Bay Analytica er Number: 2019144 : 4 Justin Court	l Services			ab N []][umber	7_					TES	ST D	ESCI	RIPT	ION	AND	ANA	LYS	SES F	REQU	ÆST	ED				
Project Purcha	Monterey, CA 93940 (831)375-6227 Fax: (83° ddress: info@mbasinc.com Person: David Holland Name: MPWMD se Order Number:	1)641-0734		Grab (G)		VOA (MT)Melai Tuba	Ag Water (AgW)	(GW) Ground Water (DW) Drinkong Water			Other (RPL)Replace	Produce)) HCI 37														
Rush A Rush p Electron Sample	Number: nalysis:	Client Other:		Mathod of Sampling: Composite (C)	Number of Containers	Type of Containers: (G) Glass (P)Pisstic (V)VOA (MT)Metal Tubs	Potable (P) Non-Potable (NP) Ag Wi	(SW) Surface Water (MW) Monttoring Well ((TB) Travel Blank (WW) Waste Water ((SLD) Solid (O) Oil	BecT. (Sys) System (SRC) Source (W) Waste	Bacf. (ROUT)Routine (RPT)Repasi (OTH)Other (RPL)Replace	(LT) Lesf Tissue (PET) Peliale Tissue (PRD) Produce	Preservative: (1) NaOH + ZnAc. (2) NaOH, (3) HCI (4) H2SO4, (5) HNO3. (6) Na2\$2O3. (7) Other	Gross Alpha	наа	Ra 226	THMS										
1.	ASR4	9/21/16	10:30	G							- · · · · ·			х	x	x	x										
2.	ASR1	9/21/16	09:30	G										х	x	x	x					-					-
3.	ASR3	9/21/16	13:00	G										х	x	×	x										
4.	ASR2	9/27/16	10:00	G										х	×	x	x										
5.	MW1	9/27/16	11:00	G											х		x										
																										ĺ	
Remari AB54	457,AB54458,AB54459,AB5446			Reling	nished	0	() P	ate:		ine: 400	F	Relingui G	shed SC)	Γ	Date:	7	ime:		Relinqu	uished		1	Date:	•	l'ime:	
	53346	89+		Receiv	red By:		D	ate:	Ti	me:	F	eceive (\ <u></u>		Date: USO		ime: (2)	- 1	Receiv	•			Date:		Γύπe:	
	rate Offices & Laboratory	Anthropista Commencial and the state of the	Office & Lobe		-1-1-1-1	*** ********			26500					~						-					-		

Corporate Offices & Laboratory 853 Corporation Street Santa Paula, CA 93060 TEL: (805)392-2000

Office & Laboratory 2500 Stagecoach Road Stockton, CA 95215 TEL: (209)942-0182 FAX: (209)942-0423 Office & Laboratory 563 E. Lindo Avenue Chico, CA 95926 TEL: (530)343-5818 FAX: (530)343-3807 Office & Laboratory 3442 Empresa Drive, Suite D San Luis Obispo, CA 93401 TEL: (805)783-2940 FAX: (805)783-2942 Office & Laboratory 9415 W. Goshen Avenue Visalia, CA 93291 TEL: (559)734-9473 FAX: (559)734-8435 CA ELAP Certification No. 2810 FGL Environmental Doc ID: 2D0900157_SOP_17.DOC

Revision Date: 10/09/14 Page: 1 of 1

Condition Upon Receipt (Attach to COC)

Sample Receipt at SP:							
1. Number of ice chests/packages received:	1						
2. Shipper tracking numbers 533468971							
Were samples received in a chilled condition? Temps:	6	/	/	/_	/_	/	/
4. Surface water (SWTR) bact samples: A sample the should be flagged unless the time since sample co			•		•	C, wheth	er iced or not,
5. Do the number of bottles received agree with the COC?	Yes	No	N/A				
6. Verify sample date, time, sampler	Yes	No	N/A				
7. Were the samples received intact? (i.e. no broken bottles, leaks, etc.)	Yes	No					
8. Were sample custody seals intact?	Yes	No	N/A				
Sample Verification, Labeling and Distribution:							
Were all requested analyses understood and acceptable?	Yes	No					
2. Did bottle labels correspond with the client's ID's?	Yes	No					
3. Were all bottles requiring sample preservation properly preserved? [Exception: Oil & Grease, VOA and CrVI verified in lab	Yes	No	N/A	FGL			
4. VOAs checked for Headspace?	Yes	No	N/A				
5. Were all analyses within holding times at time of receipt?	Yes	No					
6. Have rush or project due dates been checked and accepted?	Yes	No	N/A				
Include a copy of the COC for lab delivery. (Bacti. In	organics a	and Ra	ıdio)				
Sample Receipt, Login and Verification completed b	•		Reviewed Approve		Shawn I	Peck 🧰	Digitally signed by Shawn Peck Title: Sample Receiving Date: 10/04/2016-09:21:43
Discrepency Documentation:		<i>'</i> : .	,				
Any items above which are "No" or do not meet spec		•	• ,	st be re	esoivea.		
1. Person Contacted:			umber: _				
Initiated By: Problem:		ate:	_				
Problem.							
Resolution:							
2. Person Contacted:	Pł	none N	umber: _				
Initiated By:		ate:					
Problem:			_				
Resolution:					(2	019144))

Monterey Bay Analytical Services SP 1611647



McCampbell Analytical, Inc.

"When Quality Counts"

Analytical Report

WorkOrder: 1609D74

Report Created for: Monterey Bay Analytical

4 Justin Court, Suite D Monterey, CA 93940

Project Contact:

David Holland

Project P.O.:

Project Name: MPWMD

Project Received: 09/30/2016

Analytical Report reviewed & approved for release on 10/07/2016 by:

Angela Rydelius, Laboratory Manager

The report shall not be reproduced except in full, without the written approval of the laboratory. The analytical results relate only to the items tested. Results reported conform to the most current NELAP standards, where applicable, unless otherwise stated in the case narrative.



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Glossary of Terms & Qualifier Definitions

Client: Monterey Bay Analytical

Project: MPWMD **WorkOrder:** 1609D74

Glossary Abbreviation

%D Serial Dilution Percent Difference

95% Interval 95% Confident Interval

DF Dilution Factor

DI WET (DISTLC) Waste Extraction Test using DI water

DISS Dissolved (direct analysis of 0.45 µm filtered and acidified water sample)

DLT Dilution Test (Serial Dilution)

DUP Duplicate

EDL Estimated Detection Limit

ITEF International Toxicity Equivalence Factor

LCS Laboratory Control Sample

MB Method Blank

MB % Rec % Recovery of Surrogate in Method Blank, if applicable

MDL Method Detection Limit

ML Minimum Level of Quantitation

MS Matrix Spike

MSD Matrix Spike Duplicate

N/A Not Applicable

ND Not detected at or above the indicated MDL or RL

NR Data Not Reported due to matrix interference or insufficient sample amount.

PDS Post Digestion Spike

PDSD Post Digestion Spike Duplicate

PF Prep Factor

RD Relative Difference

RL Reporting Limit (The RL is the lowest calibration standard in a multipoint calibration.)

RPD Relative Percent Deviation
RRT Relative Retention Time

SPK Val Spike Value

SPKRef Val Spike Reference Value

SPLP Synthetic Precipitation Leachate Procedure

ST Sorbent Tube

TCLP Toxicity Characteristic Leachate Procedure

TEQ Toxicity Equivalents

WET (STLC) Waste Extraction Test (Soluble Threshold Limit Concentration)

Analytical Qualifiers

H samples were analyzed out of holding time

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Analytical Report

Client: Monterey Bay Analytical

 Date Received:
 9/30/16 10:30

 Date Prepared:
 10/6/16

 Project:
 MPWMD

WorkOrder: 1609D74

Extraction Method: RSK175 **Analytical Method:** RSK175

Unit: $\mu g/L$

DISSULVEU GASES DV KSIX I	solved Gases by RSK	175
---------------------------	---------------------	-----

Client ID	Lab ID	Matrix	trix Date Collected Instrument		Batch ID 127758	
ASR4	1609D74-001 <i>A</i>	1609D74-001A Water		16 10:30 GC26		
Analytes	Result	<u>Qualifiers</u>	<u>RL</u>	<u>DF</u>	Date Analyzed	
Methane	1.7	Н	0.10	1	10/06/2016 15:01	

Analyst(s): AK

Client ID	Lab ID	Matrix	Date Co	llected Instrument	Batch ID
ASR1	1609D74-002	A Water	09/21/201	6 09:30 GC26	127758
<u>Analytes</u>	Result	<u>Qualifiers</u>	<u>RL</u>	<u>DF</u>	Date Analyzed
Methane	2.2	Н	0.10	1	10/06/2016 15:12

Analyst(s): AK

Client ID	Lab ID	Matrix	Date Collected Instrument	Batch ID
ASR3	1609D74-003A	Water	09/21/2016 13:00 GC26	127758
<u>Analytes</u>	<u>Result</u>	Qualifiers	<u>RL</u> <u>DF</u>	Date Analyzed
Methane	1.4	Н	0.10 1	10/06/2016 15:24

Analyst(s): AK

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
ASR2	1609D74-004A	Water	09/27/2016 10:00	GC26	127758
<u>Analytes</u>	Result		<u>RL</u> <u>DF</u>		Date Analyzed
Methane	1.7		0.10 1		10/06/2016 15:35

Analyst(s): AK

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Quality Control Report

Client:Monterey Bay AnalyticalWorkOrder:1609D74Date Prepared:10/6/16BatchID:127758Date Analyzed:10/6/16Extraction Method:RSK175

Instrument:GC26Analytical Method:RSK175Matrix:AirUnit:μL/L

Project: MPWMD **Sample ID:** MB/LCS-127758

QC Summary Report for RSK175							
Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Acetylene	ND	8.61	0.50	10	-	86	70-130
Ethane	ND	11.4	0.50	10	-	114	70-130
Ethylene	ND	8.37	0.50	10	-	84	70-130
Methane	ND	9.50	0.50	10	-	95	70-130

McCampbell Analytical, Inc.

1534 Willow Pass Rd Pittsburg, CA 94565-1701 (925) 252-9262

CHAIN-OF-CUSTODY RECORD

Page 1 of

WorkOrder: 1609D74 ClientCode: MBAS

	☐ WaterTrax	WriteOn	EDF	Excel	EQuIS	✓ Email	HardCopy	ThirdParty	☐ J-flag
Report to:				В	ill to:		Requ	uested TAT:	5 days;
David Holland	Email: m	nweidner@mbas	inc.com; Dholla	and@mbas	Accounts Payal	ble			
Monterey Bay Analytical	cc/3rd Party:				Monterey Bay A	Analytical			
4 Justin Court, Suite D	PO:				4 Justin Court,	Suite D	Date	e Received:	09/30/2016
Monterey, CA 93940	ProjectNo: N	/PWMD			Monterey, CA 9	3940	Date	e Logged:	09/30/2016
831-375-6227 FAX: 831-641-0734									

								Re	quested	Tests (See leg	end bel	ow)			
Lab ID	Client ID	Matrix	Collection Date	Hold	1	2	3	4	5	6	7	8	9	10	11	12
1609D74-001	ASR4	Water	9/21/2016 10:30		Α											
1609D74-002	ASR1	Water	9/21/2016 09:30		Α											
1609D74-003	ASR3	Water	9/21/2016 13:00		Α											
1609D74-004	ASR2	Water	9/27/2016 10:00		Α											

Test Legend:

1	RSK175_W	2	3	4
5		6	7	8
9		10	11	12

Prepared by: Maria Venegas

Comments:

NOTE: Soil samples are discarded 60 days after results are reported unless other arrangements are made (Water samples are 30 days).

Hazardous samples will be returned to client or disposed of at client expense.



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"When Quality Counts"

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WORK ORDER SUMMARY

Client Name:	: MONTERE	Y BAY ANALYTIC	AL		Project:	MPWMI)				Wor	k Order:	1609D74
Client Conta	ct: David Holla	ind									Q	C Level:	LEVEL 2
Contact's En	_	mbasinc.com; Dholla global.net; info@mba	_	.com;	Comments	•					Date	Logged:	9/30/2016
		WaterTrax	WriteOn	EDF	Exce]Fax	✓ Email	HardCo	ppyThirdParty		-flag	
Lab ID	Client ID	Matrix	Test Name			ontainers omposites	Bottle	& Preservative	De- chlorinated	Collection Date & Time	TAT	Sediment Content	Hold SubOut
1609D74-001A	ASR4	Water	RSK175 <me< td=""><td>thane_4></td><td></td><td>3</td><td>V</td><td>OA w/ HCl</td><td></td><td>9/21/2016 10:30</td><td>5 days</td><td>None</td><td></td></me<>	thane_4>		3	V	OA w/ HCl		9/21/2016 10:30	5 days	None	
1609D74-002A	ASR1	Water	RSK175 <me< td=""><td>thane_4></td><td></td><td>3</td><td>V</td><td>OA w/ HCl</td><td></td><td>9/21/2016 9:30</td><td>5 days</td><td>None</td><td></td></me<>	thane_4>		3	V	OA w/ HCl		9/21/2016 9:30	5 days	None	
1609D74-003A	ASR3	Water	RSK175 <me< td=""><td>thane_4></td><td></td><td>3</td><td>V</td><td>OA w/ HCl</td><td></td><td>9/21/2016 13:00</td><td>5 days</td><td>None</td><td></td></me<>	thane_4>		3	V	OA w/ HCl		9/21/2016 13:00	5 days	None	
1609D74-004A	ASR2	Water	RSK175 <me< td=""><td>thane_4></td><td></td><td>3</td><td>V</td><td>OA w/ HCl</td><td></td><td>9/27/2016 10:00</td><td>5 days</td><td>None</td><td></td></me<>	thane_4>		3	V	OA w/ HCl		9/27/2016 10:00	5 days	None	

NOTES: - STLC and TCLP extractions require 2 days to complete; therefore, all TATs begin after the extraction is completed (i.e., One-day TAT yields results in 3 days from sample submission).

- MAI assumes that all material present in the provided sampling container is considered part of the sample - MAI does not exclude any material from the sample prior to sample preparation unless requested in writing by the client.

1009074

McCAMPBELL ANALYTICAL, INC. CHAIN OF CUSTODY RECORD M 1534 WILLOW PASS ROAD TURN AROUND TIME PITTSBURG, CA 94565-1701 RUSH 24 HR 48 HR 72 HR 5 DAY Website: www.mccampbell.com Email: main@mccampbell.com □ PDF ☐ Excel ☐ Write On (DW) ☐ GeoTracker EDF Telephone: (877) 252-9262 Fax: (925) 252-9269 Report To: David Holland Other Comments Bill To: **Analysis Request** Company: Monterey Bay Analytical Services EPA 608 / 8082 PCB's ONLY; Aroclors / Congeners Total Petroleum Oil & Grease (1664 / 5520 E/B&F) Filter 8015) 4 Justin Ct. Suite D Samples Monterey, Ca 93940 E-Mail: info@mbasinc.com Gas (602 / 8021 + LUFT 5 Metals (200.7 / 200.8 / 6010 / 6020) for Metals Tele: (831) 375 - 6227 Fax: (831) 641-0734 MTBE / BTEX ONLY (EPA 602 / 8021) EPA 502.2 / 601 / 8010 / 8021 (HVOCs) analysis: Fotal Petroleum Hydrocarbons (418.1) EPA 515 / 8151 (Acidic Cl Herbicides) EPA 8270 SIM / 8310 (PAHs / PNAs) Project #: Project Name: MPWMD Yes / No EPA 505/ 608 / 8081 (CI Pesticides) Lead (200.7 / 200.8 / 6010 / 6020) TPH as Diesel / Motor Oil (8015) **Project Location:** EPA 525.2 / 625 / 8270 (SVOCs) EPA 507 / 8141 (NP Pesticides) EPA 524.2 / 624 / 8260 (VOCs) Sampler Signature: Jonathan Lear METHOD MTBE / BTEX & TPH SAMPLING MATRIX Type Containers PRESERVED # Containers LOCATION/ SAMPLE ID Methane Field Point Name Sludge Date Time Water HNO3 Other Other HCL ICE Soil X ASR4 9/21/16 10:30 V X XX AB54457 X X ASR1 9/21/16 09:30 XX AB54458 3 X X 9/21/16 13:00 V XX AB54459 ASR3 AB54460 ASR2 9/27/16 10:00 V X XX * All VOAS had headspace Received By: Relinquished By: ICE/to Date: Time: 9/29 GOOD CONDITION David Holland 1600 HEAD SPACE ABSENT Received By: Relinquished By: Date: Time: DECHLORINATED IN LAB APPROPRIATE CONTAINERS 1030 PRESERVED IN LAB Relinquished By: Date: Time: Received By: VOAS O&G METALS OTHER PRESERVATION pH<2

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Sample Receipt Checklist

Client Name:	Monterey Bay Analytical			Date and Time Received	9/30/2016 10:30
Project Name:	MPWMD			Date Logged: Received by:	9/30/2016 Maria Venegas
WorkOrder №:	1609D74 Matrix: <u>Water</u>			Logged by:	Maria Venegas
Carrier:	Golden State Overnight			00 ,	Ů
	Chain of C	ustody	/ (COC) Infor	mation	
Chain of custody		Yes	✓	No 🗆	
-	signed when relinquished and received?	Yes	✓	No 🗆	
-	agrees with sample labels?	Yes	✓	No 🗌	
Sample IDs note	d by Client on COC?	Yes	✓	No 🗌	
Date and Time of	f collection noted by Client on COC?	Yes	✓	No 🗌	
Sampler's name	noted on COC?	Yes	•	No 🗆	
	Sampl	e Rece	eipt Informati	ion	
Custody seals int	tact on shipping container/cooler?	Yes			NA 🗸
Shipping contain	er/cooler in good condition?	Yes	✓	No 🗌	
Samples in prope	er containers/bottles?	Yes	✓	No 🗆	
Sample containe	rs intact?	Yes	•	No 🗆	
Sufficient sample	e volume for indicated test?	Yes	✓	No 🗌	
	Sample Preservation	on and	Hold Time (I	HT) Information	
All samples recei	ived within holding time?	Yes	✓	No 🗌	
Sample/Temp Bl	ank temperature		Temp: 10	.2°C	NA 🗌
Water - VOA vial	s have zero headspace / no bubbles?	Yes		No 🗹	NA \square
Sample labels ch	necked for correct preservation?	Yes	✓	No 🗌	
pH acceptable up	oon receipt (Metal: <2; 522: <4; 218.7: >8)?	Yes		No 🗌	NA 🗹
Samples Receive		Yes	•	No 🗌	
		e: BLl	JE ICE)		
UCMR3 Samples Total Chlorine		Yes		No 🗌	NA 🗸
Free Chlorine t 300.1, 537, 539	ested and acceptable upon receipt for EPA 218.7, 9?	Yes		No 🗆	NA 🗹
====-	========	<u> </u>			=======
Comments:					



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ELAP Certification Number: 2385

Thursday, December 22, 2016

Lab Number: AB58007

Collection Date/Time: 12/1/2016 10:30 Sample Collector: LINDBERG T Client Sample #:
Submittal Date/Time: 12/1/2016 14:40 Sample ID Coliform Designation:

		Sample	Description: PARAL	ГА			
Analyte	Method	Unit	Result Qual	PQL	MCL	Date Analyzed	Analyst:
Alkalinity, Total (as CaCO3)	SM2320B	mg/L	223	10		12/12/2016	BS
Aluminum, Total	EPA200.8	μg/L	Not Detected	10	1000	12/13/2016	SM
Ammonia-N	SM4500NH3 D	mg/L	0.10	0.05		12/2/2016	MW
Arsenic, Total	EPA200.8	μg/L	3	1	10	12/13/2016	SM
Barium, Total	EPA200.8	μg/L	64	10	1000	12/13/2016	SM
Bicarbonate (as HCO3-)	SM2320B	mg/L	272	10		12/12/2016	MP
Boron	EPA200.7	mg/L	0.10	0.05		12/7/2016	MW
Bromide	EPA300.0	mg/L	0.3	0.1		12/2/2016	BS
Calcium	EPA200.7	mg/L	73	0.5		12/7/2016	MW
Carbonate as CaCO3	SM2320B	mg/L	Not Detected	10		12/12/2016	MP
Chloramines	SM4500-CI G	mg/L	Not Detected	0.05		12/1/2016	MW
Chloride	EPA300.0	mg/L	112	1.0	250	12/2/2016	BS
DOC	SM5310C	mg/L	1.0	0.2		12/1/2016	MW
Fluoride	EPA300.0	mg/L	0.3	0.1	2.0	12/2/2016	BS
Gross Alpha	EPA900.0	pCi/L	7.19 ± 2.50 E		15	12/12/2016	FGL
Haloacetic Acids	EPA552	μg/L	Not Detected E		60	12/8/2016	FGL
Iron	EPA200.7	μg/L	24	10	300	12/7/2016	MW
Iron, Dissolved	EPA200.7	μg/L	20	10	300	12/7/2016	MW
Kjehldahl Nitrogen	SM4500-NH3 B,C.	mg/L	1.2	0.5		12/8/2016	BS
Lithium	EPA200.8	μg/L	30	1		12/13/2016	SM
Magnesium	EPA200.7	mg/L	17	0.5		12/7/2016	MW
Manganese, Dissolved	EPA200.7	μg/L	30	10	50	12/7/2016	MW
Manganese, Total	EPA200.7	μg/L	28	10	50	12/7/2016	MW
Methane	EPA174/175	μg/L	3.7 E	0.1		12/12/2016	MCCAM
Molybdenum, Total	EPA200.8	μg/L	12	1	1000	12/13/2016	SM
Nickel, Total	EPA200.8	μg/L	Not Detected	10	100	12/13/2016	SM
Nitrate as NO3	EPA300.0	mg/L	3	4.0	45	12/2/2016	BS
Nitrate as NO3-N	EPA300.0	mg/L	0.2	0.1	10	12/2/2016	BS
Nitrate+Nitrite as N	EPA300.0	mg/L	0.5	0.10		12/2/2016	BS
Nitrite as NO2-N	EPA300.0	mg/L	0.3	0.1	1.0	12/2/2016	BS
o-Phosphate-P, Dissolved	EPA300.0	mg/L	0.2	0.1		12/2/2016	BS
pH (Laboratory)	SM4500-H+B	pH (H)	7.3	0.1		12/1/2016	BS

mg/L: Milligrams per liter (=ppm)

ug/L : Micrograms per liter (=ppb)

PQL: Practical Quantitation Limit

H = Analyzed ouside of hold time

E = Analysis performed by External Laboratory; See External Laboratory Report attachments.

T = Temperature Exceedance

D = Method deviates from standard method due to insufficient sample for MS/MSD



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ELAP Certification Number: 2385

Thursday, December 22, 2016

Lab Number: AB58007

Collection Date/Time: 12/1/2016 10:30 Sample Collector: LINDBERG T Client Sample #:
Submittal Date/Time: 12/1/2016 14:40 Sample ID Coliform Designation:

	0.00	Campions				00111011111	ooigi iatioii.		
		Sample Description: PARALTA							
Analyte	Method	Unit	Result	Qual	PQL	MCL	Date Analyzed	Analyst:	
Phosphorus, Total	HACH 8190	mg/L	0.03		0.03		12/13/2016	LRH	
Potassium	EPA200.7	mg/L	4.7		0.5		12/7/2016	MW	
QC Anion Sum x 100	Calculation	%	99%				12/22/2016	DH	
QC Anion-Cation Balance	Calculation	%	-2				12/22/2016	DH	
QC Cation Sum x 100	Calculation	%	96%				12/12/2016	MW	
QC Ratio TDS/SEC	Calculation		0.61				12/9/2016	MP	
Selenium, Total	EPA200.8	μg/L	2		2	50	12/13/2016	SM	
Silica as SiO2, Total	EPA200.7	mg/L	40		0.5		12/7/2016	MW	
Sodium	EPA200.7	mg/L	83		0.5		12/7/2016	MW	
Specific Conductance (E.C)	SM2510B	µmhos/cm	912		1	900	12/6/2016	HM	
Strontium, Total	EPA200.8	μg/L	379	BB	5		12/13/2016	SM	
Sulfate	EPA300.0	mg/L	66		1.0	250	12/2/2016	BS	
TOC	SM5310C	mg/L	1.0		0.2		12/1/2016	MW	
Total Diss. Solids	SM2540C	mg/L	557		10	500	12/7/2016	MP	
Total Nitrogen	Calculation	mg/L	1.7		0.5		12/22/2016	DH	
Total Radium 226	EPA903.0	pCi/L	1.39 ± 0.349	Е		3	12/15/2016	FGL	
Trihalomethanes	EPA524.2	μg/L	4.3	Е		80	12/6/2016	FGL	
Uranium by ICP/MS	EPA200.8	μg/L	1		1	30	12/13/2016	SM	
Vanadium, Total	EPA200.8	μg/L	5		5	1000	12/13/2016	SM	
Zinc, Total	EPA200.8	μg/L	Not Detected		20	5000	12/13/2016	SM	

Sample Comments:

BB: Sample > 4x spike concentration.

Report Approved by

David Holland, Laboratory Director

mg/L: Milligrams per liter (=ppm)

ug/L : Micrograms per liter (=ppb)

PQL : Practical Quantitation Limit

H = Analyzed ouside of hold time

E = Analysis performed by External Laboratory; See External Laboratory Report attachments.

T = Temperature Exceedance

D = Method deviates from standard method due to insufficient sample for MS/MSD



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ELAP Certification Number: 2385

Thursday, December 22, 2016

Lab Number: **AB58008**

Collection Date/Time: 12/1/2016 10:30 Sample Collector: LINDBERG T Client Sample #: Submittal Date/Time: 12/1/2016 Sample ID Coliform Designation: 14:40

		Samp	le Description: MW-1				
Analyte	Method	Unit	Result Qual	PQL	MCL	Date Analyzed	Analyst:
Alkalinity, Total (as CaCO3)	SM2320B	mg/L	209	10		12/12/2016	BS
Aluminum, Total	EPA200.8	μg/L	Not Detected	10	1000	12/13/2016	SM
Ammonia-N	SM4500NH3 D	mg/L	Not Detected	0.05		12/2/2016	MW
Arsenic, Total	EPA200.8	μg/L	2	1	10	12/13/2016	SM
Barium, Total	EPA200.8	μg/L	66	10	1000	12/13/2016	SM
Bicarbonate (as HCO3-)	SM2320B	mg/L	255	10		12/12/2016	MP
Boron	EPA200.7	mg/L	0.08	0.05		12/7/2016	MW
Bromide	EPA300.0	mg/L	0.3	0.1		12/2/2016	BS
Calcium	EPA200.7	mg/L	74	0.5		12/7/2016	MW
Carbonate as CaCO3	SM2320B	mg/L	Not Detected	10		12/12/2016	MP
Chloramines	SM4500-CI G	mg/L	Not Detected	0.05		12/1/2016	MW
Chloride	EPA300.0	mg/L	109	1	250	12/2/2016	BS
OOC	SM5310C	mg/L	1.3	0.2		12/1/2016	MW
Fluoride	EPA300.0	mg/L	0.3	0.1	2.0	12/2/2016	BS
Gross Alpha	EPA900.0	pCi/L	4.70 ± 2.20 E		15	12/12/2016	FGL
Haloacetic Acids	EPA552	μg/L	Not Detected E		60	12/8/2016	FGL
ron	EPA200.7	μg/L	Not Detected	10	300	12/7/2016	MW
ron, Dissolved	EPA200.7	μg/L	Not Detected	10	300	12/7/2016	MW
Kjehldahl Nitrogen	SM4500-NH3 B,C.	mg/L	Not Detected	0.5		12/8/2016	BS
_ithium	EPA200.8	μg/L	25	1		12/13/2016	SM
Magnesium	EPA200.7	mg/L	22	0.5		12/7/2016	MW
Manganese, Dissolved	EPA200.7	μg/L	16	10	50	12/7/2016	MW
Manganese, Total	EPA200.7	μg/L	17	10	50	12/7/2016	MW
Methane	EPA174/175	μg/L	0.92 E	0.1		12/12/2016	MCCAM
Molybdenum, Total	EPA200.8	μg/L	10	1	1000	12/13/2016	SM
Nickel, Total	EPA200.8	μg/L	Not Detected	10	100	12/13/2016	SM
Nitrate as NO3	EPA300.0	mg/L	Not Detected	1	45	12/2/2016	BS
Nitrate as NO3-N	EPA300.0	mg/L	0.1	0.1	10	12/2/2016	BS
Nitrate+Nitrite as N	EPA300.0	mg/L	0.4	0.1		12/2/2016	BS
Nitrite as NO2-N	EPA300.0	mg/L	0.3	0.1	1.0	12/2/2016	BS
o-Phosphate-P, Dissolved	EPA300.0	mg/L	0.1	0.1		12/2/2016	BS
oH (Laboratory)	SM4500-H+B	pH (H)	7.3	0.1		12/1/2016	BS

mg/L: Milligrams per liter (=ppm)

ug/L: Micrograms per liter (=ppb)

PQL: Practical Quantitation Limit

H = Analyzed ouside of hold time

E = Analysis performed by External Laboratory; See External Laboratory Report attachments.

D = Method deviates from standard method due to insufficient sample for MS/MSD

T = Temperature Exceedance



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ELAP Certification Number: 2385

Thursday, December 22, 2016

Lab Number: AB58008

Collection Date/Time: 12/1/2016 10:30 Sample Collector: LINDBERG T Client Sample #:
Submittal Date/Time: 12/1/2016 14:40 Sample ID Coliform Designation:

		Sample	Description	: MW-1				
Analyte	Method	Unit	Result	Qual	PQL	MCL	Date Analyzed	Analyst:
Phosphorus, Total	HACH 8190	mg/L	0.11		0.03		12/13/2016	LRH
Potassium	EPA200.7	mg/L	4.6		0.5		12/7/2016	MW
QC Anion Sum x 100	Calculation	%	99%				12/12/2016	MP
QC Anion-Cation Balance	Calculation	%	-2				12/12/2016	MP
QC Cation Sum x 100	Calculation	%	96%				12/12/2016	MW
QC Ratio TDS/SEC	Calculation		0.58				12/9/2016	MP
Selenium, Total	EPA200.8	μg/L	2		2	50	12/13/2016	SM
Silica as SiO2, Total	EPA200.7	mg/L	36		0.5		12/7/2016	MW
Sodium	EPA200.7	mg/L	67		0.5		12/7/2016	MW
Specific Conductance (E.C)	SM2510B	µmhos/cm	890		1	900	12/6/2016	НМ
Strontium, Total	EPA200.8	μg/L	388	BB	5		12/13/2016	SM
Sulfate	EPA300.0	mg/L	75		1	250	12/2/2016	BS
TOC	SM5310C	mg/L	1.0		0.2		12/1/2016	MW
Total Diss. Solids	SM2540C	mg/L	517		10	500	12/7/2016	MP
Total Nitrogen	Calculation	mg/L	Not Detected		0.5		12/8/2016	MP
Total Radium 226	EPA903.0	pCi/L	0.878 ± 0.282	! E		3	12/13/2016	FGL
Trihalomethanes	EPA524.2	μg/L	26.7	E		80	12/6/2016	FGL
Uranium by ICP/MS	EPA200.8	μg/L	2		1	30	12/13/2016	SM
Vanadium, Total	EPA200.8	μg/L	Not Detected		5	1000	12/13/2016	SM
Zinc, Total	EPA200.8	μg/L	Not Detected		20	5000	12/13/2016	SM

Sample Comments:

BB: Sample > 4x spike concentration.

Report Approved by

David Holland, Laboratory Director

mg/L: Milligrams per liter (=ppm)

ug/L : Micrograms per liter (=ppb)

PQL: Practical Quantitation Limit

H = Analyzed ouside of hold time

E = Analysis performed by External Laboratory; See External Laboratory Report attachments.

emai Laboratory Report attacrimen

D = Method deviates from standard method due to insufficient sample for MS/MSD

T = Temperature Exceedance

December 20, 2016

Monterey Bay Analytical Services Lab ID : SP 1614528 4 Justin Court Customer : 2-19144

Monterey, CA 93940

Laboratory Report

Introduction: This report package contains total of 9 pages divided into 3 sections:

Case Narrative (2 pages): An overview of the work performed at FGL.

Sample Results (4 pages): Results for each sample submitted.

Quality Control (3 pages): Supporting Quality Control (QC) results.

Case Narrative

This Case Narrative pertains to the following samples:

Sample Description	Date Sampled	Date Received	FGL Lab ID#	Matrix
Paralta	12/01/2016	12/06/2016	SP 1614528-001	W
MW-1	12/01/2016	12/06/2016	SP 1614528-002	W

Sampling and Receipt Information: All samples were received in acceptable condition and within temperature requirements, unless noted on the Condition Upon Receipt (CUR) form. All samples arrived at 6 °C. All samples were prepared and analyzed within the method specified hold time. All samples were checked for pH if acid or base preservation is required (except for VOAs). For details of sample receipt information, please see the attached Chain of Custody and Condition Upon Receipt Form.

Quality Control: All samples were prepared and analyzed according to the following tables:

Organic QC

	12/06/2016:217779 All analysis quality controls are within established criteria, except:
551.1	The following note applies to Decafluorobiphenyl:
	362 Surrogates are qualified on Control Chart Limits, these are CCV limits. See individual sample reports.
	12/06/2016:214619 All preparation quality controls are within established criteria, except:
	The following note applies to Dibromochloromethane, Bromoform, Decafluorobiphenyl:
	435 Sample matrix may be affecting this analyte. Data was accepted based on the LCS or CCV recovery.
	12/07/2016:214679 All preparation quality controls are within established criteria, except:
552	The following note applies to Dibromoacetic Acid, Monobromoacetic Acid, Dichloroacetic Acid,
332	Trichloroacetic Acid, Monochloroacetic Acid:
	435 Sample matrix may be affecting this analyte. Data was accepted based on the LCS or CCV recovery.

December 20, 2016 **Monterey Bay Analytical Services**

Customer : 2-19144

: SP 1614528

Organic QC

Lab ID

552.2	12/08/2016:217890 All analysis quality controls are within established criteria.
-------	--

Radio QC

900.0	12/12/2016:218169 All analysis quality controls are within established criteria.
	12/12/2016:218171 All analysis quality controls are within established criteria.
	12/08/2016:214683 All preparation quality controls are within established criteria, except: The following note applies to Gross Alpha: 435 Sample matrix may be affecting this analyte. Data was accepted based on the LCS or CCV recovery.
903.0	12/13/2016:218172 All analysis quality controls are within established criteria.
	12/15/2016:218172 All analysis quality controls are within established criteria.
	12/07/2016:214680 All preparation quality controls are within established criteria.

Certification:: I certify that this data package is in compliance with ELAP standards, both technically and for completeness, except for any conditions listed above. Release of the data contained in this data package is authorized by the Laboratory Director or his designee, as verified by the following electronic signature.

KD:DMB

Approved By Kelly A. Dunnahoo, B.S.





December 20, 2016 Lab ID : SP 1614528-001

Customer ID : 2-19144

Monterey Bay Analytical Services

4 Justin Court Sampled On : December 1, 2016-10:30

Sampled By : T. Lindberg Monterey, CA 93940

Received On: December 6, 2016-13:40

Matrix : Water

Description : Paralta **Project** : MPWMD

Sample Result - Organic

Constituent	Result	PQL	Units	Note	Sample Preparation		Samp	le Analysis
Constituent	Result	1 QL	Omts	Note	Method	Date/ID	Method	Date/ID
EPA 551.1								
Decafluorobiphenyl [‡]	108	80-120	%		551.1	12/06/16:214619	551.1	12/06/16:217779
Bromodichloromethane	0.6	0.5	ug/L		551.1	12/06/16:214619	551.1	12/06/16:217779
Bromoform	ND	0.5	ug/L		551.1	12/06/16:214619	551.1	12/06/16:217779
Chloroform	3.7	0.5	ug/L		551.1	12/06/16:214619	551.1	12/06/16:217779
Dibromochloromethane	ND	0.5	ug/L		551.1	12/06/16:214619	551.1	12/06/16:217779
Total Trihalomethanes	4.3		ug/L		551.1	12/06/16:214619	551.1	12/06/16:217779
EPA 552.2								
2,3-Dibromopropionic Acid [‡]	101	70-130	%		552	12/07/16:214679	552.2	12/08/16:217890
Bromoacetic Acid	ND	1	ug/L		552	12/07/16:214679	552.2	12/08/16:217890
Chloroacetic Acid	ND	2	ug/L		552	12/07/16:214679	552.2	12/08/16:217890
Dibromoacetic Acid	ND	1	ug/L		552	12/07/16:214679	552.2	12/08/16:217890
Dichloroacetic Acid	ND	1	ug/L		552	12/07/16:214679	552.2	12/08/16:217890
Trichloroacetic Acid	ND	1	ug/L		552	12/07/16:214679	552.2	12/08/16:217890
Haloacetic acids (five)	ND		ug/L		552	12/07/16:214679	552.2	12/08/16:217890

ND=Non-Detected. PQL=Practical Quantitation Limit. ‡Surrogate. * PQL adjusted for dilution.

Lab ID : SP 1614528-001

Customer ID : 2-19144

Monterey Bay Analytical Services

Sampled On : December 1, 2016-10:30 4 Justin Court

Sampled By: T. Lindberg Monterey, CA 93940

Received On: December 6, 2016-13:40

: Water Matrix

Description : Paralta **Project** : MPWMD

December 20, 2016

Sample Result - Radio

Constituent	Result ± Error	MDA	Units	MCL/AL	Sample	Preparation	Sample Analysis		
Constituent	Result ± Ellor	MDA	Omts	WICL/AL	Method	Date/ID	Method	Date/ID	
Radio Chemistry									
Gross Alpha	7.19 ± 2.50	2.00	pCi/L	15/5	900.0	12/08/16-07:20 2P1614683	900.0	12/12/16-10:00 2A1618171	
Total Alpha Radium (226)	1.39 ± 0.349	0.363	pCi/L	3	903.0	12/07/16-18:45 2P1614680	903.0	12/15/16-12:00 2A1618172	

ND=Non-Detected. PQL=Practical Quantitation Limit. * PQL adjusted for dilution.

MDA = Minimum Detectable Activity (Calculated at the 95% confidence level) = Data utilized by DHS to determine matrix interference. MCL / AL = Maximum Contamination Level / Action Level. Alpha's Action Level of 5 pCi/L is based on the Assigned Value (AV). AV = Assigned Value(Gross Alpha Result + (0.84 x Error)). CCR Section 64442: Drinking Water Compliance Note: Do the following If Gross Alpha's (AV) exceeds 5 pCi/L run Uranium. If Gross Alpha's (AV) minus Uranium exceeds 5 pCi/L run Radium 226.

Drinking Water Compliance:

Gross Alpha (AV) minus Uranium is less than or equal to 15 pCi/L

Uranium is less than or equal to 20 pCi/L

Radium 226 + Radium 228 is less than or equal to 5 pCi/L

Note: Samples are held for 3-6 months prior to disposal.



December 20, 2016 Lab ID : SP 1614528-002

Customer ID : 2-19144

Monterey Bay Analytical Services

4 Justin Court Sampled On : December 1, 2016-11:00

Sampled By : T. Lindberg Monterey, CA 93940

Received On: December 6, 2016-13:40

Matrix : Water

Description : MW-1 **Project** : MPWMD

Sample Result - Organic

Constituent	Result	PQL	Units	Note	Sample	Preparation	Samp	le Analysis
Constituent	Result	1 QL	Omts	14010	Method	Date/ID	Method	Date/ID
EPA 551.1								
Decafluorobiphenyl [‡]	124	80-120	%		551.1	12/06/16:214619	551.1	12/06/16:217779
Bromodichloromethane	6.7	0.5	ug/L		551.1	12/06/16:214619	551.1	12/06/16:217779
Bromoform	ND	0.5	ug/L		551.1	12/06/16:214619	551.1	12/06/16:217779
Chloroform	16.9	0.5	ug/L		551.1	12/06/16:214619	551.1	12/06/16:217779
Dibromochloromethane	3.1	0.5	ug/L		551.1	12/06/16:214619	551.1	12/06/16:217779
Total Trihalomethanes	26.7		ug/L		551.1	12/06/16:214619	551.1	12/06/16:217779
EPA 552.2								
2,3-Dibromopropionic Acid [‡]	98.8	70-130	%		552	12/07/16:214679	552.2	12/08/16:217890
Bromoacetic Acid	ND	1	ug/L		552	12/07/16:214679	552.2	12/08/16:217890
Chloroacetic Acid	ND	2	ug/L		552	12/07/16:214679	552.2	12/08/16:217890
Dibromoacetic Acid	ND	1	ug/L		552	12/07/16:214679	552.2	12/08/16:217890
Dichloroacetic Acid	ND	1	ug/L		552	12/07/16:214679	552.2	12/08/16:217890
Trichloroacetic Acid	ND	1	ug/L		552	12/07/16:214679	552.2	12/08/16:217890
Haloacetic acids (five)	ND		ug/L		552	12/07/16:214679	552.2	12/08/16:217890

ND=Non-Detected. PQL=Practical Quantitation Limit. ‡Surrogate. * PQL adjusted for dilution.

December 20, 2016 Lab ID : SP 1614528-002

Customer ID : 2-19144

Monterey Bay Analytical Services

Sampled On : December 1, 2016-11:00 4 Justin Court

Sampled By : T. Lindberg Monterey, CA 93940

Received On: December 6, 2016-13:40

: Water Matrix

Description : MW-1 **Project** : MPWMD

Sample Result - Radio

Constituent	Result ± Error	MDA	Units	MCL/AL	Sample	Preparation	Sample Analysis		
Constituent	Result ± Ellor	MDA	Omts	WICL/AL	Method	Date/ID	Method	Date/ID	
Radio Chemistry									
Gross Alpha	4.70 ± 2.20	1.84	pCi/L	15/5	900.0	12/08/16-07:20 2P1614683	900.0	12/12/16-09:00 2A1618169	
Total Alpha Radium (226)	0.878 ± 0.282	0.363	pCi/L	3	903.0	12/07/16-18:45 2P1614680	903.0	12/13/16-12:20 2A1618172	

ND=Non-Detected. PQL=Practical Quantitation Limit. * PQL adjusted for dilution.

MDA = Minimum Detectable Activity (Calculated at the 95% confidence level) = Data utilized by DHS to determine matrix interference. MCL / AL = Maximum Contamination Level / Action Level. Alpha's Action Level of 5 pCi/L is based on the Assigned Value (AV). AV = Assigned Value(Gross Alpha Result + (0.84 x Error)). CCR Section 64442: Drinking Water Compliance Note: Do the following If Gross Alpha's (AV) exceeds 5 pCi/L run Uranium. If Gross Alpha's (AV) minus Uranium exceeds 5 pCi/L run Radium 226.

Drinking Water Compliance:

Gross Alpha (AV) minus Uranium is less than or equal to 15 pCi/L

Uranium is less than or equal to 20 pCi/L

Radium 226 + Radium 228 is less than or equal to 5 pCi/L

Note: Samples are held for 3-6 months prior to disposal.

December 20, 2016 Lab ID : SP 1614528 **Monterey Bay Analytical Services** : 2-19144 Customer

Quality Control - Organic

Constituent	Method	Date/ID	Type	Units	Conc.	QC Data	DQO	Note
Organic								
Bromodichloromethane	551.1	12/06/16:214619SBL	Blank	ug/L		ND	< 0.5	
Bromodiemoromemane	331.1	12/00/10.214017502	LCS	ug/L ug/L	9.820	101 %	80-120	
			MS	ug/L	10.07	115 %	80-120	
		(SP 1614528-001)	MSD	ug/L	10.01	104 %	80-120	
			MSRPD	ug/L	20.02	9.9%	≤20	
	551.1	12/06/16:217779SBL	CCV	ug/L	83.33	91.9 %	80-120	
			CCV	ug/L	166.7	109 %	80-120	
Bromoform	551.1	12/06/16:214619SBL	Blank	ug/L		ND	< 0.5	
			LCS	ug/L	9.820	112 %	80-120	
			MS	ug/L	10.07	124 %	80-120	435
		(SP 1614528-001)	MSD	ug/L	10.01	114 %	80-120	
			MSRPD	ug/L	20.02	9.7%	≤20	
	551.1	12/06/16:217779SBL	CCV	ug/L	83.33	105 %	80-120	
			CCV	ug/L	166.7	118 %	80-120	
Chloroform	551.1	12/06/16:214619SBL	Blank	ug/L	0.000	ND	<0.5	
			LCS	ug/L	9.820	97.8 %	80-120	
		(CD 1614520 001)	MS	ug/L	10.07	117 %	80-120	
		(SP 1614528-001)	MSD	ug/L	10.01	104 %	80-120	
	551.1	10/06/16 01/2/200DI	MSRPD	ug/L	20.02	9.0%	≤20	
	551.1	12/06/16:217779SBL	CCV	ug/L	83.33	90.4 %	80-120	
			CCV	ug/L	166.7	111 %	80-120	
Decafluorobiphenyl	551.1	12/06/16:214619SBL	Blank	ug/L	19.51	120 %	80-120	
			LCS	ug/L	19.64	101 %	80-120	40.5
		(CD 1 < 1 4520 001)	MS	ug/L	20.15	127 %	80-120	435
		(SP 1614528-001)	MSD	ug/L	20.02	119 %	80-120	
	551.1	10/06/16 01/2/20CDI	MSRPD	ug/L	20.02	7.8%	≤20.0	2.62
	551.1	12/06/16:217779SBL	CCV CCV	ug/L ug/L	166.7 333.3	177 % 110 %	80-120 80-120	362
Dibromochloromethane	551.1	12/06/16:214619SBL	Blank		333.3	ND	<0.5	
Dibromocniorometnane	551.1	12/00/10:214019SBL	LCS	ug/L ug/L	9.820	109 %	<0.5 80-120	
			MS	ug/L ug/L	10.07	123 %	80-120	435
		(SP 1614528-001)	MSD	ug/L ug/L	10.07	112 %	80-120	433
		(51 1014320-001)	MSRPD	ug/L ug/L	20.02	10.3%	≤20	
	551.1	12/06/16:217779SBL	CCV	ug/L ug/L	83.33	102 %	80-120	
	331.1	12/00/10.21////SBL	CCV	ug/L ug/L	166.7	116 %	80-120	
2,3-Dibromopropionic Acid	552	12/07/16:214679SBL	Blank	ug/L	5.000	113 %	70-130	
2,3-Dioromopropionic Acid	332	12/01/10.2140793BL	LCS	ug/L ug/L	5.000	95.9 %	70-130	
			MS	ug/L	5.000	125 %	70-130	
		(SP 1614528-001)	MSD	ug/L	5.000	120 %	70-130	
		(MSRPD	ug/L	5.000	3.9%	≤20.0	
Dibromoacetic Acid	552	12/07/16:214679SBL	Blank	ug/L		ND	<1	
			LCS	ug/L	10.00	108 %	70-130	
			MS	ug/L	10.00	152 %	70-130	435
		(SP 1614528-001)	MSD	ug/L	10.00	170 %	70-130	435
			MSRPD	ug/L	5.000	11.3%	≤20.0	<u> </u>
Dichloroacetic Acid	552	12/07/16:214679SBL	Blank	ug/L		ND	<1	
			LCS	ug/L	10.00	119 %	70-130	
			MS	ug/L	10.00	167 %	70-130	435
		(SP 1614528-001)	MSD	ug/L	10.00	185 %	70-130	435
			MSRPD	ug/L	5.000	10.6%	≤20.0	
Monobromoacetic Acid	552	12/07/16:214679SBL	Blank	ug/L		ND	<1	
			LCS	ug/L	10.00	103 %	70-130	
			MS	ug/L	10.00	141 %	70-130	435
		(SP 1614528-001)	MSD	ug/L	10.00	155 %	70-130	435
		<u> </u>	MSRPD	ug/L	5.000	9.6%	≤20.0	

December 20, 2016 Lab ID : SP 1614528 **Monterey Bay Analytical Services** Customer : 2-19144

Quality Control - Organic

Constituent	Method	Date/ID	Туре	Units	Conc.	QC Data	DQO	Note
Organic								
Monochloroacetic Acid	552	12/07/16:214679SBL	Blank	ug/L		ND	<2	
			LCS	ug/L	10.00	105 %	70-130	
			MS	ug/L	10.00	143 %	70-130	435
		(SP 1614528-001)	MSD	ug/L	10.00	159 %	70-130	435
			MSRPD	ug/L	5.000	10.5%	≤20.0	
Trichloroacetic Acid	552	12/07/16:214679SBL	Blank	ug/L		ND	<1	
			LCS	ug/L	10.00	107 %	70-130	
			MS	ug/L	10.00	156 %	70-130	435
		(SP 1614528-001)	MSD	ug/L	10.00	178 %	70-130	435
			MSRPD	ug/L	5.000	13.7%	≤20.0	
2,3-Dibromopropionic Acid	552.2	12/08/16:217890SBL	CCV	ug/L	75.00	85.9 %	70-130	
			CCV	ug/L	50.00	99.9 %	70-130	
Dibromoacetic Acid	552.2	12/08/16:217890SBL	CCV	ug/L	150.0	120 %	70-130	
			CCV	ug/L	100.0	116 %	70-130	
Dichloroacetic Acid	552.2	12/08/16:217890SBL	CCV	ug/L	150.0	126 %	70-130	
			CCV	ug/L	100.0	124 %	70-130	
Monobromoacetic Acid	552.2	12/08/16:217890SBL	CCV	ug/L	150.0	96.0 %	70-130	
			CCV	ug/L	100.0	107 %	70-130	
Monochloroacetic Acid	552.2	12/08/16:217890SBL	CCV	ug/L	150.0	88.4 %	70-130	
			CCV	ug/L	100.0	112 %	70-130	
Trichloroacetic Acid	552.2	12/08/16:217890SBL	CCV	ug/L	150.0	127 %	70-130	
			CCV	ug/L	100.0	110 %	70-130	

Definition

CCV : Continuing Calibration Verification - Analyzed to verify the instrument calibration is within criteria.

Blank : Method Blank - Prepared to verify that the preparation process is not contributing contamination to the samples.

LCS : Laboratory Control Standard/Sample - Prepared to verify that the preparation process is not affecting analyte recovery.

MS : Matrix Spikes - A random sample is spiked with a known amount of analyte. The recoveries are an indication of how that sample

matrix affects analyte recovery.

MSD : Matrix Spike Duplicate of MS/MSD pair - A random sample duplicate is spiked with a known amount of analyted. The recoveries

are an indication of how that sample matrix affects analyte recovery.

MSRPD : MS/MSD Relative Percent Difference (RPD) - The MS relative percent difference is an indication of precision for the preparation

and analysis

ND : Non-detect - Result was below the DQO listed for the analyte.

DQO : Data Quality Objective - This is the criteria against which the quality control data is compared.

Explanation

: Surrogates are qualified on Control Chart Limits, these are CCV limits. See individual sample reports.
 : Sample matrix may be affecting this analyte. Data was accepted based on the LCS or CCV recovery.

December 20, 2016 Lab ID : SP 1614528 **Monterey Bay Analytical Services** : 2-19144 Customer

Quality Control - Radio

Constituent	Method	Date/ID	Туре	Units	Conc.	QC Data	DQO	Note
Radio								
Alpha	900.0	12/12/16:218169caa	CCV	cpm	8520	42.3 %	39 - 48	
			CCB	cpm		0.100	0.14	
	900.0	12/12/16:218171caa	CCV	cpm	8520	43.5 %	38 - 47	
			CCB	cpm		0.100	0.18	
Gross Alpha	900.0	12/08/16:214683RMM	Blank	pCi/L		0.93	3	
			LCS	pCi/L	107.4	117 %	75-125	
			MS	pCi/L	107.4	191 %	60-140	435
		(SP 1614351-001)	MSD	pCi/L	107.4	178 %	60-140	435
			MSRPD	pCi/L	107.4	6.9%	≤30	
Alpha	903.0	12/13/16:218172caa	CCV	cpm	8517	39.9 %	39 - 47	
			CCB	cpm		0.0600	0.16	
Total Alpha Radium (226)	903.0	12/07/16:214680emv	RgBlk	pCi/L		0.008	2	
			LCS	pCi/L	21.86	61.6 %	52-107	
			BS	pCi/L	21.86	53.7 %	43-111	
			BSD	pCi/L	21.86	48.8 %	43-111	
			BSRPD	pCi/L	21.86	9.5%	≤35.5	
Definition								

CCV $: Continuing\ Calibration\ Verification\ -\ Analyzed\ to\ verify\ the\ instrument\ calibration\ is\ within\ criteria.$ CCB : Continuing Calibration Blank - Analyzed to verify the instrument baseline is within criteria. Blank : Method Blank - Prepared to verify that the preparation process is not contributing contamination to the samples. RgBlk : Method Reagent Blank - Prepared to correct for any reagent contributions to sample result. LCS : Laboratory Control Standard/Sample - Prepared to verify that the preparation process is not affecting analyte recovery. : Matrix Spikes - A random sample is spiked with a known amount of analyte. The recoveries are an indication of how that sample MS matrix affects analyte recovery. : Matrix Spike Duplicate of MS/MSD pair - A random sample duplicate is spiked with a known amount of analyted. The recoveries MSD are an indication of how that sample matrix affects analyte recovery. : Blank Spikes - A blank is spiked with a known amount of analyte. It is prepared to verify that the preparation process is not BS affecting analyte recovery. : Blank Spike Duplicate of BS/BSD pair - A blank duplicate is spiked with a known amount of analyte. It is prepared to verify that BSD the preparation process is not affecting analyte recovery. : MS/MSD Relative Percent Difference (RPD) - The MS relative percent difference is an indication of precision for the preparation MSRPD and analysis. : BS/BSD Relative Percent Difference (RPD) - The BS relative percent difference is an indication of precision for the preparation

BSRPD and analysis. DQO : Data Quality Objective - This is the criteria against which the quality control data is compared.

Explanation

: Sample matrix may be affecting this analyte. Data was accepted based on the LCS or CCV recovery.



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CHAIN OF CUSTODY AND ANALYSIS REQUEST DOCUMENT

1	ner Number: 2019144	al Services		1	Lab N	Sumber	r: /					TE	ST D	ESC	RIPT	'ION	AND	ANA	ALYS	SES F	REQU	JEST	ED			
Contac Project Purcha Quote Rush p Electro Sampli	Monterey, CA 93940	Ctient Other:	24 hour	Mathod of Sampling: Composite (C) Grab (G)	Number of Containers	Type of Containers: (G);Qlass (P)Plastic (V)VOA (MT)Mets! Tube	Potable (P) Non-Potable (NP) Ag Water (AgW)	(SW) Surface Water (MW) Monitoring Well (GW) Ground Water (TB) Travel Blank (WW) Waste Water (DW) Drinking Water	S) soil (SLG) sludge (CLS) soad (O) od	Bac T. (Sys) System (SRC) Source (W) Waste	Bact. (ROUT)Routine (RPT)Repeat (OTH)Other (RPL)Replace	(LT) Leaf Tissue (PET) Pellola Tissue (PRD) Produce	Preservative: (1) NaOH + ZnAc. (2) NaOH, (3) HCI (4) H2SO4, (5) HNO3, (6) Na2S2O3, (7) Other	Gross Alpha	Ra 226	НАА	. THMS									
1.	Paralta	12//1/16	10:30	G	7	Var								х	x	х	х									
2.	MW-1	12/1/16	11:00	G	7	Var								x	х	х	х									
								m																		
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5	24 mars 1			Receiv	ved By:		Ď	Pate:	Ţi	me:	4	cceive	a by:)	M	Pate:	(Q)		4	Receiv	ved By:			Date:	Time:	

Corporate Offices & Laboratory 853 Corporation Street Santa Paula, CA 93060 TEL: (805)392-2000 Env FAX: (805)525-4172 / Ag FAX: (805)392-2063 CA ELAP Certification No.1573

Office & Laboratory 2500 Stagecoach Road Stockton, CA 95215 TEL: (209)942-0182 FAX: (209)942-0423 CA ELAP Certification No. 1563 Offico & Laboratory
563 E. Lindo Avenue
Chico, CA 95926
TEL: (530)343-5818
FAX: (530)343-3807
CA ELAP Certification No. 2670

Office & Laboratory 3442 Empresa Drive, Suite D San Luis Obispo, CA 93401 TEL: (805)783-2940 FAX: (805)783-2912 CA ELAP Certification No. 2775 Office & Laboratory 9415 W. Goshen Avenue Visalia, CA 93291 TEL: (559)734-9473 FAX: (559)734-8435 CA ELAP Certification No. 2810 FGL Environmental Doc ID: 2D0900157_SOP_17.DOC

Revision Date: 10/09/14 Page: 1 of 1

Condition Upon Receipt (Attach to COC)

Sample Receipt at SP:							
1. Number of ice chests/packages received:	1						
2. Shipper tracking numbers 53422281	7						
3. Were samples received in a chilled condition? Temps:	6 /		/	/	/	/	_/
4. Surface water (SWTR) bact samples: A sampl should be flagged unless the time since sample		•	•	-		hether ice	d or not,
5. Do the number of bottles received agree with t COC?	he Yes	No	N/A				
6. Verify sample date, time, sampler	Yes	No	N/A				
7. Were the samples received intact? (i.e. no bro bottles, leaks, etc.)	ken Yes	No					
8. Were sample custody seals intact?	Yes	No	N/A				
Sample Verification, Labeling and Distribution	n:						
Were all requested analyses understood and acceptable?	Yes	No					
2. Did bottle labels correspond with the client's ID	o's? Yes	No					
3. Were all bottles requiring sample preservation properly preserved? [Exception: Oil & Grease, VOA and CrVI verified in		No	N/A F	GL			
4. VOAs checked for Headspace?	Yes	No	N/A				
5. Were all analyses within holding times at time receipt?	of Yes	No					
6. Have rush or project due dates been checked accepted?	and Yes	No	N/A				
Include a copy of the COC for lab delivery. (Bacti	i. Inorganics and	d Ra	dio)				
Sample Receipt, Login and Verification complete	•		Reviewed a Approved I		hawn Peck	Title: San	signed by Shawn Peck nple Receiving 13/2016-09:45:19
Discrepency Documentation:							
Any items above which are "No" or do not meet s			• •	e res	oivea.		
1. Person Contacted:	•		ımber:				
Initiated By: Problem:	Date) :					
Problem.							
Resolution:							
2. Person Contacted:	Phor	ne Nı	umber:				
Initiated By:	Date						
Problem:							
Resolution:							
Nosolution.					(2019	144)	

Monterey Bay Analytical Services **SP 1614528**



McCampbell Analytical, Inc.

"When Quality Counts"

Analytical Report

WorkOrder: 1612181

Report Created for: Monterey Bay Analytical

4 Justin Court, Suite D Monterey, CA 93940

Project Contact:

David Holland

Project P.O.:

Project Name: MPWMD

Project Received: 12/06/2016

Analytical Report reviewed & approved for release on 12/13/2016 by:

Angela Rydelius,

Laboratory Manager

The report shall not be reproduced except in full, without the written approval of the laboratory. The analytical results relate only to the items tested. Results reported conform to the most current NELAP standards, where applicable, unless otherwise stated in the case narrative.



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CA ELAP 1644 ♦ NELAP 4033ORELAP

Glossary of Terms & Qualifier Definitions

Client: Monterey Bay Analytical

Project: MPWMD **WorkOrder:** 1612181

Glossary Abbreviation

%D Serial Dilution Percent Difference

95% Interval 95% Confident Interval

DF Dilution Factor

DI WET (DISTLC) Waste Extraction Test using DI water

DISS Dissolved (direct analysis of 0.45 µm filtered and acidified water sample)

DLT Dilution Test (Serial Dilution)

DUP Duplicate

EDL Estimated Detection Limit

ITEF International Toxicity Equivalence Factor

LCS Laboratory Control Sample

MB Method Blank

MB % Rec % Recovery of Surrogate in Method Blank, if applicable

MDL Method Detection Limit

ML Minimum Level of Quantitation

MS Matrix Spike

MSD Matrix Spike Duplicate

N/A Not Applicable

ND Not detected at or above the indicated MDL or RL

NR Data Not Reported due to matrix interference or insufficient sample amount.

PDS Post Digestion Spike

PDSD Post Digestion Spike Duplicate

PF Prep Factor

RD Relative Difference

RL Reporting Limit (The RL is the lowest calibration standard in a multipoint calibration.)

RPD Relative Percent Deviation
RRT Relative Retention Time

SPK Val Spike Value

SPKRef Val Spike Reference Value

SPLP Synthetic Precipitation Leachate Procedure

ST Sorbent Tube

TCLP Toxicity Characteristic Leachate Procedure

TEQ Toxicity Equivalents

WET (STLC) Waste Extraction Test (Soluble Threshold Limit Concentration)

1534 Willow Pass Road, Pittsburg, CA 94565-1701 Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269 http://www.mccampbell.com / E-mail: main@mccampbell.com

Analytical Report

Client: Monterey Bay Analytical

 Date Received:
 12/6/16 9:31

 Date Prepared:
 12/12/16

 Project:
 MPWMD

WorkOrder: 1612181 **Extraction Method:** RSK175

Analytical Method: RSK175

Unit: $\mu g/L$

Dissolved Gases by RSK 175

Client ID	Lab ID	Matrix	Date Co	ollected Instrument	Batch ID
Paralta	1612181-001A	Water	12/01/20	16 10:30 GC26	131178
<u>Analytes</u>	Result		<u>RL</u>	<u>DF</u>	Date Analyzed
Methane	3.7		0.10	1	12/12/2016 14:31

Analyst(s): AK

Client ID	Lab ID	Matrix	Date Collect	ed Instrument	Batch ID
MW-1	1612181-002A	Water	12/01/2016 11	:00 GC26	131178
<u>Analytes</u>	Result		<u>RL</u> <u>DF</u>		Date Analyzed
Methane	0.92		0.10 1		12/12/2016 14:43

Analyst(s): AK

1534 Willow Pass Road, Pittsburg, CA 94565-1701 Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269 http://www.mccampbell.com / E-mail: main@mccampbell.com

Quality Control Report

Client:Monterey Bay AnalyticalWorkOrder:1612181Date Prepared:12/12/16BatchID:131178Date Analyzed:12/12/16Extraction Method:RSK175

Project: MPWMD **Sample ID:** MB/LCS-131178

	QC Sumn	nary Report for	RSK175				
Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Methane	ND	1.23	0.10	1.17	-	105	70-130

McCampbell Analytical, Inc.

1534 Willow Pass Rd Pittsburg, CA 94565-1701 (925) 252-9262

CHAIN-OF-CUSTODY RECORD

Page 1 of 1

WorkOrder: 1612181 ClientCode: MBAS

(925) 252-9262						01101110	3444 1.12112		
	WaterTrax	WriteOn	EDF	Excel	EQuIS	✓ Email	HardCopy	ThirdParty	J-flag
Report to:				ı	Bill to:		Req	uested TAT:	5 days;
David Holland Monterey Bay Analytical	Email: mweio	dner@mba	sinc.com; Dholla	nd@mbas	Accounts Pa	•			
4 Justin Court, Suite D	PO:				4 Justin Coul		Dat	e Received:	12/06/2016
Monterey, CA 93940	ProjectNo: MPW	'MD			Monterey, CA	A 93940	Dat	e Logged:	12/06/2016
831-375-6227 FAX: 831-641-0734									
						Requested 1	ests (See legend	below)	
als ID Client ID		Matrix	Callection Date	Uald 4	2 2	A E	6 7 9	0 4	14 44

								Re	quested	Tests (See leg	end belo	ow)			
Lab ID	Client ID	Matrix	Collection Date	Hold	1	2	3	4	5	6	7	8	9	10	11	12
				-												
1612181-001	Paralta	Water	12/1/2016 10:30		Α											
1612181-002	MW-1	Water	12/1/2016 11:00		Ā											

Test Legend:

1	RSK175_W	2	3	4
5		6	7	8
9		10	11	12

Prepared by: Maria Venegas

Comments:

NOTE: Soil samples are discarded 60 days after results are reported unless other arrangements are made (Water samples are 30 days).

Hazardous samples will be returned to client or disposed of at client expense.



McCampbell Analytical, Inc.

"When Quality Counts"

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WORK ORDER SUMMARY

Client Name:	MONTERE	EY BAY ANALYTIC	CAL		Project:	MPWMD				Wor	k Order:	1612181
Client Contact	t: David Holla	and								Ç	C Level:	LEVEL 2
Contact's Ema	_	mbasinc.com; Dholl eglobal.net; info@mb	~	.com;	Comments	:				Date	Logged:	12/6/2016
		☐ WaterTrax	WriteOn	EDF	Exce	lF	ax E mail	HardCo	opyThirdPart	у 🗀	J-flag	
Lab ID (Client ID	Matrix	Test Name			ontainers l omposites	Bottle & Preservati	ve De- chlorinated	Collection Date & Time	TAT	Sediment Content	Hold SubOu
1612181-001A F	Paralta	Water	RSK175 <m< th=""><th>ethane_4></th><th></th><th>3</th><th>VOA w/ HCl</th><th></th><th>12/1/2016 10:30</th><th>5 days</th><th>None</th><th></th></m<>	ethane_4>		3	VOA w/ HCl		12/1/2016 10:30	5 days	None	
1612181-002A N	MW-1	Water	RSK175 <m< th=""><th>ethane_4></th><th></th><th>3</th><th>VOA w/ HCl</th><th></th><th>12/1/2016 11:00</th><th>5 days</th><th>None</th><th></th></m<>	ethane_4>		3	VOA w/ HCl		12/1/2016 11:00	5 days	None	

NOTES: - STLC and TCLP extractions require 2 days to complete; therefore, all TATs begin after the extraction is completed (i.e., One-day TAT yields results in 3 days from sample submission).

- MAI assumes that all material present in the provided sampling container is considered part of the sample - MAI does not exclude any material from the sample prior to sample preparation unless requested in writing by the client.

1612181

McCAMPBELL ANALYTICAL, INC.

1534 WILLOW PASS ROAD PITTSBURG, CA 94565-1701

Website: www.mccampbell.com Email: main@mccampbell.com Fax: (925) 252-9269 Telephone: (877) 252-9262

CHAIN OF	CUST	ODY	RECOI	RD
TURN AROUND TIME				

72 HR 5 DAY

☐ GeoTracker EDF

RUSH 24 HR \square PDF □ Excel 48 HR ☐ Write On (DW)

Report To: Da	avid Holland		I	Bill To):													A	nal	ysis	Rec	lues	t						Other	Comment
Company: M	onterey Bay Ana	lytical S	ervices																	2									- -	
4.	Justin Ct. Suite D)											8015)			E/B&F)				iene										Filter
M	onterey, Ca 9394	0	E	-Mai	l: info	a)	ibas	inc.	com				*			0 E/I				Cong						6	-			Samples for Metals
Tele: (831) 37	5 - 6227		F	ax: ((831)	641-	073	4					8021	=		552	-	8		LS/		3				602	6020			analysis:
Project #:			P	rojec	t Nai	ne:	MP	WN	1D			_1	02 / 5	/ 802		994	418.1	70C	(\$	roclo		cides			NAs)	010	/01			Yes / No
Project Locati	ion:												9) 81	602	015)) se (1)	ous (E	icide	ν; A	es)	lerbi	(\$;	Cs)	s/P	9/8	3 / 60	020)		
Sampler Signa	ature: T. Lindber	·g											S	EPA	8) 11	reas	arbo	8021	Pest	NE	ticid	СІН	VOC	SVO	AH	200.	2007	9/0		
		SAMI	PLING	s	ers		MA	ΓRI	X			HOD RVE		NLY (fotor O	Oil & C	Hydroc	8010 /	181 (CI	CB's C	NP Pes	Acidic	8260 (8270 (3	8310 (1	200.7 /	200.77	.8 / 601		
SAMPLE ID	LOCATION/ Field Point Name	Date	Time	# Containers	Type Containers	Water	Soil	Air	Studge	ICE	HCL	HNO ₃	Other MTBE / BTEX &	MTBE / BTEX ONLY (EPA 602 / 8021)	TPH as Diesel / Motor Oil (8015)	Total Petroleum Oil & Grease (1664 / 5520	Total Petroleum Hydrocarbons (418.1)	EPA 502.2 / 601 / 8010 / 8021 (HVOCs)	EPA 505/ 608 / 8081 (CI Pesticides)	EPA 608 / 8082 PCB's ONLY; Aroclors / Congeners	EPA 507 / 8141 (NP Pesticides)	EPA 515 / 8151 (Acidic Cl Herbicides)	EPA 524.2 / 624 / 8260 (VOCs)	EPA 525.2 / 625 / 8270 (SVOCs)	EPA 8270 SIM / 8310 (PAHs / PNAs)	CAM 17 Metals (200.7 / 200.8 / 6010 / 6020)	LUFT 5 Metals (200.7 / 200.8 / 6010 / 6020)	Lead (200.7 / 200.8 / 6010 / 6020)	Methane	
/	Paralta	12/1/16	10:30	3	V	Х		T		Х	X		\top																Х	AB58007
	MW-1	12/1/16	11:00	3	V	Х				X	X																		X	AB58008
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Relinquished By: David Holland	000410	Date:	Time: 1600	Rece	eived E	51	C						G	CE/t° GOOD IEAD	CO	NDI	TION		_								CO	ммі	ENTS:	
Relinquished By:)	Date: 12/6/16	Time: 0931	Rece	eived I	Bv:		u	7	_	5		D A	ECH PPR RESI	LOR	IATE	TED CO	IN L		RS_	-	_								
Relinquished By:		Date:	Time:	Reco	eived I	By:								RESI			V	DAS	0.0	&G	ME pH<		S	ОТН	IER					

1534 Willow Pass Road, Pittsburg, CA 94565-1701 Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269 http://www.mccampbell.com / E-mail: main@mccampbell.com

Sample Receipt Checklist

Client Name:	Monterey Bay Analytical			Date and Time Received	12/6/2016 09:31
Project Name:	MPWMD			Date Logged:	12/6/2016
WorkOrder №:	1612181 Matrix: <u>Water</u>			Received by: Logged by:	Maria Venegas Maria Venegas
Carrier:	Golden State Overnight			209904 27.	mana vonegae
			(222)		
	Chain of C	ustody	/ (COC) Infor		
Chain of custody	present?	Yes	✓	No 🗔	
Chain of custody	signed when relinquished and received?	Yes	✓	No 🗆	
Chain of custody	agrees with sample labels?	Yes	✓	No 🗌	
Sample IDs note	d by Client on COC?	Yes	✓	No 🗆	
Date and Time or	f collection noted by Client on COC?	Yes	✓	No 🗆	
Sampler's name	noted on COC?	Yes	✓	No 🗆	
	Sampl	e Rece	eipt Informati	i <u>on</u>	
Custody seals in	tact on shipping container/cooler?	Yes		No 🗆	NA 🗸
Shipping contain	er/cooler in good condition?	Yes	✓	No 🗌	
Samples in prope	er containers/bottles?	Yes	✓	No 🗌	
Sample containe	rs intact?	Yes	✓	No 🗌	
Sufficient sample	e volume for indicated test?	Yes	✓	No 🗌	
	Sample Preservation	on and	Hold Time (I	HT) Information	
All samples recei	ived within holding time?	Yes	✓	No 🗌	NA 🗌
Sample/Temp BI	ank temperature		Temp: 5.6	5°C	NA 🗆
Water - VOA vial	s have zero headspace / no bubbles?	Yes	✓	No 🗌	NA 🗌
Sample labels ch	necked for correct preservation?	Yes	✓	No 🗌	
pH acceptable up	oon receipt (Metal: <2; 522: <4; 218.7: >8)?	Yes		No 🗌	NA 🗹
Samples Receive	ed on Ice?	Yes	✓	No 🗌	
	(Ice Type	e: BLI	JE ICE)		
UCMR3 Samples				🗆	NA 🗖
	·····	Yes			NA 🗹
Free Chlorine t 300.1, 537, 539	ested and acceptable upon receipt for EPA 218.7, 9?	Yes		No 🗌	NA 🗹
Comments:					



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ELAP Certification Number: 2385

Thursday, January 12, 2017

Lab Number: AB58027

Sample Collector: LINDBERG T Client Sample #: Collection Date/Time: 12/2/2016 10:00 Submittal Date/Time: 12/2/2016 14:31 Sample ID Coliform Designation:

Submittal Date/Time: 12/2/2		nple Des	cription: ASR-4 Back		COMOTHI D	esignation:	
Analyte	Method	Unit	Result Qual	PQL	MCL	Date Analyzed	Analyst:
Alkalinity, Total (as CaCO3)	SM2320B	mg/L	231	10		1/12/2017	BS
Aluminum, Total	EPA200.8	μg/L	Not Detected	10	1000	12/13/2016	SM
Ammonia-N	SM4500NH3 D	mg/L	Not Detected	0.05		12/2/2016	MW
Arsenic, Total	EPA200.8	μg/L	5	1	10	12/13/2016	SM
Barium, Total	EPA200.8	μg/L	52	10	1000	12/13/2016	SM
Bicarbonate (as HCO3-)	SM2320B	mg/L	282	10		1/12/2017	LRH
Boron	EPA200.7	mg/L	0.09	0.05		12/7/2016	MW
Bromide	EPA300.0	mg/L	0.3	0.1		12/2/2016	BS
Calcium	EPA200.7	mg/L	68	0.5		12/7/2016	MW
Carbonate as CaCO3	SM2320B	mg/L	Not Detected	10		12/12/2016	MP
Chloramines	SM4500-CI G	mg/L	Not Detected	0.05		12/2/2016	LRH
Chloride	EPA300.0	mg/L	123	1	250	12/2/2016	BS
DOC	SM5310C	mg/L	0.9	0.2		12/27/2016	MW
Fluoride	EPA300.0	mg/L	0.2	0.1	2.0	12/2/2016	BS
Gross Alpha	EPA900.0	pCi/L	3.91 ± 2.17 E		15	12/14/2016	FGL
Haloacetic Acids	EPA552	μg/L	Not Detected E		60	12/8/2016	FGL
ron	EPA200.7	μg/L	153	10	300	12/7/2016	MW
ron, Dissolved	EPA200.7	μg/L	23	10	300	12/7/2016	MW
Kjehldahl Nitrogen	SM4500-NH3 B,C.		1.3	0.5		12/8/2016	BS
_ithium	EPA200.8	μg/L	34	1		12/13/2016	SM
Magnesium	EPA200.7	mg/L	14	0.5		12/7/2016	MW
Manganese, Dissolved	EPA200.7	μg/L	21	10	50	12/7/2016	MW
Manganese, Total	EPA200.7	μg/L	22	10	50	12/7/2016	MW
Mercury, Total	EPA200.8	μg/L	Not Detected	0.5	2	12/13/2016	SM
Methane	EPA174/175	μg/L	1.2 E	0.1		12/12/2016	MCCAM
Molybdenum, Total	EPA200.8	μg/L	6	1	1000	12/13/2016	SM
Nickel, Total	EPA200.8	μg/L	68	10	100	12/13/2016	SM
Nitrate as NO3	EPA300.0	mg/L	2	1	45	12/2/2016	BS
Nitrate as NO3-N	EPA300.0	mg/L	0.5	0.1	10	12/2/2016	BS
Nitrate+Nitrite as N	EPA300.0	mg/L	0.8	0.1		12/2/2016	BS
Nitrite as NO2-N	EPA300.0	mg/L	0.3	0.1	1.0	12/2/2016	BS
o-Phosphate-P, Dissolved	EPA300.0	mg/L	Not Detected	0.1		12/2/2016	BS
oH (Laboratory)	SM4500-H+B	pH (H)	7.3	0.1		12/2/2016	BS
Phosphorus, Total	HACH 8190	mg/L	0.04	0.03		12/13/2016	LRH
Potassium	EPA200.7	mg/L	4.0	0.5		12/7/2016	MW
QC Anion Sum x 100	Calculation	%	98%			1/12/2017	LRH
QC Anion-Cation Balance	Calculation	%	-4			1/12/2017	DH
QC Cation Sum x 100	Calculation	%	90%			1/12/2017	DH
QC Ratio TDS/SEC	Calculation		0.57			12/9/2016	MP
Selenium, Total	EPA200.8	μg/L	2	2	50	12/13/2016	SM
Silica as SiO2, Total	EPA200.7	mg/L	40	0.5		12/7/2016	MW
	-						

mg/L: Milligrams per liter (=ppm)

ug/L : Micrograms per liter (=ppb)

PQL: Practical Quantitation Limit

H = Analyzed ouside of hold time E = Analysis performed by External Laboratory; See External Laboratory Report attachments. D = Method deviates from standard method due to insufficient sample for MS/MSD

T = Temperature Exceedance



4 Justin Court Suite D, Monterey, CA 93940 831.375.MBAS www.MBASinc.com ELAP Certification Number: 2385

Thursday, January 12, 2017

Lab Number: AB58027

Collection Date/Time: 12/2/2016 10:00 Sample Collector: LINDBERG T Client Sample #:
Submittal Date/Time: 12/2/2016 14:31 Sample ID Coliform Designation:

Cubilitiai Dato, Tillio. 12/2/2	010 11.01	Campions				O 0 11111 D	ooigi iatioi ii	
		Sample Descr	iption: ASR	-4 Back	Flush			
Analyte	Method	Unit	Result	Qual	PQL	MCL	Date Analyzed	Analyst:
Sodium	EPA200.7	mg/L	88		0.5		12/7/2016	MW
Specific Conductance (E.C)	SM2510B	µmhos/cm	937		1	900	12/6/2016	НМ
Strontium, Total	EPA200.8	μg/L	497	BB	5		12/13/2016	SM
Sulfate	EPA300.0	mg/L	53		1	250	12/2/2016	BS
TOC	SM5310C	mg/L	0.9		0.2		12/27/2016	MW
Total Diss. Solids	SM2540C	mg/L	537		10	500	12/7/2016	MP
Total Nitrogen	Calculation	mg/L	2.1		0.5		12/8/2016	MP
Total Radium 226	EPA903.0	pCi/L	0.578 ± 0.23	4 E		3	12/13/2016	FGL
Trihalomethanes	EPA524.2	μg/L	Not Detected	d E		80	12/6/2016	FGL
Uranium by ICP/MS	EPA200.8	μg/L	1		1	30	12/13/2016	SM
Vanadium, Total	EPA200.8	μg/L	7		5	1000	12/13/2016	SM
Zinc, Total	EPA200.8	μg/L	Not Detected	d	20	5000	12/13/2016	SM
	•				•			

Sample Comments: BB: Sample > 4x spike concentration.

Report Approved by:

David Holland, Laboratory Director

PQL: Practical Quantitation Limit



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ELAP Certification Number: 2385

Thursday, January 12, 2017

Lab Number: AB58028

LINDBERG T Collection Date/Time: 12/2/2016 Sample Collector: Client Sample #: 13:40 Submittal Date/Time: 12/2/2016 14:31 Sample ID Coliform Designation:

		Samp	le Description: ASR-	1			
Analyte	Method	Unit	Result Qual	PQL	MCL	Date Analyzed	Analyst:
Alkalinity, Total (as CaCO3)	SM2320B	mg/L	228	10		12/12/2016	BS
Aluminum, Total	EPA200.8	μg/L	Not Detected	10	1000	12/13/2016	SM
Ammonia-N	SM4500NH3 D	mg/L	0.09	0.05		12/2/2016	MW
Arsenic, Total	EPA200.8	μg/L	1	1	10	12/13/2016	SM
Barium, Total	EPA200.8	μg/L	71	10	1000	12/13/2016	SM
Bicarbonate (as HCO3-)	SM2320B	mg/L	278	10		12/12/2016	MP
Boron	EPA200.7	mg/L	0.11	0.05		12/7/2016	MW
Bromide	EPA300.0	mg/L	0.3	0.1		12/2/2016	BS
Calcium	EPA200.7	mg/L	81	0.5		12/7/2016	MW
Carbonate as CaCO3	SM2320B	mg/L	Not Detected	10		12/12/2016	MP
Chloramines	SM4500-CI G	mg/L	Not Detected	0.05		12/2/2016	LRH
Chloride	EPA300.0	mg/L	112	1	250	12/2/2016	BS
OOC	SM5310C	mg/L	1.4	0.2		12/27/2016	MW
Fluoride	EPA300.0	mg/L	0.3	0.1	2.0	12/2/2016	BS
Gross Alpha	EPA900.0	pCi/L	2.64 ± 1.89 E		15	12/14/2016	FGL
Haloacetic Acids	EPA552	μg/L	Not Detected E		60	12/8/2016	FGL
ron	EPA200.7	μg/L	16	10	300	12/7/2016	MW
ron, Dissolved	EPA200.7	μg/L	12	10	300	12/7/2016	MW
(jehldahl Nitrogen	SM4500-NH3 B,C.		0.5	0.5		12/8/2016	BS
_ithium	EPA200.8	μg/L	29	1		12/13/2016	SM
Magnesium	EPA200.7	mg/L	20	0.5		12/7/2016	MW
Manganese, Dissolved	EPA200.7	μg/L	22	10	50	12/7/2016	MW
Manganese, Total	EPA200.7	μg/L	21	10	50	12/7/2016	MW
Mercury, Total	EPA200.8	µg/L	Not Detected	0.5	2	12/13/2016	SM
Methane	EPA174/175	μg/L	3.9 E	0.1		12/12/2016	MCCAM
Nolybdenum, Total	EPA200.8	μg/L	7	1	1000	12/13/2016	SM
lickel, Total	EPA200.8	μg/L	Not Detected	10	100	12/13/2016	SM
Nitrate as NO3	EPA300.0	mg/L	1	1	45	12/2/2016	BS
Nitrate as NO3-N	EPA300.0	mg/L	0.2	0.1	10	12/2/2016	BS
litrate+Nitrite as N	EPA300.0	mg/L	0.5	0.1		12/2/2016	BS
Nitrite as NO2-N	EPA300.0	mg/L	0.3	0.1	1.0	12/2/2016	BS
o-Phosphate-P, Dissolved	EPA300.0	mg/L	Not Detected	0.1		12/2/2016	BS
oH (Laboratory)	SM4500-H+B	pH (H)	7.2	0.1		12/2/2016	BS
Phosphorus, Total	HACH 8190	mg/L	0.13	0.03		12/13/2016	LRH
Potassium	EPA200.7	mg/L	4.6	0.5		12/7/2016	MW
QC Anion Sum x 100	Calculation	%	102%			12/12/2016	MP
QC Anion-Cation Balance	Calculation	%	-5			12/12/2016	MP
QC Cation Sum x 100	Calculation	%	93%			12/12/2016	MW
QC Ratio TDS/SEC	Calculation		0.61			12/9/2016	MP
							014
Selenium, Total	EPA200.8	μg/L	2	2	50	12/13/2016	SM

mg/L: Milligrams per liter (=ppm)

ug/L : Micrograms per liter (=ppb)

PQL: Practical Quantitation Limit

H = Analyzed ouside of hold time E = Analysis performed by External Laboratory; See External Laboratory Report attachments. D = Method deviates from standard method due to insufficient sample for MS/MSD

T = Temperature Exceedance



831.375.MBAS www.MBASinc.com **ELAP Certification Number: 2385**

Thursday, January 12, 2017

Lab Number: AB58028

LINDBERG T Collection Date/Time: Sample Collector: Client Sample #: 12/2/2016 13:40 Submittal Date/Time: 12/2/2016 14:31 Sample ID Coliform Designation:

0 40		Gap.G .2				eemern zeegnaten			
Sample Description: ASR-1									
Analyte	Method	Unit	Result	Qual	PQL	MCL	Date Analyzed	Analyst:	
Sodium	EPA200.7	mg/L	72		0.5		12/7/2016	MW	
Specific Conductance (E.C)	SM2510B	µmhos/cm	962		1	900	12/6/2016	HM	
Strontium, Total	EPA200.8	μg/L	402	BB	5		12/13/2016	SM	
Sulfate	EPA300.0	mg/L	100		1	250	12/2/2016	BS	
TOC	SM5310C	mg/L	1.3		0.2		12/27/2016	MW	
Total Diss. Solids	SM2540C	mg/L	583		10	500	12/7/2016	MP	
Total Nitrogen	Calculation	mg/L	1.0		0.5		12/8/2016	MP	
Total Radium 226	EPA903.0	pCi/L	1.33 ± 0.340	Е		3	12/15/2016	FGL	
Trihalomethanes	EPA524.2	μg/L	14.8	E		80	12/6/2016	FGL	
Uranium by ICP/MS	EPA200.8	μg/L	1		1	30	12/13/2016	SM	
Vanadium, Total	EPA200.8	μg/L	Not Detected		5	1000	12/13/2016	SM	
Zinc, Total	EPA200.8	μg/L	70		20	5000	12/13/2016	SM	

Sample Comments: BB: Sample > 4x spike concentration.

Report Approved by:

David Holland, Laboratory Director

December 20, 2016

Monterey Bay Analytical Services Lab ID : SP 1614533 4 Justin Court Customer : 2-19144

Monterey, CA 93940

Laboratory Report

Introduction: This report package contains total of 9 pages divided into 3 sections:

Case Narrative (2 pages): An overview of the work performed at FGL.

Sample Results (4 pages): Results for each sample submitted.

Quality Control (3 pages): Supporting Quality Control (QC) results.

Case Narrative

This Case Narrative pertains to the following samples:

Sample Description	Date Sampled	Date Received	FGL Lab ID#	Matrix
ASR-4 Backflush	12/02/2016	12/06/2016	SP 1614533-001	W
ASR-1	12/02/2016	12/06/2016	SP 1614533-002	W

Sampling and Receipt Information: All samples were received in acceptable condition and within temperature requirements, unless noted on the Condition Upon Receipt (CUR) form. All samples arrived at 6 °C. All samples were prepared and analyzed within the method specified hold time. All samples were checked for pH if acid or base preservation is required (except for VOAs). For details of sample receipt information, please see the attached Chain of Custody and Condition Upon Receipt Form.

Quality Control: All samples were prepared and analyzed according to the following tables:

Organic QC

	12/06/2016:217779 All analysis quality controls are within established criteria, except:
551.1	The following note applies to Decafluorobiphenyl:
	362 Surrogates are qualified on Control Chart Limits, these are CCV limits. See individual sample reports.
	12/06/2016:214619 All preparation quality controls are within established criteria, except:
	The following note applies to Dibromochloromethane, Bromoform, Decafluorobiphenyl:
	435 Sample matrix may be affecting this analyte. Data was accepted based on the LCS or CCV recovery.
	12/07/2016:214679 All preparation quality controls are within established criteria, except:
552	The following note applies to Dibromoacetic Acid, Monobromoacetic Acid, Dichloroacetic Acid,
332	Trichloroacetic Acid, Monochloroacetic Acid:
	435 Sample matrix may be affecting this analyte. Data was accepted based on the LCS or CCV recovery.

December 20, 2016 **Monterey Bay Analytical Services**

Organic QC

Lab ID

Customer

: SP 1614533

: 2-19144

552.2	12/08/2016:217890 All analysis quality controls are within established criteria.
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Radio QC

900.0	12/14/2016:218286 All analysis quality controls are within established criteria.
	12/14/2016:218288 All analysis quality controls are within established criteria.
	12/13/2016:214878 All preparation quality controls are within established criteria.
903.0	12/13/2016:218172 All analysis quality controls are within established criteria.
	12/15/2016:218172 All analysis quality controls are within established criteria.
	12/07/2016:214680 All preparation quality controls are within established criteria.

Certification:: I certify that this data package is in compliance with ELAP standards, both technically and for completeness, except for any conditions listed above. Release of the data contained in this data package is authorized by the Laboratory Director or his designee, as verified by the following electronic signature.

KD:DMB

Approved By Kelly A. Dunnahoo, B.S.





December 20, 2016 Lab ID : SP 1614533-001

Customer ID : 2-19144

Monterey Bay Analytical Services

4 Justin Court Sampled On : December 2, 2016-10:00

Sampled By : T. Lindberg Monterey, CA 93940

Received On: December 6, 2016-13:40

Matrix : Water

Description : ASR-4 Backflush

Project : MPWMD

Sample Result - Organic

Constituent	Result	PQL	Units	Note	Sample Preparation		Sample Analysis	
Constituent	Result	1 QL			Method	Date/ID	Method	Date/ID
EPA 551.1								
Decafluorobiphenyl [‡]	103	80-120	%		551.1	12/06/16:214619	551.1	12/06/16:217779
Bromodichloromethane	ND	0.5	ug/L		551.1	12/06/16:214619	551.1	12/06/16:217779
Bromoform	ND	0.5	ug/L		551.1	12/06/16:214619	551.1	12/06/16:217779
Chloroform	ND	0.5	ug/L		551.1	12/06/16:214619	551.1	12/06/16:217779
Dibromochloromethane	ND	0.5	ug/L		551.1	12/06/16:214619	551.1	12/06/16:217779
Total Trihalomethanes	ND		ug/L		551.1	12/06/16:214619	551.1	12/06/16:217779
EPA 552.2								
2,3-Dibromopropionic Acid [‡]	110	70-130	%		552	12/07/16:214679	552.2	12/08/16:217890
Bromoacetic Acid	ND	1	ug/L		552	12/07/16:214679	552.2	12/08/16:217890
Chloroacetic Acid	ND	2	ug/L		552	12/07/16:214679	552.2	12/08/16:217890
Dibromoacetic Acid	ND	1	ug/L		552	12/07/16:214679	552.2	12/08/16:217890
Dichloroacetic Acid	ND	1	ug/L		552	12/07/16:214679	552.2	12/08/16:217890
Trichloroacetic Acid	ND	1	ug/L		552	12/07/16:214679	552.2	12/08/16:217890
Haloacetic acids (five)	ND		ug/L		552	12/07/16:214679	552.2	12/08/16:217890

ND=Non-Detected. PQL=Practical Quantitation Limit. ‡Surrogate. * PQL adjusted for dilution.

December 20, 2016 Lab ID : SP 1614533-001

Customer ID : 2-19144

Monterey Bay Analytical Services

Sampled On : December 2, 2016-10:00 4 Justin Court

Sampled By : T. Lindberg Monterey, CA 93940

Received On: December 6, 2016-13:40

: Water Matrix

Description : ASR-4 Backflush

Project : MPWMD

Sample Result - Radio

Constituent	Result ± Error	MDA	Units	MCL/AL	Sample Preparation		Sample Analysis	
Constituent	Result ± Ellor	MDA			Method	Date/ID	Method	Date/ID
Radio Chemistry								
Gross Alpha	3.91 ± 2.17	2.23	pCi/L	15/5	900.0	12/13/16-07:19 2P1614878	900.0	12/14/16-09:00 2A1618288
Total Alpha Radium (226)	0.578 ± 0.234	0.363	pCi/L	3	903.0	12/07/16-18:45 2P1614680	903.0	12/13/16-12:40 2A1618172

ND=Non-Detected. PQL=Practical Quantitation Limit. * PQL adjusted for dilution.

MDA = Minimum Detectable Activity (Calculated at the 95% confidence level) = Data utilized by DHS to determine matrix interference. MCL / AL = Maximum Contamination Level / Action Level. Alpha's Action Level of 5 pCi/L is based on the Assigned Value (AV). AV = Assigned Value(Gross Alpha Result + (0.84 x Error)). CCR Section 64442: Drinking Water Compliance Note: Do the following If Gross Alpha's (AV) exceeds 5 pCi/L run Uranium. If Gross Alpha's (AV) minus Uranium exceeds 5 pCi/L run Radium 226.

Drinking Water Compliance:

Gross Alpha (AV) minus Uranium is less than or equal to 15 pCi/L Uranium is less than or equal to 20 pCi/L

Radium 226 + Radium 228 is less than or equal to 5 pCi/L

Note: Samples are held for 3-6 months prior to disposal.



Analytical Chemists

December 20, 2016 Lab ID : SP 1614533-002

Customer ID : 2-19144

Monterey Bay Analytical Services

4 Justin Court Sampled On : December 2, 2016-13:40

Sampled By : T. Lindberg Monterey, CA 93940

Received On: December 6, 2016-13:40

Matrix : Water

Description : ASR-1 **Project** : MPWMD

Sample Result - Organic

Constituent	Result	PQL	Units	Note	Sample	Preparation	Samp	le Analysis
Constituent	Result	1 QL	Onts	TVOIC	Method	Date/ID	Method	Date/ID
EPA 551.1								
Decafluorobiphenyl [‡]	111	80-120	%		551.1	12/06/16:214619	551.1	12/06/16:217779
Bromodichloromethane	4.0	0.5	ug/L		551.1	12/06/16:214619	551.1	12/06/16:217779
Bromoform	ND	0.5	ug/L		551.1	12/06/16:214619	551.1	12/06/16:217779
Chloroform	10.1	0.5	ug/L		551.1	12/06/16:214619	551.1	12/06/16:217779
Dibromochloromethane	0.7	0.5	ug/L		551.1	12/06/16:214619	551.1	12/06/16:217779
Total Trihalomethanes	14.8		ug/L		551.1	12/06/16:214619	551.1	12/06/16:217779
EPA 552.2								
2,3-Dibromopropionic Acid [‡]	107	70-130	%		552	12/07/16:214679	552.2	12/08/16:217890
Bromoacetic Acid	ND	1	ug/L		552	12/07/16:214679	552.2	12/08/16:217890
Chloroacetic Acid	ND	2	ug/L		552	12/07/16:214679	552.2	12/08/16:217890
Dibromoacetic Acid	ND	1	ug/L		552	12/07/16:214679	552.2	12/08/16:217890
Dichloroacetic Acid	ND	1	ug/L		552	12/07/16:214679	552.2	12/08/16:217890
Trichloroacetic Acid	ND	1	ug/L		552	12/07/16:214679	552.2	12/08/16:217890
Haloacetic acids (five)	ND		ug/L		552	12/07/16:214679	552.2	12/08/16:217890

ND=Non-Detected. PQL=Practical Quantitation Limit. ‡Surrogate. * PQL adjusted for dilution.

December 20, 2016 Lab ID : SP 1614533-002

Customer ID : 2-19144

Monterey Bay Analytical Services

Sampled On : December 2, 2016-13:40 4 Justin Court

Sampled By : T. Lindberg Monterey, CA 93940

Received On: December 6, 2016-13:40

: Water Matrix

Description : ASR-1 **Project** : MPWMD

Sample Result - Radio

Constituent	Result ± Error	MDA	Units	MCL/AL	Sample	Preparation	Sample Analysis		
Constituent	Result ± Ellor	MDA	Omts	WICL/AL	Method	Date/ID	Method	Date/ID	
Radio Chemistry									
Gross Alpha	2.64 ± 1.89	1.96	pCi/L	15/5	900.0	12/13/16-07:19 2P1614878	900.0	12/14/16-11:00 2A1618286	
Total Alpha Radium (226)	1.33 ± 0.340	0.363	pCi/L	3	903.0	12/07/16-18:45 2P1614680	903.0	12/15/16-13:00 2A1618172	

ND=Non-Detected. PQL=Practical Quantitation Limit. * PQL adjusted for dilution.

MDA = Minimum Detectable Activity (Calculated at the 95% confidence level) = Data utilized by DHS to determine matrix interference. MCL / AL = Maximum Contamination Level / Action Level. Alpha's Action Level of 5 pCi/L is based on the Assigned Value (AV). AV = Assigned Value(Gross Alpha Result + (0.84 x Error)). CCR Section 64442: Drinking Water Compliance Note: Do the following If Gross Alpha's (AV) exceeds 5 pCi/L run Uranium. If Gross Alpha's (AV) minus Uranium exceeds 5 pCi/L run Radium 226.

Drinking Water Compliance:

Gross Alpha (AV) minus Uranium is less than or equal to 15 pCi/L Uranium is less than or equal to 20 pCi/L

Radium 226 + Radium 228 is less than or equal to 5 pCi/L

Note: Samples are held for 3-6 months prior to disposal.

December 20, 2016 Lab ID : SP 1614533 **Monterey Bay Analytical Services** : 2-19144 Customer

Quality Control - Organic

Constituent	Method	Date/ID	Type	Units	Conc.	QC Data	DQO	Note
Organic								
Bromodichloromethane	551.1	12/06/16:214619SBL	Blank	ug/L		ND	< 0.5	
Bromodiemoromemane	331.1	12/00/10.21401/501	LCS	ug/L ug/L	9.820	101 %	80-120	
			MS	ug/L	10.07	115 %	80-120	
		(SP 1614528-001)	MSD	ug/L	10.01	104 %	80-120	
			MSRPD	ug/L	20.02	9.9%	≤20	
	551.1	12/06/16:217779SBL	CCV	ug/L	83.33	91.9 %	80-120	
			CCV	ug/L	166.7	109 %	80-120	
Bromoform	551.1	12/06/16:214619SBL	Blank	ug/L		ND	< 0.5	
			LCS	ug/L	9.820	112 %	80-120	
			MS	ug/L	10.07	124 %	80-120	435
		(SP 1614528-001)	MSD	ug/L	10.01	114 %	80-120	
			MSRPD	ug/L	20.02	9.7%	≤20	
	551.1	12/06/16:217779SBL	CCV	ug/L	83.33	105 %	80-120	
			CCV	ug/L	166.7	118 %	80-120	
Chloroform	551.1	12/06/16:214619SBL	Blank	ug/L	0.000	ND	< 0.5	
			LCS	ug/L	9.820	97.8 %	80-120	
		(CD 1614520 001)	MS	ug/L	10.07	117 %	80-120	
		(SP 1614528-001)	MSD	ug/L	10.01	104 %	80-120	
	551.1	10/06/16 01/2/200DI	MSRPD	ug/L	20.02	9.0%	≤20	
	551.1	12/06/16:217779SBL	CCV	ug/L	83.33	90.4 %	80-120	
			CCV	ug/L	166.7	111 %	80-120	
Decafluorobiphenyl	551.1	12/06/16:214619SBL	Blank	ug/L	19.51	120 %	80-120	
			LCS	ug/L	19.64	101 %	80-120	40.5
		(CD 1 < 1 4520 001)	MS	ug/L	20.15	127 %	80-120	435
		(SP 1614528-001)	MSD	ug/L	20.02	119 %	80-120	
	551.1	10/06/16 01/2/200DI	MSRPD	ug/L	20.02	7.8%	≤20.0	2.62
	551.1	12/06/16:217779SBL	CCV CCV	ug/L ug/L	166.7 333.3	177 % 110 %	80-120 80-120	362
Dibromochloromethane	551.1	12/06/16:214619SBL	Blank		333.3	ND	<0.5	
Dibromocniorometnane	551.1	12/00/10:214019SBL	LCS	ug/L ug/L	9.820	109 %	<0.5 80-120	
			MS	ug/L ug/L	10.07	123 %	80-120	435
		(SP 1614528-001)	MSD	ug/L ug/L	10.07	112 %	80-120	433
		(51 1014320-001)	MSRPD	ug/L ug/L	20.02	10.3%	≤20	
	551.1	12/06/16:217779SBL	CCV	ug/L ug/L	83.33	102 %	80-120	
	331.1	12/00/10.217773BL	CCV	ug/L ug/L	166.7	116 %	80-120	
2,3-Dibromopropionic Acid	552	12/07/16:214679SBL	Blank	ug/L	5.000	113 %	70-130	
2,3-Dioromopropionic Acid	332	12/07/10.2140793BL	LCS	ug/L ug/L	5.000	95.9 %	70-130	
			MS	ug/L	5.000	125 %	70-130	
		(SP 1614528-001)	MSD	ug/L	5.000	120 %	70-130	
		(MSRPD	ug/L	5.000	3.9%	≤20.0	
Dibromoacetic Acid	552	12/07/16:214679SBL	Blank	ug/L		ND	<1	
			LCS	ug/L	10.00	108 %	70-130	
			MS	ug/L	10.00	152 %	70-130	435
		(SP 1614528-001)	MSD	ug/L	10.00	170 %	70-130	435
			MSRPD	ug/L	5.000	11.3%	≤20.0	<u> </u>
Dichloroacetic Acid	552	12/07/16:214679SBL	Blank	ug/L		ND	<1	
			LCS	ug/L	10.00	119 %	70-130	
			MS	ug/L	10.00	167 %	70-130	435
		(SP 1614528-001)	MSD	ug/L	10.00	185 %	70-130	435
			MSRPD	ug/L	5.000	10.6%	≤20.0	
Monobromoacetic Acid	552	12/07/16:214679SBL	Blank	ug/L		ND	<1	
			LCS	ug/L	10.00	103 %	70-130	
			MS	ug/L	10.00	141 %	70-130	435
		(SP 1614528-001)	MSD	ug/L	10.00	155 %	70-130	435
		<u> </u>	MSRPD	ug/L	5.000	9.6%	≤20.0	

December 20, 2016 Lab ID : SP 1614533 **Monterey Bay Analytical Services** Customer : 2-19144

Quality Control - Organic

Constituent	Method	Date/ID	Туре	Units	Conc.	QC Data	DQO	Note
Organic								
Monochloroacetic Acid	552	12/07/16:214679SBL	Blank	ug/L		ND	<2	
			LCS	ug/L	10.00	105 %	70-130	
			MS	ug/L	10.00	143 %	70-130	435
		(SP 1614528-001)	MSD	ug/L	10.00	159 %	70-130	435
			MSRPD	ug/L	5.000	10.5%	≤20.0	
Trichloroacetic Acid	552	12/07/16:214679SBL	Blank	ug/L		ND	<1	
			LCS	ug/L	10.00	107 %	70-130	
			MS	ug/L	10.00	156 %	70-130	435
		(SP 1614528-001)	MSD	ug/L	10.00	178 %	70-130	435
			MSRPD	ug/L	5.000	13.7%	≤20.0	
2,3-Dibromopropionic Acid	552.2	12/08/16:217890SBL	CCV	ug/L	75.00	85.9 %	70-130	
			CCV	ug/L	50.00	99.9 %	70-130	
Dibromoacetic Acid	552.2	12/08/16:217890SBL	CCV	ug/L	150.0	120 %	70-130	
			CCV	ug/L	100.0	116 %	70-130	
Dichloroacetic Acid	552.2	12/08/16:217890SBL	CCV	ug/L	150.0	126 %	70-130	
			CCV	ug/L	100.0	124 %	70-130	
Monobromoacetic Acid	552.2	12/08/16:217890SBL	CCV	ug/L	150.0	96.0 %	70-130	
			CCV	ug/L	100.0	107 %	70-130	
Monochloroacetic Acid	552.2	12/08/16:217890SBL	CCV	ug/L	150.0	88.4 %	70-130	
			CCV	ug/L	100.0	112 %	70-130	
Trichloroacetic Acid	552.2	12/08/16:217890SBL	CCV	ug/L	150.0	127 %	70-130	
			CCV	ug/L	100.0	110 %	70-130	

Definition

CCV

: Continuing Calibration Verification - Analyzed to verify the instrument calibration is within criteria.

Blank : Method Blank - Prepared to verify that the preparation process is not contributing contamination to the samples.

LCS : Laboratory Control Standard/Sample - Prepared to verify that the preparation process is not affecting analyte recovery.

: Matrix Spikes - A random sample is spiked with a known amount of analyte. The recoveries are an indication of how that sample MS

matrix affects analyte recovery.

: Matrix Spike Duplicate of MS/MSD pair - A random sample duplicate is spiked with a known amount of analyted. The recoveries MSD

are an indication of how that sample matrix affects analyte recovery.

: MS/MSD Relative Percent Difference (RPD) - The MS relative percent difference is an indication of precision for the preparation MSRPD

ND : Non-detect - Result was below the DQO listed for the analyte.

DQO : Data Quality Objective - This is the criteria against which the quality control data is compared.

Explanation

: Surrogates are qualified on Control Chart Limits, these are CCV limits. See individual sample reports. 435

: Sample matrix may be affecting this analyte. Data was accepted based on the LCS or CCV recovery.

December 20, 2016 Lab ID : SP 1614533 **Monterey Bay Analytical Services** Customer : 2-19144

Quality Control - Radio

Constituent	Method	Date/ID	Type	Units	Conc.	QC Data	DQO	Note
Radio								
Alpha	900.0	12/14/16:218286caa	CCV	cpm	8516	42.4 %	39 - 48	
			CCB	cpm		0.100	0.14	
	900.0	12/14/16:218288caa	CCV	cpm	8516	41.0 %	38 - 47	
			CCB	cpm		0.1200	0.18	
Gross Alpha	900.0	12/13/16:214878RMM	Blank	pCi/L		0.77	3	
_			LCS	pCi/L	107.4	95.5 %	75-125	
			MS	pCi/L	107.4	129 %	60-140	
		(SP 1614650-001)	MSD	pCi/L	107.4	107 %	60-140	
			MSRPD	pCi/L	107.4	18.8%	≤30	
Alpha	903.0	12/15/16:218172caa	CCV	cpm	8517	39.9 %	39 - 47	
			CCB	cpm		0.0600	0.16	
Total Alpha Radium (226)	903.0	12/07/16:214680emv	RgBlk	pCi/L		0.008	2	
_			LCS	pCi/L	21.86	61.6 %	52-107	
			BS	pCi/L	21.86	53.7 %	43-111	
			BSD	pCi/L	21.86	48.8 %	43-111	
			BSRPD	pCi/L	21.86	9.5%	≤35.5	

CCV $: Continuing\ Calibration\ Verification\ -\ Analyzed\ to\ verify\ the\ instrument\ calibration\ is\ within\ criteria.$ CCB : Continuing Calibration Blank - Analyzed to verify the instrument baseline is within criteria. Blank : Method Blank - Prepared to verify that the preparation process is not contributing contamination to the samples. RgBlk : Method Reagent Blank - Prepared to correct for any reagent contributions to sample result. : Laboratory Control Standard/Sample - Prepared to verify that the preparation process is not affecting analyte recovery. LCS : Matrix Spikes - A random sample is spiked with a known amount of analyte. The recoveries are an indication of how that sample MS matrix affects analyte recovery. : Matrix Spike Duplicate of MS/MSD pair - A random sample duplicate is spiked with a known amount of analyted. The recoveries MSD are an indication of how that sample matrix affects analyte recovery. : Blank Spikes - A blank is spiked with a known amount of analyte. It is prepared to verify that the preparation process is not BS affecting analyte recovery. : Blank Spike Duplicate of BS/BSD pair - A blank duplicate is spiked with a known amount of analyte. It is prepared to verify that BSD the preparation process is not affecting analyte recovery.

MSRPD

**MS/MSD Relative Percent Difference (RPD) - The MS relative percent difference is an indication of precision for the preparation and analysis.

BSRPD : BS/BSD Relative Percent Difference (RPD) - The BS relative percent difference is an indication of precision for the preparation and analysis.

DQO : Data Quality Objective - This is the criteria against which the quality control data is compared.



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CHAIN OF CUSTODY AND ANALYSIS REQUEST DOCUMENT

	Monterey Bay Analytica	al Services			Lab N	lumbe	33		: 1			TE	ST D	ESC	RIPT	ION	AND	ANA	ALYS	ES F	REQU	JEST	ED			
Contac Project Purcha Quote Rush A Rush p Electro Sample	Monterey, CA 93940 (831)375-6227 Fax: (83 Address: info@mbasinc.com t Person: David Holland Name: MPWMD se Order Number: Number: Inalysis: 5 Day 4 Day 3 Da re-approval by lab (initals): Inic Data Transfer: No State Inic	Client Other:	24 hour	Method of Sampling: Composite (C) Grab (G)	Number of Containers	Type of Containers: (G) Quess (P) Plastic (V) VOA (MT) Metal Tube	Potable (P) Non-Potable (NP) Ag Water (AgW)	(SW) Surface Water (MW) Monitoring Well (GW) Ground Water (TB) Travel Blank (WW) Waste Water (DW) Drinking Water	PO (O) PROS (CTTS) el	BacT. (Sys) System (SRC) Source (W) Waste	Bect: (ROUT)Rowtine (RPT)Repeal (OTH)Other (RPL)Replace	(LT) Leaf Tissue (PET) Petiole Tissue (PRD) Produce	Preservative: (1) NaOH + ZnAc. (2) NaOH, (3) HCI (4) H2SOA, (5) HNO3, (6) Na282O3, (7) Other	Gross Alpha	Ra 226	НАА	THMS									
1.	ASR-4 Backflush	12/2/16	10:00	G	7	Var								х	x	x	x							i		
2.	ASR-1	12/2/16	13:40	G	7	Var								x	х	x	х									
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52	4 marks			Receiv	ed By:		D	ate:		me:	\$	eccive	W	X	1)	ate:	U	ime;	0	Receiv	ed By:			Date:	Time:	

Corporate Offices & Laboratory 853 Corporation Street Santa Paula, CA 93060 TEL: (805)392-2000 Env FAX: (805)525-4172 / Ag FAX: (805)392-2063 CA ELAP Certification No.1573 Office & Laboratory 2500 Stagecoach Road Stockton, CA 95215 TEL: (209)942-0182 FAX: (209)942-0423 CA ELAP Certification No. 1563 Office & Laborator
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Revision Date: 10/09/14 Page: 1 of 1

Condition Upon Receipt (Attach to COC)

Sample Receipt at SP:								
1. Number of ice chests/packages r	eceived:	1						
2. Shipper tracking numbers	534222817							
3. Were samples received in a chille Temps:	ed condition?	6	/	/	_/	/	/	_/
4. Surface water (SWTR) bact sam should be flagged unless the time	•		•	•	-		hether ice	d or not,
5. Do the number of bottles receive COC?	d agree with the	Yes	No	N/A				
6. Verify sample date, time, sample	r	Yes	No	N/A				
7. Were the samples received intac bottles, leaks, etc.)	t? (i.e. no broken	Yes	No					
8. Were sample custody seals intac	et?	Yes	No	N/A				
Sample Verification, Labeling and	d Distribution:							
1. Were all requested analyses und acceptable?	lerstood and	Yes	No					
2. Did bottle labels correspond with	the client's ID's?	Yes	No					
3. Were all bottles requiring sample properly preserved? [Exception: Oil & Grease, VOA and Inc. 10 of the control of the cont		Yes	No	N/A	FGL			
4. VOAs checked for Headspace?		Yes	No	N/A				
5. Were all analyses within holding receipt?	times at time of	Yes	No					
6. Have rush or project due dates b accepted?	een checked and	Yes	No	N/A				
Include a copy of the COC for lab d	eliverv. (Bacti. Ind	organics a	ınd Ra	dio)				
Sample Receipt, Login and Verifica	• `	•		Reviewed Approved		hawn Peck	Title: Sam	igned by Shawn Peck ple Receiving 13/2016-09:42:02
Discrepency Documentation:			,,					
Any items above which are "No" or	do not meet spec		•	• ,	be res	oivea.		
Person Contacted:			one Nu	ımber:				
Initiated By: Problem:		Da	ite:					
Problem.								
Resolution:								
2. Person Contacted:		Ph	one Ni	ımber:				
Initiated By:		Da						
Problem:								
Resolution:						(2019	144)	

Monterey Bay Analytical Services SP 1614533

MPWMD Jonanthan Lear P.O. Box 85 Monterey, CA 93442-0085



831.375.MBAS

www.MBASinc.com **ELAP Certification Number: 2385**

Page 1 of 2 Tuesday, January 03, 2017

Lab Number: AB58431

Collection Date/Time: 12/8/2016 13:00 Sample Collector: LEAR J Client Sample #:

Submittal Date/Time: 12/8/2016 14:11 Sample ID

Submittal Date/Time: 12/8/2016	14:11		ample ID						
			le Descript						
Analyte	Method	Unit	Result	Dilution Qual	PQL	MDL	Date Analyzed	Time Analyzed	Analyst:
Alkalinity, Total (as CaCO3)	SM2320B	mg/L	138	1	10	2	12/19/2016	10:00:00 AM	BS
Aluminum, Total	EPA200.8	μg/L	Not Detected	1 2	10	10	12/13/2016	3:42:00 PM	SM
Ammonia-N	SM4500NH3	mg/L	Not Detected	l 1	0.05	0.05	12/16/2016	11:00:00 AM	MW
Arsenic, Total	EPA200.8	μg/L	7	2	1	0.2	12/13/2016	3:42:00 PM	SM
Barium, Total	EPA200.8	μg/L	64	2	10	0.4	12/13/2016	3:42:00 PM	SM
Bicarbonate (as HCO3-)	SM2320B	mg/L	168	1	10	2	12/19/2016	1:04:00 PM	LRH
Boron	EPA200.7	mg/L	0.07	1	0.05	0.01	12/19/2016	2:28:00 PM	MW
Bromide	EPA300.0	mg/L	0.2	1	0.1	0.01	12/8/2016	4:21:00 PM	НМ
Calcium	EPA200.7	mg/L	37	1	0.5	0.1	12/19/2016	2:28:00 PM	MW
Carbonate as CaCO3	SM2320B	mg/L	Not Detected	1 1	10	2	12/19/2016	1:04:00 PM	LRH
Chloramines	SM4500-CI	mg/L	Not Detected	1 1	0.05	0.05	12/8/2016	4:10:00 PM	SM
Chloride	EPA300.0	mg/L	76	1	1	0.25	12/8/2016	4:21:00 PM	НМ
DOC	SM5310C	mg/L	0.7	1	0.2	0.03	12/27/2016	1:53:00 PM	MW
Fluoride	EPA300.0	mg/L	0.4	1	0.1	0.02	12/8/2016	4:21:00 PM	НМ
Gross Alpha	EPA900.0	pCi/L	0.498 ± 1.42	1 E			12/22/2016	12:00:00 PM	FGL
Haloacetic Acids	EPA552	μg/L	Not Detected	1 1 E			12/16/2016	12:00:00 PM	FGL
Iron	EPA200.7	μg/L	Not Detected	l 1	10	4	12/19/2016	2:28:00 PM	MW
Iron, Dissolved	EPA200.7	μg/L	Not Detected	l 1	10	4	12/19/2016	2:26:00 PM	MW
Kjehldahl Nitrogen	SM4500-NH	mg/L	Not Detected	l 1	0.5	0.5	12/29/2016	11:00:00 AM	BS
Lithium	EPA200.8	μg/L	21	2	1	0.2	12/13/2016	3:42:00 PM	SM
Magnesium	EPA200.7	mg/L	7.0	1	0.5	0.2	12/19/2016	2:28:00 PM	MW
Manganese, Dissolved	EPA200.7	μg/L	Not Detected	1 1	10	2	12/19/2016	2:26:00 PM	MW
Manganese, Total	EPA200.7	μg/L	Not Detected	l 1	10	2	12/19/2016	2:28:00 PM	MW
Mercury, Total	EPA200.8	μg/L	Not Detected	2 IJ	0.5	0.08	12/13/2016	3:42:00 PM	SM
Methane	EPA174/175	μg/L	Not Detected	1 1 E	0.1	0.1	12/22/2016	11:22:00 AM	MCCA
Molybdenum, Total	EPA200.8	μg/L	10	2	1	0.2	12/13/2016	3:42:00 PM	SM
Nickel, Total	EPA200.8	μg/L	26	2	10	0.2	12/13/2016	3:42:00 PM	SM
Nitrate as NO3	EPA300.0	mg/L	Not Detected	I 1	1	0.07	12/8/2016	4:21:00 PM	НМ
Nitrate as NO3-N	EPA300.0	mg/L	Not Detected	I 1	0.1	0.01	12/8/2016	4:21:00 PM	HM
Nitrate+Nitrite as N	EPA300.0	mg/L	0.3	1	0.1	0.02	12/8/2016	4:21:00 PM	НМ
Nitrite as NO2-N	EPA300.0	mg/L	0.2	1	0.1	0.01	12/8/2016	4:21:00 PM	НМ
o-Phosphate-P, Dissolved	EPA300.0	mg/L	Not Detected	l 1	0.1	0.02	12/8/2016	4:21:00 PM	НМ
pH (Laboratory)	SM4500-H+	pH (H	7.6	1	0.1		12/8/2016	4:15:00 PM	BS
Phosphorus, Total	HACH 8190	mg/L	0.03	1	0.03	0.03	12/13/2016	3:57:00 PM	LRH
Potassium	EPA200.7	mg/L	3.5	1	0.5	0.3	12/19/2016	2:28:00 PM	MW
QC Anion Sum x 100	Calculation	%	93%	1			12/19/2016	1:04:00 PM	LRH
QC Anion-Cation Balance	Calculation	%	1	1			12/20/2016	8:36:00 AM	MW
			-						

mg/L: Milligrams per liter (=ppm) ug/L : Micrograms per liter (=ppb) PQL: Practical Quantitation Limit J = Result is less than PQL H = Analyzed ouside of hold time E = Analysis performed by External Laboratory; See Report attachments.

D = Method deviates from standard method due to insufficient sample for MS/MSD

								,,	
Calculation	%	95%	1				12/20/2016	8:36:00 AM	MW
Calculation		0.50	1				12/21/2016	11:56:00 AM	MP
EPA200.8	μg/L	Not Detected	2	LM	2	1	12/13/2016	3:42:00 PM	SM
EPA200.7	mg/L	46	1		0.5	0.3	12/19/2016	2:28:00 PM	MW
EPA200.7	mg/L	68	1		0.5	0.2	12/19/2016	2:28:00 PM	MW
SM2510B	μmhos	s/c 578	1		1	1	12/13/2016	3:25:00 PM	НМ
EPA200.8	μg/L	206	2		5	1	12/13/2016	3:42:00 PM	SM
EPA300.0	mg/L	22	1		1	0.25	12/8/2016	4:21:00 PM	НМ
SM5310C	mg/L	0.8	1		0.2	0.03	12/27/2016	1:53:00 PM	MW
SM2540C	mg/L	291	1		10	10	12/15/2016	10:30:00 AM	MP
Calculation	mg/L	Not Detected	1		0.5	0.5	12/29/2016	5:09:00 PM	MP
EPA903.0	pCi/L	0.050 ± 0.120	1	Е			12/28/2016	8:20:00 AM	FGL
EPA524.2	μg/L	Not Detected	1	Е			12/16/2016	12:00:00 PM	FGL
EPA200.8	μg/L	Not Detected	2		1	0.08	12/13/2016	3:42:00 PM	SM
EPA200.8	μg/L	Not Detected	2		5	0.2	12/13/2016	3:42:00 PM	SM
EPA200.8	μg/L	24	2		20	20	12/13/2016	3:42:00 PM	SM
	Calculation EPA200.8 EPA200.7 EPA200.7 SM2510B EPA200.8 EPA300.0 SM5310C SM2540C Calculation EPA903.0 EPA524.2 EPA200.8 EPA200.8	Calculation EPA200.8 μg/L EPA200.7 mg/L EPA200.7 mg/L SM2510B μmho EPA200.8 μg/L EPA300.0 mg/L SM5310C mg/L SM5310C mg/L Calculation mg/L EPA903.0 pCi/L EPA524.2 μg/L EPA200.8 μg/L EPA200.8 μg/L	Calculation 0.50 EPA200.8 μg/L Not Detected EPA200.7 mg/L 46 EPA200.7 mg/L 68 SM2510B μmhos/c 578 EPA200.8 μg/L 206 EPA300.0 mg/L 22 SM5310C mg/L 0.8 SM2540C mg/L 291 Calculation mg/L Not Detected EPA903.0 pCi/L 0.050 ± 0.120 EPA524.2 μg/L Not Detected EPA200.8 μg/L Not Detected EPA200.8 μg/L Not Detected	Calculation 0.50 1 EPA200.8 μg/L Not Detected 2 EPA200.7 mg/L 46 1 EPA200.7 mg/L 68 1 SM2510B μmhos/c 578 1 EPA200.8 μg/L 206 2 EPA300.0 mg/L 22 1 SM5310C mg/L 0.8 1 SM2540C mg/L 291 1 Calculation mg/L Not Detected 1 EPA903.0 pCi/L 0.050 ± 0.120 1 EPA524.2 μg/L Not Detected 1 EPA200.8 μg/L Not Detected 2 EPA200.8 μg/L Not Detected 2	Calculation 0.50 1 EPA200.8 μg/L Not Detected 2 LM EPA200.7 mg/L 46 1 - EPA200.7 mg/L 68 1 - SM2510B μmhos/c 578 1 - EPA200.8 μg/L 206 2 - EPA300.0 mg/L 22 1 - SM5310C mg/L 0.8 1 - SM2540C mg/L 291 1 - Calculation mg/L Not Detected 1 E EPA903.0 pCi/L 0.050 ± 0.120 1 E EPA524.2 μg/L Not Detected 1 E EPA200.8 μg/L Not Detected 2 - EPA200.8 μg/L Not Detected 2 -	Calculation 0.50 1 EPA200.8 μg/L Not Detected 2 LM 2 EPA200.7 mg/L 46 1 0.5 EPA200.7 mg/L 68 1 0.5 SM2510B μmhos/c 578 1 1 EPA200.8 μg/L 206 2 5 EPA300.0 mg/L 22 1 1 SM5310C mg/L 0.8 1 0.2 SM2540C mg/L 291 1 10 Calculation mg/L Not Detected 1 0.5 EPA903.0 pCi/L 0.050 ± 0.120 1 E EPA524.2 μg/L Not Detected 1 E EPA200.8 μg/L Not Detected 2 1 EPA200.8 μg/L Not Detected 2 5	Calculation 0.50 1 EPA200.8 μg/L Not Detected 2 LM 2 1 EPA200.7 mg/L 46 1 0.5 0.3 EPA200.7 mg/L 68 1 0.5 0.2 SM2510B μmhos/c 578 1 1 1 1 EPA200.8 μg/L 206 2 5 1 1 0.25 5 SM5310C mg/L 22 1 1 0.2 0.03 SM2540C mg/L 291 1 10 10 Calculation mg/L Not Detected 1 E 5 EPA903.0 pCi/L 0.050 ± 0.120 1 E 5 EPA524.2 μg/L Not Detected 2 1 0.08 EPA200.8 μg/L Not Detected 2 5 0.2	Calculation 0.50 1 12/21/2016 EPA200.8 μg/L Not Detected 2 LM 2 1 12/13/2016 EPA200.7 mg/L 46 1 0.5 0.3 12/19/2016 EPA200.7 mg/L 68 1 0.5 0.2 12/19/2016 SM2510B μmhos/c 578 1 1 1 12/13/2016 EPA200.8 μg/L 206 2 5 1 12/13/2016 EPA300.0 mg/L 22 1 1 0.25 12/8/2016 SM5310C mg/L 0.8 1 0.2 0.03 12/27/2016 SM2540C mg/L 291 1 10 10 12/15/2016 Calculation mg/L Not Detected 1 0.5 0.5 12/29/2016 EPA524.2 μg/L Not Detected 1 E 12/16/2016 EPA200.8 μg/L Not Detected 2 1 0.08	Calculation 0.50 1 12/21/2016 11:56:00 AM EPA200.8 μg/L Not Detected 2 LM 2 1 12/13/2016 3:42:00 PM EPA200.7 mg/L 46 1 0.5 0.3 12/19/2016 2:28:00 PM EPA200.7 mg/L 68 1 0.5 0.2 12/19/2016 2:28:00 PM SM2510B μmhos/c 578 1 1 1 12/13/2016 3:25:00 PM EPA200.8 μg/L 206 2 5 1 12/13/2016 3:42:00 PM EPA300.0 mg/L 22 1 1 0.25 12/8/2016 4:21:00 PM SM5310C mg/L 0.8 1 0.2 0.03 12/27/2016 1:53:00 PM SM2540C mg/L 291 1 10 10 12/15/2016 10:30:00 AM Calculation mg/L Not Detected 1 E 12/28/2016 8:20:00 AM EPA524.2 μg/L

Sample Comments: LM: MS and/or MSD above acceptance limits. IJ: ICV and/or CCV above acceptance limits.

Report Approved by:

December 29, 2016

Monterey Bay Analytical Services Lab ID : SP 1614903 4 Justin Court Customer : 2-19144

Monterey, CA 93940

Laboratory Report

Introduction: This report package contains total of 7 pages divided into 3 sections:

Case Narrative (2 pages): An overview of the work performed at FGL.

Sample Results (2 pages): Results for each sample submitted.

Quality Control (3 pages) : Supporting Quality Control (QC) results.

Case Narrative

This Case Narrative pertains to the following samples:

Sample Description	Date Sampled	Date Received	FGL Lab ID#	Matrix
PCAE(D)	12/08/2016	12/14/2016	SP 1614903-001	W

Sampling and Receipt Information: All samples were received in acceptable condition and within temperature requirements, unless noted on the Condition Upon Receipt (CUR) form. All samples arrived on ice. All samples were prepared and analyzed within the method specified hold time. All samples were checked for pH if acid or base preservation is required (except for VOAs). For details of sample receipt information, please see the attached Chain of Custody and Condition Upon Receipt Form.

Quality Control: All samples were prepared and analyzed according to the following tables:

Organic QC

551.1	12/16/2016:218353 All analysis quality controls are within established criteria, except: The following note applies to Decafluorobiphenyl: 362 Surrogates are qualified on Control Chart Limits, these are CCV limits. See individual sample reports.
	12/15/2016:215033 All preparation quality controls are within established criteria, except:
	The following note applies to Dibromochloromethane, Bromoform:
	435 Sample matrix may be affecting this analyte. Data was accepted based on the LCS or CCV recovery.
	The following note applies to Decafluorobiphenyl:
	435 Sample matrix may be affecting this analyte. Data was accepted based on the LCS or CCV recovery.
	12/14/2016:214954 All preparation quality controls are within established criteria, except:
552	The following note applies to 2,3-Dibromopropionic Acid:
	435 Sample matrix may be affecting this analyte. Data was accepted based on the LCS or CCV recovery.

December 29, 2016 **Monterey Bay Analytical Services**

Organic QC

Lab ID

Customer

: SP 1614903

: 2-19144

552.2	12/16/2016:218252 All analysis quality controls are within established criteria.
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Radio QC

900.0	12/22/2016:218740 All analysis quality controls are within established criteria.
	12/20/2016:215158 All preparation quality controls are within established criteria.
903.0	12/28/2016:218762 All analysis quality controls are within established criteria.
	12/20/2016:215191 All preparation quality controls are within established criteria.

Certification:: I certify that this data package is in compliance with ELAP standards, both technically and for completeness, except for any conditions listed above. Release of the data contained in this data package is authorized by the Laboratory Director or his designee, as verified by the following electronic signature.

KD:DMB

Approved By Kelly A. Dunnahoo, B.S.





December 29, 2016 Lab ID : SP 1614903-001

Customer ID : 2-19144

Monterey Bay Analytical Services

4 Justin Court Sampled On : December 8, 2016-13:00

: Jonathan Lear Monterey, CA 93940 Sampled By

Received On: December 14, 2016-11:20

Matrix : Water

Description : PCAE(D) Project : MPWMD

Sample Result - Organic

Constituent	Result	PQL	Units	Note	Sample	Preparation	Samp	le Analysis
Constituent	Result	1 QL	Omts	11010	Method	Date/ID	Method	Date/ID
EPA 551.1								
Decafluorobiphenyl [‡]	101	80-120	%		551.1	12/15/16:215033	551.1	12/16/16:218353
Bromodichloromethane	ND	0.5	ug/L		551.1	12/15/16:215033	551.1	12/16/16:218353
Bromoform	ND	0.5	ug/L		551.1	12/15/16:215033	551.1	12/16/16:218353
Chloroform	ND	0.5	ug/L		551.1	12/15/16:215033	551.1	12/16/16:218353
Dibromochloromethane	ND	0.5	ug/L		551.1	12/15/16:215033	551.1	12/16/16:218353
Total Trihalomethanes	ND		ug/L		551.1	12/15/16:215033	551.1	12/16/16:218353
EPA 552.2								
2,3-Dibromopropionic Acid [‡]	72.8	70-130	%		552	12/14/16:214954	552.2	12/16/16:218252
Bromoacetic Acid	ND	1	ug/L		552	12/14/16:214954	552.2	12/16/16:218252
Chloroacetic Acid	ND	2	ug/L		552	12/14/16:214954	552.2	12/16/16:218252
Dibromoacetic Acid	ND	1	ug/L		552	12/14/16:214954	552.2	12/16/16:218252
Dichloroacetic Acid	ND	1	ug/L		552	12/14/16:214954	552.2	12/16/16:218252
Trichloroacetic Acid	ND	1	ug/L		552	12/14/16:214954	552.2	12/16/16:218252
Haloacetic acids (five)	ND		ug/L		552	12/14/16:214954	552.2	12/16/16:218252

ND=Non-Detected. PQL=Practical Quantitation Limit. ‡Surrogate. * PQL adjusted for dilution.

Analytical Chemists

December 29, 2016 Lab ID : SP 1614903-001

Customer ID : 2-19144

Monterey Bay Analytical Services

4 Justin Court Sampled On : December 8, 2016-13:00

Sampled By : Jonathan Lear

Received On: December 14, 2016-11:20

: Water Matrix

Description : PCAE(D)**Project** : MPWMD

Monterey, CA 93940

Sample Result - Radio

Constituent	Result ± Error MDA		Units	MCL/AL	Sample	Preparation	Sample Analysis		
Constituent	Result ± Ellor	MDA	Omts	WICL/AL	Method	Date/ID	Method	Date/ID	
Radio Chemistry									
Gross Alpha	0.498 ± 1.42	2.10	pCi/L	15/5	900.0	12/20/16-10:19 2P1615158	900.0	12/22/16-12:00 2A1618740	
Total Alpha Radium (226)	0.050 ± 0.120	0.470	pCi/L	3	903.0	12/20/16-19:00 2P1615191	903.0	12/28/16-08:20 2A1618762	

ND=Non-Detected. PQL=Practical Quantitation Limit. * PQL adjusted for dilution.

MDA = Minimum Detectable Activity (Calculated at the 95% confidence level) = Data utilized by DHS to determine matrix interference. MCL / AL = Maximum Contamination Level / Action Level. Alpha's Action Level of 5 pCi/L is based on the Assigned Value (AV). AV = Assigned Value(Gross Alpha Result + (0.84 x Error)). CCR Section 64442: Drinking Water Compliance Note: Do the following If Gross Alpha's (AV) exceeds 5 pCi/L run Uranium. If Gross Alpha's (AV) minus Uranium exceeds 5 pCi/L run Radium 226.

Drinking Water Compliance:

Gross Alpha (AV) minus Uranium is less than or equal to 15 pCi/L Uranium is less than or equal to 20 pCi/L

Radium 226 + Radium 228 is less than or equal to 5 pCi/L

Note: Samples are held for 3-6 months prior to disposal.

December 29, 2016 **Monterey Bay Analytical Services**

Lab ID : SP 1614903 : 2-19144 Customer

Quality Control - Organic

Constituent	Method	Date/ID	Type	Units	Conc.	QC Data	DQO	Note
Organic								
Bromodichloromethane	551.1	12/15/16:215033SBL	Blank	ug/L		ND	< 0.5	
Bromodiemoromethane	331.1	12/13/10.21303355E	LCS	ug/L	9.690	102 %	80-120	
			MS	ug/L ug/L	9.855	104 %	80-120	
		(SP 1614947-001)	MSD	ug/L ug/L	9.937	111 %	80-120	
		(51 1011) 17 001)	MSRPD	ug/L	19.87	4.8%	≤20	
	551.1	12/16/16:218353SBL	CCV	ug/L	83.33	85.0 %	80-120	
	331.1	12/10/10.2103333BL	CCV	ug/L ug/L	166.7	105 %	80-120	
Bromoform	551.1	12/15/16:215033SBL	Blank	ug/L	100.7	ND	<0.5	
Bromoroim	331.1	12/13/10.213033BBE	LCS	ug/L ug/L	9.690	103 %	80-120	
			MS	ug/L ug/L	9.855	120 %	80-120	
		(SP 1614947-001)	MSD	ug/L ug/L	9.937	130 %	80-120	435
		(51 1014)47-001)	MSRPD	ug/L ug/L	19.87	4.2%	≤20	733
	551.1	12/16/16:218353SBL	CCV	ug/L ug/L	83.33	96.1 %	80-120	
	331.1	12/10/10:2183333BL	CCV	ug/L ug/L	166.7	90.1 % 116 %	80-120	
Chloroform	551 1	12/15/16-215022CDI			100.7			
Chloroform	551.1	12/15/16:215033SBL	Blank	ug/L	0.600	ND	< 0.5	
		1	LCS	ug/L	9.690	105 %	80-120	
		(CD 1 (1 (0 (7 001)	MS	ug/L	9.855	114 %	80-120	
		(SP 1614947-001)	MSD	ug/L	9.937	120 %	80-120	
			MSRPD	ug/L	19.87	4.7%	≤20	
	551.1	12/16/16:218353SBL	CCV	ug/L	83.33	80.1 %	80-120	
			CCV	ug/L	166.7	110 %	80-120	
Decafluorobiphenyl	551.1	12/15/16:215033SBL	Blank	ug/L	19.34	86.9 %	80-120	
			LCS	ug/L	19.38	86.0 %	80-120	
			MS	ug/L	19.71	120 %	80-120	
		(SP 1614947-001)	MSD	ug/L	19.87	95.6 %	80-120	
			MSRPD	ug/L	19.87	21.5%	≤20.0	435
	551.1	12/16/16:218353SBL	CCV	ug/L	166.7	235 %	80-120	362
			CCV	ug/L	333.3	97.5 %	80-120	
Dibromochloromethane	551.1	12/15/16:215033SBL	Blank	ug/L		ND	< 0.5	
			LCS	ug/L	9.690	103 %	80-120	
			MS	ug/L	9.855	112 %	80-120	
		(SP 1614947-001)	MSD	ug/L	9.937	123 %	80-120	435
			MSRPD	ug/L	19.87	5.4%	≤20	
	551.1	12/16/16:218353SBL	CCV	ug/L	83.33	91.3 %	80-120	
			CCV	ug/L	166.7	114 %	80-120	
2,3-Dibromopropionic Acid	552	12/14/16:214954SBL	Blank	ug/L	5.000	78.1 %	70-130	
,,			LCS	ug/L	5.000	130 %	70-130	
			MS	ug/L	5.000	72.5 %	70-130	
		(SP 1614727-001)	MSD	ug/L	5.000	68.2 %	70-130	435
			MSRPD	ug/L	5.000	0.21	≤1	
Dibromoacetic Acid	552	12/14/16:214954SBL	Blank	ug/L		ND	<1	
	552		LCS	ug/L	10.00	87.8 %	70-130	
		1	MS	ug/L	10.00	89.3 %	70-130	
		(SP 1614727-001)	MSD	ug/L ug/L	10.00	88.2 %	70-130	
		(51 1011/2/ 001)	MSRPD	ug/L ug/L	5.000	1.3%	≤20.0	
Dichloroacetic Acid	552	12/14/16:214954SBL	Blank	ug/L	2.300	ND	<1	
2. Indicate i ford	332	12/11/10.217/373DL	LCS	ug/L ug/L	10.00	83.7 %	70-130	
		1	MS	ug/L ug/L	10.00	92.7 %	70-130	
		(SP 1614727-001)	MSD	ug/L ug/L	10.00	91.6 %	70-130	
		(51 101+727-001)	MSRPD	ug/L ug/L	5.000	1.2%	≤20.0	
Manahramagastia Asid	552	12/14/16,214054CDI		·	5.000			
Monobromoacetic Acid	332	12/14/16:214954SBL	Blank	ug/L	10.00	ND	<1 70.120	
		1	LCS	ug/L	10.00	87.7 %	70-130	
		(CD 1614707 001)	MS	ug/L	10.00	88.6 %	70-130	
		(SP 1614727-001)	MSD	ug/L	10.00	89.4 %	70-130	
			MSRPD	ug/L	5.000	1.0%	≤20.0	

December 29, 2016 Lab ID : SP 1614903 **Monterey Bay Analytical Services** Customer : 2-19144

Quality Control - Organic

Constituent	Method	Date/ID	Туре	Units	Conc.	QC Data	DQO	Note
Organic								
Monochloroacetic Acid	552	12/14/16:214954SBL	Blank	ug/L		ND	<2	
			LCS	ug/L	10.00	80.0 %	70-130	
			MS	ug/L	10.00	101 %	70-130	
		(SP 1614727-001)	MSD	ug/L	10.00	97.9 %	70-130	
			MSRPD	ug/L	5.000	0.35	≤2	
Trichloroacetic Acid	552	12/14/16:214954SBL	Blank	ug/L		ND	<1	
			LCS	ug/L	10.00	79.2 %	70-130	
			MS	ug/L	10.00	88.0 %	70-130	
		(SP 1614727-001)	MSD	ug/L	10.00	89.0 %	70-130	
			MSRPD	ug/L	5.000	1.2%	≤20.0	
2,3-Dibromopropionic Acid	552.2	12/16/16:218252SBL	CCV	ug/L	50.00	117 %	70-130	
			CCV	ug/L	75.00	74.3 %	70-130	
Dibromoacetic Acid	552.2	12/16/16:218252SBL	CCV	ug/L	100.0	79.8 %	70-130	
			CCV	ug/L	150.0	91.7 %	70-130	
Dichloroacetic Acid	552.2	12/16/16:218252SBL	CCV	ug/L	100.0	78.0 %	70-130	
			CCV	ug/L	150.0	89.5 %	70-130	
Monobromoacetic Acid	552.2	12/16/16:218252SBL	CCV	ug/L	100.0	82.5 %	70-130	
			CCV	ug/L	150.0	89.9 %	70-130	
Monochloroacetic Acid	552.2	12/16/16:218252SBL	CCV	ug/L	100.0	81.6 %	70-130	
			CCV	ug/L	150.0	94.1 %	70-130	
Trichloroacetic Acid	552.2	12/16/16:218252SBL	CCV	ug/L	100.0	73.6 %	70-130	
			CCV	ug/L	150.0	85.5 %	70-130	

Definition

CCV

: Continuing Calibration Verification - Analyzed to verify the instrument calibration is within criteria.

Blank : Method Blank - Prepared to verify that the preparation process is not contributing contamination to the samples.

LCS : Laboratory Control Standard/Sample - Prepared to verify that the preparation process is not affecting analyte recovery.

: Matrix Spikes - A random sample is spiked with a known amount of analyte. The recoveries are an indication of how that sample MS

matrix affects analyte recovery.

: Matrix Spike Duplicate of MS/MSD pair - A random sample duplicate is spiked with a known amount of analyted. The recoveries MSD

are an indication of how that sample matrix affects analyte recovery.

: MS/MSD Relative Percent Difference (RPD) - The MS relative percent difference is an indication of precision for the preparation MSRPD

ND : Non-detect - Result was below the DQO listed for the analyte.

DQO : Data Quality Objective - This is the criteria against which the quality control data is compared.

Explanation

: Surrogates are qualified on Control Chart Limits, these are CCV limits. See individual sample reports. 435

: Sample matrix may be affecting this analyte. Data was accepted based on the LCS or CCV recovery.

December 29, 2016 Lab ID : SP 1614903 **Monterey Bay Analytical Services** Customer : 2-19144

Quality Control - Radio

Constituent	Method	Date/ID	Type	Units	Conc.	QC Data	DQO	Note
Radio								
Alpha	900.0	12/22/16:218740caa	CCV	cpm	8510	41.1 %	39 - 47	
			CCB	cpm		0.1400	0.16	
Gross Alpha	900.0	12/20/16:215158RMM	Blank	pCi/L		0.29	3	
_			LCS	pCi/L	107.4	113 %	75-125	
			MS	pCi/L	107.4	82.2 %	60-140	
		(SP 1614875-001)	MSD	pCi/L	107.4	85.6 %	60-140	
			MSRPD	pCi/L	No Ref.	3.9%	≤30	
Alpha	903.0	12/28/16:218762caa	CCV	cpm	8507	42.1 %	39 - 47	
			CCB	cpm		0.0800	0.19	
Total Alpha Radium (226)	903.0	12/20/16:215191emv	RgBlk	pCi/L		0.009	2	
-			LCS	pCi/L	21.86	61.1 %	52-107	
			BS	pCi/L	21.86	60.0 %	43-111	
			BSD	pCi/L	21.86	50.9 %	43-111	
			BSRPD	pCi/L	21.86	16.3%	≤35.5	
Definition								
CCV : Continuing (Calibration Verific	ation - Analyzed to verify	the instrum	nent calibratio	on is within c	riteria.		
CCB : Continuing (Calibration Blank	Analyzed to verify the it	etrument he	celine ic with	in criteria			

CCB : Continuing Calibration Blank - Analyzed to verify the instrument baseline is within criteria.

Blank : Method Blank - Prepared to verify that the preparation process is not contributing contamination to the samples.

RgBlk : Method Reagent Blank - Prepared to correct for any reagent contributions to sample result.

LCS : Laboratory Control Standard/Sample - Prepared to verify that the preparation process is not affecting analyte recovery.

MS : Matrix Spikes - A random sample is spiked with a known amount of analyte. The recoveries are an indication of how that sample

matrix affects analyte recovery.

MSD : Matrix Spike Duplicate of MS/MSD pair - A random sample duplicate is spiked with a known amount of analyted. The recoveries

are an indication of how that sample matrix affects analyte recovery.

BS : Blank Spikes - A blank is spiked with a known amount of analyte. It is prepared to verify that the preparation process is not

affecting analyte recovery.

Rlank Spike Duplicate of BS/BSD pair - A blank dupli

BSD : Blank Spike Duplicate of BS/BSD pair - A blank duplicate is spiked with a known amount of analyte. It is prepared to verify that

the preparation process is not affecting analyte recovery.

MSRPD : MS/MSD Relative Percent Difference (RPD) - The MS relative percent difference is an indication of precision for the preparation

and analysis.

BSRPD : BS/BSD Relative Percent Difference (RPD) - The BS relative percent difference is an indication of precision for the preparation

and analysis.

DQO : Data Quality Objective - This is the criteria against which the quality control data is compared.



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CHAIN OF CUSTODY AND ANALYSIS REQUEST DOCUMENT

Client: Custom	Monterey Bay Analytical er Number: 2019144	Services			Lab N							TES	ST D	ESCI	RIPT	ON A	AND	ANA	LYS	ES F	REQU	JEST:	ED			
Phone: Email A Contact Project Purcha: Quote I Rush A Rush pi Electror Sample	Honterey, CA 93940 (831)375-6227 Fax: (831) ddress: info@mbasinc.com Person: David Holland Name: MPWMD se Order Number:	Client Other:		Method of Sempling: Composite (C) Grab (G)	Number of Containers	Type of Containers: (G)Glass (P)Plastic (V)VOA (MT)Metal Tube		(SW) Surface Water (MW) Montbating Well (GW) Ground Water (TB) Travel Blank (WW) Waste Water (DW) Ortniding Water	(S) Soil (SLG) Shudge (SLD) Soot (O) Oa	BacT. (Sys) System (SRC) Source (W) Waste	Bact. (ROUT)Routine (RPT)Repeat (OTH)Other (RPL)Replace	(LT) Leaf Tissue (PET) Peticis Tissue (PRD) Produce	Preservative: (1) NaOH + ZhAc, (2) NaOH, (3) HCI (4) H2SO4, (5) HNO3, (6) Na2S2O3, (7) Other	НАА	THMS	Ra 226	Gross Alpha									
1.	PCAE (D)	12/8/16	13:00	G	7	P/V								х	х	Х	х									
						<u> </u>								ļ						ļ						
Remark	s]	<u></u>	Relina	uished ,	<u> </u>	D	ate:	Ti	ime:	 	Relingu	ished		<u> </u>	Date:	<u> </u>	l lime:	<u> </u>	Relinq	uished			Date:	Time:	
AB58	1431		(\sqrt{g}	\mathcal{M}	\bigcirc	12/1	3	160			Ð)	12	14/1		162	0	•						
Received By				ved By:			ate:		ime:	_	Receive	d By:	>		Date:		Γime:		Receiv	ed By:			Date:	Time:		

Corporate Offices & Laboratory 853 Corporation Street Santa Paula, CA 93060 TEL: (805)392-2000 Env FAX: (805)525-4172 / Ag FAX: (805)392-2063 CA ELAP Certification No.1573 Office & Laboratory 2500 Stagecoach Road Stockton, CA 95215 TEL: (209)942-0182 FAX: (209)942-0423 CA ELAP Certification No. 1563 Office & Laboratory
563 E. Lindo Avenue
Chico, CA 95926
TEL: (530)343-5818
FAX: (530)343-3807
CA ELAP Certification No. 2670

Office & Laboratory 3442 Empresa Drive, Suite D San Luis Obispo, CA 93401 TEL: (805)783-2940 FAX: (805)783-2912 CA ELAP Certification No. 2775 Office & Laboratory 9415 W. Goshen Avenue Visalia, CA 93291 TEL: (559)734-9473 FAX: (559)734-8435 CA ELAP Certification No. 2810 FGL Environmental Doc ID: 2D0900157_SOP_17.DOC

Revision Date: 10/09/14 Page: 1 of 1

Condition Upon Receipt (Attach to COC)

Sample Receipt at SP:							
1. Number of ice chests/packages received:	1						
2. Shipper tracking numbers —————							
3. Were samples received in a chilled condition? Temps:	ROI	/	/	/	/	/	/
4. Surface water (SWTR) bact samples: A sample the should be flagged unless the time since sample co 5. Do the number of bottles received agree with the COC?				han two ho		whether i	ced or not,
6. Verify sample date, time, sampler	Yes	No	N/A				
7. Were the samples received intact? (i.e. no broken bottles, leaks, etc.)	Yes	No	IN/A				
8. Were sample custody seals intact?	Yes	No	N/A	\neg			
Sample Verification, Labeling and Distribution:							
Were all requested analyses understood and acceptable?	Yes] No					
2. Did bottle labels correspond with the client's ID's?	Yes	No					
3. Were all bottles requiring sample preservation properly preserved? [Exception: Oil & Grease, VOA and CrVI verified in lab]	Yes	No	N/A	FGL			
4. VOAs checked for Headspace?	Yes	No	N/A				
5. Were all analyses within holding times at time of receipt?	Yes	No					
6. Have rush or project due dates been checked and accepted?	Yes	No	N/A				
Include a copy of the COC for lab delivery. (Bacti. Inc	organics a	and Ra	idio)				
Sample Receipt, Login and Verification completed by	/ :		wed and oved By	Milli A. De	elgadillo	Title: San	signed by Milli A. Delgadillo nple Receiving 15/2016-10:12:55
Discrepency Documentation:							
Any items above which are "No" or do not meet speci		•	• ′	oust be reso	olved.		
1. Person Contacted:			umber:				
Initiated By:	Da	ate:					
Problem:							
Resolution:							
2. Person Contacted:	Pł	hone N	umber:				
Initiated By:		ate:				<u></u>	
Problem:							
Resolution:					(201	9144)	

Monterey Bay Analytical Services
SP 1614903



McCampbell Analytical, Inc.

"When Quality Counts"

Analytical Report

WorkOrder: 1612690

Report Created for: Monterey Bay Analytical

4 Justin Court, Suite D Monterey, CA 93940

Project Contact:

David Holland

Project P.O.:

Project Name: MPWMD

Project Received: 12/14/2016

Analytical Report reviewed & approved for release on 12/22/2016 by:

Angela Rydelius,

Laboratory Manager

The report shall not be reproduced except in full, without the written approval of the laboratory. The analytical results relate only to the items tested. Results reported conform to the most current NELAP standards, where applicable, unless otherwise stated in the case narrative.



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CA ELAP 1644 ♦ NELAP 4033ORELAP

Glossary of Terms & Qualifier Definitions

Client: Monterey Bay Analytical

Project: MPWMD **WorkOrder:** 1612690

Glossary Abbreviation

%D Serial Dilution Percent Difference

95% Interval 95% Confident Interval

DF Dilution Factor

DI WET (DISTLC) Waste Extraction Test using DI water

DISS Dissolved (direct analysis of 0.45 µm filtered and acidified water sample)

DLT Dilution Test (Serial Dilution)

DUP Duplicate

EDL Estimated Detection Limit

ITEF International Toxicity Equivalence Factor

LCS Laboratory Control Sample

MB Method Blank

MB % Rec % Recovery of Surrogate in Method Blank, if applicable

MDL Method Detection Limit

ML Minimum Level of Quantitation

MS Matrix Spike

MSD Matrix Spike Duplicate

N/A Not Applicable

ND Not detected at or above the indicated MDL or RL

NR Data Not Reported due to matrix interference or insufficient sample amount.

PDS Post Digestion Spike

PDSD Post Digestion Spike Duplicate

PF Prep Factor

RD Relative Difference

RL Reporting Limit (The RL is the lowest calibration standard in a multipoint calibration.)

RPD Relative Percent Deviation
RRT Relative Retention Time

SPK Val Spike Value

SPKRef Val Spike Reference Value

SPLP Synthetic Precipitation Leachate Procedure

ST Sorbent Tube

TCLP Toxicity Characteristic Leachate Procedure

TEQ Toxicity Equivalents

WET (STLC) Waste Extraction Test (Soluble Threshold Limit Concentration)

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Analytical Report

Client: Monterey Bay Analytical

Date Received: 12/14/16 10:32 **Date Prepared:** 12/22/16 **Project: MPWMD**

WorkOrder: 1612690

Extraction Method: RSK175 **Analytical Method: RSK175**

Unit: $\mu g/L$

Dissolved Gases by RSK 175

Client ID	Lab ID	Matrix	Date Collec	ted Instrument	Batch ID
AB58431	1612690-001A	Water	12/08/2016 1	3:00 GC26	131730
Analytes	Result		<u>RL</u> <u>D</u>	<u>E</u>	Date Analyzed
Methane	ND		0.10 1		12/22/2016 11:22

Analyst(s): AK

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Quality Control Report

Client: Monterey Bay Analytical **Date Prepared:** 12/21/16 - 12/22/16 **Date Analyzed:** 12/21/16 - 12/22/16

Instrument: GC26 **Matrix:** Water

Project: MPWMD WorkOrder: 1612690 **BatchID:** 131730 **Extraction Method: RSK175 Analytical Method:** RSK175

Unit:

Sample ID: MB/LCS-131730

QC Summary Report for RSK175									
Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits		
Methane	ND	1.26	0.10	1.17	-	108	70-130		

McCampbell Analytical, Inc.

ProjectNo: MPWMD

1534 Willow Pass Rd Pittsburg, CA 94565-1701 (925) 252-9262

Monterey, CA 93940

CHAIN-OF-CUSTODY RECORD

Page 1 of 1

12/14/2016

THE TOTAL THE STATE OF THE STAT

Date Logged:

WorkOrder:	1612690	ClientCode: MBAS
WULKOTUCI.	1012070	Chemicode. MIDAS

Monterey, CA 93940

	Waterriax	VVIILEOII		Excei	EQuis	✓ ⊏IIIali	паписорупппинапц	J-iiag
Report to:				Bi	II to:		Requested TAT:	5 days;
David Holland	Email:	mweidner@mbas	inc.com; Dholla	and@mbas	Accounts Payal	ble		
Monterey Bay Analytical	cc/3rd Party:				Monterey Bay A	Analytical		
4 Justin Court, Suite D	PO:				4 Justin Court,	Suite D	Date Received:	12/14/2016

831-375-6227 FAX: 831-641-0734

					Requested Tests (See legend below)											
Lab ID	Client ID	Matrix	Collection Date I	Hold	1	2	3	4	5	6	7	8	9	10	11	12
1612690-001	AB58431	Water	12/8/2016 13:00		Α											

Test Legend:

1 RSK175_W	2	3	4
5	6	7	8
9	10	11	12

Prepared by: Agustina Venegas

Comments:

NOTE: Soil samples are discarded 60 days after results are reported unless other arrangements are made (Water samples are 30 days).

Hazardous samples will be returned to client or disposed of at client expense.



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WORK ORDER SUMMARY

Client Name	e: MON	NTEREY BAY ANALYTI	CAL		Project: M	1PWMD				Wor	k Order:	1612690	
Client Conta	act: Davi	d Holland								Q	C Level:	LEVEL 2	
Contact's Er		idner@mbasinc.com; Dhol as@sbcglobal.net; info@ml	_	.com;	Comments:					Date	Logged:	12/14/2016	
		WaterTrax	WriteOn	EDF	Excel	Fax	✓ Email	HardCo	ppy ThirdParty	J	-flag		
Lab ID	Client ID	Matrix	Test Name			ainers Bottle posites	e & Preservative	De- chlorinated	Collection Date & Time	TAT	Sediment Content	Hold SubC)ut
1612690-001A	AB58431	Water	RSK175 <m< th=""><th>ethane_4></th><th></th><th>3</th><th>VOA w/ HCl</th><th></th><th>12/8/2016 13:00</th><th>5 days</th><th>None</th><th></th><th></th></m<>	ethane_4>		3	VOA w/ HCl		12/8/2016 13:00	5 days	None		

NOTES: - STLC and TCLP extractions require 2 days to complete; therefore, all TATs begin after the extraction is completed (i.e., One-day TAT yields results in 3 days from sample submission).

- MAI assumes that all material present in the provided sampling container is considered part of the sample - MAI does not exclude any material from the sample prior to sample preparation unless requested in writing by the client.

McCAMPBELL ANALYTICAL, INC. CHAIN OF CUSTODY RECORD X 1534 WILLOW PASS ROAD TURN AROUND TIME PITTSBURG, CA 94565-1701 5 DAY RUSH 24 HR 48 HR 72 HR Website: www.mccampbell.com Email: main@mccampbell.com □ PDF ☐ Write On (DW) ☐ GeoTracker EDF □ Excel Telephone: (877) 252-9262 Fax: (925) 252-9269 Report To: David Holland **Analysis Request** Other Comments Bill To: Company: Monterey Bay Analytical Services EPA 608 / 8082 PCB's ONLY; Aroclors / Congeners Total Petroleum Oil & Grease (1664 / 5520 E/B&F) Filter 8015) 4 Justin Ct. Suite D Samples Monterey, Ca 93940 E-Mail: info@mbasinc.com CAM 17 Metals (200.7 / 200.8 / 6010 / 6020) for Metals LUFT 5 Metals (200.7 / 200.8 / 6010 / 6020) Gas (602 / 8021 Tele: (831) 375 - 6227 Fax: (831) 641-0734 MTBE / BTEX ONLY (EPA 602 / 8021) EPA 502.2 / 601 / 8010 / 8021 (HVOCs) analysis: Total Petroleum Hydrocarbons (418.1) EPA 515 / 8151 (Acidic Cl Herbicides) EPA 8270 SIM / 8310 (PAHs / PNAs) Project Name: MPWMD Project #: Yes / No EPA 505/ 608 / 8081 (CI Pesticides) Lead (200.7 / 200.8 / 6010 / 6020) TPH as Diesel / Motor Oil (8015) EPA 525.2 / 625 / 8270 (SVOCs) **Project Location:** EPA 507 / 8141 (NP Pesticides) EPA 524.2 / 624 / 8260 (VOCs) Sampler Signature: Jonathan Lear MTBE / BTEX & TPH as METHOD SAMPLING MATRIX Type Containers PRESERVED # Containers LOCATION/ SAMPLE ID Field Point Name Methane Sludge Water Date Time HNO3 Other Other HCL ICE Soil AB58431 PCAE(D) 12/8/16 13:00 ICE/to J. P COMMENTS: Relinquished By: Date: Time: Received By: BUE LOE GOOD CONDITION David Holland 1600 HEAD SPACE ABSENT Received By: DECHLORINATED IN LAB Relinquished By: Date: Time: APPROPRIATE CONTAINERS PRESERVED IN LAB Received By: Relinquished By: Time: Date: VOAS O&G METALS OTHER PRESERVATION pH<2

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Sample Receipt Checklist

Client Name: Project Name:	Monterey Bay Analytical MPWMD			Date and Time Received Date Logged: Received by:	12/14/2016 10:32 12/14/2016 Agustina Venegas
WorkOrder №:	1612690 Matrix: <u>Water</u>			Logged by:	Agustina Venegas
Carrier:	Golden State Overnight				
	Chain of C	ustody	(COC) Infor	<u>mation</u>	
Chain of custody	present?	Yes	•	No 🗆	
Chain of custody	signed when relinquished and received?	Yes	✓	No 🗌	
Chain of custody	agrees with sample labels?	Yes	✓	No 🗆	
Sample IDs noted	d by Client on COC?	Yes	✓	No 🗌	
Date and Time of	collection noted by Client on COC?	Yes	•	No 🗌	
Sampler's name	noted on COC?	Yes	•	No 🗌	
	<u>Sampl</u>	e Rece	eipt Informati	<u>on</u>	
Custody seals int	act on shipping container/cooler?	Yes	•	No 🗌	NA \square
Shipping containe	er/cooler in good condition?	Yes	•	No 🗌	
Samples in prope	er containers/bottles?	Yes	•	No 🗌	
Sample container	rs intact?	Yes	•	No 🗌	
Sufficient sample	volume for indicated test?	Yes	✓	No 🗌	
	Sample Preservation	on and	Hold Time (H	HT) Information	
All samples recei	ved within holding time?	Yes	✓	No 🗆	NA 🗌
Sample/Temp Bla	ank temperature		Temp: 7.8	3°C	NA 🗌
Water - VOA vials	s have zero headspace / no bubbles?	Yes		No 🗌	NA 🗹
Sample labels ch	ecked for correct preservation?	Yes	✓	No 🗌	
pH acceptable up	oon receipt (Metal: <2; 522: <4; 218.7: >8)?	Yes		No 🗆	NA 🗹
Samples Receive		Yes	✓	No 🗆	
		e: BLl	JE ICE)		
UCMR3 Samples Total Chlorine t	<u>sested</u> and acceptable upon receipt for EPA 522?	Yes		No 🗌	NA 🗹
Free Chlorine to 300.1, 537, 539	ested and acceptable upon receipt for EPA 218.7, 9?	Yes		No 🗆	NA 🗹
Comments:	=======================================			=======	=======



MPWMD Jonanthan Lear P.O. Box 85 Monterey, CA 93442-0085

Monterey Bay Analytical Services
4 Justin Court Suite D, Monterey, CA 93940
831.375.MBAS

www.MBASinc.com ELAP Certification Number: 2385

Page 1 of 2 Tuesday, January 03, 2017

Lab Number: AB58237

Collection Date/Time: 12/6/2016 13:00 Sample Collector: LEAR J Client Sample #:
Submittal Date/Time: 12/6/2016 14:40 Sample ID Coliform Designation:

		Sampl	e Description: ASR2				
Analyte	Method	Unit	Result Qual	PQL	MCL	Date Analyzed	Analyst:
Alkalinity, Total (as CaCO3)	SM2320B	mg/L	209	10		12/12/2016	BS
Aluminum, Total	EPA200.8	μg/L	Not Detected	10	1000	12/13/2016	SM
Ammonia-N	SM4500NH3 D	mg/L	0.08	0.05		12/16/2016	MW
Arsenic, Total	EPA200.8	μg/L	1	1	10	12/13/2016	SM
Barium, Total	EPA200.8	μg/L	106	10	1000	12/13/2016	SM
Bicarbonate (as HCO3-)	SM2320B	mg/L	255	10		12/12/2016	MP
Boron	EPA200.7	mg/L	0.07	0.05		12/7/2016	MW
Bromide	EPA300.0	mg/L	0.3	0.1		12/7/2016	НМ
Calcium	EPA200.7	mg/L	66	0.5		12/7/2016	MW
Carbonate as CaCO3	SM2320B	mg/L	Not Detected	10		12/12/2016	MP
Chloramines	SM4500-CI G	mg/L	Not Detected	0.05		12/6/2016	LRH
Chloride	EPA300.0	mg/L	102	1	250	12/7/2016	НМ
DOC	SM5310C	mg/L	1.2	0.2		12/27/2016	MW
Fluoride	EPA300.0	mg/L	0.3	0.1	2.0	12/7/2016	НМ
Gross Alpha	EPA900.0	pCi/L	2.24 ± 1.91 E		15	12/20/2016	FGL
Haloacetic Acids	EPA552	μg/L	Not Detected E		60	12/16/2016	FGL
Iron	EPA200.7	μg/L	67	10	300	12/7/2016	MW
Iron, Dissolved	EPA200.7	μg/L	Not Detected	10	300	12/7/2016	MW
Kjehldahl Nitrogen	SM4500-NH3 B,	mg/L	0.9	0.5		12/22/2016	BS
Lithium	EPA200.8	μg/L	26	1		12/13/2016	SM
Magnesium	EPA200.7	mg/L	19	0.5		12/7/2016	MW
Manganese, Dissolved	EPA200.7	μg/L	15	10	50	12/7/2016	MW
Manganese, Total	EPA200.7	μg/L	16	10	50	12/7/2016	MW
Mercury, Total	EPA200.8	μg/L	2	0.5	2	12/13/2016	SM
Methane	EPA174/175	μg/L	1.9 E	0.1		12/12/2016	MCCAM
Molybdenum, Total	EPA200.8	μg/L	10	1	1000	12/13/2016	SM
Nickel, Total	EPA200.8	μg/L	Not Detected	10	100	12/13/2016	SM
Nitrate as NO3	EPA300.0	mg/L	Not Detected	1	45	12/7/2016	НМ
Nitrate as NO3-N	EPA300.0	mg/L	0.1	0.1	10	12/7/2016	НМ
Nitrate+Nitrite as N	EPA300.0	mg/L	0.4	0.1		12/7/2016	НМ
Nitrite as NO2-N	EPA300.0	mg/L	0.3	0.1	1.0	12/7/2016	НМ
o-Phosphate-P, Dissolved	EPA300.0	mg/L	0.2	0.1		12/7/2016	НМ
pH (Laboratory)	SM4500-H+B	pH (H)	7.3	0.1		12/6/2016	BS

mg/L: Milligrams per liter ug/L: M

ug/L : Micrograms per liter

PQL : Practical Quantitation Limit

MCL: Maximum Contamination Level

H = Analyzed ouside of hold time E = Analysis performed by External Laboratory; See Report attachments.

T = Temperature Exceedance

Lab Number: AB58237

Collection Date/Time: 12/6/2016 13:00 Sample Collector: LEAR J Client Sample #:
Submittal Date/Time: 12/6/2016 14:40 Sample ID Coliform Designation:

	<u> </u>	Sample D	Description: A	SR2				
Analyte	Method	Unit		Qual	PQL	MCL	Date Analyzed	Analyst:
Phosphorus, Total	HACH 8190	mg/L	0.23		0.03		12/13/2016	LRH
Potassium	EPA200.7	mg/L	4.5		0.5		12/7/2016	MW
QC Anion Sum x 100	Calculation	%	99%				12/12/2016	MP
QC Anion-Cation Balance	Calculation	%	-6				12/12/2016	MP
QC Cation Sum x 100	Calculation	%	87%				12/12/2016	MW
QC Ratio TDS/SEC	Calculation		0.59				12/9/2016	MP
Selenium, Total	EPA200.8	μg/L	2		2	50	12/13/2016	SM
Silica as SiO2, Total	EPA200.7	mg/L	34		0.5		12/7/2016	MW
Sodium	EPA200.7	mg/L	59		0.5		12/7/2016	MW
Specific Conductance (E.C)	SM2510B	µmhos/cm	864		1	900	12/6/2016	НМ
Strontium, Total	EPA200.8	μg/L	374		5		12/13/2016	SM
Sulfate	EPA300.0	mg/L	71		1	250	12/7/2016	НМ
TOC	SM5310C	mg/L	1.2		0.2		12/27/2016	MW
Total Diss. Solids	SM2540C	mg/L	514		10	500	12/7/2016	MP
Total Nitrogen	Calculation	mg/L	1.3		0.5		12/22/2016	MP
Total Radium 226	EPA903.0	pCi/L	0.170 ± 0.132	E		3	12/20/2016	FGL
Trihalomethanes	EPA524.2	μg/L	25.3	E		80	12/12/2016	FGL
Uranium by ICP/MS	EPA200.8	μg/L	1		1	30	12/13/2016	SM
Vanadium, Total	EPA200.8	μg/L	Not Detected		5	1000	12/13/2016	SM
Zinc, Total	EPA200.8	μg/L	360		20	5000	12/13/2016	SM

Sample Comments: BB: Sample > 4x spike concentration.

Report Approved by:

David Holland, Laboratory Director

December 29, 2016

Monterey Bay Analytical Services Lab ID : SP 1614727 4 Justin Court Customer : 2-19144

Monterey, CA 93940

Laboratory Report

Introduction: This report package contains total of 7 pages divided into 3 sections:

Case Narrative (2 pages): An overview of the work performed at FGL.

Sample Results (2 pages): Results for each sample submitted.

Quality Control (3 pages) : Supporting Quality Control (QC) results.

Case Narrative

This Case Narrative pertains to the following samples:

Sample Description	Date Sampled	Date Received	FGL Lab ID#	Matrix
ASR2	12/06/2016	12/09/2016	SP 1614727-001	W

Sampling and Receipt Information: All samples were received in acceptable condition and within temperature requirements, unless noted on the Condition Upon Receipt (CUR) form. All samples arrived at 6 °C. All samples were prepared and analyzed within the method specified hold time. All samples were checked for pH if acid or base preservation is required (except for VOAs). For details of sample receipt information, please see the attached Chain of Custody and Condition Upon Receipt Form.

Quality Control: All samples were prepared and analyzed according to the following tables:

Organic QC

551.1	12/12/2016:218117 All analysis quality controls are within established criteria, except: The following note applies to Decafluorobiphenyl: 362 Surrogates are qualified on Control Chart Limits, these are CCV limits. See individual sample reports. 12/12/2016:214855 All preparation quality controls are within established criteria.
552	12/14/2016:214954 All preparation quality controls are within established criteria, except: The following note applies to 2,3-Dibromopropionic Acid: 435 Sample matrix may be affecting this analyte. Data was accepted based on the LCS or CCV recovery.
552.2	12/16/2016:218252 All analysis quality controls are within established criteria.

December 29, 2016 Monterey Bay Analytical Services

Radio QC

Lab ID

Customer

: SP 1614727

: 2-19144

900.0	12/20/2016:218797 All analysis quality controls are within established criteria.
	12/15/2016:215013 All preparation quality controls are within established criteria.
903.0	12/20/2016:218458 All analysis quality controls are within established criteria.
	12/14/2016:214981 All preparation quality controls are within established criteria.

Certification:: I certify that this data package is in compliance with ELAP standards, both technically and for completeness, except for any conditions listed above. Release of the data contained in this data package is authorized by the Laboratory Director or his designee, as verified by the following electronic signature.

KD:DMB

Approved By Kelly A. Dunnahoo, B.S.





December 29, 2016 Lab ID : SP 1614727-001

Customer ID : 2-19144

Monterey Bay Analytical Services

4 Justin Court Sampled On : December 6, 2016-13:00

: Jonathan Lear Monterey, CA 93940 Sampled By

Received On: December 9, 2016-10:45

Matrix : Water

Description : ASR2 Project : MPWMD

Sample Result - Organic

Constituent	Result	PQL	Units	Note	Sample	Preparation	Samp	le Analysis
Constituent	Result	1 QL	Omts	Note	Method	Date/ID	Method	Date/ID
EPA 551.1								
Decafluorobiphenyl [‡]	104	80-120	%		551.1	12/12/16:214855	551.1	12/12/16:218117
Bromodichloromethane	6.7	0.5	ug/L		551.1	12/12/16:214855	551.1	12/12/16:218117
Bromoform	ND	0.5	ug/L		551.1	12/12/16:214855	551.1	12/12/16:218117
Chloroform	15.4	0.5	ug/L		551.1	12/12/16:214855	551.1	12/12/16:218117
Dibromochloromethane	3.2	0.5	ug/L		551.1	12/12/16:214855	551.1	12/12/16:218117
Total Trihalomethanes	25.3		ug/L		551.1	12/12/16:214855	551.1	12/12/16:218117
EPA 552.2								
2,3-Dibromopropionic Acid [‡]	71.5	70-130	%		552	12/14/16:214954	552.2	12/16/16:218252
Bromoacetic Acid	ND	1	ug/L		552	12/14/16:214954	552.2	12/16/16:218252
Chloroacetic Acid	ND	2	ug/L		552	12/14/16:214954	552.2	12/16/16:218252
Dibromoacetic Acid	ND	1	ug/L		552	12/14/16:214954	552.2	12/16/16:218252
Dichloroacetic Acid	ND	1	ug/L		552	12/14/16:214954	552.2	12/16/16:218252
Trichloroacetic Acid	ND	1	ug/L		552	12/14/16:214954	552.2	12/16/16:218252
Haloacetic acids (five)	ND		ug/L		552	12/14/16:214954	552.2	12/16/16:218252

ND=Non-Detected. PQL=Practical Quantitation Limit. ‡Surrogate. * PQL adjusted for dilution.

December 29, 2016 Lab ID : SP 1614727-001

Customer ID : 2-19144

Monterey Bay Analytical Services

Sampled On : December 6, 2016-13:00 4 Justin Court

Sampled By : Jonathan Lear Monterey, CA 93940

Received On: December 9, 2016-10:45

: Water Matrix

Description : ASR2 **Project** : MPWMD

Sample Result - Radio

Constituent	Result ± Error	MDA	Units	MCL/AL	Sample	Preparation	Sampl	e Analysis
Constituent	Result ± Ellor	MDA	Omts	WICL/AL	Method	Date/ID	Method	Date/ID
Radio Chemistry								
Gross Alpha	2.24 ± 1.91	2.32	pCi/L	15/5	900.0	12/15/16-10:22 2P1615013	900.0	12/20/16-09:00 2A1618797
Total Alpha Radium (226)	0.170 ± 0.132	0.363	pCi/L	3	903.0	12/14/16-19:15 2P1614981	903.0	12/20/16-16:00 2A1618458

ND=Non-Detected. PQL=Practical Quantitation Limit. * PQL adjusted for dilution.

MDA = Minimum Detectable Activity (Calculated at the 95% confidence level) = Data utilized by DHS to determine matrix interference. MCL / AL = Maximum Contamination Level / Action Level. Alpha's Action Level of 5 pCi/L is based on the Assigned Value (AV). AV = Assigned Value(Gross Alpha Result + (0.84 x Error)). CCR Section 64442: Drinking Water Compliance Note: Do the following If Gross Alpha's (AV) exceeds 5 pCi/L run Uranium. If Gross Alpha's (AV) minus Uranium exceeds 5 pCi/L run Radium 226.

Drinking Water Compliance:

Gross Alpha (AV) minus Uranium is less than or equal to 15 pCi/L Uranium is less than or equal to 20 pCi/L

Radium 226 + Radium 228 is less than or equal to 5 pCi/L

Note: Samples are held for 3-6 months prior to disposal.

December 29, 2016 **Monterey Bay Analytical Services** Lab ID : SP 1614727 : 2-19144 Customer

Quality Control - Organic

Constituent	Method	Date/ID	Type	Units	Conc.	QC Data	DQO	Note
Organic								
Bromodichloromethane	551.1	12/12/16:214855SBL	Blank	ug/L		ND	< 0.5	
Bromodiemoromenane	331.1	12/12/10:21 1033552	LCS	ug/L	9.398	113 %	80-120	
			MS	ug/L	9.944	102 %	80-120	
		(CH 1679563-001)	MSD	ug/L	10.03	102 %	80-120	
		(======================================	MSRPD	ug/L	20.05	0.7%	≤20	
	551.1	12/12/16:218117SBL		ug/L	83.33	92.2 %	80-120	
			CCV	ug/L	166.7	106 %	80-120	
Bromoform	551.1	12/12/16:214855SBL	Blank	ug/L		ND	< 0.5	
			LCS	ug/L	9.398	120 %	80-120	
			MS	ug/L	9.944	114 %	80-120	
		(CH 1679563-001)	MSD	ug/L	10.03	101 %	80-120	
		(611 107) 6 0 6 0 0 1)	MSRPD	ug/L	20.05	10.3%	≤20	
	551.1	12/12/16:218117SBL	CCV	ug/L	83.33	105 %	80-120	
	331.1	12/12/10.21011/BBE	CCV	ug/L ug/L	166.7	118 %	80-120	
Chloroform	551.1	12/12/16:214855SBL	Blank	ug/L	100.7	ND	< 0.5	
Chiorotom	331.1	12/12/10.2140JJSDL	LCS	ug/L ug/L	9.398	111 %	80-120	
			MS	ug/L ug/L	9.398	104 %	80-120	
		(CH 1679563-001)	MSD		10.03	97.0 %	80-120	
		(CH 10/9303-001)	MSRPD	ug/L	20.05	5.9%	50-120 ≤20	
	551.1	10/10/16 0101170DI		ug/L				
	551.1	12/12/16:218117SBL	CCV	ug/L	83.33	89.2 %	80-120 80-120	
5 0 111		10/10/15 01 1055077	CCV	ug/L	166.7	104 %		
Decafluorobiphenyl	551.1	12/12/16:214855SBL	Blank	ug/L	19.10	88.2 %	80-120	
			LCS	ug/L	18.80	112 %	80-120	
			MS	ug/L	19.89	108 %	80-120	
		(CH 1679563-001)	MSD	ug/L	20.05	110 %	80-120	
			MSRPD	ug/L	20.05	3.1%	≤20.0	
	551.1	12/12/16:218117SBL	CCV	ug/L	166.7	139 %	80-120	362
			CCV	ug/L	333.3	101 %	80-120	
Dibromochloromethane	551.1	12/12/16:214855SBL	Blank	ug/L		ND	< 0.5	
			LCS	ug/L	9.398	119 %	80-120	
			MS	ug/L	9.944	105 %	80-120	
		(CH 1679563-001)	MSD	ug/L	10.03	101 %	80-120	
			MSRPD	ug/L	20.05	3.0%	≤20	
	551.1	12/12/16:218117SBL	CCV	ug/L	83.33	99.5 %	80-120	
			CCV	ug/L	166.7	114 %	80-120	
2,3-Dibromopropionic Acid	552	12/14/16:214954SBL	Blank	ug/L	5.000	78.1 %	70-130	
• •			LCS	ug/L	5.000	130 %	70-130	
			MS	ug/L	5.000	72.5 %	70-130	
		(SP 1614727-001)	MSD	ug/L	5.000	68.2 %	70-130	435
			MSRPD	ug/L	5.000	0.21	≤1	
Dibromoacetic Acid	552	12/14/16:214954SBL	Blank	ug/L		ND	<1	
			LCS	ug/L	10.00	87.8 %	70-130	
			MS	ug/L	10.00	89.3 %	70-130	
		(SP 1614727-001)	MSD	ug/L	10.00	88.2 %	70-130	
			MSRPD	ug/L	5.000	1.3%	≤20.0	
Dichloroacetic Acid	552	12/14/16:214954SBL	Blank	ug/L		ND	<1	
			LCS	ug/L	10.00	83.7 %	70-130	
			MS	ug/L ug/L	10.00	92.7 %	70-130	
		(SP 1614727-001)	MSD	ug/L	10.00	91.6 %	70-130	
		(51 1011/2/ 001)	MSRPD	ug/L ug/L	5.000	1.2%	≤20.0	
	552	12/14/16:214954SBL	Blank	ug/L	2.300	ND	<1	
Monobromoacetic Acid	1 332	14/14/10.2147J43DL			10.00			
Monobromoacetic Acid			II CS	110/1	1 () () () ()	X.1.1.0%	1/()_1/2()	
Monobromoacetic Acid			LCS MS	ug/L	10.00	87.7 %	70-130	
Monobromoacetic Acid		(SP 1614727-001)	LCS MS MSD	ug/L ug/L ug/L	10.00 10.00 10.00	87.7 % 88.6 % 89.4 %	70-130 70-130 70-130	

December 29, 2016 Lab ID : SP 1614727 **Monterey Bay Analytical Services** Customer : 2-19144

Quality Control - Organic

Constituent	Method	Date/ID	Type	Units	Conc.	QC Data	DQO	Note
Organic								
Monochloroacetic Acid	552	12/14/16:214954SBL	Blank	ug/L		ND	<2	
			LCS	ug/L	10.00	80.0 %	70-130	
			MS	ug/L	10.00	101 %	70-130	
		(SP 1614727-001)	MSD	ug/L	10.00	97.9 %	70-130	
			MSRPD	ug/L	5.000	0.35	≤2	
Trichloroacetic Acid	552	12/14/16:214954SBL	Blank	ug/L		ND	<1	
			LCS	ug/L	10.00	79.2 %	70-130	
			MS	ug/L	10.00	88.0 %	70-130	
		(SP 1614727-001)	MSD	ug/L	10.00	89.0 %	70-130	
			MSRPD	ug/L	5.000	1.2%	≤20.0	
2,3-Dibromopropionic Acid	552.2	12/16/16:218252SBL	CCV	ug/L	75.00	74.8 %	70-130	
			CCV	ug/L	50.00	117 %	70-130	
Dibromoacetic Acid	552.2	12/16/16:218252SBL	CCV	ug/L	150.0	92.6 %	70-130	
			CCV	ug/L	100.0	79.8 %	70-130	
Dichloroacetic Acid	552.2	12/16/16:218252SBL	CCV	ug/L	150.0	91.5 %	70-130	
			CCV	ug/L	100.0	78.0 %	70-130	
Monobromoacetic Acid	552.2	12/16/16:218252SBL	CCV	ug/L	150.0	93.1 %	70-130	
			CCV	ug/L	100.0	82.5 %	70-130	
Monochloroacetic Acid	552.2	12/16/16:218252SBL	CCV	ug/L	150.0	91.8 %	70-130	
			CCV	ug/L	100.0	81.6 %	70-130	
Trichloroacetic Acid	552.2	12/16/16:218252SBL	CCV	ug/L	150.0	86.8 %	70-130	
			CCV	ug/L	100.0	73.6 %	70-130	

Definition

CCV : Continuing Calibration Verification - Analyzed to verify the instrument calibration is within criteria.

Blank : Method Blank - Prepared to verify that the preparation process is not contributing contamination to the samples. LCS : Laboratory Control Standard/Sample - Prepared to verify that the preparation process is not affecting analyte recovery.

: Matrix Spikes - A random sample is spiked with a known amount of analyte. The recoveries are an indication of how that sample MS

matrix affects analyte recovery.

: Matrix Spike Duplicate of MS/MSD pair - A random sample duplicate is spiked with a known amount of analyted. The recoveries MSD

are an indication of how that sample matrix affects analyte recovery.

: MS/MSD Relative Percent Difference (RPD) - The MS relative percent difference is an indication of precision for the preparation MSRPD

ND : Non-detect - Result was below the DQO listed for the analyte.

DQO : Data Quality Objective - This is the criteria against which the quality control data is compared.

Explanation

: Surrogates are qualified on Control Chart Limits, these are CCV limits. See individual sample reports. 435

: Sample matrix may be affecting this analyte. Data was accepted based on the LCS or CCV recovery.

December 29, 2016 Lab ID : SP 1614727 **Monterey Bay Analytical Services** Customer : 2-19144

Quality Control - Radio

Constituent	Method	Date/ID	Type	Units	Conc.	QC Data	DQO	Note
Radio								
Alpha	900.0	12/20/16:218797caa	CCV CCB	cpm cpm	8515	42.1 % 0.0800	38 - 47 0.18	
Gross Alpha	900.0	12/15/16:215013RMM (SP 1614713-001)	Blank LCS MS MSD	pCi/L pCi/L pCi/L pCi/L	107.4 107.4 107.4	1.05 106 % 106 % 111 %	3 75-125 60-140 60-140	
Alpha	903.0	12/20/16:218458caa	MSRPD CCV CCB	pCi/L cpm cpm	107.4 8512	4.8% 42.1 % 0.100	≤30 39 - 47 0.16	
Total Alpha Radium (226)	903.0	12/14/16:214981emv	RgBlk LCS BS BSD BSRPD	pCi/L pCi/L pCi/L pCi/L pCi/L	21.86 21.86 21.86 21.86	-0.009 59.3 % 48.7 % 50.4 % 3.4%	2 52-107 43-111 43-111 ≤35.5	

CCB : Continuing Calibration Blank - Analyzed to verify the instrument baseline is within criteria.

Blank : Method Blank - Prepared to verify that the preparation process is not contributing contamination to the samples.

RgBlk : Method Reagent Blank - Prepared to correct for any reagent contributions to sample result.

LČS : Laboratory Control Standard/Sample - Prepared to verify that the preparation process is not affecting analyte recovery.

: Matrix Spikes - A random sample is spiked with a known amount of analyte. The recoveries are an indication of how that sample MS

matrix affects analyte recovery.

: Matrix Spike Duplicate of MS/MSD pair - A random sample duplicate is spiked with a known amount of analyted. The recoveries MSD

are an indication of how that sample matrix affects analyte recovery.

: Blank Spikes - A blank is spiked with a known amount of analyte. It is prepared to verify that the preparation process is not BS affecting analyte recovery.

: Blank Spike Duplicate of BS/BSD pair - A blank duplicate is spiked with a known amount of analyte. It is prepared to verify that BSD

the preparation process is not affecting analyte recovery.

: MS/MSD Relative Percent Difference (RPD) - The MS relative percent difference is an indication of precision for the preparation MSRPD

and analysis.

: BS/BSD Relative Percent Difference (RPD) - The BS relative percent difference is an indication of precision for the preparation BSRPD

and analysis.

DQO : Data Quality Objective - This is the criteria against which the quality control data is compared.



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CHAIN OF CUSTODY AND ANALYSIS REQUEST DOCUMENT

Client: Monterey Bay Analytical Services Customer Number: 2019144 Address: 4 Justin Court						umbe	1					TES	ST D	ESCI	RIPT	ION	AND	ANA	LYS	SES F	REQU	JEST	ED ——			 -	
Audics	Monterey, CA 93940			 					_												_						
Phone: (831)375-6227 Fax: (831)641-0734 Email Address: info@mbasinc.com Contact Person: David Holland Project Name: MPWMD Purchase Order Number: Quote Number: Rush Analysis: 5 Day 4 Day 3 Day 2 Day 24 hour Rush pre-approval by lab (initals): Electronic Data Transfer: No State Client Other: Sampler(s): Jonathan Lear Sampling Fee: Pickup Fee: Compositor Setup Date: Time:				Method of Sampling: Composite (C) Grab (G)	Number of Containers	Type of Containers: (G)Glass (P)Plastic (V)VOA (MT)Metal Tube	Potable (P) Non-Potable (NP) Ag Water (AgW)	(SW) Surface Water (AWV) Monttoring Well (GW) Ground Water (TB) Travel Blank (WW) Waste Water (DW) Drinking Water	(S) Soil (SLG) Shudge (SLD) Socd (O) Od	BacT. (Sys) System (SRC) Source (W) Waste	Bech: (ROUT)Routine (RPT)Repeat (OTH)Other (RPL)Replace	(LT) Leaf Tissue (PET) Peticle Tissue (PRD) Produce	Preservative: (1) NaOH + ZnAc, (2) NaOH, (3) HCi (4) HZSOA, (5) HNO3, (6) Na2S2O3, (7) Other	НАА	Ra 226	ТНМЅ	Gross Alpha										
Samp Num		Sampled	Sampled	ļ				30					4.3					<u> </u>									
1.	ASR2	12/6/16	13:00	G	2	Р								×	X	×	X										
-				├				-																_			
-				1		<u> </u>																					
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Corporate Offices & Laboratory 853 Corporation Street Santa Paula, CA 93060 TEL: (805)392-2000 Env FAX: (805)525-4172 / Ag FAX: (805)392-2063 CA ELAP Certification No.1573 Office & Laboratory 2500 Stagecoach Road Stockton, CA 95215 TEL: (209)942-0182 FAX: (209)942-0423 CA ELAP Certification No. 1563 Office & Laboratory 563 E. Lindo Avenue Chico, CA 95926 TEL: (530)343-5818 FAX: (530)343-3807 CA ELAP Certification No. 2670 Office & Laboratory 3442 Empresa Drive, Suite D San Luis Obispo, CA 93401 TEL: (805)783-2940 FAX: (805)783-2912 CA ELAP Certification No. 2775 Office & Laboratory 9415 W. Goshen Avenue Visalia, CA 93291 TEL: (559)734-9473 FAX: (559)734-8435 CA ELAP Certification No. 2810 FGL Environmental Doc ID: 2D0900157_SOP_17.DOC

Revision Date: 10/09/14 Page: 1 of 1

Condition Upon Receipt (Attach to COC)

Sample Receipt at SP:							
Number of ice chests/packages received:	1						
2. Shipper tracking numbers —————							
Were samples received in a chilled condition? Temps:	6 /	/	/	/	/	/	/
4. Surface water (SWTR) bact samples: A sample that should be flagged unless the time since sample coll		•		•		whether ice	ed or not,
5. Do the number of bottles received agree with the COC?	Yes	No	N/A				
6. Verify sample date, time, sampler	Yes	No	N/A				
7. Were the samples received intact? (i.e. no broken bottles, leaks, etc.)	Yes	No					
8. Were sample custody seals intact?	Yes	No	N/A				
Sample Verification, Labeling and Distribution:							
Were all requested analyses understood and acceptable?	Yes	No					
2. Did bottle labels correspond with the client's ID's?	Yes	No					
3. Were all bottles requiring sample preservation properly preserved? [Exception: Oil & Grease, VOA and CrVI verified in lab]	Yes	No	N/A	FGL			
4. VOAs checked for Headspace?	Yes	No	N/A				
5. Were all analyses within holding times at time of receipt?	Yes	No					
6. Have rush or project due dates been checked and accepted?	Yes	No	N/A				
Include a copy of the COC for lab delivery. (Bacti. Inor	rganics a	nd Ra	dio)				
Sample Receipt, Login and Verification completed by	:		wed and oved By _	Alyssa F	. Bavero	Title: Sampl	ned by Alyssa P. Bavero e Receiving 2016-12:44:11
Discrepency Documentation:							
Any items above which are "No" or do not meet specif	fications	(i.e. te	mps) m	ust be res	olved.		
1. Person Contacted:	Ph	one N	umber:				
Initiated By:	Da	te:					
Problem:							
Resolution:							
2. Person Contacted:	Ph	one N	umber:				
Initiated By:	D-	te:					
Problem:							
Resolution:					(201	9144)	

(2019144)
Monterey Bay Analytical Services
SP 1614727



McCampbell Analytical, Inc.

"When Quality Counts"

Analytical Report

WorkOrder: 1612431

Report Created for: Monterey Bay Analytical

4 Justin Court, Suite D Monterey, CA 93940

Project Contact:

David Holland

Project P.O.:

Project Name: MPWMD

Project Received: 12/09/2016

Analytical Report reviewed & approved for release on 12/15/2016 by:

Angela Rydelius,

Laboratory Manager

The report shall not be reproduced except in full, without the written approval of the laboratory. The analytical results relate only to the items tested. Results reported conform to the most current NELAP standards, where applicable, unless otherwise stated in the case narrative.



1534 Willow Pass Rd. Pittsburg, CA 94565 ♦ TEL: (877) 252-9262 ♦ FAX: (925) 252-9269 ♦ www.mccampbell.com

CA ELAP 1644 ♦ NELAP 4033ORELAP

Glossary of Terms & Qualifier Definitions

Client: Monterey Bay Analytical

Project: MPWMD **WorkOrder:** 1612431

Glossary Abbreviation

%D Serial Dilution Percent Difference

95% Interval 95% Confident Interval

DF Dilution Factor

DI WET (DISTLC) Waste Extraction Test using DI water

DISS Dissolved (direct analysis of 0.45 µm filtered and acidified water sample)

DLT Dilution Test (Serial Dilution)

DUP Duplicate

EDL Estimated Detection Limit

ITEF International Toxicity Equivalence Factor

LCS Laboratory Control Sample

MB Method Blank

MB % Rec % Recovery of Surrogate in Method Blank, if applicable

MDL Method Detection Limit

ML Minimum Level of Quantitation

MS Matrix Spike

MSD Matrix Spike Duplicate

N/A Not Applicable

ND Not detected at or above the indicated MDL or RL

NR Data Not Reported due to matrix interference or insufficient sample amount.

PDS Post Digestion Spike

PDSD Post Digestion Spike Duplicate

PF Prep Factor

RD Relative Difference

RL Reporting Limit (The RL is the lowest calibration standard in a multipoint calibration.)

RPD Relative Percent Deviation
RRT Relative Retention Time

SPK Val Spike Value

SPKRef Val Spike Reference Value

SPLP Synthetic Precipitation Leachate Procedure

ST Sorbent Tube

TCLP Toxicity Characteristic Leachate Procedure

TEQ Toxicity Equivalents

WET (STLC) Waste Extraction Test (Soluble Threshold Limit Concentration)

 $\mu g/L$

Analytical Report

Client: Monterey Bay Analytical

Date Received:12/9/16 10:00Date Prepared:12/12/16Project:MPWMD

WorkOrder: 1612431 **Extraction Method:** RSK175

Analytical Method: RSK175

Dissolved Gases by RSK 175

Unit:

Client ID	Lab ID	Matrix	Date Collected	d Instrument	Batch ID
ASR2	1612431-001A	Water	12/06/2016 13:0	0 GC26	131178
<u>Analytes</u>	Result		<u>RL</u> <u>DF</u>		Date Analyzed
Methane	1.9		0.10 1		12/12/2016 16:50

Analyst(s): AK

Angela Rydelius, Lab Manager

1612431

Quality Control Report

Client: Monterey Bay Analytical

MPWMD

Date Prepared:12/12/16Date Analyzed:12/12/16Instrument:GC26Matrix:Water

Project:

BatchID: 131178
Extraction Method: RSK175
Analytical Method: RSK175
Unit: μg/L

WorkOrder:

Sample ID: MB/LCS-131178

	QC Sum	mary Report	for RSK175				
Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Methane	ND	1.23	0.10	1.17	-	105	70-130

McCampbell Analytical, Inc.

1534 Willow Pass Rd Pittsburg, CA 94565-1701 (925) 252-9262

CHAIN-OF-CUSTODY RECORD

Page 1 of

WorkOrder: 1612431 ClientCode: MBAS

	WaterTrax	WriteOn	EDF	Excel	EQuIS	✓ Email	HardCopy	ThirdParty	J-flag
Report to:				В	ill to:		Req	uested TAT:	5 days;
David Holland Monterey Bay Analytical	Email: ı cc/3rd Party:	mweidner@mbas	sinc.com; Dholl	and@mbas	Accounts Paya Monterey Bay A				
4 Justin Court, Suite D	PO:				4 Justin Court,	Suite D	Date	e Received:	12/09/2016
Monterey, CA 93940 831-375-6227 FAX: 831-641-0734	ProjectNo:	MPWMD			Monterey, CA 9	93940	Date	e Logged:	12/09/2016

				Requested Tests (See legend below)													
Lab ID	Client ID	Matrix	Collection Date H	Hold	1	2	3	4	4	5	6	7	8	9	10	11	12
1612431-001	ASR2	Water	12/6/2016 13:00		۸												
1012431-001	ASKZ	vvalei	12/0/2010 13.00		А												

Test Legend:

1 RSK175_W	2	3	4
5	6	7	8
9	10	11	12

Prepared by: Briana Cutino

Comments:

NOTE: Soil samples are discarded 60 days after results are reported unless other arrangements are made (Water samples are 30 days).

Hazardous samples will be returned to client or disposed of at client expense.



McCampbell Analytical, Inc.

"When Quality Counts"

1534 Willow Pass Road, Pittsburg, CA 94565-1701 Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269 http://www.mccampbell.com / E-mail: main@mccampbell.com

WORK ORDER SUMMARY

Client Name	e: MONTEI	REY BAY ANALYTI	CAL		Project:	MPWMD				Wor	k Order:	1612431	
Client Conta	act: David Ho	lland								Q	C Level:	LEVEL 2	
Contact's Er		@mbasinc.com; Dhol bcglobal.net; info@m	_	c.com;	Comments	•				Date	Logged:	12/9/2016	
		WaterTrax	WriteOn	EDF	Exce	elF	Fax y Email	HardC	opyThirdParty		I-flag		
Lab ID	Client ID	Matrix	Test Name			ontainers omposites	Bottle & Preservative	De- chlorinated	Collection Date & Time	TAT	Sediment Content	Hold Sub()ut
1612431-001A	ASR2	Water	RSK175			2	VOA w/ HCl		12/6/2016 13:00	5 days	Trace		

NOTES: - STLC and TCLP extractions require 2 days to complete; therefore, all TATs begin after the extraction is completed (i.e., One-day TAT yields results in 3 days from sample submission).

- MAI assumes that all material present in the provided sampling container is considered part of the sample - MAI does not exclude any material from the sample prior to sample preparation unless requested in writing by the client.

1412431

		1534 WII PITTSBU ampbell.	LOW PA	SS ROA 1565-17	AD 01 in@n	ncca	mpt	oell.			9							AR Tra	ou	INI	T	[M]	E		RUS	Н	[24	HR xce		48 F	IR	RD 72 H rite O	1	
Report To: D	avid Holland		E	ill To	:															A	nal	ysis	Rec	lues	t						C	ther	Commen	ts
Company: M	lonterey Bay Ana	lytical S	ervices																			23										HI F	F.11.	
4	Justin Ct. Suite D)													8015)			E/B&F)				gene										8 1	Filter Samples	
	lonterey, Ca 9394	0		-Mail		~	_	_	c.coi	m					+			0 E/				Con						6	6				for Meta	Is
Tele: (831) 3'	75 - 6227			ax: (Gas (602 / 8021	21)		Grease (1664 / 5520	1	(\$;		ors/		(\$6			-	/ 602	602				analysis:	
Project #:			F	rojec	t Nar	ne:	MI	PW	MD						205 /	08/3	_	1664	(418.	VOC	(sa	rocl		icide			NAS	9010	010				Yes / No	
Project Locat										_					as (V 602	8015	se (I	ous	1 (H	ticid	Y; A	des)	Herb	Cs)	(S)	Is/F	18/	9/8	5020				
Sampler Sign	ature: Jonathan	Lear				_				_				_	Se	(EP/	Oii (8	Grea	carb	802	Pes	ONE	stici	5	(VO	(SVC	PAI	/ 200	200	10 / 6				
		SAMI	PLING	s	iers		MA	TR	XIX		PRE	SEI			TPH:	NLY	fotor (Oil &	Hydro	8010)81 (C	CB's	NP Pe	Acidic	8260	8270	8310 (200.7	200.7 /	.8 / 60				
SAMPLE ID	LOCATION/ Field Point Name	Date	Time	# Containers	Type Containers	Water	Soil	Air	Sludge	Other	ICE	HCL	HNO3	Other	MTBE / BTEX &	MTBE / BTEX ONLY (EPA 602 / 8021)	TPH as Diesel / Motor Oil (8015)	Total Petroleum Oil &	Total Petroleum Hydrocarbons (418.1)	EPA 502.2 / 601 / 8010 / 8021 (HVOCs)	EPA 505/ 608 / 8081 (CI Pesticides)	EPA 608 / 8082 PCB's ONLY; Aroclors / Congeners	EPA 507 / 8141 (NP Pesticides)	EPA 515 / 8151 (Acidic CI Herbicides)	EPA 524.2 / 624 / 8260 (VOCs)	EPA 525.2 / 625 / 8270 (SVOCs)	EPA 8270 SIM / 8310 (PAHs / PNAs)	CAM 17 Metals (200.7 / 200.8 / 6010 / 6020)	LUFT 5 Metals (200.7 / 200.8 / 6010 / 6020)	Lead (200.7 / 200.8 / 6010 / 6020)	Methane			
	ASR2	12/6/16	13:00	3	V	Х				1	X	X	1																		X		AB58237	
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										1		1																						
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Relinquished By David Holland	Delfa Q	Date:	Time: 1600	Rece	ved B	y: \	1		Z.	1)			GC			NDIT CE A											COM	1ME	ENTS	:		
Relinquished By	4	Date:	Time:	4	iyed B			_	1	0.1	be	2/	9/1	6	DE AP	PRO	OR	INAT ATE	CO	IN I NTA	AB_ INE	RS_	_	_										
Relinquished By	:	Date:	Time:	Rece	ived E	By:												TIO	ve		0	&G	MI pH-		s	оті	IER							

Sample Receipt Checklist

Client Name:	Monterey Bay Analytical			Date and Time Received	12/9/2016 10:00
Project Name:	MPWMD			Date Logged:	12/9/2016
WorkOrder №:	1612431 Matrix: Water			Received by: Logged by:	Briana Cutino Briana Cutino
Carrier:	<u>UPS</u>			99	
	Chain of C	ustody	(COC) Infor	mation	
Chain of custody	present?	Yes	✓	No 🗆	
Chain of custody	signed when relinquished and received?	Yes	•	No 🗌	
Chain of custody	agrees with sample labels?	Yes	•	No 🗆	
Sample IDs note	d by Client on COC?	Yes	✓	No 🗌	
Date and Time of	f collection noted by Client on COC?	Yes	•	No 🗌	
Sampler's name	noted on COC?	Yes	✓	No 🗆	
	<u>Sampl</u>	e Rece	eipt Informati	<u>on</u>	
Custody seals int	tact on shipping container/cooler?	Yes		No 🗆	NA 🗹
Shipping containe	er/cooler in good condition?	Yes	✓	No 🗌	
Samples in prope	er containers/bottles?	Yes	•	No 🗌	
Sample containe	rs intact?	Yes	•	No 🗆	
Sufficient sample	volume for indicated test?	Yes	•	No 🗌	
	Sample Preservation	on and	Hold Time (I	HT) Information	
All samples recei	ived within holding time?	Yes	✓	No 🗆	NA 🗌
Sample/Temp Bla	ank temperature		Temp: 2.8	3°C	NA 🗌
Water - VOA vial	s have zero headspace / no bubbles?	Yes	✓	No 🗌	NA 🗌
Sample labels ch	necked for correct preservation?	Yes	✓	No 🗌	
pH acceptable up	oon receipt (Metal: <2; 522: <4; 218.7: >8)?	Yes		No 🗌	NA 🗹
Samples Receive	ed on Ice?	Yes	✓	No 🗌	
	(Ice Type	e: WE	TICE)		
UCMR3 Samples Total Chlorine	<u>s:</u> tested and acceptable upon receipt for EPA 522?	Yes		No 🗆	na 🗹
Free Chlorine t 300.1, 537, 539	ested and acceptable upon receipt for EPA 218.7, 9?	Yes		No 🗆	NA 🗹
	=======================================		====:	=======	=======
Comments:					

MPWMD Jonanthan Lear P.O. Box 85 Monterey, CA 93442-0085



4 Justin Court Suite D, Monterey, CA 93940 831.375.MBAS www.MBASinc.com

ELAP Certification Number: 2385

Page 1 of 2 Thursday, January 19, 2017

Lab Number: AB59025

Collection Date/Time: 12/16/2016 15:45 Sample Collector: LINDBERG T Client Sample #:

Submittal Date/Time: 12/21/2016 13:25 Sample ID

	Sar	nple [Description: A	ASR-	2 In	ectat	e			
Analyte	Method	Unit	Result Dil	lution	Qual	PQL	MDL	Date Analyzed	Time Analyzed	Analyst:
Alkalinity, Total (as CaCO3)	SM2320B	mg/L	144	1		10	2	12/28/2016	9:00:00 AM	BS
Ammonia-N	SM4500NH3	mg/L	Not Detected	1		0.05	0.05	1/5/2017	10:00:00 AM	MW
Bicarbonate (as HCO3-)	SM2320B	mg/L	176	1		10	2	12/28/2016	3:07:00 PM	НМ
Boron	EPA200.7	mg/L	Not Detected	1		0.05	0.01	12/28/2016	1:09:00 PM	MW
Bromide	EPA300.0	mg/L	0.1	1		0.1	0.01	12/22/2016	8:38:00 AM	НМ
Calcium	EPA200.7	mg/L	49	1		0.5	0.1	12/28/2016	1:09:00 PM	MW
Carbonate as CaCO3	SM2320B	mg/L	Not Detected	1		10	2	12/28/2016	3:07:00 PM	НМ
Chloramines	SM4500-CI	mg/L	0.12	1	Н	0.05	0.05	12/20/2016	3:00:00 PM	LRH
Chloride	EPA300.0	mg/L	32	1		1	0.25	12/22/2016	8:38:00 AM	НМ
DOC	SM5310C	mg/L	1.5	1		0.2	0.03	12/28/2016	1:00:00 AM	MW
Fluoride	EPA300.0	mg/L	0.3	1		0.1	0.02	12/22/2016	8:38:00 AM	НМ
Gross Alpha	EPA900.0	pCi/L	1.23 ± 1.13	1	Е			1/10/2017	9:00:00 AM	FGL
Haloacetic Acids	EPA552	μg/L	23	1	Е			12/28/2016	12:00:00 PM	FGL
Iron	EPA200.7	μg/L	10	1		10	4	12/28/2016	1:09:00 PM	MW
Iron, Dissolved	EPA200.7	μg/L	Not Detected	1		10	4	12/28/2016	2:44:00 PM	MW
Kjehldahl Nitrogen	SM4500-NH	mg/L	Not Detected	1		0.5	0.5	1/5/2017	5:00:00 PM	BS
Magnesium	EPA200.7	mg/L	16	1		0.5	0.2	12/28/2016	1:09:00 PM	MW
Manganese, Dissolved	EPA200.7	μg/L	Not Detected	1		10	2	12/28/2016	2:44:00 PM	MW
Manganese, Total	EPA200.7	μg/L	13	1		10	2	12/28/2016	1:09:00 PM	MW
Methane	EPA174/175	μg/L	2.7	1	Ε	0.1	0.1	12/29/2016	3:39:00 PM	MCCAI
Nitrate as NO3	EPA300.0	mg/L	Not Detected	1		1	0.07	12/22/2016	8:38:00 AM	НМ

mg/L: Milligrams per liter (=ppm) ug/L: Micrograms per liter (=ppb) PQL: Practical Quantitation Limit J = Result is less than PQL H = Analyzed ouside of hold time E = Analysis performed by External Laboratory; See Report attachments.

D = Method deviates from standard method due to insufficient sample for MS/MSD

Page 2 of 2	Thursday, January	19, 2017

Nitrate as NO3-N	EPA300.0	mg/L	0.1	1		0.1	0.01	12/22/2016	8:38:00 AM	НМ
Nitrate+Nitrite as N	EPA300.0	mg/L	0.4	1		0.1	0.02	12/22/2016	8:38:00 AM	НМ
Nitrite as NO2-N	EPA300.0	mg/L	0.3	1		0.1	0.01	12/22/2016	8:38:00 AM	НМ
o-Phosphate-P, Dissolved	EPA300.0	mg/L	0.4	1		0.1	0.02	12/22/2016	8:38:00 AM	НМ
pH (Laboratory)	SM4500-H+	pH (H)	7.6	1		0.1		12/21/2016	4:15:00 PM	BS
Phosphorus, Total	HACH 8190	mg/L	0.46	1	PH	0.03	0.03	1/10/2017	2:00:00 PM	LRH
Potassium	EPA200.7	mg/L	3.2	1		0.5	0.3	12/28/2016	1:09:00 PM	MW
QC Anion Sum x 100	Calculation	%	100%	1				12/28/2016	3:07:00 PM	НМ
QC Anion-Cation Balance	Calculation	%	6	1				12/29/2016	8:58:00 AM	MW
QC Cation Sum x 100	Calculation	%	112%	1				12/29/2016	8:58:00 AM	MW
QC Ratio TDS/SEC	Calculation		0.63	1				12/27/2016	11:40:00 AM	LRH
Silica as SiO2, Total	EPA200.7	mg/L	25	1		0.5	0.3	12/28/2016	1:09:00 PM	MW
Sodium	EPA200.7	mg/L	55	1		0.5	0.2	12/28/2016	1:09:00 PM	MW
Specific Conductance (E.C)	SM2510B	µmhos/c	555	1		1	1	12/22/2016	12:35:00 PM	НМ
Sulfate	EPA300.0	mg/L	85	1		1	0.25	12/22/2016	8:38:00 AM	НМ
TOC	SM5310C	mg/L	1.4	1		0.2	0.03	12/28/2016	1:00:00 AM	MW
Total Diss. Solids	SM2540C	mg/L	348	1		10	10	12/21/2016	4:00:00 PM	MP
Total Nitrogen	Calculation	mg/L	Not Detected	1		0.5	0.5	1/6/2017	8:54:00 AM	SM
Total Radium 226	EPA903.0	pCi/L	0.295 ± 0.246	1	Е			1/9/2017	2:00:00 PM	FGL
Trihalomethanes	EPA524.2	μg/L	47.9	1	Е			12/28/2016	12:00:00 PM	FGL
						•	•			

Sample Comments: H: Analyzed outside of holding time. (Analyzed at 5 days and 45 minutes)

Report Approved by:

David Holland, Laboratory Director

mg/L: Milligrams per liter (=ppm) ug/L: Micrograms per liter (=ppb) PQL: Practical Quantitation Limit J = Result is less than PQL H = Analyzed ouside of hold time E = Analysis performed by External Laboratory; See Report attachments.

January 19, 2017

Lab ID : SP 1615363 **Monterey Bay Analytical Services** 4 Justin Court Customer : 2-19144

Monterey, CA 93940

Laboratory Report

Introduction: This report package contains total of 7 pages divided into 3 sections:

Case Narrative (2 pages): An overview of the work performed at FGL.

Sample Results (2 pages): Results for each sample submitted.

Quality Control (3 pages) : Supporting Quality Control (QC) results.

Case Narrative

This Case Narrative pertains to the following samples:

Sample Description	Date Sampled	Date Received	FGL Lab ID#	Matrix
ASR-2 Injectate	12/16/2016	12/22/2016	SP 1615363-001	PW

Sampling and Receipt Information: All samples were received in acceptable condition and within temperature requirements, unless noted on the Condition Upon Receipt (CUR) form. All samples arrived at 6 °C. All samples were prepared and analyzed within the method specified hold time. All samples were checked for pH if acid or base preservation is required (except for VOAs). For details of sample receipt information, please see the attached Chain of Custody and Condition Upon Receipt Form.

Quality Control: All samples were prepared and analyzed according to the following tables:

Organic QC

551.1	12/28/2016:218807 All analysis quality controls are within established criteria.
	12/27/2016:215307 All preparation quality controls are within established criteria, except: The following note applies to Bromoform, Dibromochloromethane, Bromodichloromethane: 435 Sample matrix may be affecting this analyte. Data was accepted based on the LCS or CCV recovery.
552	12/27/2016:215411 All preparation quality controls are within established criteria, except: The following note applies to 2,3-Dibromopropionic Acid, Dibromoacetic Acid: 435 Sample matrix may be affecting this analyte. Data was accepted based on the LCS or CCV recovery.
552.2	12/28/2016:218754 All analysis quality controls are within established criteria.
	12/28/2016:218816 All analysis quality controls are within established criteria.

January 19, 2017 Monterey Bay Analytical Services

Radio QC

Lab ID

Customer

: SP 1615363

: 2-19144

900.0	01/10/2017:200674 All analysis quality controls are within established criteria.
	01/09/2017:200271 All preparation quality controls are within established criteria.
903.0	01/09/2017:200303 All analysis quality controls are within established criteria.
	01/04/2017:215573 All preparation quality controls are within established criteria.

Certification:: I certify that this data package is in compliance with ELAP standards, both technically and for completeness, except for any conditions listed above. Release of the data contained in this data package is authorized by the Laboratory Director or his designee, as verified by the following electronic signature.

KD:DMB

Approved By Kelly A. Dunnahoo, B.S.





January 19, 2017 Lab ID : SP 1615363-001

Customer ID : 2-19144

Monterey Bay Analytical Services

4 Justin Court Sampled On : December 16, 2016-15:45

Sampled By : T.Lindberg Monterey, CA 93940

Received On: December 22, 2016-12:20

Matrix : Potable Water

Description : ASR-2 Injectate

Project : MPWMD

Sample Result - Organic

Constituent	Result	PQL	Units	Note	Sample	Preparation	Samp	le Analysis
Constituent	Result	1 QL	Onts	11010	Method	Date/ID	Method	Date/ID
EPA 551.1								
Decafluorobiphenyl [‡]	110	80-120	%		551.1	12/27/16:215307	551.1	12/28/16:218807
Bromodichloromethane	15.4	0.5	ug/L		551.1	12/27/16:215307	551.1	12/28/16:218807
Bromoform	1.8	0.5	ug/L		551.1	12/27/16:215307	551.1	12/28/16:218807
Chloroform	18.8	0.5	ug/L		551.1	12/27/16:215307	551.1	12/28/16:218807
Dibromochloromethane	11.9	0.5	ug/L		551.1	12/27/16:215307	551.1	12/28/16:218807
Total Trihalomethanes	47.9		ug/L		551.1	12/27/16:215307	551.1	12/28/16:218807
EPA 552.2								
2,3-Dibromopropionic Acid [‡]	94.6	70-130	%		552	12/27/16:215411	552.2	12/28/16:218816
Bromoacetic Acid	1	1	ug/L		552	12/27/16:215411	552.2	12/28/16:218754
Chloroacetic Acid	ND	2	ug/L		552	12/27/16:215411	552.2	12/28/16:218754
Dibromoacetic Acid	3	1	ug/L		552	12/27/16:215411	552.2	12/28/16:218816
Dichloroacetic Acid	10	1	ug/L		552	12/27/16:215411	552.2	12/28/16:218816
Trichloroacetic Acid	9	1	ug/L		552	12/27/16:215411	552.2	12/28/16:218816
Haloacetic acids (five)	23		ug/L		552	12/27/16:215411	552.2	12/28/16:218754

ND=Non-Detected. PQL=Practical Quantitation Limit. ‡Surrogate. * PQL adjusted for dilution.

Analytical Chemists

January 19, 2017 Lab ID : SP 1615363-001

Customer ID : 2-19144

Monterey Bay Analytical Services

Sampled On : December 16, 2016-15:45 4 Justin Court

Sampled By : T.Lindberg Monterey, CA 93940

Received On : December 22, 2016-12:20

: Potable Water Matrix

Description : ASR-2 Injectate

Project : MPWMD

Sample Result - Radio

Constituent	Result ± Error	MDA	Units	MCL/AL	Sample	Preparation	Sampl	e Analysis
Constituent	Result - Ellor MDA Ollits MCE/AL		WICL/AL	Method	Date/ID	Method	Date/ID	
Radio Chemistry								
Gross Alpha	1.23 ± 1.13	1.40	pCi/L		900.0	01/09/17-10:12 2P1700271	900.0	01/10/17-09:00 2A1700674
Total Alpha Radium (226)	0.295 ± 0.246	0.470	pCi/L		903.0	01/04/17-19:00 2P1615573	903.0	01/09/17-14:00 2A1700303

ND=Non-Detected. PQL=Practical Quantitation Limit. * PQL adjusted for dilution.

MDA = Minimum Detectable Activity (Calculated at the 95% confidence level) = Data utilized by DHS to determine matrix interference. MCL / AL = Maximum Contamination Level / Action Level. Alpha's Action Level of 5 pCi/L is based on the Assigned Value (AV). AV = Assigned Value(Gross Alpha Result + (0.84 x Error)). CCR Section 64442: Drinking Water Compliance Note: Do the following If Gross Alpha's (AV) exceeds 5 pCi/L run Uranium. If Gross Alpha's (AV) minus Uranium exceeds 5 pCi/L run Radium 226.

Drinking Water Compliance:

Gross Alpha (AV) minus Uranium is less than or equal to 15 pCi/L Uranium is less than or equal to 20 pCi/L

Radium 226 + Radium 228 is less than or equal to 5 pCi/L

Note: Samples are held for 3-6 months prior to disposal.

January 19, 2017 Lab ID **Monterey Bay Analytical Services** Customer

Quality Control - Organic

Constituent	Method	Date/ID	Туре	Units	Conc.	QC Data	DQO	Note
Organic								
Bromodichloromethane	551.1	12/27/16:215307SBL	Blank	ug/L		ND	< 0.5	
Bromodicinoromethane	331.1	12/21/10.21330/SBL	LCS	ug/L ug/L	10.00	111 %	80-120	
			MS	ug/L ug/L	9.875	97.4 %	80-120	
		(SP 1615278-001)	MSD	ug/L	9.888	121 %	80-120	435
		(51 1013270 001)	MSRPD	ug/L	19.78	6.3%	≤20	133
	551.1	12/28/16:218807SBL	CCV	ug/L	83.33	98.8 %	80-120	
	551.1	12/20/10:21000/552	CCV	ug/L	166.7	94.3 %	80-120	
Bromoform	551.1	12/27/16:215307SBL	Blank	ug/L	100.7	ND	<0.5	
Bromororm	551.1	12/2//10:21330/302	LCS	ug/L	10.00	120 %	80-120	
			MS	ug/L	9.875	128 %	80-120	435
		(SP 1615278-001)	MSD	ug/L	9.888	133 %	80-120	435
		(22 202227	MSRPD	ug/L	19.78	1.5%	≤20	
	551.1	12/28/16:218807SBL	CCV	ug/L	83.33	114 %	80-120	
	00111	12/20/10/21000/5522	CCV	ug/L	166.7	107 %	80-120	
Chloroform	551.1	12/27/16:215307SBL	Blank	ug/L		ND	<0.5	
	551.1	13.2., 10.21330, SDL	LCS	ug/L ug/L	10.00	111 %	80-120	
		1	MS	ug/L ug/L	9.875	102 %	80-120	
		(SP 1615278-001)	MSD	ug/L ug/L	9.888	116 %	80-120	
		(51 1013270 001)	MSRPD	ug/L	19.78	5.4%	≤20	
	551.1	12/28/16:218807SBL	CCV	ug/L	83.33	103 %	80-120	
	331.1	12/20/10.21000/SDL	CCV	ug/L ug/L	166.7	97.2 %	80-120	
Decafluorobiphenyl	551.1	12/27/16:215307SBL	Blank	ug/L ug/L	19.34	98.5 %	80-120	
Decaridoroorphenyi	331.1	12/21/10.21330/SBL	LCS	ug/L ug/L	20.00	116 %	80-120	
			MS	ug/L ug/L	19.75	117 %	80-120	
		(SP 1615278-001)	MSD	ug/L ug/L	19.73	117 %	80-120	
		(31 1013276-001)	MSRPD	ug/L ug/L	19.78	3.9%	≤20.0	
	551.1	12/28/16:218807SBL	CCV	ug/L ug/L	166.7	110 %	80-120	
	331.1	12/20/10.21000/SBL	CCV	ug/L ug/L	333.3	97.8 %	80-120	
Dibromochloromethane	551.1	12/27/16:215307SBL	Blank	ug/L		ND	< 0.5	
			LCS	ug/L	10.00	119 %	80-120	
			MS	ug/L	9.875	104 %	80-120	
		(SP 1615278-001)	MSD	ug/L	9.888	77.6 %	80-120	435
			MSRPD	ug/L	19.78	6.4%	≤20	
	551.1	12/28/16:218807SBL	CCV	ug/L	83.33	107 %	80-120	
			CCV	ug/L	166.7	103 %	80-120	
2,3-Dibromopropionic Acid	552	12/27/16:215411SBL	Blank	ug/L	5.000	98.8 %	70-130	
			LCS	ug/L	5.000	86.2 %	70-130	
		1	MS	ug/L	5.000	134 %	70-130	435
		(SP 1615363-001)	MSD	ug/L	5.000	133 %	70-130	435
		<u> </u>	MSRPD	ug/L	5.000	0.6%	≤20.0	
Dibromoacetic Acid	552	12/27/16:215411SBL	Blank	ug/L		ND	<1	
		1	LCS	ug/L	10.00	79.3 %	70-130	
		1	MS	ug/L	10.00	145 %	70-130	435
		(SP 1615363-001)	MSD	ug/L	10.00	137 %	70-130	435
		<u> </u>	MSRPD	ug/L	5.000	4.5%	≤20.0	
Dichloroacetic Acid	552	12/27/16:215411SBL	Blank	ug/L		ND	<1	
		1	LCS	ug/L	10.00	85.6 %	70-130	
		1	MS	ug/L	10.00	109 %	70-130	
		(SP 1615363-001)	MSD	ug/L	10.00	104 %	70-130	
		<u> </u>	MSRPD	ug/L	5.000	2.7%	≤20.0	
Monobromoacetic Acid	552	12/27/16:215411SBL	Blank	ug/L		ND	<1	
		1	LCS	ug/L	10.00	81.6 %	70-130	
		1	MS	ug/L	10.00	88.8 %	70-130	
		(SP 1615363-001)	MSD	ug/L	10.00	85.4 %	70-130	
			MSRPD	_		3.3%	≤20.0	

: SP 1615363

: 2-19144

January 19, 2017 Lab ID : SP 1615363 **Monterey Bay Analytical Services** Customer : 2-19144

Quality Control - Organic

Constituent	Method	Date/ID	Type	Units	Conc.	QC Data	DQO	Note
Organic								
Monochloroacetic Acid	552	12/27/16:215411SBL	Blank	ug/L		ND	<2	
			LCS	ug/L	10.00	86.5 %	70-130	
			MS	ug/L	10.00	94.7 %	70-130	
		(SP 1615363-001)	MSD	ug/L	10.00	98.1 %	70-130	
			MSRPD	ug/L	5.000	3.0%	≤20.0	
Trichloroacetic Acid	552	12/27/16:215411SBL	Blank	ug/L		ND	<1	
			LCS	ug/L	10.00	77.4 %	70-130	
			MS	ug/L	10.00	88.8 %	70-130	
		(SP 1615363-001)	MSD	ug/L	10.00	88.8 %	70-130	
			MSRPD	ug/L	5.000	0.006%	≤20.0	
2,3-Dibromopropionic Acid	552.2	12/28/16:218816SBL	CCV	ug/L	75.00	95.4 %	70-130	
			CCV	ug/L	50.00	110 %	70-130	
Dibromoacetic Acid	552.2	12/28/16:218816SBL	CCV	ug/L	150.0	84.5 %	70-130	
			CCV	ug/L	100.0	91.7 %	70-130	
Dichloroacetic Acid	552.2	12/28/16:218816SBL	CCV	ug/L	150.0	91.1 %	70-130	
			CCV	ug/L	100.0	97.2 %	70-130	
Monobromoacetic Acid	552.2	12/28/16:218754SBL	CCV	ug/L	150.0	89.9 %	70-130	
			CCV	ug/L	100.0	96.3 %	70-130	
Monochloroacetic Acid	552.2	12/28/16:218754SBL	CCV	ug/L	150.0	93.6 %	70-130	
			CCV	ug/L	100.0	105 %	70-130	
Trichloroacetic Acid	552.2	12/28/16:218816SBL	CCV	ug/L	150.0	90.6 %	70-130	
			CCV	ug/L	100.0	98.5 %	70-130	

Definition

CCV : Continuing Calibration Verification - Analyzed to verify the instrument calibration is within criteria.

Blank : Method Blank - Prepared to verify that the preparation process is not contributing contamination to the samples. LCS : Laboratory Control Standard/Sample - Prepared to verify that the preparation process is not affecting analyte recovery.

: Matrix Spikes - A random sample is spiked with a known amount of analyte. The recoveries are an indication of how that sample MS

matrix affects analyte recovery.

: Matrix Spike Duplicate of MS/MSD pair - A random sample duplicate is spiked with a known amount of analyted. The recoveries MSD

are an indication of how that sample matrix affects analyte recovery.

: MS/MSD Relative Percent Difference (RPD) - The MS relative percent difference is an indication of precision for the preparation MSRPD

ND : Non-detect - Result was below the DQO listed for the analyte.

DQO : Data Quality Objective - This is the criteria against which the quality control data is compared.

Explanation

: Sample matrix may be affecting this analyte. Data was accepted based on the LCS or CCV recovery

January 19, 2017 Lab ID : SP 1615363 **Monterey Bay Analytical Services** Customer : 2-19144

Quality Control - Radio

Constituent	Method	Date/ID	Type	Units	Conc.	QC Data	DQO	Note
Radio								
Alpha	900.0	01/10/17:200674RMM	CCV	cpm	8497	41.4 %	38 - 47	
			CCB	cpm		0.0400	0.18	
Gross Alpha	900.0	01/09/17:200271RMM	Blank	pCi/L		1.12	3	
			LCS	pCi/L	108.2	93.4 %	75-125	
			MS	pCi/L	108.2	107 %	60-140	
		(SP 1615396-001)	MSD	pCi/L	108.2	136 %	60-140	
			MSRPD	pCi/L	108.2	24.1%	≤30	
Alpha	903.0	01/09/17:200303caa	CCV	cpm	8500	41.5 %	39 - 47	
			CCB	cpm		0.100	0.19	
Total Alpha Radium (226)	903.0	01/04/17:215573emv	RgBlk	pCi/L		0.06	2	
•			LCS	pCi/L	21.86	64.7 %	52-107	
			BS	pCi/L	21.86	54.0 %	43-111	
			BSD	pCi/L	21.86	51.0 %	43-111	
			BSRPD	pCi/L	21.86	5.6%	≤35.5	
Definition	-	-			-			
CCV : Continuing 0	Calibration Verific	ation - Analyzed to verify	the instrum	ent calibratio	n is within c	riteria.		
_		- Analyzed to verify the in						

Blank : Method Blank - Prepared to verify that the preparation process is not contributing contamination to the samples.

: Method Reagent Blank - Prepared to correct for any reagent contributions to sample result.

RgBlk

LČS : Laboratory Control Standard/Sample - Prepared to verify that the preparation process is not affecting analyte recovery.

: Matrix Spikes - A random sample is spiked with a known amount of analyte. The recoveries are an indication of how that sample MS matrix affects analyte recovery.

: Matrix Spike Duplicate of MS/MSD pair - A random sample duplicate is spiked with a known amount of analyted. The recoveries MSD are an indication of how that sample matrix affects analyte recovery.

: Blank Spikes - A blank is spiked with a known amount of analyte. It is prepared to verify that the preparation process is not BS affecting analyte recovery.

: Blank Spike Duplicate of BS/BSD pair - A blank duplicate is spiked with a known amount of analyte. It is prepared to verify that

BSD the preparation process is not affecting analyte recovery.

: MS/MSD Relative Percent Difference (RPD) - The MS relative percent difference is an indication of precision for the preparation MSRPD and analysis.

: BS/BSD Relative Percent Difference (RPD) - The BS relative percent difference is an indication of precision for the preparation BSRPD

and analysis.

DQO : Data Quality Objective - This is the criteria against which the quality control data is compared.



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CHAIN OF CUSTODY AND ANALYSIS REQUEST DOCUMENT

	Monterey Bay Analytica er Number: 2019144 · 4 Justin Court	I Services				umbe 95	30	3	, · · · · · ·		,	TE	ST D	ESCI	RIPT	ION	AND	ANA	LYS	SES I	REQU	JEST	ED	,		
Address	Monterey, CA 93940																									
Project Purchas Quote N Rush A Rush pi Electror Sample	ddress: info@mbasinc.com Person: David Holland Name: MPWMD se Order Number:			Method of Sempling: Composite (C) Grab (G)	Number of Containers	Type of Containers: (G)Glass (P)Plastic (V)VOA (MT)Metal Tube	Potable (P) Non-Potable (NP) Ag Water (AgW)	(SW) Surface Water (MW) Monttoning Well (GW) Ground Water (TB) Travel Blank (WW) Waste Water (DW) Drinking Water	(S) Soli (SLG) Shugge (SLD) Soca (O) OB	BecT. (Sys) System (SRC) Source (W) Waste	BacT: (ROUT)Routine (RPT)Rapast (OTH)Other (RPL)Replace	(LT) Leaf Tissue (PET) Peticle Tissue (PRD) Produce	Preservative: (1) NaOH + ZnAc, (2) NaOH, (3) HCI (4) HZSOA, (5) HNO3, (6) Na2S2O3, (7) Other	Gross Alpha	Ra 226	THMS	НАА									
1.	ASR-2 Injectate	12/16/16	15:45	G	7	Var	Р							х	Х	х	х									
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<u>(e</u>	0/63444819	D		Recei	ved By:		D	ate:	Ti	ime:	F	ecceiye	12	6	. 1	Date:		ime:	70	Receiv	ed By:			Date:	Time:	

Corporate Offices & Laboratory 853 Corporation Street Santa Paula, CA 93060 TEL: (805)392-2000 Env FAX: (805)525-4172 / Ag FAX: (805)392-2063 CA ELAP Certification No.1573 Office & Laboratory 2500 Stagecoach Road Stockton, CA 95215 TEL: (209)942-0182 FAX: (209)942-0423 CA ELAP Certification No. 1563 Office & Laboratory
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CA ELAP Certification No. 2670

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TEL: (805)783-2940
FAX: (805)783-2912
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Revision Date: 10/09/14 Page: 1 of 1

Condition Upon Receipt (Attach to COC)

Sample Receipt at SP:							
Number of ice chests/packages received:	1						
2. Shipper tracking numbers							
3. Were samples received in a chilled condition? Temps:	6/	'	/	/	/	/	/
4. Surface water (SWTR) bact samples: A sample that should be flagged unless the time since sample colle			•			whether ice	ed or not,
5. Do the number of bottles received agree with the COC?	Yes	No	N/A				
6. Verify sample date, time, sampler	Yes	No	N/A				
7. Were the samples received intact? (i.e. no broken bottles, leaks, etc.)	Yes	No					
8. Were sample custody seals intact?	Yes	No	N/A				
Sample Verification, Labeling and Distribution:							
Were all requested analyses understood and acceptable?	Yes	No					
2. Did bottle labels correspond with the client's ID's? $\big[$	Yes	No					
3. Were all bottles requiring sample preservation properly preserved? [Exception: Oil & Grease, VOA and CrVI verified in lab]	Yes	No	N/A	FGL			
4. VOAs checked for Headspace?	Yes	No	N/A				
5. Were all analyses within holding times at time of receipt?	Yes	No					
6. Have rush or project due dates been checked and accepted?	Yes	No	N/A				
Include a copy of the COC for lab delivery. (Bacti. Inorganical Company)	ganics a	nd Ra	dio)				
Sample Receipt, Login and Verification completed by:			wed and oved By _	Alyssa F	P. Bavero	Title: Sampl	ned by Alyssa P. Bavero e Receiving 2016-12:54:28
Discrepency Documentation:							
Any items above which are "No" or do not meet specifi	ications ((i.e. te	mps) mı	ust be res	olved.		
1. Person Contacted:	Pho	one N	umber:				
Initiated By:	Dat	te:					
Problem:							
Resolution:							
2. Person Contacted:	Pho	one Ni	umber:				
Initiated By:	D-4	te:					
Problem:							
Resolution:					(201	9144)	

(2019144)
Monterey Bay Analytical Services
SP 1615363



McCampbell Analytical, Inc.

"When Quality Counts"

Analytical Report

WorkOrder: 1612B37

Report Created for: Monterey Bay Analytical

4 Justin Court, Suite D Monterey, CA 93940

Project Contact:

David Holland

Project P.O.:

Project Name: MPWMD

Project Received: 12/22/2016

Analytical Report reviewed & approved for release on 12/30/2016 by:

Angela Rydelius,

Laboratory Manager

The report shall not be reproduced except in full, without the written approval of the laboratory. The analytical results relate only to the items tested. Results reported conform to the most current NELAP standards, where applicable, unless otherwise stated in the case narrative.



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CA ELAP 1644 ♦ NELAP 4033ORELAP

Glossary of Terms & Qualifier Definitions

Client: Monterey Bay Analytical

Project: MPWMD **WorkOrder:** 1612B37

Glossary Abbreviation

%D Serial Dilution Percent Difference

95% Interval 95% Confident Interval

DF Dilution Factor

DI WET (DISTLC) Waste Extraction Test using DI water

DISS Dissolved (direct analysis of 0.45 µm filtered and acidified water sample)

DLT Dilution Test (Serial Dilution)

DUP Duplicate

EDL Estimated Detection Limit

ITEF International Toxicity Equivalence Factor

LCS Laboratory Control Sample

MB Method Blank

MB % Rec % Recovery of Surrogate in Method Blank, if applicable

MDL Method Detection Limit

ML Minimum Level of Quantitation

MS Matrix Spike

MSD Matrix Spike Duplicate

N/A Not Applicable

ND Not detected at or above the indicated MDL or RL

NR Data Not Reported due to matrix interference or insufficient sample amount.

PDS Post Digestion Spike

PDSD Post Digestion Spike Duplicate

PF Prep Factor

RD Relative Difference

RL Reporting Limit (The RL is the lowest calibration standard in a multipoint calibration.)

RPD Relative Percent Deviation
RRT Relative Retention Time

SPK Val Spike Value

SPKRef Val Spike Reference Value

SPLP Synthetic Precipitation Leachate Procedure

ST Sorbent Tube

TCLP Toxicity Characteristic Leachate Procedure

TEQ Toxicity Equivalents

WET (STLC) Waste Extraction Test (Soluble Threshold Limit Concentration)

Analytical Report

Client: Monterey Bay Analytical

 Date Received:
 12/22/16 10:17

 Date Prepared:
 12/29/16

 Project:
 MPWMD

WorkOrder: 1612B37

Extraction Method: RSK175 **Analytical Method:** RSK175

Unit: $\mu g/L$

Dissolved Gases by RSK 175

Client ID	Lab ID I	Matrix	Date Co	llected Instrument	Batch ID
ASR-2 Injectate	1612B37-001A V	Nater	12/16/201	16 15:45 GC26	131983
<u>Analytes</u>	Result		<u>RL</u>	<u>DF</u>	Date Analyzed
Methane	2.7		0.10	1	12/29/2016 15:39

Analyst(s): AK

Angela Rydelius, Lab Manager

Quality Control Report

Client: Monterey Bay Analytical

Date Prepared: 12/29/16Date Analyzed: 12/29/16Instrument: GC26Matrix: Air

Project: MPWMD

WorkOrder: 1612B37 **BatchID:** 131983

BatchID: 131983 **Extraction Method:** RSK175

Analytical Method: RSK175

Unit: $\mu g/L$

Sample ID: MB/LCS-131983

QC Summary Report for RSK175										
Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits			
Methane	ND	94.6	0.50	100	-	95	70-130			

McCampbell Analytical, Inc.

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CHAIN-OF-CUSTODY RECORD

Page 1 of

WorkOrder: 1612B37 ClientCode: MBAS

(923) 232-9262										
	WaterTrax	WriteOn	EDF	Excel	EQuIS	✓ Email	HardCopy	ThirdPa	artyJ-fla	ag
Report to:				1	Bill to:		Re	quested TAT:	5 days;	
David Holland Monterey Bay Analytical 4 Justin Court, Suite D Monterey, CA 93940 831-375-6227 FAX: 831-641-0734	Email: n cc/3rd Party: PO: ProjectNo: M	nweidner@mba MPWMD	sinc.com; Dholl	and@mbas	Accounts Paya Monterey Bay A 4 Justin Court, Monterey, CA 9	Analytical Suite D		ate Received. ate Logged:		
						Requested 1	Tests (See legend	d below)		
Lab ID Client ID		Matrix	Collection Date	Hold 1	2 3	4 5	6 7	8 9	10 11	1

Lab ID	Client ID	Matrix	Collection Date	Hold	1	2	3	4	5	6	7	8	9	10	11	12	1
								,							1		_
1612B37-001	ASR-2 Injectate	Water	12/16/2016 15:45		Α												
			,	•						•						•	_

Test Legend:

1 RSK175_W	2	3	4
5	6	7	8
9	10	11	12

Prepared by: Jena Alfaro

Comments:

NOTE: Soil samples are discarded 60 days after results are reported unless other arrangements are made (Water samples are 30 days).

Hazardous samples will be returned to client or disposed of at client expense.



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1534 Willow Pass Road, Pittsburg, CA 94565-1701 Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269 http://www.mccampbell.com / E-mail: main@mccampbell.com

WORK ORDER SUMMARY

Client Name:	: MONTERI	EY BAY ANALYTI	CAL		Project:	MPWMD				Wor	k Order:	1612B37	
Client Conta	ct: David Holl	and								Ç	C Level:	LEVEL 2	
Contact's Em	_	mbasinc.com; Dhologlobal.net; info@m	_	c.com;	Comments:					Date	Logged:	12/22/2016	
		WaterTrax	WriteOn	EDF	Excel	Fax	∠ Email	HardCo	ppy ThirdParty	′ 🗀、	J-flag		
Lab ID	Client ID	Matrix	Test Name			ntainers Bo mposites	ttle & Preservative	De- chlorinated	Collection Date & Time	TAT	Sediment Content	Hold SubC	ut
1612B37-001A	ASR-2 Injectate	Water	RSK175 <m< th=""><th>lethane_4></th><th></th><th>3</th><th>VOA w/ HCl</th><th></th><th>12/16/2016 15:45</th><th>5 days</th><th>Trace</th><th></th><th></th></m<>	lethane_4>		3	VOA w/ HCl		12/16/2016 15:45	5 days	Trace		

NOTES: - STLC and TCLP extractions require 2 days to complete; therefore, all TATs begin after the extraction is completed (i.e., One-day TAT yields results in 3 days from sample submission).

- MAI assumes that all material present in the provided sampling container is considered part of the sample - MAI does not exclude any material from the sample prior to sample preparation unless requested in writing by the client.

1612B37

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Report To: Da	vid Holland		В	ill To	:															A	nal	ysis	Rec	ues	t						0	ther	Comments
Company: M	onterey Bay Ana	lytical S	ervices													11						LS				7 =				Ÿ.1			77914
	Justin Ct. Suite D												3		8015)			B&F				gene											Filter Samples
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Tele: (831) 37	5 - 6227			ax: (_		_								(602 / 8021	21)		1 552	1	(s:		ors/		(s			_	/ 602	602				analysis:
Project #:			P	rojec	t Nan	ne:	MF	W	MD						02 /	/ 80		999	418.	VOC	(Sa	rock		icide			NAS	010	010				Yes / No
Project Locat	ion:														as (6	602	(210)	se (1	ous (E	icid	Y; A	les)	lerb	(\$	Cs)	s/P	9/8	9/8	020)			
Sampler Signa	ature: T. Lindber	rg								_				\Box	Is G	EPA	8) II (8	rea	arb	802	Pest	INC	ticic	CLF	VOC	SVO	PAH	200	200.	9/0			
	(<u></u>	SAMI	PLING		ers		MA	TR	IX	P	ME RES	TH SER	OD	D	TPH	NLY (Totor C	Oil & C	Hydroc	8010 /	12) 18	CB's C	NP Pes	Acidic	8260 (8270 (8310 (1	200.7 /	7 2003	8 / 601			
SAMPLE ID	LOCATION/ Field Point Name	Date	Time	# Containers	Type Containers	Water	Soil	Air	Sludge	ICE	17.1	HCL	HNO3	Other	MTBE / BTEX &	MTBE / BTEX ONLY (EPA 602 / 8021)	TPH as Diesel / Motor Oil (8015)	Total Petroleum Oil & Grease (1664 / 5520 E/B&F)	Total Petroleum Hydrocarbons (418.1)	EPA 502.2 / 601 / 8010 / 8021 (HVOCs)	EPA 505/ 608 / 8081 (CI Pesticides)	EPA 608 / 8082 PCB's ONLY; Aroclors / Congeners	EPA 507 / 8141 (NP Pesticides)	EPA 515 / 8151 (Acidic Cl Herbicides)	EPA 524.2 / 624 / 8260 (VOCs)	EPA 525.2 / 625 / 8270 (SVOCs)	EPA 8270 SIM / 8310 (PAHs / PNAs)	CAM 17 Metals (200.7 / 200.8 / 6010 / 6020)	LUFT 5 Metals (200.7 / 200.8 / 6010 / 6020)	Lead (200.7 / 200.8 / 6010 / 6020)	Methane		
	ASR-2 Injectate	12/16/16	15:45	3	V	Х				7	X 2	X																			X		AB59025
1																																	
													1											(-1)					-				
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Relinquished By: David Holland	Da400	Date:	Time: 1600	Rece	eived B		VIL	0							GC	E/t° OOD AD	CON	DIT			_								CON	MME	ENTS		
Relinquished By:	(150	Date:	Time:	Rece	eived E			/					1		DE	CHI	OR	INAT ATE	CO	IN L		RS_		_									
Relinquished By	Oliv	Date:	Time;	Ree	eived E	y:										ESE			vo	DAS	0	&G	ME pH-		S	ОТІ	IER						

Sample Receipt Checklist

Client Name:	Monterey Bay Analytical			Date and Time Received	12/22/2016 10:17
Project Name:	MPWMD			Date Logged:	12/22/2016
W 10 1 N	404000			Received by:	Jena Alfaro
WorkOrder №: Carrier:	1612B37 Matrix: Wate	<u>er</u>		Logged by:	Jena Alfaro
Gamer.	Coldon State Svennight				
		Chain of Custody	(COC) Inform	nation	
Chain of custody	present?	Yes	✓	No 🗆	
Chain of custody	signed when relinquished and receive	ved? Yes	✓	No 🗆	
Chain of custody	agrees with sample labels?	Yes	✓	No 🗆	
Sample IDs note	d by Client on COC?	Yes	✓	No 🗌	
Date and Time of	f collection noted by Client on COC?	Yes	✓	No 🗌	
Sampler's name	noted on COC?	Yes	✓	No 🗆	
		Sample Rece	eipt Informatio	<u>n</u>	
Custody seals in	tact on shipping container/cooler?	Yes		No 🗌	NA 🗹
Shipping contain	er/cooler in good condition?	Yes	•	No 🗌	
Samples in prope	er containers/bottles?	Yes	•	No 🗌	
Sample containe	rs intact?	Yes	✓	No 🗌	
Sufficient sample	e volume for indicated test?	Yes	•	No 🗆	
	<u>Samp</u>	le Preservation and	Hold Time (H	T) Information	
All samples recei	ived within holding time?	Yes	✓	No 🗌	NA 🗌
Sample/Temp Bl	ank temperature		Temp: 5.7°	С	NA 🗌
Water - VOA vial	s have zero headspace / no bubbles	? Yes	✓	No 🗆	NA 🗌
Sample labels ch	necked for correct preservation?	Yes	✓	No 🗌	
pH acceptable up	oon receipt (Metal: <2; 522: <4; 218.7	7: >8)? Yes		No 🗆	NA 🗹
Samples Receive	ed on Ice?	Yes	✓	No 🗆	
		(Ice Type: WE	TICE)		
UCMR3 Samples Total Chlorine	<u>s:</u> tested and acceptable upon receipt f	or EPA 522? Yes		No 🗆	NA 🗹
Free Chlorine t 300.1, 537, 539	ested and acceptable upon receipt fo 9?	or EPA 218.7, Yes		No 🗆	NA 🗹
		======			
Comments:					

MPWMD Jonanthan Lear P.O. Box 85 Monterey, CA 93442-0085



831.375.MBAS

www.MBASinc.com **ELAP Certification Number: 2385**

Page 1 of 2 Tuesday, January 03, 2017

Lab Number: AB58462

Collection Date/Time: 12/9/2016 12:30 Sample Collector: LEAR J Client Sample #:

Submittal Date/Time: 12/9/2016	14:45	Sa	ample ID							
		San	nple Descri	ption: A	\SR	3				
Analyte	Method	Unit	Result	Dilution (Qual	PQL	MDL	Date Analyzed	Time Analyzed	Analyst:
Alkalinity, Total (as CaCO3)	SM2320B	mg/L	178	1		10	2	12/19/2016	10:00:00 AM	BS
Aluminum, Total	EPA200.8	μg/L	Not Detected	2		10	10	12/13/2016	3:46:00 PM	SM
Ammonia-N	SM4500NH3	mg/L	Not Detected	1		0.05	0.05	12/16/2016	11:00:00 AM	MW
Arsenic, Total	EPA200.8	μg/L	5	2		1	0.2	12/13/2016	3:46:00 PM	SM
Barium, Total	EPA200.8	μg/L	88	2		10	0.4	12/13/2016	3:46:00 PM	SM
Bicarbonate (as HCO3-)	SM2320B	mg/L	217	1		10	2	12/19/2016	1:04:00 PM	LRH
Boron	EPA200.7	mg/L	0.07	1		0.05	0.01	12/19/2016	2:55:00 PM	MW
Bromide	EPA300.0	mg/L	0.2	1		0.1	0.01	12/9/2016	4:11:00 PM	НМ
Calcium	EPA200.7	mg/L	60	1		0.5	0.1	12/19/2016	2:55:00 PM	MW
Carbonate as CaCO3	SM2320B	mg/L	Not Detected	1		10	2	12/19/2016	1:04:00 PM	LRH
Chloramines	SM4500-CI	mg/L	Not Detected	1		0.05	0.05	12/9/2016	3:15:00 PM	SM
Chloride	EPA300.0	mg/L	75	1		1	0.25	12/9/2016	4:11:00 PM	НМ
DOC	SM5310C	mg/L	1.3	1		0.2	0.03	12/27/2016	1:53:00 PM	MW
Fluoride	EPA300.0	mg/L	0.3	1		0.1	0.02	12/9/2016	4:11:00 PM	НМ
Gross Alpha	EPA900.0	pCi/L	4.79 ± 1.87	1	Е			12/21/2016	2:00:00 PM	FGL
Haloacetic Acids	EPA552	μg/L	Not Detected	1	Е			12/16/2016	12:00:00 PM	FGL
Iron	EPA200.7	μg/L	208	1		10	4	12/19/2016	2:55:00 PM	MW
Iron, Dissolved	EPA200.7	μg/L	13	1		10	4	12/19/2016	2:55:00 PM	MW
Kjehldahl Nitrogen	SM4500-NH	mg/L	Not Detected	1		0.5	0.5	12/29/2016	11:00:00 AM	BS
Lithium	EPA200.8	μg/L	22	2		1	0.2	12/13/2016	3:46:00 PM	SM
Magnesium	EPA200.7	mg/L	18	1		0.5	0.2	12/19/2016	2:55:00 PM	MW
Manganese, Dissolved	EPA200.7	μg/L	15	1		10	2	12/19/2016	2:55:00 PM	MW
Manganese, Total	EPA200.7	μg/L	16	1		10	2	12/19/2016	2:55:00 PM	MW
Mercury, Total	EPA200.8	μg/L	<u>1</u>	2	IJ	0.5	0.08	12/13/2016	3:46:00 PM	SM
Methane	EPA174/175	μg/L	0.31	1	Е	0.1	0.1	12/22/2016	10:54:00 AM	MCCA
Molybdenum, Total	EPA200.8	μg/L	9	2		1	0.2	12/13/2016	3:46:00 PM	SM
Nickel, Total	EPA200.8	μg/L	Not Detected	2		10	0.2	12/13/2016	3:46:00 PM	SM
Nitrate as NO3	EPA300.0	mg/L	Not Detected	1		1	0.07	12/9/2016	4:11:00 PM	НМ
Nitrate as NO3-N	EPA300.0	mg/L	0.1	1		0.1	0.01	12/9/2016	4:11:00 PM	НМ
Nitrate+Nitrite as N	EPA300.0	mg/L	0.4	1		0.1	0.02	12/9/2016	4:11:00 PM	НМ
Nitrite as NO2-N	EPA300.0	mg/L	0.3	1		0.1	0.01	12/9/2016	4:11:00 PM	НМ
o-Phosphate-P, Dissolved	EPA300.0	mg/L	0.2	1		0.1	0.02	12/9/2016	4:11:00 PM	НМ
pH (Laboratory)	SM4500-H+	рН (H)		1		0.1		12/9/2016	3:20:00 PM	
Phosphorus, Total	HACH 8190	mg/L	0.19	1		0.03	0.03		8:58:00 AM	
Potassium	EPA200.7	mg/L	4.3	1		0.5	0.3	12/19/2016	2:55:00 PM	
QC Anion Sum x 100		J				-				
	Calculation	%	97%	1				12/19/2016	1:04:00 PM	LRH

mg/L: Milligrams per liter (=ppm) ug/L : Micrograms per liter (=ppb) PQL : Practical Quantitation Limit J = Result is less than PQL H = Analyzed ouside of hold time E = Analysis performed by External Laboratory; See Report attachments.

D = Method deviates from standard method due to insufficient sample for MS/MSD

QC Cation Sum x 100	Calculation	%	101%	1				12/20/2016	8:36:00 AM	MW
QC Ratio TDS/SEC	Calculation		0.59	1				12/21/2016	11:56:00 AM	MP
Selenium, Total	EPA200.8	μg/L	3	2	LM	2	1	12/13/2016	3:46:00 PM	SM
Silica as SiO2, Total	EPA200.7	mg/L	33	1		0.5	0.3	12/19/2016	2:55:00 PM	MW
Sodium	EPA200.7	mg/L	66	1		0.5	0.2	12/19/2016	2:55:00 PM	MW
Specific Conductance (E.C)	SM2510B	µmhos/c	740	1		1	1	12/13/2016	3:25:00 PM	НМ
Strontium, Total	EPA200.8	μg/L	322	2		5	1	12/13/2016	3:46:00 PM	SM
Sulfate	EPA300.0	mg/L	71	1		1	0.25	12/9/2016	4:11:00 PM	НМ
TOC	SM5310C	mg/L	1.4	1		0.2	0.03	12/27/2016	1:53:00 PM	MW
Total Diss. Solids	SM2540C	mg/L	437	1		10	10	12/15/2016	10:30:00 AM	MP
Total Nitrogen	Calculation	mg/L N o	ot Detected	1		0.5	0.5	12/29/2016	5:10:00 PM	MP
Total Radium 226	EPA903.0	pCi/L 0.	100 ± 0.139	1	E			12/28/2016	8:00:00 AM	FGL
Trihalomethanes	EPA524.2	μg/L	46.2	1	E			12/16/2016	12:00:00 PM	FGL
Uranium by ICP/MS	EPA200.8	μg/L	2	2		1	0.08	12/13/2016	3:46:00 PM	SM
Vanadium, Total	EPA200.8	μg/L N o	ot Detected	2		5	0.2	12/13/2016	3:46:00 PM	SM
Zinc, Total	EPA200.8	μg/L	241	2		20	20	12/13/2016	3:46:00 PM	SM

Sample Comments: LM: MS and/or MSD above acceptance limits. IJ: ICV and/or CCV above acceptance limits.

Report Approved by:

December 29, 2016

Monterey Bay Analytical Services Lab ID : SP 1614902 4 Justin Court Customer : 2-19144

Monterey, CA 93940

Laboratory Report

Introduction: This report package contains total of 7 pages divided into 3 sections:

Case Narrative (2 pages): An overview of the work performed at FGL.

Sample Results (2 pages): Results for each sample submitted.

Quality Control (3 pages) : Supporting Quality Control (QC) results.

Case Narrative

This Case Narrative pertains to the following samples:

Sample Description	Date Sampled	Date Received	FGL Lab ID#	Matrix
ASR3	12/09/2016	12/14/2016	SP 1614902-001	W

Sampling and Receipt Information: All samples were received in acceptable condition and within temperature requirements, unless noted on the Condition Upon Receipt (CUR) form. All samples arrived on ice. All samples were prepared and analyzed within the method specified hold time. All samples were checked for pH if acid or base preservation is required (except for VOAs). For details of sample receipt information, please see the attached Chain of Custody and Condition Upon Receipt Form.

Quality Control: All samples were prepared and analyzed according to the following tables:

Organic QC

551.1	12/16/2016:218353 All analysis quality controls are within established criteria, except: The following note applies to Decafluorobiphenyl: 362 Surrogates are qualified on Control Chart Limits, these are CCV limits. See individual sample reports.
	12/15/2016:215033 All preparation quality controls are within established criteria, except:
	The following note applies to Dibromochloromethane, Bromoform:
	435 Sample matrix may be affecting this analyte. Data was accepted based on the LCS or CCV recovery.
	The following note applies to Decafluorobiphenyl:
	435 Sample matrix may be affecting this analyte. Data was accepted based on the LCS or CCV recovery.
	12/14/2016:214954 All preparation quality controls are within established criteria, except:
552	The following note applies to 2,3-Dibromopropionic Acid:
	435 Sample matrix may be affecting this analyte. Data was accepted based on the LCS or CCV recovery.

December 29, 2016 **Monterey Bay Analytical Services**

Customer : 2-19144

: SP 1614902

Lab ID

Organic QC

552.2	12/16/2016:218252 All analysis quality controls are within established criteria.
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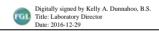
Radio QC

900.0	12/21/2016:218742 All analysis quality controls are within established criteria.
	12/20/2016:215158 All preparation quality controls are within established criteria.
903.0	12/28/2016:218762 All analysis quality controls are within established criteria.
	12/20/2016:215191 All preparation quality controls are within established criteria.

Certification:: I certify that this data package is in compliance with ELAP standards, both technically and for completeness, except for any conditions listed above. Release of the data contained in this data package is authorized by the Laboratory Director or his designee, as verified by the following electronic signature.

KD:DMB

Approved By Kelly A. Dunnahoo, B.S.





December 29, 2016 Lab ID : SP 1614902-001

Customer ID : 2-19144

Monterey Bay Analytical Services

4 Justin Court Sampled On: December 9, 2016-12:30

: Jonathan Lear Monterey, CA 93940 Sampled By

Received On: December 14, 2016-11:20

Matrix : Water

Description : ASR3 Project : MPWMD

Sample Result - Organic

Constituent	Result	PQL	Units	Note	Sample	Preparation	Sample Analysis		
Constituent	Result				Method	Date/ID	Method	Date/ID	
EPA 551.1									
Decafluorobiphenyl [‡]	88.8	80-120	%		551.1	12/15/16:215033	551.1	12/16/16:218353	
Bromodichloromethane	12.0	0.5	ug/L		551.1	12/15/16:215033	551.1	12/16/16:218353	
Bromoform	0.6	0.5	ug/L		551.1	12/15/16:215033	551.1	12/16/16:218353	
Chloroform	27.3	0.5	ug/L		551.1	12/15/16:215033	551.1	12/16/16:218353	
Dibromochloromethane	6.3	0.5	ug/L		551.1	12/15/16:215033	551.1	12/16/16:218353	
Total Trihalomethanes	46.2		ug/L		551.1	12/15/16:215033	551.1	12/16/16:218353	
EPA 552.2									
2,3-Dibromopropionic Acid [‡]	73.6	70-130	%		552	12/14/16:214954	552.2	12/16/16:218252	
Bromoacetic Acid	ND	1	ug/L		552	12/14/16:214954	552.2	12/16/16:218252	
Chloroacetic Acid	ND	2	ug/L		552	12/14/16:214954	552.2	12/16/16:218252	
Dibromoacetic Acid	ND	1	ug/L		552	12/14/16:214954	552.2	12/16/16:218252	
Dichloroacetic Acid	ND	1	ug/L		552	12/14/16:214954	552.2	12/16/16:218252	
Trichloroacetic Acid	ND	1	ug/L		552	12/14/16:214954	552.2	12/16/16:218252	
Haloacetic acids (five)	ND		ug/L		552	12/14/16:214954	552.2	12/16/16:218252	

ND=Non-Detected. PQL=Practical Quantitation Limit. ‡Surrogate. * PQL adjusted for dilution.

Analytical Chemists

December 29, 2016 Lab ID : SP 1614902-001

Customer ID : 2-19144

Monterey Bay Analytical Services

Sampled On : December 9, 2016-12:30 4 Justin Court

Sampled By : Jonathan Lear Monterey, CA 93940

Received On: December 14, 2016-11:20

: Water Matrix

Description : ASR3 **Project** : MPWMD

Sample Result - Radio

Constituent	Result ± Error	MDA	Units	MCL/AL	Sample	Preparation	Sample Analysis	
Constituent	Result ± Ellor	WIDA		WICL/AL	Method	Date/ID	Method	Date/ID
Radio Chemistry								
Gross Alpha	4.79 ± 1.87	1.60	pCi/L	15/5	900.0	12/20/16-10:19 2P1615158	900.0	12/21/16-14:00 2A1618742
Total Alpha Radium (226)	0.100 ± 0.139	0.470	pCi/L	3	903.0	12/20/16-19:00 2P1615191	903.0	12/28/16-08:00 2A1618762

ND=Non-Detected. PQL=Practical Quantitation Limit. * PQL adjusted for dilution.

MDA = Minimum Detectable Activity (Calculated at the 95% confidence level) = Data utilized by DHS to determine matrix interference. MCL / AL = Maximum Contamination Level / Action Level. Alpha's Action Level of 5 pCi/L is based on the Assigned Value (AV). AV = Assigned Value(Gross Alpha Result + (0.84 x Error)). CCR Section 64442: Drinking Water Compliance Note: Do the following If Gross Alpha's (AV) exceeds 5 pCi/L run Uranium. If Gross Alpha's (AV) minus Uranium exceeds 5 pCi/L run Radium 226.

Drinking Water Compliance:

Gross Alpha (AV) minus Uranium is less than or equal to 15 pCi/L

Uranium is less than or equal to 20 pCi/L

Radium 226 + Radium 228 is less than or equal to 5 pCi/L

Note: Samples are held for 3-6 months prior to disposal.

December 29, 2016 Lab ID : SP 1614902 **Monterey Bay Analytical Services** : 2-19144 Customer

Quality Control - Organic

Constituent	Method	Date/ID	Туре	Units	Conc.	QC Data	DQO	Note
Organic								
Bromodichloromethane	551.1	12/15/16:215033SBL	Blank	ug/L		ND	< 0.5	
Bromodemoromemane	331.1	12/13/10.2130333BL	LCS	ug/L ug/L	9.690	102 %	80-120	
			MS	ug/L ug/L	9.855	104 %	80-120	
		(SP 1614947-001)	MSD	ug/L	9.937	111 %	80-120	
		(41 141) (1 441)	MSRPD	ug/L	19.87	4.8%	≤20	
	551.1	12/16/16:218353SBL	CCV	ug/L	83.33	85.0 %	80-120	
	551.1	12/10/10/21000000	CCV	ug/L	166.7	105 %	80-120	
Bromoform	551.1	12/15/16:215033SBL	Blank	ug/L		ND	< 0.5	
	551.1	12/10/10/210000000	LCS	ug/L	9.690	103 %	80-120	
			MS	ug/L	9.855	120 %	80-120	
		(SP 1614947-001)	MSD	ug/L	9.937	130 %	80-120	435
		(81 101 15 17 001)	MSRPD	ug/L	19.87	4.2%	≤20	
	551.1	12/16/16:218353SBL	CCV	ug/L	83.33	96.1 %	80-120	
	331.1	12/10/10.2103333BL	CCV	ug/L ug/L	166.7	116 %	80-120	
Chloroform	551.1	12/15/16:215033SBL	Blank	ug/L ug/L	100.7	ND	<0.5	
Chiorotolin	331.1	12/13/10.213033 3D L	LCS	ug/L ug/L	9.690	105 %	80-120	
			MS		9.855	105 % 114 %	80-120 80-120	
		(SP 1614947-001)	MSD	ug/L	9.855 9.937	114 % 120 %	80-120 80-120	
		(SP 1014947-001)		ug/L				
	551.1	10/16/16 010050GDI	MSRPD	ug/L	19.87	4.7%	≤20	
	551.1	12/16/16:218353SBL	CCV	ug/L	83.33	80.1 %	80-120	
			CCV	ug/L	166.7	110 %	80-120	
Decafluorobiphenyl	551.1	12/15/16:215033SBL	Blank	ug/L	19.34	86.9 %	80-120	
			LCS	ug/L	19.38	86.0 %	80-120	
			MS	ug/L	19.71	120 %	80-120	
		(SP 1614947-001)	MSD	ug/L	19.87	95.6 %	80-120	
			MSRPD	ug/L	19.87	21.5%	≤20.0	435
	551.1	12/16/16:218353SBL	CCV	ug/L	166.7	235 %	80-120	362
			CCV	ug/L	333.3	97.5 %	80-120	
Dibromochloromethane	551.1	12/15/16:215033SBL	Blank	ug/L		ND	< 0.5	
			LCS	ug/L	9.690	103 %	80-120	
			MS	ug/L	9.855	112 %	80-120	
		(SP 1614947-001)	MSD	ug/L	9.937	123 %	80-120	435
			MSRPD	ug/L	19.87	5.4%	≤20	
	551.1	12/16/16:218353SBL	CCV	ug/L	83.33	91.3 %	80-120	
			CCV	ug/L	166.7	114 %	80-120	
2,3-Dibromopropionic Acid	552	12/14/16:214954SBL	Blank	ug/L	5.000	78.1 %	70-130	
, r			LCS	ug/L	5.000	130 %	70-130	
			MS	ug/L	5.000	72.5 %	70-130	
		(SP 1614727-001)	MSD	ug/L	5.000	68.2 %	70-130	435
			MSRPD	ug/L	5.000	0.21	≤1	
Dibromoacetic Acid	552	12/14/16:214954SBL	Blank	ug/L		ND	<1	
	552		LCS	ug/L	10.00	87.8 %	70-130	
			MS	ug/L ug/L	10.00	89.3 %	70-130	
		(SP 1614727-001)	MSD	ug/L ug/L	10.00	88.2 %	70-130	
		(52 1011/2/ 001)	MSRPD	ug/L ug/L	5.000	1.3%	≤20.0	
Dichloroacetic Acid	552	12/14/16:214954SBL	Blank	ug/L ug/L	2.300	ND	<1	
	332	12/17/10.217/JTSDL	LCS	ug/L ug/L	10.00	83.7 %	70-130	
			MS	ug/L ug/L	10.00	92.7 %	70-130	
		(SP 1614727-001)	MSD	ug/L ug/L	10.00	91.6 %	70-130	
		(51 101+727-001)	MSRPD	ug/L ug/L	5.000	1.2%	≤20.0	
Monobromogostic Asid	552	12/14/16:214954SBL			5.000	ND		
Monobromoacetic Acid	332	12/14/10:214934 3 BL	Blank	ug/L	10.00		<1 70.120	
			LCS MS	ug/L	10.00	87.7 %	70-130 70-130	
		(SP 1614727-001)		ug/L	10.00	88.6 %		
		(SP 1014/2/-001)	MSD	ug/L	10.00	89.4 %	70-130	
			MSRPD	ug/L	5.000	1.0%	≤20.0	

December 29, 2016 Lab ID : SP 1614902 **Monterey Bay Analytical Services** Customer : 2-19144

Quality Control - Organic

Constituent	Method	Date/ID	Туре	Units	Conc.	QC Data	DQO	Note
Organic								
Monochloroacetic Acid	552	12/14/16:214954SBL	Blank	ug/L		ND	<2	
			LCS	ug/L	10.00	80.0 %	70-130	
			MS	ug/L	10.00	101 %	70-130	
		(SP 1614727-001)	MSD	ug/L	10.00	97.9 %	70-130	
			MSRPD	ug/L	5.000	0.35	≤2	
Trichloroacetic Acid	552	12/14/16:214954SBL	Blank	ug/L		ND	<1	
			LCS	ug/L	10.00	79.2 %	70-130	
			MS	ug/L	10.00	88.0 %	70-130	
		(SP 1614727-001)	MSD	ug/L	10.00	89.0 %	70-130	
			MSRPD	ug/L	5.000	1.2%	≤20.0	
2,3-Dibromopropionic Acid	552.2	12/16/16:218252SBL	CCV	ug/L	50.00	117 %	70-130	
			CCV	ug/L	75.00	74.3 %	70-130	
Dibromoacetic Acid	552.2	12/16/16:218252SBL	CCV	ug/L	100.0	79.8 %	70-130	
			CCV	ug/L	150.0	91.7 %	70-130	
Dichloroacetic Acid	552.2	12/16/16:218252SBL	CCV	ug/L	100.0	78.0 %	70-130	
			CCV	ug/L	150.0	89.5 %	70-130	
Monobromoacetic Acid	552.2	12/16/16:218252SBL	CCV	ug/L	100.0	82.5 %	70-130	
			CCV	ug/L	150.0	89.9 %	70-130	
Monochloroacetic Acid	552.2	12/16/16:218252SBL	CCV	ug/L	100.0	81.6 %	70-130	
			CCV	ug/L	150.0	94.1 %	70-130	
Trichloroacetic Acid	552.2	12/16/16:218252SBL	CCV	ug/L	100.0	73.6 %	70-130	
			CCV	ug/L	150.0	85.5 %	70-130	i l

Definition

CCV

: Continuing Calibration Verification - Analyzed to verify the instrument calibration is within criteria.

Blank : Method Blank - Prepared to verify that the preparation process is not contributing contamination to the samples.

LCS : Laboratory Control Standard/Sample - Prepared to verify that the preparation process is not affecting analyte recovery.

: Matrix Spikes - A random sample is spiked with a known amount of analyte. The recoveries are an indication of how that sample MS

matrix affects analyte recovery.

: Matrix Spike Duplicate of MS/MSD pair - A random sample duplicate is spiked with a known amount of analyted. The recoveries MSD

are an indication of how that sample matrix affects analyte recovery.

: MS/MSD Relative Percent Difference (RPD) - The MS relative percent difference is an indication of precision for the preparation MSRPD

ND : Non-detect - Result was below the DQO listed for the analyte.

DQO : Data Quality Objective - This is the criteria against which the quality control data is compared.

Explanation

: Surrogates are qualified on Control Chart Limits, these are CCV limits. See individual sample reports. 435

: Sample matrix may be affecting this analyte. Data was accepted based on the LCS or CCV recovery.

December 29, 2016 Lab ID : SP 1614902 **Monterey Bay Analytical Services** Customer : 2-19144

Quality Control - Radio

Constituent	Method	Date/ID	Туре	Units	Conc.	QC Data	DQO	Note
Radio								
Alpha	900.0	12/21/16:218742caa	CCV CCB	cpm cpm	8511	41.0 % 0.0400	38 - 47 0.18	
Gross Alpha	900.0	12/20/16:215158RMM (SP 1614875-001)	Blank LCS MS MSD MSRPD	pCi/L pCi/L pCi/L pCi/L pCi/L	107.4 107.4 107.4 No Ref.	0.29 113 % 82.2 % 85.6 % 3.9%	3 75-125 60-140 60-140 ≤30	
Alpha	903.0	12/28/16:218762caa	CCV CCB	cpm cpm	8507	42.1 % 0.0800	39 - 47 0.19	
Total Alpha Radium (226)	903.0	12/20/16:215191emv	RgBlk LCS BS BSD BSRPD	pCi/L pCi/L pCi/L pCi/L pCi/L	21.86 21.86 21.86 21.86	0.009 61.1 % 60.0 % 50.9 % 16.3%	2 52-107 43-111 43-111 ≤35.5	
C		ation - Analyzed to verify	the instrum	nent calibration	on is within c			

Blank : Method Blank - Prepared to verify that the preparation process is not contributing contamination to the samples.

RgBlk : Method Reagent Blank - Prepared to correct for any reagent contributions to sample result.

LČS : Laboratory Control Standard/Sample - Prepared to verify that the preparation process is not affecting analyte recovery.

: Matrix Spikes - A random sample is spiked with a known amount of analyte. The recoveries are an indication of how that sample MS

matrix affects analyte recovery.

: Matrix Spike Duplicate of MS/MSD pair - A random sample duplicate is spiked with a known amount of analyted. The recoveries MSD

are an indication of how that sample matrix affects analyte recovery.

: Blank Spikes - A blank is spiked with a known amount of analyte. It is prepared to verify that the preparation process is not BS affecting analyte recovery.

: Blank Spike Duplicate of BS/BSD pair - A blank duplicate is spiked with a known amount of analyte. It is prepared to verify that

BSD

the preparation process is not affecting analyte recovery.

: MS/MSD Relative Percent Difference (RPD) - The MS relative percent difference is an indication of precision for the preparation MSRPD

and analysis.

: BS/BSD Relative Percent Difference (RPD) - The BS relative percent difference is an indication of precision for the preparation BSRPD

and analysis.

DQO : Data Quality Objective - This is the criteria against which the quality control data is compared.



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CHAIN OF CUSTODY AND ANALYSIS REQUEST DOCUMENT

Client: Monterey Bay Analytical Services Lab Number: TEST DESCRIPTION AND ANALY Customer Number: 2019144 Lab Number: TEST DESCRIPTION AND ANALY									LYS	ES R	REQU	EST	ED													
Phone: Email A Contact Project Purchas	: 4 Justin Court Monterey, CA 93940 (831)375-6227 Fax: (831 ddress: info@mbasinc.com Person: David Holland)641-0734 y	24 hour	a (C) Grab (G)	<u> [6]</u>	Type of Containers: (G)Glass (P)Plastic (V)VOA (MT)Metal Tube		g Well (GW) Ground Water ster (DW) Drinking Water) Os	V) Waste	Bact: (ROUT)Routine (RPT)Repeat (OTH)Other (RPL)Replace	e (PRD) Produce	tвОH, (3) HCi (7) Other													
Rush pi Electron	e-approval by lab (initals):			g: Composite (C)	818	(G)Glass (P)P	Non-Potable (NP)	(MW) Monttorin (WW) Waste W	o (SLD) Socia (C	(SRC) Source (A	ne (RPT)Repe	T) Peticle Tissu	3, (6) Na2S203,													
Samplin	r(s): Jonathan Lear g Fee: Pickup Fee: sitor Setup Date: Time: Location Description		Time Sampled	Method of Sempling:	Number of Containers	Type of Containers:	Poteble (P) Non	(SW) Surface Water (MW) Monttoring Well (TB) Travel Blank (WW) Waste Water	(S) Soil (SLG) Sludge (SLD) Sood (O) Od	BacT. (Sys) System (SRC) Source (W) Waste	BacT: (ROUT)Routh	(LT) Leaf Tissue (PET) Peticle Tissue (PRD) Produce	Preservative: (1) NaOH + ZnAc, (2) NaOH, (3) HCI (4) H2SO4, (5) HNO3, (6) Na2S2O3, (7) Other	НАА	THMS	Ra 226	Gross Alpha									
1.	ASR3	12/9/16	12:30	G	7	P/V				<u> </u>		-		x	×	x	×									
																							<u> </u>			
					<u> </u>						ļ				-	<u> </u>					ļ			<u> </u>	 	
					-	<u> </u>		_				<u> </u>	<u> </u>	<u> </u>	-	<u> </u>	-			<u> </u>	<u> </u>		<u> </u>			
Remark	8		<u> </u>	D-15		<u> </u>	<u> </u>	Date:		ime:	<u> </u>	Relingu	ished			Date:	<u> </u>	ime:	<u></u>	Reling	nished	<u> </u>	<u> </u>	Date:	Time:	
AB58				Keinq	uished	Hel	الر) 12/			ال	C		2			,	ul:2	O	.vemiq	usila					
				Recei	ved By:		D	Date:	Т	ime:	1	Receive	d By:	D	I	ate:	1	Γime: V ∫		Receiv	vedi By:			Date:	Time:	

Corporate Offices & Laboratory 853 Corporation Street Santa Paula, CA 93060 TEL: (805)392-2000 Env FAX: (805)525-4172 / Ag FAX: (805)392-2063 CA ELAP Certification No.1573 Office & Laboratory 2500 Stagecoach Road Stockton, CA 95215 TEL: (209)942-0182 FAX: (209)942-0423 CA ELAP Certification No. 1563 Office & Laboratory 563 E. Lindo Avenue Chico, CA 95926 TEL: (530)343-5818 FAX: (530)343-3807 CA ELAP Certification No. 2670 Office & Laboratory
3442 Empresa Drive, Suite D
San Luis Obispo, CA 93401
TEL: (805)783-2940
FAX: (805)783-2912
CA ELAP Certification No. 2775

Office & Laboratory 9415 W. Goshen Avenue Visalia, CA 93291 TEL: (559)734-9473 FAX: (559)734-8435 CA ELAP Certification No. 2810 FGL Environmental Doc ID: 2D0900157_SOP_17.DOC

Revision Date: 10/09/14 Page: 1 of 1

Condition Upon Receipt (Attach to COC)

Sample Receipt at SP:								
1. Number of ice chests/packages received:	1							
2. Shipper tracking numbers —————								
3. Were samples received in a chilled condition? Temps:	ROI	/	/	/	/		/	_/
4. Surface water (SWTR) bact samples: A sample the should be flagged unless the time since sample co		•			•	C, whe	ther iced	or not,
5. Do the number of bottles received agree with the COC?	Yes	No	N/A					
6. Verify sample date, time, sampler	Yes	No	N/A					
7. Were the samples received intact? (i.e. no broken bottles, leaks, etc.)	Yes	No						
8. Were sample custody seals intact?	Yes	No	N/A					
Sample Verification, Labeling and Distribution:								
Were all requested analyses understood and acceptable?	Yes	No						
2. Did bottle labels correspond with the client's ID's?	Yes	No						
3. Were all bottles requiring sample preservation properly preserved? [Exception: Oil & Grease, VOA and CrVI verified in lab]	Yes	No	N/A	_ FG	L			
4. VOAs checked for Headspace?	Yes	No	N/A					
5. Were all analyses within holding times at time of receipt?	Yes	No						
6. Have rush or project due dates been checked and accepted?	Yes	No	N/A					
Include a copy of the COC for lab delivery. (Bacti. Inc	organics a	and Ra	dio)					
Sample Receipt, Login and Verification completed by	y:		wed and oved By _	Milli A	. Delgadil	lo 📵	Digitally signed Title: Sample Re Date: 12/15/201	
Discrepency Documentation:								
Any items above which are "No" or do not meet spec	ifications	(i.e. te	mps) m	nust be	resolved.			
Person Contacted:	Pł	none N	umber:				-	
Initiated By:	Da	ate:					-	
Problem:								
Resolution:								
2. Person Contacted:	Pł	none N	umber:				_	
Initiated By:	ъ.	ate:					_	
Problem:								
Resolution:					(20	01914	4)	

(2019144)
Monterey Bay Analytical Services
SP 1614902



McCampbell Analytical, Inc.

"When Quality Counts"

Analytical Report

WorkOrder: 1612689

Report Created for: Monterey Bay Analytical

4 Justin Court, Suite D Monterey, CA 93940

Project Contact:

David Holland

Project P.O.:

Project Name: MPWMD

Project Received: 12/14/2016

Analytical Report reviewed & approved for release on 12/22/2016 by:

Angela Rydelius,

Laboratory Manager

The report shall not be reproduced except in full, without the written approval of the laboratory. The analytical results relate only to the items tested. Results reported conform to the most current NELAP standards, where applicable, unless otherwise stated in the case narrative.



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CA ELAP 1644 ♦ NELAP 4033ORELAP

Glossary of Terms & Qualifier Definitions

Client: Monterey Bay Analytical

Project: MPWMD **WorkOrder:** 1612689

Glossary Abbreviation

%D Serial Dilution Percent Difference

95% Interval 95% Confident Interval

DF Dilution Factor

DI WET (DISTLC) Waste Extraction Test using DI water

DISS Dissolved (direct analysis of 0.45 µm filtered and acidified water sample)

DLT Dilution Test (Serial Dilution)

DUP Duplicate

EDL Estimated Detection Limit

ITEF International Toxicity Equivalence Factor

LCS Laboratory Control Sample

MB Method Blank

MB % Rec % Recovery of Surrogate in Method Blank, if applicable

MDL Method Detection Limit

ML Minimum Level of Quantitation

MS Matrix Spike

MSD Matrix Spike Duplicate

N/A Not Applicable

ND Not detected at or above the indicated MDL or RL

NR Data Not Reported due to matrix interference or insufficient sample amount.

PDS Post Digestion Spike

PDSD Post Digestion Spike Duplicate

PF Prep Factor

RD Relative Difference

RL Reporting Limit (The RL is the lowest calibration standard in a multipoint calibration.)

RPD Relative Percent Deviation
RRT Relative Retention Time

SPK Val Spike Value

SPKRef Val Spike Reference Value

SPLP Synthetic Precipitation Leachate Procedure

ST Sorbent Tube

TCLP Toxicity Characteristic Leachate Procedure

TEQ Toxicity Equivalents

WET (STLC) Waste Extraction Test (Soluble Threshold Limit Concentration)

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Analytical Report

Client: Monterey Bay Analytical

 Date Received:
 12/14/16 10:32

 Date Prepared:
 12/22/16

 Project:
 MPWMD

WorkOrder: 1612689

Extraction Method: RSK175 **Analytical Method:** RSK175

Unit: $\mu g/L$

Dissolved Gases by RSK 175

Client ID	Lab ID	Matrix	Date Co	ollected Instrument	Batch ID
AB58462	1612689-001A	Water	12/09/20	16 12:30 GC26	131730
Analytes	Result		<u>RL</u>	<u>DF</u>	Date Analyzed
Methane	0.31		0.10	1	12/22/2016 10:54

Analyst(s): AK

Angela Rydelius, Lab Manager

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Quality Control Report

Client: Monterey Bay Analytical **Date Prepared:** 12/21/16 - 12/22/16 **Date Analyzed:** 12/21/16 - 12/22/16

Water **Project: MPWMD**

Instrument: GC26 **Matrix:**

WorkOrder: 1612689 **BatchID:** 131730 **Extraction Method: RSK175**

Analytical Method: RSK175 Unit:

Sample ID: MB/LCS-131730

	QC Sumn	nary Report for R	SK175				
Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Methane	ND	1.26	0.10	1.17	-	108	70-130

McCampbell Analytical, Inc.

FAX: 831-641-0734

□ WaterTray

□ WriteOn

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831-375-6227

CHAIN-OF-CUSTODY RECORD

Fmail

☐ HardConv

Page 1 of 1

□ I-flan

☐ ThirdParty

WorkOrder: 1612689 ClientCode: MBAS

□ FOulS

	Vatoritax	William		LXCCI		V Linaii	Пагасору	rrilliar arty	
Report to:				Е	Bill to:		Reques	sted TAT:	5 days;
David Holland	Email: mv	weidner@mbas	sinc.com; Dholland	l@mbas	Accounts Paya	ble			-
Monterey Bay Analytical	cc/3rd Party:				Monterey Bay A	Analytical			
4 Justin Court, Suite D	PO:				4 Justin Court,	Suite D	Date 1	Received:	12/14/2016
Monterey, CA 93940	ProjectNo: MF	PWMD			Monterey, CA 9	3940	Date 1	Logged:	12/14/2016

Fycel

				Requested Tests (See legend below)											
Lab ID	Client ID	Matrix	Collection Date Hold	1	2	3	4	5	6	7	8	9	10	11	12
1612689-001	AB58462	Water	12/9/2016 12:30	Α											

Test Legend:

1 RSK175_W	2	3	4
5	6	7	8
9	10	11	12

Prepared by: Agustina Venegas

Comments:

NOTE: Soil samples are discarded 60 days after results are reported unless other arrangements are made (Water samples are 30 days).

Hazardous samples will be returned to client or disposed of at client expense.



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WORK ORDER SUMMARY

Client Name	: MONTER	EY BAY ANALYTI	CAL		Project:	MPWMD	1			Wor	k Order:	1612689	
Client Conta	act: David Hol	lland								Q	C Level:	LEVEL 2	
Contact's Er		@mbasinc.com; Dholocglobal.net; info@m	~	c.com;	Comments	:				Date	Logged:	12/14/2016	
		WaterTrax	WriteOn	EDF	Exce	el	Fax	HardC	opyThirdPart	у 🗀	J-flag		
Lab ID	Client ID	Matrix	Test Name			ontainers omposites	Bottle & Preservative	e De- chlorinated	Collection Date & Time	TAT	Sediment Content	Hold Sub()ut
1612689-001A	AB58462	Water	RSK175 <n< th=""><th>fethane_4></th><th></th><th>3</th><th>VOA w/ HCl</th><th></th><th>12/9/2016 12:30</th><th>5 days</th><th>None</th><th></th><th></th></n<>	fethane_4>		3	VOA w/ HCl		12/9/2016 12:30	5 days	None		

NOTES: - STLC and TCLP extractions require 2 days to complete; therefore, all TATs begin after the extraction is completed (i.e., One-day TAT yields results in 3 days from sample submission).

- MAI assumes that all material present in the provided sampling container is considered part of the sample - MAI does not exclude any material from the sample prior to sample preparation unless requested in writing by the client.

McCAMPBELL ANALYTICAL, INC. CHAIN OF CUSTODY RECORD 1534 WILLOW PASS ROAD M TURN AROUND TIME PITTSBURG, CA 94565-1701 RUSH 24 HR 48 HR 72 HR 5 DAY Website: www.mccampbell.com Email: main@mccampbell.com □ PDF □ Excel ☐ Write On (DW) ☐ GeoTracker EDF Telephone: (877) 252-9262 Fax: (925) 252-9269 Other Comments Report To: David Holland Bill To: **Analysis Request** Company: Monterey Bay Analytical Services EPA 608 / 8082 PCB's ONLY; Aroclors / Congeners Total Petroleum Oil & Grease (1664 / 5520 E/B&F) 4 Justin Ct. Suite D Filter 8015) Monterey, Ca 93940 Samples E-Mail: info@mbasinc.com CAM 17 Metals (200.7 / 200.8 / 6010 / 6020) for Metals LUFT 5 Metals (200.7 / 200.8 / 6010 / 6020) Tele: (831) 375 - 6227 Fax: (831) 641-0734 Gas (602 / 8021 MTBE / BTEX ONLY (EPA 602 / 8021) analysis: Total Petroleum Hydrocarbons (418.1) EPA 502.2 / 601 / 8010 / 8021 (HVOCs) EPA 515 / 8151 (Acidic Cl Herbicides) Project #: Project Name: MPWMD EPA 8270 SIM / 8310 (PAHs / PNAs) Yes / No EPA 505/ 608 / 8081 (CI Pesticides) **Project Location:** TPH as Diesel / Motor Oil (8015) Lead (200.7 / 200.8 / 6010 / 6020) EPA 525.2 / 625 / 8270 (SVOCs) EPA 507 / 8141 (NP Pesticides) EPA 524.2 / 624 / 8260 (VOCs) Sampler Signature: Jonathan Lear METHOD SAMPLING MATRIX PRESERVED Type Containers SAMPLE ID LOCATION/ Field Point Name Sludge Methane Date Time Water HNO3 Other Other HCL ICE Soil Air X ASR3 12/9/16 12:30 XX AB58462 COMMENTS: ICE/t° + D Relinquished By: Time: Received By: Date: BLUEICE GOOD CONDITION David Holland 1600 HEAD SPACE ABSENT Relinquished By: Received By: Date: Time: DECHLORINATED IN LAB APPROPRIATE CONTAINERS PRESERVED IN LAB Received By: Relinquished By: Time: Date:/ VOAS O&G METALS OTHER PRESERVATION pH<2

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Sample Receipt Checklist

Client Name:	Monterey Bay Analytical			Date and Time Received	12/14/2016 10:32
Project Name:	MPWMD			Date Logged:	12/14/2016
Wasta Ondan Na	4040000 Matrice Water			Received by:	Agustina Venegas
WorkOrder №: Carrier:	1612689 Matrix: <u>Water</u> Golden State Overnight			Logged by:	Agustina Venegas
Gamer.	Goldon Otato Ovornight				
	Chain of C	Custod	y (COC) Infor	<u>mation</u>	
Chain of custody	present?	Yes	✓	No 🗌	
Chain of custody	signed when relinquished and received?	Yes	✓	No 🗌	
Chain of custody	agrees with sample labels?	Yes	✓	No 🗌	
Sample IDs note	d by Client on COC?	Yes	✓	No 🗌	
Date and Time o	f collection noted by Client on COC?	Yes	✓	No 🗌	
Sampler's name	noted on COC?	Yes	✓	No 🗆	
	<u>Samp</u>	le Rece	eipt Informati	<u>on</u>	
Custody seals int	tact on shipping container/cooler?	Yes	✓	No 🗌	NA 🗌
Shipping contain	er/cooler in good condition?	Yes	✓	No 🗌	
Samples in prope	er containers/bottles?	Yes	✓	No 🗌	
Sample containe	rs intact?	Yes	✓	No 🗌	
Sufficient sample	e volume for indicated test?	Yes	✓	No 🗆	
	Sample Preservati	on and	Hold Time (I	HT) Information	
All samples recei	ived within holding time?	Yes	✓	No 🗌	NA 🗌
Sample/Temp Bl	ank temperature		Temp: 7.8	3°C	NA 🗌
Water - VOA vial	s have zero headspace / no bubbles?	Yes		No 🗆	NA 🗹
Sample labels ch	necked for correct preservation?	Yes	✓	No 🗌	
pH acceptable up	oon receipt (Metal: <2; 522: <4; 218.7: >8)?	Yes		No 🗌	NA 🗹
Samples Receive	ed on Ice?	Yes	✓	No 🗆	
	(Ісе Тур	e: BLI	JE ICE)		
UCMR3 Samples Total Chlorine	<u>s:</u> tested and acceptable upon receipt for EPA 522?	Yes		No 🗆	NA 🗹
Free Chlorine t 300.1, 537, 539	tested and acceptable upon receipt for EPA 218.7, 9?	Yes		No 🗆	NA 🗹
Comments:					



MPWMD Jonanthan Lear P.O. Box 85 Monterey, CA 93442-0085

4 Justin Court Suite D, Monterey, CA 93940 831.375.MBAS www.MBASinc.com

ELAP Certification Number: 2385

Page 1 of 1

Wednesday, February 08, 2017

Lab Number: AB60221

Collection Date/Time: 1/17/2017 9:45 Sample Collector: LINDBERG T Client Sample #:
Submittal Date/Time: 1/17/2017 16:25 Sample ID Coliform Designation:

	Sample Description: ASR-2 Injectate											
Analyte	Method	Unit	Result	Qual	PQL	MCL	Date Analyzed	Analyst:				
Chloramines	SM4500-CI G	mg/L	0.06		0.05		1/17/2017	LRH				
Haloacetic Acids	EPA552	μg/L	9	Е		60	1/26/2017	FGL				
Trihalomethanes	EPA524.2	μg/L	23.1	E		80	1/23/2017	FGL				

Sample Comments:

Report Approved by:

David Holland, Laboratory Director

February 8, 2017

Lab ID : SP 1700853 **Monterey Bay Analytical Services** 4 Justin Court Customer : 2-19144

Monterey, CA 93940

Laboratory Report

Introduction: This report package contains total of 5 pages divided into 3 sections:

Case Narrative (2 pages): An overview of the work performed at FGL.

Sample Results (1 page): Results for each sample submitted.

Quality Control (2 pages) : Supporting Quality Control (QC) results.

Case Narrative

This Case Narrative pertains to the following samples:

Sample Description	Date Sampled	Date Received	FGL Lab ID#	Matrix
ASR-2 Injectate	01/17/2017	01/20/2017	SP 1700853-001	W

Sampling and Receipt Information: All samples were received in acceptable condition and within temperature requirements, unless noted on the Condition Upon Receipt (CUR) form. All samples arrived at 3 °C. All samples were prepared and analyzed within the method specified hold time. All samples were checked for pH if acid or base preservation is required (except for VOAs). For details of sample receipt information, please see the attached Chain of Custody and Condition Upon Receipt Form.

Quality Control: All samples were prepared and analyzed according to the following tables:

Organic QC

551.1	01/23/2017:201156 All analysis quality controls are within established criteria.
	01/22/2017:200854 All preparation quality controls are within established criteria, except: The following note applies to Chloroform: 435 Sample matrix may be affecting this analyte. Data was accepted based on the LCS or CCV recovery.
552	01/24/2017:200967 All preparation quality controls are within established criteria.
552.2	01/26/2017:201247 All analysis quality controls are within established criteria.
	01/26/2017:201633 All analysis quality controls are within established criteria.

February 8, 2017 Lab ID : SP 1700853 **Monterey Bay Analytical Services** Customer : 2-19144

Certification:: I certify that this data package is in compliance with ELAP standards, both technically and for completeness, except for any conditions listed above. Release of the data contained in this data package is authorized by the Laboratory Director or his designee, as verified by the following electronic signature.

KD:DMB

Approved By Kelly A. Dunnahoo, B.S.



February 8, 2017 Lab ID : SP 1700853-001

Customer ID : 2-19144

Monterey Bay Analytical Services

4 Justin Court Sampled On : January 17, 2017-09:45

: T. Lindberg Sampled By

Received On : January 20, 2017-10:43

Matrix : Water

Description : ASR-2 Injectate

Project : MPWMD

Monterey, CA 93940

Sample Result - Organic

Constituent	Result	PQL	Units	Note	Sample	Preparation	Samp	le Analysis
Constituent	Result	1 QL	Omts	11010	Method	Date/ID	Method	Date/ID
EPA 551.1								
Decafluorobiphenyl [‡]	103	80-120	%		551.1	01/22/17:200854	551.1	01/23/17:201156
Bromodichloromethane	8.0	0.5	ug/L		551.1	01/22/17:200854	551.1	01/23/17:201156
Bromoform	1.0	0.5	ug/L		551.1	01/22/17:200854	551.1	01/23/17:201156
Chloroform	7.2	0.5	ug/L		551.1	01/22/17:200854	551.1	01/23/17:201156
Dibromochloromethane	6.9	0.5	ug/L		551.1	01/22/17:200854	551.1	01/23/17:201156
Total Trihalomethanes	23.1		ug/L		551.1	01/22/17:200854	551.1	01/23/17:201156
EPA 552.2								
2,3-Dibromopropionic Acid [‡]	101	70-130	%		552	01/24/17:200967	552.2	01/26/17:201633
Bromoacetic Acid	ND	1	ug/L		552	01/24/17:200967	552.2	01/26/17:201247
Chloroacetic Acid	ND	2	ug/L		552	01/24/17:200967	552.2	01/26/17:201247
Dibromoacetic Acid	2	1	ug/L		552	01/24/17:200967	552.2	01/26/17:201633
Dichloroacetic Acid	4	1	ug/L		552	01/24/17:200967	552.2	01/26/17:201247
Trichloroacetic Acid	3	1	ug/L		552	01/24/17:200967	552.2	01/26/17:201247
Haloacetic acids (five)	9		ug/L		552	01/24/17:200967	552.2	01/26/17:201247

ND=Non-Detected. PQL=Practical Quantitation Limit. ‡Surrogate. * PQL adjusted for dilution.

February 8, 2017 Lab ID : SP 1700853 **Monterey Bay Analytical Services** : 2-19144 Customer

Quality Control - Organic

Constituent	Method	Date/ID	Type	Units	Conc.	QC Data	DQO	Note
Organic								
Bromodichloromethane	551.1	01/22/17:200854SBL	Blank	ug/L		ND	< 0.5	
			LCS	ug/L	10.01	108 %	80-120	
			MS	ug/L	10.00	97.3 %	80-120	
		(SP 1700853-001)	MSD	ug/L	9.881	109 %	80-120	
			MSRPD	ug/L	19.76	5.8%	≤20	
	551.1	01/23/17:201156SBL	CCV	ug/L	83.33	107 %	80-120	
			CCV	ug/L	166.7	105 %	80-120	
Bromoform	551.1	01/22/17:200854SBL	Blank	ug/L	10.01	ND	<0.5	
			LCS	ug/L	10.01	119 %	80-120	
		(SP 1700853-001)	MS MSD	ug/L ug/L	10.00 9.881	111 % 117 %	80-120 80-120	
		(SF 1700655-001)	MSRPD	ug/L ug/L	19.76	3.6%	≤20	
	551.1	01/23/17:201156SBL	CCV	ug/L ug/L	83.33	118 %	80-120	
	331.1	01/23/17.2011303BL	CCV	ug/L ug/L	166.7	117 %	80-120	
Chloroform	551.1	01/22/17:200854SBL	Blank	ug/L		ND	<0.5	
	331.1		LCS	ug/L	10.01	116 %	80-120	
	1		MS	ug/L	10.00	110 %	80-120	
		(SP 1700853-001)	MSD	ug/L	9.881	126 %	80-120	435
			MSRPD	ug/L	19.76	7.7%	≤20	
	551.1	01/23/17:201156SBL	CCV	ug/L	83.33	115 %	80-120	
			CCV	ug/L	166.7	111 %	80-120	
Decafluorobiphenyl	551.1	01/22/17:200854SBL	Blank	ug/L	19.14	118 %	80-120	
			LCS	ug/L	20.01	118 %	80-120	
			MS	ug/L	20.00	119 %	80-120	
		(SP 1700853-001)	MSD	ug/L	19.76	119 %	80-120	
			MSRPD	ug/L	19.76	1.3%	≤20.0	
	551.1	01/23/17:201156SBL	CCV	ug/L	166.7	118 %	80-120	
			CCV	ug/L	333.3	91.2 %	80-120	
Dibromochloromethane	551.1	01/22/17:200854SBL	Blank	ug/L	40.04	ND	< 0.5	
			LCS	ug/L	10.01	117 %	80-120	
		(SP 1700853-001)	MS MSD	ug/L	10.00 9.881	107 % 117 %	80-120 80-120	
		(SP 1700833-001)	MSRPD	ug/L ug/L	19.76	4.8%	≤20	
	551.1	01/23/17:201156SBL	CCV	ug/L ug/L	83.33	116 %	80-120	
	331.1	01/23/17.2011303BL	CCV	ug/L ug/L	166.7	114 %	80-120	
2,3-Dibromopropionic Acid	552	01/24/17:200967SBL	Blank	ug/L ug/L	5.000	116 %	70-130	
2,5 Dioromopropionie Acid	332	01/27/17.2007073BL	LCS	ug/L ug/L	5.000	122 %	70-130	
			MS	ug/L	5.000	119 %	70-130	
		(SP 1700970-001)	MSD	ug/L	5.000	118 %	70-130	
	1		MSRPD	ug/L	5.000	0.8%	≤20.0	
Dibromoacetic Acid	552	01/24/17:200967SBL	Blank	ug/L		ND	<1	
			LCS	ug/L	10.00	74.4 %	70-130	
	1		MS	ug/L	10.00	94.0 %	70-130	
	1	(SP 1700970-001)	MSD	ug/L	10.00	108 %	70-130	
			MSRPD	ug/L	5.000	13.7%	≤20.0	
Dichloroacetic Acid	552	01/24/17:200967SBL	Blank	ug/L		ND	<1	
	1		LCS	ug/L	10.00	76.6 %	70-130	
	1	(CD 1700070 001)	MS	ug/L	10.00	84.9 %	70-130	
	1	(SP 1700970-001)	MSD MSRPD	ug/L	10.00 5.000	93.9 %	70-130	
Monohumogosti - A -: -1	550	01/24/17,2000/78BI		ug/L	3.000	10.1%	≤20.0	
Monobromoacetic Acid	552	01/24/17:200967SBL	Blank LCS	ug/L	10.00	ND 78.7 %	<1 70-130	
	1		MS	ug/L ug/L	10.00	78.7 % 90.7 %	70-130	
	1	(SP 1700970-001)	MSD	ug/L ug/L	10.00	90.7 % 95.5 %	70-130	
	1	(51 1700970-001)	MSRPD	ug/L ug/L	5.000	4.9%	≤20.0	
		<u> </u>	TIDIO D	ug/L	5.000	7.7/0	_:20.0	

February 8, 2017 Lab ID : SP 1700853 **Monterey Bay Analytical Services** Customer : 2-19144

Quality Control - Organic

Constituent	Method	Date/ID	Type	Units	Conc.	QC Data	DQO	Note
Organic								
Monochloroacetic Acid	552	01/24/17:200967SBL	Blank	ug/L		ND	<2	
			LCS	ug/L	10.00	78.0 %	70-130	
			MS	ug/L	10.00	95.2 %	70-130	
		(SP 1700970-001)	MSD	ug/L	10.00	99.9 %	70-130	
			MSRPD	ug/L	5.000	0.47	≤2	
Trichloroacetic Acid	552	01/24/17:200967SBL	Blank	ug/L		ND	<1	
			LCS	ug/L	10.00	80.2 %	70-130	
			MS	ug/L	10.00	84.3 %	70-130	
		(SP 1700970-001)	MSD	ug/L	10.00	97.6 %	70-130	
			MSRPD	ug/L	5.000	14.6%	≤20.0	
2,3-Dibromopropionic Acid	552.2	01/26/17:201633SBL	CCV	ug/L	75.00	94.3 %	70-130	
			CCV	ug/L	50.00	94.8 %	70-130	
Dibromoacetic Acid	552.2	01/26/17:201633SBL	CCV	ug/L	150.0	96.5 %	70-130	
			CCV	ug/L	100.0	101 %	70-130	
Dichloroacetic Acid	552.2	01/26/17:201247SBL	CCV	ug/L	150.0	85.2 %	70-130	
			CCV	ug/L	100.0	85.5 %	70-130	
Monobromoacetic Acid	552.2	01/26/17:201247SBL	CCV	ug/L	150.0	84.5 %	70-130	
			CCV	ug/L	100.0	83.4 %	70-130	
Monochloroacetic Acid	552.2	01/26/17:201247SBL	CCV	ug/L	150.0	90.2 %	70-130	
			CCV	ug/L	100.0	80.4 %	70-130	
Trichloroacetic Acid	552.2	01/26/17:201247SBL	CCV	ug/L	150.0	90.5 %	70-130	
			CCV	ug/L	100.0	96.0 %	70-130	

Definition

CCV : Continuing Calibration Verification - Analyzed to verify the instrument calibration is within criteria.

Blank : Method Blank - Prepared to verify that the preparation process is not contributing contamination to the samples.

LCS : Laboratory Control Standard/Sample - Prepared to verify that the preparation process is not affecting analyte recovery.

: Matrix Spikes - A random sample is spiked with a known amount of analyte. The recoveries are an indication of how that sample MS

matrix affects analyte recovery.

: Matrix Spike Duplicate of MS/MSD pair - A random sample duplicate is spiked with a known amount of analyted. The recoveries MSD

are an indication of how that sample matrix affects analyte recovery.

: MS/MSD Relative Percent Difference (RPD) - The MS relative percent difference is an indication of precision for the preparation MSRPD

ND : Non-detect - Result was below the DQO listed for the analyte.

DQO : Data Quality Objective - This is the criteria against which the quality control data is compared.

Explanation

: Sample matrix may be affecting this analyte. Data was accepted based on the LCS or CCV recovery



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CHAIN OF CUSTODY AND ANALYSIS REQUEST DOCUMENT

	Monterey Bay Analytical er Number: 2019144 4 Justin Court	Services		Ľ		umber	گ					TES	ST D	ESCI	RIPT	ON A	AND.	ANA	LYS	ES F	REQU	JEST	ED				
Address	Monterey, CA 93940																										
Quote N Rush Ar Rush pr Electron Sample	ddress: info@mbasinc.com Person: David Holland Name: MPWMD te Order Number:	_	24 hour Time Sampled	Method of Sampling: Composite (C) Grab (G)	Number of Containers	Type of Containers: (G)Glass (P)Plastic (V)VOA (MT)Metal Tube	Potable (P) Non-Potable (NP) Ag Water (AgW)	(SW) Surface Water (MW) Monttoring Well (GW) Ground Water (TB) Travel Blank (WW) Waste Weter (DW) Drinking Water	(S) Soil (81.G) Studge (81.D) Sood (O) Os	BecT. (Sys) System (SRC) Source (W) Waste	Bac'l. (ROUT)Routine (RPT)Repeat (OTH)Other (RPL)Replace	(LT) Leaf Tissue (PET) Peticle Tissue (PRD) Produce	Preservative: (1) NaOH + ZnAc. (2) NaOH, (3) HCi (4) H2SOA, (5) HNO3, (6) Na2S2O3, (7) Other	НАА	тнмѕ												
1.	ASR-2 Injectate	1/17/17	09:45	G	5	G/V								x	х												
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3	J			Receiv	red By:		D	ate:	_	me:		icceive	alpsy:	We We) \ \	ate:) Ti	<u> </u> Q	بل	Receiv	ed By:			Date:		Time:	

Corporate Offices & Laboratory 853 Corporation Street Santa Paula, CA 93060 TEL: (805)392-2000

Env FAX: (805)525-4172 / Ag FAX: (805)392-2063 CA ELAP Certification No.1573 Office & Laboratory 2500 Stagecoach Road Stockton, CA 95215 TEL: (209)942-0182 FAX: (209)942-0423 CA ELAP Certification No. 1563 Office & Laboratory, 563 E. Lindo Avenue Chico, CA 95926 TEL: (530)343-5818 FAX: (530)343-3807 CA ELAP Certification No. 2670

Office & Laboratory 3442 Empresa Drive, Suite D San Luis Obispo, CA 93401 TEL: (805)783-2940 FAX: (805)783-2912 CA ELAP Certification No. 2775 Office & Laboratory 9415 W. Goshen Avenue Visalia, CA 93291 TEL: (559)734-9473 FAX: (559)734-9435 CA ELAP Certification No. 2810 FGL Environmental Doc ID: 2D0900157_SOP_17.DOC

Revision Date: 10/09/14 Page: 1 of 1

Condition Upon Receipt (Attach to COC)

Sample Receipt at SP:								
1. Number of ice chests/packages	received:	1						
2. Shipper tracking numbers	534742563							
3. Were samples received in a chill Temps:	ed condition?	3	/	/	/	/	/	/
4. Surface water (SWTR) bact sam should be flagged unless the tim							vhether ic	ed or not,
5. Do the number of bottles receive COC?	ed agree with the	Yes	No	N/A				
6. Verify sample date, time, sample	er	Yes	No	N/A				
7. Were the samples received intact bottles, leaks, etc.)	ct? (i.e. no broken	Yes	No					
8. Were sample custody seals intac	ct?	Yes	No	N/A				
Sample Verification, Labeling an	d Distribution:							
1. Were all requested analyses und acceptable?	derstood and	Yes] No					
2. Did bottle labels correspond with	the client's ID's?	Yes	No					
3. Were all bottles requiring sample properly preserved? [Exception: Oil & Grease, VOA a		Yes	No	N/A	FGL			
4. VOAs checked for Headspace?		Yes	No	N/A				
5. Were all analyses within holding receipt?	times at time of	Yes	No					
6. Have rush or project due dates b accepted?	een checked and	Yes .	No	N/A				
Include a copy of the COC for lab of	lelivery. (Bacti. In	organics a	and Ra	idio)				
Sample Receipt, Login and Verifica	ation completed b	y:		Reviewe Approv		awn Pecl	Title: S	ly signed by Shawn Peck Sample Receiving 01/20/2017-16:26:20
Discrepency Documentation: Any items above which are "No" or	do not meet spec	cifications	(i.e. te	emps) mu	st be reso	lved.		
Person Contacted:	·	Pł	none N	umber:				
Initiated By:		Da	ate:	_				
Problem:								
Resolution:								
2. Person Contacted:		Pł	none N	umber:				
Initiate d D		ъ.	ate:	_				
Problem:								
Resolution:						(2019	144)	
				Мо	nterey	•	•	I Services

SP 1700853



MPWMD Jonanthan Lear P.O. Box 85 Monterey, CA 93442-0085

4 Justin Court Suite D, Monterey, CA 93940 831.375.MBAS www.MBASinc.com

ELAP Certification Number: 2385

Wednesday, February 08, 2017

Page 1 of 2

Lab Number:

AB60297

Collection Date/Time: 1/18/2017 10:30 Sample Collector: LINDBERG, T Client Sample #:
Submittal Date/Time: 1/18/2017 14:15 Sample ID Coliform Designation:

Analyte	Method	Unit	Description: SMS (D) Result Qual	PQL	MCL	Date Analyzed	Analyst:
					IVICL		
Alkalinity, Total (as CaCO3)	SM2320B	mg/L	145	10	1000	1/20/2017	BS SM
Aluminum, Total	EPA200.8	μg/L	Not Detected	10	1000	1/31/2017	
Ammonia-N	SM4500NH3 D	mg/L	Not Detected	0.05	40	1/31/2017	MW
Arsenic, Total	EPA200.8	μg/L	1 SS	1	10	1/31/2017	SM
Barium, Total	EPA200.8	μg/L	45	10	1000	1/31/2017	SM
Bicarbonate (as HCO3-)	SM2320B	mg/L	177	10		1/20/2017	LRH
Boron	EPA200.7	mg/L	Not Detected	0.05		1/19/2017	MW
Bromide	EPA300.0	mg/L	Not Detected	0.1		1/19/2017	MW
Calcium	EPA200.7	mg/L	51	0.5		1/19/2017	MW
Carbonate as CaCO3	SM2320B	mg/L	Not Detected	10		1/20/2017	LRH
Chloramines	SM4500-CI G	mg/L	0.19	0.05		1/18/2017	LRH
Chloride	EPA300.0	mg/L	31	1	250	1/19/2017	MW
DOC	SM5310C	mg/L	1.6	0.2		2/2/2017	MW
Fluoride	EPA300.0	mg/L	0.3	0.1	2.0	1/19/2017	MW
Gross Alpha	EPA900.0	pCi/L	2.84 ± 1.45 E		15	1/27/2017	FGL
Haloacetic Acids	EPA552	μg/L	16 E		60	1/26/2017	FGL
Iron	EPA200.7	μg/L	Not Detected	10	300	1/19/2017	MW
Iron, Dissolved	EPA200.7	μg/L	Not Detected	10	300	1/19/2017	MW
Kjehldahl Nitrogen	SM4500-NH3 B,	mg/L	Not Detected	0.5		2/2/2017	BS
Lithium	EPA200.8	μg/L	6	1		1/31/2017	SM
Magnesium	EPA200.7	mg/L	13	0.5		1/19/2017	MW
Manganese, Dissolved	EPA200.7	μg/L	Not Detected	10	50	1/19/2017	MW
Manganese, Total	EPA200.7	μg/L	Not Detected	10	50	1/19/2017	MW
Mercury, Total	EPA200.8	μg/L	Not Detected	0.5	2	1/31/2017	SM
Methane	EPA174/175	μg/L	0.60 E	0.1		1/25/2017	MCCAM
Molybdenum, Total	EPA200.8	μg/L	3	1	1000	1/31/2017	SM
Nickel, Total	EPA200.8	μg/L	Not Detected	10	100	1/31/2017	SM
Nitrate as NO3	EPA300.0	mg/L	Not Detected	1	45	1/19/2017	MW
Nitrate as NO3-N	EPA300.0	mg/L	Not Detected	0.1	10	1/19/2017	MW
Nitrate+Nitrite as N	EPA300.0	mg/L	Not Detected	0.1		1/19/2017	MW
Nitrite as NO2-N	EPA300.0	mg/L	Not Detected IA	0.1	1.0	1/19/2017	MW
o-Phosphate-P, Dissolved	EPA300.0	mg/L	0.2	0.1		1/19/2017	MW
pH (Laboratory)	SM4500-H+B	pH (H)	7.7	0.1		1/18/2017	BS
Phosphorus, Total	HACH 8190	mg/L	0.26	0.03		1/25/2017	LRH
Potassium	EPA200.7	mg/L	3.3	0.5		1/19/2017	MW
QC Anion Sum x 100	Calculation	%	103%			1/20/2017	НМ
QC Anion-Cation Balance	Calculation	%	3			1/24/2017	LRH
QC Cation Sum x 100	Calculation	%	109%			1/24/2017	LRH
QC Ratio TDS/SEC	Calculation		0.62			1/26/2017	MP
Selenium, Total	EPA200.8	μg/L	2	2	50	1/31/2017	SM
Silica as SiO2, Total	EPA200.7	mg/L	23	0.5		1/19/2017	MW
Sodium	EPA200.7	mg/L	48	0.5		1/19/2017	MW
Journal	LF M200.1	my/L	40	0.5		1/13/2017	IVIVV

Lab Number: AB60297

Collection Date/Time: 1/18/2017 10:30 Sample Collector: LINDBERG, T Client Sample #:
Submittal Date/Time: 1/18/2017 14:15 Sample ID Coliform Designation:

Submittal Date/Time. 1/10/20	17 14.15 Sample	טו			Collionii De	signation.		
		Sample De	scription: SI	VIS (D)				
Analyte	Method	Unit	Result	Qual	PQL	MCL	Date Analyzed	Analyst:
Specific Conductance (E.C)	SM2510B	µmhos/cm	533		1	900	1/20/2017	BS
Strontium, Total	EPA200.8	μg/L	325		5		1/31/2017	SM
Sulfate	EPA300.0	mg/L	82		1	250	1/19/2017	MW
TOC	SM5310C	mg/L	1.5		0.2		2/2/2017	MW
Total Diss. Solids	SM2540C	mg/L	331	Н	10	500	1/24/2017	MP
Total Nitrogen	Calculation	mg/L	Not Detected		0.5		2/2/2017	MP
Total Radium 226	EPA903.0	pCi/L	0.000 ± 0.171	Е		3	1/26/2017	FGL
Trihalomethanes	EPA524.2	μg/L	41.0	Е		80	1/24/2017	FGL
Uranium by ICP/MS	EPA200.8	μg/L	1		1	30	1/31/2017	SM
Vanadium, Total	EPA200.8	μg/L	Not Detected		5	1000	1/31/2017	SM
Zinc, Total	EPA200.8	μg/L	Not Detected		20	5000	1/31/2017	SM

Sample Comments:

IA: Results are valid even though CCV recovery outside of limits. H: Analyzed outside of holding time. (analyzed at 7 days 1 hrs,10min) SS: Second Source recovery exceeds method control limit.

Report Approved by:

David Holland, Laboratory Director

February 3, 2017

Lab ID : SP 1700852 **Monterey Bay Analytical Services** 4 Justin Court Customer : 2-19144

Monterey, CA 93940

Laboratory Report

Introduction: This report package contains total of 7 pages divided into 3 sections:

Case Narrative (2 pages): An overview of the work performed at FGL.

Sample Results (2 pages): Results for each sample submitted.

Quality Control (3 pages) : Supporting Quality Control (QC) results.

Case Narrative

This Case Narrative pertains to the following samples:

Sample Description	Date Sampled	Date Received	FGL Lab ID#	Matrix
SMS (D)	01/18/2017	01/20/2017	SP 1700852-001	DW

Sampling and Receipt Information: All samples were received in acceptable condition and within temperature requirements, unless noted on the Condition Upon Receipt (CUR) form. All samples arrived at 3 °C. All samples were prepared and analyzed within the method specified hold time. All samples were checked for pH if acid or base preservation is required (except for VOAs). For details of sample receipt information, please see the attached Chain of Custody and Condition Upon Receipt Form.

Quality Control: All samples were prepared and analyzed according to the following tables:

Organic QC

551.1	01/24/2017:201156 All analysis quality controls are within established criteria.
	01/22/2017:200854 All preparation quality controls are within established criteria, except: The following note applies to Decafluorobiphenyl, Dibromochloromethane, Bromoform, Chloroform: 435 Sample matrix may be affecting this analyte. Data was accepted based on the LCS or CCV recovery.
552	01/25/2017:201016 All preparation quality controls are within established criteria.
552.2	01/26/2017:201633 All analysis quality controls are within established criteria.

February 3, 2017 Lab ID : SP 1700852

Monterey Bay Analytical Services Customer : 2-19144

Radio QC

900.0	01/27/2017:201535 All analysis quality controls are within established criteria.
	01/26/2017:201063 All preparation quality controls are within established criteria.
903.0	01/26/2017:201341 All analysis quality controls are within established criteria.
	01/23/2017:200919 All preparation quality controls are within established criteria.

Certification:: I certify that this data package is in compliance with ELAP standards, both technically and for completeness, except for any conditions listed above. Release of the data contained in this data package is authorized by the Laboratory Director or his designee, as verified by the following electronic signature.

KD:DMB

Approved By Kelly A. Dunnahoo, B.S.



Analytical Chemists

February 3, 2017 Lab ID : SP 1700852-001

Customer ID : 2-19144

Monterey Bay Analytical Services

4 Justin Court Sampled On : January 18, 2017-10:30

: T. Lindberg Monterey, CA 93940 Sampled By

Received On : January 20, 2017-10:43

: Drinking Water Matrix

Description : SMS (D) **Project** : MPWMD

Sample Result - Organic

Constituent	Result	PQL	Units	MCL/AL	Sample	Preparation	Samp	le Analysis
Constituent	Result	1 QL	FQL Units WCL/A		Method	Date/ID	Method	Date/ID
EPA 551.1								
Decafluorobiphenyl [‡]	107	80-120	%		551.1	01/22/17:200854	551.1	01/24/17:201156
Bromodichloromethane	13.5	0.5	ug/L	1	551.1	01/22/17:200854	551.1	01/24/17:201156
Bromoform	1.2	0.5	ug/L		551.1	01/22/17:200854	551.1	01/24/17:201156
Chloroform	16.5	0.5	ug/L		551.1	01/22/17:200854	551.1	01/24/17:201156
Dibromochloromethane	9.8	0.5	ug/L		551.1	01/22/17:200854	551.1	01/24/17:201156
Total Trihalomethanes	41.0		ug/L	80	551.1	01/22/17:200854	551.1	01/24/17:201156
EPA 552.2								
2,3-Dibromopropionic Acid [‡]	76.6	70-130	%		552	01/25/17:201016	552.2	01/26/17:201633
Bromoacetic Acid	1	1	ug/L		552	01/25/17:201016	552.2	01/26/17:201633
Chloroacetic Acid	ND	2	ug/L		552	01/25/17:201016	552.2	01/26/17:201633
Dibromoacetic Acid	2	1	ug/L		552	01/25/17:201016	552.2	01/26/17:201633
Dichloroacetic Acid	6	1	ug/L		552	01/25/17:201016	552.2	01/26/17:201633
Trichloroacetic Acid	7	1	ug/L		552	01/25/17:201016	552.2	01/26/17:201633
Haloacetic acids (five)	16		ug/L	60	552	01/25/17:201016	552.2	01/26/17:201633

ND=Non-Detected. PQL=Practical Quantitation Limit. ‡Surrogate. * PQL adjusted for dilution.

MCL = Maximum Contamination Level. 2 - Secondary Standard. 3 - CDPH Notification Level. AL = Regulatory Action Level.

Analytical Chemists

February 3, 2017 Lab ID : SP 1700852-001

Customer ID : 2-19144

Monterey Bay Analytical Services

4 Justin Court Sampled On : January 18, 2017-10:30

Monterey, CA 93940 Sampled By : T. Lindberg

Received On : January 20, 2017-10:43

: Drinking Water Matrix

Description : SMS (D) **Project** : MPWMD

Sample Result - Radio

Constituent	Result ± Error	MDA	Units	MCL/AL	Sample	Preparation	Sampl	e Analysis
Constituent	Result ± Ellor	WIDA	DA Units MCL/A		Method	Date/ID	Method	Date/ID
Radio Chemistry								
Gross Alpha	2.84 ± 1.45	1.28	pCi/L		900.0	01/26/17-12:00 2P1701063	900.0	01/27/17-11:00 2A1701535
Total Alpha Radium (226)	0.000 ± 0.171	0.363	pCi/L		903.0	01/23/17-18:45 2P1700919	903.0	01/26/17-12:10 2A1701341

ND=Non-Detected. PQL=Practical Quantitation Limit. * PQL adjusted for dilution.

MDA = Minimum Detectable Activity (Calculated at the 95% confidence level) = Data utilized by DHS to determine matrix interference. MCL / AL = Maximum Contamination Level / Action Level. Alpha's Action Level of 5 pCi/L is based on the Assigned Value (AV). AV = Assigned Value(Gross Alpha Result + (0.84 x Error)). CCR Section 64442: Drinking Water Compliance Note: Do the following If Gross Alpha's (AV) exceeds 5 pCi/L run Uranium. If Gross Alpha's (AV) minus Uranium exceeds 5 pCi/L run Radium 226.

Drinking Water Compliance:

Gross Alpha (AV) minus Uranium is less than or equal to 15 pCi/L Uranium is less than or equal to 20 pCi/L

Radium 226 + Radium 228 is less than or equal to 5 pCi/L

Note: Samples are held for 3-6 months prior to disposal.

February 3, 2017 Lab ID : SP 1700852 **Monterey Bay Analytical Services** : 2-19144 Customer

Quality Control - Organic

Constituent	Method	Date/ID	Type	Units	Conc.	QC Data	DQO	Note
Organic								
Bromodichloromethane	551.1	01/22/17:200854SBL	Blank	ug/L		ND	< 0.5	
Bromodicinoromethane	331.1	01/22/17.20003 ISBE	LCS	ug/L	9.687	90.9 %	80-120	
			MS	ug/L ug/L	10.27	98.9 %	80-120	
		(SP 1700852-001)	MSD	ug/L	9.973	120 %	80-120	
		(51 1700032 001)	MSRPD	ug/L	19.95	7.4%	≤20	
	551.1	01/24/17:201156SBL	CCV	ug/L	166.7	105 %	80-120	
	331.1	01/24/17.201130BBE	CCV	ug/L	83.33	103 %	80-120	
Bromoform	551.1	01/22/17:200854SBL	Blank	ug/L	05.55	ND	<0.5	
Bromororm	331.1	01/22/17.200034BBE	LCS	ug/L ug/L	9.687	100 %	80-120	
			MS	ug/L	10.27	119 %	80-120	
		(SP 1700852-001)	MSD	ug/L ug/L	9.973	129 %	80-120	435
		(31 1700032-001)	MSRPD	ug/L ug/L	19.95	4.8%	≤20	733
	551.1	01/24/17:201156SBL	CCV		166.7		80-120	
	331.1	01/24/17:2011303BL	CCV	ug/L ug/L	83.33	117 % 115 %	80-120	
Chloroform	551.1	01/22/17-200954CDI			65.55			
Chloroform	331.1	01/22/17:200854SBL	Blank	ug/L	0.697	ND	<0.5	
		1	LCS	ug/L	9.687	95.9 %	80-120	
		(CD 1700052 001)	MS	ug/L	10.27	101 %	80-120	125
		(SP 1700852-001)	MSD	ug/L	9.973	124 %	80-120	435
			MSRPD	ug/L	19.95	7.2%	≤20	
	551.1	01/24/17:201156SBL	CCV	ug/L	166.7	111 %	80-120	
			CCV	ug/L	83.33	113 %	80-120	
Decafluorobiphenyl	551.1	01/22/17:200854SBL	Blank	ug/L	19.35	118 %	80-120	
			LCS	ug/L	19.37	96.8 %	80-120	
			MS	ug/L	20.53	123 %	80-120	435
		(SP 1700852-001)	MSD	ug/L	19.95	117 %	80-120	
			MSRPD	ug/L	19.95	7.7%	≤20.0	
	551.1	01/24/17:201156SBL	CCV	ug/L	333.3	91.2 %	80-120	
			CCV	ug/L	166.7	109 %	80-120	
Dibromochloromethane	551.1	01/22/17:200854SBL	Blank	ug/L		ND	< 0.5	
			LCS	ug/L	9.687	98.1 %	80-120	
			MS	ug/L	10.27	111 %	80-120	
		(SP 1700852-001)	MSD	ug/L	9.973	130 %	80-120	435
			MSRPD	ug/L	19.95	7.0%	≤20	
	551.1	01/24/17:201156SBL	CCV	ug/L	166.7	114 %	80-120	
			CCV	ug/L	83.33	110 %	80-120	
2,3-Dibromopropionic Acid	552	01/25/17:201016SBL	Blank	ug/L	5.000	79.0 %	70-130	
_,			LCS	ug/L	5.000	89.7 %	70-130	
			MS	ug/L	5.000	94.1 %	70-130	
		(SP 1700852-001)	MSD	ug/L	5.000	114 %	70-130	
			MSRPD	ug/L	5.000	19.1%	≤20.0	
Dibromoacetic Acid	552	01/25/17:201016SBL	Blank	ug/L		ND	<1	
			LCS	ug/L	10.00	71.4 %	70-130	
		1	MS	ug/L	10.00	76.4 %	70-130	
		(SP 1700852-001)	MSD	ug/L	10.00	93.4 %	70-130	
		(======================================	MSRPD	ug/L	5.000	16.1%	≤20.0	
Dichloroacetic Acid	552	01/25/17:201016SBL	Blank	ug/L		ND	<1	
Significancia Field	332	01/25/17.2010105DE	LCS	ug/L ug/L	10.00	73.5 %	70-130	
		1	MS	ug/L ug/L	10.00	72.9 %	70-130	
		(SP 1700852-001)	MSD	ug/L ug/L	10.00	94.2 %	70-130	
		(51 1700052-001)	MSRPD	ug/L ug/L	5.000	15.1%	≤20.0	
					2.300	ND	<1	
Manahramagastic Acid	550	01/25/17-201016CDI						
Monobromoacetic Acid	552	01/25/17:201016SBL	Blank	ug/L	10.00			
Monobromoacetic Acid	552	01/25/17:201016SBL	LCS	ug/L	10.00	74.8 %	70-130	
Monobromoacetic Acid	552	01/25/17:201016SBL (SP 1700852-001)			10.00 10.00 10.00			

February 3, 2017 Lab ID : SP 1700852 **Monterey Bay Analytical Services** Customer : 2-19144

Quality Control - Organic

Constituent	Method	Date/ID	Туре	Units	Conc.	QC Data	DQO	Note
Organic								
Monochloroacetic Acid	552	01/25/17:201016SBL	Blank	ug/L		ND	<2	
			LCS	ug/L	10.00	77.3 %	70-130	
			MS	ug/L	10.00	71.9 %	70-130	
		(SP 1700852-001)	MSD	ug/L	10.00	83.9 %	70-130	
			MSRPD	ug/L	5.000	1.2	≤2	
Trichloroacetic Acid	552	01/25/17:201016SBL	Blank	ug/L		ND	<1	
			LCS	ug/L	10.00	77.8 %	70-130	
			MS	ug/L	10.00	77.9 %	70-130	
		(SP 1700852-001)	MSD	ug/L	10.00	99.8 %	70-130	
			MSRPD	ug/L	5.000	13.8%	≤20.0	
2,3-Dibromopropionic Acid	552.2	01/26/17:201633SBL	CCV	ug/L	75.00	94.3 %	70-130	
			CCV	ug/L	50.00	94.8 %	70-130	
Dibromoacetic Acid	552.2	01/26/17:201633SBL	CCV	ug/L	150.0	96.5 %	70-130	
			CCV	ug/L	100.0	101 %	70-130	
Dichloroacetic Acid	552.2	01/26/17:201633SBL	CCV	ug/L	150.0	98.3 %	70-130	
			CCV	ug/L	100.0	105 %	70-130	
Monobromoacetic Acid	552.2	01/26/17:201633SBL	CCV	ug/L	150.0	97.0 %	70-130	
			CCV	ug/L	100.0	101 %	70-130	
Monochloroacetic Acid	552.2	01/26/17:201633SBL	CCV	ug/L	150.0	96.4 %	70-130	
			CCV	ug/L	100.0	102 %	70-130	
Trichloroacetic Acid	552.2	01/26/17:201633SBL	CCV	ug/L	150.0	102 %	70-130	
			CCV	ug/L	100.0	117 %	70-130	

Definition

CCV

: Continuing Calibration Verification - Analyzed to verify the instrument calibration is within criteria.

Blank : Method Blank - Prepared to verify that the preparation process is not contributing contamination to the samples. LCS : Laboratory Control Standard/Sample - Prepared to verify that the preparation process is not affecting analyte recovery.

: Matrix Spikes - A random sample is spiked with a known amount of analyte. The recoveries are an indication of how that sample MS

matrix affects analyte recovery.

: Matrix Spike Duplicate of MS/MSD pair - A random sample duplicate is spiked with a known amount of analyted. The recoveries MSD

are an indication of how that sample matrix affects analyte recovery.

: MS/MSD Relative Percent Difference (RPD) - The MS relative percent difference is an indication of precision for the preparation MSRPD

ND : Non-detect - Result was below the DQO listed for the analyte.

DQO : Data Quality Objective - This is the criteria against which the quality control data is compared.

Explanation

: Sample matrix may be affecting this analyte. Data was accepted based on the LCS or CCV recovery

February 3, 2017 Lab ID : SP 1700852 **Monterey Bay Analytical Services** Customer : 2-19144

Quality Control - Radio

Constituent	Method	Date/ID	Type	Units	Conc.	QC Data	DQO	Note
Radio								
Alpha	900.0	01/27/17:201535rmm	CCV	cpm	8484	40.6 %	37 - 45	
1			CCB	cpm		0.020	0.2	i
Gross Alpha	900.0	01/26/17:201063RMM	Blank	pCi/L		0.54	3	
I			LCS	pCi/L	108.2	109 %	75-125	1
I			MS	pCi/L	108.2	100 %	60-140	1
I		(SP 1701039-001)	MSD	pCi/L	108.2	94.2 %	60-140	1
<u> </u>			MSRPD	pCi/L	No Ref.	5.5%	≤30	
Alpha	903.0	01/26/17:201341caa	CCV	cpm	8485	42.4 %	38 - 46	
_			CCB	cpm		0.100	0.16	
Total Alpha Radium (226)	903.0	01/23/17:200919emv	RgBlk	pCi/L		0.13	2	
I			LCS	pCi/L	21.86	60.3 %	52-107	l
I			BS	pCi/L	21.86	43.6 %	43-111	l
I			BSD	pCi/L	21.86	47.7 %	43-111	1
İ			BSRPD	pCi/L	21.86	0.91	≤2	i

: Continuing Calibration Verification - Analyzed to verify the instrument calibration is within criteria. CCV

CCB : Continuing Calibration Blank - Analyzed to verify the instrument baseline is within criteria.

Blank : Method Blank - Prepared to verify that the preparation process is not contributing contamination to the samples.

RgBlk : Method Reagent Blank - Prepared to correct for any reagent contributions to sample result.

LČS : Laboratory Control Standard/Sample - Prepared to verify that the preparation process is not affecting analyte recovery.

: Matrix Spikes - A random sample is spiked with a known amount of analyte. The recoveries are an indication of how that sample MS matrix affects analyte recovery.

: Matrix Spike Duplicate of MS/MSD pair - A random sample duplicate is spiked with a known amount of analyted. The recoveries

MSD are an indication of how that sample matrix affects analyte recovery.

: Blank Spikes - A blank is spiked with a known amount of analyte. It is prepared to verify that the preparation process is not

BS affecting analyte recovery.

: Blank Spike Duplicate of BS/BSD pair - A blank duplicate is spiked with a known amount of analyte. It is prepared to verify that

the preparation process is not affecting analyte recovery. : MS/MSD Relative Percent Difference (RPD) - The MS relative percent difference is an indication of precision for the preparation

MSRPD and analysis.

BSD

: BS/BSD Relative Percent Difference (RPD) - The BS relative percent difference is an indication of precision for the preparation BSRPD

and analysis.

DQO : Data Quality Objective - This is the criteria against which the quality control data is compared.



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CHAIN OF CUSTODY AND ANALYSIS REQUEST DOCUMENT

	Monterey Bay Analytical er Number: 2019144 : 4 Justin Court			ab N	umbe	5					TES	ST D	ESCI	RIPT	ION .	AND	ANA	ALYS	SES R	REQU	JEST	ED				
Contact Project Purchas	Monterey, CA 93940 Phone: (831)375-6227 Fax: (831)641-0734 Email Address: info@mbasinc.com Contact Person: David Holland Project Name: MPWMD Purchase Order Number: Quote Number: Rush Analysis: 5 Day 4 Day 3 Day 2 Day 24 hou Rush pre-approval by lab (initals):					Type of Containers: (G)Glass (P)Plastic (V)VOA (MT)Metal Tube	Ag Water (AgW)	ali (GW) Ground Water (DW) Drinking Water		faste	Bact: (ROUT)Routine (RPT)Repeat (OTH)Other (RPL)Replace	RD) Produce	H, (3) HCI Other													
Rush p	ash Analysis: 5 Day 4 Day 3 Day 2 Day 24 house pre-approval by lab (initals): extronic Data Transfer: No State Client Other: ampler(s): T. Lindberg			ng: Composite (C)	hers	: (G)Glass (P)Plasti	Non-Potable (NP) A	(MW) Monitoring W (WW) Waste Water	(S) Scil (94.G) Sludge (54.D) Scåd (O) Ca	BacT. (Sys) System (SRC) Source (W) Waste	ine (RPT)Repeat (C	(LT) Leaf Tissue (PET) Peticle Tissue (PRD) Produce	OH + ZnAc. (2) NBO 13, (6) NB2B2O3, (7)													
Samplii	ng Fee: Pickup Fee: sitor Setup Date: Time:		Time Sampled	Method of Sempling.	Number of Containers	Type of Containers	Potable (P) Nor	(SW) Surface Water (MW) Monitoring Well (TB) Travel Blank (WW) Waste Water	(8) Sall (9LG) Sludg	BacT: (Sys) System	BacT: (ROUT)Rout	(LT) Leaf Tissue (PE	Preservative: (1) NaOH + ZnAc, (2) NaOH, (3) HCI (4) HZSO4, (5) HNO3, (6) NaZSZO3, (7) Other	THMS	НАА	Ra 226	Gross Alpha									
1.	SMS (D)	1/18/17	10:30	G	7	Var	Р	DW					_	х	х	×	х									
							<u> </u>		<u> </u>																	
												<u> </u>	L										<u> </u>			
Remark AB60	5297 53474/X26	73		Relinq	uished	14	<u></u>	hate: 1/ ₁	٩	me:	F)	Relinqui		X	Ι	Date:	· -	Γime:		Relinqu				Date:	Time:	
L A				Receiv	ved By:	•	D	ate:	Ti	ime:	F	kočnivb	W.	X	XV.	Pade:	di	Time:	N	Recéiv	ed By:)		Date:	Time:	

Corporate Offices & Leboratory 853 Corporation Street Santa Paula, CA 93060 TEL: (805)392-2000 Env FAX: (805)525-4172 / Ag FAX: (805)392-2063 CA ELAP Certification No.1573 Office & Laboratory 2500 Stagecoach Road Stockton, CA 95215 TEL: (209)942-0182 FAX: (209)942-0423 CA ELAP Certification No. 1563 Office & Laboratory 563 E. Líndo Avenue Chico, CA 95926 TEL: (530)343-5818 FAX: (530)343-3807 CA ELAP Certification No. 2670 Office & Laboratory 3442 Empresa Drive, Suite D San Luis Obispo, CA 93401 TEL: (805)783-2940 FAX: (805)783-2912 CA ELAP Certification No. 2775 Office & Laboratory 9415 W. Goshen Avenue Visalia, CA 93291 TEL: (559)734-9473 FAX: (559)734-8435 CA ELAP Certification No. 2810 FGL Environmental Doc ID: 2D0900157_SOP_17.DOC

Revision Date: 10/09/14 Page: 1 of 1

Condition Upon Receipt (Attach to COC)

Sample Receipt at SP:								
1. Number of ice chests/packages re	eceived:	1						
2. Shipper tracking numbers	534742563							
Were samples received in a chille Temps:	ed condition?	3	/	/	_/	/	_/	_/
 Surface water (SWTR) bact samp should be flagged unless the time 	•		•	•			nether iced	l or not,
5. Do the number of bottles received COC?	d agree with the	Yes	No	N/A				
6. Verify sample date, time, sample	r	Yes	No	N/A				
7. Were the samples received intact bottles, leaks, etc.)	? (i.e. no broken	Yes	No					
8. Were sample custody seals intac	t?	Yes	No	N/A				
Sample Verification, Labeling and	d Distribution:							
Were all requested analyses und acceptable?	erstood and	Yes	No					
2. Did bottle labels correspond with	the client's ID's?	Yes	No					
3. Were all bottles requiring sample properly preserved? [Exception: Oil & Grease, VOA ar		Yes	No	N/A I	FGL			
4. VOAs checked for Headspace?		Yes	No	N/A				
5. Were all analyses within holding t receipt?	imes at time of	Yes	No					
6. Have rush or project due dates be accepted?	een checked and	Yes	No	N/A				
Include a copy of the COC for lab de	eliverv. (Bacti. Ind	organics a	ınd Rad	dio)				
Sample Receipt, Login and Verifica	• ,	•		Reviewed a Approved		wn Peck	Title: Samp	gned by Shawn Peck ble Receiving 0/2017-16:21:09
Discrepency Documentation:			,,					
Any items above which are "No" or	do not meet spec		•	• •	be resor	vea.		
Person Contacted:			one Nu	ımber:				
Initiated By: Problem:		Da	ite:	-			_	
Problem.								
Resolution:								
2. Person Contacted:		Ph	one Ni	ımber:				
Initiated By:		n Da					_	
Problem:		~ ~	-					
Resolution:						(20191	44)	
					_	(20191	 /	

Monterey Bay Analytical Services SP 1700852



McCampbell Analytical, Inc.

"When Quality Counts"

Analytical Report

1701857 WorkOrder:

Report Created for: Monterey Bay Analytical

> 4 Justin Court, Suite D Monterey, CA 93940

Project Contact:

David Holland

Project P.O.:

Project Name: MPWMD

Project Received: 01/20/2017

Analytical Report reviewed & approved for release on 01/27/2017 by:

Angela Rydelius,

Laboratory Manager

The report shall not be reproduced except in full, without the written approval of the laboratory. The analytical results relate only to the items tested. Results reported conform to the most current NELAP standards, where applicable, unless otherwise stated in the case narrative.



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Glossary of Terms & Qualifier Definitions

Client: Monterey Bay Analytical

Project: MPWMD **WorkOrder:** 1701857

Glossary Abbreviation

%D Serial Dilution Percent Difference

95% Interval 95% Confident Interval

DF Dilution Factor

DI WET (DISTLC) Waste Extraction Test using DI water

DISS Dissolved (direct analysis of 0.45 µm filtered and acidified water sample)

DLT Dilution Test (Serial Dilution)

DUP Duplicate

EDL Estimated Detection Limit

ITEF International Toxicity Equivalence Factor

LCS Laboratory Control Sample

MB Method Blank

MB % Rec % Recovery of Surrogate in Method Blank, if applicable

MDL Method Detection Limit

ML Minimum Level of Quantitation

MS Matrix Spike

MSD Matrix Spike Duplicate

N/A Not Applicable

ND Not detected at or above the indicated MDL or RL

NR Data Not Reported due to matrix interference or insufficient sample amount.

PDS Post Digestion Spike

PDSD Post Digestion Spike Duplicate

PF Prep Factor

RD Relative Difference

RL Reporting Limit (The RL is the lowest calibration standard in a multipoint calibration.)

RPD Relative Percent Deviation
RRT Relative Retention Time

SPK Val Spike Value

SPKRef Val Spike Reference Value

SPLP Synthetic Precipitation Leachate Procedure

ST Sorbent Tube

TCLP Toxicity Characteristic Leachate Procedure

TEQ Toxicity Equivalents

WET (STLC) Waste Extraction Test (Soluble Threshold Limit Concentration)

1534 Willow Pass Road, Pittsburg, CA 94565-1701 Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269 http://www.mccampbell.com / E-mail: main@mccampbell.com

Analytical Report

Client: Monterey Bay Analytical

Date Received: 1/20/17 9:52 **Date Prepared:** 1/25/17 **Project: MPWMD**

WorkOrder: 1701857 **Extraction Method:** RSK175

Analytical Method: RSK175

Unit: $\mu g \! / L$

Dissolved Gases by RSK 175

Client ID	Lab ID	Matrix	Date Colle	ected Instrument	Batch ID
SMS (D)	1701857-001A	Water	01/18/2017	10:30 GC26	133141
<u>Analytes</u>	Result		<u>RL</u> !	<u>DF</u>	Date Analyzed
Methane	0.60		0.10	1	01/25/2017 14:09

Analyst(s): AK

1534 Willow Pass Road, Pittsburg, CA 94565-1701 Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269 http://www.mccampbell.com / E-mail: main@mccampbell.com

Quality Control Report

Client: Monterey Bay Analytical

MPWMD

Date Prepared: 1/25/17 **Date Analyzed:** 1/25/17 GC26 **Instrument: Matrix:** Water

Project:

BatchID: Extraction Method: RSK175 **Analytical Method:** RSK175 **Unit:**

WorkOrder:

Sample ID:

MB/LCS-133141

1701857

133141

 $\mu g/L$

QC Summary Report for RSK175													
Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits						
Methane	ND	1.07	0.10	1.17	-	91	70-130						

McCampbell Analytical, Inc.

1534 Willow Pass Rd Pittsburg, CA 94565-1701 (925) 252-9262

CHAIN-OF-CUSTODY RECORD

Page 1 of

WorkOrder: 1701857 ClientCode: MBAS

	WaterTrax	WriteOn	EDF	Excel	EQuIS	✓ Email	HardCopy	ThirdParty	J-flag
Report to:				E	Bill to:		Req	uested TAT:	5 days;
David Holland	Email: n	nweidner@mbas	sinc.com; Dholland	@mbas	Accounts Payab	ole			
Monterey Bay Analytical	cc/3rd Party:				Monterey Bay A	nalytical			
4 Justin Court, Suite D	PO:				4 Justin Court, S	Suite D	Date	e Received:	01/20/2017
Monterey, CA 93940	ProjectNo: N	//PWMD			Monterey, CA 9	3940	Date	e Logged:	01/20/2017
831-375-6227 FAX: 831-641-0734									

							Re	quested	l Tests	(See leg	end bel	ow)			
Lab ID	Client ID	Matrix	Collection Date Hold	1	2	3	4	5	6	7	8	9	10	11	12
1701857-001	SMS (D)	Water	1/18/2017 10:30	Α											

Test Legend:

1	RSK175_W	2	3	4
5		6	7	8
9		10	11	12

Prepared by: Jena Alfaro

Comments:

NOTE: Soil samples are discarded 60 days after results are reported unless other arrangements are made (Water samples are 30 days).

Hazardous samples will be returned to client or disposed of at client expense.



McCampbell Analytical, Inc.

"When Quality Counts"

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WORK ORDER SUMMARY

1 (DIII) (D

Chent Name	e: MONI	MONTEREY BAY ANALYTICAL			Project: M	PWMD				wor	k Order:	1/0185/	
Client Conta	act: David	Holland								Q	C Level:	LEVEL 2	
Contact's En		: mweidner@mbasinc.com; Dholland@mbasinc.com; 4mbas@sbcglobal.net; info@mbasinc.com								Date	Logged:	1/20/2017	
		☐ WaterTrax	WriteOn	EDF	Excel	Fax	✓ Email	HardCo	opyThirdParty		I-flag		
Lab ID	Client ID	Matrix	Test Name	2		ainers Bottle posites	& Preservative	De- chlorinated	Collection Date & Time	TAT	Sediment Content	Hold SubC)ut
1701857-001A	SMS (D)	Water	RSK175 <n< th=""><th>Methane_4></th><th></th><th>3</th><th>VOA w/ HCl</th><th></th><th>1/18/2017 10:30</th><th>5 days</th><th>None</th><th></th><th></th></n<>	Methane_4>		3	VOA w/ HCl		1/18/2017 10:30	5 days	None		
													-

NOTES: - STLC and TCLP extractions require 2 days to complete; therefore, all TATs begin after the extraction is completed (i.e., One-day TAT yields results in 3 days from sample submission).

- MAI assumes that all material present in the provided sampling container is considered part of the sample - MAI does not exclude any material from the sample prior to sample preparation unless requested in writing by the client.

1701857

		1534 WII PITTSBU ampbell.	LOW PA	SS RO. 1565-17	AD 701 nin@n		mpt	oell.	com		9					UR G			OU	ND	T	IM	E		RUS	SH	Ę	HR		48 I	IR	RD 72 F rite C	IR	∑ 5 DAY (DW)
Report To: D:	avid Holland		Е	ill To	:															A	nal	ysis	Rec	ues	t						(ther		Comments
	onterey Bay Ana	lytical S	ervices															_				2			-	-			-					7.
4.	Justin Ct. Suite D)													8015)			B&F				gene												Filter
M	onterey, Ca 9394	0	E	-Mail	: info	@n	ba	sinc	.coı	m					+			0 E/I				Con						6	=					Samples for Metals
Tele: (831) 37	75 - 6227		F	ax: (831)	641-	073	34							8021	3		552	_	(\$		LS/		3			_	602	6020					analysis:
Project #:			F	rojec	t Nar	ne:	MF	W	MD						(602 / 8021	/ 802		994	118.	,0C	(S	roclo		cide			(AAS)	010	10/					Yes / No
Project Locat	ion:														9) SE	602	015)	se (1)	ons (E	icide	V; A	(S)	erbi	(s)	Cs)	s/P	9/8	9 / 60	020)				
Sampler Sign	ature: T. Lind	berg												1	as Gas	EPA	8) II	reas	arbe	8021	Pest	NE	ticid	CH	VOC	SVO	AH.	200	2002	9/0				
		SAMI	PLING	s	ers		MA	TR	IX		ME PRES			D	TPH	NLY (Totor O	Oil & C	Hydroc	8010 /	181 (CI	CB's 0	NP Pes	Acidic	8260 (8270 (\$	8310 (F	200.77	200.77	109 / 8.				
SAMPLE ID	LOCATION/ Field Point Name	Date	Time	# Containers	Type Containers	Water	Soil	Air	Sludge	Other	ICE	ILINO	HNO ₃		MTBE / BTEX &	MTBE / BTEX ONLY (EPA 602 / 8021)	TPH as Diesel / Motor Oil (8015)	Total Petroleum Oil & Grease (1664 / 5520 E/B&F)	Total Petroleum Hydrocarbons (418.1)	EPA 502.2 / 601 / 8010 / 8021 (HVOCs)	EPA 505/ 608 / 8081 (CI Pesticides)	EPA 608 / 8082 PCB's ONLY; Aroclors / Congeners	EPA 507 / 8141 (NP Pesticides)	EPA 515 / 8151 (Acidic Cl Herbicides)	EPA 524.2 / 624 / 8260 (VOCs)	EPA 525.2 / 625 / 8270 (SVOCs)	EPA 8270 SIM / 8310 (PAHs / PNAs)	CAM 17 Metals (200.7 / 200.8 / 6010 / 6020)	LUFT 5 Metals (200.7 / 200.8 / 6010 / 6020)	Lead (200.7 / 200.8 / 6010 / 6020)	Methane			
	SMS (D)	1/18/17	10:30	3	V	Х					X :		1	+																	X		1	AB60297
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Relinquished By	G180	Date:	Time:	1000	eived E	1)	>						П	API	CHL PRO ESEI	PRI	ATE	CO	NTA		RS_	_	-										
Relinquished By		Date:	Time:	Rece	eived E	y:										ESEI			ve	DAS	0	&G	MI pH-		LS	оті	HER							

Sample Receipt Checklist

Client Name:	Monterey Bay Analy	ytical			Date and Time Received	1/20/2017 09:52
Project Name:	MPWMD				Date Logged:	1/20/2017
		•• • •			Received by:	Jena Alfaro
WorkOrder №: Carrier:	1701857 Golden State Overn	Matrix:			Logged by:	Jena Alfaro
Carrier.	Golden State Overn	<u>igni</u>				
		Chain of C	ustody	(COC) Infor	<u>mation</u>	
Chain of custody	present?		Yes	✓	No 🗆	
Chain of custody	signed when relinqui	shed and received?	Yes	•	No 🗌	
Chain of custody	agrees with sample I	abels?	Yes	•	No 🗌	
Sample IDs noted	d by Client on COC?		Yes	✓	No 🗌	
Date and Time of	f collection noted by 0	Client on COC?	Yes	✓	No 🗌	
Sampler's name	noted on COC?		Yes	✓	No 🗌	
		<u>Sampl</u>	e Rece	ipt Informati	<u>ion</u>	
Custody seals int	tact on shipping conta	niner/cooler?	Yes		No 🗌	NA 🗹
Shipping containe	er/cooler in good con	dition?	Yes	•	No 🗆	
Samples in prope	er containers/bottles?		Yes	✓	No 🗌	
Sample container	rs intact?		Yes	✓	No 🗆	
Sufficient sample	volume for indicated	test?	Yes	•	No 🗌	
		Sample Preservation	on and	Hold Time (I	HT) Information	
All samples recei	ived within holding tim	ne?	Yes	✓	No 🗌	NA \square
Sample/Temp Bla	ank temperature			Temp: 5.2	2°C	NA 🗌
Water - VOA vials	s have zero headspa	ce / no bubbles?	Yes		No 🗌	NA 🗹
Sample labels ch	ecked for correct pre	servation?	Yes	✓	No 🗌	
pH acceptable up	oon receipt (Metal: <2	; 522: <4; 218.7: >8)?	Yes		No 🗌	NA 🗹
Samples Receive	ed on Ice?		Yes	✓	No 🗌	
		(Ice Type	e: BLU	JE ICE)		
UCMR3 Samples						
Total Chlorine t	tested and acceptable	e upon receipt for EPA 522?	Yes		No 🗌	NA 🗹
Free Chlorine to 300.1, 537, 539		upon receipt for EPA 218.7,	Yes		No 🗌	NA 🗹
Comments:						========



MPWMD Jonanthan Lear P.O. Box 85 Monterey, CA 93442-0085

4 Justin Court Suite D, Monterey, CA 93940 831.375.MBAS www.MBASinc.com ELAP Certification Number: 2385

Page 1 of 1 Friday, March 03, 2017

Lab Number: AB61099

Collection Date/Time: 2/1/2017 10:00 Sample Collector: J LEAR Client Sample #:
Submittal Date/Time: 2/1/2017 15:36 Sample ID Coliform Designation:

		Sample	Description:	MW-1				
Analyte	Method	Unit	Result	Qual	PQL	MCL	Date Analyzed	Analyst:
Chloramines	SM4500-CI G	mg/L	0.08		0.05		2/1/2017	LRH
Haloacetic Acids	EPA552	μg/L	21	Е		60	2/7/2017	FGL
Trihalomethanes	EPA524.2	μg/L	69.6	E		80	2/9/2017	FGL

Sample Comments:

Report Approved by:

David Holland, Laboratory Director

March 2, 2017

Lab ID : SP 1701517 **Monterey Bay Analytical Services** 4 Justin Court Customer : 2-19144

Monterey, CA 93940

Laboratory Report

Introduction: This report package contains total of 5 pages divided into 3 sections:

Case Narrative (2 pages): An overview of the work performed at FGL.

Sample Results (1 page): Results for each sample submitted.

Quality Control (2 pages) : Supporting Quality Control (QC) results.

Case Narrative

This Case Narrative pertains to the following samples:

Sample Description	Date Sampled	Date Received	FGL Lab ID#	Matrix
MW-1	02/01/2017	02/03/2017	SP 1701517-001	GW

Sampling and Receipt Information: All samples were received in acceptable condition and within temperature requirements, unless noted on the Condition Upon Receipt (CUR) form. All samples arrived at 3 °C. All samples were prepared and analyzed within the method specified hold time. All samples were checked for pH if acid or base preservation is required (except for VOAs). For details of sample receipt information, please see the attached Chain of Custody and Condition Upon Receipt Form.

Quality Control: All samples were prepared and analyzed according to the following tables:

Organic QC

551.1	02/09/2017:202106 All analysis quality controls are within established criteria
	02/10/2017:202138 All analysis quality controls are within established criteria
	02/08/2017:201525 All preparation quality controls are within established criteria
552	02/06/2017:201474 All preparation quality controls are within established criteria
552.2	02/07/2017:201990 All analysis quality controls are within established criteria

March 2, 2017 Lab ID : SP 1701517

Monterey Bay Analytical Services Customer : 2-19144

Certification:: I certify that this data package is in compliance with ELAP standards, both technically and for completeness, except for any conditions listed above. Release of the data contained in this data package is authorized by the Laboratory Director or his designee, as verified by the following electronic signature.

KD:DMB

Approved By Kelly A. Dunnahoo, B.S.

Analytical Chemists

March 2, 2017 Lab ID : SP 1701517-001

Customer ID: 2-19144

Monterey Bay Analytical Services

4 Justin Court Sampled On : February 1, 2017-10:00

: Jonathan Lear Monterey, CA 93940 Sampled By

Received On: February 3, 2017-12:35

Matrix : Ground Water

Description : MW-1 **Project** : MPWMD

Sample Result - Organic

Constituent	Result	PQL	Units	Note	Sample	Preparation	Samp	le Analysis
Constituent	Kesuit	1 QL	Omts	Note	Method	Date/ID	Method	Date/ID
EPA 551.1								
Decafluorobiphenyl [‡]	102	80-120	%		551.1	02/08/17:201525	551.1	02/09/17:202106
Bromodichloromethane	14.8	0.5	ug/L		551.1	02/08/17:201525	551.1	02/09/17:202106
Bromoform	1.2	0.5	ug/L		551.1	02/08/17:201525	551.1	02/09/17:202106
Chloroform	45.6	2.5*	ug/L		551.1	02/08/17:201525	551.1	02/10/17:202138
Dibromochloromethane	8.0	0.5	ug/L		551.1	02/08/17:201525	551.1	02/09/17:202106
Total Trihalomethanes	69.6		ug/L		551.1	02/08/17:201525	551.1	02/09/17:202106
EPA 552.2								
2,3-Dibromopropionic Acid [‡]	119	70-130	%		552	02/06/17:201474	552.2	02/07/17:201990
Bromoacetic Acid	ND	1	ug/L		552	02/06/17:201474	552.2	02/07/17:201990
Chloroacetic Acid	ND	2	ug/L		552	02/06/17:201474	552.2	02/07/17:201990
Dibromoacetic Acid	2	1	ug/L		552	02/06/17:201474	552.2	02/07/17:201990
Dichloroacetic Acid	9	1	ug/L		552	02/06/17:201474	552.2	02/07/17:201990
Trichloroacetic Acid	10	1	ug/L		552	02/06/17:201474	552.2	02/07/17:201990
Haloacetic acids (five)	21		ug/L		552	02/06/17:201474	552.2	02/07/17:201990

ND=Non-Detected. PQL=Practical Quantitation Limit. ‡Surrogate. * PQL adjusted for dilution.

March 2, 2017 Lab ID : SP 1701517 **Monterey Bay Analytical Services** : 2-19144 Customer

Quality Control - Organic

		1	1		ı		l .	
Constituent	Method	Date/ID	Type	Units	Conc.	QC Data	DQO	Note
Organic								
Bromodichloromethane	551.1	02/08/17:201525SBL	Blank	ug/L		ND	< 0.5	
			LCS	ug/L	9.464	107 %	80-120	
			MS	ug/L	9.807	110 %	80-120	
		(SP 1701517-001)	MSD	ug/L	9.839	99.0 %	80-120	
			MSRPD	ug/L	19.68	4.2%	≤20	
	551.1	02/09/17:202106SBL	CCV	ug/L	83.33	105 %	80-120	
			CCV	ug/L	166.7	104 %	80-120	
Bromoform	551.1	02/08/17:201525SBL	Blank	ug/L		ND	< 0.5	
			LCS	ug/L	9.464	109 %	80-120	
			MS	ug/L	9.807	109 %	80-120	
		(SP 1701517-001)	MSD	ug/L	9.839	104 %	80-120	
			MSRPD	ug/L	19.68	4.3%	≤20	
	551.1	02/09/17:202106SBL	CCV	ug/L	83.33	102 %	80-120	
			CCV	ug/L	166.7	105 %	80-120	
Chloroform	551.1	02/08/17:201525SBL	Blank	ug/L		ND	< 0.5	
			LCS	ug/L	9.464	109 %	80-120	
			MS	ug/L	9.807	161 %	<1/4	
		(SP 1701517-001)	MSD	ug/L	9.839	111 %	80-120	
			MSRPD	ug/L	19.68	8.3%	≤20	
	551.1	02/10/17:202138SBL	CCV	ug/L	83.33	111 %	80-120	
			CCV	ug/L	166.7	120 %	80-120	
Decafluorobiphenyl	551.1	02/08/17:201525SBL	Blank	ug/L	19.63	95.6 %	80-120	
			LCS	ug/L	18.93	110 %	80-120	
			MS	ug/L	19.61	117 %	80-120	
		(SP 1701517-001)	MSD	ug/L	19.68	118 %	80-120	
		(, , , , , , , , , , , , , , , , , , ,	MSRPD	ug/L	19.68	0.9%	≤20.0	
	551.1	02/09/17:202106SBL	CCV	ug/L	166.7	112 %	80-120	
			CCV	ug/L	333.3	105 %	80-120	
Dibromochloromethane	551.1	02/08/17:201525SBL	Blank	ug/L		ND	< 0.5	
			LCS	ug/L	9.464	108 %	80-120	
			MS	ug/L	9.807	109 %	80-120	
		(SP 1701517-001)	MSD	ug/L	9.839	101 %	80-120	
			MSRPD	ug/L	19.68	4.1%	≤20	
	551.1	02/09/17:202106SBL	CCV	ug/L	83.33	104 %	80-120	
			CCV	ug/L	166.7	105 %	80-120	
2,3-Dibromopropionic Acid	552	02/06/17:201474SBL	Blank	ug/L	5.000	106 %	70-130	
, , , , , , , , , , , , , , , , , , , ,			LCS	ug/L	5.000	85.0 %	70-130	
			MS	ug/L	5.000	100 %	70-130	
		(CC 1780314-001)	MSD	ug/L	5.000	98.3 %	70-130	
			MSRPD	ug/L	5.000	0.10	≤1	
Dibromoacetic Acid	552	02/06/17:201474SBL	Blank	ug/L		ND	<1	
			LCS	ug/L	10.00	75.0 %	70-130	
			MS	ug/L	10.00	79.2 %	70-130	
		(CC 1780314-001)	MSD	ug/L	10.00	84.5 %	70-130	
			MSRPD	ug/L	5.000	4.6%	≤20.0	
Dichloroacetic Acid	552	02/06/17:201474SBL	Blank	ug/L		ND	<1	
			LCS	ug/L	10.00	77.0 %	70-130	
			MS	ug/L	10.00	85.2 %	70-130	
		(CC 1780314-001)	MSD	ug/L	10.00	90.2 %	70-130	
			MSRPD	ug/L	5.000	4.3%	≤20.0	
Monobromoacetic Acid	552	02/06/17:201474SBL	Blank	ug/L		ND	<1	
			LCS	ug/L	10.00	78.9 %	70-130	
			MS	ug/L	10.00	86.8 %	70-130	
		(CC 1780314-001)	MSD	ug/L	10.00	88.1 %	70-130	
	I	1	MSRPD	ug/L	5.000	1.4%	≤20.0	

March 2, 2017 Lab ID : SP 1701517 **Monterey Bay Analytical Services** Customer : 2-19144

Quality Control - Organic

Constituent	Method	Date/ID	Туре	Units	Conc.	QC Data	DQO	Note
Organic								
Monochloroacetic Acid	552	02/06/17:201474SBL	Blank	ug/L		ND	<2	
			LCS	ug/L	10.00	87.7 %	70-130	
			MS	ug/L	10.00	130 %	70-130	
		(CC 1780314-001)	MSD	ug/L	10.00	128 %	70-130	
			MSRPD	ug/L	5.000	1.6%	≤20.0	
Trichloroacetic Acid	552	02/06/17:201474SBL	Blank	ug/L		ND	<1	
			LCS	ug/L	10.00	80.7 %	70-130	
			MS	ug/L	10.00	94.5 %	70-130	
		(CC 1780314-001)	MSD	ug/L	10.00	101 %	70-130	
			MSRPD	ug/L	5.000	5.1%	≤20.0	
2,3-Dibromopropionic Acid	552.2	02/07/17:201990SBL	CCV	ug/L	50.00	88.8 %	70-130	
			CCV	ug/L	75.00	89.0 %	70-130	
Dibromoacetic Acid	552.2	02/07/17:201990SBL	CCV	ug/L	100.0	83.0 %	70-130	
			CCV	ug/L	150.0	88.0 %	70-130	
Dichloroacetic Acid	552.2	02/07/17:201990SBL	CCV	ug/L	100.0	79.8 %	70-130	
			CCV	ug/L	150.0	92.6 %	70-130	
Monobromoacetic Acid	552.2	02/07/17:201990SBL	CCV	ug/L	100.0	80.8 %	70-130	
			CCV	ug/L	150.0	88.2 %	70-130	
Monochloroacetic Acid	552.2	02/07/17:201990SBL	CCV	ug/L	100.0	94.8 %	70-130	
			CCV	ug/L	150.0	95.0 %	70-130	
Trichloroacetic Acid	552.2	02/07/17:201990SBL	CCV	ug/L	100.0	98.6 %	70-130	
			CCV	ug/L	150.0	103 %	70-130	

Definition

CCV : Continuing Calibration Verification - Analyzed to verify the instrument calibration is within criteria.

Blank : Method Blank - Prepared to verify that the preparation process is not contributing contamination to the samples.

LCS : Laboratory Control Standard/Sample - Prepared to verify that the preparation process is not affecting analyte recovery.

MS : Matrix Spikes - A random sample is spiked with a known amount of analyte. The recoveries are an indication of how that sample

matrix affects analyte recovery.

MSD : Matrix Spike Duplicate of MS/MSD pair - A random sample duplicate is spiked with a known amount of analyted. The recoveries

are an indication of how that sample matrix affects analyte recovery.

MSRPD : MS/MSD Relative Percent Difference (RPD) - The MS relative percent difference is an indication of precision for the preparation

and analysis.

ND : Non-detect - Result was below the DQO listed for the analyte.

<1/4 : High Sample Background - Spike concentration was less than one forth of the sample concentration.</p>

DQO : Data Quality Objective - This is the criteria against which the quality control data is compared.



	ENVIRONMENTAL AGR		ıL					fgli	nc.	.00	m S	40	O DE		IPTIO	SAN	ID A	NAL	YSIS	REQ)UES	UST ST DO	OCU.	DY MEN'	r 		
Client: Custome	Monterey Bay Analytical r Number: 2019144	Services		سر ا			7					1100											 -				
Address	4 Installer Count				10																						
Project Purcha: Quote l Rush A Rush p Electro Sample	tdress: info@mbasinc.com Person: David Holland			Method of Sempling: Composite (C) Grab (G)	Number of Containers	Type of Containers: (G)Glass (P)Plastic (V)VOA (MT)Metal Tube	Potable (P) Non-Potable (NP) Ag Water (AgW)	(SW) Surface Water (MW) Monttering Well (GW) Ground Water (TB) Travel Blank (WW) Waste Weter (DW) Drinking Water	6) Soil (SLO) Shudge (SLD) Sood (O) Oa	BacT. (Sys) System (SRC) Source (W) Waste	BecT. (ROUT)Routine (RPT)Repeat (OTH)Other (RPL)Replace	(LT) Leaf Tissue (PET) Peticle Tissue (PRD) Produce	Preservative: (1) NaOH + ZnAc, (2) NaOH, (3) HCi (4) H2SO4, (5) HNO3, (6) Na2S2O3, (7) Other	НАА	тнмѕ												
Num	2004.0	Sampled	Sampled		-	0.4	1				<u> </u>	_	<u> </u>	×	X											-	
1.	MW-1	2/1/17	10:00	G	5	G/V	Р		-	-	-			<u> </u>												_	
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Corporate Offices & Laboratory 853 Corporation Street Santa Paula, CA 93060 TEL: (805)392-2000 Env FAX: (805)525-4172 / Ag FAX: (805)392-2063 Office & Laboratory 2500 Stagecoach Road Stockton, CA 95215 TEL: (209)942-0182 FAX: (209)942-0423

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Office & Laboratory 3442 Empresa Drive, Suite D San Luis Obispo, CA 93401 TEL: (805)783-2940 FAX: (805)783-2912 CA ELAP Certification No. 2775

Office & Laboratory 9415 W. Goshen Avenue Visatia, CA 93291 TEL: (559)734-9473 FAX: (559)734-8435 CA ELAP Certification No. 2810 FGL Environmental Doc ID: 2D0900157_SOP_17.DOC

Revision Date: 10/09/14 Page: 1 of 1

Condition Upon Receipt (Attach to COC)

Sample Receipt at SP:						
1. Number of ice chests/packages received:	1					
2. Shipper tracking numbers 53490	7048					
3. Were samples received in a chilled conditi Temps:	on?	/	//	//	/	/
4. Surface water (SWTR) bact samples: A sa should be flagged unless the time since sa	•	•	•	•	0C, whethe	r iced or not,
5. Do the number of bottles received agree w COC?	vith the Yes	No	N/A			
6. Verify sample date, time, sampler	Yes	No	N/A			
7. Were the samples received intact? (i.e. no bottles, leaks, etc.)	broken Yes	No				
8. Were sample custody seals intact?	Yes	No	N/A			
Sample Verification, Labeling and Distrib	ution:					
Were all requested analyses understood a acceptable?	and Yes	No				
2. Did bottle labels correspond with the client	t's ID's? Yes	No				
3. Were all bottles requiring sample preserval properly preserved? [Exception: Oil & Grease, VOA and CrVI veri		No	N/A FO	GL		
4. VOAs checked for Headspace?	Yes	No	N/A			
5. Were all analyses within holding times at to receipt?	ime of Yes	No				
6. Have rush or project due dates been chec accepted?	ked and Yes	No	N/A			
Include a copy of the COC for lab delivery. (E	Bacti. Inorganics a	and Ra	dio)			
Sample Receipt, Login and Verification com	•		Reviewed an Approved By		Peck 💷	Digitally signed by Shawn Peck Title: Sample Receiving Date: 02/06/2017-10:16:54
Discrepency Documentation:		<i>.</i>	\			
Any items above which are "No" or do not me	•	`	• /	e resolvea.		
1. Person Contacted:		none N	ımber:			
Initiated By: Problem:	Da	ate:				
Problem.						
Resolution:						
2. Person Contacted:	Pł	none N	umber:			
Initiated By:		ate:				
Problem:						
Resolution:				_ (2019144)	

Monterey Bay Analytical Services SP 1701517



MPWMD Jonanthan Lear P.O. Box 85 Monterey, CA 93442-0085

4 Justin Court Suite D, Monterey, CA 93940 831.375.MBAS www.MBASinc.com ELAP Certification Number: 2385

Page 1 of 2 Monday, April 10, 2017

Lab Number: AB62919

Collection Date/Time: 3/7/2017 11:00 Sample Collector: LEAR J/LINDBERG T Client Sample #:
Submittal Date/Time: 3/7/2017 14:30 Sample ID Coliform Designation:

Analyte	Method	Unit	ription: ASR-4 Backfl Result Qual	PQL	MCL	Date Analyzed	Analyst
Analyte					IVICL		Analyst:
Alkalinity, Total (as CaCO3)	SM2320B	mg/L	176	10	1000	3/13/2017	BS
Aluminum, Total	EPA200.8	μg/L	Not Detected LQ	10	1000	3/10/2017	SM
Ammonia-N	SM4500NH3 D	mg/L	Not Detected	0.05		3/10/2017	MW
Arsenic, Total	EPA200.8	μg/L	7	1	10	3/10/2017	SM
Barium, Total	EPA200.8	μg/L	29	10	1000	3/10/2017	SM
Bicarbonate (as HCO3-)	SM2320B	mg/L	215	10		3/13/2017	LRH
Boron	EPA200.7	mg/L	0.08	0.05		3/13/2017	MW
Bromide	EPA300.0	mg/L	0.2	0.1		3/8/2017	HM
Calcium	EPA200.7	mg/L	49	0.5		3/13/2017	MW
Carbonate as CaCO3	SM2320B	mg/L	Not Detected	10		3/13/2017	LRH
Chloramines	SM4500-CI G	mg/L	Not Detected	0.05		3/7/2017	LRH
Chloride	EPA300.0	mg/L	77	1	250	3/8/2017	HM
DOC	SM5310C	mg/L	0.9 IA	0.2		4/4/2017	MW
Fluoride	EPA300.0	mg/L	0.2	0.1	2.0	3/8/2017	НМ
Gross Alpha	EPA900.0	pCi/L	1.01+/-1.67 E		15	3/15/2017	FGL
Haloacetic Acids	EPA552	μg/L	Not Detected E		60	3/14/2017	FGL
Iron	EPA200.7	μg/L	135	10	300	3/13/2017	MW
Iron, Dissolved	EPA200.7	μg/L	Not Detected	10	300	3/13/2017	MW
Kjehldahl Nitrogen	SM4500-NH3 B,	mg/L	0.8	0.5		3/14/2017	BS
Lithium	EPA200.8	μg/L	24	1		3/10/2017	SM
Magnesium	EPA200.7	mg/L	6.0	0.5		3/13/2017	MW
Manganese, Dissolved	EPA200.7	μg/L	Not Detected	10	50	3/13/2017	MW
Manganese, Total	EPA200.7	μg/L	Not Detected	10	50	3/13/2017	MW
Mercury, Total	EPA200.8	µg/L	0.2	0.2	2	3/10/2017	SM
Methane	EPA174/175	μg/L	0.51 E	0.1		3/16/2017	MCCAM
Molybdenum, Total	EPA200.8	μg/L	24	1	1000	3/10/2017	SM
Nickel, Total	EPA200.8	μg/L	25	10	100	3/10/2017	SM
Nitrate as NO3	EPA300.0	mg/L	1	1	45	3/8/2017	HM
Nitrate as NO3-N	EPA300.0	mg/L	0.3	0.1	10	3/8/2017	HM
Nitrate+Nitrite as N	EPA300.0	mg/L	Not Detected	0.1		3/8/2017	HM
Nitrite as NO2-N	EPA300.0	mg/L	Not Detected	0.1	1.0	3/8/2017	HM
o-Phosphate-P, Dissolved	EPA300.0	mg/L	0.1	0.1		3/8/2017	HM
pH (Laboratory)	SM4500-H+B	pH (H)	7.6	0.1		3/7/2017	BS
Phosphorus, Total	HACH 8190	mg/L	0.03	0.03		3/20/2017	LRH
Potassium	EPA200.7	mg/L	4.2	0.5		3/13/2017	MW
QC Anion Sum x 100	Calculation	%	97%	0.0		3/13/2017	LRH
QC Anion-Cation Balance	Calculation	%	-3			3/15/2017	MW
QC Cation Sum x 100	Calculation	%	92%			3/15/2017	MW
QC Ratio TDS/SEC		/0					MP
	Calculation	/I	0.63	2	FO	3/14/2017	
Selenium, Total	EPA200.8	µg/L	5	2	50	3/10/2017	SM
Silica as SiO2, Total	EPA200.7	mg/L	36	0.5		3/13/2017	MW
Sodium	EPA200.7	mg/L	76	0.5		3/13/2017	MW

Page 2 of 2 Monday, April 10, 2017

Lab Number: AB62919

Collection Date/Time: 3/7/2017 11:00 Sample Collector: LEAR J/LINDBERG T Client Sample #:
Submittal Date/Time: 3/7/2017 14:30 Sample ID Coliform Designation:

	Sa	mple Descri	ption: ASR-	4 Backfl	ush			
Analyte	Method	Unit	Result	Qual	PQL	MCL	Date Analyzed	Analyst:
Specific Conductance (E.C)	SM2510B	µmhos/cm	689		1	900	3/8/2017	НМ
Strontium, Total	EPA200.8	μg/L	456		5		3/10/2017	SM
Sulfate	EPA300.0	mg/L	48		1	250	3/8/2017	НМ
TOC	SM5310C	mg/L	0.8	IA	0.2		4/5/2017	MW
Total Diss. Solids	SM2540C	mg/L	437		10	500	3/9/2017	MP
Total Nitrogen	Calculation	mg/L	1.1		0.5		3/15/2017	MP
Total Radium 226	EPA903.0	pCi/L	0.318+/-0.17	1		3	3/11/2017	FGL
Trihalomethanes	EPA524.2	μg/L	19.3	E		80	3/9/2017	FGL
Uranium by ICP/MS	EPA200.8	μg/L	3	IJ	1	30	3/10/2017	SM
Vanadium, Total	EPA200.8	μg/L	5		5	1000	3/10/2017	SM
Zinc, Total	EPA200.8	μg/L	20	IJ	20	5000	3/10/2017	SM

Sample Comments:

LQ: LCS recovery above method control limits. IJ: ICV and/or CCV above acceptance limits. IA: Results are valid even though CCV recovery outside of limits.

Report Approved by:

David Holland, Laboratory Director

March 22, 2017

Lab ID : SP 1702889 **Monterey Bay Analytical Services** 4 Justin Court Customer : 2-19144

Monterey, CA 93940

Laboratory Report

Introduction: This report package contains total of 7 pages divided into 3 sections:

Case Narrative (2 pages): An overview of the work performed at FGL.

Sample Results (2 pages): Results for each sample submitted.

Quality Control (3 pages) : Supporting Quality Control (QC) results.

Case Narrative

This Case Narrative pertains to the following samples:

Sample Description	Date Sampled	Date Received	FGL Lab ID#	Matrix
ASR-4 Backflush	03/07/2017	03/08/2017	SP 1702889-001	W

Sampling and Receipt Information: All samples were received in acceptable condition and within temperature requirements, unless noted on the Condition Upon Receipt (CUR) form. All samples arrived at 3 °C. All samples were prepared and analyzed within the method specified hold time. All samples were checked for pH if acid or base preservation is required (except for VOAs). For details of sample receipt information, please see the attached Chain of Custody and Condition Upon Receipt Form.

Quality Control: All samples were prepared and analyzed according to the following tables:

Organic QC

551.1	03/09/2017:203607 All analysis quality controls are within established criteria.
	03/09/2017:202828 All preparation quality controls are within established criteria, except: The following note applies to Dibromochloromethane, Bromoform, Bromodichloromethane: 435 Sample matrix may be affecting this analyte. Data was accepted based on the LCS or CCV recovery.
552	03/13/2017:202973 All preparation quality controls are within established criteria, except: The following note applies to Monochloroacetic Acid: 435 Sample matrix may be affecting this analyte. Data was accepted based on the LCS or CCV recovery.
552.2	03/14/2017:203828 All analysis quality controls are within established criteria.

March 22, 2017 Lab ID : SP 1702889 **Monterey Bay Analytical Services** Customer : 2-19144

Radio QC

900.0	03/16/2017:204164 All analysis quality controls are within established criteria.
	03/15/2017:203054 All preparation quality controls are within established criteria.
903.0	03/17/2017:203979 All analysis quality controls are within established criteria.
	03/11/2017:202929 All preparation quality controls are within established criteria.

Certification:: I certify that this data package is in compliance with ELAP standards, both technically and for completeness, except for any conditions listed above. Release of the data contained in this data package is authorized by the Laboratory Director or his designee, as verified by the following electronic signature.

KD:DMB

Approved By Kelly A. Dunnahoo, B.S.





Analytical Chemists

March 22, 2017 Lab ID : SP 1702889-001

Customer ID : 2-19144

Monterey Bay Analytical Services

4 Justin Court Sampled On : March 7, 2017-11:00 Sampled By : J.Lear/T.Lindberg Monterey, CA 93940

Received On : March 8, 2017-10:15 Matrix : Water

Description : ASR-4 Backflush

Project : MPWMD

Sample Result - Organic

Constituent	Result	PQL	Units	Note	Sample	Preparation	Samp	le Analysis
Constituent	Result	1 QL	Omts	Note	Method	Date/ID	Method	Date/ID
EPA 551.1								
Decafluorobiphenyl [‡]	98.9	80-120	%		551.1	03/09/17:202828	551.1	03/09/17:203607
Bromodichloromethane	5.6	0.5	ug/L		551.1	03/09/17:202828	551.1	03/09/17:203607
Bromoform	0.8	0.5	ug/L		551.1	03/09/17:202828	551.1	03/09/17:203607
Chloroform	9.4	0.5	ug/L		551.1	03/09/17:202828	551.1	03/09/17:203607
Dibromochloromethane	3.5	0.5	ug/L		551.1	03/09/17:202828	551.1	03/09/17:203607
Total Trihalomethanes	19.3		ug/L		551.1	03/09/17:202828	551.1	03/09/17:203607
EPA 552.2								
2,3-Dibromopropionic Acid [‡]	84.8	70-130	%		552	03/13/17:202973	552.2	03/14/17:203828
Bromoacetic Acid	ND	1	ug/L		552	03/13/17:202973	552.2	03/14/17:203828
Chloroacetic Acid	ND	2	ug/L		552	03/13/17:202973	552.2	03/14/17:203828
Dibromoacetic Acid	ND	1	ug/L		552	03/13/17:202973	552.2	03/14/17:203828
Dichloroacetic Acid	ND	1	ug/L		552	03/13/17:202973	552.2	03/14/17:203828
Trichloroacetic Acid	ND	1	ug/L		552	03/13/17:202973	552.2	03/14/17:203828
Haloacetic acids (five)	ND		ug/L		552	03/13/17:202973	552.2	03/14/17:203828

ND=Non-Detected. PQL=Practical Quantitation Limit. ‡Surrogate. * PQL adjusted for dilution.

March 22, 2017 Lab ID : SP 1702889-001

Customer ID : 2-19144

Monterey Bay Analytical Services

4 Justin Court Sampled On : March 7, 2017-11:00 Monterey, CA 93940 Sampled By : J.Lear/T.Lindberg

Received On : March 8, 2017-10:15

: Water Matrix

Description : ASR-4 Backflush

Project : MPWMD

Sample Result - Radio

Constituent	Result ± Error	MDA	Units	MCL/AL	Sample	Preparation	Sample Analysis		
Constituent	Result ± Effor WIDA Units IV		WICL/AL	Method	Date/ID	Method	Date/ID		
Radio Chemistry									
Gross Alpha	1.01 ± 1.67	2.08	pCi/L	15/5	900.0	03/15/17-09:04 2P1703054	900.0	03/16/17-10:00 2A1704164	
Total Alpha Radium (226)	0.318 ± 0.171	0.363	pCi/L	3	903.0	03/11/17-11:45 2P1702929	903.0	03/17/17-09:30 2A1703979	

ND=Non-Detected. PQL=Practical Quantitation Limit. * PQL adjusted for dilution.

MDA = Minimum Detectable Activity (Calculated at the 95% confidence level) = Data utilized by DHS to determine matrix interference. MCL / AL = Maximum Contamination Level / Action Level. Alpha's Action Level of 5 pCi/L is based on the Assigned Value (AV). AV = Assigned Value(Gross Alpha Result + (0.84 x Error)). CCR Section 64442: Drinking Water Compliance Note: Do the following If Gross Alpha's (AV) exceeds 5 pCi/L run Uranium. If Gross Alpha's (AV) minus Uranium exceeds 5 pCi/L run Radium 226.

Drinking Water Compliance:

Gross Alpha (AV) minus Uranium is less than or equal to 15 pCi/L Uranium is less than or equal to 20 pCi/L

Radium 226 + Radium 228 is less than or equal to 5 pCi/L

Note: Samples are held for 3-6 months prior to disposal.

March 22, 2017 Lab ID : SP 1702889 **Monterey Bay Analytical Services** Customer : 2-19144

Quality Control - Organic

Constituent	Method	Date/ID	Type	Units	Conc.	QC Data	DQO	Note
Organic								
Bromodichloromethane	551.1	03/09/17:202828SBL	Blank	ug/L		ND	< 0.5	
Bromodiemoromemane	331.1	03/03/17.202020882	LCS	ug/L	9.512	94.8 %	80-120	
			MS	ug/L	10.01	71.0 %	80-120	435
		(SP 1702905-001)	MSD	ug/L	9.646	79.6 %	80-120	133
		(51 1702)03 001)	MSRPD	ug/L	19.29	3.9%	≤20	
	551.1	03/09/17:203607SBL	CCV	ug/L	166.7	97.8 %	80-120	
	331.1	03/03/17.203007BBE	CCV	ug/L ug/L	83.33	88.4 %	80-120	
Bromoform	551.1	03/09/17:202828SBL	Blank	ug/L	03.33	ND	<0.5	
Bromororm	331.1	03/03/17.202020BBE	LCS	ug/L ug/L	9.512	97.0 %	80-120	
			MS	ug/L ug/L	10.01	64.5 %	80-120	435
		(SP 1702905-001)	MSD	ug/L ug/L	9.646	71.3 %	80-120	435
		(31 1702)03-001)	MSRPD	ug/L ug/L	19.29	2.1%	≤20	733
	551.1	03/09/17:203607SBL	CCV		166.7	101 %	80-120	
	331.1	03/09/17:2030073BL	CCV	ug/L ug/L	83.33	93.1 %	80-120	
Chloroform	551.1	02/00/17,202020CDI			65.55			
Chloroform	331.1	03/09/17:202828SBL	Blank	ug/L	0.512	ND 05.4.0/	<0.5	
			LCS	ug/L	9.512	95.4 %	80-120	
		(CD 1702005 001)	MS	ug/L	10.01	83.0 %	80-120	
		(SP 1702905-001)	MSD	ug/L	9.646	84.7 %	80-120	
			MSRPD	ug/L	19.29	1.2%	≤20	
	551.1	03/09/17:203607SBL	CCV	ug/L	166.7	95.2 %	80-120	
			CCV	ug/L	83.33	86.7 %	80-120	
Decafluorobiphenyl	551.1	03/09/17:202828SBL	Blank	ug/L	18.96	96.4 %	80-120	
			LCS	ug/L	19.02	109 %	80-120	
			MS	ug/L	20.01	108 %	80-120	
		(SP 1702905-001)	MSD	ug/L	19.29	102 %	80-120	
			MSRPD	ug/L	19.29	9.5%	≤20.0	
	551.1	03/09/17:203607SBL	CCV	ug/L	333.3	93.2 %	80-120	
			CCV	ug/L	166.7	116 %	80-120	
Dibromochloromethane	551.1	03/09/17:202828SBL	Blank	ug/L		ND	< 0.5	
			LCS	ug/L	9.512	95.0 %	80-120	
			MS	ug/L	10.01	57.3 %	80-120	435
		(SP 1702905-001)	MSD	ug/L	9.646	73.9 %	80-120	435
			MSRPD	ug/L	19.29	5.9%	≤20	
	551.1	03/09/17:203607SBL	CCV	ug/L	166.7	98.7 %	80-120	
			CCV	ug/L	83.33	87.8 %	80-120	
2,3-Dibromopropionic Acid	552	03/13/17:202973SBL	Blank	ug/L	5.000	121 %	70-130	
-,			LCS	ug/L	5.000	104 %	70-130	
			MS	ug/L	5.000	104 %	70-130	
		(SP 1702889-001)	MSD	ug/L	5.000	93.5 %	70-130	
			MSRPD	ug/L	5.000	0.50	≤1	
Dibromoacetic Acid	552	03/13/17:202973SBL	Blank	ug/L		ND	<1	
	552		LCS	ug/L	10.00	85.7 %	70-130	
			MS	ug/L	10.00	78.8 %	70-130	
		(SP 1702889-001)	MSD	ug/L	10.00	87.3 %	70-130	
		(== ===================================	MSRPD	ug/L	5.000	9.7%	≤20.0	
Dichloroacetic Acid	552	03/13/17:202973SBL	Blank	ug/L		ND	<1	
Diemoroacone rieiu	332	55/15/17.2027755DE	LCS	ug/L ug/L	10.00	91.3 %	70-130	
			MS	ug/L ug/L	10.00	83.6 %	70-130	
		(SP 1702889-001)	MSD	ug/L ug/L	10.00	93.6 %	70-130	
		(51 1702007-001)	MSRPD	ug/L ug/L	5.000	10.6%	≤20.0	
		I .			2.500	ND	<1	
Monohromoscatic Acid	552	03/13/17-202072CDI	Right					
Monobromoacetic Acid	552	03/13/17:202973SBL	Blank	ug/L	10.00			
Monobromoacetic Acid	552	03/13/17:202973SBL	LCS	ug/L	10.00	90.3 %	70-130	
Monobromoacetic Acid	552	03/13/17:202973SBL (SP 1702889-001)			10.00 10.00 10.00			

March 22, 2017 Lab ID : SP 1702889 **Monterey Bay Analytical Services** Customer : 2-19144

Quality Control - Organic

Constituent	Method	Date/ID	Type	Units	Conc.	QC Data	DQO	Note
Organic								
Monochloroacetic Acid	552	03/13/17:202973SBL	Blank	ug/L		ND	<2	
			LCS	ug/L	10.00	100 %	70-130	
			MS	ug/L	10.00	61.9 %	70-130	435
		(SP 1702889-001)	MSD	ug/L	10.00	69.9 %	70-130	
			MSRPD	ug/L	5.000	0.80	≤2	
Trichloroacetic Acid	552	03/13/17:202973SBL	Blank	ug/L		ND	<1	
			LCS	ug/L	10.00	94.4 %	70-130	
			MS	ug/L	10.00	104 %	70-130	
		(SP 1702889-001)	MSD	ug/L	10.00	117 %	70-130	
			MSRPD	ug/L	5.000	11.8%	≤20.0	
2,3-Dibromopropionic Acid	552.2	03/14/17:203828SBL	CCV	ug/L	75.00	88.7 %	70-130	
			CCV	ug/L	50.00	103 %	70-130	
Dibromoacetic Acid	552.2	03/14/17:203828SBL	CCV	ug/L	150.0	85.9 %	70-130	
			CCV	ug/L	100.0	81.0 %	70-130	
Dichloroacetic Acid	552.2	03/14/17:203828SBL	CCV	ug/L	150.0	89.5 %	70-130	
			CCV	ug/L	100.0	86.0 %	70-130	
Monobromoacetic Acid	552.2	03/14/17:203828SBL	CCV	ug/L	150.0	81.6 %	70-130	
			CCV	ug/L	100.0	80.9 %	70-130	
Monochloroacetic Acid	552.2	03/14/17:203828SBL	CCV	ug/L	150.0	87.2 %	70-130	
			CCV	ug/L	100.0	91.4 %	70-130	
Trichloroacetic Acid	552.2	03/14/17:203828SBL	CCV	ug/L	150.0	104 %	70-130	
			CCV	ug/L	100.0	100 %	70-130	

Definition

CCV : Continuing Calibration Verification - Analyzed to verify the instrument calibration is within criteria.

Blank : Method Blank - Prepared to verify that the preparation process is not contributing contamination to the samples.

LCS : Laboratory Control Standard/Sample - Prepared to verify that the preparation process is not affecting analyte recovery.

: Matrix Spikes - A random sample is spiked with a known amount of analyte. The recoveries are an indication of how that sample MS

matrix affects analyte recovery.

: Matrix Spike Duplicate of MS/MSD pair - A random sample duplicate is spiked with a known amount of analyted. The recoveries MSD

are an indication of how that sample matrix affects analyte recovery.

: MS/MSD Relative Percent Difference (RPD) - The MS relative percent difference is an indication of precision for the preparation MSRPD

ND : Non-detect - Result was below the DQO listed for the analyte.

DQO : Data Quality Objective - This is the criteria against which the quality control data is compared.

Explanation

: Sample matrix may be affecting this analyte. Data was accepted based on the LCS or CCV recovery

March 22, 2017 Lab ID : SP 1702889 **Monterey Bay Analytical Services** : 2-19144 Customer

Quality Control - Radio

Constituent	Method	Date/ID	Type	Units	Conc.	QC Data	DQO	Note
Radio								
Alpha	900.0	03/16/17:204164rmm	CCV CCB	cpm cpm	8450	38.4 % 0.040	37 - 45 0.2	
Gross Alpha	900.0	03/15/17:203054rmm (SP 1702879-001)	Blank LCS MS MSD MSRPD	pCi/L pCi/L pCi/L pCi/L pCi/L	108.2 108.2 108.2 108.2	0.41 107 % 106 % 117 % 9.6%	3 75-125 60-140 60-140 ≤30	
Alpha	903.0	03/17/17:203979emv	CCV CCB	cpm cpm	8450	41.2 % 0.1200	38 - 46 0.16	
Total Alpha Radium (226)	903.0	03/11/17:202929emv	RgBlk LCS BS BSD BSRPD	pCi/L pCi/L pCi/L pCi/L pCi/L	21.85 21.85 21.85 21.85	-0.01 59.4 % 55.0 % 52.7 % 4.2%	2 52-107 43-111 43-111 ≤35.5	

CCB : Continuing Calibration Blank - Analyzed to verify the instrument baseline is within criteria.

Blank : Method Blank - Prepared to verify that the preparation process is not contributing contamination to the samples.

RgBlk : Method Reagent Blank - Prepared to correct for any reagent contributions to sample result.

LČS : Laboratory Control Standard/Sample - Prepared to verify that the preparation process is not affecting analyte recovery.

: Matrix Spikes - A random sample is spiked with a known amount of analyte. The recoveries are an indication of how that sample MS

matrix affects analyte recovery.

: Matrix Spike Duplicate of MS/MSD pair - A random sample duplicate is spiked with a known amount of analyted. The recoveries MSD

are an indication of how that sample matrix affects analyte recovery.

: Blank Spikes - A blank is spiked with a known amount of analyte. It is prepared to verify that the preparation process is not BS affecting analyte recovery.

: Blank Spike Duplicate of BS/BSD pair - A blank duplicate is spiked with a known amount of analyte. It is prepared to verify that BSD

the preparation process is not affecting analyte recovery.

: MS/MSD Relative Percent Difference (RPD) - The MS relative percent difference is an indication of precision for the preparation MSRPD

and analysis.

: BS/BSD Relative Percent Difference (RPD) - The BS relative percent difference is an indication of precision for the preparation BSRPD

and analysis.

DQO : Data Quality Objective - This is the criteria against which the quality control data is compared.



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CHAIN OF CUSTODY

AND ANALYSIS REQUEST DOCUMENT

l .	Monterey Bay Analytical To Number: 2019144 To 4 Justin Court	Services)	ab N		٦					TES	T DI	ESCF	RIPT	ION A	AND	ANA	LYS	ES R	EQU	EST	ED			
Address Phone: Email A	Monterey, CA 93940 (831)375-6227 Fax: (831))641-0734				dal Tube		Vater Water			(RPL)Replace															
Project 1 Purchas	Contact Person: David Holland roject Name: MPWMD Purchase Order Number: Quote Number: Lush Analysis: 5 Day 4 Day 3 Day 2 Day 24 hour		Grab (G)		(V)VOA (MT)Me	Ag Water (AgW)	(GW) Ground Water (DW) Drinking Water		ste		D) Produce	(3) HCI ther														
Rush pr	nalysis: 5 Day 4 Day 3 Day e-approval by lab (initals): ic Data Transfer: No State			Composite (C)	so.)Glass (P)Plastic	Non-Potable (NP) Ag	(MW) Monttoring Well (WW) Waste Water	BO (O) PGOS (CT)S	IC) Source (W) We	(RPT)Repeat (OT	Petiale Tissue (PR	+ ZnAc, (2) NBOH 6) NB2S2O3, (7) O													
Samplin	g Fee: Pickup Fee: pitor Setup Date: Time:			Method of Sempling:	Number of Containers	Type of Containers: (G)Glass (P)Plastic (V)VOA (MT)Metal Tube	Poteble (P) Non-Po	(SW) Surface Water (M (TB) Travel Blank (W	(6) Soil (SLG) Shudge (SLD) Soed (O) O	BecT. (Sys) System (SRC) Source (W) Waste	BacT. (ROUT)Routine (RPT)Repeat (OTH)Other	(LT) Leaf Tissue (PET) Peticle Tissue (PRD) Produce	Preservative: (1) NaOH + ZnAc, (2) NaOH, (3) HCI (4) HZSO4, (5) HNO3, (6) Na2S2O3, (7) Other			Gross Alpha	226									
Samp Num	Location Description	Date Sampled	Time Sampled	Wes	N N	Ę.	Pot	(SW) (TB)	(8)	Bec	Bac	(LT)	Pres (4) H	THMS	¥¥	Gross	Ra 2									
1.	ASR-4 Backflush	3/7/17	11:00	G	7	Var								х	X	x	х									
																-										
						-										-										
										<u> </u>			-													
Remark AB62	' 10 10 1	(CAZ	7	Reling	uished	Joh		3/7	_{דו}	ime:)bC		elingu	ished.			Date:	7	ime:		Relinq	uished		1	Date:	Time:	
				Receiv	ed By:			eate:		ime:	4	Cave W) /	3	Date		ime:	$ \langle $	Receiv	red By:			Date:	 Time:	

Corporate Offices & Laboratory 853 Corporation Street Santa Paula, CA 93060 TEL: (805)392-2000 Env FAX: (805)525-4172 / Ag FAX: (805)392-2063 CA ELAP Certification No.1573 Office & Laboratory 2500 Stagecoach Road Stockton, CA 95215 TEL: (209)942-0182 FAX: (209)942-0423 CA ELAP Certification No. 1563 Office & Laboratory
563 E. Lindo Avenue
Chico, CA 95928
TEL: (530)343-5818
FAX: (530)343-3807
CA ELAP Certification No. 2670-4

Office & Laboratory 3442 Empresa Drive, Suite D San Luis Obispo, CA 93401 TEL: (805)783-2940 FAX: (805)783-2912 CA ELAP Certification No. 2775 Office & Laboratory 9415 W. Goshen Avenue Visalia, CA 93291 TEL: (559)734-9473 FAX: (559)734-9435 CA ELAP Certification No. 2810 FGL Environmental Doc ID: 2D0900157_SOP_17.DOC

Revision Date: 10/09/14 Page: 1 of 1

Condition Upon Receipt (Attach to COC)

Sample Receipt at SP:								
1. Number of ice chests/packages	received:	1						
2. Shipper tracking numbers	535286023							
3. Were samples received in a chil Temps:	led condition?	3	/	/	/	/	/	/
4. Surface water (SWTR) bact sam should be flagged unless the time.							vhether ic	ed or not,
5. Do the number of bottles receive COC?	ed agree with the	Yes	No	N/A				
6. Verify sample date, time, sample	er	Yes	No	N/A				
7. Were the samples received intabottles, leaks, etc.)	ct? (i.e. no broken	Yes] No					
8. Were sample custody seals inta	ct?	Yes	No	N/A				
Sample Verification, Labeling ar	nd Distribution:							
1. Were all requested analyses unacceptable?	derstood and	Yes] No					
2. Did bottle labels correspond with	n the client's ID's?	Yes	No					
3. Were all bottles requiring sample properly preserved? [Exception: Oil & Grease, VOA a		Yes	No	N/A	FGL			
4. VOAs checked for Headspace?		Yes	No	N/A				
5. Were all analyses within holding receipt?	times at time of	Yes	No					
6. Have rush or project due dates l accepted?	oeen checked and	Yes	No	N/A				
Include a copy of the COC for lab	delivery. (Bacti. Inc	organics	and Ra	idio)				
Sample Receipt, Login and Verific	ation completed b	y:		Reviewe Approv		awn Pecl	Title: S	lly signed by Shawn Peck Sample Receiving 03/08/2017-14:06:56
Discrepency Documentation: Any items above which are "No" or	do not meet spec	cifications	s (i.e. te	emps) mu	st be reso	lved.		
Person Contacted:	·	PI	hone N	umber:				
Initiated By:		Da	ate:	_				
Problem:								
Resolution:								
2. Person Contacted:		Pl	hone N	umber: _				
Initiated Dur		D.	ate:	_				
Problem:								
Resolution:						(2019	9144)	
				Мо	nterev	•	•	I Services
					,	•	,	

SP 1702889



McCampbell Analytical, Inc.

"When Quality Counts"

Analytical Report

WorkOrder: 1703354

Report Created for: Monterey Bay Analytical

4 Justin Court, Suite D Monterey, CA 93940

Project Contact:

David Holland

Project P.O.:

Project Name: MPWMD

Project Received: 03/08/2017

Analytical Report reviewed & approved for release on 03/16/2017 by:

Angela Rydelius, Laboratory Manager

The report shall not be reproduced except in full, without the written approval of the laboratory. The analytical results relate only to the items tested. Results reported conform to the most current NELAP standards, where applicable, unless otherwise stated in the case narrative.



1534 Willow Pass Rd. Pittsburg, CA 94565 ♦ TEL: (877) 252-9262 ♦ FAX: (925) 252-9269 ♦ www.mccampbell.com

Glossary of Terms & Qualifier Definitions

Client: Monterey Bay Analytical

Project: MPWMD **WorkOrder:** 1703354

Glossary Abbreviation

%D Serial Dilution Percent Difference

95% Interval 95% Confident Interval

DF Dilution Factor

DI WET (DISTLC) Waste Extraction Test using DI water

DISS Dissolved (direct analysis of 0.45 µm filtered and acidified water sample)

DLT Dilution Test (Serial Dilution)

DUP Duplicate

EDL Estimated Detection Limit

ITEF International Toxicity Equivalence Factor

LCS Laboratory Control Sample

MB Method Blank

MB % Rec % Recovery of Surrogate in Method Blank, if applicable

MDL Method Detection Limit

ML Minimum Level of Quantitation

MS Matrix Spike

MSD Matrix Spike Duplicate

N/A Not Applicable

ND Not detected at or above the indicated MDL or RL

NR Data Not Reported due to matrix interference or insufficient sample amount.

PDS Post Digestion Spike

PDSD Post Digestion Spike Duplicate

PF Prep Factor

RD Relative Difference

RL Reporting Limit (The RL is the lowest calibration standard in a multipoint calibration.)

RPD Relative Percent Deviation
RRT Relative Retention Time

SPK Val Spike Value

SPKRef Val Spike Reference Value

SPLP Synthetic Precipitation Leachate Procedure

ST Sorbent Tube

TCLP Toxicity Characteristic Leachate Procedure

TEQ Toxicity Equivalents

WET (STLC) Waste Extraction Test (Soluble Threshold Limit Concentration)

1703354

Analytical Report

Client: Monterey Bay Analytical WorkOrder: **Date Received:** 3/8/17 9:32 **Extraction Method:** RSK175 **Date Prepared:** 3/16/17 **Analytical Method:** RSK175

Project: MPWMD Unit: $\mu g \! / L$

Dissolved Gases by RSK 175

Client ID	Lab ID	Matrix	Date C	ollected Instrument	Batch ID
ASR-4 Backflush	1703354-001A	Water	03/07/20	017 11:00 GC26	135691
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	Date Analyzed
Methane	0.51		0.10	1	03/16/2017 12:00

Analyst(s): AK

Quality Control Report

Client: Monterey Bay Analytical

MPWMD

Date Prepared:3/16/17Date Analyzed:3/16/17Instrument:GC26Matrix:Water

Project:

WorkOrder: 1703354 **BatchID:** 135691

Extraction Method: RSK175 **Analytical Method:** RSK175

Unit: μg/L

Sample ID: MB/LCS-135691

QC Summary Report for RSK175									
Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits		
Methane	ND	1.31	0.10	1.17	-	112	70-130		

McCampbell Analytical, Inc.

1534 Willow Pass Rd Pittsburg, CA 94565-1701 (925) 252-9262

CHAIN-OF-CUSTODY RECORD

Page 1 of

WorkOrder: 1703354 ClientCode: MBAS

	WaterTrax	WriteOn	EDF	Excel	EQuIS	✓ Email	HardCopy	ThirdParty	J-flag
Report to:				E	Bill to:		Req	uested TAT:	5 days;
David Holland Monterey Bay Analytical 4 Justin Court, Suite D	Email: cc/3rd Party: PO:	mweidner@mbas	sinc.com; Dholl	and@mbas	Accounts Paya Monterey Bay A 4 Justin Court,	Analytical	Date	e Received:	03/08/2017
Monterey, CA 93940 831-375-6227 FAX: 831-641-0734	ProjectNo:	MPWMD			Monterey, CA 9		Date	e Logged:	03/08/2017

					Requested Tests (See legend below)												
Lab ID	Client ID	Matrix	Collection Date	Hold	1	2	3		4	5	6	7	8	9	10	11	12
1703354-001	ASR-4 Backflush	Water	3/7/2017 11:00		Α												

Test Legend:

1	RSK175_W	2	3	4
5		6	7	8
9		10	11	12

Prepared by: Maria Venegas

Comments:

NOTE: Soil samples are discarded 60 days after results are reported unless other arrangements are made (Water samples are 30 days).

Hazardous samples will be returned to client or disposed of at client expense.



McCampbell Analytical, Inc.

"When Quality Counts"

1534 Willow Pass Road, Pittsburg, CA 94565-1701 Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269 http://www.mccampbell.com/E-mail: main@mccampbell.com

WORK ORDER SUMMARY

Client Name:	MONTERE	Y BAY ANALYTIC	CAL		Project:	MPWME)			Wor	k Order:	1703354
Client Contac	et: David Holla	and								Ç	QC Level:	LEVEL 2
Contact's Em	_	mbasinc.com; Dholl global.net; info@mb	_	e.com;	Comments:					Date	Logged:	3/8/2017
		WaterTrax	WriteOn	EDF	Excel		Fax y Email	HardCo	ppy ThirdParty	у 🗀	J-flag	
Lab ID	Client ID	Matrix	Test Name			ntainers mposites	Bottle & Preservative	De- chlorinated	Collection Date & Time	TAT	Sediment Content	Hold SubOut
1703354-001A	ASR-4 Backflush	Water	RSK175 < M	ethane_4>		3	VOA w/ HCl		3/7/2017 11:00	5 days	None	

NOTES: - STLC and TCLP extractions require 2 days to complete; therefore, all TATs begin after the extraction is completed (i.e., One-day TAT yields results in 3 days from sample submission).

- MAI assumes that all material present in the provided sampling container is considered part of the sample - MAI does not exclude any material from the sample prior to sample preparation unless requested in writing by the client.

1703354

CHAIN OF CUSTODY RECORD McCAMPBELL ANALYTICAL, INC. Z. 1534 WILLOW PASS ROAD TURN AROUND TIME PITTSBURG, CA 94565-1701 72 HR 5 DAY RUSH 24 HR 48 HR Website: www.mccampbell.com Email: main@mccampbell.com □ PDF ☐ Write On (DW) ☐ GeoTracker EDF □ Excel Telephone: (877) 252-9262 Fax: (925) 252-9269 Report To: David Holland Other Comments Bill To: **Analysis Request** Company: Monterey Bay Analytical Services EPA 608 / 8082 PCB's ONLY; Aroclors / Congeners Total Petroleum Oil & Grease (1664 / 5520 E/B&F) Filter 8015) 4 Justin Ct. Suite D Samples Monterey, Ca 93940 E-Mail: info@mbasinc.com MTBE / BTEX & TPH as Gas (602 / 8021 + CAM 17 Metals (200,7 / 200,8 / 6010 / 6020) for Metals LUFT 5 Metals (200.7 / 200.8 / 6010 / 6020) Tele: (831) 375 - 6227 Fax: (831) 641-0734 MTBE / BTEX ONLY (EPA 602 / 8021) analysis: Total Petroleum Hydrocarbons (418.1) EPA 502.2 / 601 / 8010 / 8021 (HVOCs) EPA 515 / 8151 (Acidic Cl Herbicides) EPA 8270 SIM / 8310 (PAHs / PNAs) Project Name: MPWMD Project #: Yes / No EPA 505/ 608 / 8081 (CI Pesticides) TPH as Diesel / Motor Oil (8015) Lead (200.7 / 200.8 / 6010 / 6020) EPA 525.2 / 625 / 8270 (SVOCs) **Project Location:** EPA 507 / 8141 (NP Pesticides) EPA 524.2 / 624 / 8260 (VOCs) Sampler Signature: J. Lear/ T. Lindberg METHOD SAMPLING MATRIX Type Containers PRESERVED # Containers SAMPLE ID LOCATION/ Methane Field Point Name Sludge Water Date Time HNO3 Other HCL ICE Air X AB62919 ASR-4 Backflush 3/7/17 11:00 X Received By: COMMENTS: ICE/t° () . L Relinquished By: Date: Time: GOOD CONDITION David Holland 1600 HEAD SPACE ABSENT Tracking #: 535286049 Received By: **DECHLORINATED IN LAB** Relinquished By: Date: Time: APPROPRIATE CONTAINERS 11432 PRESERVED IN LAB Received By: Relinquished By: Date: Time: VOAS O&G METALS OTHER PRESERVATION pH<2

Sample Receipt Checklist

Client Name:	Monterey Bay Analytical			Date and Time Received	3/8/2017 09:32
Project Name:	MPWMD			Date Logged:	3/8/2017
WorkOrdor No:	1702254 Motrix: Woter			Received by:	Maria Venegas
WorkOrder №: Carrier:	1703354 Matrix: Water Golden State Overnight			Logged by:	Maria Venegas
	Chain of C	ustody	(COC) Infor	<u>mation</u>	
Chain of custody	present?	Yes	✓	No 🗆	
Chain of custody	signed when relinquished and received?	Yes	✓	No 🗆	
Chain of custody	agrees with sample labels?	Yes	✓	No 🗌	
Sample IDs note	d by Client on COC?	Yes	•	No 🗆	
Date and Time o	f collection noted by Client on COC?	Yes	✓	No 🗌	
Sampler's name	noted on COC?	Yes	✓	No 🗆	
	<u>Sampl</u>	e Rece	eipt Informati	<u>ion</u>	
Custody seals in	tact on shipping container/cooler?	Yes		No 🗆	NA 🗹
Shipping contain	er/cooler in good condition?	Yes	✓	No 🗆	
Samples in prope	er containers/bottles?	Yes	✓	No 🗆	
Sample containe	rs intact?	Yes	✓	No 🗆	
Sufficient sample	e volume for indicated test?	Yes	✓	No 🗌	
	Sample Preservation	on and	Hold Time (I	HT) Information	
All samples recei	ived within holding time?	Yes	✓	No 🗌	NA 🗌
Sample/Temp Bl	ank temperature		Temp: 6.2	2°C	NA 🗌
Water - VOA vial	s have zero headspace / no bubbles?	Yes	✓	No 🗌	NA 🗌
Sample labels ch	necked for correct preservation?	Yes	✓	No 🗌	
pH acceptable up	oon receipt (Metal: <2; 522: <4; 218.7: >8)?	Yes		No 🗌	NA 🗹
Samples Receive	ed on Ice?	Yes	✓	No 🗌	
	(Ice Type	e: WE	TICE)		
UCMR3 Samples				\square	🗖
	·····	Yes			NA 🗹
Free Chlorine t 300.1, 537, 539	ested and acceptable upon receipt for EPA 218.7, 9?	Yes		No 🗌	NA 🗹
	===========				
Comments:					

MPWMD Jonanthan Lear P.O. Box 85 Monterey, CA 93442-0085



4 Justin Court Suite D, Monterey, CA 93940 831.375.MBAS www.MBASinc.com

ELAP Certification Number: 2385

David Holland, Laboratory Director

Page 1 of 1

Wednesday, March 22, 2017

Lab Number: AB63163

Collection Date/Time: 3/10/2017 13:00 Sample Collector: SUWADA J Client Sample #:

Submittal Date/Time: 3/10/2017 16:00 Sample ID

Sample Description: Injectate ASR-2										
Analyte	Method	Unit	Result	Dilution	Qual	PQL	MDL	Date Analyzed	Time Analyzed	Analyst:
Chloramines	SM4500-CI	mg/L	0.18	1		0.05	0.05	3/10/2017	4:00:00 PM	LRH
Chloride	EPA300.0	mg/L	27	1		1	0.25	3/14/2017	3:59:00 PM	НМ
Haloacetic Acids	EPA552	μg/L	12	1	Е			3/20/2017	12:00:00 PM	BSK
Trihalomethanes	EPA524.2	μg/L	23	1	Е			3/17/2017	12:00:00 PM	BSK

Sample Comments:

Report Approved by:



A7C1272 3/22/2017

Invoice: A707151

David Holland Monterey Bay Analytical 4 Justin Court Suite D Monterey, CA 93940

RE: Report for A7C1272 MPWMD

Dear David Holland,

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 3/14/2017. 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.

If additional clarification of any information is required, please contact your Project Manager, Sarah K. Guenther, at 559-497-2888.

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

Sincerely,

Sarah K. Guenther, Project Manager

Sarah Guerthe

TNI TNI TNI

Accredited in Accordance with NELAP ORELAP #4021



Case Narrative

Invoice Details

Project and Report Details

Client: Monterey Bay Analytical Invoice To: Monterey Bay Analytical

Report To: David Holland Invoice Attn: David Holland

Project #: - Project PO#: -

Received: 3/14/2017 - 11:10 **Report Due:** 3/28/2017

Sample Receipt Conditions

Cooler:Default CoolerContainers IntactTemperature on Receipt °C: 2.9COC/Labels Agree

Received On Wet Ice 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:

MS1.4 Matrix spike recovery data unreliable due to significant parent sample concentration relative to fortification level (>4x).

Report Distribution

Recipient(s)	Report Format	CC:	
David Holland	FINAL.RPT		
Mason Weidner	FINAL.RPT		
Monterey Bay Analytical Services	FINAL.RPT		



Certificate of Analysis

Sample ID: A7C1272-01 **Sample Date - Time:** 03/10/17 - 13:00 Sampled By: Joseph Suwada

Matrix: Drinking Water

Sample Type: Grab Sample Description: Injectate at ASR-2 // AB63163

BSK Associates Laboratory Fresno **Organics**

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Trihalomethanes by GC-MS									
Bromodichloromethane	EPA 524.2	7.8	0.50	ug/L	1	A703340	03/16/17	03/17/17	
Bromoform	EPA 524.2	0.69	0.50	ug/L	1	A703340	03/16/17	03/17/17	
Chloroform	EPA 524.2	9.2	0.50	ug/L	1	A703340	03/16/17	03/17/17	
Dibromochloromethane	EPA 524.2	5.7	0.50	ug/L	1	A703340	03/16/17	03/17/17	
Surrogate: 1,2-Dichlorobenzene-d4	EPA 524.2	104 %	Acceptable	range:	70-130 %				
Surrogate: Bromofluorobenzene	EPA 524.2	102 %	Acceptable	range:	70-130 %				
Total Trihalomethanes		23	0.50	ug/L					
Haloacetic Acids by GC-ECD, G	C-MS								
Dibromoacetic Acid (DBAA)	EPA 552.3	2.1	1.0	ug/L	1	A703359	03/17/17	03/20/17	
Dichloroacetic Acid (DCAA)	EPA 552.3	5.5	1.0	ug/L	1	A703359	03/17/17	03/20/17	
Monobromoacetic Acid (MBAA)	EPA 552.3	ND	1.0	ug/L	1	A703359	03/17/17	03/20/17	
Monochloroacetic Acid (MCAA)	EPA 552.3	ND	2.0	ug/L	1	A703359	03/17/17	03/20/17	
Trichloroacetic Acid (TCAA)	EPA 552.3	4.3	1.0	ug/L	1	A703359	03/17/17	03/20/17	
Surrogate: 2-Bromobutanoic Acid	EPA 552.3	110 %	Acceptable	range:	70-130 %				
Total Haloacetic Acids		12	2.0	ug/L					



BSK Associates Laboratory Fresno Organics Quality Control Report

				Spike	Source		%REC		RPD	Date
Analyte	Result	RL	Units	Level	Result	%REC	Limits	RPD	Limit	Analyzed Qual
		EPA 52	24.2 - Q	uality Co	ntrol					
Batch: A703340										Prepared: 3/16/201
Prep Method: EPA 524.2										Analyst: ANI
Blank (A703340-BLK1)										
Bromodichloromethane	ND	0.50	ug/L							03/17/17
Bromoform	ND	0.50	ug/L							03/17/17
Chloroform	ND	0.50	ug/L							03/17/17
Dibromochloromethane	ND	0.50	ug/L							03/17/17
Surrogate: 1,2-Dichlorobenzene-d4	53		3	50		105	70-130			03/17/17
Surrogate: Bromofluorobenzene	50			50		100	70-130			03/17/17
Blank Spike (A703340-BS1)										
Bromodichloromethane	10	0.50	ug/L	10		102	70-130			03/17/17
Bromoform	11	0.50	ug/L	10		111	70-130			03/17/17
Chloroform	10	0.50	ug/L	10		102	70-130			03/17/17
Dibromochloromethane	11	0.50	ug/L	10		107	70-130			03/17/17
Surrogate: 1,2-Dichlorobenzene-d4	53	0.00	ug/L	50		105	70-130			03/17/17
Surrogate: Bromofluorobenzene	51			50		102	70-130			03/17/17
Blank Spike Dup (A703340-BSD1)										
Bromodichloromethane	9.8	0.50	ug/L	10		98	70-130	4	30	03/17/17
Bromoform	10	0.50	ug/L	10		103	70-130	8	30	03/17/17
Chloroform	9.7	0.50	ug/L	10		97	70-130	5	30	03/17/17
Dibromochloromethane	10	0.50	ug/L	10		101	70-130	6	30	03/17/17
Surrogate: 1,2-Dichlorobenzene-d4	51	0.50	ug/L	50		101	70-130	U	30	03/17/17
Surrogate: Bromofluorobenzene	47			50		94	70-130			03/17/17
Matrix Spike (A703340-MS1), Source: A	Δ7C1461-02									
Bromodichloromethane	12	0.50	ug/L	10	1.5	102	47-151			03/17/17
Bromoform	10	0.50	ug/L ug/L	10	ND	102	29-162			03/17/17
			-							
Chloroform	23	0.50	ug/L	10	13 ND	95 405	52-148			03/17/17
Dibromochloromethane	10	0.50	ug/L	10	ND	105	44-149			03/17/17
Surrogate: 1,2-Dichlorobenzene-d4 Surrogate: Bromofluorobenzene	53 51			50 50		105 102	70-130 70-130			03/17/17 03/17/17
		EDA 54	:22 O	uality Co	ntrol					
Batch: A703359		LFA 30)2.5 - Q	uanty Co	iitioi					Prepared: 3/17/201
Prep Method: EPA 552.3										Analyst: KH
Blank (A703359-BLK1)										
Dibromoacetic Acid (DBAA)	ND	1.0	ug/L							03/20/17
Dichloroacetic Acid (DCAA)	ND	1.0	ug/L							03/20/17
Monobromoacetic Acid (MBAA)	ND	1.0	ug/L							03/20/17
Monochloroacetic Acid (MCAA)	ND	2.0	ug/L							03/20/17
Trichloroacetic Acid (TCAA)	ND	1.0	ug/L							03/20/17
Surrogate: 2-Bromobutanoic Acid	11	1.0	49/L	10		110	70-130			03/20/17
Blank Spike (A703359-BS1)										
Dibromoacetic Acid (DBAA)	12	1.0	ug/L	10		119	70-130			03/20/17
Dichloroacetic Acid (DCAA)	12	1.0	ug/L ug/L	10		120	70-130			03/20/17
A7C4979 EINIAL 02999047 4404										
A7C1272 FINAL 03222017 1401 Printed: 3/22/2017										
			DOLLA	!-4-						Page 4 of 9
QA-RP-0001-10 Final.rpt		www.	DOKAS	sociates.	com —					



BSK Associates Laboratory Fresno Organics Quality Control Report

				Spike	Source		%REC		RPD	Date	
Analyte	Result	RL	Units	Level	Result	%REC	Limits	RPD		Analyzed	Qual
		EPA 5	52.3 - Q	uality Co	ntrol						
Batch: A703359										Prepare	d: 3/17/2017
Prep Method: EPA 552.3										•	nalyst: KHH
Blank Spike (A703359-BS1)											
Monobromoacetic Acid (MBAA)	11	1.0	ug/L	10		112	70-130			03/20/17	
Monochloroacetic Acid (MCAA)	21	2.0	ug/L	20		105	70-130			03/20/17	
Trichloroacetic Acid (TCAA)	11	1.0	ug/L	10		114	70-130			03/20/17	
Surrogate: 2-Bromobutanoic Acid	11			10		109	70-130			03/20/17	
Blank Spike Dup (A703359-BSD1)											
Dibromoacetic Acid (DBAA)	13	1.0	ug/L	10		126	70-130	6	30	03/20/17	
Dichloroacetic Acid (DCAA)	13	1.0	ug/L	10		126	70-130	5	30	03/20/17	
Monobromoacetic Acid (MBAA)	11	1.0	ug/L	10		113	70-130	1	30	03/20/17	
Monochloroacetic Acid (MCAA)	22	2.0	ug/L	20		110	70-130	5	30	03/20/17	
Trichloroacetic Acid (TCAA)	12	1.0	ug/L	10		120	70-130	5	30	03/20/17	
Surrogate: 2-Bromobutanoic Acid	11			10		111	70-130			03/20/17	
Duplicate (A703359-DUP1), Source: A70	1678-02										
Dibromoacetic Acid (DBAA)	1.8	1.0	ug/L		1.9			1	30	03/20/17	
Dichloroacetic Acid (DCAA)	25	1.0	ug/L		26			1	30	03/20/17	
Monobromoacetic Acid (MBAA)	ND	1.0	ug/L		ND				30	03/20/17	
Monochloroacetic Acid (MCAA)	2.9	2.0	ug/L		3.2			8	30	03/20/17	
Trichloroacetic Acid (TCAA)	22	1.0	ug/L		22			0	30	03/20/17	
Surrogate: 2-Bromobutanoic Acid	11			10		112	70-130			03/20/17	
Matrix Spike (A703359-MS1), Source: A7	'C1147-01										
Dibromoacetic Acid (DBAA)	14	1.0	ug/L	10	1.4	128	70-130			03/20/17	
Dichloroacetic Acid (DCAA)	110	5.0	ug/L	10	94	164	70-130			03/20/17	MS1.4 High
Monobromoacetic Acid (MBAA)	12	1.0	ug/L	10	ND	116	70-130			03/20/17	_
Monochloroacetic Acid (MCAA)	27	2.0	ug/L	20	5.2	110	70-130			03/20/17	
Trichloroacetic Acid (TCAA)	100	5.0	ug/L	10	89	146	70-130			03/20/17	MS1.4 High
Surrogate: 2-Bromobutanoic Acid	11			10		107	70-130			03/20/17	



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 Recovered (surrogates)	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 program for the following parameters:

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

State of California - ELAP	1180	State of Hawaii	4021
State of Nevada	CA000792016-1	State of Oregon - NELAP	4021
EPA - UCMR3	CA00079	State of Washington	C997-16
Sacramento			
State of California - ELAP	2435		
San Bernardino			
State of California - ELAP	2993	State of Oregon - NELAP	4119-001
Vancouver			
State of Oregon - NELAP	WA100008-008	State of Washington	C824-16







03142017

Monte6227

Turnaround: Standard

Due Date: 3/28/2017



Monterey Bay Analytical





Associates Engineers Laboratories

1414 Stanislaus St., Fresno, CA 93706 (559) 497-2888 · Fax (559) 497-2893

www.bskassociates.com

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BSK Associates SR-FL-0002-18

Sample Integrity

BSK Bottles: Yes No Page of



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ELAP Certification Number: 2385

Page 1 of 2 Tuesday, April 18, 2017

Lab Number: AB65016

Collection Date/Time: 4/5/2017 18:20 Sample Collector: RM Client Sample #:
Submittal Date/Time: 4/10/2017 10:06 Sample ID Coliform Designation:

Sample Description: ASR4 5 Min

Analyte Method PQL MCL Date Analyzed Result Qual Analyst: 4/14/2017 Mercury, Total EPA200.8 µg/L 0.9 IJ 0.2 2 SM

Lab Number: AB65017

Collection Date/Time: 4/5/2017 18:25 Sample Collector: RM Client Sample #:
Submittal Date/Time: 4/10/2017 10:06 Sample ID Coliform Designation:

Sample Description: ASR4 10 Min

Unit PQL Analyte Method Result Qual MCL Date Analyzed Analyst: EPA200.8 Mercury, Total IJ 0.2 2 4/14/2017 SM µg/L 0.7

Lab Number: AB65018

Collection Date/Time: 4/5/2017 18:30 Sample Collector: RM Client Sample #:
Submittal Date/Time: 4/10/2017 10:06 Sample ID Coliform Designation:

Sample Description: ASR4 15 Min Analyte Method Unit Result Qual PΩI MCI Date Analyzed Analyst: Mercury, Total EPA200.8 0.2 4/14/2017 μg/L 0.8 IJ 2 SM

Sample Comments: IJ: ICV and/or CCV above acceptance limits.

Lab Number: AB65019

Collection Date/Time: 4/5/2017 18:35 Sample Collector: RM Client Sample #:
Submittal Date/Time: 4/10/2017 10:06 Sample ID Coliform Designation:

Sample Description: ASR4 20 Min Analyte Method Unit Result Qual **PQL** MCL Date Analyzed Analyst: EPA200.8 IJ 4/14/2017 SM Mercury, Total µg/L 0.8 0.2 2

Sample Comments: IJ: ICV and/or CCV above acceptance limits.

Lab Number: AB65020

Collection Date/Time: 4/6/2017 9:40 Sample Collector: RM Client Sample #:
Submittal Date/Time: 4/10/2017 10:06 Sample ID Coliform Designation:

Sample Description: ASR4 5 Min Unit PQL Analyte Method Qual MCL Result Date Analyzed Analyst: EPA200.8 IJ 2 4/14/2017 Mercury, Total 0.7 0.2 SM μg/L

Sample Comments: IJ: ICV and/or CCV above acceptance limits.

Lab Number: AB65021

Collection Date/Time: 4/6/2017 9:45 Sample Collector: RM Client Sample #:
Submittal Date/Time: 4/10/2017 10:06 Sample ID Coliform Designation:

Sample Description: ASR4 10 Min Analyte Method Unit Result Qual PQL MCL Date Analyzed Analyst: Mercury, Total EPA200.8 μg/L 0.7 IJ 0.2 2 4/14/2017 SM

 Page 2 of 2 Tuesday, April 18, 2017

Lab Number: AB65022

Collection Date/Time: 4/6/2017 9:50 Sample Collector: RM Client Sample #:
Submittal Date/Time: 4/10/2017 10:06 Sample ID Coliform Designation:

	,	Sample Des	cription: AS	R4 15 Mi	in			
Analyte	Method	Unit	Result	Qual	PQL	MCL	Date Analyzed	Analyst:
Mercury, Total	EPA200.8	μg/L	0.7	IJ	0.2	2	4/14/2017	SM

Lab Number: AB65023

Collection Date/Time: 4/6/2017 9:55 Sample Collector: RM Client Sample #:
Submittal Date/Time: 4/10/2017 10:06 Sample ID Coliform Designation:

	Sample Description: ASR4 20 Min											
Analyte	Method	Unit	Result	Qual	PQL	MCL	Date Analyzed	Analyst:				
Mercury, Total	EPA200.8	μg/L	0.8	IJ	0.2	2	4/14/2017	SM				

Sample Comments: IJ: ICV and/or CCV above acceptance limits.

Report Approved by:

David Holland, Laboratory Director

Monterey Bay Analytical Services

QC Summary for 200.8

Spiked Sample

Date Analyzed

AB65120

4/14/2017 5:41:31 PM

	ICVB	QCS	LCB	LCS	LCSD	LCS/LCSD	Sample	Spiked	MS	MSD	MS-MSD	ICV	CCV	ICV-CCV	CCVB	Qualifier
	ug/L	%Rec.	ug/L	% Rec	%Rec	%RPD	ug/L	ug/L	%Rec.	% Rec.	% RPD	% Rec	% Rec	% RPD	ug/L	Code
		85-115%		70-130%	70-130%	20%			70-130%	70-130%	20%	85-115%	85-115%	20%		
Mercury	0.03	106.1	0.02	102.7	102.8	0.16	0.02	2.5	113.40	119.18	4.94	108.6	118.5	8.74	0.02	IJ

IJ: ICV and/or CCV above acceptance limits.

ICVB = Initial Calibration Verification Blank QCS = Quality Control Sample LCB = Laboratory Control Blank LCS(D) = Laboratory Control Sample (Duplicate) MS(D) = Matrix Spike (Duplicate) ICV = Initial Calibration Verification CCV = Continuing Calibration Verification RPD = Relative Percent Difference [Note QCS contains W; Hg %Rec based on Hg201]



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Lab Number: AB65119

Collection Date/Time: 4/11/2017 8:40 Sample Collector: LEAR J Client Sample #:

Submittal Date/Time: 4/11/2017 9:26 Sample ID

Submittal Date/Time: 4	9:2	.0	Sample ID	orintios	· ASD	2 ln:				
Analyte	Method	Unit	Sample Des Result	Cription Dilution		<u>Z INJ</u> PQL	MDI	Date Analyzed	Time Analyzed	Analyst:
Alkalinity, Total (as CaCO		mg/L	127	1	Quui	10	2	4/17/2017	1:00 PM	BS
Aluminum, Total	EPA200.8	μg/L	14	2		10	10	4/14/2017	5:38 PM	SM
Ammonia-N	SM4500NH3		Not Detected			0.05		4/25/2017	10:59 AM	MW
Arsenic, Total	EPA200.8	μg/L	Not Detected			1	0.2	4/14/2017	5:38 PM	SM
Barium, Total	EPA200.8	μg/L	57	2		10	0.4	4/14/2017	5:38 PM	SM
Bicarbonate (as HCO3-)	SM2320B	mg/L	155	1		10	2	4/17/2017	4:35 PM	MP
Boron	EPA200.7	mg/L	Not Detected	1 1		0.05	0.01	4/12/2017	4:27 PM	HM
Bromide	EPA300.0	mg/L	0.1	1		0.1	0.01	4/11/2017	2:02 PM	HM
Calcium	EPA200.7	mg/L	33	1		0.5	0.1	4/12/2017	4:27 PM	HM
Carbonate as CaCO3	SM2320B	mg/L	Not Detected	1		10	2	4/17/2017	4:35 PM	MP
Chloramines	SM4500-CI	mg/L	0.18	1		0.05	0.05	4/11/2017	11:30 AM	LRH
Chloride	EPA300.0	mg/L	27	1		1	0.25	4/11/2017	2:02 PM	HM
DOC	SM5310C	mg/L	1.5	1		0.2	0.03	4/24/2017	3:00 PM	MW
Fluoride	EPA300.0	mg/L	0.3	1		0.1	0.02	4/11/2017	2:02 PM	HM
Gross Alpha	EPA900.0	pCi/L	1.27 ± 1.09	1	Е			4/18/2017	11:10 AM	FGL
Haloacetic Acids	EPA552	μg/L	8	1	Е			4/14/2017	12:00 PM	FGL
Iron	EPA200.7	μg/L	Not Detected	1 1		10	4	4/12/2017	4:27 PM	HM
Iron, Dissolved	EPA200.7	μg/L	Not Detected	1 1		10	4	4/12/2017	4:30 PM	НМ
Kjehldahl Nitrogen	SM4500-NH	mg/L	0.5	1		0.5	0.5	4/19/2017	10:00 AM	BS
Lithium	EPA200.8	μg/L	6	2		1	0.2	4/14/2017	5:38 PM	SM
Magnesium	EPA200.7	mg/L	12	1		0.5	0.2	4/12/2017	4:27 PM	HM
Manganese, Dissolved	EPA200.7	μg/L	Not Detected	1		10	2	4/12/2017	4:30 PM	НМ
Manganese, Total	EPA200.7	μg/L	Not Detected	l 1		10	2	4/12/2017	4:27 PM	НМ
Mercury, Total	EPA200.8	μg/L	Not Detected	1 2	IJ	0.4	0.08	4/14/2017	5:38 PM	SM
Methane	EPA174/175	μg/L	1.3	1	Е	0.1	0.1	4/18/2017	2:38 PM	MCCAM
Molybdenum, Total	EPA200.8	μg/L	2	2		1	0.2	4/14/2017	5:38 PM	SM
Nickel, Total	EPA200.8	μg/L	Not Detected	1 2		10	0.2	4/14/2017	5:38 PM	SM
Nitrate as NO3	EPA300.0	mg/L	1	1		1	0.07	4/11/2017	2:02 PM	НМ
Nitrate as NO3-N	EPA300.0	mg/L	0.3	1		0.1	0.01	4/11/2017	2:02 PM	НМ
Nitrate+Nitrite as N	EPA300.0	mg/L	1.0	1		0.1	0.025	4/11/2017	2:02 PM	НМ
Nitrite as NO2-N	EPA300.0	mg/L	0.5	1		0.1	0.01	4/11/2017	2:02 PM	НМ
o-Phosphate-P, Dissolved	d EPA300.0	mg/L	0.2	1		0.1	0.02	4/11/2017	2:02 PM	HM
pH (Laboratory)	SM4500-H+	pH (H)	7.4	1		0.1		4/11/2017	5:00 PM	BS
Phosphorus, Total	HACH 8190	mg/L	0.40	1	HP/l	0.05	0.05	4/18/2017	3:27 PM	LRH
Potassium	EPA200.7	mg/L	2.6	1		0.5	0.3	4/12/2017	4:27 PM	HM
QC Anion Sum x 100	Calculation	%	101%	1				4/17/2017	4:35 PM	MP
QC Anion-Cation Balance	e Calculation	%	-4	1				4/17/2017	4:35 PM	MP
QC Cation Sum x 100	Calculation	%	92%	1				4/14/2017	9:25 AM	HM
QC Ratio TDS/SEC	Calculation		0.60	1				4/17/2017	5:17 PM	LRH
Selenium, Total	EPA200.8	μg/L	2	2		2	1	4/14/2017	5:38 PM	SM
Silica as SiO2, Total	EPA200.7	mg/L	22	1		0.5	0.3	4/12/2017	4:27 PM	HM
	•		<u> </u>					•		

mg/L: Milligrams per liter (=ppm)
H = Analyzed ouside of hold time
J = Result is less than PQL

 $\label{eq:continuous} $$ ug/L:$ Micrograms per liter (=ppb) $$ PQL:$ Practical Quantitation Limit $$E = Analysis performed by External Laboratory; See External Laboratory Report attachments. $$T = Temperature Exceedance$



4 Justin Court Suite D, Monterey, CA 93940 831.375.MBAS www.MBASinc.com ELAP Certification Number: 2385 Thursday, May 04, 2017

Lab Number: AB65119

Collection Date/Time: 4/11/2017 8:40 Sample Collector: LEAR J Client Sample #:

Submittal Date/Time: 4/11/2017 9:26 Sample ID

Submittal Date/ Time.	4/11/2017 9	20	Sample ID							
		Ç	Sample Des	cription	ı: ASF	R2 Inj				
Analyte	Method	Unit	Result	Dilution	Qual	PQL	MDL	Date Analyzed	Time Analyzed	Analyst:
Sodium	EPA200.7	mg/L	37	1		0.5	0.2	4/12/2017	4:27 PM	HM
Specific Conductance (I	E.C) SM2510B	µmhos/c	466	1		1	1	4/13/2017	3:30 PM	НМ
Strontium, Total	EPA200.8	μg/L	230	2	BB	5	1	4/14/2017	5:38 PM	SM
Sulfate	EPA300.0	mg/L	66	1		1	0.25	4/11/2017	2:02 PM	HM
TOC	SM5310C	mg/L	1.5	1		0.2	0.03	4/24/2017	3:00 PM	MW
Total Diss. Solids	SM2540C	mg/L	280	1		10	10	4/13/2017	3:50 PM	MP
Total Nitrogen	Calculation	mg/L	1.3	1		0.5	0.5	4/19/2017	4:45 PM	MP
Total Radium 226	EPA903.0	pCi/L	0.0&- ± 0.1, ,		1 E			4/27/2017	11:55 AM	FGL
Trihalomethanes	EPA524.2	μg/L	18.7	1	Е			4/13/2017	12:00 PM	FGL
Uranium by ICP/MS	EPA200.8	μg/L	Not Detected	2	IJ	1	0.08	4/14/2017	5:38 PM	SM
Vanadium, Total	EPA200.8	μg/L	Not Detected	2		5	0.2	4/14/2017	5:38 PM	SM
Zinc, Total	EPA200.8	μg/L	268	2		20	20	4/14/2017	5:38 PM	SM

Sample Comments:

IJ: ICV and/or CCV above acceptance limits. BB: Sample > 4x spike concentration. LQ: LCS recovery above method control limits. HP: Low concentration blank spike recovery out of limits.

Report Approved by

ug/L : Micrograms per liter (=ppb)

T = Temperature Exceedance

E = Analysis performed by External Laboratory; See External Laboratory Report attachments.

PQL: Practical Quantitation Limit



4 Justin Court Suite D, Monterey, CA 93940 831.375.MBAS www.MBASinc.com ELAP Certification Number: 2385 Thursday, May 04, 2017

Lab Number: AB65120

Collection Date/Time: 4/10/2017 13:30 Sample Collector: LEAR J Client Sample #:

Submittal Date/Time: 4/11/2017 9:26 Sample ID

Submittal Date/Time: 4/11/2017 9:26 Sample ID Sample Description: PCAE (D)											
Analyte	Method	Unit	Sample Desc Result	cription Dilution	: PCA Qual	NE (D) PQL	MDI	Data Analyzed	Time Analyzed	Analyet	
Analyte Alkalinity, Total (as CaCC		mg/L	187	Dilution 1	Qual	10	2	4/17/2017	1:00 PM	Analyst: BS	
Aluminum, Total	EPA200.8	µg/L	11	2		10	10	4/17/2017	5:41 PM	SM	
Ammonia-N	SM4500NH3		Not Detected			0.05	0.05	4/25/2017	10:59 AM	MW	
Arsenic, Total	EPA200.8	μg/L	7	2		1	0.03	4/14/2017	5:41 PM	SM	
Barium, Total	EPA200.8	μg/L	86	2		10	0.4	4/14/2017	5:41 PM	SM	
Bicarbonate (as HCO3-)	SM2320B	mg/L	228	1		10	2	4/17/2017	4:35 PM	MP	
Boron	EPA200.7	mg/L	0.09	1		0.05	0.01	4/12/2017	4:33 PM	HM	
Bromide	EPA300.0	mg/L	0.3	1		0.1	0.01	4/11/2017	2:24 PM	HM	
Calcium	EPA200.7	mg/L	46	1		0.5	0.1	4/12/2017	4:33 PM	HM	
Carbonate as CaCO3	SM2320B	mg/L	Not Detected			10	2	4/17/2017	4:35 PM	MP	
Chloramines	SM4500-CI	mg/L	Not Detected	-		0.05	0.05	4/11/2017	11:30 AM	LRH	
Chloride	EPA300.0	mg/L	107	1		1	0.05	4/11/2017	2:24 PM	HM	
DOC	SM5310C	mg/L	0.5	1		0.2	0.23	4/24/2017	3:00 PM	MW	
Fluoride	EPA300.0	mg/L	0.3	1		0.2	0.03	4/11/2017	2:24 PM	HM	
Gross Alpha	EPA900.0	pCi/L	1.38 ± 1.51	1	E	0.1	0.02	4/11/2017	1:10 PM	FGL	
Haloacetic Acids	EPA552	μg/L	Not Detected		E			4/15/2017	12:00 PM	FGL	
Iron	EPA200.7	μg/L	35	1		10	4	4/13/2017	4:33 PM	HM	
Iron, Dissolved	EPA200.7 EPA200.7		Not Detected			10	4	4/12/2017	2:36 PM	HM	
Kiehldahl Nitrogen	SM4500-NH	µg/L	Not Detected			0.5	0.5	4/12/2017	10:00 AM	BS	
Lithium	EPA200.8	mg/L	33	2		1	0.5	4/19/2017	5:41 PM	SM	
	EPA200.8 EPA200.7	μg/L	10	1		0.5	0.2	4/12/2017	4:33 PM	HM	
Magnesium Manganese, Dissolved	EPA200.7 EPA200.7	mg/L µg/L	121	1		10	2	4/12/2017	4:36 PM	HM	
			121								
Manganese, Total	EPA200.7	μg/L		1 2	IJ	10 0.4	2 0.08	4/12/2017	4:33 PM 5:41 PM	HM SM	
Mercury, Total Methane	EPA200.8	μg/L	Not Detected		E			4/14/2017			
Molybdenum, Total	EPA174/175 EPA200.8	μg/L	2.2 10	1 2		0.1	0.1	4/18/2017 4/14/2017	2:51 PM 5:41 PM	MCCAM SM	
		μg/L				10	0.2			SM	
Nickel, Total	EPA200.8	μg/L	Not Detected			10		4/14/2017	5:41 PM		
Nitrate as NO3	EPA300.0	mg/L	Not Detected	-			0.07	4/11/2017	2:24 PM	HM HM	
Nitrate as NO3-N	EPA300.0	mg/L	Not Detected			0.1	0.01	4/11/2017	2:24 PM	HM	
Nitrate+Nitrite as N	EPA300.0 EPA300.0	mg/L	Not Detected	l 1 1		0.1	0.025		2:24 PM 2:24 PM	HM	
Nitrite as NO2-N		mg/L	0.3			0.1	0.01	4/11/2017		HM	
o-Phosphate-P, Dissolved		mg/L	Not Detected	l 1 1			0.02	4/11/2017	2:24 PM		
pH (Laboratory)	SM4500-H+	pH (H)	7.4			0.1	0.02	4/11/2017	5:00 PM	BS	
Phosphorus, Total	HACH 8190	mg/L	0.05	1			0.03	4/19/2017	12:27 PM	LRH	
Potassium	EPA200.7	mg/L	4.4	1		0.5	0.3	4/12/2017	4:33 PM	HM	
QC Anion Sum x 100	Calculation	%	97%	1				4/17/2017	4:35 PM	MP	
QC Anion-Cation Balance		%	-6	1				4/17/2017	4:35 PM	MP	
QC Cation Sum x 100	Calculation	%	87%	1				4/14/2017	9:25 AM	HM	
QC Ratio TDS/SEC	Calculation	/!	0.58	1			4	4/17/2017	5:17 PM	LRH	
Selenium, Total	EPA200.8	μg/L	Not Detected			2	1	4/14/2017	5:41 PM	SM	
Silica as SiO2, Total	EPA200.7	mg/L	45	1		0.5	0.3	4/12/2017	4:33 PM	HM	

mg/L: Milligrams per liter (=ppm)
H = Analyzed ouside of hold time
J = Result is less than PQL

 $\label{eq:continuous} $$ ug/L:$ Micrograms per liter (=ppb) $$ PQL:$ Practical Quantitation Limit $$E = Analysis performed by External Laboratory; See External Laboratory Report attachments. $$T = Temperature Exceedance$



4 Justin Court Suite D, Monterey, CA 93940 831.375.MBAS www.MBASinc.com ELAP Certification Number: 2385 Thursday, May 04, 2017

David Holland, Laboratory Director

PQL: Practical Quantitation Limit

Lab Number: AB65120

Collection Date/Time: 4/10/2017 13:30 Sample Collector: LEAR J Client Sample #:

Submittal Date/Time: 4/11/2017 9:26 Sample ID

+/11/2017 O.		оатпріс тв							
	S	Sample Desc	cription	: PCA	E (D))			
Method	Unit	Result	Dilution	Qual	PQL	MDL	Date Analyzed	Time Analyzed	Analyst:
EPA200.7	mg/L	77	1		0.5	0.2	4/12/2017	4:33 PM	НМ
E.C) SM2510B	µmhos/c	760	1		1	1	4/13/2017	3:30 PM	НМ
EPA200.8	μg/L	319	2	BB	5	1	4/14/2017	5:41 PM	SM
EPA300.0	mg/L	31	1		1	0.25	4/11/2017	2:24 PM	НМ
SM5310C	mg/L	0.5	1		0.2	0.03	4/24/2017	3:00 PM	MW
SM2540C	mg/L	440	1		10	10	4/13/2017	3:50 PM	MP
Calculation	mg/L	Not Detected	1 1		0.5	0.5	4/19/2017	4:45 PM	MP
EPA903.0	pCi/L	0.00 ± 0.155	1	E			4/27/2017	12:30 PM	FGL
EPA524.2	μg/L	Not Detected	1 1	Е			4/13/2017	12:00 PM	FGL
EPA200.8	μg/L	Not Detected	2	IJ	1	0.08	4/14/2017	5:41 PM	SM
EPA200.8	μg/L	Not Detected	2		5	0.2	4/14/2017	5:41 PM	SM
EPA200.8	μg/L	27	2		20	20	4/14/2017	5:41 PM	SM
	Method	Method Unit EPA200.7 mg/L E.C) SM2510B μmhos/c EPA200.8 μg/L EPA300.0 mg/L SM5310C mg/L SM2540C mg/L Calculation mg/L EPA903.0 pCi/L EPA524.2 μg/L EPA200.8 μg/L	Method Unit Result EPA200.7 mg/L 77 E.C) SM2510B μmhos/c 760 EPA200.8 μg/L 319 EPA300.0 mg/L 31 SM5310C mg/L 0.5 SM2540C mg/L Not Detected EPA903.0 pCi/L 0.00 ± 0.155 EPA524.2 μg/L Not Detected EPA200.8 μg/L Not Detected EPA200.8 μg/L Not Detected	Sample Description Method Unit Result Dilution EPA200.7 mg/L 77 1 E.C) SM2510B μmhos/c 760 1 EPA200.8 μg/L 319 2 EPA300.0 mg/L 31 1 SM5310C mg/L 0.5 1 SM2540C mg/L 440 1 Calculation mg/L Not Detected 1 EPA903.0 pCi/L 0.00 ± 0.155 1 EPA524.2 μg/L Not Detected 1 EPA200.8 μg/L Not Detected 2 EPA200.8 μg/L Not Detected 2	Sample Description: PCA Method Unit Result Dilution Qual EPA200.7 mg/L 77 1 E.C) SM2510B μmhos/c 760 1 EPA200.8 μg/L 319 2 BB EPA300.0 mg/L 31 1 1 SM5310C mg/L 0.5 1 1 1 SM2540C mg/L 440 1	Sample Description: PCAE (D) Method Unit Result Dilution Qual PQL EPA200.7 mg/L 77 1 0.5 E.C) SM2510B μmhos/c 760 1 1 EPA200.8 μg/L 319 2 BB 5 EPA300.0 mg/L 31 1 1 1 SM5310C mg/L 0.5 1 0.2 SM2540C mg/L 440 1 10 Calculation mg/L Not Detected 1 0.5 EPA903.0 pCi/L 0.00 ± 0.155 1 E EPA524.2 μg/L Not Detected 1 E EPA200.8 μg/L Not Detected 2 IJ 1 EPA200.8 μg/L Not Detected 2 5 5	Sample Description: PCAE (D) Method Unit Result Dilution Qual PQL MDL EPA200.7 mg/L 77 1 0.5 0.2 E.C) SM2510B μmhos/c 760 1 1 1 EPA200.8 μg/L 319 2 BB 5 1 EPA300.0 mg/L 31 1 1 0.2 0.03 SM5310C mg/L 0.5 1 0.2 0.03 SM2540C mg/L 440 1 10 10 Calculation mg/L Not Detected 1 E E EPA903.0 pCi/L 0.00 ± 0.155 1 E E EPA524.2 μg/L Not Detected 1 E E EPA200.8 μg/L Not Detected 2 JJ 1 0.08 EPA200.8 μg/L Not Detected 2 5 0.2	Sample Description: PCAE (D) Method Unit Result Dilution Qual PQL MDL Date Analyzed EPA200.7 mg/L 77 1 0.5 0.2 4/12/2017 E.C) SM2510B μmhos/c 760 1 1 1 4/13/2017 EPA200.8 μg/L 319 2 BB 5 1 4/14/2017 EPA300.0 mg/L 31 1 1 0.25 4/11/2017 SM5310C mg/L 0.5 1 0.2 0.03 4/24/2017 SM2540C mg/L 440 1 10 10 4/13/2017 Calculation mg/L Not Detected 1 0.5 0.5 4/19/2017 EPA903.0 pCi/L 0.00 ± 0.155 1 E 4/27/2017 EPA524.2 μg/L Not Detected 1 E 4/13/2017 EPA200.8 μg/L Not Detected 2 IJ 1 0.08	Sample Description: PCAE (D) Method Unit Result Dilution Qual PQL MDL Date Analyzed Time Analyzed EPA200.7 mg/L 77 1 0.5 0.2 4/12/2017 4:33 PM E.C) SM2510B μmhos/c 760 1 1 1 4/13/2017 3:30 PM EPA200.8 μg/L 319 2 BB 5 1 4/14/2017 5:41 PM EPA300.0 mg/L 31 1 1 0.25 4/11/2017 2:24 PM SM5310C mg/L 0.5 1 0.2 0.03 4/24/2017 3:00 PM SM2540C mg/L 440 1 10 10 4/13/2017 3:50 PM Calculation mg/L Not Detected 1 0.5 0.5 4/19/2017 4:45 PM EPA524.2 μg/L Not Detected 1 E 4/13/2017 12:30 PM EPA200.8 μg/L Not Detected 2

Sample Comments: IJ: ICV and/or CCV above acceptance limits. BB: Sample > 4x spike concentration.

Report Approved by

ug/L : Micrograms per liter (=ppb)

T = Temperature Exceedance

E = Analysis performed by External Laboratory; See External Laboratory Report attachments.



4 Justin Court Suite D, Monterey, CA 93940 831.375.MBAS www.MBASinc.com ELAP Certification Number: 2385 Thursday, May 04, 2017

Lab Number: AB65121

Collection Date/Time: 4/11/2017 8:00 Sample Collector: LEAR J Client Sample #:

Submittal Date/Time: 4/11/2017 9:26 Sample ID

	Sample Description: #101 ASR 2											
Analyte	Method	Unit	Result	Dilution	Qual	PQL	MDL	Date Analyzed	Time Analyzed	Analyst:		
Mercury, Total	EPA200.8	μg/L	Not Detected	I 1	IJ	0.2	0.04	4/14/2017	5:48 PM	SM		

Sample Comments: IJ: ICV and/or CCV above acceptance limits.

Report Approved by

ug/L : Micrograms per liter (=ppb)

T = Temperature Exceedance

E = Analysis performed by External Laboratory; See External Laboratory Report attachments.

PQL: Practical Quantitation Limit

May 8, 2017

Lab ID : SP 1704361 **Monterey Bay Analytical Services** 4 Justin Court Customer : 2-19144

Monterey, CA 93940

Laboratory Report

Introduction: This report package contains total of 9 pages divided into 3 sections:

Case Narrative (2 pages): An overview of the work performed at FGL.

Sample Results (4 pages): Results for each sample submitted.

Quality Control (3 pages) : Supporting Quality Control (QC) results.

Case Narrative

This Case Narrative pertains to the following samples:

Sample Description	Date Sampled	Date Received	FGL Lab ID#	Matrix
ASR2 Inj	04/11/2017	04/12/2017	SP 1704361-001	W
PCAE (D)	04/10/2017	04/12/2017	SP 1704361-002	W

Sampling and Receipt Information: All samples were received in acceptable condition and within temperature requirements, unless noted on the Condition Upon Receipt (CUR) form. All samples arrived at 6 °C. All samples were prepared and analyzed within the method specified hold time. All samples were checked for pH if acid or base preservation is required (except for VOAs). For details of sample receipt information, please see the attached Chain of Custody and Condition Upon Receipt Form.

Quality Control: All samples were prepared and analyzed according to the following tables:

Organic QC

551.1	04/13/2017:205459 All analysis quality controls are within established criteria
	04/13/2017:204321 All preparation quality controls are within established criteria
552	04/13/2017:204278 All preparation quality controls are within established criteria
552.2	04/14/2017:205458 All analysis quality controls are within established criteria
	04/15/2017:205458 All analysis quality controls are within established criteria
	04/14/2017:205547 All analysis quality controls are within established criteria

May 8, 2017 Monterey Bay Analytical Services

Customer : 2-19144

: SP 1704361

Lab ID

Radio QC

900.0	04/18/2017:205699 All analysis quality controls are within established criteria
	04/18/2017:205701 All analysis quality controls are within established criteria
	04/17/2017:204423 All preparation quality controls are within established criteria
903.0	05/04/2017:206736 All analysis quality controls are within established criteria
	04/30/2017:205026 All preparation quality controls are within established criteria
Ra - 05	04/22/2017:205889 All analysis quality controls are within established criteria
	04/22/2017:205892 All analysis quality controls are within established criteria
	04/20/2017:204408 All preparation quality controls are within established criteria

Discussion of Analytical Results: -

Amended Report - 5/3/17 - Amended to report Radium 226.

Certification:: I certify that this data package is in compliance with ELAP standards, both technically and for completeness, except for any conditions listed above. Release of the data contained in this data package is authorized by the Laboratory Director or his designee, as verified by the following electronic signature.

KD:DMB

Approved By Kelly A. Dunnahoo, B.S.





May 8, 2017 Lab ID : SP 1704361-001

Customer ID : 2-19144

Monterey Bay Analytical Services

4 Justin Court Sampled On : April 11, 2017-08:40

Monterey, CA 93940 : Jonathan Lear Sampled By

Received On : April 12, 2017-10:20

Matrix : Water

Description : ASR2 Inj Project : MPWMD

Sample Result - Organic

Constituent	Result	PQL	Units	Note	Sample	Preparation	Samp	le Analysis
Constituent	Kesuit	1 QL	Omts	Note	Method	Date/ID	Method	Date/ID
EPA 551.1								
Decafluorobiphenyl [‡]	87.7	80-120	%		551.1	04/13/17:204321	551.1	04/13/17:205459
Bromodichloromethane	6.3	0.5	ug/L		551.1	04/13/17:204321	551.1	04/13/17:205459
Bromoform	0.7	0.5	ug/L		551.1	04/13/17:204321	551.1	04/13/17:205459
Chloroform	6.9	0.5	ug/L		551.1	04/13/17:204321	551.1	04/13/17:205459
Dibromochloromethane	4.8	0.5	ug/L		551.1	04/13/17:204321	551.1	04/13/17:205459
Total Trihalomethanes	18.7		ug/L		551.1	04/13/17:204321	551.1	04/13/17:205459
EPA 552.2								
2,3-Dibromopropionic Acid [‡]	101	70-130	%		552	04/13/17:204278	552.2	04/14/17:205458
Bromoacetic Acid	ND	1	ug/L		552	04/13/17:204278	552.2	04/14/17:205458
Chloroacetic Acid	ND	2	ug/L		552	04/13/17:204278	552.2	04/14/17:205458
Dibromoacetic Acid	2	1	ug/L		552	04/13/17:204278	552.2	04/14/17:205547
Dichloroacetic Acid	2	1	ug/L		552	04/13/17:204278	552.2	04/14/17:205458
Trichloroacetic Acid	4	1	ug/L		552	04/13/17:204278	552.2	04/14/17:205458
Haloacetic acids (five)	8		ug/L		552	04/13/17:204278	552.2	04/14/17:205458

ND=Non-Detected. PQL=Practical Quantitation Limit. ‡Surrogate. * PQL adjusted for dilution.

Lab ID May 8, 2017 : SP 1704361-001

Customer ID : 2-19144

Monterey Bay Analytical Services

4 Justin Court Sampled On : April 11, 2017-08:40

Sampled By : Jonathan Lear Monterey, CA 93940

Received On : April 12, 2017-10:20

: Water Matrix

Description : ASR2 Inj **Project** : MPWMD

Sample Result - Radio

Constituent	Result + Error	MDA	Units	MCL/AL	Sample	Preparation	Sampl	e Analysis
Constituent	Result ± Ellor	MDA	Omts	WICL/AL	Method	Date/ID	Method	Date/ID
Radio Chemistry								
Gross Alpha	1.27 ± 1.09	1.30	pCi/L	15/5	900.0	04/17/17-08:26 2P1704423	900.0	04/18/17-11:10 2A1705699
Total Alpha Radium (226)	0.029 ± 0.188	0.414	pCi/L	3	903.0	04/30/17-17:00 2P1705026	903.0	05/04/17-12:16 2A1706736
Ra 228	0.050 ± 0.314	0.192	pCi/L	2	Ra - 05	04/20/17-17:30 2P1704408	Ra - 05	04/22/17-13:20 2A1705889

ND=Non-Detected. PQL=Practical Quantitation Limit. * PQL adjusted for dilution.

MDA = Minimum Detectable Activity (Calculated at the 95% confidence level) = Data utilized by DHS to determine matrix interference. MCL / AL = Maximum Contamination Level / Action Level. Alpha's Action Level of 5 pCi/L is based on the Assigned Value (AV). AV = Assigned Value(Gross Alpha Result + (0.84 x Error)). CCR Section 64442: Drinking Water Compliance Note: Do the following If Gross Alpha's (AV) exceeds 5 pCi/L run Uranium. If Gross Alpha's (AV) minus Uranium exceeds 5 pCi/L run Radium 226.

Drinking Water Compliance:

Gross Alpha (AV) minus Uranium is less than or equal to 15 pCi/L Uranium is less than or equal to 20 pCi/L Radium 226 + Radium 228 is less than or equal to 5 pCi/L

Note: Samples are held for 3-6 months prior to disposal.



: SP 1704361-002 May 8, 2017 Lab ID

Customer ID : 2-19144

Monterey Bay Analytical Services

4 Justin Court Sampled On : April 10, 2017-11:30

Monterey, CA 93940 : Jonathan Lear Sampled By

Received On : April 12, 2017-10:20

Matrix : Water

Description : PCAE (D) Project : MPWMD

Sample Result - Organic

Constituent	Result	PQL	Units	Note	Sample	Preparation	Samp	le Analysis
Constituent	Kesuit	1 QL	Omts	Note	Method	Date/ID	Method	Date/ID
EPA 551.1								
Decafluorobiphenyl [‡]	81.6	80-120	%		551.1	04/13/17:204321	551.1	04/13/17:205459
Bromodichloromethane	ND	0.5	ug/L		551.1	04/13/17:204321	551.1	04/13/17:205459
Bromoform	ND	0.5	ug/L		551.1	04/13/17:204321	551.1	04/13/17:205459
Chloroform	ND	0.5	ug/L		551.1	04/13/17:204321	551.1	04/13/17:205459
Dibromochloromethane	ND	0.5	ug/L		551.1	04/13/17:204321	551.1	04/13/17:205459
Total Trihalomethanes	ND		ug/L		551.1	04/13/17:204321	551.1	04/13/17:205459
EPA 552.2								
2,3-Dibromopropionic Acid [‡]	77.3	70-130	%		552	04/13/17:204278	552.2	04/15/17:205458
Bromoacetic Acid	ND	1	ug/L		552	04/13/17:204278	552.2	04/15/17:205458
Chloroacetic Acid	ND	2	ug/L		552	04/13/17:204278	552.2	04/15/17:205458
Dibromoacetic Acid	ND	1	ug/L		552	04/13/17:204278	552.2	04/15/17:205458
Dichloroacetic Acid	ND	1	ug/L		552	04/13/17:204278	552.2	04/15/17:205458
Trichloroacetic Acid	ND	1	ug/L		552	04/13/17:204278	552.2	04/15/17:205458
Haloacetic acids (five)	ND		ug/L		552	04/13/17:204278	552.2	04/15/17:205458

ND=Non-Detected. PQL=Practical Quantitation Limit. ‡Surrogate. * PQL adjusted for dilution.

Lab ID May 8, 2017 : SP 1704361-002

Customer ID : 2-19144

Monterey Bay Analytical Services

4 Justin Court Sampled On : April 10, 2017-11:30

Sampled By : Jonathan Lear Monterey, CA 93940

Received On : April 12, 2017-10:20

: Water Matrix

Description : PCAE (D) **Project** : MPWMD

Sample Result - Radio

Constituent	Result + Error	MDA	Units	MCL/AL	Sample	Preparation	Sampl	e Analysis
Constituent	Result ± Ellor	MDA	Omts	WICL/AL	Method	Date/ID	Method	Date/ID
Radio Chemistry								
Gross Alpha	1.38 ± 1.51	1.97	pCi/L	15/5	900.0	04/17/17-08:26 2P1704423	900.0	04/18/17-13:10 2A1705701
Total Alpha Radium (226)	0.000 ± 0.155	0.363	pCi/L	3	903.0	04/30/17-17:00 2P1705026	903.0	05/04/17-14:18 2A1706736
Ra 228	0.000 ± 0.264	0.200	pCi/L	2	Ra - 05	04/20/17-17:30 2P1704408	Ra - 05	04/22/17-13:40 2A1705892

ND=Non-Detected. PQL=Practical Quantitation Limit. * PQL adjusted for dilution.

MDA = Minimum Detectable Activity (Calculated at the 95% confidence level) = Data utilized by DHS to determine matrix interference. MCL / AL = Maximum Contamination Level / Action Level. Alpha's Action Level of 5 pCi/L is based on the Assigned Value (AV). AV = Assigned Value(Gross Alpha Result + (0.84 x Error)). CCR Section 64442: Drinking Water Compliance Note: Do the following If Gross Alpha's (AV) exceeds 5 pCi/L run Uranium. If Gross Alpha's (AV) minus Uranium exceeds 5 pCi/L run Radium 226.

Drinking Water Compliance:

Gross Alpha (AV) minus Uranium is less than or equal to 15 pCi/L Uranium is less than or equal to 20 pCi/L

Radium 226 + Radium 228 is less than or equal to 5 pCi/L

Note: Samples are held for 3-6 months prior to disposal.

May 8, 2017 Lab ID : SP 1704361 **Monterey Bay Analytical Services** : 2-19144 Customer

Quality Control - Organic

Constituent	Method	Date/ID	Type	Units	Conc.	QC Data	DQO	Note
Organic								
Bromodichloromethane	551.1	04/13/17:204321SBL	Blank	ug/L		ND	< 0.5	
Bromodiemoromethane	331.1	0 1/ 13/ 17:20 1321332	LCS	ug/L	9.908	109 %	80-120	
			MS	ug/L	9.756	88.1 %	80-120	
		(SP 1704357-001)	MSD	ug/L	9.908	85.4 %	80-120	
		(22 27 3 12 2 7 3 2 2 7	MSRPD	ug/L	19.82	1.0%	≤20	
	551.1	04/13/17:205459SBL	CCV	ug/L	83.33	93.0 %	80-120	
			CCV	ug/L	166.7	102 %	80-120	
Bromoform	551.1	04/13/17:204321SBL	Blank	ug/L		ND	< 0.5	
			LCS	ug/L	9.908	105 %	80-120	
			MS	ug/L	9.756	91.1 %	80-120	
		(SP 1704357-001)	MSD	ug/L	9.908	88.9 %	80-120	
		(MSRPD	ug/L	19.82	0.8%	≤20	
	551.1	04/13/17:205459SBL	CCV	ug/L	83.33	85.1 %	80-120	
			CCV	ug/L	166.7	100 %	80-120	
Chloroform	551.1	04/13/17:204321SBL	Blank	ug/L		ND	< 0.5	
	551.1	., 13, 1, .20 13213BE	LCS	ug/L ug/L	9.908	115 %	80-120	
			MS	ug/L	9.756	110 %	80-120	
		(SP 1704357-001)	MSD	ug/L ug/L	9.908	98.5 %	80-120	
		(51 170 1557 001)	MSRPD	ug/L	19.82	7.0%	≤20	
	551.1	04/13/17:205459SBL	CCV	ug/L ug/L	83.33	101 %	80-120	
	331.1	04/13/17.2034393BL	CCV	ug/L ug/L	166.7	101 %	80-120	
Decafluorobiphenyl	551.1	04/13/17:204321SBL	Blank	ug/L ug/L	19.68	91.7 %	80-120	
Decandoroorphenyi	331.1	04/13/17.2043213BL	LCS		19.82	108 %	80-120	
			MS	ug/L	19.82	92.4 %	80-120	
		(SP 1704357-001)	MSD	ug/L ug/L	19.31	92.4 % 83.9 %	80-120	
		(SP 1704557-001)	MSRPD		19.82	8.1%	≤20.0	
	551.1	04/12/17:205450CDI		ug/L				
	331.1	04/13/17:205459SBL	CCV CCV	ug/L ug/L	166.7 333.3	82.9 % 96.5 %	80-120 80-120	
Dibromochloromethane	551.1	04/13/17:204321SBL	Blank		333.3	90.5 % ND	<0.5	
Dibromochioromethane	331.1	04/13/17:2043213BL	LCS	ug/L	9.908	108 %	80-120	
			MS	ug/L	9.908	90.4 %	80-120	
		(CD 1704257 001)	MSD	ug/L	9.730	90.4 % 89.0 %	80-120	
		(SP 1704357-001)	MSRPD	ug/L		0.06%	≤20	
	551.1	04/12/17 205450CDI		ug/L	19.82			
	551.1	04/13/17:205459SBL	CCV	ug/L	83.33	90.6 %	80-120	
2.2.5.1	550	0.4/10/17 20.40700DI	CCV	ug/L	166.7	102 %	80-120	
2,3-Dibromopropionic Acid	552	04/13/17:204278SBL	Blank	ug/L	5.000	117 %	70-130	
			LCS	ug/L	5.000	95.6 %	70-130	
		(CD 1704257 001)	MS	ug/L	5.000	108 %	70-130	
		(SP 1704357-001)	MSD	ug/L	5.000	99.7 %	70-130	
53 A 11	550	0.4/10/17 20.40700DI	MSRPD	ug/L	5.000	7.7%	≤20.0	
Dibromoacetic Acid	552	04/13/17:204278SBL	Blank	ug/L	10.00	ND	<1	
			LCS	ug/L	10.00	93.0 %	70-130	
		(CD 170 1257 001)	MS	ug/L	10.00	103 %	70-130	
		(SP 1704357-001)	MSD	ug/L	10.00	103 %	70-130	
5:11		04/10/17 00/107077	MSRPD	ug/L	5.000	0.07%	≤20.0	
Dichloroacetic Acid	552	04/13/17:204278SBL	Blank	ug/L	40.00	ND	<1	
			LCS	ug/L	10.00	76.8 %	70-130	
		(OD 150 155 50 11	MS	ug/L	10.00	113 %	70-130	
		(SP 1704357-001)	MSD	ug/L	10.00	115 %	70-130	
			MSRPD	ug/L	5.000	1.5%	≤20.0	
Monobromoacetic Acid	552	04/13/17:204278SBL	Blank	ug/L		ND	<1	
			LCS	ug/L	10.00	79.6 %	70-130	
			MS	ug/L	10.00	87.6 %	70-130	
		(SP 1704357-001)	MSD	ug/L	10.00	91.5 %	70-130	
			MSRPD	ug/L	5.000	4.2%	≤20.0	

Amended Page 7 of 9 May 8, 2017 Lab ID : SP 1704361 **Monterey Bay Analytical Services** Customer : 2-19144

Quality Control - Organic

Constituent	Method	Date/ID	Туре	Units	Conc.	QC Data	DQO	Note
Organic								
Monochloroacetic Acid	552	04/13/17:204278SBL	Blank	ug/L		ND	<2	
			LCS	ug/L	10.00	82.7 %	70-130	
			MS	ug/L	10.00	102 %	70-130	
		(SP 1704357-001)	MSD	ug/L	10.00	110 %	70-130	
			MSRPD	ug/L	5.000	7.6%	≤20.0	
Trichloroacetic Acid	552	04/13/17:204278SBL	Blank	ug/L		ND	<1	
			LCS	ug/L	10.00	69.6 %	70-130	
			MS	ug/L	10.00	77.5 %	70-130	
		(SP 1704357-001)	MSD	ug/L	10.00	81.5 %	70-130	
			MSRPD	ug/L	5.000	4.1%	≤20.0	
2,3-Dibromopropionic Acid	552.2	04/14/17:205458SBL	CCV	ug/L	75.00	79.4 %	70-130	
			CCV	ug/L	50.00	99.8 %	70-130	
Dibromoacetic Acid	552.2	04/14/17:205547SBL	CCV	ug/L	100.0	97.5 %	70-130	
			CCV	ug/L	150.0	85.5 %	70-130	
	552.2	04/15/17:205458SBL	CCV	ug/L	100.0	106 %	70-130	
			CCV	ug/L	150.0	87.3 %	70-130	
Dichloroacetic Acid	552.2	04/14/17:205458SBL	CCV	ug/L	150.0	74.0 %	70-130	
			CCV	ug/L	100.0	91.3 %	70-130	
Monobromoacetic Acid	552.2	04/14/17:205458SBL	CCV	ug/L	150.0	75.8 %	70-130	
			CCV	ug/L	100.0	88.4 %	70-130	
Monochloroacetic Acid	552.2	04/14/17:205458SBL	CCV	ug/L	150.0	89.5 %	70-130	
			CCV	ug/L	100.0	98.1 %	70-130	
Trichloroacetic Acid	552.2	04/14/17:205458SBL	CCV	ug/L	150.0	74.1 %	70-130	
			CCV	ug/L	100.0	92.3 %	70-130	

Definition

: Continuing Calibration Verification - Analyzed to verify the instrument calibration is within criteria.

CCV Blank

: Method Blank - Prepared to verify that the preparation process is not contributing contamination to the samples.

LCS

: Laboratory Control Standard/Sample - Prepared to verify that the preparation process is not affecting analyte recovery.

MS : Matrix Spikes - A random sample is spiked with a known amount of analyte. The recoveries are an indication of how that sample matrix affects analyte recovery.

MSD

: Matrix Spike Duplicate of MS/MSD pair - A random sample duplicate is spiked with a known amount of analyted. The recoveries

are an indication of how that sample matrix affects analyte recovery.

MSRPD

: MS/MSD Relative Percent Difference (RPD) - The MS relative percent difference is an indication of precision for the preparation

and analysis.

ND

: Non-detect - Result was below the DQO listed for the analyte.

DQO

: Data Quality Objective - This is the criteria against which the quality control data is compared.

May 8, 2017Lab ID: SP 1704361Monterey Bay Analytical ServicesCustomer: 2-19144

Quality Control - Radio

Constituent	Method	Date/ID	Type	Units	Conc.	QC Data	DQO	Note
Radio								
Alpha	900.0	04/18/17:205699rmm	CCV	cpm	8426	39.7 %	37 - 45	
1			CCB	cpm		0.0800	0.14	
	900.0	04/18/17:205701rmm	CCV	cpm	8426	41.0 %	37 - 46	
			CCB	cpm		0.0400	0.17	
Gross Alpha	900.0	04/17/17:204423RMM	Blank	pCi/L		0.88	3	
			LCS	pCi/L	108.2	103 %	75-125	
			MS	pCi/L	108.2	107 %	60-140	
		(SP 1704354-001)	MSD	pCi/L	108.2	101 %	60-140	
			MSRPD	pCi/L	108.2	5.7%	≤30	
Alpha	903.0	05/04/17:206736MMF	CCV	cpm	8415	40.9 %	38 - 47	
			CCB	cpm		0.0800	0.16	
Total Alpha Radium (226)	903.0	04/30/17:205026rmm	RgBlk	pCi/L		0.07	2	
			LCS	pCi/L	21.85	61.8 %	52-107	
			BS	pCi/L	21.85	44.9 %	43-111	
			BSD	pCi/L	21.85	49.1 %	43-111	
			BSRPD	pCi/L	21.85	8.8%	≤35.5	
Beta	Ra - 05	04/22/17:205889emv	CCV	cpm	8802	90.1 %	86 - 105	
			CCB	cpm		0.3800	0.51	
	Ra - 05	04/22/17:205892emv	CCV	cpm	8802	88.4 %	88 - 108	
			CCB	cpm		0.3000	0.48	
Ra 228	Ra - 05	04/20/17:204408emv	RgBlk	pCi/L		0.08	3	
			LRS	pCi/L	38.28	97.9 %	65-108	
			BS	pCi/L	38.28	96.2 %	75-125	
			BSD	pCi/L	38.28	100 %	75-125	
	ĺ		BSRPD	pCi/L	38.28	4.2%	≤25	

Definition	
CCV	: Continuing Calibration Verification - Analyzed to verify the instrument calibration is within criteria.
CCB	: Continuing Calibration Blank - Analyzed to verify the instrument baseline is within criteria.
Blank	: Method Blank - Prepared to verify that the preparation process is not contributing contamination to the samples.
RgBlk	: Method Reagent Blank - Prepared to correct for any reagent contributions to sample result.
LCS	: Laboratory Control Standard/Sample - Prepared to verify that the preparation process is not affecting analyte recovery.
LRS	: Laboratory Recovery Standard - Prepared to establish the batch recovery factor used in result calculations.
MS	: Matrix Spikes - A random sample is spiked with a known amount of analyte. The recoveries are an indication of how that sample matrix affects analyte recovery.
MSD	: Matrix Spike Duplicate of MS/MSD pair - A random sample duplicate is spiked with a known amount of analyted. The recoveries are an indication of how that sample matrix affects analyte recovery.
BS	: Blank Spikes - A blank is spiked with a known amount of analyte. It is prepared to verify that the preparation process is not affecting analyte recovery.
BSD	: Blank Spike Duplicate of BS/BSD pair - A blank duplicate is spiked with a known amount of analyte. It is prepared to verify that the preparation process is not affecting analyte recovery.
MSRPD	: MS/MSD Relative Percent Difference (RPD) - The MS relative percent difference is an indication of precision for the preparation and analysis.
BSRPD	: BS/BSD Relative Percent Difference (RPD) - The BS relative percent difference is an indication of precision for the preparation and analysis.
DQO	: Data Quality Objective - This is the criteria against which the quality control data is compared.



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CHAIN OF CUSTODY AND ANALYSIS REQUEST DOCUMENT

	Monterey Bay Analytica er Number: 2019144 s: 4 Justin Court	l Services				lumbe U3						TES	ST D	ESC	RIPT	ION	AND	ANA	ALYS	SES F	REQU	JEST	ED			
Contact Project Purcha Quote	Monterey, CA 93940 hone: (831)375-6227 Fax: (831)641-0734 mail Address: info@mbasinc.com contact Person: David Holland roject Name: MPV/MD curchase Order Number: Quote Number: cush Analysis: 5 Day 4 Day 3 Day 2 Day 24 hour clush pre-approval by lab (initals):						Ag Water (AgW)	g Well (GW) Ground Water ster (DW) Drinking Water	ю	V) Wasta	์ (OTH)Other (RPL)Replace	(PRD) Produce	(2) Оther													
Rush p Electron Sample	Rush pre-approval by lab (initals): Electronic Data Transfer: No State Client Other: Sampler(s): Jonathan Lear Sampling Fee: Pickup Fee: Compositor Setup Date: Time: Samp Location Description Date Time				Number of Containers	Type of Containers: (G) Class (P.Plastic (V) VOA (MT)Metal Tube	Potable (P) Non-Potable (NP)	(SW) Surface Water (MW) Monitoring Well (TB) Travel Blank (WW) Waste Water	(S) Sail (SLG) Sludge (SLD) Sood (O) Od	BacT. (Sys) System (SRC) Source (W) Waste	BacT: (ROUT)Rowine (RPT)Repasi (OTH)Other (RPL)Replace	(LT) Leaf Tissue (PET) Pelicie Tissue (PRD) Produce	Preservative: (1) NaOH + ZnAc. (2) NaOH, (3) HCI (4) HZSO4, (5) HNO3, (6) NaZSZO3, (7) Other	НАА	THMS	Gross Alpha	Ra 226									•
1.	ASR2 Inj	4/11/17	08:40	G	7	Var								х	х	x	x									
	PCAE (D)	4/10/17	13:30	G	7	Var								×	×	x	x									
															<u> </u>											
		<u> </u>	 		_																				 	
			<u> </u>	<u> </u>																						
Remark	s	<u> </u>	<u> </u>	Reling	l uiched	<u> </u>		ate:	т:	me:		Relingui	shed			Date:	<u> </u>	l Γime:		Reling	uished			 Date:	Time:	L
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535709569					ed By:		D	ate:		me:		Loceiye	d By:	4	1/18)ate: 		rime: UZ	- 1	Receiv	ed By:			Date:	Time:	

Corporate Offices & Laboratory 853 Corporation Street Santa Paula, CA 93060 TEL: (805)392-2000 Env FAX: (805)525-4172 / Ag FAX: (805)392-2063 CA ELAP Certification No.1573 Office & Laboratory 2500 Stagecoach Road Stockton, CA 95215 TEL: (209)942-0182 FAX: (209)942-0423 CA ELAP Certification No. 1563 Office & Laboratory 563 E. Lindo Avenue Chico, CA 95926 TEL: (530)343-5818 FAX: (530)343-3807 CA ELAP Certification No. 2670 Office & Laboratory 3442 Empresa Drive, Suite D San Luis Obispo, CA 93401 TEL: (805)783-2940 FAX: (805)783-2912 CA ELAP Certification No. 2775 Office & Laboratory 9415 W. Goshen Avenue Visalia, CA 93291 TEL: (559)734-9473 FAX: (559)734-9435 CA ELAP Certification No. 2810 FGL Environmental Doc ID: 2D0900157_SOP_17.DOC

Revision Date: 10/09/14 Page: 1 of 1

Condition Upon Receipt (Attach to COC)

Sample Receipt at SP:								
1. Number of ice chests/packages re	ceived:	1						
2. Shipper tracking numbers	535709569							
3. Were samples received in a chiller Temps:	d condition?	6	/	/	/	/	/	/
4. Surface water (SWTR) bact samp should be flagged unless the time	•		•				whether ice	d or not,
5. Do the number of bottles received COC?	agree with the	Yes	No	N/A				
6. Verify sample date, time, sampler		Yes	No	N/A				
7. Were the samples received intact bottles, leaks, etc.)	? (i.e. no broken	Yes	No					
8. Were sample custody seals intact	?	Yes	No	N/A				
Sample Verification, Labeling and	Distribution:							
1. Were all requested analyses unde acceptable?	rstood and	Yes	No					
2. Did bottle labels correspond with t	he client's ID's?	Yes	No					
3. Were all bottles requiring sample properly preserved? [Exception: Oil & Grease, VOA and		Yes	No	N/A	FGL			
4. VOAs checked for Headspace?		Yes	No	N/A				
5. Were all analyses within holding ti receipt?	mes at time of	Yes	No					
6. Have rush or project due dates be accepted?	en checked and	Yes	No	N/A				
Include a copy of the COC for lab de	liverv. (Bacti. In	organics a	ınd Ra	dio)				
Sample Receipt, Login and Verificat	• ,	•	Revie	wed and oved By	Inez Cov	arrubias	Title: Sample	ed by Inez Covarrubias Receiving 2017-11:03:53
Discrepency Documentation:			,					
Any items above which are "No" or d	o not meet spec		•	• /	lust be res	olved.		
1. Person Contacted:				umber:	-			
Initiated By: Problem:		Da	ite:					
Problem.								
Resolution:								
2. Person Contacted:		Ph	one N	umber:				
Initiated By:		 Da						
Problem:					_			
Resolution:						(201	9144)	

Monterey Bay Analytical Services SP 1704361



McCampbell Analytical, Inc.

"When Quality Counts"

Analytical Report

WorkOrder: 1704450

Report Created for: Monterey Bay Analytical

4 Justin Court, Suite D Monterey, CA 93940

Project Contact:

David Holland

Project P.O.:

Project Name: MPWMD

Project Received: 04/12/2017

Analytical Report reviewed & approved for release on 04/18/2017 by:

Angela Rydelius,

Laboratory Manager

The report shall not be reproduced except in full, without the written approval of the laboratory. The analytical results relate only to the items tested. Results reported conform to the most current NELAP standards, where applicable, unless otherwise stated in the case narrative.



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CA ELAP 1644 ♦ NELAP 4033ORELAP

Glossary of Terms & Qualifier Definitions

Client: Monterey Bay Analytical

Project: MPWMD **WorkOrder:** 1704450

Glossary Abbreviation

%D Serial Dilution Percent Difference

95% Interval 95% Confident Interval

DF Dilution Factor

DI WET (DISTLC) Waste Extraction Test using DI water

DISS Dissolved (direct analysis of 0.45 µm filtered and acidified water sample)

DLT Dilution Test (Serial Dilution)

DUP Duplicate

EDL Estimated Detection Limit

ITEF International Toxicity Equivalence Factor

LCS Laboratory Control Sample

MB Method Blank

MB % Rec % Recovery of Surrogate in Method Blank, if applicable

MDL Method Detection Limit

ML Minimum Level of Quantitation

MS Matrix Spike

MSD Matrix Spike Duplicate

N/A Not Applicable

ND Not detected at or above the indicated MDL or RL

NR Data Not Reported due to matrix interference or insufficient sample amount.

PDS Post Digestion Spike

PDSD Post Digestion Spike Duplicate

PF Prep Factor

RD Relative Difference

RL Reporting Limit (The RL is the lowest calibration standard in a multipoint calibration.)

RPD Relative Percent Deviation
RRT Relative Retention Time

SPK Val Spike Value

SPKRef Val Spike Reference Value

SPLP Synthetic Precipitation Leachate Procedure

ST Sorbent Tube

TCLP Toxicity Characteristic Leachate Procedure

TEQ Toxicity Equivalents

WET (STLC) Waste Extraction Test (Soluble Threshold Limit Concentration)

1534 Willow Pass Road, Pittsburg, CA 94565-1701 Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269 http://www.mccampbell.com / E-mail: main@mccampbell.com

Analytical Report

Client: Monterey Bay Analytical

 Date Received:
 4/12/17 9:29

 Date Prepared:
 4/18/17

 Project:
 MPWMD

WorkOrder: 1704450
Extraction Method: RSK175
Analytical Method: RSK175

Unit: $\mu g/L$

Dissolved Gases by RSK 175

Client ID	Lab ID Mat	rix Date Collec	eted Instrument Batch ID
ASR2 Inj	1704450-001A Wate	r 04/11/2017 0	8:40 GC26 137500
Analytes	Result	<u>RL</u> D	F <u>Date Analyzed</u>
Methane	1.3	0.10 1	04/18/2017 14:38

Analyst(s): AK

Client ID	Lab ID	Matrix	Date Colle	ected Instrument	Batch ID
PCAE (D)	1704450-002A	Water	04/10/2017	13:30 GC26	137500
<u>Analytes</u>	Result		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
Methane	2.2		0.10	1	04/18/2017 14:51

Analyst(s): AK

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1704450

137500

Quality Control Report

WorkOrder:

BatchID:

Client: Monterey Bay Analytical

Date Prepared:4/18/17Date Analyzed:4/18/17Instrument:GC26Matrix:Water

Project: MPWMD **Sample ID:** MB/LCS-137500

	QC Sumn	nary Report for R	SK175				
Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Methane	ND	1.34	0.10	1.17	-	114	70-130

McCampbell Analytical, Inc. 1534 Willow Pass Rd

1534 Willow Pass Rd Pittsburg, CA 94565-1701 (925) 252-9262

CHAIN-OF-CUSTODY RECORD

Page 1 of

WorkOrder: 1704450 ClientCode: MBAS

	WaterTrax	WriteOn	EDF	Excel	EQuIS	✓ Email	HardCopy	ThirdParty	J-flag
Report to:					Bill to:		Req	uested TAT:	5 days;
David Holland Monterey Bay Analytical 4 Justin Court, Suite D	Email: cc/3rd Party: PO:	mweidner@mbas	sinc.com; Dholl	and@mbas	Accounts Paya Monterey Bay A 4 Justin Court,	Analytical	Dat	e Received:	04/12/2017
Monterey, CA 93940 831-375-6227 FAX: 831-641-0734	ProjectNo:	MPWMD			Monterey, CA 9	93940	Dat	e Logged:	04/12/2017

					Requested Tests (See legend below)												
Lab ID	Client ID	Matrix	Collection Date	Hold	1	2	3	4		5	6	7	8	9	10	11	12
1704450-001	ASR2 Inj	Water	4/11/2017 08:40		A												
1704450-002	PCAE (D)	Water	4/10/2017 13:30		Α												

Test Legend:

1 RSK175_W	2	3	4
5	6	7	8
9	10	11	12

Prepared by: Jena Alfaro

Comments:

NOTE: Soil samples are discarded 60 days after results are reported unless other arrangements are made (Water samples are 30 days).

Hazardous samples will be returned to client or disposed of at client expense.



McCampbell Analytical, Inc.

"When Quality Counts"

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WORK ORDER SUMMARY

Client Name:	MONTEREY	Y BAY ANALYTI	CAL		Project:	MPWMD				Wor	k Order:	1704450
Client Contact:	David Hollar	nd								Q	C Level:	LEVEL 2
Contact's Emai	_	nbasinc.com; Dholl bal.net; info@mbas	_	.com;	Comments:	:				Date	Logged:	4/12/2017
		☐ WaterTrax	WriteOn	EDF	Exce	I	x 🗾 Email	HardCo	ppy ThirdParty	′ 🗀 -	l-flag	
Lab ID CI	ient ID	Matrix	Test Name			ontainers B omposites	ottle & Preservative	De- chlorinated	Collection Date & Time	TAT	Sediment Content	Hold SubOut
1704450-001A AS	SR2 Inj	Water	RSK175 <me< th=""><th>thane_4></th><th></th><th>3</th><th>VOA w/ HCl</th><th></th><th>4/11/2017 8:40</th><th>5 days</th><th>None</th><th></th></me<>	thane_4>		3	VOA w/ HCl		4/11/2017 8:40	5 days	None	
1704450-002A PC	CAE (D)	Water	RSK175 <me< th=""><th>thane_4></th><th></th><th>3</th><th>VOA w/ HCl</th><th></th><th>4/10/2017 13:30</th><th>5 days</th><th>None</th><th></th></me<>	thane_4>		3	VOA w/ HCl		4/10/2017 13:30	5 days	None	

NOTES: - STLC and TCLP extractions require 2 days to complete; therefore, all TATs begin after the extraction is completed (i.e., One-day TAT yields results in 3 days from sample submission).

- MAI assumes that all material present in the provided sampling container is considered part of the sample - MAI does not exclude any material from the sample prior to sample preparation unless requested in writing by the client.

1704450

		1534 WII PITTSBU ampbell.	LLOW PA	SS RO 4565-17	AD 701 nin@n	ncca	mp	bell.			69						RN A		ot	INI) T	IM	E		RUS	SH		⊒ HR		48 I	IR.	RD 72 H rite O		
Report To: Da	avid Holland		I	Bill To):															A	nal	ysis	Red	ques	t						C	ther	Comments	s
Company: M	onterey Bay Ana	lytical S	ervices																			'n											Land In	
4.	Justin Ct. Suite I)													8015)			3&F)				Sener								8			Filter	
M	onterey, Ca 9394	10	E	-Mai	: info	a n	nba	sin	c.co	m					+ 8() E/I				Cong						=	_				Samples for Metals	
Tele: (831) 37	75 - 6227		F	ax: (831)	641	-07.	34							8021	1		552	~	3		LS/		-				6020	6020				analysis:	•
Project #:			F	rojec	t Nar	ne:	M	PW	MD)					(602 / 8	/ 802		994	118.1	,00	8	oclo.		cides			(AAs)	/010	107				Yes / No	
Project Locat	ion:)9) sı	602	015)	e (10	ns (4	E	cide	/; A	(S	erbi	s)	Cs)	/ P.	9/8	7 60	120)			2007110	
Sampler Signa	ature: Jonathan	Lear													s Ga	EPA	11 (8)	reas	arbo	8021	Pesti	NE	ticid	CIH	/0C	000	AHS	200.8	8.00.	9/0				
		SAMI	PLING	s	iers		MA	TR	ИX			ETI ESE			: ТРН а	NLY (I	lotor O	Oil & G	Hydroc	8010/	181 (CI	CB's O	NP Pes	Acidic	8260 (1	8270 (S	8310 (P	200.7 /	200.7 / 2	8 / 6010				
SAMPLE ID	LOCATION/ Field Point Name	Date	Time	# Containers	Type Containers	Water	Soil	Air	Sludge	Other	ICE	HCL	HNO ₃	Other	MTBE / BTEX &	MTBE / BTEX ONLY (EPA 602 / 8021)	TPH as Diesel / Motor Oil (8015)	Total Petroleum Oil & Grease (1664 / 5520 E/B&F)	Total Petroleum Hydrocarbons (418.1)	EPA 502,2 / 601 / 8010 / 8021 (HVOCs)	EPA 505/ 608 / 8081 (CI Pesticides)	EPA 608 / 8082 PCB's ONLY; Aroclors / Congeners	EPA 507 / 8141 (NP Pesticides)	EPA 515 / 8151 (Acidic Cl Herbicides)	EPA 524.2 / 624 / 8260 (VOCs)	EPA 525.2 / 625 / 8270 (SVOCs)	EPA 8270 SIM / 8310 (PAHs / PNAs)	CAM 17 Metals (200.7 / 200.8 / 6010 / 6020)	LUFT 5 Metals (200.7 / 200.8 / 6010 / 6020)	Lead (200.7 / 200.8 / 6010 / 6020)	Methane		4	
	ASR2 Inj	4/11/17	08:40	3	V	Х					X	X																			X		AB65119	1
	PCAE (D)	4/10/17	13:30	3	V	Х					X	X																			X		AB65120	
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Relinquished By: David Holland	20/00	Date:	Time: 1600	Rece	ived B	Ċ.	SC	0							GO	E/t°_OOD	CON SPAC	IDIT	ION	NT									COM	ИМЕ	NTS			
Relinquished By:	180	Date:	Time:	Rece	ived B	y:									DE AP	CHI	LORI PRL RVE	NATE	CO	IN L		RS_	_	_										
Relinquished By:		Date:	Time:	Rece	ived B	y:											RVA		vo		oa	&G	ME pH<	TAL	s	отн	IER							

1534 Willow Pass Road, Pittsburg, CA 94565-1701 Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269 http://www.mccampbell.com / E-mail: main@mccampbell.com

Sample Receipt Checklist

Client Name: Project Name:	Monterey Bay Analytical MPWMD			Date and Time Received Date Logged:	4/12/2017 09:29 4/12/2017
Project Name.	WIF W IVID			Received by:	Jena Alfaro
WorkOrder №:	1704450 Matrix: <u>Water</u>			Logged by:	Jena Alfaro
Carrier:	Golden State Overnight				
	Chain of C	ustody	(COC) Infor	<u>mation</u>	
Chain of custody	present?	Yes	•	No 🗆	
Chain of custody	signed when relinquished and received?	Yes	•	No 🗆	
Chain of custody	agrees with sample labels?	Yes	•	No 🗆	
Sample IDs noted	d by Client on COC?	Yes	✓	No 🗆	
Date and Time of	f collection noted by Client on COC?	Yes	•	No 🗌	
Sampler's name	noted on COC?	Yes	•	No 🗆	
	<u>Sampl</u>	e Rece	ipt Informati	<u>on</u>	
Custody seals int	act on shipping container/cooler?	Yes		No 🗌	NA 🗹
Shipping containe	er/cooler in good condition?	Yes	✓	No 🗌	
Samples in prope	er containers/bottles?	Yes	•	No 🗌	
Sample container	rs intact?	Yes	✓	No 🗆	
Sufficient sample	volume for indicated test?	Yes	•	No 🗆	
	Sample Preservation	on and	Hold Time (I	HT) Information	
All samples recei	ved within holding time?	Yes	✓	No 🗆	NA 🗌
Sample/Temp Bla	ank temperature		Temp: 5.2	2°C	NA 🗌
Water - VOA vials	s have zero headspace / no bubbles?	Yes	•	No 🗌	NA 🗌
Sample labels ch	ecked for correct preservation?	Yes	✓	No 🗌	
pH acceptable up	oon receipt (Metal: <2; 522: <4; 218.7: >8)?	Yes		No 🗌	NA 🗹
Samples Receive	ed on Ice?	Yes	•	No 🗌	
	(Ice Type	e: WE	TICE)		
UCMR3 Samples Total Chlorine t	s: tested and acceptable upon receipt for EPA 522?	Yes		No 🗆	NA 🗹
	ested and acceptable upon receipt for EPA 218.7,	Yes		No 🗆	NA 🗹
300.1, 537, 539	9?				
Comments:					



831.375.MBAS www.MBASinc.com **ELAP Certification Number: 2385** Monday, May 01, 2017

Lab Number: AB65239

Collection Date/Time: 4/11/2017 15:00 Sample Collector: LEAR, J Client Sample #:

Submittal Date/Time: 4/12/2017 Sample ID 10:18

			Sample Des	cription	n: SM	S (D)				
Analyte	Method	Unit	Result	Dilution	Qual	PQL	MDL	Date Analyzed	Time Analyzed	Analyst:
Alkalinity, Total (as CaCC	03) SM2320B	mg/L	138	1		10	2	4/17/2017	1:00 PM	BS
Aluminum, Total	EPA200.8	μg/L	20	2		10	10	4/14/2017	6:29 PM	SM
Ammonia-N	SM4500NH3	mg/L	0.05	1		0.05	0.05	4/25/2017	10:59 AM	MW
Arsenic, Total	EPA200.8	μg/L	1	2		1	0.2	4/14/2017	6:29 PM	SM
Barium, Total	EPA200.8	μg/L	43	2		10	0.4	4/14/2017	6:29 PM	SM
Bicarbonate (as HCO3-)	SM2320B	mg/L	168	1		10	2	4/17/2017	4:35 PM	MP
Boron	EPA200.7	mg/L	Not detected	1 1		0.05	0.01	4/19/2017	10:11 AM	MW
Bromide	EPA300.0	mg/L	0.1	1		0.1	0.01	4/13/2017	1:53 AM	НМ
Calcium	EPA200.7	mg/L	41	1		0.5	0.1	4/19/2017	10:11 AM	MW
Carbonate as CaCO3	SM2320B	mg/L	Not Detected	1 1		10	2	4/17/2017	4:35 PM	MP
Chloramines	SM4500-CI	mg/L	0.14	1	IL	0.05	0.05	4/12/2017	3:51 PM	LRH
Chloride	EPA300.0	mg/L	27	1		1	0.25	4/13/2017	1:53 AM	НМ
DOC	SM5310C	mg/L	1.4	1		0.2	0.03	4/24/2017	3:00 PM	MW
Fluoride	EPA300.0	mg/L	0.2	1		0.1	0.02	4/13/2017	1:53 AM	НМ
Gross Alpha	EPA900.0	pCi/L	2.20 ± 1.33	1	Е			4/21/2017	12:00 PM	FGL
Haloacetic Acids	EPA552	μg/L	11	1	Е			4/19/2017	12:00 PM	FGL
Iron	EPA200.7	μg/L	Not Detected	l 1		10	4	4/19/2017	10:11 AM	MW
Iron, Dissolved	EPA200.7	μg/L	Not Detected	1 1		10	4	4/19/2017	10:08 AM	MW
Kjehldahl Nitrogen	SM4500-NH	mg/L	0.5	1		0.5	0.5	4/19/2017	10:00 AM	BS
Lithium	EPA200.8	μg/L	7	2		1	0.2	4/14/2017	6:29 PM	SM
Magnesium	EPA200.7	mg/L	12	1		0.5	0.2	4/19/2017	10:11 AM	MW
Manganese, Dissolved	EPA200.7	μg/L	Not Detected	1 1		10	2	4/19/2017	10:08 AM	MW
Manganese, Total	EPA200.7	μg/L	Not Detected	1 1		10	2	4/19/2017	10:11 AM	MW
Mercury, Total	EPA200.8	<mark>μg/L</mark>	Not Detected	2	LM.	.IJ 0.4	0.08	4/14/2017	6:29 PM	SM
Methane	EPA174/175	μg/L	1.3	1	Е	0.1	0.1	4/18/2017	3:57 PM	MCCAM
Molybdenum, Total	EPA200.8	μg/L	3	2		1	0.2	4/14/2017	6:29 PM	SM
Nickel, Total	EPA200.8	μg/L	Not Detected	2		10	0.2	4/14/2017	6:29 PM	SM
Nitrate as NO3	EPA300.0	mg/L	1	1	-	1	0.07	4/13/2017	1:53 AM	НМ
Nitrate as NO3-N	EPA300.0	mg/L	0.3	1		0.1	0.01	4/13/2017	1:53 AM	НМ
Nitrate+Nitrite as N	EPA300.0	mg/L	0.8	1		0.1	0.025	4/13/2017	1:53 AM	НМ
Nitrite as NO2-N	EPA300.0	mg/L	0.5	1		0.1	0.01	4/13/2017	1:53 AM	НМ
o-Phosphate-P, Dissolved	d EPA300.0	mg/L	0.2	1		0.1	0.02	4/13/2017	1:53 AM	НМ

mg/L: Milligrams per liter (=ppm)

H = Analyzed ouside of hold time

J = Result is less than PQL

ug/L: Micrograms per liter (=ppb)

PQL: Practical Quantitation Limit E = Analysis performed by External Laboratory; See External Laboratory Report attachments.

T = Temperature Exceedance



4 Justin Court Suite D, Monterey, CA 93940 831.375.MBAS www.MBASinc.com ELAP Certification Number: 2385 Monday, May 01, 2017

Lab Number: AB65239

Collection Date/Time: 4/11/2017 15:00 Sample Collector: LEAR, J Client Sample #:

Submittal Date/Time: 4/12/2017 10:18 Sample ID

Odbilittal Date/Tillic: 4/	12/2017 10	. 10	Oampic ID							
		;	Sample Des	cription	<u> 1: SM</u>					
Analyte	Method	Unit	Result	Dilution	Qual	PQL	MDL	Date Analyzed	Time Analyzed	Analyst:
pH (Laboratory)	SM4500-H+	pH (H)	7.6	1		0.1		4/12/2016	5:00 PM	BS
Phosphorus, Total	HACH 8190	mg/L	0.29	1	HP/	L 0.05	0.05	4/18/2017	12:27 PM	MP/LRH
Potassium	EPA200.7	mg/L	2.7	1		0.5	0.3	4/19/2017	10:11 AM	MW
QC Anion Sum x 100	Calculation	%	100%	1				4/17/2017	4:35 PM	MP
QC Anion-Cation Balance	Calculation	%	-1	1				4/20/2017	3:59 PM	MW
QC Cation Sum x 100	Calculation	%	98%	1				4/20/2017	3:59 PM	MW
QC Ratio TDS/SEC	Calculation		0.61	1				4/17/2017	5:18 PM	LRH
Selenium, Total	EPA200.8	μg/L	2	2		2	1	4/14/2017	6:29 PM	SM
Silica as SiO2, Total	EPA200.7	mg/L	22	1		0.5	0.3	4/19/2017	10:11 AM	MW
Sodium	EPA200.7	mg/L	39	1		0.5	0.2	4/19/2017	10:11 AM	MW
Specific Conductance (E.C	C) SM2510B	µmhos/c	490	1		1	1	4/13/2017	3:30 PM	НМ
Strontium, Total	EPA200.8	μg/L	277	2	BB	5	1	4/14/2017	6:29 PM	SM
Sulfate	EPA300.0	mg/L	66	1		1	0.25	4/13/2017	1:53 AM	НМ
TOC	SM5310C	mg/L	1.4	1		0.2	0.03	4/24/2017	3:00 PM	MW
Total Diss. Solids	SM2540C	mg/L	300	1		10	10	4/13/2017	3:50 PM	MP
Total Nitrogen	Calculation	mg/L	1.3	1		0.5	0.5	4/19/2017	4:45 PM	MP
Total Radium 226	EPA903.0	pCi/L	0.066 ± 0.129	9 1	Е			4/27/2017	11:55 AM	FGL
Trihalomethanes	EPA524.2	μg/L	27	1	Е			4/22/2017	12:00 PM	FGL
Uranium by ICP/MS	EPA200.8	μg/L	1	2	IJ	1	0.08	4/14/2017	6:29 PM	SM
Vanadium, Total	EPA200.8	μg/L	Not Detected	d 2		5	0.2	4/14/2017	6:29 PM	SM
Zinc, Total	EPA200.8	μg/L	56	2		20	20	4/14/2017	6:29 PM	SM

Sample Comments:

IL: RPD exceeds laboratory control limit IJ: ICV and/or CCV above acceptance limits. LM: MS and/or MSD above acceptance limits. BB: Sample > 4x spike concentration. LQ: LCS recovery above method control limits. HP: Low concentration blank spike recovery out of limits.

T = Temperature Exceedance

E = Analysis performed by External Laboratory; See External Laboratory Report attachments.

David Holland, Laboratory Director

PQL: Practical Quantitation Limit

Report Approved by:

report reproved by.

ug/L : Micrograms per liter (=ppb)



831.375.MBAS www.MBASinc.com **ELAP Certification Number: 2385** Monday, May 01, 2017

Lab Number: AB65240

Collection Date/Time: 4/11/2017 9:45 Sample Collector: LEAR, J Client Sample #:

Submittal Date/Time: 4/12/2017 Sample ID 10:18

			Sample De	scription	on: M	W-1				
Analyte	Method	Unit		Dilution	Qual		MDL	Date Analyzed	Time Analyzed	Analyst:
Alkalinity, Total (as CaCO	3) SM2320B	mg/L	134	1		10	2	4/17/2017	1:00 PM	BS
Aluminum, Total	EPA200.8	μg/L	85	2		10	10	4/14/2017	6:47 PM	SM
Ammonia-N	SM4500NH3	mg/L	Not Detected	1 1		0.05	0.05	4/25/2017	10:59 AM	MW
Arsenic, Total	EPA200.8	μg/L	2	2		1	0.2	4/14/2017	6:47 PM	SM
Barium, Total	EPA200.8	μg/L	20	2	BB	10	0.4	4/14/2017	6:47 PM	SM
Bicarbonate (as HCO3-)	SM2320B	mg/L	163	1		10	2	4/17/2017	4:35 PM	MP
Boron	EPA200.7	mg/L	Not detected	1 1		0.05	0.01	4/19/2017	9:46 AM	MW
Bromide	EPA300.0	mg/L	0.1	1		0.1	0.01	4/12/2017	8:40 PM	HM
Calcium	EPA200.7	mg/L	40	1		0.5	0.1	4/19/2017	9:46 AM	MW
Carbonate as CaCO3	SM2320B	mg/L	Not Detected	1 1		10	2	4/17/2017	4:35 PM	MP
Chloramines	SM4500-CI	mg/L	0.08	1	IL	0.05	0.05	4/12/2017	3:51 PM	LRH
Chloride	EPA300.0	mg/L	28	1		1	0.25	4/12/2017	8:40 PM	НМ
DOC	SM5310C	mg/L	1.3	1		0.2	0.03	4/24/2017	3:00 PM	MW
Fluoride	EPA300.0	mg/L	0.2	1		0.1	0.02	4/12/2017	8:40 PM	HM
Gross Alpha	EPA900.0	pCi/L	2.31 0± 1.29	1	Е			4/21/2017	3:00 PM	FGL
Haloacetic Acids	EPA552	μg/L	18	1	Е			4/19/2017	12:00 PM	FGL
Iron	EPA200.7	μg/L	72	1		10	4	4/19/2017	9:46 AM	MW
Iron, Dissolved	EPA200.7	μg/L	Not Detected	1 1		10	4	4/19/2017	9:49 AM	MW
Kjehldahl Nitrogen	SM4500-NH	mg/L	0.6	1		0.5	0.5	4/19/2017	10:00 AM	BS
Lithium	EPA200.8	μg/L	9	2	IJ,L	.Q 1	0.2	4/14/2017	6:47 PM	SM
Magnesium	EPA200.7	mg/L	10	1		0.5	0.2	4/19/2017	9:46 AM	MW
Manganese, Dissolved	EPA200.7	μg/L	Not Detected	1 1		10	2	4/19/2017	9:49 AM	MW
Manganese, Total	EPA200.7	μg/L	Not Detected	1 1		10	2	4/19/2017	9:46 AM	MW
Mercury, Total	EPA200.8	μg/L	0.4	2	IJ	0.4	0.08	4/14/2017	6:47 PM	SM
Methane	EPA174/175	μg/L	0.68	1	Е	0.1	0.1	4/18/2017	4:08 PM	MCCAM
Molybdenum, Total	EPA200.8	μg/L	3	2		1	0.2	4/14/2017	6:47 PM	SM
Nickel, Total	EPA200.8	μg/L	Not Detected	2		10	0.2	4/14/2017	6:47 PM	SM
Nitrate as NO3	EPA300.0	mg/L	1	1		1	0.07	4/12/2017	8:40 PM	HM
Nitrate as NO3-N	EPA300.0	mg/L	0.3	1		0.1	0.01	4/12/2017	8:40 PM	НМ
Nitrate+Nitrite as N	EPA300.0	mg/L	0.8	1		0.1	0.025	4/12/2017	8:40 PM	HM
Nitrite as NO2-N	EPA300.0	mg/L	0.5	1		0.1	0.01	4/12/2017	8:40 PM	HM
o-Phosphate-P, Dissolved	EPA300.0	mg/L	Not Detected	i 1		0.1	0.02	4/12/2017	8:40 PM	НМ

mg/L: Milligrams per liter (=ppm)

H = Analyzed ouside of hold time

J = Result is less than PQL

ug/L: Micrograms per liter (=ppb)

PQL: Practical Quantitation Limit E = Analysis performed by External Laboratory; See External Laboratory Report attachments.

T = Temperature Exceedance



831.375.MBAS www.MBASinc.com **ELAP Certification Number: 2385**

Monday, May 01, 2017

PQL: Practical Quantitation Limit

Lab Number: AB65240

Collection Date/Time: 4/11/2017 9:45 Sample Collector: LEAR, J Client Sample #:

Sample ID Submittal Date/Time: 4/12/2017 10:18

			Sample De	scriptio	n: M	W-1				
Analyte I	Method	Unit	Result	Dilution	Qual	PQL	MDL	Date Analyzed	Time Analyzed	Analyst:
pH (Laboratory)	SM4500-H+	pH (H)	7.7	1		0.1		4/12/2016	5:00 PM	BS
Phosphorus, Total	HACH 8190	mg/L	0.04	1	HP/	L 0.05	0.05	4/19/2017	12:27 PM	MP/LRH
Potassium	EPA200.7	mg/L	2.5	1		0.5	0.3	4/19/2017	9:46 AM	MW
QC Anion Sum x 100	Calculation	%	99%	1				4/17/2017	4:35 PM	MP
QC Anion-Cation Balance	Calculation	%	-2	1				4/20/2017	3:59 PM	MW
QC Cation Sum x 100	Calculation	%	95%	1				4/20/2017	3:59 PM	MW
QC Ratio TDS/SEC	Calculation		0.58	1				4/17/2017	5:18 PM	LRH
Selenium, Total	EPA200.8	μg/L	2	2		2	1	4/14/2017	6:47 PM	SM
Silica as SiO2, Total	EPA200.7	mg/L	22	1		0.5	0.3	4/19/2017	9:46 AM	MW
Sodium	EPA200.7	mg/L	41	1		0.5	0.2	4/19/2017	9:46 AM	MW
Specific Conductance (E.C	SM2510B	µmhos/c	493	1		1	1	4/13/2017	3:30 PM	НМ
Strontium, Total	EPA200.8	μg/L	282	2	BB	5	1	4/14/2017	6:47 PM	SM
Sulfate	EPA300.0	mg/L	68	1		1	0.25	4/12/2017	8:40 PM	НМ
TOC	SM5310C	mg/L	1.2	1		0.2	0.03	4/24/2017	3:00 PM	MW
Total Diss. Solids	SM2540C	mg/L	288	1		10	10	4/13/2017	3:50 PM	MP
Total Nitrogen	Calculation	mg/L	1.4	1		0.5	0.5	4/19/2017	4:46 PM	MP
Total Radium 226	EPA903.0	pCi/L	0.164 ± 0.170) 1	Е			4/27/2017	12:30 PM	FGL
Trihalomethanes	EPA524.2	μg/L	58	1	E			4/22/2017	12:00 PM	FGL
Uranium by ICP/MS	EPA200.8	μg/L	2	2	IJ	1	0.08	4/14/2017	6:47 PM	SM
Vanadium, Total	EPA200.8	μg/L	Not Detected	d 2		5	0.2	4/14/2017	6:47 PM	SM
Zinc, Total	EPA200.8	μg/L	Not Detected	1 2		20	20	4/14/2017	6:47 PM	SM

Sample Comments:

IL: RPD exceeds laboratory control limit LQ: LCS recovery above method control limits. BB: Sample > 4x spike concentration. IJ: ICV and/or CCV above acceptance limits. LQ: LCS recovery above method control limits. HP: Low concentration blank spike recovery out of limits.

T = Temperature Exceedance

ug/L : Micrograms per liter (=ppb)

David Holland, Laboratory Director

E = Analysis performed by External Laboratory; See External Laboratory Report attachments.



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Lab Number: AB65241

Sample Collector:

Client Sample #:

PQL: Practical Quantitation Limit

Collection Date/Time: 4/12/2017 Submittal Date/Time: 4/12/2017

9:00

10:18

Sample ID

Sample Description: #103 inj @ ASR2										
Analyte	Method	Unit	Result	Dilution	Qual	PQL	MDL	Date Analyzed	Time Analyzed	Analyst:
Mercury, Total	EPA200.8	μg/L	Not Detected	1 1	IJ	0.2	0.04	4/14/2017	6:50 PM	SM

LEAR. J

Sample Comments: IJ: ICV and/or CCV above acceptance limits.

ug/L : Micrograms per liter (=ppb)

T = Temperature Exceedance

E = Analysis performed by External Laboratory; See External Laboratory Report attachments.

May 1, 2017

Monterey Bay Analytical Services Lab ID : SP 1704527 4 Justin Court Customer : 2-19144

Monterey, CA 93940

Laboratory Report

Introduction: This report package contains total of 10 pages divided into 3 sections:

Case Narrative (2 pages) : An overview of the work performed at FGL.

Sample Results (4 pages): Results for each sample submitted.

Quality Control (4 pages) : Supporting Quality Control (QC) results.

Case Narrative

This Case Narrative pertains to the following samples:

Sample Description	Date Sampled	Date Received	FGL Lab ID#	Matrix
SMS (D)	04/11/2017	04/14/2017	SP 1704527-001	W
MW-1	04/11/2017	04/14/2017	SP 1704527-002	W

Sampling and Receipt Information: All samples were received in acceptable condition and within temperature requirements, unless noted on the Condition Upon Receipt (CUR) form. All samples arrived at 4 °C. All samples were prepared and analyzed within the method specified hold time. All samples were checked for pH if acid or base preservation is required (except for VOAs). For details of sample receipt information, please see the attached Chain of Custody and Condition Upon Receipt Form.

Quality Control: All samples were prepared and analyzed according to the following tables:

Organic QC

551.1	04/22/2017:205928 All analysis quality controls are within established criteria.						
	04/21/2017:204675 All preparation quality controls are within established criteria, except: The following note applies to Chloroform: 435 Sample matrix may be affecting this analyte. Data was accepted based on the LCS or CCV recovery. The following note applies to Decafluorobiphenyl: 435 Sample matrix may be affecting this analyte. Data was accepted based on the LCS or CCV recovery.						
552	04/17/2017:204460 All preparation quality controls are within established criteria.						
552.2	04/19/2017:205573 All analysis quality controls are within established criteria.						
	04/19/2017:205687 All analysis quality controls are within established criteria.						

May 1, 2017 Lab ID : SP 1704527 **Monterey Bay Analytical Services** Customer : 2-19144

Radio QC

900.0	04/21/2017:205926 All analysis quality controls are within established criteria.
	04/21/2017:205929 All analysis quality controls are within established criteria.
	04/19/2017:204526 All preparation quality controls are within established criteria.
903.0	04/27/2017:206235 All analysis quality controls are within established criteria.
	04/25/2017:204712 All preparation quality controls are within established criteria, except: The following note applies to Total Alpha Radium (226): 436 Blank Spike (BS) not within Acceptance Range (AR). Data was accepted based on the LCS or CCV recovery.

Certification:: I certify that this data package is in compliance with ELAP standards, both technically and for completeness, except for any conditions listed above. Release of the data contained in this data package is authorized by the Laboratory Director or his designee, as verified by the following electronic signature.

KD:DMB

Approved By Kelly A. Dunnahoo, B.S.



Lab ID

Customer ID : 2-19144

Monterey Bay Analytical Services

4 Justin Court Sampled On : April 11, 2017-15:00

: Jonathan Lear Monterey, CA 93940 Sampled By

Received On : April 14, 2017-11:00

: SP 1704527-001

Matrix : Water

Description : SMS (D) Project : MPWMD

May 1, 2017

Sample Result - Organic

Constituent	Result	PQL	Units	Note	Sample	Preparation	Samp	le Analysis
Constituent	Result	1 QL	Omts	Note	Method	Date/ID	Method	Date/ID
EPA 551.1								
Decafluorobiphenyl [‡]	67.0	80-120	%		551.1	04/21/17:204675	551.1	04/22/17:205928
Bromodichloromethane	9	1	ug/L		551.1	04/21/17:204675	551.1	04/22/17:205928
Bromoform	ND	1	ug/L		551.1	04/21/17:204675	551.1	04/22/17:205928
Chloroform	12	1	ug/L		551.1	04/21/17:204675	551.1	04/22/17:205928
Dibromochloromethane	6	1	ug/L		551.1	04/21/17:204675	551.1	04/22/17:205928
Total Trihalomethanes	27		ug/L		551.1	04/21/17:204675	551.1	04/22/17:205928
EPA 552.2								
2,3-Dibromopropionic Acid [‡]	114	70-130	%		552	04/17/17:204460	552.2	04/19/17:205573
Bromoacetic Acid	1	1	ug/L		552	04/17/17:204460	552.2	04/19/17:205573
Chloroacetic Acid	ND	2	ug/L		552	04/17/17:204460	552.2	04/19/17:205573
Dibromoacetic Acid	2	1	ug/L		552	04/17/17:204460	552.2	04/19/17:205687
Dichloroacetic Acid	3	1	ug/L		552	04/17/17:204460	552.2	04/19/17:205573
Trichloroacetic Acid	5	1	ug/L		552	04/17/17:204460	552.2	04/19/17:205573
Haloacetic acids (five)	11		ug/L		552	04/17/17:204460	552.2	04/19/17:205573

ND=Non-Detected. PQL=Practical Quantitation Limit. ‡Surrogate. * PQL adjusted for dilution.

Analytical Chemists

May 1, 2017 Lab ID : SP 1704527-001

Customer ID : 2-19144

Monterey Bay Analytical Services

4 Justin Court Sampled On : April 11, 2017-15:00

: Jonathan Lear Monterey, CA 93940 Sampled By

Received On : April 14, 2017-11:00

: Water Matrix

Description : SMS (D) **Project** : MPWMD

Sample Result - Radio

Constituent	Result ± Error	MDA	Units	MCL/AL	Sample	Preparation	Sample Analysis		
Constituent	Result ± Ellor	WIDA	Omts	WICL/AL	Method	Method Date/ID		Date/ID	
Radio Chemistry									
Gross Alpha	2.20 ± 1.33	1.53	pCi/L	15/5	900.0	04/19/17-08:01 2P1704526	900.0	04/21/17-12:00 2A1705926	
Total Alpha Radium (226)	0.066 ± 0.129	0.363	pCi/L	3	903.0	04/25/17-12:15 2P1704712	903.0	04/27/17-11:55 2A1706235	

ND=Non-Detected. PQL=Practical Quantitation Limit. * PQL adjusted for dilution.

MDA = Minimum Detectable Activity (Calculated at the 95% confidence level) = Data utilized by DHS to determine matrix interference. MCL / AL = Maximum Contamination Level / Action Level. Alpha's Action Level of 5 pCi/L is based on the Assigned Value (AV). AV = Assigned Value(Gross Alpha Result + (0.84 x Error)). CCR Section 64442: Drinking Water Compliance Note: Do the following If Gross Alpha's (AV) exceeds 5 pCi/L run Uranium. If Gross Alpha's (AV) minus Uranium exceeds 5 pCi/L run Radium 226.

Drinking Water Compliance:

Gross Alpha (AV) minus Uranium is less than or equal to 15 pCi/L Uranium is less than or equal to 20 pCi/L

Radium 226 + Radium 228 is less than or equal to 5 pCi/L

Note: Samples are held for 3-6 months prior to disposal.

: SP 1704527-002 May 1, 2017 Lab ID

Customer ID : 2-19144

Monterey Bay Analytical Services

4 Justin Court Sampled On : April 11, 2017-09:45

Monterey, CA 93940 : Jonathan Lear Sampled By

Received On : April 14, 2017-11:00

Matrix : Water

Description : MW-1 **Project** : MPWMD

Sample Result - Organic

Constituent	Result	PQL	Units	Note	Sample	Preparation	Samp	le Analysis
Constituent	Result	1 QL	Omts	Note	Method	Date/ID	Method	Date/ID
EPA 551.1								
Decafluorobiphenyl [‡]	89.2	80-120	%		551.1	04/21/17:204675	551.1	04/22/17:205928
Bromodichloromethane	14	1	ug/L		551.1	04/21/17:204675	551.1	04/22/17:205928
Bromoform	1	1	ug/L		551.1	04/21/17:204675	551.1	04/22/17:205928
Chloroform	35	1	ug/L		551.1	04/21/17:204675	551.1	04/22/17:205928
Dibromochloromethane	8	1	ug/L		551.1	04/21/17:204675	551.1	04/22/17:205928
Total Trihalomethanes	58		ug/L		551.1	04/21/17:204675	551.1	04/22/17:205928
EPA 552.2								
2,3-Dibromopropionic Acid [‡]	110	70-130	%		552	04/17/17:204460	552.2	04/19/17:205573
Bromoacetic Acid	ND	1	ug/L		552	04/17/17:204460	552.2	04/19/17:205573
Chloroacetic Acid	ND	2	ug/L		552	04/17/17:204460	552.2	04/19/17:205573
Dibromoacetic Acid	2	1	ug/L		552	04/17/17:204460	552.2	04/19/17:205687
Dichloroacetic Acid	8	1	ug/L		552	04/17/17:204460	552.2	04/19/17:205687
Trichloroacetic Acid	8	1	ug/L		552	04/17/17:204460	552.2	04/19/17:205573
Haloacetic acids (five)	18		ug/L		552	04/17/17:204460	552.2	04/19/17:205573

ND=Non-Detected. PQL=Practical Quantitation Limit. ‡Surrogate. * PQL adjusted for dilution.

May 1, 2017 Lab ID : SP 1704527-002

Customer ID : 2-19144

Monterey Bay Analytical Services

4 Justin Court Sampled On : April 11, 2017-09:45

: Jonathan Lear Monterey, CA 93940 Sampled By

Received On : April 14, 2017-11:00

: Water Matrix

Description : MW-1 **Project** : MPWMD

Sample Result - Radio

Constituent	Result ± Error	MDA	Units	MCL/AL	Sample	Preparation	Sample Analysis			
Constituent	Result ± Ellor	WIDA	Omts	WICL/AL	Method	Method Date/ID		Method Date/ID Method		Date/ID
Radio Chemistry										
Gross Alpha	2.31 ± 1.29	1.25	pCi/L	15/5	900.0	04/19/17-08:01 2P1704526	900.0	04/21/17-15:00 2A1705929		
Total Alpha Radium (226)	0.164 ± 0.170	0.363	pCi/L	3	903.0	04/25/17-12:15 2P1704712	903.0	04/27/17-12:30 2A1706235		

ND=Non-Detected. PQL=Practical Quantitation Limit. * PQL adjusted for dilution.

MDA = Minimum Detectable Activity (Calculated at the 95% confidence level) = Data utilized by DHS to determine matrix interference. MCL / AL = Maximum Contamination Level / Action Level. Alpha's Action Level of 5 pCi/L is based on the Assigned Value (AV). AV = Assigned Value(Gross Alpha Result + (0.84 x Error)). CCR Section 64442: Drinking Water Compliance Note: Do the following If Gross Alpha's (AV) exceeds 5 pCi/L run Uranium. If Gross Alpha's (AV) minus Uranium exceeds 5 pCi/L run Radium 226.

Drinking Water Compliance:

Gross Alpha (AV) minus Uranium is less than or equal to 15 pCi/L Uranium is less than or equal to 20 pCi/L

Radium 226 + Radium 228 is less than or equal to 5 pCi/L

Note: Samples are held for 3-6 months prior to disposal.

May 1, 2017 Lab ID : SP 1704527 **Monterey Bay Analytical Services** : 2-19144 Customer

Constituent	Method	Date/ID	Type	Units	Conc.	QC Data	DQO	Note
Organic								
Bromodichloromethane	551.1	04/21/17:204675SBL	Blank	ug/L		ND	<1	
Bromodicinoromethane	331.1	04/21/17.2040733BL	LCS	ug/L ug/L	9.693	94.6 %	80-120	
			MS	ug/L ug/L	10.06	94.6 % 102 %	80-120	
		(SP 1704527-001)	MSD		9.846	96.8 %	80-120	
		(SF 1704327-001)	MSRPD	ug/L ug/L	19.69	4.1%		
			Blank		19.09	4.1 % ND	≤20 <1	
			LCS	ug/L	9.591	99.7 %	80-120	
			MS	ug/L	9.391	99.7 %	80-120	
		(SP 1704527-002)	MSD	ug/L		89.7 %	80-120	
		(SF 1704327-002)	MSRPD	ug/L	9.849 19.70	0.04%	≤20	
	551.1	04/22/17:205020CDI		ug/L				
	551.1	04/22/17:205928SBL	CCV	ug/L	83.33	96.8 %	80-120	
			CCV	ug/L	166.7	90.8 %	80-120	
_			CCV	ug/L	83.33	98.2 %	80-120	
Bromoform	551.1	04/21/17:204675SBL	Blank	ug/L	0.000	ND	<1	
			LCS	ug/L	9.693	89.5 %	80-120	
		(OD 150 155 00 0	MS	ug/L	10.06	97.2 %	80-120	
		(SP 1704527-001)	MSD	ug/L	9.846	95.9 %	80-120	
			MSRPD	ug/L	19.69	3.2%	≤20	
			Blank	ug/L		ND	<1	
			LCS	ug/L	9.591	99.5 %	80-120	
			MS	ug/L	9.810	95.9 %	80-120	
		(SP 1704527-002)	MSD	ug/L	9.849	95.8 %	80-120	
			MSRPD	ug/L	19.70	0.2%	≤20	
	551.1	04/22/17:205928SBL	CCV	ug/L	83.33	94.4 %	80-120	
			CCV	ug/L	166.7	89.8 %	80-120	
			CCV	ug/L	83.33	98.2 %	80-120	
Chloroform	551.1	04/21/17:204675SBL	Blank	ug/L		ND	<1	
			LCS	ug/L	9.693	98.8 %	80-120	
			MS	ug/L	10.06	105 %	80-120	
		(SP 1704527-001)	MSD	ug/L	9.846	112 %	80-120	
			MSRPD	ug/L	19.69	2.1%	≤20	
			Blank	ug/L		ND	<1	
			LCS	ug/L	9.591	110 %	80-120	
			MS	ug/L	9.810	79.0 %	80-120	435
		(SP 1704527-002)	MSD	ug/L	9.849	80.7 %	80-120	
			MSRPD	ug/L	19.70	0.5%	≤20	
	551.1	04/22/17:205928SBL	CCV	ug/L	83.33	95.1 %	80-120	
			CCV	ug/L	166.7	95.2 %	80-120	
			CCV	ug/L	83.33	96.9 %	80-120	
Decafluorobiphenyl	551.1	04/21/17:204675SBL	Blank	ug/L	18.99	84.8 %	80-120	
1 ,			LCS	ug/L	19.39	96.3 %	80-120	
			MS	ug/L	20.11	102 %	80-120	
		(SP 1704527-001)	MSD	ug/L	19.69	80.5 %	80-120	
		(= = = = = = = = = = = = = = = = = = =	MSRPD	ug/L	19.69	25.9%	≤20.0	435
			Blank	ug/L	19.21	99.6 %	80-120	
			LCS	ug/L	19.18	99.3 %	80-120	
			MS	ug/L	19.62	97.7 %	80-120	
		(SP 1704527-002)	MSD	ug/L	19.70	87.7 %	80-120	
			MSRPD	ug/L	19.70	10.3%	≤20.0	
	551.1	04/22/17:205928SBL	CCV	ug/L	166.7	83.9 %	80-120	
	331.1	., 22, 1, .203720300	CCV	ug/L ug/L	333.3	91.8 %	80-120	
			CCV	ug/L ug/L	166.7	101 %	80-120	
Dibromochloromethane	551.1	04/21/17:204675SBL	Blank	ug/L ug/L	100.7	ND	<1	
Dioromocmoromemane	331.1	0+/41/11.4040133DL	LCS	ug/L ug/L	9.693	92.8 %	80-120	
			MS	ug/L ug/L	10.06	92.8 % 104 %	80-120	
		1	MID	ug/L	10.00	104 %	00-120	<u> </u>

May 1, 2017Lab ID: SP 1704527Monterey Bay Analytical ServicesCustomer: 2-19144

Constituent	Method	Date/ID	Type	Units	Conc.	QC Data	DQO	Note
Organic								
Dibromochloromethane	551.1	(SP 1704527-001)	MSD	ug/L	9.846	96.9 %	80-120	
Dibromocmoromemane	331.1	(51 1704527-001)	MSRPD	ug/L ug/L	19.69	5.9%	≤20	
			Blank	ug/L ug/L	17.07	ND	<1	
			LCS	ug/L ug/L	9.591	100 %	80-120	
			MS	ug/L ug/L	9.810	94.0 %	80-120	
		(SP 1704527-002)	MSD	ug/L ug/L	9.849	93.6 %	80-120	
		(SI 1704327 002)	MSRPD	ug/L ug/L	19.70	0.0%	≤20	
	551.1	04/22/17:205928SBL	CCV	ug/L ug/L	83.33	94.6 %	80-120	
	331.1	04/22/17.2037265DL	CCV	ug/L ug/L	166.7	91.2 %	80-120	
			CCV	ug/L ug/L	83.33	96.6 %	80-120	
2,3-Dibromopropionic Acid	552	04/17/17:204460SBL	Blank	ug/L ug/L	5.000	85.6 %	70-130	
2,5-Dibromopropionic Acid	332	04/1//1/:2044003BL	LCS		5.000	100 %	70-130	
			MS	ug/L	5.000	112 %	70-130	
		(CD 1704250 001)		ug/L				
		(SP 1704358-001)	MSD	ug/L	5.000	106 %	70-130	
D1		04/48/48 604460655	MSRPD	ug/L	5.000	5.1%	≤20.0	
Dibromoacetic Acid	552	04/17/17:204460SBL	Blank	ug/L		ND	<1	
			LCS	ug/L	10.00	101 %	70-130	
			MS	ug/L	10.00	101 %	70-130	
		(SP 1704358-001)	MSD	ug/L	10.00	94.5 %	70-130	
			MSRPD	ug/L	5.000	5.6%	≤20.0	
Dichloroacetic Acid	552	04/17/17:204460SBL	Blank	ug/L		ND	<1	
			LCS	ug/L	10.00	100 %	70-130	
			MS	ug/L	10.00	98.7 %	70-130	
		(SP 1704358-001)	MSD	ug/L	10.00	96.2 %	70-130	
			MSRPD	ug/L	5.000	2.5%	≤20.0	
Monobromoacetic Acid	552	04/17/17:204460SBL	Blank	ug/L		ND	<1	
			LCS	ug/L	10.00	98.8 %	70-130	
			MS	ug/L	10.00	99.7 %	70-130	
		(SP 1704358-001)	MSD	ug/L	10.00	95.7 %	70-130	
		(32 270 100 00 00 27	MSRPD	ug/L	5.000	4.0%	≤20.0	
Monochloroacetic Acid	552	04/17/17:204460SBL	Blank	ug/L		ND	<2	
Pronocinoroacetre ricia	332	0 1/17/17:20 1 100BBE	LCS	ug/L ug/L	10.00	110 %	70-130	
			MS	ug/L ug/L	10.00	117 %	70-130	
		(SP 1704358-001)	MSD	ug/L ug/L	10.00	112 %	70-130	
		(51 1704556-001)	MSRPD	ug/L ug/L	5.000	4.7%	≤20.0	
Trichloroacetic Acid	552	04/17/17:204460SBL	Blank		3.000	ND	<1	
Trichloroacetic Acid	332	04/1//1/:2044003BL	LCS	ug/L ug/L	10.00	99.6 %	70-130	
					10.00		70-130	
		(SP 1704358-001)	MS MSD	ug/L	10.00	104 % 101 %	70-130	
		(SF 1/04336-001)	MSD MSRPD	ug/L		2.4%	/0-130 ≤20.0	
2.2.5.1	550.0	04/10/17 005573057		ug/L	5.000			
2,3-Dibromopropionic Acid	552.2	04/19/17:205573SBL	CCV	ug/L	75.00	89.7 %	70-130	
			CCV	ug/L	50.00	90.3 %	70-130	
Dibromoacetic Acid	552.2	04/19/17:205687SBL		ug/L	150.0	96.6 %	70-130	
			CCV	ug/L	100.0	92.9 %	70-130	
Dichloroacetic Acid	552.2	04/19/17:205573SBL		ug/L	150.0	93.1 %	70-130	
			CCV	ug/L	100.0	85.4 %	70-130	
	552.2	04/19/17:205687SBL	CCV	ug/L	150.0	96.1 %	70-130	
			CCV	ug/L	100.0	92.1 %	70-130	
Monobromoacetic Acid	552.2	04/19/17:205573SBL	CCV	ug/L	150.0	90.1 %	70-130	
			CCV	ug/L	100.0	85.6 %	70-130	
Monochloroacetic Acid	552.2	04/19/17:205573SBL		ug/L	150.0	99.1 %	70-130	
monocinoroacette Acid	332.2	O T/ 1 // 1 / . 2000 / 30DL	CCV	ug/L ug/L	100.0	94.9 %	70-130	
Trichloroacetic Acid	552.2	04/10/17-205572CDI						
THEMOTOACEUC ACIO	552.2	04/19/17:205573SBL		ug/L	150.0	92.0 %	70-130	
			CCV	ug/L	100.0	82.3 %	70-130	

May 1, 2017Lab ID: SP 1704527Monterey Bay Analytical ServicesCustomer: 2-19144

Definition	
CCV	: Continuing Calibration Verification - Analyzed to verify the instrument calibration is within criteria.
Blank	: Method Blank - Prepared to verify that the preparation process is not contributing contamination to the samples.
LCS	: Laboratory Control Standard/Sample - Prepared to verify that the preparation process is not affecting analyte recovery.
MS	: Matrix Spikes - A random sample is spiked with a known amount of analyte. The recoveries are an indication of how that sample matrix affects analyte recovery.
MSD	: Matrix Spike Duplicate of MS/MSD pair - A random sample duplicate is spiked with a known amount of analyted. The recoveries are an indication of how that sample matrix affects analyte recovery.
MSRPD	: MS/MSD Relative Percent Difference (RPD) - The MS relative percent difference is an indication of precision for the preparation and analysis.
ND	: Non-detect - Result was below the DQO listed for the analyte.
DQO	: Data Quality Objective - This is the criteria against which the quality control data is compared.
Explanation	
435	: Sample matrix may be affecting this analyte. Data was accepted based on the LCS or CCV recovery.

May 1, 2017 Lab ID : SP 1704527 **Monterey Bay Analytical Services** Customer : 2-19144

Quality Control - Radio

Constituent		Method	Date/ID	Туре	Units	Conc.	QC Data	DQO	Note
Radio									
Alpha		900.0	04/21/17:205926rmm	CCV CCB	cpm cpm	8425	40.1 % 0.0800	37 - 46 0.17	
		900.0	04/21/17:205929rmm	CCV CCB	cpm cpm	8425	40.8 % 0.0200	37 - 46 0.13	
Gross Alpha		900.0	04/19/17:204526rmm	Blank LCS MS	pCi/L pCi/L pCi/L	108.2 108.2	-0.07 110 % 104 %	3 75-125 60-140	
			(SP 1704506-001)	MSD MSRPD	pCi/L pCi/L	108.2 108.2	108 % 4.0%	60-140 ≤30	
Alpha		903.0	04/27/17:206235rmm	CCV CCB	cpm cpm	8420	41.6 % 0.1200	38 - 46 0.16	
Total Alpha Radium (226)		903.0	04/25/17:204712emv	RgBlk LCS BS BSD	pCi/L pCi/L pCi/L pCi/L	21.85 21.85 21.85	-0.01 56.8 % 44.8 % 39.0 %	2 52-107 43-111 43-111	436
Definition				BSRPD	pCi/L	21.85	1.3	≤2	
CCV : C CCB : C Blank : N	Continuing Calil Method Blank -	bration Blank - Prepared to ver	ntion - Analyzed to verify Analyzed to verify the inify that the preparation red to correct for any reasons.	nstrument b process is n	aseline is with	hin criteria. g contaminat		ples.	

LČS : Laboratory Control Standard/Sample - Prepared to verify that the preparation process is not affecting analyte recovery. : Matrix Spikes - A random sample is spiked with a known amount of analyte. The recoveries are an indication of how that sample MS matrix affects analyte recovery. : Matrix Spike Duplicate of MS/MSD pair - A random sample duplicate is spiked with a known amount of analyted. The recoveries MSD are an indication of how that sample matrix affects analyte recovery. : Blank Spikes - A blank is spiked with a known amount of analyte. It is prepared to verify that the preparation process is not BS affecting analyte recovery. : Blank Spike Duplicate of BS/BSD pair - A blank duplicate is spiked with a known amount of analyte. It is prepared to verify that BSD the preparation process is not affecting analyte recovery. : MS/MSD Relative Percent Difference (RPD) - The MS relative percent difference is an indication of precision for the preparation MSRPD and analysis. : BS/BSD Relative Percent Difference (RPD) - The BS relative percent difference is an indication of precision for the preparation BSRPD and analysis. DQO : Data Quality Objective - This is the criteria against which the quality control data is compared.

: Blank Spike (BS) not within Acceptance Range (AR). Data was accepted based on the LCS or CCV recovery.

Explanation



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CHAIN OF CUSTODY AND ANALYSIS REQUEST DOCUMENT

1	Monterey Bay Analytica	l Services		ľ	702	lumbe 190	5-1					TE	ST D	ESC	RIPT	NOI	AND	ANA	ALY:	SES	REQI	JEST	ED				
Address: 4 Justin Court Monterey, CA 93940 Phone: (831)375-6227 Fax: (831)641-0734 Email Address: info@mbasinc.com Contact Person: David Holland Project Name: MPWMD Purchase Order Number: Quote Number: Rush Analysis: 5 Day 4 Day 3 Day 2 Day 24 hour Rush pre-approval by lab (mitals): Electronic Data Transfer: No State Client Other: Sampler(s): Jonathan Lear			: Composite (C) Grab (G)	2	Type of Containers: (G)Glass (P.Plaste (V)VOA (MT)Metal Tubs	Non-Potable (NP) Ag Water (AgW)	(MW) Montonng Well (GW) Ground Water (WW) Waste Water (DW) Drinking Water		BacT: (Sys) System (SRC) Source (W) Waste	Bact: (ROUT)Routne (RPT)Repast (OTH)Other (RPL)Replace	(LT) Lesf Tissue (PET) Peticle Tissue (PRD) Produce	Preservative: (1) NaOH + ZnAc, (2) NaOH, (3) HCi (4) H2SO4, (5) HNO3, (6) Na2S2O3, (7) Other															
Sampli	ng Fee: Pickup Fee: sitor Setup Date: Time:		Time	Mathod of Sampling:	Number of Containers	rpe of Containers: (Poteble (P) Non-F	(SW) Surface Water (N (TB) Travel Blank (Y	P	acT: (Sys) System (S	acT: (ROUT)Routine	.T) Lest Tissue (PET)	eservative: (1) NaO!) H2SO4, (5) HNO3,	Gross Alpha	Ra 226	ď	THMS										
Num	Location Description	Sampled	Time Sampled	Σ	Z	-	ď	&E	8)	4	•	2	दट	ชั	Ra	HAA	Ŧ										
1.	SMS (D)	4/11/17	15:00	G	7	Var								X	х	х	х										
	MW-1	4/11/17	09:45	G	7	Var								х	x	x	х										
																									ļ		
				_																							
																		_									
Remark	S			Relinq	uished	<u> </u>	, D	te:	T is	me:	R	eljaquj	skęd		Ε	Date:	T	ime:		Relinqu	uished		<u> </u> 	Date:	1	ime:	
AB65	239, AB65241			(1))Q(4) ()4/	13	160		2)													
41	1935144113			Receiv	ed By:		Da	nte:		me:		eceive	V <	4	1/4	Date!	1/	ime: /://	0	Receiv	ed By:		Ι	Date:	7	ime:	

Corporate Offices & Laboratory
853 Corporation Street
Santa Paula, CA 93050
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Office & Laboratory 3442 Empresa Drive, Suite D San Luis Obispo, CA 93401 TEL: (805)783-2940 FAX: (805)783-2912 CA ELAP Certification No. 2775 Office & Laboratory 9415 W. Goshen Avenue Visalia, CA 93291 TEL: (559)734-9473 FAX: (559)734-8435 CA ELAP Certification No. 2810 FGL Environmental Doc ID: 2D0900157_SOP_17.DOC

Revision Date: 10/09/14 Page: 1 of 1

Condition Upon Receipt (Attach to COC)

Sample Receipt at SP:							
1. Number of ice chests/packages rece	eived:	1					
2. Shipper tracking numbers	535744173						
3. Were samples received in a chilled of Temps:	condition?	4 /	/	/	/	_/	_/
4. Surface water (SWTR) bact samples should be flagged unless the time si	•	•		•		ether iced	or not,
5. Do the number of bottles received a COC?	gree with the	Yes No	N/A				
6. Verify sample date, time, sampler		Yes No	N/A				
7. Were the samples received intact? (bottles, leaks, etc.)	i.e. no broken	Yes No					
8. Were sample custody seals intact?		Yes No	N/A				
Sample Verification, Labeling and D	istribution:						
1. Were all requested analyses unders acceptable?	tood and	Yes No					
2. Did bottle labels correspond with the	e client's ID's?	Yes No					
3. Were all bottles requiring sample properly preserved? [Exception: Oil & Grease, VOA and Compared to the co		Yes No	N/A	FGL			
4. VOAs checked for Headspace?		Yes No	N/A				
5. Were all analyses within holding tim receipt?	es at time of	Yes No					
6. Have rush or project due dates beer accepted?	n checked and	Yes No	N/A				
Include a copy of the COC for lab deliv	ery. (Bacti. Inorga	anics and R	adio)				
Sample Receipt, Login and Verification	n completed by:		ewed and roved By _	Alyssa P. E	Bavero @		by Alyssa P. Bavero leceiving 17-12:36:43
Discrepency Documentation: Any items above which are "No" or do	not meet specific	ations (i.e. t	emps) mı	ust be resolv	red.		
Person Contacted:		_ Phone N	Number:				
		Date:					
Problem:							
Resolution:							
2. Person Contacted:		Phone N	Number:				
		_					
Problem:							
Resolution:					(20191	44)	
			Mo	onterey E	Bay Ana	alytical	Services

SP 1704527 APB-04/14/2017-12:36:43



McCampbell Analytical, Inc.

"When Quality Counts"

Analytical Report

WorkOrder: 1704628

Report Created for: Monterey Bay Analytical

4 Justin Court, Suite D Monterey, CA 93940

Project Contact:

David Holland

Project P.O.:

Project Name: MPWMD

Project Received: 04/14/2017

Analytical Report reviewed & approved for release on 04/20/2017 by:

Angela Rydelius,

Laboratory Manager

The report shall not be reproduced except in full, without the written approval of the laboratory. The analytical results relate only to the items tested. Results reported conform to the most current NELAP standards, where applicable, unless otherwise stated in the case narrative.



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CA ELAP 1644 ♦ NELAP 4033ORELAP

Glossary of Terms & Qualifier Definitions

Client: Monterey Bay Analytical

Project: MPWMD **WorkOrder:** 1704628

Glossary Abbreviation

%D Serial Dilution Percent Difference

95% Interval 95% Confident Interval

DF Dilution Factor

DI WET (DISTLC) Waste Extraction Test using DI water

DISS Dissolved (direct analysis of 0.45 µm filtered and acidified water sample)

DLT Dilution Test (Serial Dilution)

DUP Duplicate

EDL Estimated Detection Limit

ITEF International Toxicity Equivalence Factor

LCS Laboratory Control Sample

MB Method Blank

MB % Rec % Recovery of Surrogate in Method Blank, if applicable

MDL Method Detection Limit

ML Minimum Level of Quantitation

MS Matrix Spike

MSD Matrix Spike Duplicate

N/A Not Applicable

ND Not detected at or above the indicated MDL or RL

NR Data Not Reported due to matrix interference or insufficient sample amount.

PDS Post Digestion Spike

PDSD Post Digestion Spike Duplicate

PF Prep Factor

RD Relative Difference

RL Reporting Limit (The RL is the lowest calibration standard in a multipoint calibration.)

RPD Relative Percent Deviation
RRT Relative Retention Time

SPK Val Spike Value

SPKRef Val Spike Reference Value

SPLP Synthetic Precipitation Leachate Procedure

ST Sorbent Tube

TCLP Toxicity Characteristic Leachate Procedure

TEQ Toxicity Equivalents

WET (STLC) Waste Extraction Test (Soluble Threshold Limit Concentration)

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Analytical Report

Client: Monterey Bay Analytical

Date Received: 4/14/17 9:29 **Date Prepared:** 4/18/17 **Project:** MPWMD

WorkOrder: 1704628
Extraction Method: RSK175
Analytical Method: RSK175
Unit: µg/L

Dissolved Gases by RSK 175

Client ID	Lab ID	Matrix	Date Co	llected Instrument	Batch ID
SMS (D)	1704628-001A	Water	04/11/201	7 15:00 GC26	137500
<u>Analytes</u>	Result		<u>RL</u>	<u>DF</u>	Date Analyzed
Methane	1.3		0.10	1	04/18/2017 15:57

Analyst(s): AK

Client ID	Lab ID	Matrix	Date Collecte	d Instrument	Batch ID
MW-1	1704628-002A	Water	04/11/2017 09:4	15 GC26	137500
<u>Analytes</u>	Result		<u>RL</u> <u>DF</u>		Date Analyzed
Methane	0.68		0.10 1		04/18/2017 16:08

Analyst(s): AK

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Quality Control Report

Client: Monterey Bay Analytical

Date Prepared:4/18/17Date Analyzed:4/18/17Instrument:GC26Matrix:Water

WorkOrder: 1704628
BatchID: 137500
Extraction Method: RSK175

Analytical Method: RSK175 **Analytical Method:** RSK175

Unit: μg/L

Project: MPWMD **Sample ID:** MB/LCS-137500

	QC Sumn	nary Report for R	RSK175				
Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Methane	ND	1.34	0.10	1.17	-	114	70-130

McCampbell Analytical, Inc.

1534 Willow Pass Rd Pittsburg, CA 94565-1701 (925) 252-9262

CHAIN-OF-CUSTODY RECORD

Page 1 of

WorkOrder: 1704628 ClientCode: MBAS

	☐ WaterTrax	WriteOn	EDF	Excel	EQuIS	✓ Email	HardCopy	ThirdParty	☐ J-flag
Report to:				E	Bill to:		Req	uested TAT:	5 days;
David Holland Monterey Bay Analytical	Email: r cc/3rd Party:	nweidner@mbas	inc.com; Dholl	and@mbas	Accounts Paya Monterey Bay A				
4 Justin Court, Suite D	PO:				4 Justin Court,	Suite D	Dat	e Received:	04/14/2017
Monterey, CA 93940 831-375-6227 FAX: 831-641-0734	ProjectNo: N	MPWMD			Monterey, CA 9	93940	Dat	e Logged:	04/14/2017

					Requested Tests (See legend below)											
Lab ID	Client ID	Matrix	Collection Date 1	Hold	1	2	3	4	5	6	7	8	9	10	11	12
1704628-001	SMS (D)	Water	4/11/2017 15:00		Α											
1704628-002	MW-1	Water	4/11/2017 09:45		Α											

Test Legend:

1	RSK175_W	2	3	4
5		6	7	8
9		10	11	12

Prepared by: Maria Venegas

Comments:

NOTE: Soil samples are discarded 60 days after results are reported unless other arrangements are made (Water samples are 30 days).

Hazardous samples will be returned to client or disposed of at client expense.



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WORK ORDER SUMMARY

Client Name	: MONTE	REY BAY ANALYTI	CAL		Project:	MPWMD					Woı	k Order:	1704628
Client Conta	ct: David Ho	olland									(QC Level:	LEVEL 2
Contact's En		r@mbasinc.com; Dhol eglobal.net; info@mbas	_	e.com;	Comments	:					Date	e Logged:	4/14/2017
		WaterTrax	WriteOn	EDF	Exce	elF	ax 🗸 E	mail	HardCo	ppyThirdPar	ty 🔲	J-flag	
Lab ID	Client ID	Matrix	Test Name		_	ontainers Composites	Bottle & Preser		De- hlorinated	Collection Date & Time	TAT	Sediment Content	Hold SubOut
1704628-001A	SMS (D)	Water	RSK175 <m< td=""><td>ethane_4></td><td></td><td>3</td><td>VOA w/ HC</td><td>21</td><td></td><td>4/11/2017 15:00</td><td>5 days</td><td>None</td><td></td></m<>	ethane_4>		3	VOA w/ HC	21		4/11/2017 15:00	5 days	None	
1704628-002A	MW-1	Water	RSK175 <m6< td=""><td>ethane_4></td><td></td><td>3</td><td>VOA w/ HC</td><td>C1</td><td></td><td>4/11/2017 9:45</td><td>5 days</td><td>None</td><td></td></m6<>	ethane_4>		3	VOA w/ HC	C1		4/11/2017 9:45	5 days	None	

NOTES: - STLC and TCLP extractions require 2 days to complete; therefore, all TATs begin after the extraction is completed (i.e., One-day TAT yields results in 3 days from sample submission).

- MAI assumes that all material present in the provided sampling container is considered part of the sample - MAI does not exclude any material from the sample prior to sample preparation unless requested in writing by the client.

1704628

		1534 WII PITTSBU ampbell.	LLOW PA IRG, CA 94	SS RO 4565-17	AD 701 ain@n	ncca	ampl	bell.)26	19								OU	JNI	AI D T	IM	E		RUS	l SH		□ HR		48 1] HR	RD 72 H rite O	
Report To: Da	avid Holland		F	Bill To):															A	Anal	ysis	Rec	ques	st						(Other	Comments
	onterey Bay Ana	lytical S																				10.											
4.	Justin Ct. Suite I)													8015)			3&F)				sener											Filter
	onterey, Ca 9394	0	E	-Mail	l: info	@r	nba	sinc	.con	n								0 E/F				Cong						6	-				Samples for Metals
Tele: (831) 37	5 - 6227		F	ax: (831)	641	-073	34							Gas (602 / 8021 +	(17		552	0	S)		LS/		3			13	602(6020				analysis:
Project #:			P	rojec	t Nar	ne:	MI	PWI	MD				η.		02 / 8	/ 802		999	418.1	70C	3	roclo		cides			(SV)	010	10/				Yes / No
Project Locati															9) se	602	015)	se (1)	ous (E	icide	Y; A	(sa)	lerbi	(\$	CS	s/Pi	9/8	9 / 80	020)			2751 275
Sampler Signa	ature: Jonathan	Lear													as G	EPA	8) 11(reas	arbo	8021	Pest	NE	ticid	CIH	VOC	SVO	AHE	200.	200.8	9/0			
		SAME	PLING	s	iers		MA	TR	IX	I	ME PRE		HOD RVE	D	ТРН	NLY (lotor O	Oil & C	Hydroc	/ 0108	D81 (CI	CB's O	NP Pes	Acidic	8260 (*	8270 (\$	8310 (F	7 2007	200.77	.8 / 601			
SAMPLE ID	LOCATION/ Field Point Name	Date	Time	# Containers	Type Containers	Water	Soil	Air	Sludge				HNO ₃		MTBE / BTEX &	MTBE / BTEX ONLY (EPA 602 / 8021)	TPH as Diesel / Motor Oil (8015)	Total Petroleum Oil & Grease (1664 / 5520 E/B&F)	Total Petroleum Hydrocarbons (418.1)	EPA 502.2 / 601 / 8010 / 8021 (HVOCs)	EPA 505/ 608 / 8081 (CI Pesticides)	EPA 608 / 8082 PCB's ONLY; Aroclors / Congeners	EPA 507 / 8141 (NP Pesticides)	EPA 515 / 8151 (Acidic CI Herbicides)	EPA 524.2 / 624 / 8260 (VOCs)	EPA 525.2 / 625 / 8270 (SVOCs)	EPA 8270 SIM / 8310 (PAHs / PNAs)	CAM 17 Metals (200.7 / 200.8 / 6010 / 6020)	LUFT 5 Metals (200.7 / 200.8 / 6010 / 6020)	Lead (200.7 / 200.8 / 6010 / 6020)	Methane		
	SMS (D)	4/11/17	15:00	3	V	Х					X :	X		\Box																	X		AB65239
	MW-I	4/11/17	09:45	3	V	Х				1	X :	X		1																	Х		AB65240
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Relinquished By:		Date:	Time:	Dece	ived R									+	ICI	E/40	11	4	/										COL	TMI	ENTS		
David Holland	1 Delan	4/13	1600	Rece	ived B	26	-()							GO	E/t° OOD	CON	DIT	ION	-									COR	VIIVIE	MIS	-	
Relinquished By:	0	Date:	Time: 0929		Wed B	N. S. S. S. S. S. S. S. S. S. S. S. S. S.	u		7	-	6			1	HE. DE	CAD S	SPAC LORI PRI	CE A INAT ATE	BSE FED CO	IN L NTA	AB_ INEF	RS_	-	_				Tr	racl	kin	g #:	5357	44192
Relinquished By:		Date:	Time:	Rece	eived B	_										ESE			VC		08	kG	ME pH<		_S	ОТЕ	IER						

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Sample Receipt Checklist

Client Name:	Monterey Bay Analytical			Date and Time Received	4/14/2017 09:29
Project Name:	MPWMD			Date Logged: Received by:	4/14/2017 Maria Venegas
WorkOrder №:	1704628 Matrix: <u>Water</u>			Logged by:	Maria Venegas
Carrier:	Golden State Overnight			99	
	Chair of C		. (COC) Info		
			/ (COC) Infor		
Chain of custody	present?	Yes		No 🗌	
Chain of custody	signed when relinquished and received?	Yes	✓	No 🗔	
Chain of custody	agrees with sample labels?	Yes	✓	No 🗌	
Sample IDs note	d by Client on COC?	Yes	✓	No 🗆	
Date and Time o	f collection noted by Client on COC?	Yes	✓	No 🗆	
Sampler's name	noted on COC?	Yes	✓	No 🗆	
	Sampl	e Rece	eipt Informati	i <u>on</u>	
Custody seals in	tact on shipping container/cooler?	Yes		No 🗆	NA 🗹
Shipping contain	er/cooler in good condition?	Yes	✓	No 🗆	
Samples in prope	er containers/bottles?	Yes	✓	No 🗌	
Sample containe	rs intact?	Yes	✓	No 🗆	
Sufficient sample	e volume for indicated test?	Yes	✓	No 🗌	
	Sample Preservation	on and	Hold Time (I	HT) Information	
All samples recei	ived within holding time?	Yes	✓	No 🗌	NA 🗆
Sample/Temp BI	ank temperature		Temp: 6.2	2°C	NA 🗌
Water - VOA vial	s have zero headspace / no bubbles?	Yes		No 🗆	NA 🗸
Sample labels ch	necked for correct preservation?	Yes	✓	No 🗌	
pH acceptable up	oon receipt (Metal: <2; 522: <4; 218.7: >8)?	Yes		No 🗌	NA 🗹
Samples Receive	ed on Ice?	Yes	✓	No 🗌	
	(Ice Type	e: BLI	JE ICE)		
UCMR3 Samples				🗆	NA [4]
	·····	Yes			NA 🗹
Free Chlorine t 300.1, 537, 539	ested and acceptable upon receipt for EPA 218.7, 9?	Yes		No 🗌	NA 🗹
				=======	
Comments:					



4 Justin Court Suite D, Monterey, CA 93940 831.375.MBAS www.MBASinc.com

ELAP Certification Number: 2385

Page 1 of 1 Thursday, May 04, 2017

Lab Number: AB65968

Collection Date/Time: 4/19/2017 11:30 Sample Collector: LEAR, J Client Sample #:

Submittal Date/Time: 4/25/2017 8:47 Sample ID

Sample Description: ASR4 @ 1 Min Raw Date Analyzed Analyte Method Unit Dilution Qual PQL MDL Time Analyzed Analyst: Mercury, Total EPA200.8 μg/L Not Detected 2 0.5 0.08 4/26/2017 2:18:00 PM MW

Sample Comments:

Lab Number: AB65969

Collection Date/Time: 4/19/2017 11:30 Sample Collector: LEAR, J Client Sample #:

Submittal Date/Time: 4/25/2017 8:47 Sample ID

Sample Description: ASR4 @ 1 Min FF Analyte Method Unit Dilution Qual PQL Date Analyzed Result MDL Time Analyzed Analyst: Mercury, Total EPA200.8 μg/L **Not Detected** 2 0.08 4/26/2017 2:21:00 PM

Sample Comments:

Lab Number: AB65970

Collection Date/Time: 4/19/2017 12:00 Sample Collector: LEAR, J Client Sample #:

Submittal Date/Time: 4/25/2017 8:47 Sample ID

Sample Description: ASR4 @ 30 Min Raw Method Analyte Unit Result Dilution Qual PQL MDL Date Analyzed Time Analyzed Analyst: Mercury, Total EPA200.8 μg/L Not Detected 2 0.5 0.08 4/26/2017 2:39:00 PM

Sample Comments:

Lab Number: AB65971

Collection Date/Time: 4/19/2017 12:00 Sample Collector: LEAR, J Client Sample #:

Submittal Date/Time: 4/25/2017 8:47 Sample ID

Sample Description: ASR4 @ 30 Min FF Analyte Method Unit Result Dilution Qual PQL Date Analyzed Time Analyzed Analyst: EPA200.8 0.5 4/26/2017 2:42:00 PM MW Mercury, Total µg/L **Not Detected** 0.08

Sample Comments:

Report Approved by:



831.375.MBAS www.MBASinc.com **ELAP Certification Number: 2385** Tuesday, July 18, 2017

Lab Number: AB70271

Sample Collector: LEAR J Client Sample #: Collection Date/Time: 6/27/2017 14:30

Sample ID Submittal Date/Time: 6/27/2017 16:35

Submittal Date/Time: 6	5/27/2017 16	:35	Sample ID							
			nple Descript							
Analyte	Method	Unit	Result	Dilution	Qual				Time Analyzed	Analyst:
Alkalinity, Total (as CaCO	3) SM2320B	mg/L	134	1		10	2	7/5/2017	9:11 AM	LM
Aluminum, Total	EPA200.8	μg/L	4	1		5	5	6/29/2017	2:46 PM	MW
Ammonia-N	EPA 350.1	mg/L	0.1	1		0.1	0.04	7/8/2017	11:09 AM	BS
Arsenic, Total	EPA200.8	μg/L	6	1		0.5	0.1	6/29/2017	2:46 PM	MW
Barium, Total	EPA200.8	μg/L	61	1		5	0.2	6/29/2017	2:46 PM	MW
Bicarbonate (as HCO3-)	SM2320B	mg/L	163	1		10	2	7/6/2017	5:14 PM	НМ
Boron	EPA200.7	mg/L	Not detected	1		0.05	0.01	7/6/2017	12:24 PM	MW
Bromide	EPA300.0	mg/L	0.1	1		0.1	0.01	6/28/2017	8:10 AM	НМ
Calcium	EPA200.7	mg/L	43	1		0.5	0.1	7/6/2017	12:24 PM	MW
Carbonate as CaCO3	SM2320B	mg/L	Not Detected	1		10	2	7/6/2017	5:14 PM	НМ
Chloramines	SM4500-CI	mg/L	Not Detected	1 1		0.05	0.05	6/27/2017	5:00 PM	OW
Chloride	EPA300.0	mg/L	28	1		1	0.25	6/28/2017	8:10 AM	НМ
DOC	SM5310C	mg/L	2.0	1	IJ	0.2	0.03	7/7/2017	4:58 PM	НМ
Fluoride	EPA300.0	mg/L	0.3	1		0.1	0.02	6/28/2017	8:10 AM	НМ
Gross Alpha	EPA900.0	pCi/L	0.894 ± 0.980	1	Е			7/5/2017	8:20 AM	FGL
Haloacetic Acids	EPA552	μg/L	17	1	Е			7/7/2017	12:00 PM	FGL
Iron	EPA200.7	μg/L	173	1		10	4	7/6/2017	12:24 PM	MW
Iron, Dissolved	EPA200.7	μg/L	Not Detected	1 1		10	4	7/6/2017	12:24 PM	MW
Kjehldahl Nitrogen	SM4500-NH		Not Detected			0.5	0.5	7/7/2017	12:10 PM	BS
Lithium	EPA200.8	μg/L	6	1	LM	0.5	0.1	6/29/2017	2:46 PM	MW
Magnesium	EPA200.7	mg/L	14	1		0.5	0.2	7/6/2017	12:24 PM	MW
Manganese, Dissolved	EPA200.7	μg/L	10	1		10	2	7/6/2017	12:24 PM	MW
Manganese, Total	EPA200.7	μg/L	10	1		10	2	7/6/2017	12:24 PM	MW
Mercury, Total	EPA200.8	µg/L	Not Detected		ВС	0.2	0.04	7/13/2017	12:21 PM	MW
Methane	EPA174/175		1.7	1	E	0.1	0.1	7/5/2017	5:38 PM	MCCAM
Molybdenum, Total	EPA200.8	μg/L	56	1		0.5	0.1	6/29/2017	2:46 PM	MW
Nickel, Total	EPA200.8	μg/L	2	1		5	0.1	6/29/2017	2:46 PM	MW
Nitrate as NO3	EPA300.0	mg/L		1		1	0.07	6/28/2017	8:10 AM	НМ
Nitrate as NO3-N	EPA300.0	mg/L	0.2	1		0.1	0.01	6/28/2017	8:10 AM	HM
Nitrate+Nitrite as N	EPA300.0	mg/L	0.4	1		0.1	0.025		8:10 AM	HM
Nitrite as NO2-N	EPA300.0	mg/L	0.2	1	LM	0.1	0.01	6/28/2017	8:10 AM	HM
o-Phosphate-P, Dissolved		mg/L	0.1	1		0.1	0.02	6/28/2017	8:10 AM	HM
pH (Laboratory)	SM4500-H+		7.5	<u>.</u> 1		0.1	0.02	6/27/2017	5:30 PM	LM/BS
Phosphorus, Total	HACH 8190		0.37	<u>.</u> 1			0.03	7/8/2017	3:04 PM	BS
Potassium	EPA200.7	mg/L	3.0	1		0.5	0.03	7/6/2017	12:24 PM	MW
QC Anion Sum x 100	Calculation	%	100%	1		0.0	0.0	7/6/2017	5:14 PM	HM
QC Anion-Cation Balance		%	4	1				7/7/2017	10:00 AM	MW
QC Cation Sum x 100	Calculation	%	108%	1				7/7/2017	10:00 AM	MW
QC Ratio TDS/SEC	Calculation	70		1				7/5/2017	4:27 PM	MP
Selenium, Total	EPA200.8	ua/l	0.63	1		1	0.5	6/29/2017		MW
Silica as SiO2. Total		µg/L	8						2:46 PM	
, , , , , , , , , , , , , , , , , , , ,	EPA200.7	mg/L	24	1		0.5	0.3	7/6/2017	12:24 PM	MW
Sodium	EPA200.7	mg/L	46	1		0.5	0.2	7/6/2017	12:24 PM	MW

mg/L: Milligrams per liter (=ppm) H = Analyzed ouside of hold time

J = Result is less than PQL

ug/L : Micrograms per liter (=ppb)

PQL: Practical Quantitation Limit E = Analysis performed by External Laboratory; See External Laboratory Report attachments.

T = Temperature Exceedance



4 Justin Court Suite D, Monterey, CA 93940 831.375.MBAS www.MBASinc.com ELAP Certification Number: 2385 Tuesday, July 18, 2017

David Holland, Laboratory Director

PQL: Practical Quantitation Limit

Lab Number: AB70271

Collection Date/Time: 6/27/2017 14:30 Sample Collector: LEAR J Client Sample #:

Submittal Date/Time: 6/27/2017 16:35 Sample ID

		Sam	ple Descript	ion: AS	R-3 E	Backf	lush			
Analyte	Method	Unit	Result	Dilution	Qual	PQL	MDL	Date Analyzed	Time Analyzed	Analyst:
Specific Conductance (E	E.C) SM2510B	µmhos/c	497	1		1	1	6/28/2017	1:50 PM	НМ
Strontium, Total	EPA200.8	μg/L	211	1	BB	2.5	0.5	6/29/2017	2:46 PM	MW
Sulfate	EPA300.0	mg/L	71	1		1	0.25	6/28/2017	8:10 AM	НМ
TOC	SM5310C	mg/L	1.6	1	IJ	0.2	0.03	7/7/2017	5:17 PM	НМ
Total Diss. Solids	SM2540C	mg/L	314	1		10	10	6/29/2017	3:35 PM	MP
Total Nitrogen	Calculation	mg/L	Not Detected	1 1		0.5	0.5	7/7/2017	3:21 PM	LRH
Total Radium 226	EPA903.0	pCi/L	0.066 ± 0.114	1	E			7/6/2017	5:30 PM	FGL
Trihalomethanes	EPA524.2	μg/L	112	1	Е			7/5/2017	12:00 PM	FGL
Uranium by ICP/MS	EPA200.8	μg/L	1	1		0.5	0.04	6/29/2017	2:46 PM	MW
Vanadium, Total	EPA200.8	μg/L	1	1		2.5	0.1	6/29/2017	2:46 PM	MW
Zinc, Total	EPA200.8	μg/L	256	1		10	10	6/29/2017	2:46 PM	MW

Sample Comments:

BC: Matrix spike out of control, lab control sample within limits. BB: Sample > 4x spike concentration. LM: MS and/or MSD above acceptance limits. IJ: LCS and/or CCV above acceptance limits.

Report Approved by:

ug/L : Micrograms per liter (=ppb)

T = Temperature Exceedance

E = Analysis performed by External Laboratory; See External Laboratory Report attachments.



831.375.MBAS www.MBASinc.com **ELAP Certification Number: 2385** Tuesday, July 18, 2017

Lab Number: AB70272

Sample Collector: LEAR J Client Sample #: Collection Date/Time: 6/27/2017 11:30

Sample ID Submittal Date/Time: 6/27/2017 16:35

Submittal Date/Time: 6	/27/2017 16:		Sample ID							
			mple Descript							
Analyte	Method	Unit	Result	Dilution	Qual	PQL		Date Analyzed	Time Analyzed	Analyst:
Alkalinity, Total (as CaCO	3) SM2320B	mg/L	134	1		10	2	7/5/2017	9:11 AM	LM
Aluminum, Total	EPA200.8	μg/L	6	1		5	5	6/29/2017	2:46 PM	MW
Ammonia-N	EPA 350.1	mg/L	0.1	1		0.1	0.04	7/8/2017	11:09 AM	BS
Arsenic, Total	EPA200.8	μg/L	22	1		0.5	0.1	6/29/2017	2:46 PM	MW
Barium, Total	EPA200.8	μg/L	58	1		5	0.2	6/29/2017	2:46 PM	MW
Bicarbonate (as HCO3-)	SM2320B	mg/L	163	1		10	2	7/6/2017	5:14 PM	HM
Boron	EPA200.7	mg/L	Not detected	1		0.05	0.01	7/6/2017	12:42 PM	MW
Bromide	EPA300.0	mg/L	0.1	1		0.1	0.01	6/28/2017	8:32 AM	HM
Calcium	EPA200.7	mg/L	40	1		0.5	0.1	7/6/2017	12:42 PM	MW
Carbonate as CaCO3	SM2320B	mg/L	Not Detected	1		10	2	7/6/2017	5:14 PM	HM
Chloramines	SM4500-CI	mg/L	Not Detected	1		0.05	0.05	6/27/2017	5:00 PM	OW
Chloride	EPA300.0	mg/L	27	1		1	0.25	6/28/2017	8:32 AM	HM
DOC	SM5310C	mg/L	1.6	1	IJ	0.2	0.03	7/7/2017	6:58 PM	НМ
Fluoride	EPA300.0	mg/L	0.3	1		0.1	0.02	6/28/2017	8:32 AM	HM
Gross Alpha	EPA900.0	pCi/L	5.07 ± 1.71	1	Е			7/5/2017	10:20 AM	FGL
Haloacetic Acids	EPA552	μg/L	12	1	Е			7/7/2017	12:00 PM	FGL
Iron	EPA200.7	μg/L	114	1		10	4	7/6/2017	12:42 PM	MW
Iron, Dissolved	EPA200.7	μg/L	Not Detected	1		10	4	7/6/2017	12:42 PM	MW
Kjehldahl Nitrogen	SM4500-NH	mg/L	Not Detected			0.5	0.5	7/7/2017	12:10 PM	BS
Lithium	EPA200.8	μg/L	7	1	LM	0.5	0.1	6/29/2017	2:46 PM	MW
Magnesium	EPA200.7	mg/L	13	1		0.5	0.2	7/6/2017	12:42 PM	MW
Manganese, Dissolved	EPA200.7	μg/L	Not Detected	1		10	2	7/6/2017	12:42 PM	MW
Manganese, Total	EPA200.7	μg/L	Not Detected			10	2	7/6/2017	12:42 PM	MW
Mercury, Total	EPA200.8	µg/L	Not Detected		ВС	0.2	0.04	7/13/2017	12:24 PM	MW
Methane	EPA174/175	μg/L	1.5		E	0.1	0.1	7/5/2017	5:52 PM	MCCAM
Molybdenum, Total	EPA200.8	μg/L	62	<u>.</u> 1		0.5	0.1	6/29/2017	2:46 PM	MW
Nickel, Total	EPA200.8	μg/L	9	<u>.</u> 1		5	0.1	6/29/2017	2:46 PM	MW
Nitrate as NO3	EPA300.0	mg/L	1	<u>.</u> 1		1	0.07	6/28/2017	8:32 AM	HM
Nitrate as NO3-N	EPA300.0	mg/L	0.2	1		0.1	0.01	6/28/2017	8:32 AM	HM
Nitrate+Nitrite as N	EPA300.0	mg/L	0.5	<u>.</u> 1		0.1	0.025		8:32 AM	HM
Nitrite as NO2-N	EPA300.0	mg/L	0.2	<u>.</u> 1	LM	0.1	0.01	6/28/2017	8:32 AM	HM
o-Phosphate-P, Dissolved		mg/L	Not Detected		LIVI	0.1	0.02	6/28/2017	8:32 AM	HM
pH (Laboratory)	SM4500-H+	pH (H)	7.5	1		0.1	0.02	6/27/2017	5:30 PM	LM/BS
Phosphorus, Total	HACH 8190	mg/L	0.24	1			0.03	7/8/2017	3:04 PM	BS
Potassium	EPA200.7	mg/L	2.8	1		0.03	0.03	7/6/2017	12:42 PM	MW
QC Anion Sum x 100	Calculation	%	98%	1		0.0	0.0	7/6/2017	5:14 PM	HM
QC Anion-Cation Balance		%	1	1				7/7/2017	10:00 AM	MW
QC Cation Sum x 100	Calculation	%		1				7/7/2017	10:00 AM	MW
QC Ratio TDS/SEC	Calculation	70	100% 0.63	1				7/5/2017	4:27 PM	MP
Selenium, Total	EPA200.8	ua/!		1		1	0.5	6/29/2017		MW
Silica as SiO2, Total		µg/L	12						2:46 PM 12:42 PM	
	EPA200.7	mg/L	24	1		0.5	0.3	7/6/2017		MW
Sodium	EPA200.7	mg/L	42	1		0.5	0.2	7/6/2017	12:42 PM	MW

mg/L: Milligrams per liter (=ppm) H = Analyzed ouside of hold time

J = Result is less than PQL

ug/L : Micrograms per liter (=ppb)

PQL: Practical Quantitation Limit E = Analysis performed by External Laboratory; See External Laboratory Report attachments.

T = Temperature Exceedance



4 Justin Court Suite D, Monterey, CA 93940 831.375.MBAS www.MBASinc.com ELAP Certification Number: 2385 Tuesday, July 18, 2017

David Holland, Laboratory Director

PQL: Practical Quantitation Limit

Lab Number: AB70272

Collection Date/Time: 6/27/2017 11:30 Sample Collector: LEAR J Client Sample #:

Submittal Date/Time: 6/27/2017 16:35 Sample ID

		Samı	ple Descript	ion: AS	R-4 E	Backf	lush			
Analyte	Method	Unit	Result	Dilution	Qual	PQL	MDL	Date Analyzed	Time Analyzed	Analyst:
Specific Conductance (E	.C) SM2510B	µmhos/c	497	1		1	1	6/28/2017	1:50 PM	HM
Strontium, Total	EPA200.8	μg/L	214	1	BB	2.5	0.5	6/29/2017	2:46 PM	MW
Sulfate	EPA300.0	mg/L	69	1		1	0.25	6/28/2017	8:32 AM	HM
TOC	SM5310C	mg/L	1.6	1	IJ	0.2	0.03	7/7/2017	7:17 PM	HM
Total Diss. Solids	SM2540C	mg/L	311	1		10	10	6/29/2017	3:35 PM	MP
Total Nitrogen	Calculation	mg/L	Not Detected	1		0.5	0.5	7/7/2017	3:21 PM	LRH
Total Radium 226	EPA903.0	pCi/L	0.000 ± 0.074	1	Е			7/6/2017	6:45 PM	FGL
Trihalomethanes	EPA524.2	μg/L	98	1	Е			7/5/2017	12:00 PM	FGL
Uranium by ICP/MS	EPA200.8	μg/L	1	1		0.5	0.04	6/29/2017	2:46 PM	MW
Vanadium, Total	EPA200.8	μg/L	1	1		2.5	0.1	6/29/2017	2:46 PM	MW
Zinc, Total	EPA200.8	μg/L	190	1		10	10	6/29/2017	2:46 PM	MW

Sample Comments:

BC: Matrix spike out of control, lab control sample within limits. BB: Sample > 4x spike concentration. LM: MS and/or MSD above acceptance limits. IJ: LCS and/or CCV above acceptance limits.

Report Approved by:

ug/L : Micrograms per liter (=ppb)

T = Temperature Exceedance

E = Analysis performed by External Laboratory; See External Laboratory Report attachments.

July 12, 2017

Lab ID : SP 1707849 **Monterey Bay Analytical Services** 4 Justin Court Customer : 2-19144

Monterey, CA 93940

Laboratory Report

Introduction: This report package contains total of 9 pages divided into 3 sections:

Case Narrative (2 pages): An overview of the work performed at FGL.

Sample Results (4 pages): Results for each sample submitted.

Quality Control (3 pages) : Supporting Quality Control (QC) results.

Case Narrative

This Case Narrative pertains to the following samples:

Sample Description	Date Sampled	Date Received	FGL Lab ID#	Matrix
ASR-3 Backflush	06/27/2017	06/30/2017	SP 1707849-001	PW
ASR-4 Backflush	06/27/2017	06/30/2017	SP 1707849-002	PW

Sampling and Receipt Information: All samples were received in acceptable condition and within temperature requirements, unless noted on the Condition Upon Receipt (CUR) form. All samples arrived at 6 °C. All samples were prepared and analyzed within the method specified hold time. All samples were checked for pH if acid or base preservation is required (except for VOAs). For details of sample receipt information, please see the attached Chain of Custody and Condition Upon Receipt Form.

Quality Control: All samples were prepared and analyzed according to the following tables:

Organic QC

551.1	07/05/2017:209924 All analysis quality controls are within established criteria.
	07/06/2017:209946 All analysis quality controls are within established criteria.
	07/05/2017:207904 All preparation quality controls are within established criteria, except: The following note applies to Bromoform:
	435 Sample matrix may be affecting this analyte. Data was accepted based on the LCS or CCV recovery.
552	07/06/2017:207957 All preparation quality controls are within established criteria, except: The following note applies to Trichloroacetic Acid: 435 Sample matrix may be affecting this analyte. Data was accepted based on the LCS or CCV recovery.
552.2	07/07/2017:209990 All analysis quality controls are within established criteria.

July 12, 2017 Monterey Bay Analytical Services

Organic QC

Lab ID

Customer

: SP 1707849

: 2-19144

552.2	07/07/2017:210122 All analysis quality controls are within established criteria.
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Radio QC

900.0	07/05/2017:209904 All analysis quality controls are within established criteria.
	07/05/2017:209906 All analysis quality controls are within established criteria.
	07/03/2017:207820 All preparation quality controls are within established criteria.
903.0	07/06/2017:209977 All analysis quality controls are within established criteria.
	07/01/2017:207798 All preparation quality controls are within established criteria.

Certification:: I certify that this data package is in compliance with ELAP standards, both technically and for completeness, except for any conditions listed above. Release of the data contained in this data package is authorized by the Laboratory Director or his designee, as verified by the following electronic signature.

KD:DMB

Approved By Kelly A. Dunnahoo, B.S.



July 12, 2017 Lab ID : SP 1707849-001

Customer ID : 2-19144

Monterey Bay Analytical Services

4 Justin Court Sampled On : June 27, 2017-14:30

: John Lear Monterey, CA 93940 Sampled By

Received On : June 30, 2017-09:40

: Potable Water Matrix

Description : ASR-3 Backflush

Project : ASR-#4+ Backflush + Sampling Event

Sample Result - Organic

Constituent	Result	PQL	Units	Note	Sample	Preparation	Samp	le Analysis
Constituent	Result	1 QL	Omts	Note	Method	Date/ID	Method	Date/ID
EPA 551.1								
Decafluorobiphenyl [‡]	89.1	80-120	%		551.1	07/05/17:207904	551.1	07/05/17:209924
Bromodichloromethane	28	1	ug/L		551.1	07/05/17:207904	551.1	07/05/17:209924
Bromoform	1	1	ug/L		551.1	07/05/17:207904	551.1	07/05/17:209924
Chloroform	71	5*	ug/L		551.1	07/05/17:207904	551.1	07/06/17:209946
Dibromochloromethane	12	1	ug/L		551.1	07/05/17:207904	551.1	07/05/17:209924
Total Trihalomethanes	112		ug/L		551.1	07/05/17:207904	551.1	07/05/17:209924
EPA 552.2								
2,3-Dibromopropionic Acid [‡]	100	70-130	%		552	07/06/17:207957	552.2	07/07/17:209990
Bromoacetic Acid	ND	1	ug/L		552	07/06/17:207957	552.2	07/07/17:209990
Chloroacetic Acid	ND	2	ug/L		552	07/06/17:207957	552.2	07/07/17:209990
Dibromoacetic Acid	ND	1	ug/L		552	07/06/17:207957	552.2	07/07/17:210122
Dichloroacetic Acid	2	1	ug/L		552	07/06/17:207957	552.2	07/07/17:209990
Trichloroacetic Acid	15	1	ug/L		552	07/06/17:207957	552.2	07/07/17:209990
Haloacetic acids (five)	17		ug/L		552	07/06/17:207957	552.2	07/07/17:209990

ND=Non-Detected. PQL=Practical Quantitation Limit. ‡Surrogate. * PQL adjusted for dilution.

July 12, 2017 Lab ID : SP 1707849-001

Customer ID : 2-19144 **Monterey Bay Analytical Services**

4 Justin Court Sampled On : June 27, 2017-14:30

Sampled By : John Lear Monterey, CA 93940

Received On : June 30, 2017-09:40

: Potable Water Matrix

Description : ASR-3 Backflush

Project : ASR-#4+ Backflush + Sampling Event

Sample Result - Radio

Constituent	Result ± Error	MDA	Units	MCL/AL	Sample	Preparation	Sampl	e Analysis
Constituent	Result ± Ellor	MDA	Omts	WICL/AL	Method	Date/ID	Method	Date/ID
Radio Chemistry								
Gross Alpha	0.894 ± 0.980	1.27	pCi/L		900.0	07/03/17-09:20 2P1707820	900.0	07/05/17-08:20 2A1709906
Total Alpha Radium (226)	0.066 ± 0.114	0.363	pCi/L		903.0	07/01/17-08:00 2P1707798	903.0	07/06/17-17:30 2A1709977

ND=Non-Detected. PQL=Practical Quantitation Limit. * PQL adjusted for dilution.

MDA = Minimum Detectable Activity (Calculated at the 95% confidence level) = Data utilized by DHS to determine matrix interference. MCL / AL = Maximum Contamination Level / Action Level. Alpha's Action Level of 5 pCi/L is based on the Assigned Value (AV). AV = Assigned Value(Gross Alpha Result + (0.84 x Error)). CCR Section 64442: Drinking Water Compliance Note: Do the following If Gross Alpha's (AV) exceeds 5 pCi/L run Uranium. If Gross Alpha's (AV) minus Uranium exceeds 5 pCi/L run Radium 226.

Drinking Water Compliance:

Gross Alpha (AV) minus Uranium is less than or equal to 15 pCi/L Uranium is less than or equal to 20 pCi/L

Radium 226 + Radium 228 is less than or equal to 5 pCi/L

Note: Samples are held for 3-6 months prior to disposal.

July 12, 2017 Lab ID : SP 1707849-002

Customer ID : 2-19144

Monterey Bay Analytical Services

4 Justin Court Sampled On : June 27, 2017-11:30

Monterey, CA 93940 Sampled By : John Lear

Received On : June 30, 2017-09:40

: Potable Water Matrix

Description : ASR-4 Backflush

Project : ASR-#4+ Backflush + Sampling Event

Sample Result - Organic

Constituent	Result	PQL	Units	Note	Sample	Preparation	Samp	le Analysis
Constituent	Result	1 QL	Omts	Omts Note		Date/ID	Method	Date/ID
EPA 551.1								
Decafluorobiphenyl [‡]	86.5	80-120	%		551.1	07/05/17:207904	551.1	07/05/17:209924
Bromodichloromethane	23	1	ug/L		551.1	07/05/17:207904	551.1	07/05/17:209924
Bromoform	1	1	ug/L		551.1	07/05/17:207904	551.1	07/05/17:209924
Chloroform	62	5*	ug/L		551.1	07/05/17:207904	551.1	07/06/17:209946
Dibromochloromethane	12	1	ug/L		551.1	07/05/17:207904	551.1	07/05/17:209924
Total Trihalomethanes	98		ug/L		551.1	07/05/17:207904	551.1	07/05/17:209924
EPA 552.2								
2,3-Dibromopropionic Acid [‡]	93.5	70-130	%		552	07/06/17:207957	552.2	07/07/17:209990
Bromoacetic Acid	ND	1	ug/L		552	07/06/17:207957	552.2	07/07/17:209990
Chloroacetic Acid	ND	2	ug/L		552	07/06/17:207957	552.2	07/07/17:209990
Dibromoacetic Acid	ND	1	ug/L		552	07/06/17:207957	552.2	07/07/17:210122
Dichloroacetic Acid	2	1	ug/L		552	07/06/17:207957	552.2	07/07/17:209990
Trichloroacetic Acid	10	1	ug/L		552	07/06/17:207957	552.2	07/07/17:209990
Haloacetic acids (five)	12		ug/L		552	07/06/17:207957	552.2	07/07/17:209990

ND=Non-Detected. PQL=Practical Quantitation Limit. ‡Surrogate. * PQL adjusted for dilution.

Lab ID

Customer ID : 2-19144

Monterey Bay Analytical Services

July 12, 2017

4 Justin Court Sampled On : June 27, 2017-11:30

Monterey, CA 93940 Sampled By : John Lear

Received On : June 30, 2017-09:40

: SP 1707849-002

: Potable Water Matrix

Description : ASR-4 Backflush

Project : ASR-#4+ Backflush + Sampling Event

Sample Result - Radio

Constituent	Result + Error	MDA	Units	MCL/AL Sample Preparation		Preparation	Sampl	e Analysis		
Constituent	Result - Litor	WIDA	Omts	WICL/AL	Method	Date/ID	e/ID Method Date/ID 17-09:20 900.0 07/05/17-10:20 07820 900.0 07/06/17-18:45 17-08:00 903.0 07/06/17-18:45			
Radio Chemistry										
Gross Alpha	5.07 ± 1.71	1.29	pCi/L		900.0	07/03/17-09:20 2P1707820	900.0	07/05/17-10:20 2A1709904		
Total Alpha Radium (226)	0.000 ± 0.074	0.363	pCi/L		903.0	07/01/17-08:00 2P1707798	903.0	07/06/17-18:45 2A1709977		

ND=Non-Detected. PQL=Practical Quantitation Limit. * PQL adjusted for dilution.

MDA = Minimum Detectable Activity (Calculated at the 95% confidence level) = Data utilized by DHS to determine matrix interference. MCL / AL = Maximum Contamination Level / Action Level. Alpha's Action Level of 5 pCi/L is based on the Assigned Value (AV). AV = Assigned Value(Gross Alpha Result + (0.84 x Error)). CCR Section 64442: Drinking Water Compliance Note: Do the following If Gross Alpha's (AV) exceeds 5 pCi/L run Uranium. If Gross Alpha's (AV) minus Uranium exceeds 5 pCi/L run Radium 226.

Drinking Water Compliance:

Gross Alpha (AV) minus Uranium is less than or equal to 15 pCi/L Uranium is less than or equal to 20 pCi/L

Radium 226 + Radium 228 is less than or equal to 5 pCi/L

Note: Samples are held for 3-6 months prior to disposal.

July 12, 2017 Lab ID : SP 1707849 **Monterey Bay Analytical Services** : 2-19144 Customer

Quality Control - Radio

Constituent	Method	Date/ID	Туре	Units	Conc.	QC Data	DQO	Note
Radio								
Alpha	900.0	07/05/17:209904aat	CCV CCB	cpm cpm	8372	40.9 % 0.100	35-47 0.14	
	900.0	07/05/17:209906aat	CCV CCB	cpm cpm	8372	41.6 % 0.0600	35-47 0.17	
Gross Alpha	900.0	07/03/17:207820aat (SP 1707758-002)	Blank LCS MS MSD MSRPD	pCi/L pCi/L pCi/L pCi/L pCi/L	108.2 108.2 108.2 108.2	0.32 93.8 % 74.2 % 85.9 % 14.0%	3 75-125 60-140 60-140 ≤30	
Alpha	903.0	07/06/17:209977rmm	CCV CCB	cpm cpm	8370	41.3 % 0.100	37-46 0.16	
Total Alpha Radium (226)	903.0	07/01/17:207798ELC	RgBlk LCS BS BSD BSRPD	pCi/L pCi/L pCi/L pCi/L pCi/L	21.85 21.85 21.85 21.85	0.008 64.0 % 62.0 % 53.1 % 15.6%	2 52-107 43-111 43-111 ≤35.5	

οfi		

CCV $: Continuing\ Calibration\ Verification\ -\ Analyzed\ to\ verify\ the\ instrument\ calibration\ is\ within\ criteria.$

CCB : Continuing Calibration Blank - Analyzed to verify the instrument baseline is within criteria.

Blank : Method Blank - Prepared to verify that the preparation process is not contributing contamination to the samples.

RgBlk : Method Reagent Blank - Prepared to correct for any reagent contributions to sample result.

LCS : Laboratory Control Standard/Sample - Prepared to verify that the preparation process is not affecting analyte recovery.

: Matrix Spikes - A random sample is spiked with a known amount of analyte. The recoveries are an indication of how that sample MS

matrix affects analyte recovery.

: Matrix Spike Duplicate of MS/MSD pair - A random sample duplicate is spiked with a known amount of analyted. The recoveries MSD

are an indication of how that sample matrix affects analyte recovery.

: Blank Spikes - A blank is spiked with a known amount of analyte. It is prepared to verify that the preparation process is not BS

affecting analyte recovery.

: Blank Spike Duplicate of BS/BSD pair - A blank duplicate is spiked with a known amount of analyte. It is prepared to verify that **BSD**

the preparation process is not affecting analyte recovery.

: MS/MSD Relative Percent Difference (RPD) - The MS relative percent difference is an indication of precision for the preparation MSRPD

and analysis.

: BS/BSD Relative Percent Difference (RPD) - The BS relative percent difference is an indication of precision for the preparation BSRPD

and analysis.

DQO : Data Quality Objective - This is the criteria against which the quality control data is compared. July 12, 2017Lab ID: SP 1707849Monterey Bay Analytical ServicesCustomer: 2-19144

Constituent	Method	Date/ID	Type	Units	Conc.	QC Data	DQO	Note
Organic								
Bromodichloromethane	551.1	07/05/17:207904SBL	Rlank	ug/L		ND	<1	
Bromodicinoromethane	331.1	07/03/17.207704BBE	LCS	ug/L ug/L	10.02	98.8 %	80-120	
			MS	ug/L	9.852	91.0 %	80-120	
		(SP 1707929-001)	MSD	ug/L	10.12	88.5 %	80-120	
			MSRPD	ug/L	20.24	0.08%	≤20	
	551.1	07/05/17:209924SBL	CCV	ug/L	83.33	97.7 %	80-120	
			CCV	ug/L	166.7	92.3 %	80-120	
Bromoform	551.1	07/05/17:207904SBL	Blank	ug/L		ND	<1	
			LCS	ug/L	10.02	88.0 %	80-120	
			MS	ug/L	9.852	76.0 %	80-120	435
		(SP 1707929-001)	MSD	ug/L	10.12	73.9 %	80-120	435
			MSRPD	ug/L	20.24	0.02%	≤20	
	551.1	07/05/17:209924SBL	CCV	ug/L	83.33	85.2 %	80-120	
			CCV	ug/L	166.7	84.8 %	80-120	
Chloroform	551.1	07/05/17:207904SBL	Blank	ug/L		ND	<1	
			LCS	ug/L	10.02	113 %	80-120	
			MS	ug/L	9.852	112 %	80-120	
		(SP 1707929-001)	MSD	ug/L	10.12	98.5 %	80-120	
			MSRPD	ug/L	20.24	9.4%	≤20	
	551.1	07/06/17:209946SBL	CCV	ug/L	83.33	117 %	80-120	
			CCV	ug/L	166.7	113 %	80-120	
Decafluorobiphenyl	551.1	07/05/17:207904SBL	Blank	ug/L	20.22	83.0 %	80-120	
			LCS	ug/L	20.04	101 %	80-120	
			MS	ug/L	19.70	100 %	80-120	
		(SP 1707929-001)	MSD	ug/L	20.24	96.1 %	80-120	
			MSRPD	ug/L	20.24	1.6%	≤20.0	
	551.1	07/05/17:209924SBL	CCV	ug/L	166.7	106 %	80-120	
			CCV	ug/L	333.3	101 %	80-120	
Dibromochloromethane	551.1	07/05/17:207904SBL	Blank	ug/L		ND	<1	
			LCS	ug/L	10.02	93.1 %	80-120	
			MS	ug/L	9.852	85.8 %	80-120	
		(SP 1707929-001)	MSD	ug/L	10.12	84.4 %	80-120	
			MSRPD	ug/L	20.24	0.5%	≤20	
	551.1	07/05/17:209924SBL	CCV	ug/L	83.33	90.5 %	80-120	
			CCV	ug/L	166.7	87.8 %	80-120	
2,3-Dibromopropionic Acid	552	07/06/17:207957SBL	Blank	ug/L	5.000	113 %	70-130	
			LCS	ug/L	5.000	128 %	70-130	
			MS	ug/L	5.000	97.2 %	70-130	
		(SP 1707849-001)	MSD	ug/L	5.000	102 %	70-130	
			MSRPD	ug/L	5.000	0.22	≤1	
Dibromoacetic Acid	552	07/06/17:207957SBL	Blank	ug/L	10.00	ND	<1	
			LCS	ug/L	10.00	71.6 %	70-130	
		(CD 1707040 001)	MS	ug/L	10.00	126 %	70-130	
		(SP 1707849-001)	MSD	ug/L	10.00	119 %	70-130	
Diablemanatia A-14	550	07/06/17,207057881	MSRPD	ug/L	5.000	5.5%	≤20.0	
Dichloroacetic Acid	552	07/06/17:207957SBL	Blank	ug/L	10.00	ND	<1 70.120	
			LCS	ug/L	10.00	80.1 %	70-130	
		(CD 1707940 001)	MS	ug/L	10.00	118 %	70-130	
		(SP 1707849-001)	MSD	ug/L	10.00	111 %	70-130	
M 1	550	07/06/17 007057657	MSRPD	ug/L	5.000	5.1%	≤20.0	
Monobromoacetic Acid	552	07/06/17:207957SBL		ug/L	10.00	ND	<1	
			LCS	ug/L	10.00	88.3 %	70-130 70-130	
			MS MSD	ug/L ug/L	10.00 10.00	84.3 % 83.6 %	70-130	
		(SP 1707849-001)						

July 12, 2017 Lab ID : SP 1707849

Monterey Bay Analytical Services Customer : 2-19144

Quality Control - Organic

Constituent	Method	Date/ID	Туре	Units	Conc.	QC Data	DQO	Note
Organic								
Monochloroacetic Acid	552	07/06/17:207957SBL	Blank	ug/L		ND	<2	
			LCS	ug/L	10.00	90.3 %	70-130	
			MS	ug/L	10.00	83.9 %	70-130	
		(SP 1707849-001)	MSD	ug/L	10.00	85.3 %	70-130	
			MSRPD	ug/L	5.000	0.14	≤2	
Trichloroacetic Acid	552	07/06/17:207957SBL	Blank	ug/L		ND	<1	
			LCS	ug/L	10.00	71.6 %	70-130	
			MS	ug/L	10.00	74.3 %	70-130	
		(SP 1707849-001)	MSD	ug/L	10.00	64.0 %	70-130	435
			MSRPD	ug/L	5.000	4.7%	≤20.0	
2,3-Dibromopropionic Acid	552.2	07/07/17:209990SBL	CCV	ug/L	75.00	93.8 %	70-130	
			CCV	ug/L	50.00	96.5 %	70-130	
Dibromoacetic Acid	552.2	07/07/17:210122SBL	CCV	ug/L	150.0	88.0 %	70-130	
			CCV	ug/L	100.0	93.2 %	70-130	
Dichloroacetic Acid	552.2	07/07/17:209990SBL	CCV	ug/L	150.0	89.4 %	70-130	
			CCV	ug/L	100.0	92.1 %	70-130	
Monobromoacetic Acid	552.2	07/07/17:209990SBL	CCV	ug/L	150.0	88.5 %	70-130	
			CCV	ug/L	100.0	94.2 %	70-130	
Monochloroacetic Acid	552.2	07/07/17:209990SBL	CCV	ug/L	150.0	90.0 %	70-130	
			CCV	ug/L	100.0	99.8 %	70-130	
Trichloroacetic Acid	552.2	07/07/17:209990SBL	CCV	ug/L	150.0	89.9 %	70-130	
			CCV	ug/L	100.0	92.6 %	70-130	

Definition

CCV : Continuing Calibration Verification - Analyzed to verify the instrument calibration is within criteria.

Blank : Method Blank - Prepared to verify that the preparation process is not contributing contamination to the samples.

LCS : Laboratory Control Standard/Sample - Prepared to verify that the preparation process is not affecting analyte recovery.

MS : Matrix Spikes - A random sample is spiked with a known amount of analyte. The recoveries are an indication of how that sample

matrix affects analyte recovery.

MSD : Matrix Spike Duplicate of MS/MSD pair - A random sample duplicate is spiked with a known amount of analyted. The recoveries

are an indication of how that sample matrix affects analyte recovery.

MSRPD : MS/MSD Relative Percent Difference (RPD) - The MS relative percent difference is an indication of precision for the preparation

and analysis.

ND : Non-detect - Result was below the DQO listed for the analyte.

DQO : Data Quality Objective - This is the criteria against which the quality control data is compared.

Explanation

435 : Sample matrix may be affecting this analyte. Data was accepted based on the LCS or CCV recovery.



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CHAIN OF CUSTODY AND ANALYSIS REQUEST DOCUMENT

Client: Monterey Bay Analytical Services Customer Number: 2019144 Address: 4 Justin Court Monterey, CA 93940 Phone: (831)375-6227 Fax: (831)641-0734 Email Address: info@mbasinc.com Contact Person: David Holland Project Name: ASR-#+4 Backflush + Sampling Event Purchase Order Number: Quote Number: Rush Analysis: 5 Day 4 Day 3 Day 2 Day 24 hour Rush pre-approval by lab (initals): Electronic Data Transfer: No State Client Other: Sampler(s): Jon Lear Sampler(s): Jon Lear Time: Samp Location Description Date Time Sampled Sampled			Lab Number:						TEST DESCRIPTION AND ANALYSES REQUESTED																		
			Method of Sampling: Composite (C) Grab (G)	Number of Containers	Type of Containers: (G) Cleass (P) Plastic (V) VOA (MT) Metal Tube	Potable (P) Non-Potable (NP) Ag Water (AgW)	(SW) Surface Water (MW) Monitoring Well (GW) Ground Water (TB) Travel Blank (WW) Waste Water (DW) Drinking Water	(S) Soil (SLG) Shudge (SLD) Soad (O) Od	BacT. (Sys) System (SRC) Source (W) Waste	BacT. (ROUT)Rowine (RPT)Repeat (OTH)Cither (RPL)Replace	(LT) Leaf Tissus (PET) Peticis Tissue (PRD) Produce	Preservative: (1) NaOH + ZnAc, (2) NbOH, (3) HCl (4) H2SO4, (5) HNO3, (6) Na2S2O3, (7) Other	Gross Alpha	Ra 226	ТНМS	НАА											
1.	ASR-3 Backflush	6/27/17	14:30	G	7	Var	Р						х	х	Х	х	х										
2.	ASR-4 Backflush	6/27/17	11:30	G	7	Var	Р						х	x	х	x	х										
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Corporate Offices & Laboratory 853 Corporation Street Santa Paula, CA 93060 TEL: (805)392-2000 Env FAX: (805)525-4172 / Ag FAX: (805)392-2063 CA ELAP Certification No.1573 Office & Laboratory 2500 Stagecoach Road Stockton, CA 95215 TEL: (209)942-0182 FAX: (209)942-0423 CA ELAP Certification No. 1563

Office & Laboratory 563 E. Lindo Avenue Chico, CA 95926 TEL: (530)343-5818 FAX: (530)343-3807 CA ELAP Certification No. 2670 Office & Laboratory 3442 Empresa Drive, Suite D San Luis Obispo, CA 93401 TEL: (805)783-2940 FAX: (805)783-2912 CA ELAP Certification No. 2775 Office & Laboratory 9415 W. Goshen Avenue Visalia. CA 93291 TEL: (559)734-9473 FAX: (559)734-9435 CA ELAP Certification No. 2810 FGL Environmental Doc ID: 2D0900157_SOP_17.DOC

Revision Date: 10/09/14 Page: 1 of 1

Condition Upon Receipt (Attach to COC)

Sample Receipt at SP:							
1. Number of ice chests/packages received:	1						
2. Shipper tracking numbers 536693125							
3. Were samples received in a chilled condition? Temps:	6	/	/	/	/	/	/
Surface water (SWTR) bact samples: A sample that should be flagged unless the time since sample col		•				whether ice	ed or not,
5. Do the number of bottles received agree with the COC?	Yes	No	N/A				
6. Verify sample date, time, sampler	Yes	No	N/A				
7. Were the samples received intact? (i.e. no broken bottles, leaks, etc.)	Yes	No					
8. Were sample custody seals intact?	Yes	No	N/A				
Sample Verification, Labeling and Distribution:				_			
Were all requested analyses understood and acceptable?	Yes	No					
2. Did bottle labels correspond with the client's ID's?	Yes	No					
3. Were all bottles requiring sample preservation properly preserved? [Exception: Oil & Grease, VOA and CrVI verified in lab]	Yes	No	N/A	FGL			
4. VOAs checked for Headspace?	Yes	No	N/A				
5. Were all analyses within holding times at time of receipt?	Yes	No					
6. Have rush or project due dates been checked and accepted?	Yes	No	N/A				
Include a copy of the COC for lab delivery. (Bacti. Ino	organics a	and Ra	dio)				
Sample Receipt, Login and Verification completed by	/ :		wed and oved By _	Inez Cova	arrubias	Title: Sampl	ned by Inez Covarrubias e Receiving 2017-11:57:36
Discrepency Documentation:							
Any items above which are "No" or do not meet speci	ifications	(i.e. te	mps) m	ust be resc	lved.		
1. Person Contacted:	Ph	one N	umber:				
Initiated By:	Da	ite:					
Problem:							
Resolution:							
2. Person Contacted:	Ph	one N	umber:				
Initiated By:		ıte:					
Problem:							
Resolution:					(2019	9144)	

Monterey Bay Analytical Services
SP 1707849



McCampbell Analytical, Inc.

"When Quality Counts"

Analytical Report

WorkOrder: 1707002

Report Created for: Monterey Bay Analytical

4 Justin Court, Suite D Monterey, CA 93940

Project Contact:

David Holland

Project P.O.:

Project Name: ASR-3+4 Backflush+Sampling Event

Project Received: 06/30/2017

Analytical Report reviewed & approved for release on 07/07/2017 by:

Angela Rydelius,

Laboratory Manager

The report shall not be reproduced except in full, without the written approval of the laboratory. The analytical results relate only to the items tested. Results reported conform to the most current NELAP standards, where applicable, unless otherwise stated in the case narrative.



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Glossary of Terms & Qualifier Definitions

Client: Monterey Bay Analytical

Project: ASR-3+4 Backflush+Sampling Event

WorkOrder: 1707002

Glossary Abbreviation

%D Serial Dilution Percent Difference

95% Interval 95% Confident Interval

DF Dilution Factor

DI WET (DISTLC) Waste Extraction Test using DI water

DISS Dissolved (direct analysis of 0.45 µm filtered and acidified water sample)

DLT Dilution Test (Serial Dilution)

DUP Duplicate

EDL Estimated Detection Limit

ERS External reference sample. Second source calibration verification.

ITEF International Toxicity Equivalence Factor

LCS Laboratory Control Sample

MB Method Blank

MB % Rec % Recovery of Surrogate in Method Blank, if applicable

MDL Method Detection Limit

ML Minimum Level of Quantitation

MS Matrix Spike

MSD Matrix Spike Duplicate

N/A Not Applicable

ND Not detected at or above the indicated MDL or RL

NR Data Not Reported due to matrix interference or insufficient sample amount.

PDS Post Digestion Spike

PDSD Post Digestion Spike Duplicate

PF Prep Factor

RD Relative Difference

RL Reporting Limit (The RL is the lowest calibration standard in a multipoint calibration.)

RPD Relative Percent Deviation
RRT Relative Retention Time

SPK Val Spike Value

SPKRef Val Spike Reference Value

SPLP Synthetic Precipitation Leachate Procedure

ST Sorbent Tube

TCLP Toxicity Characteristic Leachate Procedure

TEQ Toxicity Equivalents

WET (STLC) Waste Extraction Test (Soluble Threshold Limit Concentration)

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Analytical Report

Client: Monterey Bay Analytical

Date Received: 6/30/17 10:00

Date Prepared: 7/5/17

Project: ASR-3+4 Backflush+Sampling Event

WorkOrder: 1707002

Extraction Method: RSK175

Analytical Method: RSK175

Dissolved Gases by RSK 175

Unit:

			3		
Client ID	Lab ID	Matrix	Date Collecte	ed Instrument	Batch ID
ASR-3 Backflush	1707002-001A	Water	06/27/2017 14:	30 GC26	141578
<u>Analytes</u>	Result		<u>RL</u> <u>DF</u>		Date Analyzed
Methane	1.7		0.10 1		07/05/2017 17:38

Analyst(s): AK

Client ID	Lab ID	Matrix	Date Collec	ted Instrument	Batch ID
ASR-4 Backflush	1707002-002A	Water	06/27/2017 11	:30 GC26	141578
<u>Analytes</u>	Result		<u>RL</u> <u>Di</u>	:	Date Analyzed
Methane	1.5		0.10 1		07/05/2017 17:52

Analyst(s): AK

1534 Willow Pass Road, Pittsburg, CA 94565-1701 Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269 http://www.mccampbell.com / E-mail: main@mccampbell.com

Quality Control Report

Client: Monterey Bay Analytical WorkOrder: 1707002 **Date Prepared:** 7/5/17 **BatchID:** 141578 **Date Analyzed:** 7/5/17 **Extraction Method:** RSK175 GC26 **Analytical Method:** RSK175 **Instrument: Matrix:** Water **Unit:** μg/L

Project: ASR-3+4 Backflush+Sampling Event **Sample ID:** MB/LCS-141578

	QC Sumn	nary Report for R	SK175				
Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Methane	ND	1.29	0.10	1.17	-	110	70-130

McCampbell Analytical, Inc.

1534 Willow Pass Rd Pittsburg, CA 94565-1701 (925) 252-9262

CHAIN-OF-CUSTODY RECORD

Page 1 of

WorkOrder: 1707002 ClientCode: MBAS

	WaterTrax	WriteOn	EDF	Excel	EQuIS	✓ Email	HardCopy	ThirdParty	J-flag
Report to:				Е	Bill to:		Req	uested TAT:	5 days;
David Holland Monterey Bay Analytical 4 Justin Court, Suite D	Email: cc/3rd Party: PO:	mweidner@mbas	inc.com; Dholl	and@mbas	Accounts Paya Monterey Bay A 4 Justin Court,	Analytical	Dat	e Received:	06/30/2017
Monterey, CA 93940 831-375-6227 FAX: 831-641-0734	ProjectNo:	ASR-3+4 Backflus	sh+Sampling E	Event	Monterey, CA 9	3940	Dat	e Logged:	07/03/2017

							Re	quested	Tests (See leg	end belo	ow)			
Lab ID	Client ID	Matrix	Collection Date Hol	d 1	2	3	4	5	6	7	8	9	10	11	12
		T													
1707002-001	ASR-3 Backflush	Water	6/27/2017 14:30	Α											
1707002-002	ASR-4 Backflush	Water	6/27/2017 11:30	Α											

Test Legend:

1 RSK175_W	2	3	4
5	6	7	8
9	10	11	12

Prepared by: Agustina Venegas

Comments:

NOTE: Soil samples are discarded 60 days after results are reported unless other arrangements are made (Water samples are 30 days).

Hazardous samples will be returned to client or disposed of at client expense.



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"When Quality Counts"

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WORK ORDER SUMMARY

Client Name:	MONTERE	Y BAY ANALYTIC	CAL		Project:	ASR-3+4	Backflus	h+Sampling E	Event		Wor	k Order:	1707002
Client Contac	ct: David Holla	nd									Q	C Level:	LEVEL 2
Contact's Em	ntact's Email: mweidner@mbasinc.com; Dholland@mbasinc.com; info@sbcglobal.net; info@mbasinc.com WaterTrax			com;	Comments	:					Date	Logged:	7/3/2017
		☐ WaterTrax	WriteOn	EDF	Exce	I 🗆	Fax	✓ Email	HardCo	ppy ThirdParty	y 🔲 J	-flag	
Lab ID	Client ID	Matrix	Test Name			ontainers omposites	Bottle &	Preservative	De- chlorinated	Collection Date & Time	TAT	Sediment Content	Hold SubOut
1707002-001A	ASR-3 Backflush	Water	RSK175 < Metl	hane_4>		2	VOA	w/ HCl		6/27/2017 14:30	5 days	None	
1707002-002A	ASR-4 Backflush	Water	RSK175 < Metl	hane_4>		2	VOA	A w/ HCl		6/27/2017 11:30	5 days	None	

NOTES: - STLC and TCLP extractions require 2 days to complete; therefore, all TATs begin after the extraction is completed (i.e., One-day TAT yields results in 3 days from sample submission).

- MAI assumes that all material present in the provided sampling container is considered part of the sample - MAI does not exclude any material from the sample prior to sample preparation unless requested in writing by the client.

																								1-	7	0	-	H	N) [2	
	McCAMP Website: www.mc	1534 WI PITTSBU campbell.	LLOW PA	SS RO 4565-1	AD 701 ain@r	ncca	mpb		om	269								ROI	UN	AI D T ED	IM	E		RUS	SH	24	⊒ HR		48 I] HR	RD 72 H	1
Report To: D	avid Holland			Bill To	o:							-	+	\vdash	_					Ana	lvsis	Re	nues	t		_				(ther	Comments
	onterey Bay Ana	alytical S													T			1	1											Ť		
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M	onterey, Ca 939	40	E	-Mai	l: info	o@r	nbas	inc.	con	1				8015)			B&F		1		gene											Filter
Tele: (831) 3'	75 - 6227		1	ax: ((831)	641	-073	4						+	1		0 E/I		1		Cong						6	=				Samples for Metals
Project #:				Project Samp				R-3 +	4 B	lack	flu	sh		& TPH as Gas (602 / 8021	8021)		64 / 552	18.1)	OCs)		octors /		ides)			(AS)	10 / 602	10 / 6020				analysis: Yes / No
Project Locat	ion:) s	602	(\$10	e (16	ns (4	(H)	cides	; Ar	(SS	erbic	3	Cs)	/PN	09/	/ 60	(07)			Tes / No
Sampler Sign:	ature: John Lear													s Ga	PA	11 (80	reas	arbo	3021	Pesti	NE	icid	CI H	,0C	VOC	AHS	8.007	8.00	09/			
		SAMI	PLING	s	iers		MA	TRE	X			rho ERV		r TPH a	NLY (F	Jotor O	Oil & G	Hydroc	8/0108	081 (CL1	CB's O	NP Pest	Acidic (8260 (\	8270 (S	8310 (P	200.77	200.7/2	.8 / 6010			
SAMPLE ID	LOCATION/ Field Point Name	Date	Time	# Containers	Type Containers	Water	Soil	Air	Other	ICE	HCL	HNO ₃	Other	MTBE / BTEX &		TPH as Diesel / Motor Oil (8015)	Total Petroleum Oil & Grease (1664 / 5520 E/B&F)	Total Petroleum Hydrocarbons (418.1)	EPA 502.2 / 601 / 8010 / 8021 (HVOCs)	EPA 505/ 608 / 8081 (CI Pesticides)	EPA 608 / 8082 PCB's ONLY; Aroclors / Congeners	EPA 507 / 8141 (NP Pesticides)	EPA 515 / 8151 (Acidic Cl Herbicides)	EPA 524.2 / 624 / 8260 (VOCs)	EPA 525.2 / 625 / 8270 (SVOCs)	EPA 8270 SIM / 8310 (PAHs / PNAs)	CAM 17 Metals (200.7 / 200.8 / 6010 / 6020)	LUFT 5 Metals (200.7 / 200.8 / 6010 / 6020)	Lead (200.7 / 200.8 / 6010 / 6020)	Methane		
	ASR-3 Backflush	6/27/17	14:30	3	V	X			+		X	1			+	+	-		-	-										Х	-	AB70271
	ASR-4 Backflush	6/27/17	11:30	3	V	X	+		+	X	X		H		-	+-	1	+-	-	-	-			-				-	-	X		AB70272
																																AB70272
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												h				H																
Relinquished By:	10	Datg:	Time:	Dogg	ived B	L				_				IC	TE /49	Ц,		/	L,	120	_							CON	OVE	NITE		
Ben SACH	0151	6/2	1600		71175 6									HI	EAD	SPA	CE	ABS	ENT		UE.	-						CON	INIE	ENTS		
Relinquished By:		Date: 6/30	Time:	Rece	eived B	W	4	7/	1	1	/	Y	7	AF	PPR	LOR OPR ERVI	IAT	E CO	NTA	LAB	RS_	_	_1									
Relinquished By:		Date:	Time:	Rece	eived B	y:	//									EDV		v		0	&G	ME		S	отн	ER						

Tracking #: 536693152

1534 Willow Pass Road, Pittsburg, CA 94565-1701 Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269 http://www.mccampbell.com / E-mail: main@mccampbell.com

Sample Receipt Checklist

Client Name:	Monterey Bay Analytical			Date and Time Received	6/30/2017 10:00
Project Name:	ASR-3+4 Backflush+Sampling Event			Date Logged:	7/3/2017
				Received by:	Agustina Venegas
WorkOrder №:	1707002 Matrix: Water			Logged by:	Agustina Venegas
Carrier:	Golden State Overnight				
	Chain of C	ustody	(COC) Infor	<u>mation</u>	
Chain of custody	present?	Yes	✓	No 🗌	
Chain of custody	signed when relinquished and received?	Yes	•	No 🗆	
Chain of custody	agrees with sample labels?	Yes	✓	No 🗆	
Sample IDs noted	d by Client on COC?	Yes	•	No 🗆	
Date and Time of	collection noted by Client on COC?	Yes	•	No 🗆	
Sampler's name i	noted on COC?	Yes	•	No 🗆	
	Sampl	e Rece	eipt Informati	on	
Custody seals int	act on shipping container/cooler?	Yes		No 🗆	NA 🗸
	er/cooler in good condition?	Yes	✓	No 🗌	
	er containers/bottles?	Yes	✓	No 🗌	
Sample container		Yes	✓	No 🗆	
Sufficient sample	volume for indicated test?	Yes	✓	No 🗌	
	Sample Preservation	n and	Hold Time /l	JT\ Information	
A.II 1	-			No	NA 🗌
·	ved within holding time?	Yes			
Sample/Temp Bla	ank temperature		Temp: 5.6	_	NA 🗌
Water - VOA vials	s have zero headspace / no bubbles?	Yes	✓	No 🗀	NA 🗆
Sample labels ch	ecked for correct preservation?	Yes	✓	No 🗌	
pH acceptable up	oon receipt (Metal: <2; 522: <4; 218.7: >8)?	Yes		No 🗆	NA 🗹
Samples Receive		Yes	•	No 🗆	
	(Ice Type	e: BLU	JE ICE)		
UCMR Samples:	ested and acceptable upon receipt for EPA 522?	Voo		No 🗆	NA 🗹
	·				
300.1, 537, 539	ested and acceptable upon receipt for EPA 218.7, 9?	Yes		No 🗌	NA 🗸
Comments:	:	_==		=	=====



lustin Court Suite D, Monterey, CA 93940 831.375.MBAS www.MBASinc.com ELAP Certification Number: 2385 Tuesday, July 18, 2017

Lab Number: AB70395

Collection Date/Time: 6/28/2017 11:20 Sample Collector: LEAR J, SUWADA J Client Sample #:

Submittal Date/Time: 6/28/2017 16:53 Sample ID

Submittal Date/Time: 6/	28/2017 16	:53	Sample ID							
		Sam	ple Descript	tion: AS	R-2 E	Backfl	ush			
Analyte	Method	Unit	Result	Dilution	Qual	PQL	MDL	Date Analyzed	Time Analyzed	Analyst:
Alkalinity, Total (as CaCO	3) SM2320B	mg/L	134	1		10	2	7/6/2017	9:11 AM	LM
Aluminum, Total	EPA200.8	μg/L	Not Detected	i 1		5	5	6/29/2017	2:46 PM	MW
Ammonia-N	EPA 350.1	mg/L	0.1	1		0.1	0.04	7/8/2017	11:09 AM	BS
Arsenic, Total	EPA200.8	μg/L	Not Detected	d 1		0.5	0.1	6/29/2017	2:46 PM	MW
Barium, Total	EPA200.8	μg/L	59	1		5	0.2	6/29/2017	2:46 PM	MW
Bicarbonate (as HCO3-)	SM2320B	mg/L	163	1		10	2	7/6/2017	5:02 PM	HM
Boron	EPA200.7	mg/L	Not detected	i 1		0.05	0.01	7/6/2017	1:48 PM	MW
Bromide	EPA300.0	mg/L	0.1	1		0.1	0.01	6/29/2017	5:01 AM	HM
Calcium	EPA200.7	mg/L	41	1		0.5	0.1	7/6/2017	1:48 PM	MW
Carbonate as CaCO3	SM2320B	mg/L	Not Detected	1 1		10	2	7/6/2017	5:02 PM	НМ
Chloramines	SM4500-CI	mg/L	Not Detected	1 1		0.05	0.05	6/28/2017	5:06 PM	OW
Chloride	EPA300.0	mg/L	28	1		1	0.25	6/29/2017	5:01 AM	HM
DOC	SM5310C	mg/L	2.0	1	IJ	0.2	0.03	7/7/2017	7:37 PM	HM
Fluoride	EPA300.0	mg/L	0.3	1		0.1	0.02	6/29/2017	5:01 AM	HM
Gross Alpha	EPA900.0	pCi/L	0.775 ± 0.946	5 1	Е			7/5/2017	10:20 AM	FGL
Haloacetic Acids	EPA552	μg/L	30	1	Е			7/7/2017	12:00 PM	FGL
Iron	EPA200.7	μg/L	57	1		10	4	7/6/2017	1:48 PM	MW
Iron, Dissolved	EPA200.7	μg/L	Not Detected	i 1		10	4	7/6/2017	1:48 PM	MW
Kjehldahl Nitrogen	SM4500-NH	mg/L	Not Detected	i 1		0.5	0.5	7/7/2017	12:10 PM	BS
Lithium	EPA200.8	μg/L	6	1		0.5	0.1	6/29/2017	2:46 PM	MW
Magnesium	EPA200.7	mg/L	13	1		0.5	0.2	7/6/2017	1:48 PM	MW
Manganese, Dissolved	EPA200.7	μg/L	Not Detected	i 1		10	2	7/6/2017	1:48 PM	MW
Manganese, Total	EPA200.7	μg/L	Not Detected	i 1		10	2	7/6/2017	1:48 PM	MW
Mercury, Total	EPA200.8	μg/L	Not Detected	l) 1	ВС	0.2	0.04	7/13/2017	12:36 PM	MW
Methane	EPA174/175	μg/L	1.5	1	Е	0.1	0.1	7/5/2017	6:09 PM	MCCAM
Molybdenum, Total	EPA200.8	μg/L	4	1		0.5	0.1	6/29/2017	2:46 PM	MW
Nickel, Total	EPA200.8	μg/L	2	1		5	0.1	6/29/2017	2:46 PM	MW
Nitrate as NO3	EPA300.0	mg/L	1	1		1	0.07	6/29/2017	5:01 AM	HM
Nitrate as NO3-N	EPA300.0	mg/L	0.2	1		0.1	0.01	6/29/2017	5:01 AM	HM
Nitrate+Nitrite as N	EPA300.0	mg/L	0.4	1		0.1	0.025	6/29/2017	5:01 AM	HM
Nitrite as NO2-N	EPA300.0	mg/L	0.2	1		0.1	0.01	6/29/2017	5:01 AM	HM
o-Phosphate-P, Dissolved	EPA300.0	mg/L	0.3	1		0.1	0.02	6/29/2017	5:01 AM	HM
pH (Laboratory)	SM4500-H+	pH (H)	7.5	1		0.1		6/28/2017	4:00 PM	MB
Phosphorus, Total	HACH 8190	mg/L	0.40	1		0.03	0.03	7/8/2017	3:04 PM	BS
Potassium	EPA200.7	mg/L	2.9	1		0.5	0.3	7/6/2017	1:48 PM	MW
QC Anion Sum x 100	Calculation	%	101%	1				7/6/2017	5:02 PM	HM
QC Anion-Cation Balance	Calculation	%	2	1				7/7/2017	10:01 AM	MW
QC Cation Sum x 100	Calculation	%	105%	1				7/7/2017	10:01 AM	MW
QC Ratio TDS/SEC	Calculation		0.63	1				7/7/2017	11:41 AM	MP
Selenium, Total	EPA200.8	μg/L	2	1		1	0.5	6/29/2017	2:46 PM	MW
Silica as SiO2, Total	EPA200.7	mg/L	24	1		0.5	0.3	7/6/2017	1:48 PM	MW

mg/L: Milligrams per liter (=ppm)
H = Analyzed ouside of hold time
J = Result is less than PQL

 $\label{eq:continuous} \begin{array}{ll} \text{ug/L}: \text{Micrograms per liter (=ppb)} & \text{PQL}: \text{Practical Quantitation Limit} \\ \text{E = Analysis performed by External Laboratory; See External Laboratory Report attachments.} \\ \text{T = Temperature Exceedance} \end{array}$



4 Justin Court Suite D, Monterey, CA 93940 831.375.MBAS www.MBASinc.com ELAP Certification Number: 2385 Tuesday, July 18, 2017

PQL: Practical Quantitation Limit

Lab Number: AB70395

Collection Date/Time: 6/28/2017 11:20 Sample Collector: LEAR J, SUWADA J Client Sample #:

Submittal Date/Time: 6/28/2017 16:53 Sample ID

	•	Sam	ple Descript	ion: AS	R-2 E	Backf	lush	•		
Analyte	Method	Unit	Result	Dilution	Qual	PQL	MDL	Date Analyzed	Time Analyzed	Analyst:
Specific Conductance (E	.C) SM2510B	µmhos/c	488	1		1	1	6/30/2017	10:15 AM	НМ
Strontium, Total	EPA200.8	μg/L	210	1		2.5	0.5	6/29/2017	2:46 PM	MW
Sulfate	EPA300.0	mg/L	69	1		1	0.25	6/29/2017	5:01 AM	НМ
TOC	SM5310C	mg/L	1.5	1	IJ	0.2	0.03	7/7/2017	7:56 PM	НМ
Total Diss. Solids	SM2540C	mg/L	308	1		10	10	7/5/2017	9:50 AM	MP
Total Nitrogen	Calculation	mg/L	Not Detected	1 1		0.5	0.5	7/7/2017	3:21 PM	LRH
Total Radium 226	EPA903.0	pCi/L	0.109 ± 0.128	1	Е			7/6/2017	7:35 PM	FGL
Trihalomethanes	EPA524.2	μg/L	97	1	Е			7/5/2017	12:00 PM	FGL
Uranium by ICP/MS	EPA200.8	μg/L	Not Detected	1 1		0.5	0.04	6/29/2017	2:46 PM	MW
Vanadium, Total	EPA200.8	μg/L	1	1		2.5	0.1	6/29/2017	2:46 PM	MW
Zinc, Total	EPA200.8	μg/L	257	1		10	10	6/29/2017	2:46 PM	MW

Sample Comments: BC: Matrix spike out of control, lab control sample within limits. IJ: LCS and/or CCV above acceptance limits.

Report Approved by:

ug/L : Micrograms per liter (=ppb)

T = Temperature Exceedance

E = Analysis performed by External Laboratory; See External Laboratory Report attachments.



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Lab Number: AB70396

Collection Date/Time: 6/28/2017 13:30 Sample Collector: LEAR J, SUWADA J Client Sample #:

Submittal Date/Time: 6/28/2017 16:53 Sample ID

Submittal Date/Time: 6	6/28/2017 16:	:53	Sample ID							
			nple Descript							
Analyte	Method	Unit	Result	Dilution	Qual	PQL		Date Analyzed	Time Analyzed	Analyst:
Alkalinity, Total (as CaCC	03) SM2320B	mg/L	138	1		10	2	7/6/2017	9:11 AM	LM
Aluminum, Total	EPA200.8	μg/L	Not Detected	1		5	5	6/29/2017	2:46 PM	MW
Ammonia-N	EPA 350.1	mg/L	0.1	1		0.1	0.04	7/8/2017	11:09 AM	BS
Arsenic, Total	EPA200.8	μg/L	1	1		0.5	0.1	6/29/2017	2:46 PM	MW
Barium, Total	EPA200.8	μg/L	58	1		5	0.2	6/29/2017	2:46 PM	MW
Bicarbonate (as HCO3-)	SM2320B	mg/L	168	1		10	2	7/6/2017	5:02 PM	HM
Boron	EPA200.7	mg/L	Not detected	1		0.05	0.01	7/6/2017	2:06 PM	MW
Bromide	EPA300.0	mg/L	Not Detected	1		0.1	0.01	6/29/2017	5:24 AM	HM
Calcium	EPA200.7	mg/L	41	1		0.5	0.1	7/6/2017	2:06 PM	MW
Carbonate as CaCO3	SM2320B	mg/L	Not Detected	1		10	2	7/6/2017	5:02 PM	HM
Chloramines	SM4500-CI	mg/L	Not Detected	1		0.05	0.05	6/28/2017	5:06 PM	OW
Chloride	EPA300.0	mg/L	28	1		1	0.25	6/29/2017	5:24 AM	HM
DOC	SM5310C	mg/L	1.8	1	IJ	0.2	0.03	7/7/2017	8:15 PM	НМ
Fluoride	EPA300.0	mg/L	0.3	1		0.1	0.02	6/29/2017	5:24 AM	HM
Gross Alpha	EPA900.0	pCi/L	1.97 ± 1.27	1	Е			7/5/2017	11:35 AM	FGL
Haloacetic Acids	EPA552	μg/L	6	1	Е			7/7/2017	12:00 PM	FGL
Iron	EPA200.7	μg/L	20	1		10	4	7/6/2017	2:06 PM	MW
Iron, Dissolved	EPA200.7	μg/L	Not Detected	1		10	4	7/6/2017	2:06 PM	MW
Kjehldahl Nitrogen	SM4500-NH		Not Detected	1		0.5	0.5	7/7/2017	12:10 PM	BS
Lithium	EPA200.8	μg/L	7	1		0.5	0.1	6/29/2017	2:46 PM	MW
Magnesium	EPA200.7	mg/L	13	1		0.5	0.2	7/6/2017	2:06 PM	MW
Manganese, Dissolved	EPA200.7	μg/L	Not Detected	l 1		10	2	7/6/2017	2:06 PM	MW
Manganese, Total	EPA200.7	μg/L	Not Detected			10	2	7/6/2017	2:06 PM	MW
Mercury, Total	EPA200.8	µg/L	Not Detected		ВС	0.2	0.04	7/13/2017	12:36 PM	MW
Methane	EPA174/175		0.77	1	E	0.1	0.1	7/6/2017	10:18 AM	MCCAM
Molybdenum, Total	EPA200.8	μg/L	3	1		0.5	0.1	6/29/2017	2:46 PM	MW
Nickel, Total	EPA200.8	μg/L	2	1		5	0.1	6/29/2017	2:46 PM	MW
Nitrate as NO3	EPA300.0	mg/L		1		1	0.07	6/29/2017	5:24 AM	HM
Nitrate as NO3-N	EPA300.0	mg/L	0.3	1		0.1	0.01	6/29/2017	5:24 AM	HM
Nitrate+Nitrite as N	EPA300.0	mg/L	0.5	1		0.1	0.025		5:24 AM	HM
Nitrite as NO2-N	EPA300.0	mg/L	0.2	1		0.1	0.01	6/29/2017	5:24 AM	HM
o-Phosphate-P, Dissolve		mg/L	0.3	1		0.1	0.02	6/29/2017	5:24 AM	HM
pH (Laboratory)	SM4500-H+	pH (H)	7.5	1		0.1	0.02	6/28/2017	4:00 PM	MB
Phosphorus, Total	HACH 8190		0.30	1			0.03	7/8/2017	3:04 PM	BS
Potassium	EPA200.7	mg/L	2.8	1		0.03	0.03	7/6/2017	2:06 PM	MW
QC Anion Sum x 100	Calculation	%	100%	1		0.0	0.0	7/6/2017	5:02 PM	HM
QC Anion-Cation Balance		%	100%	<u>'</u> 1				7/0/2017	10:01 AM	MW
QC Cation Sum x 100	Calculation	%	102%	<u>'</u> 1				7/7/2017	10:01 AM	MW
QC Ratio TDS/SEC	Calculation	/0						7/7/2017	11:41 AM	MP
		110/	0.65	1		1	0 F			
Selenium, Total	EPA200.8	μg/L	6	1		1	0.5	6/29/2017	2:46 PM	MW
Silica as SiO2, Total	EPA200.7	mg/L	24	1		0.5	0.3	7/6/2017	2:06 PM	MW
Sodium	EPA200.7	mg/L	43	1		0.5	0.2	7/6/2017	2:06 PM	MW

mg/L: Milligrams per liter (=ppm)
H = Analyzed ouside of hold time
J = Result is less than PQL

 $\label{eq:continuous} \mbox{ug/L}: \mbox{Micrograms per liter (=ppb)} \qquad \mbox{PQL}: \mbox{Practical Quantitation Limit} \\ \mbox{E = Analysis performed by External Laboratory; See External Laboratory Report attachments.}$

T = Temperature Exceedance



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PQL: Practical Quantitation Limit

Lab Number: AB70396

Collection Date/Time: 6/28/2017 13:30 Sample Collector: LEAR J, SUWADA J Client Sample #:

Submittal Date/Time: 6/28/2017 16:53 Sample ID

		Sam	ole Descript	ion: AS	R-1 E	Backf	lush	•		
Analyte	Method	Unit	Result	Dilution	Qual	PQL	MDL	Date Analyzed	Time Analyzed	Analyst:
Specific Conductance (E.C) SM2510B	µmhos/c	496	1		1	1	6/30/2017	10:15 AM	НМ
Strontium, Total	EPA200.8	μg/L	210	1		2.5	0.5	6/29/2017	2:46 PM	MW
Sulfate	EPA300.0	mg/L	68	1		1	0.25	6/29/2017	5:24 AM	HM
TOC	SM5310C	mg/L	1.5	1	IJ	0.2	0.03	7/7/2017	8:40 PM	HM
Total Diss. Solids	SM2540C	mg/L	320	1		10	10	7/5/2017	9:50 AM	MP
Total Nitrogen	Calculation	mg/L	0.5	1		0.5	0.5	7/7/2017	3:21 PM	LRH
Total Radium 226	EPA903.0	pCi/L	0.044 ± 0.104	1				7/6/2017	8:00 PM	FGL
Trihalomethanes	EPA524.2	μg/L	89	1	Е			7/5/2017	12:00 PM	FGL
Uranium by ICP/MS	EPA200.8	μg/L	Not Detected	1		0.5	0.04	6/29/2017	2:46 PM	MW
Vanadium, Total	EPA200.8	μg/L	1	1		2.5	0.1	6/29/2017	2:46 PM	MW
Zinc, Total	EPA200.8	μg/L	202	1		10	10	6/29/2017	2:46 PM	MW

Sample Comments: BC: Matrix spike out of control, lab control sample within limits. IJ: LCS and/or CCV above acceptance limits.

Report Approved by:

ug/L : Micrograms per liter (=ppb)

T = Temperature Exceedance

E = Analysis performed by External Laboratory; See External Laboratory Report attachments.



4 Justin Court Suite D, Monterey, CA 93940 831.375.MBAS www.MBASinc.com ELAP Certification Number: 2385 Tuesday, July 18, 2017

Lab Number: AB70397

Collection Date/Time: 6/28/2017 14:30 Sample Collector: LEAR J, SUWADA J Client Sample #:

Submittal Date/Time: 6/28/2017 16:53 Sample ID

Submittal Date/Time: 6/	/28/2017 16:	:53	Sample ID							
			Sample Des	scriptio	n: MV	V #1				
Analyte	Method	Unit	Result	Dilution	Qual	PQL	MDL	Date Analyzed	Time Analyzed	Analyst:
Alkalinity, Total (as CaCO	3) SM2320B	mg/L	135	1		10	2	7/6/2017	9:11 AM	LM
Aluminum, Total	EPA200.8	μg/L	11	1		5	5	6/29/2017	2:46 PM	MW
Ammonia-N	EPA 350.1	mg/L	0.1	1		0.1	0.04	7/8/2017	11:09 AM	BS
Arsenic, Total	EPA200.8	μg/L	2	1		0.5	0.1	6/29/2017	2:46 PM	MW
Barium, Total	EPA200.8	μg/L	21	1		5	0.2	6/29/2017	2:46 PM	MW
Bicarbonate (as HCO3-)	SM2320B	mg/L	165	1		10	2	7/6/2017	5:02 PM	HM
Boron	EPA200.7	mg/L	Not detected	1		0.05	0.01	7/6/2017	2:12 PM	MW
Bromide	EPA300.0	mg/L	Not Detected	1		0.1	0.01	6/29/2017	5:46 AM	HM
Calcium	EPA200.7	mg/L	44	1		0.5	0.1	7/6/2017	2:12 PM	MW
Carbonate as CaCO3	SM2320B	mg/L	Not Detected	1		10	2	7/6/2017	5:02 PM	HM
Chloramines	SM4500-CI	mg/L	Not Detected	1		0.05	0.05	6/28/2017	5:06 PM	OW
Chloride	EPA300.0	mg/L	28	1		1	0.25	6/29/2017	5:46 AM	НМ
DOC	SM5310C	mg/L	1.4	1	IJ	0.2	0.03	7/7/2017	8:59 PM	HM
Fluoride	EPA300.0	mg/L	0.2	1		0.1	0.02	6/29/2017	5:46 AM	HM
Gross Alpha	EPA900.0	pCi/L	1.77 ± 1.15	1	Е			7/10/2017	9:20 AM	FGL
Haloacetic Acids	EPA552	μg/L	2	1	Е			7/7/2017	12:00 PM	FGL
Iron	EPA200.7	μg/L	Not Detected	1		10	4	7/6/2017	2:12 PM	MW
Iron, Dissolved	EPA200.7	μg/L	Not Detected			10	4	7/6/2017	2:12 PM	MW
Kjehldahl Nitrogen	SM4500-NH	mg/L	Not Detected	1		0.5	0.5	7/7/2017	12:10 PM	BS
Lithium	EPA200.8	μg/L	7	1		0.5	0.1	6/29/2017	2:46 PM	MW
Magnesium	EPA200.7	mg/L	11	1		0.5	0.2	7/6/2017	2:12 PM	MW
Manganese, Dissolved	EPA200.7	μg/L	Not Detected	1 1		10	2	7/6/2017	2:12 PM	MW
Manganese, Total	EPA200.7	μg/L	Not Detected	l 1		10	2	7/6/2017	2:12 PM	MW
Mercury, Total	EPA200.8	µg/L	Not Detected	1	ВС	0.2	0.04	7/13/2017	12:53 PM	MW
Methane	EPA174/175	μg/L	0.74	1	E	0.1	0.1	7/6/2017	10:47 AM	MCCAM
Molybdenum, Total	EPA200.8	μg/L	3	1		0.5	0.1	6/29/2017	2:46 PM	MW
Nickel, Total	EPA200.8	μg/L	1	1		5	0.1	6/29/2017	2:46 PM	MW
Nitrate as NO3	EPA300.0	mg/L	1	1		1	0.07	6/29/2017	5:46 AM	HM
Nitrate as NO3-N	EPA300.0	mg/L	0.2	1		0.1	0.01	6/29/2017	5:46 AM	HM
Nitrate+Nitrite as N	EPA300.0	mg/L	0.4	1		0.1	0.025	6/29/2017	5:46 AM	HM
Nitrite as NO2-N	EPA300.0	mg/L	0.2	1		0.1	0.01	6/29/2017	5:46 AM	HM
o-Phosphate-P, Dissolved		mg/L	Not Detected			0.1	0.02	6/29/2017	5:46 AM	HM
pH (Laboratory)	SM4500-H+	pH (H)	7.5	1		0.1		6/28/2017	4:00 PM	MB
Phosphorus, Total	HACH 8190	mg/L	0.10	1			0.03	7/8/2017	3:04 PM	BS
Potassium	EPA200.7	mg/L	2.7	1		0.5	0.3	7/6/2017	2:12 PM	MW
QC Anion Sum x 100	Calculation	%	101%	1				7/6/2017	5:02 PM	HM
QC Anion-Cation Balance	Calculation	%	1	1				7/7/2017	10:01 AM	MW
QC Cation Sum x 100	Calculation	%	103%	1				7/7/2017	10:01 AM	MW
QC Ratio TDS/SEC	Calculation	,,,	0.61	1				7/7/2017	11:41 AM	MP
Selenium, Total	EPA200.8	μg/L	9	1		1	0.5	6/29/2017	2:46 PM	MW
Silica as SiO2, Total	EPA200.7	mg/L	24	1		0.5	0.3	7/6/2017	2:40 PM	MW
Sodium	EPA200.7 EPA200.7	mg/L	43	<u>'</u> 1		0.5	0.3	7/6/2017	2:12 PM	MW
Soulum	EFA200.7	ilig/L	43	1		0.5	0.2	1/0/2017	2.12 PIVI	IVIVV

mg/L: Milligrams per liter (=ppm)
H = Analyzed ouside of hold time
J = Result is less than PQL

 $\label{eq:continuous} \mbox{ug/L}: \mbox{Micrograms per liter (=ppb)} \qquad \mbox{PQL}: \mbox{Practical Quantitation Limit} \\ \mbox{E = Analysis performed by External Laboratory; See External Laboratory Report attachments.}$

T = Temperature Exceedance



4 Justin Court Suite D, Monterey, CA 93940 831.375.MBAS www.MBASinc.com ELAP Certification Number: 2385 Tuesday, July 18, 2017

PQL: Practical Quantitation Limit

Lab Number: AB70397

Collection Date/Time: 6/28/2017 14:30 Sample Collector: LEAR J, SUWADA J Client Sample #:

Submittal Date/Time: 6/28/2017 16:53 Sample ID

			Sample Des	scriptio	n: M\	N #1		_	_	
Analyte	Method	Unit	Result	Dilution	Qual	PQL	MDL	Date Analyzed	Time Analyzed	Analyst:
Specific Conductance (E.C) SM2510B	µmhos/c	489	1		1	1	6/30/2017	10:15 AM	НМ
Strontium, Total	EPA200.8	μg/L	245	1		2.5	0.5	6/29/2017	2:46 PM	MW
Sulfate	EPA300.0	mg/L	69	1		1	0.25	6/29/2017	5:46 AM	НМ
TOC	SM5310C	mg/L	1.3	1	IJ	0.2	0.03	7/7/2017	9:18 PM	НМ
Total Diss. Solids	SM2540C	mg/L	297	1		10	10	7/5/2017	9:50 AM	MP
Total Nitrogen	Calculation	mg/L	Not Detected	1 1		0.5	0.5	7/7/2017	3:21 PM	LRH
Total Radium 226	EPA903.0	pCi/L	0.044 ± 0.104	1	Е			7/6/2017	8:20 PM	FGL
Trihalomethanes	EPA524.2	μg/L	66	1	Ε			7/5/2017	12:00 PM	FGL
Uranium by ICP/MS	EPA200.8	μg/L	1	1		0.5	0.04	6/29/2017	2:46 PM	MW
Vanadium, Total	EPA200.8	μg/L	2	1		2.5	0.1	6/29/2017	2:46 PM	MW
Zinc, Total	EPA200.8	μg/L	Not Detected	1 1		10	10	6/29/2017	2:46 PM	MW

Sample Comments: BC: Matrix spike out of control, lab control sample within limits. IJ: LCS and/or CCV above acceptance limits.

Report Approved by:

ug/L : Micrograms per liter (=ppb)

T = Temperature Exceedance

E = Analysis performed by External Laboratory; See External Laboratory Report attachments.



4 Justin Court Suite D, Monterey, CA 93940 831.375.MBAS www.MBASinc.com ELAP Certification Number: 2385 Tuesday, July 18, 2017

Lab Number: AB70398

Collection Date/Time: 6/28/2017 15:30 Sample Collector: LEAR J, SUWADA J Client Sample #:

Submittal Date/Time: 6/28/2017 16:53 Sample ID

Submittal Date/Time: 6/	/28/2017 16:	:53	Sample ID							
			Sample Des	cription	<u> 1: SM</u>	S (D)				
	Method	Unit	Result	Dilution	Qual	PQL		Date Analyzed	Time Analyzed	Analyst:
Alkalinity, Total (as CaCO	3) SM2320B	mg/L	141	1		10	2	7/6/2017	9:11 AM	LM
Aluminum, Total	EPA200.8	μg/L	Not Detected	l 1		5	5	6/29/2017	2:46 PM	MW
Ammonia-N	EPA 350.1	mg/L	0.1	1		0.1	0.04	7/8/2017	11:09 AM	BS
Arsenic, Total	EPA200.8	μg/L	7	1		0.5	0.1	6/29/2017	2:46 PM	MW
Barium, Total	EPA200.8	μg/L	47	1		5	0.2	6/29/2017	2:46 PM	MW
Bicarbonate (as HCO3-)	SM2320B	mg/L	172	1		10	2	7/6/2017	5:02 PM	HM
Boron	EPA200.7	mg/L	Not detected	l 1		0.05	0.01	7/6/2017	2:18 PM	MW
Bromide	EPA300.0	mg/L	Not Detected	1 1		0.1	0.01	6/29/2017	6:08 AM	HM
Calcium	EPA200.7	mg/L	45	1		0.5	0.1	7/6/2017	2:18 PM	MW
Carbonate as CaCO3	SM2320B	mg/L	Not Detected	1 1		10	2	7/6/2017	5:02 PM	HM
Chloramines	SM4500-CI	mg/L	Not Detected	1 1		0.05	0.05	6/28/2017	5:06 PM	OW
Chloride	EPA300.0	mg/L	27	1		1	0.25	6/29/2017	6:08 AM	HM
DOC	SM5310C	mg/L	1.5	1	IJ	0.2	0.03	7/7/2017	9:37 PM	НМ
Fluoride	EPA300.0	mg/L	0.3	1		0.1	0.02	6/29/2017	6:08 AM	HM
Gross Alpha	EPA900.0	pCi/L	1.94 ± 1.20	1	Е			7/5/2017	12:30 PM	FGL
Haloacetic Acids	EPA552	μg/L	17	1	Е			7/7/2017	12:00 PM	FGL
Iron	EPA200.7	μg/L	Not Detected	1 1		10	4	7/6/2017	2:18 PM	MW
Iron, Dissolved	EPA200.7	µg/L	Not Detected			10	4	7/6/2017	2:18 PM	MW
Kjehldahl Nitrogen	SM4500-NH	mg/L	Not Detected	1 1		0.5	0.5	7/10/2017	10:00 AM	BS
Lithium	EPA200.8	μg/L	6	1		0.5	0.1	6/29/2017	2:46 PM	MW
Magnesium	EPA200.7	mg/L	12	1		0.5	0.2	7/6/2017	2:18 PM	MW
Manganese, Dissolved	EPA200.7	μg/L	Not Detected	I 1		10	2	7/6/2017	2:18 PM	MW
Manganese, Total	EPA200.7	µg/L	Not Detected	I 1		10	2	7/6/2017	2:18 PM	MW
Mercury, Total	EPA200.8	μg/L	Not Detected	1	ВС	0.2	0.04	7/13/2017	12:55 PM	MW
Methane	EPA174/175	μg/L	1.4	1	E	0.1	0.1	7/6/2017	11:13 AM	MCCAM
Molybdenum, Total	EPA200.8	μg/L	58	1		0.5	0.1	6/29/2017	2:46 PM	MW
Nickel, Total	EPA200.8	μg/L	2	1		5	0.1	6/29/2017	2:46 PM	MW
Nitrate as NO3	EPA300.0	mg/L		1		1	0.07	6/29/2017	6:08 AM	HM
Nitrate as NO3-N	EPA300.0	mg/L	0.2	1		0.1	0.01	6/29/2017	6:08 AM	HM
Nitrate+Nitrite as N	EPA300.0	mg/L	0.4	1		0.1	0.025		6:08 AM	HM
Nitrite as NO2-N	EPA300.0	mg/L	0.2	1		0.1	0.01	6/29/2017	6:08 AM	HM
o-Phosphate-P, Dissolved		mg/L	0.1	1		0.1	0.02	6/29/2017	6:08 AM	HM
pH (Laboratory)	SM4500-H+	pH (H)	7.7	1		0.1	5.5 <u>L</u>	6/28/2017	4:00 PM	MB
Phosphorus, Total	HACH 8190	mg/L	0.27	1			0.03	7/8/2017	3:04 PM	BS
Potassium	EPA200.7	mg/L	2.9	1		0.5	0.03	7/6/2017	2:18 PM	MW
QC Anion Sum x 100	Calculation	%	101%	1		0.0	0.0	7/6/2017	5:02 PM	HM
QC Anion-Cation Balance		%	2	1				7/7/2017	10:01 AM	MW
QC Cation Sum x 100	Calculation	%	105%	1				7/7/2017	10:01 AM	MW
QC Ratio TDS/SEC	Calculation	70	0.58	1				7/7/2017	11:41 AM	MP
Selenium, Total	EPA200.8	μg/L	10	<u>'</u> 1		1	0.5	6/29/2017	2:46 PM	MW
Silica as SiO2, Total	EPA200.7			<u>'</u> 1		0.5	0.3	7/6/2017	2:46 PM	MW
	EPA200.7 EPA200.7	mg/L	24							
Sodium	EPA200.7	mg/L	45	1		0.5	0.2	7/6/2017	2:18 PM	MW

mg/L: Milligrams per liter (=ppm) H = Analyzed ouside of hold time

J = Result is less than PQL

 $\label{eq:continuous} \begin{array}{ll} \text{ug/L}: \text{Micrograms per liter (=ppb)} & \text{PQL}: \text{Practical Quantitation Limit} \\ \text{E = Analysis performed by External Laboratory; See External Laboratory Report attachments.} \\ \text{T = Temperature Exceedance} \end{array}$



4 Justin Court Suite D, Monterey, CA 93940 831.375.MBAS www.MBASinc.com ELAP Certification Number: 2385 Tuesday, July 18, 2017

PQL: Practical Quantitation Limit

Lab Number: AB70398

Collection Date/Time: 6/28/2017 15:30 Sample Collector: LEAR J, SUWADA J Client Sample #:

Submittal Date/Time: 6/28/2017 16:53 Sample ID

	Sample Description: SMS (D)													
Analyte	Method	Unit	Result	Dilution	Qual	PQL	MDL	Date Analyzed	Time Analyzed	Analyst:				
Specific Conductance (E	E.C) SM2510B	µmhos/c	500	1		1	1	6/30/2017	10:15 AM	HM				
Strontium, Total	EPA200.8	μg/L	248	1		2.5	0.5	6/29/2017	2:46 PM	MW				
Sulfate	EPA300.0	mg/L	69	1		1	0.25	6/29/2017	6:08 AM	НМ				
TOC	SM5310C	mg/L	1.5	1	IJ	0.2	0.03	7/7/2017	9:56 PM	HM				
Total Diss. Solids	SM2540C	mg/L	291	1		10	10	7/5/2017	9:50 AM	MP				
Total Nitrogen	Calculation	mg/L	Not Detected	1 1		0.5	0.5	7/11/2017	9:38 AM	LRH				
Total Radium 226	EPA903.0	pCi/L	0.195 ± 0.153	1	Е			7/6/2017	8:45 PM	FGL				
Trihalomethanes	EPA524.2	μg/L	88	1	Е			7/5/2017	12:00 PM	FGL				
Uranium by ICP/MS	EPA200.8	μg/L	1	1		0.5	0.04	6/29/2017	2:46 PM	MW				
Vanadium, Total	EPA200.8	μg/L	1	1		2.5	0.1	6/29/2017	2:46 PM	MW				
Zinc, Total	EPA200.8	μg/L	79	1		10	10	6/29/2017	2:46 PM	MW				

Sample Comments: BC: Matrix spike out of control, lab control sample within limits. IJ: LCS and/or CCV above acceptance limits.

Report Approved by:

ug/L : Micrograms per liter (=ppb)

T = Temperature Exceedance

E = Analysis performed by External Laboratory; See External Laboratory Report attachments.

July 13, 2017

Lab ID : SP 1707852 **Monterey Bay Analytical Services** 4 Justin Court Customer : 2-19144

Monterey, CA 93940

Laboratory Report

Introduction: This report package contains total of 13 pages divided into 3 sections:

Case Narrative (2 pages): An overview of the work performed at FGL.

Sample Results (8 pages): Results for each sample submitted.

Quality Control (3 pages) : Supporting Quality Control (QC) results.

Case Narrative

This Case Narrative pertains to the following samples:

Sample Description	Date Sampled	Date Received	FGL Lab ID#	Matrix
ASR-2 Backflush	06/28/2017	06/30/2017	SP 1707852-001	PW
ASR-1 Backflush	06/28/2017	06/30/2017	SP 1707852-002	PW
MW#1	06/28/2017	06/30/2017	SP 1707852-003	PW
SMS (D)	06/28/2017	06/30/2017	SP 1707852-004	PW

Sampling and Receipt Information: All samples were received in acceptable condition and within temperature requirements, unless noted on the Condition Upon Receipt (CUR) form. All samples arrived at 6 °C. All samples were prepared and analyzed within the method specified hold time. All samples were checked for pH if acid or base preservation is required (except for VOAs). For details of sample receipt information, please see the attached Chain of Custody and Condition Upon Receipt Form.

Quality Control: All samples were prepared and analyzed according to the following tables:

Organic QC

551.1	07/05/2017:209924 All analysis quality controls are within established criteria.
	07/06/2017:209946 All analysis quality controls are within established criteria.
	07/05/2017:207904 All preparation quality controls are within established criteria, except: The following note applies to Bromoform: 435 Sample matrix may be affecting this analyte. Data was accepted based on the LCS or CCV recovery.
552	07/06/2017:207957 All preparation quality controls are within established criteria, except: The following note applies to Trichloroacetic Acid: 435 Sample matrix may be affecting this analyte. Data was accepted based on the LCS or CCV recovery.

July 13, 2017 Lab ID

Monterey Bay Analytical Services Customer

Organic QC

: SP 1707852

: 2-19144

552.2	07/07/2017:209990 All analysis quality controls are within established criteria.
	07/07/2017:210122 All analysis quality controls are within established criteria.

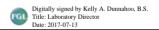
Radio QC

900.0	07/05/2017:209903 All analysis quality controls are within established criteria.								
	07/05/2017:209906 All analysis quality controls are within established criteria.								
	07/10/2017:210172 All analysis quality controls are within established criteria.								
	07/03/2017:207820 All preparation quality controls are within established criteria.								
	07/07/2017:208001 All preparation quality controls are within established criteria.								
903.0	07/06/2017:209977 All analysis quality controls are within established criteria.								
	07/01/2017:207798 All preparation quality controls are within established criteria.								

Certification:: I certify that this data package is in compliance with ELAP standards, both technically and for completeness, except for any conditions listed above. Release of the data contained in this data package is authorized by the Laboratory Director or his designee, as verified by the following electronic signature.

KD:DMB

Approved By Kelly A. Dunnahoo, B.S.



July 13, 2017 Lab ID : SP 1707852-001

Customer ID : 2-19144

Monterey Bay Analytical Services

4 Justin Court Sampled On : June 28, 2017-11:20 : John Lear/ Joseph Su Monterey, CA 93940 Sampled By

Received On : June 30, 2017-09:40

Matrix : Potable Water Description : ASR-2 Backflush

Project : MPWMD

Sample Result - Organic

Constituent	Result	PQL	Units	Note	Sample	Preparation	Samp	le Analysis
Constituent	Kesuit	1 QL	Omts	Note	Method	Date/ID	Method	Date/ID
EPA 551.1								
Decafluorobiphenyl [‡]	79.3	80-120	%		551.1	07/05/17:207904	551.1	07/05/17:209924
Bromodichloromethane	26	1	ug/L		551.1	07/05/17:207904	551.1	07/05/17:209924
Bromoform	1	1	ug/L		551.1	07/05/17:207904	551.1	07/05/17:209924
Chloroform	58	5*	ug/L		551.1	07/05/17:207904	551.1	07/06/17:209946
Dibromochloromethane	12	1	ug/L		551.1	07/05/17:207904	551.1	07/05/17:209924
Total Trihalomethanes	97		ug/L		551.1	07/05/17:207904	551.1	07/05/17:209924
EPA 552.2								
2,3-Dibromopropionic Acid [‡]	108	70-130	%		552	07/06/17:207957	552.2	07/07/17:209990
Bromoacetic Acid	ND	1	ug/L		552	07/06/17:207957	552.2	07/07/17:209990
Chloroacetic Acid	ND	2	ug/L		552	07/06/17:207957	552.2	07/07/17:209990
Dibromoacetic Acid	2	1	ug/L		552	07/06/17:207957	552.2	07/07/17:210122
Dichloroacetic Acid	14	1	ug/L		552	07/06/17:207957	552.2	07/07/17:210122
Trichloroacetic Acid	14	1	ug/L		552	07/06/17:207957	552.2	07/07/17:209990
Haloacetic acids (five)	30		ug/L		552	07/06/17:207957	552.2	07/07/17:209990

ND=Non-Detected. PQL=Practical Quantitation Limit. ‡Surrogate. * PQL adjusted for dilution.

Analytical Chemists

Lab ID July 13, 2017 : SP 1707852-001

Monterey Bay Analytical Services

4 Justin Court Sampled On : June 28, 2017-11:20 Monterey, CA 93940 Sampled By : John Lear/ Joseph Su

Received On : June 30, 2017-09:40

: Potable Water Matrix

Customer ID : 2-19144

Description : ASR-2 Backflush

Project : MPWMD

Sample Result - Radio

Constituent	Result ± Error	MDA	Units	MCL/AL	Sample	Preparation	Sample Analysis	
Constituent	Result ± Ellor	MDA			Method	Date/ID	Method	Date/ID
Radio Chemistry								
Gross Alpha	0.775 ± 0.946	1.26	pCi/L		900.0	07/03/17-09:20 2P1707820	900.0	07/05/17-10:20 2A1709906
Total Alpha Radium (226)	0.109 ± 0.128	0.363	pCi/L		903.0	07/01/17-08:00 2P1707798	903.0	07/06/17-19:35 2A1709977

ND=Non-Detected. PQL=Practical Quantitation Limit. * PQL adjusted for dilution.

MDA = Minimum Detectable Activity (Calculated at the 95% confidence level) = Data utilized by DHS to determine matrix interference. MCL / AL = Maximum Contamination Level / Action Level. Alpha's Action Level of 5 pCi/L is based on the Assigned Value (AV). AV = Assigned Value(Gross Alpha Result + (0.84 x Error)). CCR Section 64442: Drinking Water Compliance Note: Do the following If Gross Alpha's (AV) exceeds 5 pCi/L run Uranium. If Gross Alpha's (AV) minus Uranium exceeds 5 pCi/L run Radium 226.

Drinking Water Compliance:

Gross Alpha (AV) minus Uranium is less than or equal to 15 pCi/L Uranium is less than or equal to 20 pCi/L

Radium 226 + Radium 228 is less than or equal to 5 pCi/L

Note: Samples are held for 3-6 months prior to disposal.

July 13, 2017 Lab ID : SP 1707852-002

Customer ID : 2-19144

Monterey Bay Analytical Services

4 Justin Court Sampled On : June 28, 2017-13:30 : John Lear/ Joseph Su Monterey, CA 93940 Sampled By

Received On : June 30, 2017-09:40

Matrix : Potable Water

Description : ASR-1 Backflush

Project : MPWMD

Sample Result - Organic

Constituent	Result	PQL	Units	Note	Sample	Preparation	Samp	le Analysis
Constituent	Result	1 QL	Omts	Note	Method	Date/ID	Method	Date/ID
EPA 551.1								
Decafluorobiphenyl [‡]	87.5	80-120	%		551.1	07/05/17:207904	551.1	07/05/17:209924
Bromodichloromethane	22	1	ug/L		551.1	07/05/17:207904	551.1	07/05/17:209924
Bromoform	1	1	ug/L		551.1	07/05/17:207904	551.1	07/05/17:209924
Chloroform	56	5*	ug/L		551.1	07/05/17:207904	551.1	07/06/17:209946
Dibromochloromethane	10	1	ug/L		551.1	07/05/17:207904	551.1	07/05/17:209924
Total Trihalomethanes	89		ug/L		551.1	07/05/17:207904	551.1	07/05/17:209924
EPA 552.2								
2,3-Dibromopropionic Acid [‡]	88.1	70-130	%		552	07/06/17:207957	552.2	07/07/17:209990
Bromoacetic Acid	ND	1	ug/L		552	07/06/17:207957	552.2	07/07/17:209990
Chloroacetic Acid	ND	2	ug/L		552	07/06/17:207957	552.2	07/07/17:209990
Dibromoacetic Acid	ND	1	ug/L		552	07/06/17:207957	552.2	07/07/17:210122
Dichloroacetic Acid	2	1	ug/L		552	07/06/17:207957	552.2	07/07/17:209990
Trichloroacetic Acid	4	1	ug/L		552	07/06/17:207957	552.2	07/07/17:209990
Haloacetic acids (five)	6		ug/L		552	07/06/17:207957	552.2	07/07/17:209990

ND=Non-Detected. PQL=Practical Quantitation Limit. ‡Surrogate. * PQL adjusted for dilution.

Analytical Chemists

Lab ID July 13, 2017 : SP 1707852-002

Customer ID : 2-19144

Monterey Bay Analytical Services

4 Justin Court Sampled On : June 28, 2017-13:30 Monterey, CA 93940 Sampled By : John Lear/ Joseph Su

Received On : June 30, 2017-09:40

: Potable Water Matrix

Description : ASR-1 Backflush

Project : MPWMD

Sample Result - Radio

Constituent	Result ± Error	esult ± Error MDA Units MCL/		MCL/AL	Sample	Preparation	Sample Analysis		
Constituent	Result ± Ellor	MDA	Omts	WICL/AL	Method	Date/ID	Method	Date/ID	
Radio Chemistry									
Gross Alpha	1.97 ± 1.27	1.26	pCi/L		900.0	07/03/17-09:20 2P1707820	900.0	07/05/17-11:35 2A1709903	
Total Alpha Radium (226)	0.044 ± 0.104	0.363	pCi/L		903.0	07/01/17-08:00 2P1707798	903.0	07/06/17-20:00 2A1709977	

ND=Non-Detected. PQL=Practical Quantitation Limit. * PQL adjusted for dilution.

MDA = Minimum Detectable Activity (Calculated at the 95% confidence level) = Data utilized by DHS to determine matrix interference. MCL / AL = Maximum Contamination Level / Action Level. Alpha's Action Level of 5 pCi/L is based on the Assigned Value (AV). AV = Assigned Value(Gross Alpha Result + (0.84 x Error)). CCR Section 64442: Drinking Water Compliance Note: Do the following If Gross Alpha's (AV) exceeds 5 pCi/L run Uranium. If Gross Alpha's (AV) minus Uranium exceeds 5 pCi/L run Radium 226.

Drinking Water Compliance:

Gross Alpha (AV) minus Uranium is less than or equal to 15 pCi/L Uranium is less than or equal to 20 pCi/L

Radium 226 + Radium 228 is less than or equal to 5 pCi/L

Note: Samples are held for 3-6 months prior to disposal.

July 13, 2017 Lab ID : SP 1707852-003

Customer ID : 2-19144

Monterey Bay Analytical Services

4 Justin Court Sampled On : June 28, 2017-14:30 : John Lear/ Joseph Su Monterey, CA 93940 Sampled By

Received On : June 30, 2017-09:40

Matrix : Potable Water

Description : MW#1 **Project** : MPWMD

Sample Result - Organic

Constituent	Result	PQL	Units	Note	Sample	Preparation	Samp	le Analysis
Constituent	Result	1 QL	Omts	Note	Method	Date/ID	Method	Date/ID
EPA 551.1								
Decafluorobiphenyl [‡]	90.2	80-120	%		551.1	07/05/17:207904	551.1	07/05/17:209924
Bromodichloromethane	17	1	ug/L		551.1	07/05/17:207904	551.1	07/05/17:209924
Bromoform	1	1	ug/L		551.1	07/05/17:207904	551.1	07/05/17:209924
Chloroform	39	1	ug/L		551.1	07/05/17:207904	551.1	07/05/17:209924
Dibromochloromethane	9	1	ug/L		551.1	07/05/17:207904	551.1	07/05/17:209924
Total Trihalomethanes	66		ug/L		551.1	07/05/17:207904	551.1	07/05/17:209924
EPA 552.2								
2,3-Dibromopropionic Acid [‡]	79.6	70-130	%		552	07/06/17:207957	552.2	07/07/17:209990
Bromoacetic Acid	ND	1	ug/L		552	07/06/17:207957	552.2	07/07/17:209990
Chloroacetic Acid	ND	2	ug/L		552	07/06/17:207957	552.2	07/07/17:209990
Dibromoacetic Acid	ND	1	ug/L		552	07/06/17:207957	552.2	07/07/17:210122
Dichloroacetic Acid	ND	1	ug/L		552	07/06/17:207957	552.2	07/07/17:209990
Trichloroacetic Acid	2	1	ug/L		552	07/06/17:207957	552.2	07/07/17:209990
Haloacetic acids (five)	2		ug/L		552	07/06/17:207957	552.2	07/07/17:209990

ND=Non-Detected. PQL=Practical Quantitation Limit. ‡Surrogate. * PQL adjusted for dilution.

Analytical Chemists

Lab ID July 13, 2017 : SP 1707852-003

Customer ID : 2-19144

Monterey Bay Analytical Services

4 Justin Court Sampled On : June 28, 2017-14:30 Monterey, CA 93940 Sampled By : John Lear/ Joseph Su

Received On : June 30, 2017-09:40

: Potable Water Matrix

Description : MW#1 **Project** : MPWMD

Sample Result - Radio

Constituent	Result ± Error	MDA Units MCL/A		MCL/AL	Sample	Preparation	Sample Analysis		
Constituent	Result ± Ellor	WIDA	Omts	WICL/AL	Method	Date/ID	Method	Date/ID	
Radio Chemistry									
Gross Alpha	1.77 ± 1.15	1.23	pCi/L		900.0	07/07/17-10:00 2P1708001	900.0	07/10/17-09:20 2A1710172	
Total Alpha Radium (226)	0.044 ± 0.104	0.363	pCi/L		903.0	07/01/17-08:00 2P1707798	903.0	07/06/17-20:20 2A1709977	

ND=Non-Detected. PQL=Practical Quantitation Limit. * PQL adjusted for dilution.

MDA = Minimum Detectable Activity (Calculated at the 95% confidence level) = Data utilized by DHS to determine matrix interference. MCL / AL = Maximum Contamination Level / Action Level. Alpha's Action Level of 5 pCi/L is based on the Assigned Value (AV). AV = Assigned Value(Gross Alpha Result + (0.84 x Error)). CCR Section 64442: Drinking Water Compliance Note: Do the following If Gross Alpha's (AV) exceeds 5 pCi/L run Uranium. If Gross Alpha's (AV) minus Uranium exceeds 5 pCi/L run Radium 226.

Drinking Water Compliance:

Gross Alpha (AV) minus Uranium is less than or equal to 15 pCi/L Uranium is less than or equal to 20 pCi/L

Radium 226 + Radium 228 is less than or equal to 5 pCi/L

Note: Samples are held for 3-6 months prior to disposal.

July 13, 2017 Lab ID : SP 1707852-004

Customer ID : 2-19144

Monterey Bay Analytical Services

4 Justin Court Sampled On : June 28, 2017-15:30 : John Lear/ Joseph Su Monterey, CA 93940 Sampled By

Received On : June 30, 2017-09:40

: Potable Water

Description : SMS (D) Project : MPWMD

Sample Result - Organic

Matrix

Constituent	Result	PQL	Units	Note	Sample	Preparation	Samp	le Analysis
Constituent	Result	1 QL	Onits	TVOIC	Method	Date/ID	Method	Date/ID
EPA 551.1								
Decafluorobiphenyl [‡]	80.8	80-120	%		551.1	07/05/17:207904	551.1	07/05/17:209924
Bromodichloromethane	25	1	ug/L		551.1	07/05/17:207904	551.1	07/05/17:209924
Bromoform	1	1	ug/L		551.1	07/05/17:207904	551.1	07/05/17:209924
Chloroform	50	5*	ug/L		551.1	07/05/17:207904	551.1	07/06/17:209946
Dibromochloromethane	12	1	ug/L		551.1	07/05/17:207904	551.1	07/05/17:209924
Total Trihalomethanes	88		ug/L		551.1	07/05/17:207904	551.1	07/05/17:209924
EPA 552.2								
2,3-Dibromopropionic Acid [‡]	96.2	70-130	%		552	07/06/17:207957	552.2	07/07/17:209990
Bromoacetic Acid	ND	1	ug/L		552	07/06/17:207957	552.2	07/07/17:209990
Chloroacetic Acid	ND	2	ug/L		552	07/06/17:207957	552.2	07/07/17:209990
Dibromoacetic Acid	ND	1	ug/L		552	07/06/17:207957	552.2	07/07/17:210122
Dichloroacetic Acid	4	1	ug/L		552	07/06/17:207957	552.2	07/07/17:209990
Trichloroacetic Acid	13	1	ug/L		552	07/06/17:207957	552.2	07/07/17:209990
Haloacetic acids (five)	17		ug/L		552	07/06/17:207957	552.2	07/07/17:209990

ND=Non-Detected. PQL=Practical Quantitation Limit. ‡Surrogate. * PQL adjusted for dilution.

Analytical Chemists

Lab ID July 13, 2017 : SP 1707852-004

Customer ID : 2-19144

Monterey Bay Analytical Services

4 Justin Court Sampled On : June 28, 2017-15:30 Monterey, CA 93940 Sampled By : John Lear/ Joseph Su

Received On : June 30, 2017-09:40

: Potable Water Matrix

Description : SMS (D) **Project** : MPWMD

Sample Result - Radio

Constituent	Result ± Error	MDA	Units	MCL/AL	Sample	Preparation	Sampl	e Analysis
Constituent	Result ± Ellol	WIDA	Omts	WICL/AL	Method	Date/ID	Method	Date/ID
Radio Chemistry								
Gross Alpha	1.94 ± 1.20	1.30	pCi/L		900.0	07/03/17-09:20 2P1707820	900.0	07/05/17-12:30 2A1709906
Total Alpha Radium (226)	0.195 ± 0.153	0.363	pCi/L		903.0	07/01/17-08:00 2P1707798	903.0	07/06/17-20:45 2A1709977

ND=Non-Detected. PQL=Practical Quantitation Limit. * PQL adjusted for dilution.

MDA = Minimum Detectable Activity (Calculated at the 95% confidence level) = Data utilized by DHS to determine matrix interference. MCL / AL = Maximum Contamination Level / Action Level. Alpha's Action Level of 5 pCi/L is based on the Assigned Value (AV). AV = Assigned Value(Gross Alpha Result + (0.84 x Error)). CCR Section 64442: Drinking Water Compliance Note: Do the following If Gross Alpha's (AV) exceeds 5 pCi/L run Uranium. If Gross Alpha's (AV) minus Uranium exceeds 5 pCi/L run Radium 226.

Drinking Water Compliance:

Gross Alpha (AV) minus Uranium is less than or equal to 15 pCi/L Uranium is less than or equal to 20 pCi/L

Radium 226 + Radium 228 is less than or equal to 5 pCi/L

Note: Samples are held for 3-6 months prior to disposal.

July 13, 2017 Lab ID **Monterey Bay Analytical Services** Customer

Quality Control - Organic

Constituent	Method	Date/ID	Type	Units	Conc.	QC Data	DQO	Note
Organic								
Bromodichloromethane	551.1	07/05/17:207904SBL	Blank	ug/L		ND	<1	
	001.1	0770071712077010022	LCS	ug/L	10.02	98.8 %	80-120	
			MS	ug/L	9.852	91.0 %	80-120	
		(SP 1707929-001)	MSD	ug/L	10.12	88.5 %	80-120	
			MSRPD	ug/L	20.24	0.08%	≤20	
	551.1	07/05/17:209924SBL	CCV	ug/L	83.33	97.7 %	80-120	
			CCV	ug/L	166.7	92.3 %	80-120	
Bromoform	551.1	07/05/17:207904SBL	Blank	ug/L		ND	<1	
			LCS	ug/L	10.02	88.0 %	80-120	
			MS	ug/L	9.852	76.0 %	80-120	435
		(SP 1707929-001)	MSD	ug/L	10.12	73.9 %	80-120	435
			MSRPD	ug/L	20.24	0.02%	≤20	
	551.1	07/05/17:209924SBL	CCV	ug/L	83.33	85.2 %	80-120	
			CCV	ug/L	166.7	84.8 %	80-120	
Chloroform	551.1	07/05/17:207904SBL	Blank	ug/L		ND	<1	
			LCS	ug/L	10.02	113 %	80-120	
			MS	ug/L	9.852	112 %	80-120	
		(SP 1707929-001)	MSD	ug/L	10.12	98.5 %	80-120	
			MSRPD	ug/L	20.24	9.4%	≤20	
	551.1	07/05/17:209924SBL	CCV	ug/L	83.33	109 %	80-120	
			CCV	ug/L	166.7	111 %	80-120	
	551.1	07/06/17:209946SBL	CCV	ug/L	83.33	117 %	80-120	
			CCV	ug/L	166.7	113 %	80-120	
Decafluorobiphenyl	551.1	07/05/17:207904SBL	Blank	ug/L	20.22	83.0 %	80-120	
1 ,			LCS	ug/L	20.04	101 %	80-120	
			MS	ug/L	19.70	100 %	80-120	
		(SP 1707929-001)	MSD	ug/L	20.24	96.1 %	80-120	
			MSRPD	ug/L	20.24	1.6%	≤20.0	
	551.1	07/05/17:209924SBL	CCV	ug/L	166.7	106 %	80-120	
			CCV	ug/L	333.3	101 %	80-120	
Dibromochloromethane	551.1	07/05/17:207904SBL	Blank	ug/L		ND	<1	
			LCS	ug/L	10.02	93.1 %	80-120	
			MS	ug/L	9.852	85.8 %	80-120	
		(SP 1707929-001)	MSD	ug/L	10.12	84.4 %	80-120	
			MSRPD	ug/L	20.24	0.5%	≤20	
	551.1	07/05/17:209924SBL	CCV	ug/L	83.33	90.5 %	80-120	
			CCV	ug/L	166.7	87.8 %	80-120	
2,3-Dibromopropionic Acid	552	07/06/17:207957SBL	Blank	ug/L	5.000	113 %	70-130	
, , ,			LCS	ug/L	5.000	128 %	70-130	
			MS	ug/L	5.000	97.2 %	70-130	
		(SP 1707849-001)	MSD	ug/L	5.000	102 %	70-130	
			MSRPD	ug/L	5.000	0.22	≤1	
Dibromoacetic Acid	552	07/06/17:207957SBL	Blank	ug/L		ND	<1	
			LCS	ug/L	10.00	71.6 %	70-130	
			MS	ug/L	10.00	126 %	70-130	
		(SP 1707849-001)	MSD	ug/L	10.00	119 %	70-130	
			MSRPD	ug/L	5.000	5.5%	≤20.0	
Dichloroacetic Acid	552	07/06/17:207957SBL	Blank	ug/L		ND	<1	
			LCS	ug/L	10.00	80.1 %	70-130	
			MS	ug/L	10.00	118 %	70-130	
		(SP 1707849-001)	MSD	ug/L	10.00	111 %	70-130	
		<u> </u>	MSRPD	ug/L	5.000	5.1%	≤20.0	
Monobromoacetic Acid	552	07/06/17:207957SBL	Blank	ug/L		ND	<1	
			LCS	ug/L	10.00	88.3 %	70-130	

: SP 1707852

: 2-19144

July 13, 2017 Lab ID : SP 1707852 **Monterey Bay Analytical Services** Customer : 2-19144

Quality Control - Organic

Constituent	Method	Date/ID	Туре	Units	Conc.	QC Data	DQO	Note
Organic								
Monobromoacetic Acid	552	(SP 1707849-001)	MSD MSRPD	ug/L ug/L	10.00 5.000	83.6 % 0.8%	70-130 ≤20.0	
Monochloroacetic Acid	552	07/06/17:207957SBL	Blank LCS	ug/L ug/L	10.00	ND 90.3 %	<2 70-130	
		(SP 1707849-001)	MS MSD MSRPD	ug/L ug/L	10.00 10.00 5.000	83.9 % 85.3 % 0.14	70-130 70-130	
Trichloroacetic Acid	552	07/06/17:207957SBL	Blank LCS	ug/L ug/L ug/L	10.00	ND 71.6 %	≤2 <1 70-130	
		(SP 1707849-001)	MS MSD MSRPD	ug/L ug/L ug/L	10.00 10.00 5.000	74.3 % 64.0 % 4.7%	70-130 70-130 ≤20.0	435
2,3-Dibromopropionic Acid	552.2	07/07/17:209990SBL	CCV CCV	ug/L ug/L	75.00 50.00	93.8 % 96.5 %	70-130 70-130	
Dibromoacetic Acid	552.2	07/07/17:210122SBL	CCV CCV	ug/L ug/L	150.0 100.0	88.0 % 93.2 %	70-130 70-130	
Dichloroacetic Acid	552.2	07/07/17:209990SBL	CCV CCV	ug/L ug/L	150.0 100.0	89.4 % 92.1 %	70-130 70-130	
	552.2	07/07/17:210122SBL	CCV CCV	ug/L ug/L	150.0 100.0	88.2 % 96.9 %	70-130 70-130	
Monobromoacetic Acid	552.2	07/07/17:209990SBL	CCV CCV	ug/L ug/L	150.0 100.0	88.5 % 94.2 %	70-130 70-130	
Monochloroacetic Acid	552.2	07/07/17:209990SBL	CCV CCV	ug/L ug/L	150.0 100.0	90.0 % 99.8 %	70-130 70-130	
Trichloroacetic Acid	552.2	07/07/17:209990SBL	CCV CCV	ug/L ug/L	150.0 100.0	89.9 % 92.6 %	70-130 70-130	

Definition

: Continuing Calibration Verification - Analyzed to verify the instrument calibration is within criteria.

CCV Blank

: Method Blank - Prepared to verify that the preparation process is not contributing contamination to the samples.

LCS

: Laboratory Control Standard/Sample - Prepared to verify that the preparation process is not affecting analyte recovery.

MS

: Matrix Spikes - A random sample is spiked with a known amount of analyte. The recoveries are an indication of how that sample

matrix affects analyte recovery.

MSD

: Matrix Spike Duplicate of MS/MSD pair - A random sample duplicate is spiked with a known amount of analyted. The recoveries

are an indication of how that sample matrix affects analyte recovery.

MSRPD

: MS/MSD Relative Percent Difference (RPD) - The MS relative percent difference is an indication of precision for the preparation

and analysis.

ND

: Non-detect - Result was below the DQO listed for the analyte.

DQO

: Data Quality Objective - This is the criteria against which the quality control data is compared.

Explanation

435 : Sample matrix may be affecting this analyte. Data was accepted based on the LCS or CCV recovery. July 13, 2017 Lab ID : SP 1707852

Monterey Bay Analytical Services Customer : 2-19144

Quality Control - Radio

Constituent	Method	Date/ID	Туре	Units	Conc.	QC Data	DQO	Note
Radio								
Alpha	900.0	07/05/17:209903aat	CCV	cpm	8372	37.2 %	35-47	
			CCB	cpm		0.040	0.2	
	900.0	07/05/17:209906aat	CCV	cpm	8372	41.6 %	35-47	
			CCB	cpm		0.0600	0.17	
	900.0	07/10/17:210172aat	CCV	cpm	8369	40.9 %	35-47	
			CCB	cpm		0.100	0.14	
Gross Alpha	900.0	07/03/17:207820aat	Blank	pCi/L		0.32	3	
			LCS	pCi/L	108.2	93.8 %	75-125	
			MS	pCi/L	108.2	74.2 %	60-140	
		(SP 1707758-002)	MSD	pCi/L	108.2	85.9 %	60-140	
			MSRPD	pCi/L	108.2	14.0%	≤30	
	900.0	07/07/17:208001aat	Blank	pCi/L		0.29	3	
			LCS	pCi/L	108.2	88.8 %	75-125	
			MS	pCi/L	108.2	103 %	60-140	
		(SP 1707862-001)	MSD	pCi/L	108.2	107 %	60-140	
			MSRPD	pCi/L	108.2	4.2%	≤30	
Alpha	903.0	07/06/17:209977rmm	CCV	cpm	8370	41.3 %	37-46	
			CCB	cpm		0.100	0.16	
Total Alpha Radium (226)	903.0	07/01/17:207798ELC	RgBlk	pCi/L		0.008	2	
<u> </u>			LCS	pCi/L	21.85	64.0 %	52-107	
			BS	pCi/L	21.85	62.0 %	43-111	
			BSD	pCi/L	21.85	53.1 %	43-111	
			BSRPD	pCi/L	21.85	15.6%	≤35.5	

Definition CCV : Continuing Calibration Verification - Analyzed to verify the instrument calibration is within criteria. CCB : Continuing Calibration Blank - Analyzed to verify the instrument baseline is within criteria. Blank : Method Blank - Prepared to verify that the preparation process is not contributing contamination to the samples. RgBlk : Method Reagent Blank - Prepared to correct for any reagent contributions to sample result. LCS : Laboratory Control Standard/Sample - Prepared to verify that the preparation process is not affecting analyte recovery. : Matrix Spikes - A random sample is spiked with a known amount of analyte. The recoveries are an indication of how that sample MS matrix affects analyte recovery. : Matrix Spike Duplicate of MS/MSD pair - A random sample duplicate is spiked with a known amount of analyted. The recoveries MSD are an indication of how that sample matrix affects analyte recovery. : Blank Spikes - A blank is spiked with a known amount of analyte. It is prepared to verify that the preparation process is not BS affecting analyte recovery. : Blank Spike Duplicate of BS/BSD pair - A blank duplicate is spiked with a known amount of analyte. It is prepared to verify that BSD the preparation process is not affecting analyte recovery. : MS/MSD Relative Percent Difference (RPD) - The MS relative percent difference is an indication of precision for the preparation MSRPD : BS/BSD Relative Percent Difference (RPD) - The BS relative percent difference is an indication of precision for the preparation **BSRPD** and analysis.

: Data Quality Objective - This is the criteria against which the quality control data is compared.

DQO



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CHAIN OF CUSTODY AND ANALYSIS REQUEST DOCUMENT

	ustomer Number: 2019144 ddress: 4 Justin Court				Lab N	umbe	162	Ł				TES	ST D	ESC	RIPT	ION	AND	ANA	ALYS	ES F	REQU	JEST	ED				
Project Purcha: Quote I Rush A Rush p Electror Sample	Monterey, CA 93940 (831)375-6227 Fax: (83 ddress: info@mbasinc.com Person: David Holland	Client Other:		Method of Sampling: Composite (C) Grab (G)	Number of Containers	Type of Containers: (G)Qlass (P)Plastic (V)VOA (MT)Metal Tube	Potable (P) Non-Potable (NP) Ag Water (AgW)	(SW) Surface Water (MW) Monitoring Well (GW) Graund Water (TB) Travel Blank (WW) Waste Water (DW) Drinking Water	(S) Sail (SLG) Sludge (SLD) Sood (O) Od	BacT. (Sys) System (SRC) Source (W) Wasta	BacT. (ROUT)Routine (RPT)Repast (OTH)Other (RPL)Replace	(LT) Leaf Tissue (PET) Peticle Tissue (PRD) Produce	Preservative: (1) NsOH + ZnAc, (2) NsOH, (3) HCI (4) H2SO4, (5) HNO3, (6) Na2S2O3, (7) Other	Gross Àpha	Ra 226	THMS	НАА								The state of the s		
	ASR-2 Backflush	6/28/17	11:20	G	7	Var	Р							х	Х	Х	×										
	ASR-1 Backflush	6/28/17	13:30	G	7	Var	Р							х	х	х	х								Ì	Ì	
	MW#1	6/28/17	14:30	G	7	Var	Р							х	х	x	х										
	SMS (D)	6/28/17	15:30	G	7	Var	Р							x	x	×	x										
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Remark AB70	s 395, AB70396, AB70397, AB703 <i>5</i> 24 <i>0</i>	2 1	25 16	Relinq	uished XXX ved By:	مد	> 6	ate:	(6	me: 000 me:		delinqui deceive	3C		3	Date:	<u> </u>	ime:	10	Relinqu Receiv	uished ed By:			Date:		Fime:	

Corporate Offices & Laboratory 853 Corporation Street Santa Paula, CA 93060 TEL: (805)392-2000 Env FAX: (805)525-4172 / Ag FAX: (805)392-2063 CA ELAP Certification No.1573

Office & Laboratory 2500 Stagecoach Road Stockton, CA 95215 TEL: (209)942-0182 FAX: (209)942-0423 CA ELAP Certification No. 1563 Office & Laboratory 563 E. Lindo Avenue Chico, CA 95926 TEL: (530)343-5818 FAX: (530)343-3807 CA ELAP Certification No. 2670 Office & Laboratory 3442 Empresa Drive, Suite D San Luis Obispo, CA 93401 TEL: (805)783-2940 FAX: (805)783-2912 CA ELAP Certification No. 2775 Office & Laboratory 9415 W. Goshen Avenue Visalia. CA 93291 TEL: (559)734-9473 FAX: (559)734-9435 CA ELAP Certification No. 2810 FGL Environmental Doc ID: 2D0900157_SOP_17.DOC

Revision Date: 10/09/14 Page: 1 of 1

Condition Upon Receipt (Attach to COC)

Sample Receipt at SP:								
1. Number of ice chests/packages	received:	1						
2. Shipper tracking numbers	536693125							
3. Were samples received in a chil Temps:	ed condition?	6	/	/	/	/	/	/
4. Surface water (SWTR) bact sam should be flagged unless the tim							vhether ic	ed or not,
5. Do the number of bottles receive COC?	ed agree with the	Yes	No	N/A				
6. Verify sample date, time, sample	er	Yes	No	N/A				
7. Were the samples received intaction bottles, leaks, etc.)	ct? (i.e. no broken	Yes	No					
8. Were sample custody seals inta	ct?	Yes	No	N/A				
Sample Verification, Labeling ar	d Distribution:							
1. Were all requested analyses und acceptable?	derstood and	Yes] No					
2. Did bottle labels correspond with	the client's ID's?	Yes	No					
3. Were all bottles requiring sample properly preserved? [Exception: Oil & Grease, VOA a		Yes	No	N/A	FGL			
4. VOAs checked for Headspace?		Yes	No	N/A				
5. Were all analyses within holding receipt?	times at time of	Yes	No					
6. Have rush or project due dates be accepted?	een checked and	Yes	No	N/A				
Include a copy of the COC for lab	delivery. (Bacti. Ind	organics a	and Ra	idio)				
Sample Receipt, Login and Verific	ation completed b	y:		wed and oved By	Inez Cova	arrubias	Title: Samp	ned by Inez Covarrubias le Receiving //2017-11:59:31
Discrepency Documentation: Any items above which are "No" or	do not meet spec	cifications	(i.e. te	emps) m	ust be reso	lved.		
1. Person Contacted:		Pł	none N	umber:				
Initiated By:		Da	ate:					
Problem:								
Resolution:								
2. Person Contacted:		Pl	none N	umber:				
Initiated Dur		ъ.	ate:					
Problem:								
Resolution:						(2019	9144)	
				M	onterey	Bay Ar	nalytica	l Services

SP 1707852



McCampbell Analytical, Inc.

"When Quality Counts"

Analytical Report

WorkOrder: 1707003

Report Created for: Monterey Bay Analytical

4 Justin Court, Suite D Monterey, CA 93940

Project Contact:

David Holland

Project P.O.:

Project Name: MPWMD

Project Received: 06/30/2017

Analytical Report reviewed & approved for release on 07/07/2017 by:

Angela Rydelius,

Laboratory Manager

The report shall not be reproduced except in full, without the written approval of the laboratory. The analytical results relate only to the items tested. Results reported conform to the most current NELAP standards, where applicable, unless otherwise stated in the case narrative.



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Glossary of Terms & Qualifier Definitions

Client: Monterey Bay Analytical

Project: MPWMD **WorkOrder:** 1707003

Glossary Abbreviation

%D Serial Dilution Percent Difference

95% Interval 95% Confident Interval

DF Dilution Factor

DI WET (DISTLC) Waste Extraction Test using DI water

DISS Dissolved (direct analysis of 0.45 µm filtered and acidified water sample)

DLT Dilution Test (Serial Dilution)

DUP Duplicate

EDL Estimated Detection Limit

ERS External reference sample. Second source calibration verification.

ITEF International Toxicity Equivalence Factor

LCS Laboratory Control Sample

MB Method Blank

MB % Rec % Recovery of Surrogate in Method Blank, if applicable

MDL Method Detection Limit

ML Minimum Level of Quantitation

MS Matrix Spike

MSD Matrix Spike Duplicate

N/A Not Applicable

ND Not detected at or above the indicated MDL or RL

NR Data Not Reported due to matrix interference or insufficient sample amount.

PDS Post Digestion Spike

PDSD Post Digestion Spike Duplicate

PF Prep Factor

RD Relative Difference

RL Reporting Limit (The RL is the lowest calibration standard in a multipoint calibration.)

RPD Relative Percent Deviation
RRT Relative Retention Time

SPK Val Spike Value

SPKRef Val Spike Reference Value

SPLP Synthetic Precipitation Leachate Procedure

ST Sorbent Tube

TCLP Toxicity Characteristic Leachate Procedure

TEQ Toxicity Equivalents

WET (STLC) Waste Extraction Test (Soluble Threshold Limit Concentration)

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Analytical Report

Client: Monterey Bay Analytical

 Date Received:
 6/30/17 10:00

 Date Prepared:
 7/5/17-7/6/17

 Project:
 MPWMD

WorkOrder: 1707003 Extraction Method: RSK175

Analytical Method: RSK175

Unit: $\mu g/L$

Dissolved Gases by RSK 175

Client ID	Lab ID	Matrix	Date Col	lected Instrument	Batch ID
ASR-2 Backflush	1707003-001A	Water	06/28/2017	7 11:20 GC26	141578
<u>Analytes</u>	Result		<u>RL</u>	<u>DF</u>	Date Analyzed
Methane	1.5		0.10	1	07/05/2017 18:09

Analyst(s): AK

Client ID	Lab ID	Matrix	Date Collected Instrument	Batch ID
ASR-1 Backflush	1707003-002A	Water	06/28/2017 13:30 GC26	141578
<u>Analytes</u>	Result		<u>RL</u> <u>DF</u>	Date Analyzed
Methane	0.77		0.10 1	07/06/2017 10:18

Analyst(s): AK

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW #1	1707003-003A	Water	06/28/2017 14:30	GC26	141578
<u>Analytes</u>	Result		<u>RL</u> <u>DF</u>		Date Analyzed
Methane	0.74		0.10 1		07/06/2017 10:47

Analyst(s): AK

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SMS (D)	1707003-004A	Water	06/28/2017 15:30	GC26	141578
<u>Analytes</u>	Result		<u>RL</u> <u>DF</u>		Date Analyzed
Methane	1.4		0.10 1		07/06/2017 11:13

Analyst(s): AK

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Quality Control Report

Client:Monterey Bay AnalyticalWorkOrder:1707003Date Prepared:7/5/17BatchID:141578Date Analyzed:7/5/17Extraction Method:RSK175

Project: MPWMD **Sample ID:** MB/LCS-141578

QC Summary Report for RSK175									
Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits		
Methane	ND	1.29	0.10	1.17	_	110	70-130		

McCampbell Analytical, Inc.

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CHAIN-OF-CUSTODY RECORD

Page 1 of 1

WorkOrder: 1707003 ClientCode: MBAS

(925) 252-9262									
	WaterTrax	WriteOn	EDF	Excel	EQuIS	✓ Email	HardCopy	ThirdParty	J-flag
Report to:				E	Bill to:		Req	uested TAT:	5 days;
David Holland	Email: r cc/3rd Party:	nweidner@mbas	sinc.com; Dholl	and@mbas	Accounts Paya				
Monterey Bay Analytical 4 Justin Court, Suite D	PO:				Monterey Bay A 4 Justin Court,	•	Dat	e Received:	06/30/2017
Monterey, CA 93940	ProjectNo: N	MPWMD			Monterey, CA 9		Dat	e Logged:	07/03/2017
831-375-6227 FAX: 831-641-0734									
						Requested 1	Tests (See legend	below)	
							(,	

					Requested Tests (See legend below)												
Lab ID	Client ID	Matrix	Collection Date	Hold	1	2	3		4	5	6	7	8	9	10	11	12
4707000 004	100.00	1 10/	0/00/0047 44 00											I		ı	1
1707003-001	ASR-2 Backflush	Water	6/28/2017 11:20		А												
1707003-002	ASR-1 Backflush	Water	6/28/2017 13:30		Α												
1707003-003	MW #1	Water	6/28/2017 14:30		Α												
1707003-004	SMS (D)	Water	6/28/2017 15:30		Α												

Test Legend:

1 RSK175_W	2	3	4
5	6	7	8
9	10	11	12

Prepared by: Agustina Venegas

Comments:

NOTE: Soil samples are discarded 60 days after results are reported unless other arrangements are made (Water samples are 30 days).

Hazardous samples will be returned to client or disposed of at client expense.



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WORK ORDER SUMMARY

Client Name: MONTEREY BAY ANALYTICAL Project: MPWMD Client Contact: David Holland									k Order: C Level:	1707003 LEVEL 2			
Contact's En	_	mbasinc.com; Dholl bbal.net; info@mbas	_	.com;	Comments:						Date	Logged:	7/3/2017
		WaterTrax	WriteOn	EDF	Excel		Fax	✓ Email	HardCo	py ThirdPart	у 🗀	l-flag	
Lab ID	Client ID	Matrix	Test Name			ontainers omposites	Bottle &	Preservative	De- chlorinated	Collection Date & Time	TAT	Sediment Content	Hold SubOu
1707003-001A	ASR-2 Backflush	Water	RSK175 < Met	hane_4>		2	VOA	w/ HCl		6/28/2017 11:20	5 days	None	
1707003-002A	ASR-1 Backflush	Water	RSK175 < Met	hane_4>		2	VOA	w/ HCl		6/28/2017 13:30	5 days	None	
1707003-003A	MW #1	Water	RSK175 < Met	hane_4>		2	VOA	w/ HCl		6/28/2017 14:30	5 days	Present	
1707003-004A	SMS (D)	Water	RSK175 < Met	hane_4>		2	VOA	w/ HCl		6/28/2017 15:30	5 days	None	

NOTES: - STLC and TCLP extractions require 2 days to complete; therefore, all TATs begin after the extraction is completed (i.e., One-day TAT yields results in 3 days from sample submission).

- MAI assumes that all material present in the provided sampling container is considered part of the sample - MAI does not exclude any material from the sample prior to sample preparation unless requested in writing by the client.

1707003

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Report To: Da				Bill To) :															A	nal	ysis	Red	ques	t						(Other	Comments	s
	onterey Bay Ana	-	Services															-				2									10		F:14	
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	onterey, Ca 9394	10		-Mai		\sim		_	c.coi	n				_	+			20 E/				Con						(0;	6				for Metals	
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Project #:			I	rojec	t Na	me:	M	PW	MD					-	205 /	7 80	_	1664	(418	VOC	(S)	rocl		icide			NAS	0109	010	_			Yes / No	
Project Locati													-	_	ias (V 603	8015	se (Suo	E	ticid	Y; A	des)	Herb	Cs))Cs)	Is/F	8/	9/8	9050				
Sampler Signa	ture: Jon Lear/J	Joseph S	uwada	_	_	_				_				\dashv	as C	(EP	Oii (Gre	carb	802	l Pes	ONE	stici	5	(VO	(SVC	PAL	/ 200	200	10/6				
	SAMPLING SAMPLING SAMPLE ID LOCATION/ SAMPLE ID LOCATION/ STATE OF THE PRESENT OF								~~ ~	& ТРН	ONLY	Motor (Oil &	Hydro	/ 8010 /	O81 (C	PCB's	(NP Pe	(Acidic	/ 8260	/ 8270 (/ 8310 ((200.7	(200.7 /	09 / 8.0									
Sambre ID Soil Air So								HCL	HNO ₃	Other	MTBE / BTEX	MTBE / BTEX ONLY (EPA 602 / 8021)	TPH as Diesel / Motor Oil (8015)	Total Petroleum Oil & Grease (1664 / 5520 E/B&F)	Total Petroleum Hydrocarbons (418.1)	EPA 502.2 / 601 / 8010 / 8021 (HVOCs)	EPA 505/ 608 / 8081 (CI Pesticides)	EPA 608 / 8082 PCB's ONLY; Aroclors / Congeners	EPA 507 / 8141 (NP Pesticides)	EPA 515 / 8151 (Acidic CI Herbicides)	EPA 524.2 / 624 / 8260 (VOCs)	EPA 525.2 / 625 / 8270 (SVOCs)	EPA 8270 SIM / 8310 (PAHs / PNAs)	CAM 17 Metals (200.7 / 200.8 / 6010 / 6020)	LUFT 5 Metals (200.7 / 200.8 / 6010 / 6020)	Lead (200.7 / 200.8 / 6010 / 6020)	Methane							
	ASR -2	6/28/17	11:20	3	V	X				7	X	X																			Х		AB70395	
	Backflush ASR-1 Backflush	6/28/17	13:30	3	V	X			+	+	X	X		+					-									-			X		AB70396	Ħ
	MW#I	6/28/17	14:30	3	V	X			+	+	X	X	1	1																	Х		AB70397	
	SMS (D)	6/28/17	15:30	3	V	X			+	+	X	X		-					-	-								-	-		X	-	AB70398)_
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Relinquished By: David Holland	20/16	Date:	Time: 1600		eived B				,						GC	OOD	CON SPACE	OE A	ABSE	ENT									COM	MMI	ENTS	<u> </u>		
Relinquished By: Date: Time: Received By: (2) 1007) (1) All Home					AP	PRC	LORI PRI RVE	ATE	CO	NTA	AB_ INE	RS_	_	_																				
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Sample Receipt Checklist

Client Name:	Monterey Bay Analytical			Date and Time Received	6/30/2017 10:00
Project Name:	MPWMD			Date Logged: Received by:	7/3/2017 Agustina Venegas
WorkOrder №:	1707003 Matrix: <u>Water</u>			Logged by:	Agustina Venegas
Carrier:	Golden State Overnight				
	Chain of C	ustody	(COC) Infor	mation	
Chain of custody	present?	Yes	✓	No 🗆	
Chain of custody	signed when relinquished and received?	Yes	•	No 🗆	
Chain of custody	agrees with sample labels?	Yes	•	No 🗆	
Sample IDs noted	d by Client on COC?	Yes	✓	No 🗆	
Date and Time of	f collection noted by Client on COC?	Yes	✓	No 🗆	
Sampler's name	noted on COC?	Yes	•	No 🗆	
	<u>Sampl</u>	e Rece	ipt Informati	<u>on</u>	
Custody seals int	tact on shipping container/cooler?	Yes		No 🗆	NA 🗹
Shipping containe	er/cooler in good condition?	Yes	✓	No 🗆	
Samples in prope	er containers/bottles?	Yes	•	No 🗌	
Sample container	rs intact?	Yes	•	No 🗌	
Sufficient sample	volume for indicated test?	Yes	•	No 🗆	
	Sample Preservation	on and	Hold Time (F	HT) Information	
All samples recei	ived within holding time?	Yes	✓	No 🗆	NA 🗌
Sample/Temp Bla	ank temperature		Temp: 5.6	o°C	NA 🗌
Water - VOA vials	s have zero headspace / no bubbles?	Yes	•	No 🗆	NA 🗌
Sample labels ch	necked for correct preservation?	Yes	✓	No 🗌	
pH acceptable up	oon receipt (Metal: <2; 522: <4; 218.7: >8)?	Yes		No 🗆	NA 🗹
Samples Receive		Yes	✓	No 🗆	
	(Ice Type	e: BLU	JE ICE)		
UCMR Samples: Total Chlorine t	tested and acceptable upon receipt for EPA 522?	Yes		No 🗆	na 🗹
Free Chlorine to 300.1, 537, 539	ested and acceptable upon receipt for EPA 218.7, 9?	Yes		No 🗆	NA 🗹
=====	==========		====	=======	=======
Comments:					



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www.MBASinc.com

David Holland, Laboratory Director

ELAP Certification Number: 2385

Page 1 of 1 Thursday, August 03, 2017

AB71592 Lab Number:

Collection Date/Time: 7/18/2017 8:45 Sample Collector: SUWADA J Client Sample #:

Submittal Date/Time: 7/18/2017 Sample ID 16:45

	Sample Description: SMS (D)														
Analyte	Method	Unit	Result	Dilutio	n Qual	PQL	MDL	Date Analyzed	Time Analyzed	Analyst:					
Chloramines	SM4500-CI	mg/L	Not Detecte	ed 1		0.05	0.05	7/18/2017	5:00:00 PM	OW					
Haloacetic Acids	EPA552	μg/L	12	1	Е			7/26/2017	12:00:00 PM	FGL					
Trihalomethanes	EPA524.2	μg/L	81	1	Е			7/26/2017	12:00:00 PM	FGL					

Sample Comments:

Lab Number: AB71593

Collection Date/Time: 7/18/2017 9:30 Sample Collector: SUWADA J Client Sample #:

Submittal Date/Time: 7/18/2017 16:45 Sample ID

	Sample Description: MW (1)														
Α	nalyte	Method	Unit	Result	Dilution	Qual	PQL	MDL	Date Analyzed	Time Analyzed	Analyst:				
C	Chloramines	SM4500-CI	mg/L	Not Detecte	ed 1		0.05	0.05	7/18/2017	5:00:00 PM	OW				
Ha	oacetic Acids	EPA552	μg/L	12	1	Е			7/26/2017	12:00:00 PM	FGL				
Tril	nalomethanes	EPA524.2	μg/L	77	1	Е			7/26/2017	12:00:00 PM	FGL				

Sample Comments:

Report Approved by:

August 2, 2017

Lab ID : SP 1708753 **Monterey Bay Analytical Services** 4 Justin Court Customer : 2-19144

Monterey, CA 93940

Laboratory Report

Introduction: This report package contains total of 6 pages divided into 3 sections:

Case Narrative (2 pages): An overview of the work performed at FGL.

Sample Results (2 pages): Results for each sample submitted.

Quality Control (2 pages) : Supporting Quality Control (QC) results.

Case Narrative

This Case Narrative pertains to the following samples:

Sample Description	Date Sampled	Date Received	FGL Lab ID#	Matrix
SMS (D)	07/18/2017	07/21/2017	SP 1708753-001	W
MW1	07/18/2017	07/21/2017	SP 1708753-002	W

Sampling and Receipt Information: All samples were received in acceptable condition and within temperature requirements, unless noted on the Condition Upon Receipt (CUR) form. All samples arrived at 5 °C. All samples were prepared and analyzed within the method specified hold time. All samples were checked for pH if acid or base preservation is required (except for VOAs). For details of sample receipt information, please see the attached Chain of Custody and Condition Upon Receipt Form.

Quality Control: All samples were prepared and analyzed according to the following tables:

Organic QC

551.1	07/25/2017:211023 All analysis quality controls are within established criteria.
	07/26/2017:211055 All analysis quality controls are within established criteria.
	07/25/2017:208784 All preparation quality controls are within established criteria, except:
	The following note applies to Dibromochloromethane, Bromoform, Bromodichloromethane,
	Decafluorobiphenyl:
	435 Sample matrix may be affecting this analyte. Data was accepted based on the LCS or CCV recovery.
	The following note applies to Decafluorobiphenyl:
	435 Sample matrix may be affecting this analyte. Data was accepted based on the LCS or CCV recovery.
	07/25/2017:208789 All preparation quality controls are within established criteria, except:
552	The following note applies to 2,3-Dibromopropionic Acid:
	435 Sample matrix may be affecting this analyte. Data was accepted based on the LCS or CCV recovery.

August 2, 2017 Lab ID : SP 1708753

Monterey Bay Analytical Services Customer : 2-19144

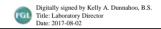
Organic QC

552.2	07/26/2017:211063 All analysis quality controls are within established criteria.
	07/26/2017:211120 All analysis quality controls are within established criteria.

Certification:: I certify that this data package is in compliance with ELAP standards, both technically and for completeness, except for any conditions listed above. Release of the data contained in this data package is authorized by the Laboratory Director or his designee, as verified by the following electronic signature.

KD:SB

Approved By Kelly A. Dunnahoo, B.S.



August 2, 2017 Lab ID : SP 1708753-001

Customer ID : 2-19144

Monterey Bay Analytical Services

4 Justin Court Sampled On : July 18, 2017-08:45 : Joseph Suwada Monterey, CA 93940 Sampled By

Received On : July 21, 2017-10:15

Matrix : Water

Description : SMS (D) Project : MPWMD

Sample Result - Organic

Constituent	Result	PQL	Units	Note	Sample	Preparation	Samp	le Analysis
Constituent	Result	1 QL	Omts	Note	Method	Date/ID	Method	Date/ID
EPA 551.1								
Decafluorobiphenyl [‡]	84.6	80-120	%		551.1	07/25/17:208784	551.1	07/25/17:211023
Bromodichloromethane	21	1	ug/L		551.1	07/25/17:208784	551.1	07/25/17:211023
Bromoform	1	1	ug/L		551.1	07/25/17:208784	551.1	07/25/17:211023
Chloroform	49	5*	ug/L		551.1	07/25/17:208784	551.1	07/26/17:211055
Dibromochloromethane	10	1	ug/L		551.1	07/25/17:208784	551.1	07/25/17:211023
Total Trihalomethanes	81		ug/L		551.1	07/25/17:208784	551.1	07/25/17:211023
EPA 552.2								
2,3-Dibromopropionic Acid [‡]	71.8	70-130	%		552	07/25/17:208789	552.2	07/26/17:211120
Bromoacetic Acid	ND	1	ug/L		552	07/25/17:208789	552.2	07/26/17:211063
Chloroacetic Acid	ND	2	ug/L		552	07/25/17:208789	552.2	07/26/17:211063
Dibromoacetic Acid	ND	1	ug/L		552	07/25/17:208789	552.2	07/26/17:211063
Dichloroacetic Acid	3	1	ug/L		552	07/25/17:208789	552.2	07/26/17:211063
Trichloroacetic Acid	9	1	ug/L		552	07/25/17:208789	552.2	07/26/17:211063
Haloacetic acids (five)	12		ug/L		552	07/25/17:208789	552.2	07/26/17:211063

ND=Non-Detected. PQL=Practical Quantitation Limit. ‡Surrogate. * PQL adjusted for dilution.

Analytical Chemists

August 2, 2017 Lab ID : SP 1708753-002

Customer ID : 2-19144 **Monterey Bay Analytical Services**

4 Justin Court Sampled On : July 18, 2017-09:30 Monterey, CA 93940 : Joseph Suwada Sampled By

Received On : July 21, 2017-10:15

Matrix : Water

Description : MW1 Project : MPWMD

Sample Result - Organic

Constituent	Result	PQL	Units	Note	Sample	Preparation	Samp	le Analysis
Constituent	Result	1 QL	Onits	TVOIC	Method	Date/ID	Method	Date/ID
EPA 551.1								
Decafluorobiphenyl [‡]	93.4	80-120	%		551.1	07/25/17:208784	551.1	07/25/17:211023
Bromodichloromethane	17	1	ug/L		551.1	07/25/17:208784	551.1	07/25/17:211023
Bromoform	ND	1	ug/L		551.1	07/25/17:208784	551.1	07/25/17:211023
Chloroform	52	5*	ug/L		551.1	07/25/17:208784	551.1	07/26/17:211055
Dibromochloromethane	8	1	ug/L		551.1	07/25/17:208784	551.1	07/25/17:211023
Total Trihalomethanes	77		ug/L		551.1	07/25/17:208784	551.1	07/25/17:211023
EPA 552.2								
2,3-Dibromopropionic Acid [‡]	77.9	70-130	%		552	07/25/17:208789	552.2	07/26/17:211120
Bromoacetic Acid	ND	1	ug/L		552	07/25/17:208789	552.2	07/26/17:211063
Chloroacetic Acid	ND	2	ug/L		552	07/25/17:208789	552.2	07/26/17:211063
Dibromoacetic Acid	ND	1	ug/L		552	07/25/17:208789	552.2	07/26/17:211063
Dichloroacetic Acid	3	1	ug/L		552	07/25/17:208789	552.2	07/26/17:211063
Trichloroacetic Acid	9	1	ug/L		552	07/25/17:208789	552.2	07/26/17:211063
Haloacetic acids (five)	12		ug/L		552	07/25/17:208789	552.2	07/26/17:211063

ND=Non-Detected. PQL=Practical Quantitation Limit. ‡Surrogate. * PQL adjusted for dilution.

August 2, 2017 **Monterey Bay Analytical Services** Lab ID : SP 1708753 : 2-19144 Customer

Quality Control - Organic

Constituent	Method	Date/ID	Туре	Units	Conc.	QC Data	DQO	Note
Organic								
Bromodichloromethane	551.1	07/25/17:208784SBL	Blank	ug/L		ND	<1	
	551.1	07720771200701022	LCS	ug/L	9.849	98.5 %	80-120	
			MS	ug/L	9.973	94.3 %	80-120	
		(SP 1708753-001)	MSD	ug/L	9.983	43.9 %	80-120	435
		(* ,	MSRPD	ug/L	19.97	18.1%	≤20	
	551.1	07/25/17:211023SBL	CCV	ug/L	83.33	99.2 %	80-120	
	33111	077207171211020022	CCV	ug/L	166.7	97.7 %	80-120	
Bromoform	551.1	07/25/17:208784SBL	Blank	ug/L		ND	<1	
			LCS	ug/L	9.849	91.9 %	80-120	
			MS	ug/L	9.973	89.5 %	80-120	
		(SP 1708753-001)	MSD	ug/L	9.983	73.8 %	80-120	435
		(MSRPD	ug/L	19.97	16.9%	≤20	
	551.1	07/25/17:211023SBL	CCV	ug/L	83.33	88.6 %	80-120	
	55111	077207171211020002	CCV	ug/L	166.7	91.6 %	80-120	
Chloroform	551.1	07/25/17:208784SBL	Blank	ug/L		ND	<1	
	331.1		LCS	ug/L ug/L	9.849	109 %	80-120	
			MS	ug/L ug/L	9.973	137 %	<1/4	
		(SP 1708753-001)	MSD	ug/L ug/L	9.983	56.0 %	<1/4	
		(SI 1700755 001)	MSRPD	ug/L ug/L	19.97	13.8%	<20 ≤20	
	551.1	07/26/17:211055SBL	CCV		83.33	114 %	80-120	
	331.1	07/20/17:2110333BL	CCV	ug/L	166.7	114 %	80-120	
D (1 1 1 1	551.1	07/05/17 00070 (CD)		ug/L				
Decafluorobiphenyl	551.1	07/25/17:208784SBL	Blank	ug/L	19.56	102 %	80-120	
			LCS	ug/L	19.70	109 %	80-120	
		(07) 4500552 004)	MS	ug/L	19.95	103 %	80-120	40-5
		(SP 1708753-001)	MSD	ug/L	19.97	76.7 %	80-120	435
			MSRPD	ug/L	19.97	29.4%	≤20.0	435
	551.1	07/25/17:211023SBL	CCV	ug/L	166.7	114 %	80-120	
			CCV	ug/L	333.3	104 %	80-120	
Dibromochloromethane	551.1	07/25/17:208784SBL	Blank	ug/L		ND	<1	
			LCS	ug/L	9.849	94.0 %	80-120	
			MS	ug/L	9.973	88.0 %	80-120	
		(SP 1708753-001)	MSD	ug/L	9.983	58.8 %	80-120	435
			MSRPD	ug/L	19.97	16.4%	≤20	
	551.1	07/25/17:211023SBL	CCV	ug/L	83.33	92.3 %	80-120	
			CCV	ug/L	166.7	94.1 %	80-120	
2,3-Dibromopropionic Acid	552	07/25/17:208789SBL	Blank	ug/L	5.000	96.5 %	70-130	
			LCS	ug/L	5.000	129 %	70-130	
			MS	ug/L	5.000	119 %	70-130	
		(SP 1708753-001)	MSD	ug/L	5.000	96.7 %	70-130	
			MSRPD	ug/L	5.000	20.5%	≤20.0	435
Dibromoacetic Acid	552	07/25/17:208789SBL	Blank	ug/L		ND	<1	
			LCS	ug/L	10.00	81.8 %	70-130	
			MS	ug/L	10.00	126 %	70-130	
		(SP 1708753-001)	MSD	ug/L	10.00	118 %	70-130	
		`	MSRPD	ug/L	5.000	7.2%	≤20.0	
Dichloroacetic Acid	552	07/25/17:208789SBL	Blank	ug/L		ND	<1	
			LCS	ug/L ug/L	10.00	91.8 %	70-130	
			MS	ug/L	10.00	107 %	70-130	
		(SP 1708753-001)	MSD	ug/L ug/L	10.00	97.8 %	70-130	
		(51 1.00/55 001)	MSRPD	ug/L ug/L	5.000	7.3%	≤20.0	
Monobromoacetic Acid	552	07/25/17:208789SBL	Blank	ug/L ug/L	2.000	ND	<1	
pyronobioinoaceuc Acid	332	01/23/11.2001073DL	LCS		10.00	90.8 %	70-130	
			MS	ug/L	10.00	90.8 % 115 %	70-130	
		(SP 1708753-001)	MSD	ug/L	10.00		70-130	
		(Sr 1/08/33-001)	MSD MSRPD	ug/L		110 %		
			MPKAD	ug/L	5.000	4.5%	≤20.0	

August 2, 2017 Lab ID : SP 1708753

Monterey Bay Analytical Services Customer : 2-19144

Quality Control - Organic

Constituent	Method	Date/ID	Туре	Units	Conc.	QC Data	DQO	Note
Organic								
Monochloroacetic Acid	552	07/25/17:208789SBL	Blank	ug/L		ND	<2	
			LCS	ug/L	10.00	91.8 %	70-130	
			MS	ug/L	10.00	119 %	70-130	
		(SP 1708753-001)	MSD	ug/L	10.00	116 %	70-130	
			MSRPD	ug/L	5.000	2.6%	≤20.0	
Trichloroacetic Acid	552	07/25/17:208789SBL	Blank	ug/L		ND	<1	
			LCS	ug/L	10.00	78.0 %	70-130	
			MS	ug/L	10.00	110 %	70-130	
		(SP 1708753-001)	MSD	ug/L	10.00	91.8 %	70-130	
			MSRPD	ug/L	5.000	9.4%	≤20.0	
2,3-Dibromopropionic Acid	552.2	07/26/17:211120SBL	CCV	ug/L	50.00	93.1 %	70-130	
			CCV	ug/L	50.00	72.6 %	70-130	
Dibromoacetic Acid	552.2	07/26/17:211063SBL	CCV	ug/L	100.0	109 %	70-130	
			CCV	ug/L	100.0	78.8 %	70-130	
Dichloroacetic Acid	552.2	07/26/17:211063SBL	CCV	ug/L	100.0	126 %	70-130	
			CCV	ug/L	100.0	89.5 %	70-130	
Monobromoacetic Acid	552.2	07/26/17:211063SBL	CCV	ug/L	100.0	127 %	70-130	
			CCV	ug/L	100.0	87.6 %	70-130	
Monochloroacetic Acid	552.2	07/26/17:211063SBL	CCV	ug/L	100.0	127 %	70-130	
			CCV	ug/L	100.0	93.4 %	70-130	
Trichloroacetic Acid	552.2	07/26/17:211063SBL	CCV	ug/L	100.0	121 %	70-130	
			CCV	ug/L	100.0	84.2 %	70-130	

Definition

CCV : Continuing Calibration Verification - Analyzed to verify the instrument calibration is within criteria.

Blank : Method Blank - Prepared to verify that the preparation process is not contributing contamination to the samples.

LCS : Laboratory Control Standard/Sample - Prepared to verify that the preparation process is not affecting analyte recovery.

MS : Matrix Spikes - A random sample is spiked with a known amount of analyte. The recoveries are an indication of how that sample

matrix affects analyte recovery.

MSD : Matrix Spike Duplicate of MS/MSD pair - A random sample duplicate is spiked with a known amount of analyted. The recoveries

are an indication of how that sample matrix affects analyte recovery.

MSRPD : MS/MSD Relative Percent Difference (RPD) - The MS relative percent difference is an indication of precision for the preparation

and analysis.

ND : Non-detect - Result was below the DQO listed for the analyte.

<1/4 : High Sample Background - Spike concentration was less than one forth of the sample concentration.</p>

DQO : Data Quality Objective - This is the criteria against which the quality control data is compared.

Explanation

435 : Sample matrix may be affecting this analyte. Data was accepted based on the LCS or CCV recovery.



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CHAIN OF CUSTODY AND ANALYSIS REQUEST DOCUMENT

1	ner Number: 2019144			_	Numbe 75			•			TE	ST D	ESC	RIPT	'ION	AND	AN	ALY	SES	REQ	UEST	TED					
Phone:	Monterey, CA 93940	1)641-0734	ı								aplace																
Project Purcha	t Person: David Holland Name: MPWMD see Order Number: Number:			Grab (G)		(V)VOA (MT)Me	Ag Water (AgW)	(GW) Ground Water (DW) Drinking Water		ste	H)Other (RPL)R) Produce	(3) HCI her														
Rush p	natysis: 5 Day 4 Day 3 Dare-approval by lab (initals): nic Data Transfer: No State			Camposite (C)		Type of Containers: (G)Qtass (P.Prissoc (V)VOA (MT)Metal Tubs	Non-Potable (NP) Ag	(SW) Surface Water (MW) Monitoring Weil (TB) Travel Blank (WW) Waste Water	PO (O) PPOS (O)	BacT. (Sys) System (SRC) Source (W) Waste	Bact. (ROUT)Rouine (RPT)Repast (OTH)Ciher (RPL)Replace	(LT) Leaf Tissue (PET) Peticla Tissue (PRD) Produce	Preservative: (1) NaOH + ZnAc. (2) NaOH, (3) HCI (4) H2SO4, (5) HNO3, (6) Na2S2O3, (7) Other														
Sampli	ampler(s): Joseph Suwada ampling Fee: Pickup Fee: pompositor Setup Date: Time:				Number of Containers	f Containers: (G)		urface Water (MY wel Blank (WY	(S) Soil (St.C) Sludge (St.D) Sood (O) Ou	Sys) System (SR(ROUT)Routine (of Tissue (PET) P	stive: (1) NaOH + O4, (5) HNO3, (6								Made Octobro (1)						
Samp Num	Location Description	Time Sampled	Method of Sampling:	Numb	Туре о	Potable (P)	(SW) SP (TB) TR	(S) Sol	BacT: (BacT.	(LT) Le	Preserv (4) H2S	H A	THMS							•						
1.	SMS (D)	7/18/17	08:45	G	5	Var								х	Х												
2.	MW1	7/18/17	09:30	G	5	Var								×	x			T									
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Remark	3		<u> </u>	Relingu	ichad			ate:						-							<u> </u>						
AB71	AB71592, AB71593				115 H & C	Ha	20		1/20	ne: <u>Ild</u>		elinqui	shed		1/21	ale:	10	me: 15		Relinqu	ished			Date:	1	Time:	
536933220				Receive	ed By:		Da	ate:	Tir	ne:	R.	eceive	I By:	W.		7/2	I/n	me:	5	Receiv	ed By:		1	Date:	1	Γime:	

Corporate Offices & Laboratory 853 Corporation Street Santa Paula. CA 93060 TEL: (805)392-2000 Env FAX: (805)525-4172 / Ag FAX: (805)392-2063 CA ELAP Certification No.1573 Offico & Laboratory 2500 Stagecoach Road Stockton, CA 95215 TEL: (209)942-0182 FAX: (209)942-0423 CA ELAP Certification No. 1563

Office & Laboratory 563 E. Lindo Avenue Chico, CA 95926 TEL: (530)343-5818 FAX: (530)343-3807 CA ELAP Certification No. 2670 Office & Laboratory 3442 Empresa Drive, Suite D San Luis Obispo, CA 93401 TEL: (805)783-2940 FAX: (805)783-2912 CA ELAP Certification No. 2775 Office & Laboratory 9415 W. Goshen Avenue Visalia, CA 93291 TEL: (559)734-9473 FAX: (559)734-8435 CA ELAP Certification No. 2810 FGL Environmental Doc ID: 2D0900157_SOP_17.DOC

Revision Date: 10/09/14 Page: 1 of 1

Condition Upon Receipt (Attach to COC)

Sample Receipt at SP:								
1. Number of ice chests/packages received:	1							
2. Shipper tracking numbers 536933220								
Were samples received in a chilled condition? Temps:	5	/	/	/	'	_/	/	/
4. Surface water (SWTR) bact samples: A sample th should be flagged unless the time since sample co		•		•	•		hether ice	d or not,
5. Do the number of bottles received agree with the COC?	Yes	No	N/A	A				
6. Verify sample date, time, sampler	Yes	No	N/A	4				
7. Were the samples received intact? (i.e. no broken bottles, leaks, etc.)	Yes	No						
8. Were sample custody seals intact?	Yes	No	N/A	\				
Sample Verification, Labeling and Distribution:								
Were all requested analyses understood and acceptable?	Yes	No						
2. Did bottle labels correspond with the client's ID's?	Yes	No						
3. Were all bottles requiring sample preservation properly preserved? [Exception: Oil & Grease, VOA and CrVI verified in lab]	Yes	No	N/A	A FO	SL			
4. VOAs checked for Headspace?	Yes	No	N/A	4				
5. Were all analyses within holding times at time of receipt?	Yes	No						
6. Have rush or project due dates been checked and accepted?	Yes	No	N/A	A				
Include a copy of the COC for lab delivery. (Bacti. Inc	organics a	and Ra	idio)					
Sample Receipt, Login and Verification completed b	•	Reviewe Approve	ed and	Cynthi	ia T Ca	sarez (Digitally signed Title: Sample F Date: 07/21/20	d by Cynthia T Casarez Receiving 17-12:17:42
Discrepency Documentation:		,,	,					
Any items above which are "No" or do not meet spec		•	• ,		resolv	ed.		
1. Person Contacted:		none N	umber	:			<u></u>	
Initiated By:	Da	ate:						
Problem:								
Resolution:								
2. Person Contacted:	Pł	none N	umber	:				
Initiated By:		ate:						
Problem:				_				
Resolution:				_		(2019	144)	

Monterey Bay Analytical Services SP 1708753

Monterey Bay Analytical Services Chain Of Custody / Analysis Request

		ID AC	Client/Comp			,001/0/	- IIIDAO	Attent) 04 I-U	34 (F	3A)			A	nalysis R	equeste	d	
		IBAS by Analytical Services	M Billing Addr	Pwr ess:	υD				<u>ح.</u>	h	ear								
Project/System	Information	1:	E-Mail Addre		pwmö	. 10-	+	Contra	act/P.O.#	t.					77				
For State or L Electronic Da	For Regulatory Complaince? YES NO For State or Local Health Department reporting: Electronic Data Transfer (EDT)? YES NO System ID Number:			Turn Around Time: STD (7-14 Days)					#331-727 - 600(JBP	horamins					
MBAS Lab#	Project ID or Source Code #	Sample Site / Description (Well Name, APN#, Address, Stormdrain #)	Sample Date	ing	Receiving	CL2	Colife	rm Ana			#	Cont	tainer	7	Ü				
71592		SMS(D)	7/18/F	Time	18· 7	Residual	Routine	Other	Repeat	Special	Cont.	Туре	Size	/	/		Ŧ	-	
71593		mwl	7/18/17								6			/	/				
							M												
	P	rinted Name								- 41	ŢĬ								
Sampled by:			_		Zong	1	gnatur	9				Date	e	Time		Comme	ents or Spe	cial Instr	uctions
Relinquished by:	Jo	SEPH SUWADA	1		200	1						7/18	117	1649	_				
Received by:			1									1710	717	101.					
Relinquished by:																			
Received by:	Monterey Ba	ay Analytical Services	1								1	7/18	1/17	11	45				
☐ Payment re	eceived	Check #		Amoun								int#	// / 1	10	, ,	Data			

That

Sample Condition Upon Receipt

NA <2 Hr Is there evidence of chilling? COC Info Was temp acceptable? Chemistry ≤6°C Micro ≤10°C Did bottles arrive intact? NA Did bottle labels agree with COC? **Discrepency Documentation:** Person Contacted: ______Method: In Person/Phone/Email _____ Resolution Method: In Person/Phone/Email Person Contacted: Problem Resolution Date/Initials Pres Cont. Size Lab ID Date/Initials Lab ID Cont. Size Sample Split/Filtration Comments



4 Justin Court Suite D, Monterey, CA 93940 831.375.MBAS www.MBASinc.com ELAP Certification Number: 2385 Tuesday, September 12, 2017

Lab Number: AB73117

Collection Date/Time: 8/15/2017 10:00 Sample Collector: SUWADA, J Client Sample #:

Submittal Date/Time: 8/15/2017 11:52 Sample ID

Sample Description: Paralta										
Analyte	Method	Unit	Result	Qual	PQL	Date Analyzed	Analyst:			
Alkalinity, Total (as CaCO3)	SM2320B	mg/L	169		10	8/17/2017	LM			
Aluminum, Total	EPA200.8	μg/L	Not Detected	t	5	8/17/2017	MW			
Ammonia-N	EPA 350.1	mg/L	Not Detected	k	0.1	8/24/2017	BS			
Arsenic, Total	EPA200.8	μg/L	3		0.5	8/17/2017	MW			
Barium, Total	EPA200.8	μg/L	43		5	8/17/2017	MW			
Bicarbonate (as HCO3-)	SM2320B	mg/L	206		10	8/17/2017	НМ			
Boron	EPA200.7	mg/L	0.07		0.05	8/17/2017	MW			
Bromide	EPA300.0	mg/L	0.2		0.1	8/16/2017	НМ			
Calcium	EPA200.7	mg/L	56		0.5	8/18/2017	MW			
Carbonate as CaCO3	SM2320B	mg/L	Not Detected	t	10	8/17/2017	НМ			
Chloramines	SM4500-Cl G	mg/L	Not Detected	t	0.05	8/16/2017	OW			
Chloride	EPA300.0	mg/L	64		1	8/16/2017	НМ			
DOC	SM5310C	mg/L	1.1		0.2	8/23/2017	НМ			
Fluoride	EPA300.0	mg/L	0.4		0.1	8/16/2017	НМ			
Gross Alpha	EPA900.0	pCi/L	3.77 ± 1.77	Е		9/1/2017	FGL			
Haloacetic Acids	EPA552	μg/L	Not Detected	d E		8/24/2017	FGL			
Iron	EPA200.7	μg/L	Not Detected	k	10	8/17/2017	MW			
Iron, Dissolved	EPA200.7	μg/L	11		10	8/24/2017	MW			
Kjehldahl Nitrogen	SM4500-NH3 B	,Cmg/L	Not Detected	t	0.5	8/23/2017	BS			
Lithium	EPA200.8	μg/L	22		0.5	8/17/2017	MW			
Magnesium	EPA200.7	mg/L	14		0.5	8/17/2017	MW			
Manganese, Dissolved	EPA200.7	μg/L	11		10	8/24/2017	MW			
Manganese, Total	EPA200.7	μg/L	11		10	8/17/2017	MW			
Mercury, Total	EPA200.8	µg/L	Not Detected	<u>t</u>	0.2	8/17/2017	MW			
Methane	EPA174/175	μg/L	1.6	E	0.1	8/22/2017	MCCAM			
Molybdenum, Total	EPA200.8	μg/L	26		0.5	8/17/2017	MW			
Nickel, Total	EPA200.8	μg/L	Not Detected	t	5	8/17/2017	MW			
Nitrate as NO3	EPA300.0	mg/L	1		1	8/16/2017	НМ			
Nitrate as NO3-N	EPA300.0	mg/L	0.3		0.1	8/16/2017	НМ			
Nitrate+Nitrite as N	EPA300.0	mg/L	0.3		0.1	8/16/2017	НМ			
Nitrite as NO2-N	EPA300.0	mg/L	Not Detected	t	0.1	8/16/2017	НМ			
o-Phosphate-P, Dissolved	EPA300.0	mg/L	Not Detected	k	0.1	8/16/2017	НМ			
pH (Laboratory)	SM4500-H+B	pH (H)	7.4		0.1	8/15/2017	LM			
Phosphorus, Total	EPA 365.1	mg/L	0.02		0.02	8/16/2017	BS			
Potassium	EPA200.7	mg/L	4.1		0.5	8/17/2017	MW			
QC Anion Sum x 100	Calculation	%	102%			8/17/2017	НМ			
QC Anion-Cation Balance	Calculation	%	5			8/25/2017	MW			
QC Cation Sum x 100	Calculation	%	114%			8/25/2017	MW			
QC Ratio TDS/SEC	Calculation		0.62			8/18/2017	НМ			
Selenium, Total	EPA200.8	μg/L	2		1	8/17/2017	MW			
Silica as SiO2, Total	EPA200.7	mg/L	40		0.5	8/17/2017	MW			
Sodium	EPA200.7	mg/L	78		0.5	8/18/2017	MW			



4 Justin Court Suite D, Monterey, CA 93940 831.375.MBAS www.MBASinc.com ELAP Certification Number: 2385 Tuesday, September 12, 2017

David Holland, Laboratory Director

Lab Number: AB73117

Collection Date/Time: 8/15/2017 10:00 Sample Collector: SUWADA, J Client Sample #:

Submittal Date/Time: 8/15/2017 11:52 Sample ID

	S	ample Descr	iption: Paral	ta			
Analyte	Method	Unit	Result	Qual	PQL	Date Analyzed	Analyst:
Specific Conductance (E.C)	SM2510B	µmhos/cm	652		1	8/16/2017	НМ
Strontium, Total	EPA200.8	μg/L	252		2.5	8/17/2017	MW
Sulfate	EPA300.0	mg/L	71		1	8/16/2017	HM
TOC	SM5310C	mg/L	1.0		0.2	8/23/2017	HM
Total Diss. Solids	SM2540C	mg/L	403		10	8/16/2017	НМ
Total Nitrogen	Calculation	mg/L	Not Detected		0.5	8/23/2017	НМ
Total Radium 226	EPA903.0	pCi/L	0.978 ± 0.285	E		8/29/2017	FGL
Trihalomethanes		μg/L	15	E		8/21/2017	FGL
Uranium by ICP/MS	EPA200.8	μg/L	1		0.5	8/17/2017	MW
Vanadium, Total	EPA200.8	μg/L	Not Detected		2.5	8/17/2017	MW
Zinc, Total	EPA200.8	μg/L	Not Detected		10	8/17/2017	MW

Sample Comments:

Report Approved by:



4 Justin Court Suite D, Monterey, CA 93940 831.375.MBAS www.MBASinc.com ELAP Certification Number: 2385 Tuesday, September 12, 2017

Lab Number: AB73118

Collection Date/Time: 8/15/2017 10:30 Sample Collector: SUWADA, J Client Sample #:

Submittal Date/Time: 8/15/2017 11:52 Sample ID

Submittal Date/Time: 8/15/201		Sample ID	iption: Ord G	.076			
Analyte	Method	Unit	Result	Qual	PQL	Date Analyzed	Analyst:
Alkalinity, Total (as CaCO3)	SM2320B	mg/L	178	Quui	10	8/17/2017	LM
Aluminum, Total	EPA200.8	μg/L	Not Detected	1	5	8/17/2017	MW
Ammonia-N	EPA 350.1	mg/L	Not Detected		0.1	8/24/2017	BS
Arsenic, Total	EPA200.8	μg/L	2		0.5	8/17/2017	MW
Barium, Total	EPA200.8	µg/L	 51		5	8/17/2017	MW
Bicarbonate (as HCO3-)	SM2320B	mg/L	217		10	8/17/2017	HM
Boron	EPA200.7	mg/L	0.20		0.05	8/17/2017	MW
Bromide	EPA300.0	mg/L	0.4		0.1	8/16/2017	HM
Calcium	EPA200.7	mg/L	60		0.5	8/24/2017	MW
Carbonate as CaCO3	SM2320B	mg/L	Not Detected	1	10	8/17/2017	НМ
Chloramines	SM4500-CI G	mg/L	Not Detected		0.05	8/16/2017	OW
Chloride	EPA300.0	mg/L	126		1	8/16/2017	HM
DOC	SM5310C	mg/L	1.1		0.2	8/23/2017	HM
Fluoride	EPA300.0	mg/L	0.2		0.1	8/16/2017	НМ
Gross Alpha	EPA900.0	pCi/L	11.7 ± 3.21	E		9/5/2017	FGL
Haloacetic Acids	EPA552	μg/L	Not Detected	I E		8/24/2017	FGL
Iron	EPA200.7	μg/L	135		10	8/17/2017	MW
Iron, Dissolved	EPA200.7	μg/L	15		10	8/17/2017	MW
Kjehldahl Nitrogen	SM4500-NH3 B		0.5		0.5	8/23/2017	BS
Lithium	EPA200.8	µg/L	25		0.5	8/17/2017	MW
Magnesium	EPA200.7	mg/L	12		0.5	8/17/2017	MW
Manganese, Dissolved	EPA200.7	μg/L	13		10	8/17/2017	MW
Manganese, Total	EPA200.7	μg/L	130		10	8/17/2017	MW
Mercury, Total	EPA200.8	μg/L	Not Detected)	0.2	8/17/2017	MW
Methane	EPA174/175	μg/L	2.3	E	0.1	8/22/2017	MCCAM
Molybdenum, Total	EPA200.8	μg/L	6		0.5	8/17/2017	MW
Nickel, Total	EPA200.8	μg/L	Not Detected		5	8/17/2017	MW
Nitrate as NO3	EPA300.0	mg/L	9		1	8/16/2017	НМ
Nitrate as NO3-N	EPA300.0	mg/L	2.1		0.1	8/16/2017	НМ
Nitrate+Nitrite as N	EPA300.0	mg/L	2.1		0.1	8/16/2017	НМ
Nitrite as NO2-N	EPA300.0	mg/L	Not Detected		0.1	8/16/2017	НМ
o-Phosphate-P, Dissolved	EPA300.0	mg/L	Not Detected		0.1	8/16/2017	НМ
pH (Laboratory)	SM4500-H+B	pH (H)	7.1		0.1	8/15/2017	LM
Phosphorus, Total	EPA 365.1	mg/L	Not Detected		0.02	8/16/2017	BS
Potassium	EPA200.7	mg/L	2.0		0.5	8/17/2017	MW
QC Anion Sum x 100	Calculation	%	101%			8/17/2017	НМ
QC Anion-Cation Balance	Calculation	%	-6			8/25/2017	MW
QC Cation Sum x 100	Calculation	%	89%			8/25/2017	MW
QC Ratio TDS/SEC	Calculation		0.61			8/18/2017	НМ
Selenium, Total	EPA200.8	μg/L	6		1	8/17/2017	MW
Silica as SiO2, Total	EPA200.7	mg/L	36		0.5	8/17/2017	MW
Sodium	EPA200.7	mg/L	81		0.5	8/24/2017	MW



4 Justin Court Suite D, Monterey, CA 93940 831.375.MBAS www.MBASinc.com ELAP Certification Number: 2385 Tuesday, September 12, 2017

David Holland, Laboratory Director

Lab Number: AB73118

Collection Date/Time: 8/15/2017 10:30 Sample Collector: SUWADA, J Client Sample #:

Submittal Date/Time: 8/15/2017 11:52 Sample ID

Odbinittai Dato/Timo. 0/10/2017	11.02	Gampie ID					
	Sai	mple Descrip	otion: Ord Gr	ove	-		
Analyte	Method	Unit	Result	Qual	PQL	Date Analyzed	Analyst:
Specific Conductance (E.C)	SM2510B	µmhos/cm	853		1	8/16/2017	HM
Strontium, Total	EPA200.8	μg/L	343		2.5	8/17/2017	MW
Sulfate	EPA300.0	mg/L	64		1	8/16/2017	НМ
TOC	SM5310C	mg/L	0.8		0.2	8/23/2017	HM
Total Diss. Solids	SM2540C	mg/L	517		10	8/16/2017	НМ
Total Nitrogen	Calculation	mg/L	2.6		0.5	8/23/2017	HM
Total Radium 226	EPA903.0	pCi/L	1.38 ± 0.334	E		8/29/2017	FGL
Trihalomethanes		μg/L	2	E		8/22/2017	FGL
Uranium by ICP/MS	EPA200.8	μg/L	1		0.5	8/17/2017	MW
Vanadium, Total	EPA200.8	μg/L	Not Detected		2.5	8/17/2017	MW
Zinc, Total	EPA200.8	μg/L	Not Detected		10	8/17/2017	MW

Sample Comments:

Report Approved by:

mg/L: Milligrams per liter (=ppm) ug/L: Micrograms per liter (=ppb) PQL: Practical Quantitation Limit J = Result is less than PQL H = Analyzed outside of hold time E = Analysis performed by External Laboratory; see External Laboratory Report attachments.

Monterey Bay Analytical Services Chain Of Custody / Analysis Request

		4 Justin Ct.	Suite D • Mor	nterey, C	a 93940 •	(831) 37	5-MBAS	(6227)	• (831)	641-073	4 (Fa	x)							
1			Client/Compa	ny Name	:			Attent							Ar	alysis R	equeste	d	
	IV	IBAS	MP	NM	D			1	Jon	, he	eas	-							
			Billing Addres	s:										Λ					
Monte	rey Ba	y Analytical Services												37					
Project/System	n Information	1:	E-Mail Address				~	Contra	ct/P.O.#	t:				DB,					
					NPW	W9.4	آعا	No. of Co.						1					
For Regulato For State or I Electronic Da	Local Health	Department reporting:	STD (7-14 Day 5-Day	n Around	5_ 48	3-Hour I-Hour		Phone Fax #	# 31	/z 7	+ F	7-6001							
System ID No	umber:		Drinking water	☐ Wa	stewater [Monito	ring Well	X	Soil [Slud	lge [Ot	her	1					
MBAS Lab#	Project ID or Source Code #	Sample Site / Description (Well Name, APN#, Address, Stormdrain #)	Samplii Date	Time	Receiving Temp.	CL2 Residual		Other		Special	# Cont.	Cont Type	ainer Size	N	1				
73117		Paralta Ord Grove	8/15/17	1000	20.6						16			X	hi i				
73118		Ord Grove	8/15/17	1030	21.8						16			X					
								-							+				
						1 0 0										L			
					1														
		Printed Name			2	S	ignatur	re)		-		Dat	e	Time		Comme	ents or Spe	ecial Instruc	ctions:
Sampled by:		ALAWUC H4320	-	7/		\sim	1						1						
Relinquished by:	J	OSEPH SOWADA	1		he	1	حر_	_					17	115	2				
Received by:			-																
Relinquished by:				,	Λ		•												
Received by:	Monterey E	Bay Analytical Services	1	A	M	_	_	_				81	15/17	115	25				
☐ Payment	t received	Check #		Amou	nt:			_			Rece	eipt#	-			Date:			

Sample Condition Upon Receipt

NO

Was temp acceptable? Chemistry ≤6°C Micro ≤10°C

YES

Is there evidence of chilling?

YES NO

Did bottles arrive intact?

COC Info

Did bottle labels agree with COC?

NO NA NO NA

Discrepency Documentation:

Person Contacted:	Method: In Person/Phone/Email	
Problem		
Resolution		
Person Contacted:	Method: In Person/Phone/Email	
Resolution		

Lab ID	Cont. Size	Pres	Date/Initials
73117-18	250m2	4wo3	0/15/11
	. 500m	ならい	
		Hasoy Nazazaz	7
	1		



Lab ID	Cont. Size	Pres	Date/Initials
		ĺ	
<u> </u>			
			,

Sample Split/Filtration



McCampbell Analytical, Inc.

"When Quality Counts"

Analytical Report

WorkOrder: 1708713

Report Created for: Monterey Bay Analytical

4 Justin Court, Suite D Monterey, CA 93940

Project Contact:

David Holland

Project P.O.:

Project Name: MPWMD

Project Received: 08/16/2017

Analytical Report reviewed & approved for release on 08/23/2017 by:

Angela Rydelius, Laboratory Manager

The report shall not be reproduced except in full, without the written approval of the laboratory. The analytical results relate only to the items tested. Results reported conform to the most current NELAP standards, where applicable, unless otherwise stated in the case narrative.



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Glossary of Terms & Qualifier Definitions

Client: Monterey Bay Analytical

Project: MPWMD **WorkOrder:** 1708713

Glossary Abbreviation

%D Serial Dilution Percent Difference

95% Interval 95% Confident Interval

DF Dilution Factor

DI WET (DISTLC) Waste Extraction Test using DI water

DISS Dissolved (direct analysis of 0.45 µm filtered and acidified water sample)

DLT Dilution Test (Serial Dilution)

DUP Duplicate

EDL Estimated Detection Limit

ERS External reference sample. Second source calibration verification.

ITEF International Toxicity Equivalence Factor

LCS Laboratory Control Sample

MB Method Blank

MB % Rec % Recovery of Surrogate in Method Blank, if applicable

MDL Method Detection Limit

ML Minimum Level of Quantitation

MS Matrix Spike

MSD Matrix Spike Duplicate

N/A Not Applicable

ND Not detected at or above the indicated MDL or RL

NR Data Not Reported due to matrix interference or insufficient sample amount.

PDS Post Digestion Spike

PDSD Post Digestion Spike Duplicate

PF Prep Factor

RD Relative Difference

RL Reporting Limit (The RL is the lowest calibration standard in a multipoint calibration.)

RPD Relative Percent Deviation
RRT Relative Retention Time

SPK Val Spike Value

SPKRef Val Spike Reference Value

SPLP Synthetic Precipitation Leachate Procedure

ST Sorbent Tube

TCLP Toxicity Characteristic Leachate Procedure

TEQ Toxicity Equivalents

WET (STLC) Waste Extraction Test (Soluble Threshold Limit Concentration)

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Analytical Report

Client: Monterey Bay Analytical

 Date Received:
 8/16/17 9:41

 Date Prepared:
 8/22/17

 Project:
 MPWMD

WorkOrder: 1708713 **Extraction Method:** RSK175

Analytical Method: RSK175

Unit: $\mu g/L$

Dissolved Gases by RSK 175

			v		
Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
Paralta	1708713-001A	Water	08/15/2017 10:00	GC26	144182
<u>Analytes</u>	Result		<u>RL</u> <u>DF</u>		Date Analyzed
Methane	1.6		0.10 1		08/22/2017 14:20

Analyst(s): AK

Client ID	Lab ID	Matrix	Date Colle	ected Instrument	Batch ID
Ord Grove	1708713-002A	Water	08/15/2017	10:30 GC26	144182
<u>Analytes</u>	Result		<u>RL</u>	<u>DF</u>	Date Analyzed
Methane	2.3		0.10	1	08/22/2017 14:32

Analyst(s): AK

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Quality Control Report

Client: Monterey Bay Analytical

MPWMD

Date Prepared:8/22/17Date Analyzed:8/22/17Instrument:GC26Matrix:Water

Project:

WorkOrder: 1708713

BatchID: 144182 **Extraction Method:** RSK175

Analytical Method: RSK175

Unit: $\mu g/L$

Sample ID: MB/LCS-144182

	QC Summary Report for RSK175										
Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits				
Methane	ND	0.900	0.10	1.17	-	77	70-130				

McCampbell Analytical, Inc.

1534 Willow Pass Rd Pittsburg, CA 94565-1701 (925) 252-9262

CHAIN-OF-CUSTODY RECORD

Page 1 of 1

WorkOrder: 1708713

ClientCode: MBAS

Dry-Weight

WaterTrax WriteOn EDF Excel

mweidner@mbasinc.com; Dholland@mbas

 □HardCopy

ThirdParty

☐ J-flag

5 days:

Report to:

David Holland Monterey Bay Analytical

4 Justin Court, Suite D Monterey, CA 93940

831-375-6227

FAX: 831-641-0734

Email:

PO:

cc/3rd Party:

ProjectNo: MPWMD

Detection Summary

Bill to:

Accounts Payable

Monterey Bay Analytical

4 Justin Court, Suite D Monterey, CA 93940 Date Received:

Requested TAT:

08/16/2017

Date Logged: 08/16/2017

					Requested Tests (See legend below)											
Lab ID	Client ID	Matrix	Collection Date	Hold	1	2	3	4	5	6	7	8	9	10	11	12
1708713-001	Paralta	Water	8/15/2017 10:00		Α											
1708713-002	Ord Grove	Water	8/15/2017 10:30		Α											

Test Legend:

1	RSK175_W
5	
9	

2	
6	
10	

3	
7	
11	

4	
8	
12	

Prepared by: Jena Alfaro

Comments:

NOTE: Soil samples are discarded 60 days after results are reported unless other arrangements are made (Water samples are 30 days).

Hazardous samples will be returned to client or disposed of at client expense.



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WORK ORDER SUMMARY

Client Name	: MONTEI	REY BAY ANALYTIC	CAL		Project:	MPWMD)				Wor	k Order:	1708713
Client Conta	ct: David Ho	olland									Ç	C Level:	LEVEL 2
Contact's Email: mweidner@mbasinc.com; Dholland@mbasinc.com; info@sbcglobal.net; info@mbasinc.com			Comments	s:	Date	Logged:	8/16/2017						
		WaterTrax	WriteOn	EDF	Exce	el 🗌	Fax	✓ Email	HardCo	ppy ThirdPart	у 🗀	J-flag	
Lab ID	Client ID	Matrix	Test Name		_	Containers Composites	Bottle &	Preservative	De- chlorinated	Collection Date & Time	TAT	Sediment Content	Hold SubOut
1708713-001A	Paralta	Water	RSK175 <me< td=""><td>thane_4></td><td></td><td>3</td><td>VO</td><td>A w/ HCl</td><td></td><td>8/15/2017 10:00</td><td>5 days</td><td>None</td><td></td></me<>	thane_4>		3	VO	A w/ HCl		8/15/2017 10:00	5 days	None	
1708713-002A	Ord Grove	Water	RSK175 <me< td=""><td>thane_4></td><td></td><td>3</td><td>VO</td><td>A w/ HCl</td><td></td><td>8/15/2017 10:30</td><td>5 days</td><td>None</td><td></td></me<>	thane_4>		3	VO	A w/ HCl		8/15/2017 10:30	5 days	None	

NOTES: - STLC and TCLP extractions require 2 days to complete; therefore, all TATs begin after the extraction is completed (i.e., One-day TAT yields results in 3 days from sample submission).

- MAI assumes that all material present in the provided sampling container is considered part of the sample - MAI does not exclude any material from the sample prior to sample preparation unless requested in writing by the client.

1708713

McCAMPBELL ANALYTICAL, INC. CHAIN OF CUSTODY RECORD 1534 WILLOW PASS ROAD TURN AROUND TIME PITTSBURG, CA 94565-1701 RUSH 24 HR 48 HR 72 HR 5 DAY Website: www.mccampbell.com Email: main@mccampbell.com ☐ GeoTracker EDF ☐ PDF ☐ Excel Telephone: (877) 252-9262 ☐ Write On (DW) Fax: (925) 252-9269 Report To: David Holland Bill To: **Analysis Request** Other Comments Company: Monterey Bay Analytical Services EPA 608 / 8082 PCB's ONLY; Aroclors / Congeners Fotal Petroleum Oil & Grease (1664 / 5520 E/B&F) 8015) 4 Justin Ct. Suite D Filter Samples Monterey, Ca 93940 E-Mail: info@mbasinc.com CAM 17 Metals (200.7 / 200.8 / 6010 / 6020) LUFT 5 Metals (200.7 / 200.8 / 6010 / 6020) for Metals Tele: (831) 375 - 6227 Fax: (831) 641-0734 MTBE / BTEX & TPH as Gas (602 / 8021 MTBE / BTEX ONLY (EPA 602 / 8021) Total Petroleum Hydrocarbons (418.1) EPA 502.2 / 601 / 8010 / 8021 (HVOCs) EPA 515 / 8151 (Acidic Cl Herbicides) analysis: EPA 8270 SIM / 8310 (PAHs / PNAs) Project #: Project Name: MPWMD EPA 505/ 608 / 8081 (Cl Pesticides) Yes / No **Project Location:** TPH as Diesel / Motor Oil (8015) Lead (200.7 / 200.8 / 6010 / 6020) EPA 525.2 / 625 / 8270 (SVOCs) EPA 507 / 8141 (NP Pesticides) EPA 524.2 / 624 / 8260 (VOCs) Sampler Signature: Joseph Suwada METHOD SAMPLING MATRIX Type Containers PRESERVED # Containers SAMPLE ID LOCATION/ Field Point Name Water Sludge Date Methane Time Other HNO3 Other HCL Soil ICE Paralta 8/15/17 10:00 XX X AB73117 Ord Grove 8/15/17 10:30 X XX X AB73118 Relinquished By: Pate: Received By: Time: ICE/to wet COMMENTS: GSD 537242378 David Holland GOOD CONDITION 1600 HEAD SPACE ABSENT Relinquished By: Date: Time: Received By: DECHLORINATED IN LAB Blight 0941 APPROPRIATE CONTAINERS PRESERVED IN LAB Relinquished By: Date: Time: Received By: VOAS O&G METALS OTHER PRESERVATION pH<2

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Sample Receipt Checklist

Client Name: Project Name: WorkOrder №:	Monterey Bay Analytical MPWMD 1708713 Matrix: Water			Date and Time Received Date Logged: Received by: Logged by:	8/16/2017 09:41 8/16/2017 Jena Alfaro Jena Alfaro
Carrier:	Golden State Overnight				
	Chain of C	ustod	(COC) Infor	mation	
Chain of custody	present?	Yes	✓	No 🗌	
Chain of custody	signed when relinquished and received?	Yes	✓	No 🗌	
Chain of custody	agrees with sample labels?	Yes	✓	No 🗌	
Sample IDs note	d by Client on COC?	Yes	✓	No 🗌	
Date and Time o	f collection noted by Client on COC?	Yes	✓	No 🗌	
Sampler's name	noted on COC?	Yes	✓	No 🗆	
	<u>Sampl</u>	e Rece	eipt Informati	<u>ion</u>	
Custody seals in	tact on shipping container/cooler?	Yes		No 🗌	NA 🗹
Shipping contain	er/cooler in good condition?	Yes	✓	No 🗌	
Samples in prope	er containers/bottles?	Yes	✓	No 🗌	
Sample containe	ers intact?	Yes	✓	No 🗌	
Sufficient sample	e volume for indicated test?	Yes	✓	No 🗌	
	Sample Preservation	on and	Hold Time (HT) Information	
All samples rece	ived within holding time?	Yes	✓	No 🗌	NA 🗆
Sample/Temp Bl	ank temperature		Temp: 5.3	3°C	NA 🗌
Water - VOA via	ls have zero headspace / no bubbles?	Yes	✓	No 🗌	NA 🗌
Sample labels ch	necked for correct preservation?	Yes	✓	No 🗌	
pH acceptable up	pon receipt (Metal: <2; 522: <4; 218.7: >8)?	Yes		No 🗌	NA 🗹
Samples Receive	ed on Ice?	Yes	✓	No 🗌	
	(Ice Type	e: WE	TICE)		
UCMR Samples: Total Chlorine	tested and acceptable upon receipt for EPA 522?	Yes		No 🗌	NA 🗹
Free Chlorine 1 300.1, 537, 539	tested and acceptable upon receipt for EPA 218.7, 9?	Yes		No 🗌	NA ✓
=====		_=:	====		=======
Comments:					

September 11, 2017

Lab ID : SP 1709938 **Monterey Bay Analytical Services** 4 Justin Court Customer : 2-19144

Monterey, CA 93940

Laboratory Report

Introduction: This report package contains total of 9 pages divided into 3 sections:

Case Narrative (2 pages): An overview of the work performed at FGL.

Sample Results (4 pages): Results for each sample submitted.

Quality Control (3 pages) : Supporting Quality Control (QC) results.

Case Narrative

This Case Narrative pertains to the following samples:

Sample Description	Date Sampled	Date Received	FGL Lab ID#	Matrix
Paralta	08/15/2017	08/16/2017	SP 1709938-001	PW
Ord Grove	08/15/2017	08/16/2017	SP 1709938-002	PW

Sampling and Receipt Information: All samples were received in acceptable condition and within temperature requirements, unless noted on the Condition Upon Receipt (CUR) form. All samples arrived at 5 °C. All samples were prepared and analyzed within the method specified hold time. All samples were checked for pH if acid or base preservation is required (except for VOAs). For details of sample receipt information, please see the attached Chain of Custody and Condition Upon Receipt Form.

Quality Control: All samples were prepared and analyzed according to the following tables:

Organic QC

551.1	08/21/2017:212564 All analysis quality controls are within established criteria
	08/22/2017:212564 All analysis quality controls are within established criteria
	08/21/2017:210002 All preparation quality controls are within established criteria
552	08/22/2017:210073 All preparation quality controls are within established criteria
552.2	08/24/2017:212642 All analysis quality controls are within established criteria

September 11, 2017 **Monterey Bay Analytical Services**

Radio QC

Lab ID

Customer

: SP 1709938

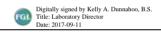
: 2-19144

900.0	09/01/2017:213355 All analysis quality controls are within established criteria
	09/05/2017:213368 All analysis quality controls are within established criteria
	08/30/2017:210414 All preparation quality controls are within established criteria
903.0	08/29/2017:213031 All analysis quality controls are within established criteria
	08/22/2017:210071 All preparation quality controls are within established criteria

Certification:: I certify that this data package is in compliance with ELAP standards, both technically and for completeness, except for any conditions listed above. Release of the data contained in this data package is authorized by the Laboratory Director or his designee, as verified by the following electronic signature.

KD:DMB

Approved By Kelly A. Dunnahoo, B.S.





September 11, 2017 Lab ID : SP 1709938-001

Customer ID : 2-19144

Monterey Bay Analytical Services

4 Justin Court Sampled On : August 15, 2017-10:00

: Joseph Suwada Monterey, CA 93940 Sampled By

Received On : August 16, 2017-12:26

Matrix : Potable Water

Description : Paralta Project : MPWMD

Sample Result - Organic

Constituent	Result	PQL	Units Note		Sample	Preparation	Sample Analysis		
Constituent	Result	1 QL	Onts	TVOIC	Method	Date/ID	Method	Date/ID	
EPA 551.1									
Decafluorobiphenyl [‡]	79.4	80-120	%		551.1	08/21/17:210002	551.1	08/21/17:212564	
Bromodichloromethane	3	1	ug/L		551.1	08/21/17:210002	551.1	08/21/17:212564	
Bromoform	ND	1	ug/L		551.1	08/21/17:210002	551.1	08/21/17:212564	
Chloroform	12	1	ug/L		551.1	08/21/17:210002	551.1	08/21/17:212564	
Dibromochloromethane	ND	1	ug/L		551.1	08/21/17:210002	551.1	08/21/17:212564	
Total Trihalomethanes	15		ug/L		551.1	08/21/17:210002	551.1	08/21/17:212564	
EPA 552.2									
2,3-Dibromopropionic Acid [‡]	95.2	70-130	%		552	08/22/17:210073	552.2	08/24/17:212642	
Bromoacetic Acid	ND	1	ug/L		552	08/22/17:210073	552.2	08/24/17:212642	
Chloroacetic Acid	ND	2	ug/L		552	08/22/17:210073	552.2	08/24/17:212642	
Dibromoacetic Acid	ND	1	ug/L		552	08/22/17:210073	552.2	08/24/17:212642	
Dichloroacetic Acid	ND	1	ug/L		552	08/22/17:210073	552.2	08/24/17:212642	
Trichloroacetic Acid	ND	1	ug/L		552	08/22/17:210073	552.2	08/24/17:212642	
Haloacetic acids (five)	ND		ug/L		552	08/22/17:210073	552.2	08/24/17:212642	

ND=Non-Detected. PQL=Practical Quantitation Limit. ‡Surrogate. * PQL adjusted for dilution.

Analytical Chemists

September 11, 2017 Lab ID : SP 1709938-001

Customer ID : 2-19144

Monterey Bay Analytical Services

4 Justin Court Sampled On : August 15, 2017-10:00

> : Joseph Suwada Sampled By

> > Received On : August 16, 2017-12:26

: Potable Water Matrix

Description : Paralta **Project** : MPWMD

Monterey, CA 93940

Sample Result - Radio

Constituent	Result ± Error	MDA	Units	MCL/AL	Sample	Preparation	Sampl	e Analysis
Constituent	Result ± Ellor	MDA	Omts	Ollits WICL/AL		Date/ID	Method	Date/ID
Radio Chemistry								
Gross Alpha	3.77 ± 1.77	1.47	pCi/L		900.0	08/30/17-09:00 2P1710414	900.0	09/01/17-16:00 2A1713355
Total Alpha Radium (226)	0.978 ± 0.285	0.363	pCi/L		903.0	08/22/17-17:40 2P1710071	903.0	08/29/17-17:10 2A1713031

ND=Non-Detected. PQL=Practical Quantitation Limit. * PQL adjusted for dilution.

MDA = Minimum Detectable Activity (Calculated at the 95% confidence level) = Data utilized by DHS to determine matrix interference. MCL / AL = Maximum Contamination Level / Action Level. Alpha's Action Level of 5 pCi/L is based on the Assigned Value (AV). AV = Assigned Value(Gross Alpha Result + (0.84 x Error)). CCR Section 64442: Drinking Water Compliance Note: Do the following If Gross Alpha's (AV) exceeds 5 pCi/L run Uranium. If Gross Alpha's (AV) minus Uranium exceeds 5 pCi/L run Radium 226.

Drinking Water Compliance:

Gross Alpha (AV) minus Uranium is less than or equal to 15 pCi/L Uranium is less than or equal to 20 pCi/L

Radium 226 + Radium 228 is less than or equal to 5 pCi/L

Note: Samples are held for 3-6 months prior to disposal.



September 11, 2017 Lab ID : SP 1709938-002

Customer ID : 2-19144

Monterey Bay Analytical Services

4 Justin Court Sampled On : August 15, 2017-10:30

: Joseph Suwada Monterey, CA 93940 Sampled By

Received On : August 16, 2017-12:26

Matrix : Potable Water

Description : Ord Grove Project : MPWMD

Sample Result - Organic

Constituent	Result	PQL	Units	Note	Sample	Preparation	Sample Analysis		
Constituent	Result	1 QL	Omts	Note	Method	Date/ID	Method	Date/ID	
EPA 551.1									
Decafluorobiphenyl [‡]	81.5	80-120	%		551.1	08/21/17:210002	551.1	08/22/17:212564	
Bromodichloromethane	ND	1	ug/L		551.1	08/21/17:210002	551.1	08/22/17:212564	
Bromoform	ND	1	ug/L		551.1	08/21/17:210002	551.1	08/22/17:212564	
Chloroform	2	1	ug/L		551.1	08/21/17:210002	551.1	08/22/17:212564	
Dibromochloromethane	ND	1	ug/L		551.1	08/21/17:210002	551.1	08/22/17:212564	
Total Trihalomethanes	2		ug/L		551.1	08/21/17:210002	551.1	08/22/17:212564	
EPA 552.2									
2,3-Dibromopropionic Acid [‡]	96.2	70-130	%		552	08/22/17:210073	552.2	08/24/17:212642	
Bromoacetic Acid	ND	1	ug/L		552	08/22/17:210073	552.2	08/24/17:212642	
Chloroacetic Acid	ND	2	ug/L		552	08/22/17:210073	552.2	08/24/17:212642	
Dibromoacetic Acid	ND	1	ug/L		552	08/22/17:210073	552.2	08/24/17:212642	
Dichloroacetic Acid	ND	1	ug/L		552	08/22/17:210073	552.2	08/24/17:212642	
Trichloroacetic Acid	ND	1	ug/L		552	08/22/17:210073	552.2	08/24/17:212642	
Haloacetic acids (five)	ND		ug/L		552	08/22/17:210073	552.2	08/24/17:212642	

ND=Non-Detected. PQL=Practical Quantitation Limit. ‡Surrogate. * PQL adjusted for dilution.

Analytical Chemists

September 11, 2017 Lab ID : SP 1709938-002

Customer ID : 2-19144

Monterey Bay Analytical Services

4 Justin Court Sampled On : August 15, 2017-10:30

: Joseph Suwada Monterey, CA 93940 Sampled By

Received On : August 16, 2017-12:26

: Potable Water Matrix

Description : Ord Grove **Project** : MPWMD

Sample Result - Radio

Constituent	Result ± Error	MDA	Units	MCL/AL	Sample	Preparation	Sample Analysis	
Constituent	Result ± Ellor	WIDA			Method	Date/ID	Method	Date/ID
Radio Chemistry								
Gross Alpha	11.7 ± 3.21	2.10	pCi/L		900.0	08/30/17-09:00 2P1710414	900.0	09/05/17-09:45 2A1713368
Total Alpha Radium (226)	1.38 ± 0.334	0.363	pCi/L		903.0	08/22/17-17:40 2P1710071	903.0	08/29/17-17:30 2A1713031

ND=Non-Detected. PQL=Practical Quantitation Limit. * PQL adjusted for dilution.

MDA = Minimum Detectable Activity (Calculated at the 95% confidence level) = Data utilized by DHS to determine matrix interference. MCL / AL = Maximum Contamination Level / Action Level. Alpha's Action Level of 5 pCi/L is based on the Assigned Value (AV). AV = Assigned Value(Gross Alpha Result + (0.84 x Error)). CCR Section 64442: Drinking Water Compliance Note: Do the following If Gross Alpha's (AV) exceeds 5 pCi/L run Uranium. If Gross Alpha's (AV) minus Uranium exceeds 5 pCi/L run Radium 226.

Drinking Water Compliance:

Gross Alpha (AV) minus Uranium is less than or equal to 15 pCi/L Uranium is less than or equal to 20 pCi/L

Radium 226 + Radium 228 is less than or equal to 5 pCi/L

Note: Samples are held for 3-6 months prior to disposal.

September 11, 2017 **Monterey Bay Analytical Services** Lab ID : SP 1709938 Customer : 2-19144

Quality Control - Organic

Constituent	Method	Date/ID	Type	Units	Conc.	QC Data	DQO	Note
Organic								
Bromodichloromethane	551.1	08/21/17:210002SBL	Blank	ug/L		ND	<1	
Bromodremoromethane	331.1	00/21/17.210002552	LCS	ug/L	9.814	104 %	80-120	
			MS	ug/L ug/L	10.07	91.8 %	80-120	
		(SP 1709938-001)	MSD	ug/L ug/L	10.09	99.3 %	80-120	
		(51 170))30 001)	MSRPD	ug/L ug/L	20.18	6.3%	≤20	
	551.1	08/21/17:212564SBL	CCV	ug/L	166.7	109 %	80-120	
	331.1	00/21/17.212304BBE	CCV	ug/L ug/L	83.33	96.5 %	80-120	
Bromoform	551.1	08/21/17:210002SBL	Blank	ug/L ug/L	03.33	ND	<1	
Bromoroim	331.1	00/21/17.210002BBE	LCS	ug/L ug/L	9.814	106 %	80-120	
			MS	ug/L ug/L	10.07	95.6 %	80-120	
		(SP 1709938-001)	MSD	ug/L ug/L	10.07	102 %	80-120	
		(31 1707730-001)	MSRPD	ug/L ug/L	20.18	6.9%	≤20	
	551.1	08/21/17:212564SBL	CCV	ug/L ug/L	166.7	109 %	80-120	
	331.1	06/21/17:2123043DL	CCV	ug/L ug/L	83.33	91.6 %	80-120	
Chlanafann	551.1	09/21/17-210002CDI			65.55			
Chloroform	331.1	08/21/17:210002SBL	Blank	ug/L	0.914	ND	<1 20.120	
		1	LCS	ug/L	9.814	111 %	80-120	
		(CD 1700020 001)	MS	ug/L	10.07	101 %	80-120	
		(SP 1709938-001)	MSD	ug/L	10.09	101 %	80-120	
			MSRPD	ug/L	20.18	0.1%	≤20	
	551.1	08/21/17:212564SBL	CCV	ug/L	166.7	115 %	80-120	
			CCV	ug/L	83.33	106 %	80-120	
Decafluorobiphenyl	551.1	08/21/17:210002SBL	Blank	ug/L	19.76	84.8 %	80-120	
			LCS	ug/L	19.63	109 %	80-120	
			MS	ug/L	20.14	93.6 %	80-120	
		(SP 1709938-001)	MSD	ug/L	20.18	89.9 %	80-120	
			MSRPD	ug/L	20.18	3.8%	≤20.0	
	551.1	08/21/17:212564SBL	CCV	ug/L	333.3	110 %	80-120	
			CCV	ug/L	166.7	99.7 %	80-120	
Dibromochloromethane	551.1	08/21/17:210002SBL	Blank	ug/L		ND	<1	
			LCS	ug/L	9.814	108 %	80-120	
			MS	ug/L	10.07	95.8 %	80-120	
		(SP 1709938-001)	MSD	ug/L	10.09	103 %	80-120	
			MSRPD	ug/L	20.18	6.8%	≤20	
	551.1	08/21/17:212564SBL	CCV	ug/L	166.7	111 %	80-120	
			CCV	ug/L	83.33	95.3 %	80-120	
2,3-Dibromopropionic Acid	552	08/22/17:210073SBL	Blank	ug/L	5.000	80.8 %	70-130	
z,e z reremeproprome r rere	552	00/22/1/12100/0002	LCS	ug/L	5.000	107 %	70-130	
			MS	ug/L	5.000	76.6 %	70-130	
		(SP 1709839-001)	MSD	ug/L	5.000	71.7 %	70-130	
		(, , , , , , , , , , , , , , , , , , ,	MSRPD	ug/L	5.000	0.24	≤1	
Dibromoacetic Acid	552	08/22/17:210073SBL	Blank	ug/L		ND	<1	
2 is is induced a red	332	55/22/17.2100/35DL	LCS	ug/L ug/L	10.00	97.4 %	70-130	
		1	MS	ug/L ug/L	10.00	92.0 %	70-130	
		(SP 1709839-001)	MSD	ug/L ug/L	10.00	98.4 %	70-130	
		(51 1707037-001)	MSRPD	ug/L ug/L	5.000	5.3%	≤20.0	
Dichloroacetic Acid	552	08/22/17:210073SBL	Blank	ug/L ug/L	2.000	ND	<1	
Diemoroacette Acid	332	00/22/11.2100133BL	LCS	ug/L ug/L	10.00	108 %	70-130	
		1	MS	ug/L ug/L	10.00	91.3 %	70-130	
		(SP 1709839-001)	MSD	ug/L ug/L	10.00	96.0 %	70-130	
		(SF 1/07637-001)	MSD MSRPD	ug/L ug/L	5.000	96.0 % 4.8%	/0-130 ≤20.0	
Manahamanasti - A -: 1	550	09/22/17,210072GBI			5.000			
Monobromoacetic Acid	552	08/22/17:210073SBL	Blank	ug/L	10.00	ND	<1 70.120	
		1	LCS	ug/L	10.00	114 %	70-130	
		(CD 1700020 001)	MS	ug/L	10.00	95.6 %	70-130	
		(SP 1709839-001)	MSD	ug/L	10.00	99.8 %	70-130	
			MSRPD	ug/L	5.000	4.1%	≤20.0	

September 11, 2017 Lab ID **Monterey Bay Analytical Services** Customer

Quality Control - Organic

: SP 1709938

: 2-19144

Constituent	Method	Date/ID	Туре	Units	Conc.	QC Data	DQO	Note
Organic								
Monochloroacetic Acid	552	08/22/17:210073SBL	Blank	ug/L		ND	<2	
			LCS	ug/L	10.00	121 %	70-130	
			MS	ug/L	10.00	89.5 %	70-130	
		(SP 1709839-001)	MSD	ug/L	10.00	94.7 %	70-130	
			MSRPD	ug/L	5.000	5.0%	≤20.0	
Trichloroacetic Acid	552	08/22/17:210073SBL	Blank	ug/L		ND	<1	
			LCS	ug/L	10.00	87.9 %	70-130	
			MS	ug/L	10.00	78.1 %	70-130	
		(SP 1709839-001)	MSD	ug/L	10.00	80.4 %	70-130	
			MSRPD	ug/L	5.000	2.7%	≤20.0	
2,3-Dibromopropionic Acid	552.2	08/24/17:212642SBL	CCV	ug/L	50.00	124 %	70-130	
			CCV	ug/L	75.00	90.1 %	70-130	
Dibromoacetic Acid	552.2	08/24/17:212642SBL	CCV	ug/L	100.0	118 %	70-130	
			CCV	ug/L	150.0	111 %	70-130	
Dichloroacetic Acid	552.2	08/24/17:212642SBL	CCV	ug/L	100.0	121 %	70-130	
			CCV	ug/L	150.0	111 %	70-130	
Monobromoacetic Acid	552.2	08/24/17:212642SBL	CCV	ug/L	100.0	113 %	70-130	
			CCV	ug/L	150.0	103 %	70-130	
Monochloroacetic Acid	552.2	08/24/17:212642SBL	CCV	ug/L	100.0	120 %	70-130	
			CCV	ug/L	150.0	106 %	70-130	
Trichloroacetic Acid	552.2	08/24/17:212642SBL	CCV	ug/L	100.0	109 %	70-130	
			CCV	ug/L	150.0	105 %	70-130	

Definition

: Continuing Calibration Verification - Analyzed to verify the instrument calibration is within criteria. CCV

Blank : Method Blank - Prepared to verify that the preparation process is not contributing contamination to the samples. LCS

: Laboratory Control Standard/Sample - Prepared to verify that the preparation process is not affecting analyte recovery. : Matrix Spikes - A random sample is spiked with a known amount of analyte. The recoveries are an indication of how that sample MS

matrix affects analyte recovery.

: Matrix Spike Duplicate of MS/MSD pair - A random sample duplicate is spiked with a known amount of analyted. The recoveries MSD

are an indication of how that sample matrix affects analyte recovery.

: MS/MSD Relative Percent Difference (RPD) - The MS relative percent difference is an indication of precision for the preparation

MSRPD

ND : Non-detect - Result was below the DQO listed for the analyte.

DQO : Data Quality Objective - This is the criteria against which the quality control data is compared. September 11, 2017 Lab ID **Monterey Bay Analytical Services** Customer

Quality Control - Radio

: SP 1709938

: 2-19144

Constituent	Method	Date/ID	Туре	Units	Conc.	QC Data	DQO	Note
Radio								
Alpha	900.0	09/01/17:213355aat	CCV CCB	cpm cpm	8332	39.4 % 0.060	35-47 0.2	
	900.0	09/05/17:213368aat	CCV CCB	cpm cpm	8326	41.0 % 0.100	35-47 0.14	
Gross Alpha	900.0	08/30/17:210414aat (SP 1709955-002)	Blank LCS MS MSD MSRPD	pCi/L pCi/L pCi/L pCi/L pCi/L	108.2 108.2 108.2 108.2	0.32 101 % 114 % 125 % 9.1%	3 75-125 60-140 60-140 ≤30	
Alpha	903.0	08/29/17:213031emv	CCV CCB	cpm cpm	8335	41.2 % 0.0600	37-46 0.16	
Total Alpha Radium (226)	903.0	08/22/17:210071emv	RgBlk LCS BS BSD BSRPD	pCi/L pCi/L pCi/L pCi/L pCi/L	21.85 21.85 21.85 21.85	0.01 70.6 % 68.4 % 71.6 % 4.7%	2 52-107 43-111 43-111 ≤35.5	

Definition

: Continuing Calibration Verification - Analyzed to verify the instrument calibration is within criteria. CCV

CCB : Continuing Calibration Blank - Analyzed to verify the instrument baseline is within criteria.

Blank : Method Blank - Prepared to verify that the preparation process is not contributing contamination to the samples.

RgBlk : Method Reagent Blank - Prepared to correct for any reagent contributions to sample result.

LCS : Laboratory Control Standard/Sample - Prepared to verify that the preparation process is not affecting analyte recovery.

: Matrix Spikes - A random sample is spiked with a known amount of analyte. The recoveries are an indication of how that sample MS

matrix affects analyte recovery.

: Matrix Spike Duplicate of MS/MSD pair - A random sample duplicate is spiked with a known amount of analyted. The recoveries MSD

are an indication of how that sample matrix affects analyte recovery.

: Blank Spikes - A blank is spiked with a known amount of analyte. It is prepared to verify that the preparation process is not BS

affecting analyte recovery.

: Blank Spike Duplicate of BS/BSD pair - A blank duplicate is spiked with a known amount of analyte. It is prepared to verify that BSD

the preparation process is not affecting analyte recovery.

: MS/MSD Relative Percent Difference (RPD) - The MS relative percent difference is an indication of precision for the preparation MSRPD

and analysis.

: BS/BSD Relative Percent Difference (RPD) - The BS relative percent difference is an indication of precision for the preparation **BSRPD**

and analysis.

DQO : Data Quality Objective - This is the criteria against which the quality control data is compared.



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CHAIN OF CUSTODY AND ANALYSIS REQUEST DOCUMENT

1	Customer Number: 2019144 Address: 4 Justin Court					lumbe 93						TE	ST D	ESC	RIPT	ION	AND	AN	ALYS	SES I	REQU	JEST	ED			
Phone: Email A Contac Project Purcha Quote Rush A Rush p Electron Sampk	Monterey, CA 93940 (831)375-6227 Fax: (83 Address: info@mbasinc.com Person: David Holland	Client Other:	24 hour	Method of Sampling: Composite (C) Grab (G)	Number of Containers	Type of Containers: (G)Qlass (P)Pissbc (V)VOA (MT)Metal Tube	Potable (P) Non-Potable (NP) Ag Weter (AgW)	(SW) Surface Water (MW) Mentioring Well (GW) Ground Water (TB) Travel Blank (WW) Waste Water (DW) Orinking Water	(S) Soli (SLG) Sludge (SLD) Soad (O) Od	BacT. (Sys) System (SRC) Source (W) Waste	Bact. (ROUT)Routne (RPT)Repeat (OTH)Other (RPL)Replace	(LT) Leaf Tissue (PET) Peliala Tissue (PRD) Produce	Preservative: (1) NaOH + ZnAc, (2) NaOH, (3) HCI (4) H2SO4, (5) HNO3, (6) Na2S2O3, (7) Other	HAA ·	THMS	Gross Alpha	Ra 226					•				
1.	Paralta	8/15/17	10:00	G	7	Var	Р							x	x	X	×									
2.	Ord Grove	8/15/17	10:30	G	7	Var	Р							x	х	х	x									
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Corporate Offices & Laboratory 853 Corporation Street Santa Paula, CA 93060 TEL: (805)392-2000 Env FAX: (805)525-4172 / Ag FAX: (805)392-2063 CA ELAP Certification No.1573

Office & Laboratory 2500 Stagecoach Road Stockton, CA 95215 TCL: (209)942-0182 FAX: (209)942-0423 CA ELAP Certification No. 1563 Office & Laboratory 563 E. Lindo Avenue Chico, CA 95926 TEL: (530)343-5818 FAX: (530)343-3807 CA ELAP Certification No. 2670 Office & Laboratory 3442 Empresa Drive, Suite D San Luis Obispo, CA 93401 TEL: (805)783-2940 FAX: (805)783-2912 CA ELAP Certification No. 2775 Office & Laboratory 9415 W. Goshen Avenue Visadia. CA 93291 TEL: (559)734-9473 FAX: (559)734-9435 CA ELAP Certification No. 2810 FGL Environmental Doc ID: 2D0900157_SOP_17.DOC

Revision Date: 10/09/14 Page: 1 of 1

Condition Upon Receipt (Attach to COC)

Sample Receipt at SP:							
1. Number of ice chests/packages received:	1						
2. Shipper tracking numbers 537242350							
3. Were samples received in a chilled condition? Temps:	5	/	/	/	/	/	/
4. Surface water (SWTR) bact samples: A sample the should be flagged unless the time since sample co		•				whether ice	ed or not,
5. Do the number of bottles received agree with the COC?	Yes	No	N/A				
6. Verify sample date, time, sampler	Yes	No	N/A				
7. Were the samples received intact? (i.e. no broken bottles, leaks, etc.)	Yes	No					
8. Were sample custody seals intact?	Yes	No	N/A				
Sample Verification, Labeling and Distribution:							
Were all requested analyses understood and acceptable?	Yes	No					
2. Did bottle labels correspond with the client's ID's?	Yes	No					
3. Were all bottles requiring sample preservation properly preserved? [Exception: Oil & Grease, VOA and CrVI verified in lab	Yes	No	N/A	FGL			
4. VOAs checked for Headspace?	Yes	No	N/A	1			
5. Were all analyses within holding times at time of receipt?	Yes	No					
6. Have rush or project due dates been checked and accepted?	l Yes	No	N/A				
Include a copy of the COC for lab delivery. (Bacti. Inc	organics a	and Ra	idio)				
Sample Receipt, Login and Verification completed b	-	Reviewe Approv	ed and	Cynthia T	Casarez	Digitally signe Title: Sample Date: 08/17/2	
Discrepency Documentation:			,				
Any items above which are "No" or do not meet spec		•	• •		solved.		
1. Person Contacted:			umber:	-		<u></u>	
Initiated By: Problem:		ate:					
Problem:							
Resolution:							
2. Person Contacted:	Pł	none N	umber:				
Initiated By:		ate:					
Problem:							
Resolution:					(201	9144)	_

Monterey Bay Analytical Services SP 1709938



Monterey Peninsula Water Mgmt. District

Joe Oliver P.O. Box 85 Monterey, CA 93940 4 Justin Court Suite D, Monterey, CA 93940 831.375.MBAS (6227) www.MBASinc.com ELAP Certification Number: 2385

Page 1 of 2 Monday, November 27, 2017

Lab Number: 170911_10-01

Collection Date/Time: 9/11/2017 14:00 Sample Collector: Suwada J Client Sample #:

Submittal Date/Time: 9/11/2017 15:35 Sample ID:

Sample Description: PCA East 8 YYp											
<u>Analyte</u>	<u>Method</u>	<u>Unit</u>	<u>Result</u>	Dil.	Qual	<u>PQL</u>	MCL	Anal. Date	Anal. Time	Analyst	
Alkalinity, Total (as CaCO3)	SM2320B	mg/L	196	1		10		9/13/2017	9:00	BS	
Aluminum, Total	EPA200.8	μg/L	15	1		5	1000	9/14/2017	15:29	MW	
Ammonia-N	EPA 350.1	mg/L	ND	1		0.1		9/20/2017	14:37	BS	
Arsenic, Total	EPA200.8	μg/L	7	1		1	10	9/14/2017	15:29	MW	
Barium, Total	EPA200.8	μg/L	99	1		1	1000	9/14/2017	15:29	MW	
Boron	EPA200.7	mg/L	0.10	1		0.05		9/15/2017	12:49	MW	
Bromide	EPA300.0	mg/L	0.3	1		0.1		9/12/2017	12:59	НМ	
Calcium	EPA200.7	mg/L	56	1		1		9/15/2017	12:49	MW	
Chloramines	SM4500-CI G	mg/L	ND	1		0.05		9/12/2017	16:30	LRH	
Chloride	EPA300.0	mg/L	112	1		1		9/12/2017	12:59	НМ	
Chlorine Residual, Free (Laboratory)	SM4500-CI G	mg/L	ND	1		0.05		9/12/2017	16:30	LRH	
Dissolved Organic Carbon	SM5310C	mg/L	0.6	1		0.2		9/21/2017	15:44	НМ	
Fluoride	EPA300.0	mg/L	0.3	1		0.1	2	9/12/2017	12:59	НМ	
Gross Alpha	EPA900.0	pCi/L	0.986 +/-1.93	1	Е			10/9/2017	11:50		
Haloacetic Acids	EPA552	μg/L	ND	1	Е			9/20/2017	21:42		
Iron, Dissolved	EPA200.7	μg/L	ND	1		10		9/15/2017	12:52	MW	
Iron, Total	EPA200.7	μg/L	54	1		10	300	9/14/2017	15:29	MW	
Lithium	EPA200.8	μg/L	37	1		0.5		9/14/2017	15:29	MW	
Magnesium	EPA200.7	mg/L	12	1		1		9/15/2017	12:49	MW	
Manganese, Dissolved	EPA200.7	μg/L	157	1		10	50	9/15/2017	12:52	MW	
Manganese, Total	EPA200.7	μg/L	150	1		10	50	9/14/2017	15:29	MW	
Mercury, Total	EPA200.8	μg/L	ND	1		0.5	2	9/14/2017	15:29	MW	
Methane	EPA174/175	μg/L	2.80	1	Е			9/19/2017	10:20		
Molybdenum, Total	EPA200.8	μg/L	9	1		0.5		9/14/2017	15:29	MW	

mg/L : Millgrams per liter (=ppm)
H = Analyzed outside of hold time
MDL = Method Detection Limit

ug/L : Micrograms per liter (=ppb)

PQL : Practical Quantitation Limit

MCL : Maximum Contamination Level

E = Analysis performed by External Laboratory; See Report attachments J = Result is less than PQL

T = Temperature Exceedance



Monterey Peninsula Water Mgmt. District

Joe Oliver P.O. Box 85 Monterey, CA 93940 4 Justin Court Suite D, Monterey, CA 93940 831.375.MBAS (6227) www.MBASinc.com

ELAP Certification Number: 2385

Page 2 of 2

Page 2 of 2							Mc	nday, Nove	mber 27	, 2017
Nickel, Total	EPA200.8	μg/L	4	1		1	100	9/14/2017	15:29	MW
Nitrate as N	EPA300.0	mg/L	ND	1		0.1	10	9/12/2017	12:59	НМ
Nitrate as NO3	EPA300.0	mg/L	ND	1		1	45	9/12/2017	12:59	НМ
Nitrate+Nitrite as N	EPA300.0	mg/L	ND	1		0.1		9/12/2017	12:59	НМ
Nitrite as N	EPA300.0	mg/L	ND	1		0.1	1	9/12/2017	12:59	НМ
pH (Laboratory)	SM4500-H+B	pH (H)	7.3	1		0.1	10	9/11/2017	17:30	BS
Phosphorus, Total	EPA 365.1	mg/L	0.02	1		0.02		9/22/2017	12:36	BS
Potassium	EPA200.7	mg/L	4.4	1		1		9/15/2017	12:49	MW
QC Ratio TDS/SEC	Calculation	NA	0.61	1						
Radium 226	EPA903.0	pCi/L	0.56+/-0.134	1				9/27/2017	11:25	
Selenium, Total	EPA200.8	μg/L	1	1		1	50	9/14/2017	15:29	MW
Silica (SiO2), Total	EPA200.7	mg/L	51	1		0.05		9/15/2017	12:49	MW
Sodium	EPA200.7	mg/L	98	1		1		9/15/2017	12:49	MW
Specific Conductance (EC)	SM2510B	µmhos/c	m 764	1		1	900	9/14/2017	11:35	НМ
Strontium, Total	EPA200.8	μg/L	281	1		1		9/14/2017	15:29	MW
Sulfate	EPA300.0	mg/L	32	1		1		9/12/2017	12:59	НМ
TOC	SM5310C	mg/L	0.6	1		0.2		9/21/2017	16:10	НМ
Total Dissolved Solids	SM2540C	mg/L	463	1		10	500	9/14/2017	16:00	MP
Total Kjeldahl Nitrogen	EPA 351.2	mg/L	ND	1		0.5		10/13/2017	14:11	BS
Trihalomethanes	EPA524.2		ND	1	E			9/20/2017	21:41	
Uranium, Radiological	EPA200.8	pCi/L	ND	1		0.5	20	9/14/2017	15:29	MW
Uranium, Total	EPA200.8	μg/L	ND	1		0.5		9/14/2017	15:29	MW
Vanadium, Total	EPA200.8	μg/L	ND	1		5	50	9/14/2017	15:29	MW
Zinc, Dissolved	EPA200.7	μg/L	ND	1		10		9/15/2017	12:52	MW
Zinc, Total	EPA200.7	μg/L	ND	1		10	5000	9/14/2017	15:29	MW
0										

Comments:

Report Approved by: ()

E = Analysis performed by External Laboratory; See Report attachments

David Holland, Laboratory Director

mg/L: Millgrams per liter (=ppm) H = Analyzed outside of hold time MDL = Method Detection Limit

ug/L: Micrograms per liter (=ppb)

PQL: Practical Quantitation Limit

MCL: Maximum Contamination Level T = Temperature Exceedance

J = Result is less than PQL

Monterey Bay Analytical Services Chain Of Custody / Analysis Request

		4 Justin Ct	. Suite D • Mo	nterey, C	a 93940 •	(831) 37	5-MBAS	(6227)	• (831	641-07	34 (Fa	x)	Analysis Requested						
			Client/Compa	iny Nam	e:			Attent	tion:						Ar	nalysis R	equeste	i	
1		1BAS	mpv)			-	Jo	nh	Rev	~							
			Billing Addres	ss:															- 3
Monte	erey B	ay Analytical Services												7					
Project/System	m Informatio	on:	E-Mail Address						act/P.O.#	‡ :				N					
			1 leu	u e	mpu	Mg. 1	ut												
For Regulato	ory Complai	ince? YES NO	Tui	n Aroun	d Time:			Phone	#					_					
		h Department reporting:	STD (7-14 Day 5-Day			8-Hour 1-Hour		Fax#						O					
System ID N		r (EDT)? YES NO				, moun		A Comment of the						7		1			
	umber		Drinking water Wastewater Monitoring Well Soil Sludge					dge [Ot	her	5	No.							
MBAS Lab#	Project ID or Source Code #	Sample Site / Description (Well Name, APN#, Address, Stormdrain #)	Samplii Date	Time	Receiving Temp.	CL2 Residual	Colife Routine	Other		Special	# Cont.	Cont Type	ainer Size	45					
01		PCA East Deep	9/11/17	1400	253						16			X					
																1			
															-				
		Printed Name				S	ignatu	re				Dat	e	Time		Comm	ents or Spe	cial Instru	ctions:
Sampled by:	Jo	SEPH SUWADA		-	2	of	1	_		-1				7					
Relinquished by: Joseph SowAJA			the whole of						9/11	1/11/17 15.		34							
Received by:												,							
Relinquished by:																			
Received by:	Monterey	Bay Analytical Services	Fal	m	7							9/1	1/17	15	35				
Payment	received	Check #		Amou	nt:				_	_	Rece	eipt#				Date:			

Page 3 of 4

Sample Condition Upon Receipt

NO

Was temp acceptable? Chemistry ≤6°C Micro ≤10°C

YES

NA <2 Hr NA

Is there evidence of chilling?

Did bottles arrive intact?

COC Info

Did bottle labels agree with COC?

YES

NO NO

NA

Discrepency Documentation:

Person Contacted:	Method: In Person/Phone/Email
Problem	
Resolution	
Person Contacted: Problem	
Resolution	

500ml	H3504	9/11/17
Scome	14,504	1
	14003	9/12/17
4	6	9/12/17
		Scome 17803

Lab ID	Cont. Size	Pres	Date/Initials
_			-

Comments

Sample Split/Filtration

Page 4 of 4



McCampbell Analytical, Inc.

"When Quality Counts"

Analytical Report

WorkOrder: 1709528

Report Created for: Monterey Bay Analytical

4 Justin Court, Suite D Monterey, CA 93940

Project Contact:

David Holland

Project P.O.:

Project Name: MPWMD

Project Received: 09/14/2017

Analytical Report reviewed & approved for release on 09/20/2017 by:

Angela Rydelius, Laboratory Manager

The report shall not be reproduced except in full, without the written approval of the laboratory. The analytical results relate only to the items tested. Results reported conform to the most current NELAP standards, where applicable, unless otherwise stated in the case narrative.



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Glossary of Terms & Qualifier Definitions

Client: Monterey Bay Analytical

Project: MPWMD **WorkOrder:** 1709528

Glossary Abbreviation

%D Serial Dilution Percent Difference

95% Interval 95% Confident Interval

DF Dilution Factor

DI WET (DISTLC) Waste Extraction Test using DI water

DISS Dissolved (direct analysis of 0.45 µm filtered and acidified water sample)

DLT Dilution Test (Serial Dilution)

DUP Duplicate

EDL Estimated Detection Limit

ERS External reference sample. Second source calibration verification.

ITEF International Toxicity Equivalence Factor

LCS Laboratory Control Sample

MB Method Blank

MB % Rec % Recovery of Surrogate in Method Blank, if applicable

MDL Method Detection Limit

ML Minimum Level of Quantitation

MS Matrix Spike

MSD Matrix Spike Duplicate

N/A Not Applicable

ND Not detected at or above the indicated MDL or RL

NR Data Not Reported due to matrix interference or insufficient sample amount.

PDS Post Digestion Spike

PDSD Post Digestion Spike Duplicate

PF Prep Factor

RD Relative Difference

RL Reporting Limit (The RL is the lowest calibration standard in a multipoint calibration.)

RPD Relative Percent Deviation
RRT Relative Retention Time

SPK Val Spike Value

SPKRef Val Spike Reference Value

SPLP Synthetic Precipitation Leachate Procedure

ST Sorbent Tube

TCLP Toxicity Characteristic Leachate Procedure

TEQ Toxicity Equivalents

WET (STLC) Waste Extraction Test (Soluble Threshold Limit Concentration)

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Analytical Report

Client:Monterey Bay AnalyticalWorkOrder:1709528Date Received:9/14/17 9:56Extraction Method:RSK175Date Prepared:9/19/17Analytical Method:RSK175Project:MPWMDUnit:μg/L

Dissolved Gases by RSK 175

Client ID	Lab ID	Matrix	Date Co	ollected Instrum	ent Batch
PCA East Deep	1709528-001A	Water	09/11/20	17 14:00 GC26 09 ⁻	18170914.D 14561
<u>Analytes</u>	Result		<u>RL</u>	<u>DF</u>	Date Analyzed
Methane	2.8		0.10	1	09/19/2017 10

Analyst(s): AK

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Quality Control Report

Client: Monterey Bay Analytical

MPWMD

Date Prepared:9/18/17Date Analyzed:9/18/17Instrument:GC26Matrix:Water

Project:

WorkOrder: 1709528 **BatchID:** 145610

Extraction Method: RSK175 **Analytical Method:** RSK175

Unit: $\mu g/L$

Sample ID: MB/LCS-145610

	QC Sum	mary Report	for RSK175				
Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Methane	ND	1.32	0.10	1.17	-	112	70-130

McCampbell Analytical, Inc.

1534 Willow Pass Rd Pittsburg, CA 94565-1701 (925) 252-9262

CHAIN-OF-CUSTODY RECORD

ClientCode: MBAS

1 of 1

□WaterTrax	☐ WriteOn	□EDF	

mweidner@mbasinc.com; Dholland@mbas

Email:

PO:

cc/3rd Party:

ProjectNo: MPWMD

Excel **EQuIS**

✓ Email

Dry-Weight

☐ HardCopy

☐ ThirdParty

□ J-flag

5 days:

Report to:

David Holland Monterey Bay Analytical 4 Justin Court, Suite D

Monterey, CA 93940

831-375-6227

FAX: 831-641-0734

Detection Summary Bill to:

WorkOrder: 1709528

Accounts Payable

Monterey Bay Analytical

4 Justin Court, Suite D

Date Received:

Requested TAT:

09/14/2017

Monterey, CA 93940 Date Logged: 09/14/2017

							Re	quested	Tests (See leg	end belo	ow)			
Lab ID	Client ID	Matrix	Collection Date Hold	1	2	3	4	5	6	7	8	9	10	11	12
1709528-001	PCA East Deep	Water	9/11/2017 14:00	Α											

Test Legend:

1	RSK175_W	2	3	4
5		6	7	8
9		10	11	12

Prepared by: Jena Alfaro

Comments:

NOTE: Soil samples are discarded 60 days after results are reported unless other arrangements are made (Water samples are 30 days). Hazardous samples will be returned to client or disposed of at client expense.



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"When Quality Counts"

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WORK ORDER SUMMARY

Client Name:	MONTEREY 1	BAY ANALYTIC	CAL		Project:	MPWMD)			Wor	k Order:	1709528
Client Contact:	David Holland									Ç	C Level:	LEVEL 2
Contact's Email	_	pasinc.com; Dholla ll.net; info@mbasi	_	.com;	Comments:	:				Date	Logged:	9/14/2017
		WaterTrax	WriteOn	EDF	Exce	I 🗌	Fax Fmail	HardC	opyThirdParty	/	J-flag	
Lab ID Cli	ent ID	Matrix	Test Name			ontainers omposites	Bottle & Preservati	ve De- chlorinated	Collection Date & Time	TAT	Sediment Content	Hold SubOut
1709528-001A PCA	A East Deep	Water	RSK175 <me< td=""><td>thane_4></td><td></td><td>2</td><td>VOA w/ HCl</td><td></td><td>9/11/2017 14:00</td><td>5 days</td><td>None</td><td></td></me<>	thane_4>		2	VOA w/ HCl		9/11/2017 14:00	5 days	None	

NOTES: - STLC and TCLP extractions require 2 days to complete; therefore, all TATs begin after the extraction is completed (i.e., One-day TAT yields results in 3 days from sample submission).

- MAI assumes that all material present in the provided sampling container is considered part of the sample - MAI does not exclude any material from the sample prior to sample preparation unless requested in writing by the client.

1709528

\ Telep		534 WIL PITTSBU ampbell.	LOW PAS	SS RO. 565-17	AD 01 in@n		mpt	oell.	com	926	9							AR Fra	OU	NE) T	[M]	E		RUS	H H	24	HR Cxce		48 F	l IR	RD 72 H rite O	R 5 DAY n (DW)	
Report To: Da	vid Holland		В	ill To	:															A	nal	ysis	Rec	ues	t						C	ther	Comment	ts
Company: M	onterey Bay Ana	lytical S	ervices											_								SIS			511			m					Filter	
	Justin Ct. Suite D							_						_	8015)			E/B&F)				ngen											Samples	
	onterey, Ca 9394	0		-Mail		_			c.co	m			_	4	+			20 E				Cor						20)	6				for Metals	S
Tele: (831) 37	5 - 6227			ax: (_					-	(602 / 8021	(21)		/ 55.	(1)	(\$2		ors/		(sa			3	/ 60	/ 602				analysis:	
Project #:			P	rojec	t Nan	ne:	MI	PW	MD					4	205 /	7 80	_	1664	(418	VOC	es)	rocl		icid	1		NA	0109	010	_			Yes / No	
Project Locati														-4	as ((1 602	8015	se (I	ons	1 (H	ticid	Y; A	des)	Herb	Cs))Cs)	Is/I	8.	9/8	6020				
Sampler Signa	ature: Joseph Su	wada				_				_				Щ	as G	(EP/) ii (Grea	carb	802	Pes	NO	stici	5	(VO	SVC	PAF	/ 200	200	10/				
		SAMI	PLING	L.S	ners		MA	TR	XIX	4		ESEI			& ТРН	ONLY	Motor	ı Oil &	n Hydro	/ 8010	8081 (C	PCB's	(NP Pe	(Acidio	1/8260	5 / 8270	/ 8310	s (200.7	(200.7 /	09 / 8 / 00				
SAMPLE ID	LOCATION/ Field Point Name	Date	Time	# Containers	Type Containers	Water	Soil	Air	Sludge	Other	ICE	HCL	HNO ₃	Other	MTBE / BTEX	MTBE / BTEX ONLY (EPA 602 / 8021)	TPH as Diesel / Motor Oil (8015)	Total Petroleum Oil & Grease (1664 / 5520	Total Petroleum Hydrocarbons (418.1)	EPA 502.2 / 601 / 8010 / 8021 (HVOCs)	EPA 505/ 608 / 8081 (CI Pesticides)	EPA 608 / 8082 PCB's ONLY; Aroclors / Congeners	EPA 507 / 8141 (NP Pesticides)	EPA 515 / 8151 (Acidic CI Herbicides)	EPA 524.2 / 624 / 8260 (VOCs)	EPA 525.2 / 625 / 8270 (SVOCs)	EPA 8270 SIM / 8310 (PAHs / PNAs)	CAM 17 Metals (200.7 / 200.8 / 6010 / 6020)	LUFT 5 Metals (200.7 / 200.8 / 6010 / 6020)	Lead (200.7 / 200.8 / 6010 / 6020)	Methane			
	PCA East Deep	9/11/17	14:00	3	V	Х					X	X																			Х		170911_1 -01	0
- a											5														(-1									
						\vdash							1																					
			-			\vdash				\dashv	+		1	\dashv																				
				-		\vdash			-	-	+	-	+	-			-				-				-		-		-	-	_	-		
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Relinquished By: David Holland	2420	Date:	Time: 1600	6	eived B	5	37	3	9-	18	8	7			ICI GC HE	E/t ² _OOD	CON	NDIT CE A	TON	ENT							3	*			ENTS		cleved	
Relinquished By:	SO	Date:	Time:		eived F	5									AP	PRC	PRI	INATE ATE	CO	NTA		RS_	_	-						B	0	ken	cieved.	
Relinquished By:		Date:	Time:	Reco	eived E	By:									PR	ESE	RVA	TIO		OAS	o	&G	MI pH	ETAI	LS	оті	HER							

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Sample Receipt Checklist

Client Name: Project Name:	Monterey Bay Analytical MPWMD			Date and Time Received Date Logged: Received by:	9/14/2017 09:56 9/14/2017 Jena Alfaro
WorkOrder №: Carrier:	1709528 Matrix: Water Golden State Overnight			Logged by:	Jena Alfaro
	Chain of C	ustody	(COC) Info	rmation	
Chain of custody	present?	Yes	✓	No 🗆	
Chain of custody	signed when relinquished and received?	Yes	✓	No 🗆	
Chain of custody	agrees with sample labels?	Yes	✓	No 🗌	
Sample IDs note	d by Client on COC?	Yes	✓	No 🗆	
Date and Time o	f collection noted by Client on COC?	Yes	✓	No 🗆	
Sampler's name	noted on COC?	Yes	✓	No 🗆	
COC agrees with	a Quote?	Yes		No 🗆	NA 🗹
	Sampl	le Rece	eipt Informat	<u>ion</u>	
Custody seals int	tact on shipping container/cooler?	Yes		No 🗆	NA 🗹
Shipping contain	er/cooler in good condition?	Yes	✓	No 🗆	
Samples in prope	er containers/bottles?	Yes	✓	No 🗌	
Sample containe	rs intact?	Yes	✓	No 🗌	
Sufficient sample	e volume for indicated test?	Yes	✓	No 🗌	
	Sample Preservation	on and	Hold Time (HT) Information	
All samples recei	ived within holding time?	Yes	✓	No 🗆	NA 🗌
Sample/Temp Bl	ank temperature		Temp: 4.	9°C	NA 🗌
Water - VOA vial	s have zero headspace / no bubbles?	Yes	✓	No 🗌	NA 🗌
Sample labels ch	necked for correct preservation?	Yes	✓	No 🗌	
pH acceptable up	oon receipt (Metal: <2; 522: <4; 218.7: >8)?	Yes		No 🗌	NA 🗹
Samples Receive		Yes	✓	No 🗌	
		e: BLl	JE ICE)		
UCMR Samples: Total Chlorine	tested and acceptable upon receipt for EPA 522?	Yes		No 🗌	NA 🗸
Free Chlorine t 300.1, 537, 539	tested and acceptable upon receipt for EPA 218.7, 9?	Yes		No 🗆	NA 🗹
====:			====	=======	=======
Comments:					

October 11, 2017

Lab ID : SP 1711192 **Monterey Bay Analytical Services** 4 Justin Court Customer : 2-19144

Monterey, CA 93940

Laboratory Report

Introduction: This report package contains total of 7 pages divided into 3 sections:

Case Narrative (2 pages): An overview of the work performed at FGL.

Sample Results (2 pages): Results for each sample submitted.

Quality Control (3 pages) : Supporting Quality Control (QC) results.

Case Narrative

This Case Narrative pertains to the following samples:

Sample Description	Date Sampled	Date Received	FGL Lab ID # SP 1711192-001	Matrix
PCA East Deep	09/11/2017	09/14/2017	SP 1711192-001	W

Sampling and Receipt Information: All samples were received in acceptable condition and within temperature requirements, unless noted on the Condition Upon Receipt (CUR) form. All samples arrived at 4 °C. All samples were prepared and analyzed within the method specified hold time. All samples were checked for pH if acid or base preservation is required (except for VOAs). For details of sample receipt information, please see the attached Chain of Custody and Condition Upon Receipt Form.

Quality Control: All samples were prepared and analyzed according to the following tables:

Organic QC

551.1	09/20/2017:214125 All analysis quality controls are within established criteria
	09/19/2017:211260 All preparation quality controls are within established criteria
552	09/19/2017:211280 All preparation quality controls are within established criteria
552.2	09/20/2017:214191 All analysis quality controls are within established criteria

Radio QC

900.0	10/09/2017:215280 All analysis quality controls are within established criteria
	10/05/2017:211994 All preparation quality controls are within established criteria
903.0	09/27/2017:214650 All analysis quality controls are within established criteria

October 11, 2017 Monterey Bay Analytical Services

....

Lab ID

Customer

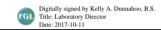
: SP 1711192 : 2-19144

903.0	09/24/2017:211451 All preparation quality controls are within established criteria
-------	--

Certification:: I certify that this data package is in compliance with ELAP standards, both technically and for completeness, except for any conditions listed above. Release of the data contained in this data package is authorized by the Laboratory Director or his designee, as verified by the following electronic signature.

KD:DMB

Approved By Kelly A. Dunnahoo, B.S.





Analytical Chemists

October 11, 2017 Lab ID : SP 1711192-001

Customer ID: 2-19144

Monterey Bay Analytical Services

4 Justin Court Sampled On : September 11, 2017-14:00

: Joseph Suwada Monterey, CA 93940 Sampled By

Received On: September 14, 2017-12:15

Matrix : Water

Description : PCA East Deep **Project** : MPWMD

Sample Result - Organic

Constituent	Result	PQL	Units	Note	Sample	Preparation	Samp	le Analysis
Constituent	Result	1 QL	Onts	11010	Method	Date/ID	Method	Date/ID
EPA 551.1								
Decafluorobiphenyl [‡]	96.5	80-120	%		551.1	09/19/17:211260	551.1	09/20/17:214125
Bromodichloromethane	ND	1	ug/L		551.1	09/19/17:211260	551.1	09/20/17:214125
Bromoform	ND	1	ug/L		551.1	09/19/17:211260	551.1	09/20/17:214125
Chloroform	ND	1	ug/L		551.1	09/19/17:211260	551.1	09/20/17:214125
Dibromochloromethane	ND	1	ug/L		551.1	09/19/17:211260	551.1	09/20/17:214125
Total Trihalomethanes	ND		ug/L		551.1	09/19/17:211260	551.1	09/20/17:214125
EPA 552.2								
2,3-Dibromopropionic Acid [‡]	95.5	70-130	%		552	09/19/17:211280	552.2	09/20/17:214191
Bromoacetic Acid	ND	1	ug/L		552	09/19/17:211280	552.2	09/20/17:214191
Chloroacetic Acid	ND	2	ug/L		552	09/19/17:211280	552.2	09/20/17:214191
Dibromoacetic Acid	ND	1	ug/L		552	09/19/17:211280	552.2	09/20/17:214191
Dichloroacetic Acid	ND	1	ug/L		552	09/19/17:211280	552.2	09/20/17:214191
Trichloroacetic Acid	ND	1	ug/L		552	09/19/17:211280	552.2	09/20/17:214191
Haloacetic acids (five)	ND		ug/L		552	09/19/17:211280	552.2	09/20/17:214191

ND=Non-Detected. PQL=Practical Quantitation Limit. ‡Surrogate. * PQL adjusted for dilution.

Analytical Chemists

October 11, 2017 Lab ID : SP 1711192-001

Customer ID : 2-19144

Monterey Bay Analytical Services

4 Justin Court Sampled On : September 11, 2017-14:00

Monterey, CA 93940 Sampled By : Joseph Suwada

Received On: September 14, 2017-12:15

: Water Matrix

Description : PCA East Deep **Project** : MPWMD

Sample Result - Radio

Constituent	Result ± Error	MDA	Units	MCL/AL	Sample	Preparation	Sampl	e Analysis
Constituent	Result ± Ellor	WIDA	Omts	WICL/AL	Method	Date/ID	Method	Date/ID
Radio Chemistry								
Gross Alpha	0.986 ± 1.93	2.58	pCi/L	15/5	900.0	10/05/17-12:00 2P1711994	900.0	10/09/17-11:50 2A1715280
Total Alpha Radium (226)	0.056 ± 0.134	0.363	pCi/L	3	903.0	09/24/17-11:00 2P1711451	903.0	09/27/17-11:25 2A1714650

ND=Non-Detected. PQL=Practical Quantitation Limit. * PQL adjusted for dilution.

MDA = Minimum Detectable Activity (Calculated at the 95% confidence level) = Data utilized by DHS to determine matrix interference. MCL / AL = Maximum Contamination Level / Action Level. Alpha's Action Level of 5 pCi/L is based on the Assigned Value (AV). AV = Assigned Value(Gross Alpha Result + (0.84 x Error)). CCR Section 64442: Drinking Water Compliance Note: Do the following If Gross Alpha's (AV) exceeds 5 pCi/L run Uranium. If Gross Alpha's (AV) minus Uranium exceeds 5 pCi/L run Radium 226.

Drinking Water Compliance:

Gross Alpha (AV) minus Uranium is less than or equal to 15 pCi/L Uranium is less than or equal to 20 pCi/L

Radium 226 + Radium 228 is less than or equal to 5 pCi/L

Note: Samples are held for 3-6 months prior to disposal.

October 11, 2017 Lab ID : SP 1711192 **Monterey Bay Analytical Services** : 2-19144 Customer

Quality Control - Organic

Constituent	Method	Date/ID	Type	Units	Conc.	QC Data	DQO	Note
Organic								
Bromodichloromethane	551.1	09/19/17:211260SBL	Blank	ug/L		ND	<1	1
Bromodemoromethane	331.1	05/15/17.211200552	LCS	ug/L	10.21	117 %	80-120	ĺ
			MS	ug/L	9.940	105 %	80-120	ĺ
		(SP 1711197-001)	MSD	ug/L	9.894	107 %	80-120	
			MSRPD	ug/L	19.79	0.9%	≤20	
	551.1	09/20/17:214125SBL	CCV	ug/L	83.33	105 %	80-120	
	33111	05,20,17,21,120022	CCV	ug/L	166.7	118 %	80-120	
Bromoform	551.1	09/19/17:211260SBL	Blank	ug/L		ND	<1	
			LCS	ug/L	10.21	105 %	80-120	ĺ
			MS	ug/L	9.940	95.7 %	80-120	ĺ
		(SP 1711197-001)	MSD	ug/L	9.894	96.7 %	80-120	ĺ
		(4)	MSRPD	ug/L	19.79	0.4%	≤20	ĺ
	551.1	09/20/17:214125SBL	CCV	ug/L	83.33	97.7 %	80-120	
	33111	05/20/1/1211120002	CCV	ug/L	166.7	108 %	80-120	ĺ
Chloroform	551.1	09/19/17:211260SBL	Blank	ug/L		ND	<1	
Cinorororini	331.1	05/15/17.211200552	LCS	ug/L	10.21	120 %	80-120	ĺ
		1	MS	ug/L ug/L	9.940	110 %	80-120	
		(SP 1711197-001)	MSD	ug/L ug/L	9.894	112 %	80-120	
		(51 17111)7 001)	MSRPD	ug/L	19.79	1.1%	≤20	
	551.1	09/20/17:214125SBL	CCV	ug/L ug/L	83.33	108 %	80-120	
	331.1	09/20/17.2141233DL	CCV	ug/L ug/L	166.7	115 %	80-120	
Dfl	551.1	09/19/17:211260SBL	Blank		20.21	94.8 %	80-120	1
Decafluorobiphenyl	551.1	09/19/17:211200SBL	LCS	ug/L	20.21	94.8 % 93.6 %	80-120	
			MS	ug/L				
		(SP 1711197-001)	MSD	ug/L	19.88 19.79	103 % 103 %	80-120 80-120	l
		(SP 1/1119/-001)		ug/L				l
	551.1	00/20/15 21 4125555	MSRPD	ug/L	19.79	0.3%	≤20.0	
	551.1	09/20/17:214125SBL	CCV	ug/L	166.7	104 %	80-120	
511 11 1		00/40/45 0440 60007	CCV	ug/L	333.3	106 %	80-120	
Dibromochloromethane	551.1	09/19/17:211260SBL	Blank	ug/L	10.21	ND	<1	1
			LCS	ug/L	10.21	111 %	80-120	1
		(CD 4511105 001)	MS	ug/L	9.940	102 %	80-120	1
		(SP 1711197-001)	MSD	ug/L	9.894	104 %	80-120	
			MSRPD	ug/L	19.79	1.0%	≤20	
	551.1	09/20/17:214125SBL	CCV	ug/L	83.33	101 %	80-120	
			CCV	ug/L	166.7	113 %	80-120	
2,3-Dibromopropionic Acid	552	09/19/17:211280SBL	Blank	ug/L	5.000	77.1 %	70-130	
			LCS	ug/L	5.000	90.6 %	70-130	
			MS	ug/L	5.000	89.4 %	70-130	
		(SP 1711192-001)	MSD	ug/L	5.000	96.9 %	70-130	
			MSRPD	ug/L	5.000	0.38	≤1	
Dibromoacetic Acid	552	09/19/17:211280SBL	Blank	ug/L		ND	<1	
		1	LCS	ug/L	10.00	105 %	70-130	
		1	MS	ug/L	10.00	94.2 %	70-130	
		(SP 1711192-001)	MSD	ug/L	10.00	92.6 %	70-130	
		<u> </u>	MSRPD	ug/L	5.000	1.6%	≤20.0	
Dichloroacetic Acid	552	09/19/17:211280SBL	Blank	ug/L		ND	<1	
		1	LCS	ug/L	10.00	107 %	70-130	
		1	MS	ug/L	10.00	101 %	70-130	
		(SP 1711192-001)	MSD	ug/L	10.00	99.5 %	70-130	
			MSRPD	ug/L	5.000	1.6%	≤20.0	
Monobromoacetic Acid	552	09/19/17:211280SBL	Blank	ug/L		ND	<1	
		1	LCS	ug/L	10.00	100 %	70-130	
		1	MS	ug/L	10.00	87.9 %	70-130	
		(SP 1711192-001)	MSD	ug/L	10.00	87.9 %	70-130	
			MSRPD	ug/L	5.000	0.06%	≤20.0	1

October 11, 2017 Lab ID : SP 1711192 **Monterey Bay Analytical Services** Customer : 2-19144

Quality Control - Organic

Constituent	Method	Date/ID	Туре	Units	Conc.	QC Data	DQO	Note
Organic								
Monochloroacetic Acid	552	09/19/17:211280SBL	Blank	ug/L		ND	<2	
			LCS	ug/L	10.00	106 %	70-130	
			MS	ug/L	10.00	93.0 %	70-130	
		(SP 1711192-001)	MSD	ug/L	10.00	92.9 %	70-130	
			MSRPD	ug/L	5.000	0.0050	≤2	
Trichloroacetic Acid	552	09/19/17:211280SBL	Blank	ug/L		ND	<1	
			LCS	ug/L	10.00	101 %	70-130	
			MS	ug/L	10.00	96.6 %	70-130	
		(SP 1711192-001)	MSD	ug/L	10.00	94.8 %	70-130	
			MSRPD	ug/L	5.000	1.8%	≤20.0	
2,3-Dibromopropionic Acid	552.2	09/20/17:214191SBL	CCV	ug/L	75.00	115 %	70-130	
			CCV	ug/L	50.00	101 %	70-130	
Dibromoacetic Acid	552.2	09/20/17:214191SBL	CCV	ug/L	150.0	102 %	70-130	
			CCV	ug/L	100.0	99.4 %	70-130	
Dichloroacetic Acid	552.2	09/20/17:214191SBL	CCV	ug/L	150.0	105 %	70-130	
			CCV	ug/L	100.0	102 %	70-130	
Monobromoacetic Acid	552.2	09/20/17:214191SBL	CCV	ug/L	150.0	97.8 %	70-130	
			CCV	ug/L	100.0	96.0 %	70-130	
Monochloroacetic Acid	552.2	09/20/17:214191SBL	CCV	ug/L	150.0	99.9 %	70-130	
			CCV	ug/L	100.0	103 %	70-130	
Trichloroacetic Acid	552.2	09/20/17:214191SBL	CCV	ug/L	150.0	91.9 %	70-130	
			CCV	ug/L	100.0	95.4 %	70-130	

Definition

CCV

: Continuing Calibration Verification - Analyzed to verify the instrument calibration is within criteria.

Blank : Method Blank - Prepared to verify that the preparation process is not contributing contamination to the samples.

LCS : Laboratory Control Standard/Sample - Prepared to verify that the preparation process is not affecting analyte recovery.

: Matrix Spikes - A random sample is spiked with a known amount of analyte. The recoveries are an indication of how that sample MS

matrix affects analyte recovery.

: Matrix Spike Duplicate of MS/MSD pair - A random sample duplicate is spiked with a known amount of analyted. The recoveries MSD

are an indication of how that sample matrix affects analyte recovery.

: MS/MSD Relative Percent Difference (RPD) - The MS relative percent difference is an indication of precision for the preparation MSRPD

ND : Non-detect - Result was below the DQO listed for the analyte.

DQO : Data Quality Objective - This is the criteria against which the quality control data is compared. October 11, 2017 Lab ID : SP 1711192 **Monterey Bay Analytical Services** : 2-19144 Customer

Quality Control - Radio

Constituent	Method	Date/ID	Type	Units	Conc.	QC Data	DQO	Note
Radio								
Alpha	900.0	10/09/17:215280aat	CCV	cpm	8302	38.2 %	35-47	
			CCB	cpm		0.0600	0.13	
Gross Alpha	900.0	10/05/17:211994aat	Blank	pCi/L		0.32	3	
			LCS	pCi/L	107.8	120 %	75-125	
			MS	pCi/L	107.8	118 %	60-140	
		(SP 1711262-001)	MSD	pCi/L	107.8	126 %	60-140	
			MSRPD	pCi/L	107.8	6.9%	≤30	
Alpha	903.0	09/27/17:214650aat	CCV	cpm	8311	40.4 %	37-46	
			CCB	cpm		0.100	0.16	
Total Alpha Radium (226)	903.0	09/24/17:211451elc	RgBlk	pCi/L		0.01	2	
_			LCS	pCi/L	21.85	53.6 %	52-107	
			BS	pCi/L	21.85	72.3 %	43-111	
			BSD	pCi/L	21.85	65.7 %	43-111	
			BSRPD	pCi/L	21.85	9.5%	≤35.5	
Definition	·	·		•				
CCV : Continuing C	Calibration Verifica	tion - Analyzed to veri	fy the instru	ment calibrati	on is within	criteria.		
CCB : Continuing C	Calibration Blank -	Analyzed to verify the	instrument b	aseline is wit	hin criteria.			
Rlank · Method Rlan	k - Prepared to ver	ify that the preparation	nrocess is n	ot contributin	o contamina	tion to the sam	nles	

Blank $: Method\ Blank\ -\ Prepared\ to\ verify\ that\ the\ preparation\ process\ is\ not\ contributing\ contamination\ to\ the\ samples.$

RgBlk : Method Reagent Blank - Prepared to correct for any reagent contributions to sample result.

LČS : Laboratory Control Standard/Sample - Prepared to verify that the preparation process is not affecting analyte recovery.

: Matrix Spikes - A random sample is spiked with a known amount of analyte. The recoveries are an indication of how that sample MS matrix affects analyte recovery.

: Matrix Spike Duplicate of MS/MSD pair - A random sample duplicate is spiked with a known amount of analyted. The recoveries MSD

are an indication of how that sample matrix affects analyte recovery.

: Blank Spikes - A blank is spiked with a known amount of analyte. It is prepared to verify that the preparation process is not BS affecting analyte recovery.

: Blank Spike Duplicate of BS/BSD pair - A blank duplicate is spiked with a known amount of analyte. It is prepared to verify that

BSD

the preparation process is not affecting analyte recovery.

: MS/MSD Relative Percent Difference (RPD) - The MS relative percent difference is an indication of precision for the preparation MSRPD

and analysis.

: BS/BSD Relative Percent Difference (RPD) - The BS relative percent difference is an indication of precision for the preparation BSRPD

and analysis.

DQO : Data Quality Objective - This is the criteria against which the quality control data is compared.



Monterey Peninsula Water Mgmt. District

MPWMD-Attn: Jon Lear

P.O. Box 85 Monterey, CA

Page 1 of 1

4 Justin Court Suite D, Monterey, CA 9394 831.375.MBAS (6227) www.MBASinc.com

ELAP Certification Number: 2385

Tuesday, October 03, 2017

Lab Number: 170918_02-01

Collection Date/Time: 9/18/2017 9:00 Sample Collector: Suwada J Client Sample #:

Submittal Date/Time: 9/18/2017 9:34 Sample ID:

	Sample Description	n: MW-1								
<u>Analyte</u>	<u>Method</u>	<u>Unit</u>	<u>Result</u>	<u>Dil.</u>	<u>Qual</u>	<u>PQL</u>	MCL	Anal. Date	Anal. Time	e Analyst
Trihalomethanes	EPA524.2	μg/L	81	1	Е			10/1/2017	12:00	
Haloacetic Acids	EPA552	μg/L	ND/See attached	1	E			9/27/2017	12:00	
Chlorine Residual, Free (Laboratory)	SM4500-CI G	mg/L	Not Detected	1		0.05		9/18/2017	17:30	LRH
Chloramines	SM4500-CI G	mg/L	Not Detected	1		0.05		9/18/2017	17:30	LRH

Comments:

Report Approved by:

David Holland, Laboratory Director

170918 Monterey Bay Analytical Services Chain Of Custody / Analysis Request

Monterey Bay Analytical Service Project/System Information:	Billing Addre									_		1				
Project/System Information:	E-Mail Addres								ur			Chloramina				
		s(es):				Contra	ct/P.O.#	t:				Chle				
For Regulatory Complaince? YES NO For State or Local Health Department reporting: Electronic Data Transfer (EDT)? YES NO System ID Number:	STD (7-14 D 5-Day	STD (7-14 Days)				Phone # 658 - 564 7 Fax #				+ 4						
	Drinking water	☐ Wa	stewater [Monito	oring Well		Soil [Slu	dge [Ot	her []	B		- 14		
MBAS Project ID or Sample Site / Description Lab # Source Code # (Well Name, APN#, Address, Stormdrain #)	Sampli Date	Time	Receiving Temp.	CL2 Residual	Colife Routine	Other		Special	# Cont.	Cont Type	tainer Size	12				
mw-1	9/18/17	6900	19.8						5			N				
								V								
	16															
												75-1				
								Ξij								
			== 1		1-31											
Printed Name				Si	gnature	e /				Date	9	Time		Comments or S	pecial Instru	ctions:
Sampled by: JOSEPH SUWADA		1	2	1	1	_										
Sampled by: JOSEPH SUWADA Relinquished by: JOSEPH, SUWADA			Zu	1	1					9/18	3/17	0934	1			
Received by:										1						
Relinquished by:																
Received by: Monterey Bay Analytical Services		61	,						6	7/8	1/12	9: 36	,			
☐ Payment received Check #	1101	Amount							Recei	11		1.00	Dat			

Page 2 of 12

Sample Condition Upon Receipt

COC Info Was temp acceptable? Chemistry ≤6°C Micro ≤10°C

YES

NA <2 Hr

Is there evidence of chilling?

YES NO NA

Did bottles arrive intact?

Did bottle labels agree with COC?

YES

NO NO

NO

NA

NA

Discrepency	Documentation:
-------------	-----------------------

Person Contacted:	Method: In Person/Phone/Email	-0
Problem		
Resolution		
Person Contacted: Problem		· · · · · · · · · · · · · · · · · · ·
Resolution		

Lab ID	Cont. Size	Pres	Date/Initials
-	-		-
			1

Lab ID	Cont. Size	Pres	Date/Initials
_			
			4

Comments

Sample Split/Filtration

A7I2017 10/03/2017

Invoice: A724693

David Holland Monterey Bay Analytical 4 Justin Court Suite D Monterey, CA 93940

RE: Report for A7I2017 MPWMD

Dear David Holland,

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 9/20/2017. 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.

If additional clarification of any information is required, please contact your Project Manager, Sarah K. Guenther, at 559-497-2888.

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

Sincerely,

Sarah K. Guenther, Project Manager

Sarah Guerthe

ELAP ACCREDING

Accredited in Accordance with NELAP ORELAP #4021





Case Narrative

Invoice Details

Project and Report Details

Client: Monterey Bay Analytical Invoice To: Monterey Bay Analytical

Report To: David Holland Invoice Attn: David Holland

Project #: MPWMD Project PO#: -

Received: 9/20/2017 - 10:17 **Report Due:** 10/04/2017

Sample Receipt Conditions

Cooler:Default CoolerContainers IntactTemperature on Receipt °C: 3.4COC/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:

David Holland FINAL.RPT
Monterey Bay Analytical FINAL.RPT

Services





Sample Description: MW-1 // 170918_02-01

MPWMD MPWMD

Certificate of Analysis

Sample ID: A7I2017-01 **Sample Date - Time:** 09/18/17 - 19:00 Sampled By: Joseph Suwada

Matrix: Drinking Water

Sample Type: Grab

BSK Associates Laboratory Fresno Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Trihalomethanes by GC-MS									
Bromodichloromethane	EPA 524.2	17	0.50	ug/L	1	A712853	10/01/17	10/01/17	
Bromoform	EPA 524.2	0.57	0.50	ug/L	1	A712853	10/01/17	10/01/17	
Chloroform	EPA 524.2	57	0.50	ug/L	1	A712853	10/01/17	10/01/17	
Dibromochloromethane	EPA 524.2	6.2	0.50	ug/L	1	A712853	10/01/17	10/01/17	
Surrogate: 1,2-Dichlorobenzene-d4	EPA 524.2	100 %	Acceptable	range:	70-130 %				
Surrogate: Bromofluorobenzene	EPA 524.2	103 %	Acceptable	range:	70-130 %				
Total Trihalomethanes		81	0.50	ug/L					
Haloacetic Acids by GC-ECD, G	GC-MS								
Dibromoacetic Acid (DBAA)	EPA 552.3	ND	1.0	ug/L	1	A712501	09/25/17	09/27/17	
Dichloroacetic Acid (DCAA)	EPA 552.3	1.6	1.0	ug/L	1	A712501	09/25/17	09/27/17	
Monobromoacetic Acid (MBAA)	EPA 552.3	ND	1.0	ug/L	1	A712501	09/25/17	09/27/17	
Monochloroacetic Acid (MCAA)	EPA 552.3	ND	2.0	ug/L	1	A712501	09/25/17	09/27/17	
Trichloroacetic Acid (TCAA)	EPA 552.3	ND	1.0	ug/L	1	A712501	09/25/17	09/27/17	
Surrogate: 2-Bromobutanoic Acid	EPA 552.3	99 %	Acceptable	range:	70-130 %				
Total Haloacetic Acids		ND	2.0	ug/L					



BSK Associates Laboratory Fresno Organics Quality Control Report

				Spike	Source		%REC		RPD	Date
Analyte	Result	RL	Units	Level	Result	%REC	Limits	RPD	Limit	Analyzed Qual
		EPA 52	24.2 - Q	uality Co	ntrol					
Batch: A712853										Prepared: 10/1/20
Prep Method: EPA 524.2										Analyst: AN
Blank (A712853-BLK1)										
Bromodichloromethane	ND	0.50	ug/L							10/01/17
Bromoform	ND	0.50	ug/L							10/01/17
Chloroform	ND	0.50	ug/L							10/01/17
Dibromochloromethane	ND	0.50	ug/L							10/01/17
Surrogate: 1,2-Dichlorobenzene-d4	53			50		105	70-130			10/01/17
Surrogate: Bromofluorobenzene	53			50		105	70-130			10/01/17
Blank Spike (A712853-BS1)										
Bromodichloromethane	9.2	0.50	ug/L	10		92	70-130			10/01/17
Bromoform	9.1	0.50	ug/L	10		91	70-130			10/01/17
Chloroform	9.0	0.50	ug/L	10		90	70-130			10/01/17
Dibromochloromethane	8.9	0.50	ug/L	10		89	70-130			10/01/17
Surrogate: 1,2-Dichlorobenzene-d4	49		-	50		98	70-130			10/01/17
Surrogate: Bromofluorobenzene	50			50		99	70-130			10/01/17
Blank Spike Dup (A712853-BSD1)										
Bromodichloromethane	8.9	0.50	ug/L	10		89	70-130	3	30	10/01/17
Bromoform	8.9	0.50	ug/L	10		89	70-130	2	30	10/01/17
Chloroform	8.8	0.50	ug/L	10		88	70-130	2	30	10/01/17
Dibromochloromethane	8.7	0.50	ug/L	10		87	70-130	3	30	10/01/17
Surrogate: 1,2-Dichlorobenzene-d4	49		Ü	50		98	70-130			10/01/17
Surrogate: Bromofluorobenzene	50			50		100	70-130			10/01/17
Matrix Spike (A712853-MS1), Source: A	A7I2224-01									
Bromodichloromethane	10	0.50	ug/L	10	ND	102	47-151			10/01/17
Bromoform	9.8	0.50	ug/L	10	ND	98	29-162			10/01/17
Chloroform	10	0.50	ug/L	10	ND	103	52-148			10/01/17
Dibromochloromethane	9.7	0.50	ug/L	10	ND	97	44-149			10/01/17
Surrogate: 1,2-Dichlorobenzene-d4	53		Ü	50		105	70-130			10/01/17
Surrogate: Bromofluorobenzene	52			50		104	70-130			10/01/17
		EPA 5	52.3 - Q	uality Co	ntrol					
Batch: A712501										Prepared: 9/25/20
Prep Method: EPA 552.3										Analyst: KF
Blank (A712501-BLK1)										
Dibromoacetic Acid (DBAA)	ND	1.0	ug/L							09/27/17
Dichloroacetic Acid (DCAA)	ND	1.0	ug/L							09/27/17
Monobromoacetic Acid (MBAA)	ND	1.0	ug/L							09/27/17
Monochloroacetic Acid (MCAA)	ND	2.0	ug/L							09/27/17
richloroacetic Acid (TCAA)	ND	1.0	ug/L							09/27/17
Surrogate: 2-Bromobutanoic Acid	9.6			10		96	70-130			09/27/17
Blank Spike (A712501-BS1)										
Dibromoacetic Acid (DBAA)	9.9	1.0	ug/L	10		99	70-130			09/27/17
Dichloroacetic Acid (DCAA)	10	1.0	ug/L	10		100	70-130			09/27/17
A7I2017 FINAL 10032017 0800										
Printed: 10/3/2017										
										Page 4 of 9

QA-RP-0001-10 Final.rpt



BSK Associates Laboratory Fresno Organics Quality Control Report

				Spike	Source		%REC		RPD	Date
Analyte	Result	RL	Units	Level	Result	%REC	Limits	RPD		Analyzed Qual
		EPA 5	52.3 - Q	uality Co	ntrol					
Batch: A712501				_						Prepared: 9/25/2017
Prep Method: EPA 552.3										Analyst: KHF
Blank Spike (A712501-BS1)										
Monobromoacetic Acid (MBAA)	10	1.0	ug/L	10		100	70-130			09/27/17
Monochloroacetic Acid (MCAA)	19	2.0	ug/L	20		97	70-130			09/27/17
Trichloroacetic Acid (TCAA)	9.9	1.0	ug/L	10		99	70-130			09/27/17
Surrogate: 2-Bromobutanoic Acid	9.7			10		97	70-130			09/27/17
Blank Spike Dup (A712501-BSD1)										
Dibromoacetic Acid (DBAA)	9.5	1.0	ug/L	10		95	70-130	4	30	09/27/17
Dichloroacetic Acid (DCAA)	10	1.0	ug/L	10		101	70-130	1	30	09/27/17
Monobromoacetic Acid (MBAA)	9.4	1.0	ug/L	10		94	70-130	6	30	09/27/17
Monochloroacetic Acid (MCAA)	19	2.0	ug/L	20		96	70-130	1	30	09/27/17
Trichloroacetic Acid (TCAA)	9.5	1.0	ug/L	10		95	70-130	5	30	09/27/17
Surrogate: 2-Bromobutanoic Acid	8.9			10		89	70-130			09/27/17
Duplicate (A712501-DUP1), Source: A	712445-01									
Dibromoacetic Acid (DBAA)	ND	1.0	ug/L		ND				30	09/28/17
Dichloroacetic Acid (DCAA)	ND	1.0	ug/L		ND				30	09/28/17
Monobromoacetic Acid (MBAA)	ND	1.0	ug/L		ND				30	09/28/17
Monochloroacetic Acid (MCAA)	ND	2.0	ug/L		ND				30	09/28/17
Trichloroacetic Acid (TCAA)	ND	1.0	ug/L		ND				30	09/28/17
Surrogate: 2-Bromobutanoic Acid	8.6			10		86	70-130			09/28/17
Matrix Spike (A712501-MS1), Source:	A7I1989-01									
Dibromoacetic Acid (DBAA)	11	1.0	ug/L	10	1.2	98	70-130			09/27/17
Dichloroacetic Acid (DCAA)	10	1.0	ug/L	10	ND	97	70-130			09/27/17
Monobromoacetic Acid (MBAA)	9.6	1.0	ug/L	10	ND	92	70-130			09/27/17
Monochloroacetic Acid (MCAA)	19	2.0	ug/L	20	ND	93	70-130			09/27/17
Trichloroacetic Acid (TCAA)	10	1.0	ug/L	10	ND	99	70-130			09/27/17
Surrogate: 2-Bromobutanoic Acid	9.6		-	10		96	70-130			09/27/17



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 Recovered (surrogates)	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 program for the following parameters:

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

Fresno

State of California - ELAP	1180	State of Hawaii	4021
State of Nevada	CA000792018-1	State of Oregon - NELAP	4021-009
EPA - UCMR4	CA00079	State of Washington	C997-17B
State of New York	12073		
Sacramento			
State of California - ELAP	2435		
San Bernardino			

State of California - ELAP 2993 State of Oregon - NELAP 4119-002

Vancouver
State of Oregon - NELAP WA100008-010 State of Washington C824-17

A7I2017 FINAL 10032017 0800

Printed: 10/3/2017

QA-RP-0001-10 Final.rpt







09202017

Monte6227

Turnaround: Standard

Due Date: 10/4/2017



Monterey Bay Analytical







1414 Stanislaus St., Fresno, CA 93706 (559) 497-2888 · Fax (559) 497-2893

www.bskassociates.com

Turnaround Time Request					
\boxtimes	Standard - 10 business days				
	Rush (Surcharge may apply)				
	Date needed:				
_					

A7I2017	09/20/2017
Monte6227	10

)	*Required Fields			Temp	3.4					\			00000000 A. (BC1121.VI) 1	Vita - National Control of the Contr	PRINCES No. 107		
Company/Client Name*:	1	Report Attent	^{ion*:} /eidner-Hc			Invoice			Phone					Fax:			
Monterey Bay Ar	nalvtical Services	Additional cc's	reianer-Fic :	энапа-		PO#:	Holland			375-62				831-64	41-073	34	
		Additional cc's David Ho	lland						E-mail	info@	mbas	inc.co	m				
Address*: 4 Justin Court, S	uito D	City*:	ntorov				State*: CA	Zip*:									
	une D		nterey					93940					i '		i l		
Project: MPWMD		Project	t#:····			1 _		ive your completed results?*	1	1					ĺ		
Reporting Options:			Pagulatan	Carbon Copie	ne	L	E-Mail	Fax Mail Compliance	4								
Trace (J-Flag)	Swamp EDD Type:		SWRCB (Drink		5 \$			SWRCB (Drinking Water)					l '				
Sampler Name (Printed/S	· · · · · · · · · · · · · · · · · · ·		Merced Co	_	Fresno Co		ystem Number*									. 1	
	•	1 =	Madera Co	_	Tulare Co	ا	yeten Hamber		-]			į				
Joseph Suwada			Other:	_	=	Ge	otracker #:		_	ka			İ				
Matrix	Types: SW=Surface Water BW=Bottled Water	GW=Ground Wate	r WW=Waste		Storm Water	DW=Drin	king Water SO	=Solid	\downarrow	\mathbf{E}			İ				
#	Sample Description*		Samı Date	Time	Matrix*	Con	nments / Stati	on Code / WTRAX	Ħ	THIMS			ļ				
1. MVV-1			9/18/17	19:00	DW	17091	8_02-01		TX	T	 						
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	,		,		Duic	11110	received by: (o	ignature and i install						Company		water of	
Received for Lab by: (Signatur		11.			Date	Time	Payment Rece	eived at Delivery:						Che	ck		Cash
	John John	Hum			9(20/17)	/0// T	Date:			Amount:			PIA#:			Init.	
	NTBAC UPS GSO	WALK-I	N F	FED EX	Courier:					Seal: Y	_		٠,	/			
Cooling Method: (Ve)	Blue None								Chilling	Process E	Begun: 17).	/ N	BU	J			-

Payment for services rendered as noted herein are due in full within 30 days from the date invoiced. If not so paid, account balances are deemed delinquent, Delinquent balances are subject to monthly service charges and interest specified in BSK's current Standard Terms and Conditions for Laboratory Services. The person signing for the Client/Company acknowledges that they are either the Client or an authorized 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 terms and conditions for laboratory services unless contractually bound otherwise. BSK's current terms and conditions can be found at www.bskassociates.com/BSKLabTermsConditions.pdf

BSK Associates SR-FL-0002-18

Sample Integrity

Monte6227 10

RSI	K Bottles: Yes No Page	\ of			į			KIRK BIHK HULU DUNDI MUNI	I INNI INDIAN KAKAN IND	
וטם	K Bottles: (e) W Page Was temperature within range?	Γ_	 _	More	correct cor	tainer	s and pre	eservatives	Lo	
	Chemistry ≤ 6°C Micro < 8°C	Yes No N			ved for the t				(es)	No NA
COC Info	If samples were taken today, is there evidence that chilling has begun?	Yes No N	(A)	Were	there bubb				Yes	Klos NÀ
ၓ	Did all bottles arrive unbroken and intact?	Yes N			a sufficient	amour	nt of sam	ple receive	d? Yes	₹ No
္ပင္က	Did all bottle labels agree with COC?				amples have				Yes	
	Was sodium thiosulfate added to CN sample(s) until chlorine was no longer present?		ALZV I	Was PM:	PM notified		crepancie /Time:	es?	Yes	No (N)
	250ml(A) 500ml(B) 1Liter(C) 40ml VOA(V)	Checks	Passe	d?	1					
	Bacti Na ₂ S ₂ O ₃		+						Л	9.5
	None (P)White Cap		_						/	
	Cr6 (P) Lt. Green Label/Blue Cap NH4OH(NH4)2SO4 DW	Cl, pH > 8	Υ	N						
Ì	Cr6 (P) Pink Label/Blue Cap NH4OH(NH4)2SO4 WW	pH 9.3-9.7	Υ	N				(
the lab	Cr6 (P) Black Label/Blue Cap NH4OH(NH4)2SO4 7199 ***24 HOUR HOLD TIME***	pH 9.0-9.5	Y	N						2.5
.⊑	HNO ₃ (P) Red Cap or HCI (P) Purple Cap/Lt. Blue Label	_							\	
Щ	H ₂ SO ₄ (P) or (AG) Yellow Cap/Label	pH < 2	Υ	N						
performed	NaOH (P) Green Cap	Cl, pH >10	Υ	N			1111			
90 8	NaOH + ZnAc (P)	pH > 9	Y	N			7(1)			
rar	Dissolved Oxygen 300ml (g)	_	_	.		10, 50 4,50 0,000,00	9/2/1	n /		
A or	None (AG) 608/8081/8082, 625, 632/8321, 8151, 8270		1				11 67	1 1		
p ≥	HCI (AG) ^{Lt. Blue Label} O&G, Diesel							+		
Received are either N				-						-
9 e	Ascorbic, EDTA, KH ₂ Ct (AG) ^{Pink Label} 525	engaga, ser Asagas, ser	1 1 1 1 1 1				e e e e e e e e e e e e e e e e e e e	-/-		1 1 1 1 1 1 1 1 1
S. S. S.	Na ₂ SO ₃ 250mL (AG) ^{Neon Green Label} 515	-	4					1		
Bottles In one checks	Na ₂ S ₂ O ₃ 1 Liter (Brown P) 549	***************************************	-		**************************************					
30	Na ₂ S ₂ O ₃ (AG) ^{Blue Label} 548, THM, 524	<u> </u>	1 +		20			/		
lorin m	Na ₂ S ₂ O ₃ (CG) ^{Blue Label} 504, 505, 547		_	-						
n/ch	Na ₂ S ₂ O ₃ + MCAA (CG) ^{Orange Label} 531	pH < 3	Y	N			-L			
atic	NH ₄ CI (AG) ^{Purple Label} 552			-	IA					
serv	EDA (AG) ^{Brown Label} DBPs						-I		1000	
pre	HCL (CG) 524.2,BTEX,Gas, MTBE, 8260/624	_	_	-			T			
ans	Buffer pH 4 (CG)	1 L	1							
me	H ₃ PO ₄ (CG) ^{Salmon Label}	1 = -	4							
<u>"</u>	Other:									
-	Asbestos 1Liter Plastic w/ Foil	-	1 4							
	Low Level Hg / Metals Double Baggie	_	_	- 70.750						
	Bottled Water	-	=	\Box						
	Clear Glass 250mL / 500mL / 1 Liter Soil Tube Brass / Steel / Plastic		- H	•			7 2 2 2 2 2 3			
	Tedlar Bag / Plastic Bag		100011	_	<u> </u>					
		⊥ e/Time/Initial	s		Contair	ner	Pres	ervative	Date/Tir	ne/Initials
Split	SP			Р						
S	SP		S	Р				-		
Comments										
	G									
Labe	eled by: Labels che	ecked by:) WC	ک _@ آ	MIND	F	RUSH P	aged by:_	@	<u>D</u>



Monterey Peninsula Water Mgmt. District

MPWMD-Attn: Jon Lear

P.O. Box 85 Monterey, CA 4 Justin Court Suite D, Monterey, CA 93940 831.375.MBAS (6227) www.MBASinc.com

ELAP Certification Number: 2385

Page 1 of 1 Tuesday, October 17, 2017

Lab Number: 170918 14-01

Collection Date/Time: 9/18/2017 13:00 Sample Collector: Suwada J Client Sample #:

Submittal Date/Time: 9/18/2017 14:30 Sample ID:

	Sample Description	: SMS ((D)							
<u>Analyte</u>	<u>Method</u>	<u>Unit</u>	Result	<u>Dil.</u>	<u>Qual</u>	<u>PQL</u>	MCL	Anal. Date	Anal. Time	<u>Analyst</u>
Trihalomethanes	EPA524.2	μg/L	81	1	Е			9/20/2017	12:00	
Haloacetic Acids	EPA552	μg/L	3	1	Е			9/26/2017	12:00	
Chlorine Residual, Free (Laboratory)	SM4500-CI G	mg/L	Not Detected	1		0.05		9/18/2017	17:30	LRH
Chloramines	SM4500-CI G	mg/L	Not Detected	1		0.05		9/18/2017	17:30	LRH

Comments:

Report Approved by: C

Savia Fioliaria, Laboratory Biroctor

September 28, 2017

Monterey Bay Analytical Services Lab ID : SP 1711396 4 Justin Court Customer : 2-19144

Monterey, CA 93940

Laboratory Report

Introduction: This report package contains total of 5 pages divided into 3 sections:

Case Narrative (2 pages) : An overview of the work performed at FGL.

Sample Results (1 page): Results for each sample submitted.

Quality Control (2 pages): Supporting Quality Control (QC) results.

Case Narrative

This Case Narrative pertains to the following samples:

Sample Description	Date Sampled	Date Received	FGL Lab ID#	Matrix
SMS (D)	09/18/2017	09/19/2017	SP 1711396-001	PW

Sampling and Receipt Information: All samples were received in acceptable condition and within temperature requirements, unless noted on the Condition Upon Receipt (CUR) form. All samples arrived at 5 °C. All samples were prepared and analyzed within the method specified hold time. All samples were checked for pH if acid or base preservation is required (except for VOAs). For details of sample receipt information, please see the attached Chain of Custody and Condition Upon Receipt Form.

Quality Control: All samples were prepared and analyzed according to the following tables:

Organic QC

551.1	09/20/2017:214125 All analysis quality controls are within established criteria
	09/21/2017:214240 All analysis quality controls are within established criteria
	09/19/2017:211260 All preparation quality controls are within established criteria
552	09/26/2017:211555 All preparation quality controls are within established criteria
552.2	09/26/2017:214492 All analysis quality controls are within established criteria
	09/26/2017:214553 All analysis quality controls are within established criteria

September 28, 2017 Lab ID : SP 1711396

Monterey Bay Analytical Services Customer : 2-19144

Certification:: I certify that this data package is in compliance with ELAP standards, both technically and for completeness, except for any conditions listed above. Release of the data contained in this data package is authorized by the Laboratory Director or his designee, as verified by the following electronic signature.

KD:DMB

Approved By Kelly A. Dunnahoo, B.S.



September 28, 2017 Lab ID : SP 1711396-001

Customer ID : 2-19144

Monterey Bay Analytical Services

4 Justin Court Sampled On : September 18, 2017-13:00

Monterey, CA 93940 : Joseph Suwada Sampled By

Received On : September 19, 2017-11:03

Matrix : Potable Water

Description : SMS (D) **Project** : MPWMD

Sample Result - Organic

Constituent	Result	PQL	Units	Note	Sample	Preparation	Samp	le Analysis
Constituent	Result	1 QL	Omts	14010	Method	Date/ID	Method	Date/ID
EPA 551.1								
Decafluorobiphenyl [‡]	104	80-120	%		551.1	09/19/17:211260	551.1	09/20/17:214125
Bromodichloromethane	24	1	ug/L		551.1	09/19/17:211260	551.1	09/20/17:214125
Bromoform	1	1	ug/L		551.1	09/19/17:211260	551.1	09/20/17:214125
Chloroform	45	5*	ug/L		551.1	09/19/17:211260	551.1	09/21/17:214240
Dibromochloromethane	11	1	ug/L		551.1	09/19/17:211260	551.1	09/20/17:214125
Total Trihalomethanes	81		ug/L		551.1	09/19/17:211260	551.1	09/20/17:214125
EPA 552.2								
2,3-Dibromopropionic Acid [‡]	108	70-130	%		552	09/26/17:211555	552.2	09/26/17:214492
Bromoacetic Acid	ND	1	ug/L		552	09/26/17:211555	552.2	09/26/17:214492
Chloroacetic Acid	ND	2	ug/L		552	09/26/17:211555	552.2	09/26/17:214492
Dibromoacetic Acid	ND	1	ug/L		552	09/26/17:211555	552.2	09/26/17:214553
Dichloroacetic Acid	2	1	ug/L		552	09/26/17:211555	552.2	09/26/17:214492
Trichloroacetic Acid	1	1	ug/L		552	09/26/17:211555	552.2	09/26/17:214492
Haloacetic acids (five)	3		ug/L		552	09/26/17:211555	552.2	09/26/17:214492

ND=Non-Detected. PQL=Practical Quantitation Limit. ‡Surrogate. * PQL adjusted for dilution.

September 28, 2017 Lab ID : SP 1711396 **Monterey Bay Analytical Services** : 2-19144 Customer

Quality Control - Organic

Constituent	Method	Date/ID	Type	Units	Conc.	QC Data	DQO	Note
Organic								
Bromodichloromethane	551.1	09/19/17:211260SBL	Blank	ug/L		ND	<1	
21 01110 41 011 011 011 011 011	33111	05/15/17/1211200522	LCS	ug/L	9.868	115 %	80-120	
			MS	ug/L	10.04	105 %	80-120	
		(SP 1711395-001)	MSD	ug/L	9.921	110 %	80-120	
			MSRPD	ug/L	19.84	2.6%	≤20	
	551.1	09/20/17:214125SBL	CCV	ug/L	83.33	107 %	80-120	
			CCV	ug/L	166.7	109 %	80-120	
Bromoform	551.1	09/19/17:211260SBL	Blank	ug/L		ND	<1	
			LCS	ug/L	9.868	104 %	80-120	
		(07.1511205.001)	MS	ug/L	10.04	91.1 %	80-120	
		(SP 1711395-001)	MSD	ug/L	9.921	103 %	80-120	
			MSRPD	ug/L	19.84	7.9%	≤20	
	551.1	09/20/17:214125SBL	CCV	ug/L	83.33	101 %	80-120	
			CCV	ug/L	166.7	100 %	80-120	
Chloroform	551.1	09/19/17:211260SBL	Blank	ug/L	0.000	ND	<1	
		1	LCS	ug/L	9.868	116 %	80-120	
		(CD 1711205 001)	MS	ug/L	10.04	97.9 %	80-120	
		(SP 1711395-001)	MSD	ug/L	9.921	104 %	80-120	
	551.1	00/01/17 01 40 40 CDI	MSRPD	ug/L	19.84	3.9%	≤20	
	551.1	09/21/17:214240SBL	CCV	ug/L	83.33	113 %	80-120	
D (1)		00/10/15 0110 00007	CCV	ug/L	166.7	105 %	80-120	
Decafluorobiphenyl	551.1	09/19/17:211260SBL	Blank	ug/L	20.24	83.6 %	80-120	
			LCS	ug/L	19.74	105 %	80-120	
		(CD 1711205 001)	MS	ug/L	20.09	94.8 %	80-120	
		(SP 1711395-001)	MSD	ug/L	19.84	89.0 %	80-120	
	551.1	00/20/17 01/125CDI	MSRPD	ug/L	19.84	7.6%	≤20.0	
	551.1	09/20/17:214125SBL	CCV CCV	ug/L	166.7 333.3	120 % 106 %	80-120 80-120	
Dibromochloromethane	551.1	00/10/17-211260CDI		ug/L	333.3	ND		
Dibromocniorometnane	551.1	09/19/17:211260SBL	Blank LCS	ug/L	9.868	110 %	<1 80-120	
			MS	ug/L ug/L	10.04	99.1 %	80-120	
		(SP 1711395-001)	MSD	ug/L ug/L	9.921	105 %	80-120	
		(31 1/11393-001)	MSRPD	ug/L ug/L	19.84	3.4%	≤20	
	551.1	09/20/17:214125SBL	CCV	ug/L ug/L	83.33	103 %	80-120	
	331.1	09/20/17.2141233BL	CCV	ug/L ug/L	166.7	103 %	80-120	
2,3-Dibromopropionic Acid	552	09/26/17:211555SBL	Blank	ug/L ug/L	5.000	79.1 %	70-130	
2,3-Dibromopropionic Acid	332	09/20/17.2113333BL	LCS	ug/L ug/L	5.000	97.9 %	70-130	
			MS	ug/L ug/L	5.000	106 %	70-130	
		(CC 1783575-001)	MSD	ug/L ug/L	5.000	112 %	70-130	
		(001/000/000/)	MSRPD	ug/L	5.000	5.6%	≤20.0	
Dibromoacetic Acid	552	09/26/17:211555SBL	Blank	ug/L	2.500	ND	<1	
	332	35,25,1,.2115555BE	LCS	ug/L ug/L	10.00	98.8 %	70-130	
		1	MS	ug/L ug/L	10.00	106 %	70-130	
		(CC 1783575-001)	MSD	ug/L	10.00	104 %	70-130	
			MSRPD	ug/L	5.000	1.6%	≤20.0	
Dichloroacetic Acid	552	09/26/17:211555SBL	Blank	ug/L	ĺ	ND	<1	
		1	LCS	ug/L	10.00	111 %	70-130	
		1	MS	ug/L	10.00	97.4 %	70-130	
		(CC 1783575-001)	MSD	ug/L	10.00	95.7 %	70-130	
			MSRPD	ug/L	5.000	1.7%	≤20.0	
Monobromoacetic Acid	552	09/26/17:211555SBL	Blank	ug/L		ND	<1	
		1	LCS	ug/L	10.00	99.0 %	70-130	
		1	MS	ug/L	10.00	88.0 %	70-130	
		(CC 1783575-001)	MSD	ug/L	10.00	89.3 %	70-130	
ii		1 ' '	MSRPD	ug/L	5.000	1.3%	≤20.0	

September 28, 2017

Monterey Bay Analytical Services

Quality Control - Organic

Lab ID

Customer

: SP 1711396

: 2-19144

Constituent	Method	Date/ID	Туре	Units	Conc.	QC Data	DQO	Note
Organic								
Monochloroacetic Acid	552	09/26/17:211555SBL	Blank	ug/L		ND	<2	
			LCS	ug/L	10.00	104 %	70-130	
			MS	ug/L	10.00	97.6 %	70-130	
		(CC 1783575-001)	MSD	ug/L	10.00	99.2 %	70-130	
			MSRPD	ug/L	5.000	0.16	≤2	
Trichloroacetic Acid	552	09/26/17:211555SBL	Blank	ug/L		ND	<1	
			LCS	ug/L	10.00	85.9 %	70-130	
			MS	ug/L	10.00	78.7 %	70-130	
		(CC 1783575-001)	MSD	ug/L	10.00	72.2 %	70-130	
			MSRPD	ug/L	5.000	7.7%	≤20.0	
2,3-Dibromopropionic Acid	552.2	09/26/17:214492SBL	CCV	ug/L	75.00	122 %	70-130	
			CCV	ug/L	50.00	95.1 %	70-130	
Dibromoacetic Acid	552.2	09/26/17:214553SBL	CCV	ug/L	150.0	95.1 %	70-130	
			CCV	ug/L	100.0	89.5 %	70-130	
Dichloroacetic Acid	552.2	09/26/17:214492SBL	CCV	ug/L	150.0	108 %	70-130	
			CCV	ug/L	100.0	97.2 %	70-130	
Monobromoacetic Acid	552.2	09/26/17:214492SBL	CCV	ug/L	150.0	94.3 %	70-130	
			CCV	ug/L	100.0	88.6 %	70-130	
Monochloroacetic Acid	552.2	09/26/17:214492SBL	CCV	ug/L	150.0	96.4 %	70-130	
			CCV	ug/L	100.0	91.8 %	70-130	
Trichloroacetic Acid	552.2	09/26/17:214492SBL	CCV	ug/L	150.0	91.5 %	70-130	
			CCV	ug/L	100.0	91.7 %	70-130	

Definition

CCV

: Continuing Calibration Verification - Analyzed to verify the instrument calibration is within criteria.

Blank : Method Blank - Prepared to verify that the preparation process is not contributing contamination to the samples.

LCS : Laboratory Control Standard/Sample - Prepared to verify that the preparation process is not affecting analyte recovery.

MS

: Eastward y Control Statistical Properties to Verry that the preparation process is not affecting analyse recovery.

: Matrix Spikes - A random sample is spiked with a known amount of analyte. The recoveries are an indication of how that sample

matrix affects analyte recovery.

MSD : Matrix Spike Duplicate of MS/MSD pair - A random sample duplicate is spiked with a known amount of analyted. The recoveries

are an indication of how that sample matrix affects analyte recovery.

MSRPD : MS/MSD Relative Percent Difference (RPD) - The MS relative percent difference is an indication of precision for the preparation

and analysis

ND : Non-detect - Result was below the DQO listed for the analyte.

DQO : Data Quality Objective - This is the criteria against which the quality control data is compared.



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CHAIN OF CUSTODY AND ANALYSIS REQUEST DOCUMENT

Custon	Client: Monterey Bay Analytical Services Customer Number: 2019144 Address: 4 Justin Court				19h)	Jumbe 291	er: Ø	TEST DESCRIPTION AND ANALYSES REQUESTED																		
Phone: Email A Contac Project Purcha Quote Rush A Rush p Electron Sampk	Monterey, CA 93940 (831)375-6227 Fax: (83 Address: info@mbasinc.com t Person: David Holland	Client Other:	24 hour	Mathod of Sampling: Composite (C) Grab (G)	Number of Containers	Type of Containers: (G)Glass (P)Plastic (V)VOA (MT)Metal Tubs	Potable (P) Non-Potable (NP) Ag Weter (AgW)	(SW) Surface Water (MW) Mentaring Well (GW) Ground Water (TB) Travel Blank (WW) Wasse Water (DW) Drinking Water		BacT. (Sys) System (SRC) Source (W) Waste	BacT: (ROUT)Routine (RPT)Repeat (OTH)Other (RPL)Replace	(LT) Lesf Tissue (PET) Pelials Tissue (PRD) Produce	Preseryative: (1) N45OH + ZnAc, (2) N45OH, (3) HCI (4) H2SOA, (5) HNO3, (6) Na2S22O3, (7) Other	НАА	THMS											
1.	SMS (D)	9/18/17	13:00	G	5	Var	Ρ							х	×		Ī									
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1709	18_14-01				76,	Ma	20 <u>°</u>	۹/	18	s be		<u>658</u>	<u> </u>	9	10		7 <u>[</u> [me:	۱ د	Relinqu	ushed	I	Date:	1	ime:	
				Receiv	ed By:		Da	ite:	Tin	ne:	R	eceived	і Ву:	_ (ale: 0 (т _і	ime: [[C		Receiv	ed By:	[Date:	T	ime:	

Corporate Offices & Laboratory 853 Corporation Street Santa Paula, CA 93060 TEL: (805)392-2000 Env FAX: (805)525-4172 / Ag FAX: (805)392-2063 CA ELAP Certification No.1573

Office & Laboratory 2500 Stagecoach Road Stockton, CA 95215 TEL: (209)942-0182 FAX: (209)942-0423 CA ELAP Certification No. 1563 Office & Laboratory 563 E. Limdo Avenue Chico, CA 95926 TEL: (530)343-5818 FAX: (530)343-3807 CA ELAP Certification No. 2670 Page 7 of 10 Office & Laboratory
3442 Empresa Drive, Suite D
San Luis Obispo, CA 93401
TEL: (805)783-2940
FAX: (805)783-2912
CA ELAP Certification No. 2775

Office & Laboratory 9415 W. Goshen Avenue Visalia. CA 93291 TEL: (559)734-9473 FAX: (559)734-8435 CA ELAP Certification No. 2810 FGL Environmental Doc ID: 2D0900157_SOP_17.DOC

Revision Date: 10/09/14 Page: 1 of 1

Condition Upon Receipt (Attach to COC)

Sample Receipt at SP:							
1. Number of ice chests/packages recei	ved:	1					
2. Shipper tracking numbers <u>5</u>	37647863						
3. Were samples received in a chilled contemps:	ondition?	5/	/	/	/	_/	_/
4. Surface water (SWTR) bact samples: should be flagged unless the time sin	•	•	•	•		nether iced	d or not,
5. Do the number of bottles received ag COC?	ree with the Y	es No	N/A				
6. Verify sample date, time, sampler	Υ	es No	N/A				
7. Were the samples received intact? (i. bottles, leaks, etc.)	e. no broken Y	es No					
8. Were sample custody seals intact?	Y	es No	N/A				
Sample Verification, Labeling and Dis	stribution:			_			
1. Were all requested analyses understo acceptable?	ood and Y	es No					
2. Did bottle labels correspond with the	client's ID's? Y	es No					
3. Were all bottles requiring sample presproperly preserved? [Exception: Oil & Grease, VOA and Cr'		es No	N/A] FGL			
4. VOAs checked for Headspace?	Υ	es No	N/A				
5. Were all analyses within holding time receipt?	s at time of Y	es No					
6. Have rush or project due dates been accepted?	checked and Y	es No	N/A]			
Include a copy of the COC for lab delive	ry. (Bacti. Inorgar	nics and Ra	dio)				
Sample Receipt, Login and Verification	completed by:		wed and oved By	Inez Covar	rubias 🥡	Digitally signed Title: Sample F Date: 09/20/20	
Discrepency Documentation: Any items above which are "No" or do n	ot meet specificat	tions (i.e. te	mps) mu	ıst be resolv	ed.		
1. Person Contacted:		Phone N	umber:				
Initiated By:		Date:	-				
Problem:							
Resolution:							
2. Person Contacted:		Phone N	umber:				
		_	- -			<u>-</u>	
Problem:							
Resolution:					(20191	44)	
			Mc	nterey E	Bay Ana	alytical	Services

SP 1711396

170918-14

Monterey Bay Analytical Services Chain Of Custody / Analysis Request

		4 Justin Ct.	Suite D • Mor	nterey, C	a 93940 • ((831) 37	5-MBAS (6	6227)	• (831)	641-07	34 (Fa	x)	197	1 1.30					
1			Client/Compa	ny Name	e:		A	Attenti							An	alysis Re	questec	1	
-		IBAS	W:	PW	MÞ				Jon	he	ar		- 6	1					
			Billing Addres											9		- 1	- 1		
		y Analytical Services												Chloramines					
Project/System	n Information	15	E-Mail Address		1.3	117.0		Contra	ct/P.O.#:					Š					
			blec	4-0	mpas	w9'1	net							20					
For State or Electronic Da	For Regulatory Complaince? YES NO For State or Local Health Department reporting: Electronic Data Transfer (EDT)? YES NO System ID Number:				Turn Around Time: STD (7-14 Days)						56	47) + A					
System ID No	umber:		Drinking water	☐ Wa	astewater [Monito	oring Well (Soil [Slu	dge [Ott	her	0		1			
MBAS Lab#	Project ID or Source Code #	Sample Site / Description (Well Name, APN#, Address, Stormdrain #)	Samplir Date	ng Time	Receiving Temp.	CL2 Residual	Colifor			Special	# Cont.	10000	ainer Size	0	- 1				
		SMS(D)	9/18/17	1300	21.8						6			X					
	1										1								
																			ΙĪ
																- 1			
	F	Printed Name				S	ignature	е				Dat	е	Time		Comme	nts or Spec	ial Instruc	tions:
Sampled by:	Jo	SEPH SowADA		-2		1													- 1
Relinquished by:		ESEPH SOUNDA		-/	7 2	/						9/18	117	14	30				
Received by:	4																		
Relinquished by:																			
Received by:	Monterey B	Bay Analytical Services	1	h	1							9/18	/12	14	30				
☐ Payment	received	Check#	/ /	Amou	nt:						Rece	eipt#	/			Date:			

Sample Condition Upon Receipt

Was temp acceptable? Chemistry ≤6°C Micro ≤10°C

YES

NO

NA <2 Hr

Is there evidence of chilling?

YES NO NA

Did bottles arrive intact?

Did bottle labels agree with COC?

NO

NA NO NA

Discrepency Documentation)iscrepency	Documentation
---------------------------	-------------	----------------------

Person Contacted:	Method: In Person/Phone/Email	
Problem		
Resolution		
Person Contacted: Problem	Method: In Person/Phone/Email	
Resolution		

Lab ID	Cont. Size	Pres	Date/Initials
	-		+
	+ +		
			-

Lab ID	Cont. Size	Pres	Date/Initials
			-
			1

Sample Split/Filtration

COC Info

Comments

Page 10 of 10



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Page 1 of 44

4 Justin Court Suite D, Monterey, CA 93940 831.375.MBAS (6227) www.MBASinc.com

ELAP Certification Number: 2385

Friday, November 10, 2017

Lab Number: 171002 48-01

Collection Date/Time: 10/2/2017 3:15 PM Sample Collector: Suwada J Client Sample #:

Submittal Date/Time: 10/2/2017 4:44 PM Sample ID:

	Sample Description	on: M\	N-1					
<u>Analyte</u>	<u>Method</u>	<u>Unit</u>	<u>Result</u>	Qual	<u>PQL</u>	Anal. Date	Anal. Time	Analyst
QC Ratio TDS/SEC	Calculation	NA	0.66			10/5/2017	14:25	НМ
Ammonia-N	EPA 350.1	mg/L	ND		0.1	10/9/2017	14:35	BS
Total Kjeldahl Nitrogen	EPA 351.2	mg/L	0.8		0.5	10/16/2017	16:12	BS
Phosphorus, Total	EPA 365.1	mg/L	0.07		0.02	10/13/2017	10:31	BS
Methane	EPA174/175	μg/L	ND	Е		12/1/1959	10:12	
Iron, Dissolved	EPA200.7	μg/L	14		10	10/27/2017	17:50	MW
Iron, Total	EPA200.7	μg/L	ND		10	10/10/2017	23:48	MW
Manganese, Dissolved	EPA200.7	μg/L	ND		10	10/27/2017	17:50	MW
Manganese, Total	EPA200.7	μg/L	ND		10	10/10/2017	23:48	MW
Zinc, Dissolved	EPA200.7	μg/L	549		10	10/27/2017	17:50	MW
Boron	EPA200.7	mg/L	ND		0.05	10/27/2017	17:47	MW
Calcium	EPA200.7	mg/L	48		1	10/27/2017	17:47	MW
Magnesium	EPA200.7	mg/L	13		1	10/27/2017	17:47	MW
Potassium	EPA200.7	mg/L	3.2		1	10/27/2017	17:47	MW
Silica (SiO2), Total	EPA200.7	mg/L	28		0.05	10/27/2017	17:47	MW
Sodium	EPA200.7	mg/L	48		1	10/27/2017	17:47	MW
Zinc, Total	EPA200.7	μg/L	40		10	10/27/2017	17:47	MW
Aluminum, Total	EPA200.8	μg/L	5		5	10/10/2017	11:48	MW
Arsenic, Total	EPA200.8	μg/L	2		1	10/10/2017	23:48	MW
Barium, Total	EPA200.8	μg/L	26		1	10/10/2017	11:48	MW
Lithium	EPA200.8	μg/L	4		0.5	10/10/2017	11:48	MW
Mercury, Total	EPA200.8	μg/L	ND		0.5	10/10/2017	11:48	MW

E = Analysis performed by External Laboratory; See Report attachments



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ELAP Certification Number: 2385

Page 2 of 44						Friday, No	vember 1	0, 2017
Molybdenum, Total	EPA200.8	μg/L	5		0.5	10/10/2017	11:48	MW
Nickel, Total	EPA200.8	μg/L	ND		1	10/10/2017	11:48	MW
Selenium, Total	EPA200.8	μg/L	3		1	10/10/2017	11:48	MW
Strontium, Total	EPA200.8	μg/L	213		1	10/10/2017	11:48	MW
Uranium, Total	EPA200.8	μg/L	1.0		0.5	10/10/2017	11:48	MW
Vanadium, Total	EPA200.8	μg/L	ND		5	10/10/2017	11:48	MW
Uranium, Radiological	EPA200.8	pCi/L	0.7		0.5	10/10/2017	11:48	MW
Bromide	EPA300.0	mg/L	ND		0.1	10/3/2017	18:36	НМ
Chloride	EPA300.0	mg/L	28		1	10/3/2017	18:36	НМ
Fluoride	EPA300.0	mg/L	0.2		0.1	10/3/2017	18:36	НМ
Nitrate as N	EPA300.0	mg/L	0.3		0.1	10/3/2017	18:36	НМ
Nitrite as N	EPA300.0	mg/L	ND		0.1	10/3/2017	18:36	НМ
Orthophosphate as P	EPA300.0	mg/L	ND		0.1	10/3/2017	18:36	НМ
Sulfate	EPA300.0	mg/L	69		1	10/3/2017	18:36	НМ
Trihalomethanes	EPA524.2	μg/L	71	Е		10/11/2017	12:00	
Haloacetic Acids	EPA552	μg/L	ND	Е		10/7/2017	12:00	
Gross Alpha	EPA900.0	pCi/L	2.88 ± 1.29	Е		10/25/2017	8:10	
Radium 226	EPA903.0	pCi/L	0.050 ± 0.120	Е		10/13/2017	17:20	
Alkalinity, Total (as CaCO3)	SM2320B	mg/L	137		10	10/12/2017	8:48	LM
Specific Conductance (EC)	SM2510B	µmhos/cm	491		1	10/5/2017	10:55	НМ
Total Dissolved Solids	SM2540C	mg/L	326		10	10/5/2017	14:25	НМ
Chlorine Residual,Total (Laboratory)	SM4500-CI G	mg/L	ND		0.05	10/2/2017	16:30	LRH
Chlorine Residual, Free (Laboratory)	SM4500-CI G	mg/L	ND		0.05	10/2/2017	16:30	LRH
Chloramines	SM4500-CI G	mg/L	ND		0.05	10/2/2017	16:30	LRH



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ELAP Certification Number: 2385

Page 3 of 44					Friday, No	vember 1	0, 2017
pH (Laboratory)	SM4500-H+B	pH (H)	7.5	0.1	10/2/2017	17:00	BS
Dissolved Organic Carbon	SM5310C	mg/L	1.8	0.2	10/17/2017	13:03	НМ
TOC	SM5310C	mg/L	1.2	0.2	10/17/2017	13:22	НМ

Comments:

J = Result is less than PQL



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ELAP Certification Number: 2385

Page 4 of 44 Friday, November 10, 2017

Lab Number: 171002 48-02

Collection Date/Time: 10/2/2017 4:00 PM Sample Collector: Suwada J Client Sample #:

Submittal Date/Time: 10/2/2017 4:44 PM Sample ID:

	Sample Descripti	on:	SMS (D)					
<u>Analyte</u>	<u>Method</u>	<u>Unit</u>	<u>Result</u>	<u>Qual</u>	<u>PQL</u>	Anal. Date	Anal. Time	Analyst
QC Ratio TDS/SEC	Calculation	NA	0.61			10/5/2017	14:25	НМ
Ammonia-N	EPA 350.1	mg/L	ND		0.1	10/4/2017	16:30	BS
Total Kjeldahl Nitrogen	EPA 351.2	mg/L	ND		0.5	10/16/2017	16:12	BS
Phosphorus, Total	EPA 365.1	mg/L	0.09	LM	0.02	10/13/2017	10:31	BS
Methane	EPA174/175	μg/L	0.39	Е		10/12/2017	13:12	
Iron, Dissolved	EPA200.7	μg/L	ND		10	10/27/2017	17:56	MW
Iron, Total	EPA200.7	μg/L	ND		10	11/2/2017	15:22	MW
Manganese, Dissolved	EPA200.7	μg/L	ND		10	10/27/2017	17:56	MW
Manganese, Total	EPA200.7	μg/L	ND		10	11/2/2017	15:22	MW
Sodium	EPA200.7	mg/L	48		1	11/2/2017	15:22	MW
Zinc, Dissolved	EPA200.7	μg/L	55		10	10/27/2017	17:56	MW
Boron	EPA200.7	mg/L	ND		0.05	11/2/2017	15:22	MW
Calcium	EPA200.7	mg/L	48		1	11/2/2017	15:22	MW
Magnesium	EPA200.7	mg/L	14		1	11/2/2017	15:22	MW
Potassium	EPA200.7	mg/L	3.2		1	11/2/2017	15:22	MW
Silica (SiO2), Total	EPA200.7	mg/L	25		0.05	11/2/2017	15:22	MW
Zinc, Total	EPA200.7	μg/L	61		10	11/2/2017	15:22	MW
Aluminum, Total	EPA200.8	μg/L	7		5	10/10/2017	11:51	MW
Arsenic, Total	EPA200.8	μg/L	6		1	10/10/2017	23:51	MW
Barium, Total	EPA200.8	μg/L	56		1	10/10/2017	11:51	MW
Lithium	EPA200.8	μg/L	4		0.5	10/10/2017	11:51	MW
Mercury, Total	EPA200.8	μg/L	ND		0.5	10/10/2017	11:51	MW

E = Analysis performed by External Laboratory; See Report attachments



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Page 5 of 44 ELAP Certification Number: 2385

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Molybdenum, Total	EPA200.8	μg/L	25		0.5	10/10/2017	11:51	MW
Nickel, Total	EPA200.8	μg/L	ND		1	10/10/2017	11:51	MW
Selenium, Total	EPA200.8	μg/L	4		1	10/10/2017	11:51	MW
Strontium, Total	EPA200.8	μg/L	250		1	10/10/2017	11:51	MW
Uranium, Total	EPA200.8	μg/L	1.0		0.5	10/10/2017	11:51	MW
Vanadium, Total	EPA200.8	μg/L	ND		5	10/10/2017	11:51	MW
Uranium, Radiological	EPA200.8	pCi/L	0.7		0.5	10/10/2017	11:51	MW
Bromide	EPA300.0	mg/L	ND		0.1	10/3/2017	20:00	НМ
Chloride	EPA300.0	mg/L	29		1	10/3/2017	20:00	НМ
Fluoride	EPA300.0	mg/L	0.3		0.1	10/3/2017	20:00	НМ
Nitrate as N	EPA300.0	mg/L	0.3		0.1	10/3/2017	20:00	НМ
Nitrite as N	EPA300.0	mg/L	ND		0.1	10/3/2017	20:00	НМ
Orthophosphate as P	EPA300.0	mg/L	ND	IA, LN	0.1	10/3/2017	20:00	НМ
Sulfate	EPA300.0	mg/L	70		1	10/3/2017	20:00	НМ
Trihalomethanes	EPA524.2	μg/L	86	Е		10/11/2017	12:00	
Haloacetic Acids	EPA552	μg/L	6	Е		10/7/2017	12:00	
Gross Alpha	EPA900.0	pCi/L	1.80 ± 1.09	Е		10/25/2017	9:55	
Radium 226	EPA903.0	pCi/L	0.149 ± 0.154	E		10/13/2017	17:40	
Alkalinity, Total (as CaCO3)	SM2320B	mg/L	143		10	10/12/2017	8:48	LM
Specific Conductance (EC)	SM2510B	µmhos/cm	505		1	10/5/2017	10:55	НМ
Total Dissolved Solids	SM2540C	mg/L	308		10	10/5/2017	14:25	НМ
Chlorine Residual,Total (Laboratory)	SM4500-CI G	mg/L	N.D.		0.05	10/2/2017	16:30	LRH
Chlorine Residual, Free (Laboratory)	SM4500-CI G	mg/L	ND		0.05	10/2/2017	16:30	LRH
Chloramines	SM4500-CI G	mg/L	N.D.		0.05	10/2/2017	16:30	LRH



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					i naay, ito	VOITIBOL 1	0, 2011
pH (Laboratory)	SM4500-H+B	pH (H)	7.7	0.1	10/2/2017	17:00	BS
Dissolved Organic Carbon	SM5310C	mg/L	1.7	0.2	10/17/2017	13:42	НМ
TOC	SM5310C	mg/L	1.3	0.2	10/17/2017	14:01	НМ

Comments:

Report Approved by:

Monterey Bay Analytical Services Chain Of Custody / Analysis Request

4 Justin Ct. Suite D • Monterey, Ca 93940 • (831) 375-MBAS (6227) • (831) 641-0734 (Fax) Analysis Requested Client/Company Name: MPWMD **Monterey Bay Analytical Services** E-Mail Address(es): Contract/P.O.#: Project/System Information: Heave mpwmc. net Turn Around Time: For Regulatory Complaince? YES □ NO STD (7-14 Days) 48-Hour For State or Local Health Department reporting: 5-Day 24-Hour Electronic Data Transfer (EDT)? YES System ID Number: Drinking water Wastewater Monitoring Well Sample Site / Description MBAS Project ID or Sampling Receiving Coliform Analysis Container CL2 (Well Name, APN#, Address, Stormdrain #) Lab# Source Code # Residual Routine Other Repeat Special Cont. Temp. Type mw 1 SMS(D) 21 **Printed Name** Signature Date Time Comments or Special Instructions: Sampled by Relinquished by: Received by Relinquished by: Received by: Monterey Bay Analytical Services ☐ Payment received Check # Amount: Receipt # Date:

Was temp acceptable? Chemistry ≤6°C Micro ≤10°C

YES

NO

Sample Condition Upon Receipt

NA <2 Hr NA

Is there evidence of chilling?



Did bottles arrive intact?

Did bottle labels agree with COC?

NO NO NA

Discrepency Documentation:

Person Contacted:	Method: In Person/Phone/Email	
Problem		
Resolution	<u> </u>	
Person Contacted:	Method: In Person/Phone/Email	
Resolution		

Lab ID	Cont. Size	Pres	Date/Initials
48-01	250	HND3	10/2 1fm
48-02	250	HNDZ	10/2 Hm

Lab ID	Cont. Size	Pres	Date/Initials
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COC Info



McCampbell Analytical, Inc.

"When Quality Counts"

Analytical Report

WorkOrder: 1710274

Report Created for: Monterey Bay Analytical

> 4 Justin Court, Suite D Monterey, CA 93940

Project Contact:

David Holland

Project P.O.:

Project Name: MPWMD

Project Received: 10/06/2017

Analytical Report reviewed & approved for release on 10/13/2017 by:

Angela Rydelius,

Laboratory Manager

The report shall not be reproduced except in full, without the written approval of the laboratory. The analytical results relate only to the items tested. Results reported conform to the most current NELAP standards, where applicable, unless otherwise stated in the case narrative.



1534 Willow Pass Rd. Pittsburg, CA 94565 ♦ TEL: (877) 252-9262 ♦ FAX: (925) 252-9269 ♦ www.mccampbell.com

Glossary of Terms & Qualifier Definitions

Client: Monterey Bay Analytical

Project: MPWMD **WorkOrder:** 1710274

Glossary Abbreviation

%D Serial Dilution Percent Difference

95% Interval 95% Confident Interval

DF Dilution Factor

DI WET (DISTLC) Waste Extraction Test using DI water

DISS Dissolved (direct analysis of 0.45 µm filtered and acidified water sample)

DLT Dilution Test (Serial Dilution)

DUP Duplicate

EDL Estimated Detection Limit

ERS External reference sample. Second source calibration verification.

ITEF International Toxicity Equivalence Factor

LCS Laboratory Control Sample

MB Method Blank

MB % Rec % Recovery of Surrogate in Method Blank, if applicable

MDL Method Detection Limit

ML Minimum Level of Quantitation

MS Matrix Spike

MSD Matrix Spike Duplicate

N/A Not Applicable

ND Not detected at or above the indicated MDL or RL

NR Data Not Reported due to matrix interference or insufficient sample amount.

PDS Post Digestion Spike

PDSD Post Digestion Spike Duplicate

PF Prep Factor

RD Relative Difference

RL Reporting Limit (The RL is the lowest calibration standard in a multipoint calibration.)

RPD Relative Percent Deviation
RRT Relative Retention Time

SPK Val Spike Value

SPKRef Val Spike Reference Value

SPLP Synthetic Precipitation Leachate Procedure

ST Sorbent Tube

TCLP Toxicity Characteristic Leachate Procedure

TEQ Toxicity Equivalents

WET (STLC) Waste Extraction Test (Soluble Threshold Limit Concentration)

Analytical Report

Client: Monterey Bay Analytical

 Date Received:
 10/6/17 10:10

 Date Prepared:
 10/12/17

 Project:
 MPWMD

WorkOrder: 1710274 **Extraction Method:** RSK175

Analytical Method: RSK175

Unit: $\mu g/L$

Dissolved Gases by RSK 175

Client ID	Lab ID	Matrix	Date Collected Instrument	t Batch ID
MW-1	1710274-001A	Water	10/02/2017 15:15 GC26 10121	170905.D 146990
<u>Analytes</u>	Result		<u>RL</u> <u>DF</u>	Date Analyzed
Methane	ND		0.10 1	10/12/2017 12:59

Analyst(s): HK

Client ID	Lab ID	Matrix	Date Col	lected I	nstrument	Batch ID
SMS (D)	1710274-002A	Water	10/02/201	7 16:00 C	GC26 1012170906.D	146990
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>		Date Analyzed
Methane	0.39		0.10	1		10/12/2017 13:12

Analyst(s): HK

1710274

146990

 $\mu g/L$

Quality Control Report

WorkOrder:

BatchID:

Unit:

Client: Monterey Bay Analytical

Date Prepared:10/12/17Date Analyzed:10/12/17Instrument:GC26Matrix:Water

Project:

GC26
Water
MPWMD

Sample ID: MB/LCS-146990

Extraction Method: RSK175

Analytical Method: RSK175

QC Summary Report for RSK175 MB LCS RL **SPK** LCS Analyte MB SS **LCS** Val Result Result %REC %REC Limits Ethane ND 3.02 0.20 2.38 127 70-130 ND Ethylene 2.98 0.30 3.08 97 70-130 Methane ND 1.36 0.10 1.17 117 70-130

McCampbell Analytical, Inc.

1534 Willow Pass Rd Pittsburg, CA 94565-1701 (925) 252-9262

CHAIN-OF-CUSTODY RECORD

Page 1 of 1

WorkOrder: 1710274

ClientCode: MBAS

WaterTrax WriteOn EDF Excel

mweidner@mbasinc.com; Dholland@mbas

■ EQuIS

y Email

Dry-Weight

☐ HardCopy ☐ ThirdParty

☐ J-flag

5 days:

Report to:

David Holland

Monterey Bay Analytical 4 Justin Court, Suite D Monterey, CA 93940

831-375-6227

FAX: 831-641-0734

Email:

PO:

cc/3rd Party:

ProjectNo: MPWMD

Detection Summary

Bill to:

Accounts Payable

Monterey Bay Analytical

4 Justin Court, Suite D Monterey, CA 93940

Date Received:

Requested TAT:

10/06/2017

Date Logged: 10/06/2017

							Re	quested	Tests (See leg	end bel	ow)			
Lab ID	Client ID	Matrix	Collection Date Ho	old 1	2	3	4	5	6	7	8	9	10	11	12
1710274-001	MW-1	Water	10/2/2017 15:15	A											
1710274-002	SMS (D)	Water	10/2/2017 16:00	Α											

Test Legend:

1	RSK175_W
5	
9	

2	
6	
10	

3	
7	
11	

4	
8	
12	

Prepared by: Jena Alfaro

Comments:

NOTE: Soil samples are discarded 60 days after results are reported unless other arrangements are made (Water samples are 30 days).

Hazardous samples will be returned to client or disposed of at client expense.



McCampbell Analytical, Inc.

"When Quality Counts"

1534 Willow Pass Road, Pittsburg, CA 94565-1701 Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269 http://www.mccampbell.com / E-mail: main@mccampbell.com

WORK ORDER SUMMARY

Client Name:	MONTER	REY BAY ANALYTI	CAL		Project:	MPWMD				Woı	k Order:	1710274
Client Contact	: David Ho	lland								(QC Level:	LEVEL 2
Contact's Ema		@mbasinc.com; Dhol global.net; info@mbas		e.com;	Comments	:				Date	Logged:	10/6/2017
		WaterTrax	WriteOn	EDF	Exce	lF	ax 🗸 Em	ail Hard0	CopyThirdPart	ty 🔲	J-flag	
Lab ID (Client ID	Matrix	Test Name			ontainers l omposites	Bottle & Preserv	ative De- chlorinated	Collection Date d & Time	TAT	Sediment Content	Hold SubOut
1710274-001A N	1W-1	Water	RSK175 <me< td=""><td>ethane_4></td><td></td><td>3</td><td>VOA w/ HCl</td><td></td><td>10/2/2017 15:15</td><td>5 days</td><td>None</td><td></td></me<>	ethane_4>		3	VOA w/ HCl		10/2/2017 15:15	5 days	None	
1710274-002A S	MS (D)	Water	RSK175 <me< td=""><td>ethane_4></td><td></td><td>3</td><td>VOA w/ HCl</td><td></td><td>10/2/2017 16:00</td><td>5 days</td><td>None</td><td></td></me<>	ethane_4>		3	VOA w/ HCl		10/2/2017 16:00	5 days	None	

NOTES: - STLC and TCLP extractions require 2 days to complete; therefore, all TATs begin after the extraction is completed (i.e., One-day TAT yields results in 3 days from sample submission).

- MAI assumes that all material present in the provided sampling container is considered part of the sample - MAI does not exclude any material from the sample prior to sample preparation unless requested in writing by the client.

1710274

McCAMPBELL ANALYTICAL, INC. 1534 WILLOW PASS ROAD PITTSBURG, CA 94565-1701 Website: www.mccampbell.com Telephone: (877) 252-9262 Report To: David Holland Bill To:										UR G			OU	ND	T]	[M]	E		□ RUS	i SH	Ę	⊒ HR		□ 48 F	I IR	RD 72 I rite C	IR	(DW)						
Report To: Da	vid Holland		В	ill To	:															A	nal	ysis	Rec	ues	t		,				<u>C</u>	ther	_	Comments
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Tele: (831) 37	5 - 6227			ax: (-13	802	021)		1/55	Ŧ	3		lors		(83)			8	99/	709/				ı	analysis:
Project #:			P	rojec	t Nan	ne:	MI	W	<u>UD</u>					\dashv	(602	2/8	<u>چ</u> ا	1664	(418	140	des)	Aroc	_	bicid			PNA NA	0109	0109	اءا			١	Yes / No
Project Locati														┨.	Gas (602 / 8021	N 60	801	ase (bons	21 (F	stici	LY;	ides)	Her	2	ပ္မ	Hs/	0.8	8.0	602			١	
Sampler Signa	ture: Joseph Su	-								1	MI	ЕТН	OD	_	l as	(EP	ō	5	ocar	/ 80	: Pe	NO	estic	ic Cl	\(\frac{5}{2} \)	S	(PA	/ 20	/30	010			ı	
		SAMP	LING		ers		MA	TR	IX			SER		D.	TPH	Z	oto	Sii	Hydr	8010	81 ((CB's	A P	Acid	8260	8270	8310	200.7	7.00	9/8				
SAMPLE ID	LOCATION/ Field Point Name	Date	Time	# Containers	Type Containers	Water	Soil	Air	Sludge	Other	ICE	HCL	HNO		MTBE / BTEX &	MTBE / BTEX ONLY (EPA 602 / 8021)	TPH as Diesel / Motor Oil (8015)	Total Petroleum Oil & Grease (1664 / SS20 E/B&F)	Total Petroleum Hydrocarbons (418.1)	EPA 502,2 / 601 / 8010 / 8021 (HVOCs)	EPA 505/ 608 / 8081 (CI Pesticides)	EPA 608 / 8082 PCB's ONLY; Aroclors / Congeners	EPA 507 / 8141 (NP Pesticides)	EPA 515 / 8151 (Acidic Cl Herbicides)	EPA 524.2 / 624 / 8260 (VOCs)	EPA 525.2 / 625 / 8270 (SVOCs)	EPA 8270 SIM / 8310 (PAHs / PNAs)	CAM 17 Metals (200.7 / 200.8 / 6010 / 6020)	LUFT 5 Metals (200,7 / 200.8 / 6010 / 6020)	Lead (200.7 / 200.8 / 6010 / 6020)	Methane			
/	MW-1	10/02/1 7	15:15	3	٧	Х				7	Х	X																			Х			171002_48 -01
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Relinquished By: David Holland Date: 1600 Relinquished By: Date: 1600 Received By: Received By: Received By: Received By: Received By:			4	ICE/t² COMMENTS: GOOD CONDITION HEAD SPACE ABSENT DECHLORINATED IN LAB APPROPRIATE CONTAINERS																														
						PRESERVED IN LAB																												
Relinquished By:		Date:	Time:	Kece	eivea B	.y:									PR	ESE	RVA	TIO		DAS	Od	&G	ME pH•		Ŀs	ОТІ	HER							

Sample Receipt Checklist

Client Name: Monterey Bay Analytical Project Name: MPWMD			Date and Time Received Date Logged: Received by:	10/6/2017 10:10 10/6/2017 Jena Alfaro
WorkOrder №: 1710274 Matrix: Water Carrier: Golden State Overnight			Logged by:	Jena Alfaro
Chain of C	ustody	(COC) Inforn	nation	
Chain of custody present?	Yes	✓	No 🗌	
Chain of custody signed when relinquished and received?	Yes	✓	No 🗌	
Chain of custody agrees with sample labels?	Yes	✓	No 🗌	
Sample IDs noted by Client on COC?	Yes	✓	No 🗌	
Date and Time of collection noted by Client on COC?	Yes	✓	No 🗌	
Sampler's name noted on COC?	Yes	•	No 🗌	
COC agrees with Quote?	Yes		No 🗆	NA 🗸
Sampl	e Rece	ipt Informatio	<u>on</u>	
Custody seals intact on shipping container/cooler?	Yes		No 🗌	NA 🗹
Shipping container/cooler in good condition?	Yes	✓	No 🗌	
Samples in proper containers/bottles?	Yes	✓	No 🗆	
Sample containers intact?	Yes	✓	No 🗌	
Sufficient sample volume for indicated test?	Yes	✓	No 🗌	
Sample Preservation	on and	Hold Time (H	T) Information	
All samples received within holding time?	Yes	✓	No 🗌	NA 🗌
Sample/Temp Blank temperature		Temp: 2.1°	°C	NA 🗌
Water - VOA vials have zero headspace / no bubbles?	Yes	✓	No 🗌	NA 🗌
Sample labels checked for correct preservation?	Yes	✓	No 🗌	
pH acceptable upon receipt (Metal: <2; 522: <4; 218.7: >8)?	Yes		No 🗌	NA 🗸
Samples Received on Ice?	Yes		No 🗌	
	e: WE	TICE)		
<u>UCMR Samples:</u> Total Chlorine tested and acceptable upon receipt for EPA 522?	Yes		No 🗆	NA 🗹
Free Chlorine tested and acceptable upon receipt for EPA 218.7, 300.1, 537, 539?	Yes		No 🗌	NA 🗹
		====	=======	=======

October 27, 2017

Lab ID : SP 1712314 **Monterey Bay Analytical Services** 4 Justin Court Customer : 2-19144

Monterey, CA 93940

Laboratory Report

Introduction: This report package contains total of 9 pages divided into 3 sections:

Case Narrative (2 pages): An overview of the work performed at FGL.

Sample Results (4 pages): Results for each sample submitted.

Quality Control (3 pages) : Supporting Quality Control (QC) results.

Case Narrative

This Case Narrative pertains to the following samples:

Sample Description	Date Sampled	Date Received	FGL Lab ID#	Matrix
MW-1	10/02/2017	10/06/2017	SP 1712314-001	W
SMS (D)	10/02/2017	10/06/2017	SP 1712314-002	W

Sampling and Receipt Information: All samples were received in acceptable condition and within temperature requirements, unless noted on the Condition Upon Receipt (CUR) form. All samples arrived at 6 °C. All samples were prepared and analyzed within the method specified hold time. All samples were checked for pH if acid or base preservation is required (except for VOAs). For details of sample receipt information, please see the attached Chain of Custody and Condition Upon Receipt Form.

Quality Control: All samples were prepared and analyzed according to the following tables:

Organic QC

551.1	10/11/2017:215389 All analysis quality controls are within established criteria.
	10/12/2017:215445 All analysis quality controls are within established criteria.
	10/10/2017:212171 All preparation quality controls are within established criteria, except:
	The following note applies to Bromodichloromethane, Decafluorobiphenyl:
	435 Sample matrix may be affecting this analyte. Data was accepted based on the LCS or CCV recovery.
	10/06/2017:212054 All preparation quality controls are within established criteria, except:
	The following note applies to 2,3-Dibromopropionic Acid, Trichloroacetic Acid, Monochloroacetic Acid,
550	Monobromoacetic Acid, Dichloroacetic Acid:
552	435 Sample matrix may be affecting this analyte. Data was accepted based on the LCS or CCV recovery.
	The following note applies to Trichloroacetic Acid:
	435 Sample matrix may be affecting this analyte. Data was accepted based on the LCS or CCV recovery.

October 27, 2017 **Monterey Bay Analytical Services**

Customer : 2-19144

: SP 1712314

Organic QC

Lab ID

552.2	10/07/2017:215103 All analysis quality controls are within established criteria.
	10/07/2017:215193 All analysis quality controls are within established criteria.

Radio QC

900.0	10/25/2017:216176 All analysis quality controls are within established criteria.
	10/24/2017:212791 All preparation quality controls are within established criteria.
903.0	10/13/2017:215681 All analysis quality controls are within established criteria.
	10/10/2017:212207 All preparation quality controls are within established criteria.

Certification:: I certify that this data package is in compliance with ELAP standards, both technically and for completeness, except for any conditions listed above. Release of the data contained in this data package is authorized by the Laboratory Director or his designee, as verified by the following electronic signature.

KD:DMB

Approved By Kelly A. Dunnahoo, B.S.





Analytical Chemists

October 27, 2017 Lab ID : SP 1712314-001

Customer ID : 2-19144

Monterey Bay Analytical Services

4 Justin Court Sampled On : October 2, 2017-15:15

: Joseph Suwada Monterey, CA 93940 Sampled By

Received On : October 6, 2017-09:45

Matrix : Water

Description : MW-1 **Project** : MPWMD

Sample Result - Organic

Constituent	Result	PQL	Units	Note	Sample	Preparation	Samp	le Analysis
Constituent	Result	1 QL	Omts	Note	Method	Date/ID	Method	Date/ID
EPA 551.1								
Decafluorobiphenyl [‡]	109	80-120	%		551.1	10/10/17:212171	551.1	10/11/17:215389
Bromodichloromethane	16	1	ug/L		551.1	10/10/17:212171	551.1	10/11/17:215389
Bromoform	ND	1	ug/L		551.1	10/10/17:212171	551.1	10/11/17:215389
Chloroform	50	5*	ug/L		551.1	10/10/17:212171	551.1	10/12/17:215445
Dibromochloromethane	5	1	ug/L		551.1	10/10/17:212171	551.1	10/11/17:215389
Total Trihalomethanes	71		ug/L		551.1	10/10/17:212171	551.1	10/11/17:215389
EPA 552.2								
2,3-Dibromopropionic Acid [‡]	104	70-130	%		552	10/06/17:212054	552.2	10/07/17:215103
Bromoacetic Acid	ND	1	ug/L		552	10/06/17:212054	552.2	10/07/17:215103
Chloroacetic Acid	ND	2	ug/L		552	10/06/17:212054	552.2	10/07/17:215103
Dibromoacetic Acid	ND	1	ug/L		552	10/06/17:212054	552.2	10/07/17:215103
Dichloroacetic Acid	ND	1	ug/L		552	10/06/17:212054	552.2	10/07/17:215103
Trichloroacetic Acid	ND	1	ug/L		552	10/06/17:212054	552.2	10/07/17:215103
Haloacetic acids (five)	ND		ug/L		552	10/06/17:212054	552.2	10/07/17:215103

ND=Non-Detected. PQL=Practical Quantitation Limit. ‡Surrogate. * PQL adjusted for dilution.

October 27, 2017 Lab ID : SP 1712314-001

Customer ID : 2-19144

Monterey Bay Analytical Services

4 Justin Court Sampled On : October 2, 2017-15:15

Monterey, CA 93940 Sampled By : Joseph Suwada

Received On : October 6, 2017-09:45

: Water Matrix

Description : MW-1 **Project** : MPWMD

Sample Result - Radio

Constituent	Result ± Error	MDA	Units	MCL/AL	Sample	Preparation	Sample Analysis		
Constituent	Result ± Ellor	WIDA	Omts	WICL/AL	Method	Date/ID	Method	Date/ID	
Radio Chemistry									
Gross Alpha	2.88 ± 1.29	1.17	pCi/L	15/5	900.0	10/24/17-10:15 2P1712791	900.0	10/25/17-08:10 2A1716176	
Total Alpha Radium (226)	0.050 ± 0.120	0.322	pCi/L	3	903.0	10/10/17-18:30 2P1712207	903.0	10/13/17-17:20 2A1715681	

ND=Non-Detected. PQL=Practical Quantitation Limit. * PQL adjusted for dilution.

MDA = Minimum Detectable Activity (Calculated at the 95% confidence level) = Data utilized by DHS to determine matrix interference. MCL / AL = Maximum Contamination Level / Action Level. Alpha's Action Level of 5 pCi/L is based on the Assigned Value (AV). AV = Assigned Value(Gross Alpha Result + (0.84 x Error)). CCR Section 64442: Drinking Water Compliance Note: Do the following If Gross Alpha's (AV) exceeds 5 pCi/L run Uranium. If Gross Alpha's (AV) minus Uranium exceeds 5 pCi/L run Radium 226.

Drinking Water Compliance:

Gross Alpha (AV) minus Uranium is less than or equal to 15 pCi/L Uranium is less than or equal to 20 pCi/L

Radium 226 + Radium 228 is less than or equal to 5 pCi/L

Note: Samples are held for 3-6 months prior to disposal.



October 27, 2017 Lab ID : SP 1712314-002

Customer ID : 2-19144

Monterey Bay Analytical Services

4 Justin Court Sampled On : October 2, 2017-16:00

: Joseph Suwada Monterey, CA 93940 Sampled By

Received On : October 6, 2017-09:45

Matrix : Water

Description : SMS (D) Project : MPWMD

Sample Result - Organic

Constituent	Result	PQL	Units	Note	Sample	Preparation	Samp	le Analysis
Constituent	Result	1 QL	Omts	Note	Method	Date/ID	Method	Date/ID
EPA 551.1								
Decafluorobiphenyl [‡]	105	80-120	%		551.1	10/10/17:212171	551.1	10/11/17:215389
Bromodichloromethane	22	1	ug/L		551.1	10/10/17:212171	551.1	10/11/17:215389
Bromoform	1	1	ug/L		551.1	10/10/17:212171	551.1	10/11/17:215389
Chloroform	52	5*	ug/L		551.1	10/10/17:212171	551.1	10/12/17:215445
Dibromochloromethane	11	1	ug/L		551.1	10/10/17:212171	551.1	10/11/17:215389
Total Trihalomethanes	86		ug/L		551.1	10/10/17:212171	551.1	10/11/17:215389
EPA 552.2								
2,3-Dibromopropionic Acid [‡]	92.0	70-130	%		552	10/06/17:212054	552.2	10/07/17:215103
Bromoacetic Acid	ND	1	ug/L		552	10/06/17:212054	552.2	10/07/17:215103
Chloroacetic Acid	ND	2	ug/L		552	10/06/17:212054	552.2	10/07/17:215103
Dibromoacetic Acid	ND	1	ug/L		552	10/06/17:212054	552.2	10/07/17:215193
Dichloroacetic Acid	1	1	ug/L		552	10/06/17:212054	552.2	10/07/17:215103
Trichloroacetic Acid	5	1	ug/L		552	10/06/17:212054	552.2	10/07/17:215103
Haloacetic acids (five)	6		ug/L		552	10/06/17:212054	552.2	10/07/17:215103

ND=Non-Detected. PQL=Practical Quantitation Limit. ‡Surrogate. * PQL adjusted for dilution.

Analytical Chemists

October 27, 2017 Lab ID : SP 1712314-002

Customer ID : 2-19144

Monterey Bay Analytical Services

4 Justin Court Sampled On : October 2, 2017-16:00

Monterey, CA 93940 Sampled By : Joseph Suwada

Received On : October 6, 2017-09:45

: Water Matrix

Description : SMS (D) **Project** : MPWMD

Sample Result - Radio

Constituent	Result ± Error	MDA	Units	MCL/AL	Sample	Preparation	Sample Analysis		
Constituent	Result ± Litor	WIDA	Omts	WICL/AL	Method	Date/ID	Method	Date/ID	
Radio Chemistry									
Gross Alpha	1.80 ± 1.09	1.15	pCi/L	15/5	900.0	10/24/17-10:15 2P1712791	900.0	10/25/17-09:55 2A1716176	
Total Alpha Radium (226)	0.149 ± 0.154	0.322	pCi/L	3	903.0	10/10/17-18:30 2P1712207	903.0	10/13/17-17:40 2A1715681	

ND=Non-Detected. PQL=Practical Quantitation Limit. * PQL adjusted for dilution.

MDA = Minimum Detectable Activity (Calculated at the 95% confidence level) = Data utilized by DHS to determine matrix interference. MCL / AL = Maximum Contamination Level / Action Level. Alpha's Action Level of 5 pCi/L is based on the Assigned Value (AV). AV = Assigned Value(Gross Alpha Result + (0.84 x Error)). CCR Section 64442: Drinking Water Compliance Note: Do the following If Gross Alpha's (AV) exceeds 5 pCi/L run Uranium. If Gross Alpha's (AV) minus Uranium exceeds 5 pCi/L run Radium 226.

Drinking Water Compliance:

Gross Alpha (AV) minus Uranium is less than or equal to 15 pCi/L Uranium is less than or equal to 20 pCi/L

Radium 226 + Radium 228 is less than or equal to 5 pCi/L

Note: Samples are held for 3-6 months prior to disposal.

October 27, 2017 **Monterey Bay Analytical Services** Lab ID : SP 1712314 : 2-19144 Customer

Quality Control - Organic

Constituent	Method	Date/ID	Туре	Units	Conc.	QC Data	DQO	Note
Organic								
Bromodichloromethane	551.1	10/10/17:212171SBL	Blank	ug/L		ND	<1	
Bromodiemoromemane	331.1	10/10/17.212171002	LCS	ug/L	10.09	109 %	80-120	
			MS	ug/L	10.07	124 %	80-120	435
		(SP 1712314-001)	MSD	ug/L	9.865	127 %	80-120	435
		(01 1/12011 001)	MSRPD	ug/L	19.73	0.1%	≤20	
	551.1	10/11/17:215389SBL	CCV	ug/L	166.7	110 %	80-120	
			CCV	ug/L	83.33	98.8 %	80-120	
Bromoform	551.1	10/10/17:212171SBL	Blank	ug/L		ND	<1	
			LCS	ug/L	10.09	106 %	80-120	
			MS	ug/L	10.07	114 %	80-120	
		(SP 1712314-001)	MSD	ug/L	9.865	115 %	80-120	
			MSRPD	ug/L	19.73	1.0%	≤20	
	551.1	10/11/17:215389SBL	CCV	ug/L	166.7	106 %	80-120	
			CCV	ug/L	83.33	92.5 %	80-120	
Chloroform	551.1	10/10/17:212171SBL	Blank	ug/L		ND	<1	
	221.1		LCS	ug/L	10.09	115 %	80-120	
	1		MS	ug/L	10.07	159 %	<1/4	
		(SP 1712314-001)	MSD	ug/L	9.865	169 %	<1/4	
		(51 1/12311 001)	MSRPD	ug/L	19.73	1.0%	≤20	
	551.1	10/12/17:215445SBL	CCV	ug/L ug/L	83.33	97.9 %	80-120	
	331.1	10/12/17.2134433DL	CCV	ug/L ug/L	166.7	119 %	80-120	
Dfll1	551.1	10/10/17:212171SBL	Blank		20.46	118 %	80-120	
Decafluorobiphenyl	331.1	10/10/17:2121/13BL		ug/L				
			LCS	ug/L	20.17	118 %	80-120	
		(CD 1710014 001)	MS	ug/L	20.15	114 %	80-120	405
		(SP 1712314-001)	MSD	ug/L	19.73	130 %	80-120	435
			MSRPD	ug/L	19.73	11.1%	≤20.0	
	551.1	10/11/17:215389SBL	CCV	ug/L	333.3	120 %	80-120	
			CCV	ug/L	166.7	112 %	80-120	
Dibromochloromethane	551.1	10/10/17:212171SBL	Blank	ug/L		ND	<1	
			LCS	ug/L	10.09	108 %	80-120	
			MS	ug/L	10.07	115 %	80-120	
		(SP 1712314-001)	MSD	ug/L	9.865	116 %	80-120	
			MSRPD	ug/L	19.73	0.3%	≤20	
	551.1	10/11/17:215389SBL	CCV	ug/L	166.7	108 %	80-120	
			CCV	ug/L	83.33	94.4 %	80-120	
2,3-Dibromopropionic Acid	552	10/06/17:212054SBL	Blank	ug/L	5.000	71.1 %	70-130	
			LCS	ug/L	5.000	105 %	70-130	
			MS	ug/L	5.000	185 %	70-130	435
		(SP 1712109-001)	MSD	ug/L	5.000	209 %	70-130	435
			MSRPD	ug/L	5.000	12.2%	≤20.0	
Dibromoacetic Acid	552	10/06/17:212054SBL	Blank	ug/L		ND	<1	
	1		LCS	ug/L	10.00	94.4 %	70-130	
	1		MS	ug/L	10.00	92.6 %	70-130	
	1	(SP 1712109-001)	MSD	ug/L	10.00	89.0 %	70-130	
	1		MSRPD	ug/L	5.000	2.3%	≤20.0	
Dichloroacetic Acid	552	10/06/17:212054SBL	Blank	ug/L		ND	<1	
			LCS	ug/L	10.00	99.0 %	70-130	
	1		MS	ug/L	10.00	75.4 %	70-130	
	1	(SP 1712109-001)	MSD	ug/L	10.00	66.4 %	70-130	435
	1		MSRPD	ug/L	5.000	7.5%	≤20.0	
Monobromoacetic Acid	552	10/06/17:212054SBL	Blank	ug/L		ND	<1	
- 101100101101101101101101101101101101101	332	15/05/17.21205-BDL	LCS	ug/L ug/L	10.00	85.5 %	70-130	
	1		MS	ug/L ug/L	10.00	69.5 %	70-130	
	1	(SP 1712109-001)	MSD	ug/L ug/L	10.00	61.8 %	70-130	435
		(51 1/12107-001)	MSRPD	ug/L ug/L	5.000	9.4%	≤20.0	733
			MINICIA	ug/L	5.000	J.++70	_∠∪.∪	

October 27, 2017 Lab ID : SP 1712314

Monterey Bay Analytical Services Customer : 2-19144

Quality Control - Organic

Constituent	Method	Date/ID	Type	Units	Conc.	QC Data	DQO	Note
Organic								
Monochloroacetic Acid	552	10/06/17:212054SBL	Blank	ug/L		ND	<2	
			LCS	ug/L	10.00	89.8 %	70-130	
			MS	ug/L	10.00	69.2 %	70-130	435
		(SP 1712109-001)	MSD	ug/L	10.00	60.7 %	70-130	435
			MSRPD	ug/L	5.000	0.85	≤2	
Trichloroacetic Acid	552	10/06/17:212054SBL	Blank	ug/L		ND	<1	
			LCS	ug/L	10.00	84.8 %	70-130	
			MS	ug/L	10.00	65.1 %	70-130	435
		(SP 1712109-001)	MSD	ug/L	10.00	48.3 %	70-130	435
			MSRPD	ug/L	5.000	23.1%	≤20.0	435
2,3-Dibromopropionic Acid	552.2	10/07/17:215103SBL	CCV	ug/L	50.00	110 %	70-130	
			CCV	ug/L	75.00	80.6 %	70-130	
Dibromoacetic Acid	552.2	10/07/17:215103SBL	CCV	ug/L	100.0	93.2 %	70-130	
			CCV	ug/L	150.0	81.3 %	70-130	
	552.2	10/07/17:215193SBL	CCV	ug/L	100.0	98.6 %	70-130	
			CCV	ug/L	150.0	88.9 %	70-130	
Dichloroacetic Acid	552.2	10/07/17:215103SBL	CCV	ug/L	100.0	92.7 %	70-130	
			CCV	ug/L	150.0	82.0 %	70-130	
Monobromoacetic Acid	552.2	10/07/17:215103SBL	CCV	ug/L	100.0	82.7 %	70-130	
			CCV	ug/L	150.0	72.6 %	70-130	
Monochloroacetic Acid	552.2	10/07/17:215103SBL	CCV	ug/L	100.0	82.9 %	70-130	
			CCV	ug/L	150.0	76.0 %	70-130	
Trichloroacetic Acid	552.2	10/07/17:215103SBL	CCV	ug/L	100.0	85.1 %	70-130	
			CCV	ug/L	150.0	73.1 %	70-130	

Definition CCV

: Continuing Calibration Verification - Analyzed to verify the instrument calibration is within criteria.

Blank

: Method Blank - Prepared to verify that the preparation process is not contributing contamination to the samples.

LCS

: Laboratory Control Standard/Sample - Prepared to verify that the preparation process is not affecting analyte recovery. : Matrix Spikes - A random sample is spiked with a known amount of analyte. The recoveries are an indication of how that sample

MS : Matrix Spikes - A random sam matrix affects analyte recovery.

MSD

 $: Matrix\ Spike\ Duplicate\ of\ MS/MSD\ pair\ -\ A\ random\ sample\ duplicate\ is\ spiked\ with\ a\ known\ amount\ of\ analyted.\ The\ recoveries$

are an indication of how that sample matrix affects analyte recovery.

MSRPD

 $: MS/MSD \ Relative \ Percent \ Difference \ (RPD) - The \ MS \ relative \ percent \ difference \ is \ an \ indication \ of \ precision \ for \ the \ preparation$

and analysis.

ND

: Non-detect - Result was below the DQO listed for the analyte.

<1/4

 $: High\ Sample\ Background\ -\ Spike\ concentration\ was\ less\ than\ one\ for th\ of\ the\ sample\ concentration.$

DQO : Data Quality Objective - This is the criteria against which the quality control data is compared.

Explanation

435

: Sample matrix may be affecting this analyte. Data was accepted based on the LCS or CCV recovery.

October 27, 2017 Lab ID : SP 1712314 **Monterey Bay Analytical Services** : 2-19144 Customer

Quality Control - Radio

Constituent	Method	Date/ID	Type	Units	Conc.	QC Data	DQO	Note
Radio								
Alpha	900.0	10/25/17:216176aat	CCV CCB	cpm cpm	8665	41.0 % 0.0400	35-47 0.12	
Gross Alpha	900.0	10/24/17:212791aat (SP 1712568-002)	Blank LCS MS MSD MSRPD	pCi/L pCi/L pCi/L pCi/L pCi/L	107.8 107.8 107.8 107.8	1.59 119 % 119 % 119 % 0.2%	3 75-125 60-140 60-140 ≤30	
Alpha	903.0	10/13/17:215681aat	CCV CCB	cpm cpm	8299	37.8 % 0.0800	37-46 0.16	
Total Alpha Radium (226)	903.0	10/10/17:212207emv	RgBlk LCS BS BSD BSRPD	pCi/L pCi/L pCi/L pCi/L pCi/L	24.28 24.28 24.28 24.28	0.01 65.9 % 48.3 % 61.7 % 24.3%	2 52-107 43-111 43-111 ≤35.5	

CCB : Continuing Calibration Blank - Analyzed to verify the instrument baseline is within criteria.

Blank : Method Blank - Prepared to verify that the preparation process is not contributing contamination to the samples.

RgBlk : Method Reagent Blank - Prepared to correct for any reagent contributions to sample result.

LČS : Laboratory Control Standard/Sample - Prepared to verify that the preparation process is not affecting analyte recovery.

: Matrix Spikes - A random sample is spiked with a known amount of analyte. The recoveries are an indication of how that sample MS

matrix affects analyte recovery.

: Matrix Spike Duplicate of MS/MSD pair - A random sample duplicate is spiked with a known amount of analyted. The recoveries MSD

are an indication of how that sample matrix affects analyte recovery.

: Blank Spikes - A blank is spiked with a known amount of analyte. It is prepared to verify that the preparation process is not BS affecting analyte recovery.

: Blank Spike Duplicate of BS/BSD pair - A blank duplicate is spiked with a known amount of analyte. It is prepared to verify that BSD

the preparation process is not affecting analyte recovery.

: MS/MSD Relative Percent Difference (RPD) - The MS relative percent difference is an indication of precision for the preparation MSRPD

and analysis.

: BS/BSD Relative Percent Difference (RPD) - The BS relative percent difference is an indication of precision for the preparation BSRPD

and analysis.

DQO : Data Quality Objective - This is the criteria against which the quality control data is compared.



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CHAIN OF CUSTODY AND ANALYSIS REQUEST DOCUMENT

	Monterey Bay Analytica	l Services		,	Lab N	umbe	1		i	-		TES	ST D	ESCI	RIPT	ION	AND	ANA	LYS	ES R	EQU	JEST	ED		 	
Addres	s: 4 Justin Court Monterey, CA 93940			·	,,,,		,		1																	
Contac Project Purcha Quote	address: info@mbasinc.com Person: David Holland	I)641-0734 y		lte (C) Grab (G)		Type of Containers: (G)Glass (P)Plastic (V)VOA (MT)Metal Tube	Ag Water (AgW)	ng Well (GW) Ground Water Vater (DW) Drinking Water	O) O2	(W) Waste	Bact. (ROUT)Routine (RPT)Repasi (OTH)Other (RPL)Replace	ue (PRD) Produce	NeOH, (3) HCi 3, (7) Other													
1	re-approval by lab (initals): nic Data Transfer: No State	Client Other:		Composite (C)		Class (P)6	Non-Potable (NP)	(MW) Montoring Well (WW) Waste Water	LD) Sobd (C) Source	RPT)Reps	'etlola Tiss	, ZnAc. (2)) NB2S2O:													į
Sampli	ra(s): Joseph Suwada ng Fee: Pickup Fee: sitor Setup Date: Time:			Method of Sampling:	Number of Confainers	of Containers: (G)	Potable (P) Non-Pot	(SW) Surface Water (MW (TB) Traval Blank (WV	(S) Soli (SLG) Sludge (SLD) Sood (O) OA	BecT. (Sys) System (SRC) Source (W) Waste	î: (ROUT)Routine ((LT) Lasí Tissue (PET) Peticia Tissue (PRD) Produce	Preservative: (1) NaOH + ZnAc, (2) NaOH, (3) HCI (4) HZSO4, (5) HNO3, (6) Na2S2O3, (7) Other			Gross Alpha	9									
Samp	Location Description	Date	Time	Mag	E S	P. P.	Pots	(SW) (TB)	S (S)	Bec	Bac	(LT)	Pres (4) H	₹	THMS	Goss	Ra 226									
Num 1.	MW-1	Sampled 10/2/17	Sampled 15:15	G	7	Var								×	x	×	х									
2.	SMS (D)	10/2/17	16:00	G	7	Var			+					х	x	х	х									
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D		<u>l</u>												\ _	L	<u> </u>	<u> </u>	<u> </u>								
Remark 1710	02_48-01, 171002_48-02			Reling	uished			ate:	- 1	ime: 602		elinqui	shed)	ا ــــــــــــــــــــــــــــــــــــ	Date:	1	Гime:		Relinqu	uished			Date:	Time:	:
5	27 8482466			Recei	ved By:		D	ate:	Ti	ime:	1	ceive	X	V	U	Date &		THE O	14	Receiv	ed By:		1	Date:	Time:	

Corporate Offices & Laboratory 853 Corporation Street Santa Paula, CA 93060 TEL: (805)392-2000 Env FAX: (805)525-4172 / Ag FAX: (805)392-2063 CA ELAP Certification No.1573 Office & Laboratory 2500 Stagecoach Road Stockton, CA 95215 TEL: (209)942-0182 FAX: (209)942-0423 CA ELAP Certification No. 1563 Office & Laboratory
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Revision Date: 10/09/14 Page: 1 of 1

Condition Upon Receipt (Attach to COC)

Sample Receipt at SP:								
1. Number of ice chests/packages received	d: _	1						
2. Shipper tracking numbers 5376	382486							
3. Were samples received in a chilled cond Temps:	lition?	6	/	/	/	/	/	/
4. Surface water (SWTR) bact samples: A should be flagged unless the time since							hether ic	ed or not,
5. Do the number of bottles received agree COC?	with the	Yes	No	N/A				
6. Verify sample date, time, sampler		Yes	No	N/A				
7. Were the samples received intact? (i.e. bottles, leaks, etc.)	no broken	Yes	No					
8. Were sample custody seals intact?		Yes	No	N/A				
Sample Verification, Labeling and Distri	bution:							
Were all requested analyses understood acceptable?	l and	Yes	No					
2. Did bottle labels correspond with the clie	ent's ID's?	Yes	No					
3. Were all bottles requiring sample preser properly preserved? [Exception: Oil & Grease, VOA and CrVI v		Yes	No	N/A	FGL			
4. VOAs checked for Headspace?		Yes	No	N/A				
5. Were all analyses within holding times a receipt?	t time of	Yes	No					
6. Have rush or project due dates been che accepted?	ecked and	Yes	No	N/A				
Include a copy of the COC for lab delivery.	(Bacti. Inorg	ganics a	and Ra	dio)				
Sample Receipt, Login and Verification co	mpleted by:			Reviewe Approv		nawn Peck	Title: S	ly signed by Shawn Peck sample Receiving 10/16/2017-12:24:07
Discrepency Documentation: Any items above which are "No" or do not	meet specifi	ications	(i.e. te	mps) mu	st be reso	olved.		
1. Person Contacted:		Ph	one N	umber: _				
Initiated By:		Da	ıte:	_				
Problem:								
Resolution:								
2. Person Contacted:		Ph	one N	umber: _				
Initiated By:		D-		_				
Problem:								
Resolution:						(2019	144)	
				Мо	nterev	•	•	l Services

SP 1712314



MPWMD-Attn: Jon Lear

P.O. Box 85

Monterey, CA 93940

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ELAP Certification Number: 2385

Friday, November 03, 2017

Page 1 of 5

Lab Number: 171004 36-01

10/4/2017 11:00

13:01

Sample Collector: LEAR J

Client Sample #:

Collection Date/Time: Submittal Date/Time: 10/4/2017

Sample ID:

	Sample Description	: ASR2								
<u>Analyte</u>	<u>Method</u>	<u>Unit</u>	Result	<u>Dil.</u>	Qual	<u>PQL</u>	MCL	Anal. Date	Anal. Time	Analyst
QC Ratio TDS/SEC	Calculation	NA	0.60	1				10/5/2017	14:25	НМ
Total Nitrogen	Calculation	mg/L	ND	1		0.5				
Ammonia-N	EPA 350.1	mg/L	ND	1		0.1		10/9/2017	14:35	BS
Total Kjeldahl Nitrogen	EPA 351.2	mg/L	ND	1		0.5		10/16/2017	16:12	BS
Phosphorus, Total	EPA 365.1	mg/L	0.30	1		0.02		10/13/2017	10:31	BS
Methane	EPA174/175	μg/L	0.70	1	Е			10/12/2017	13:28	
Iron, Dissolved	EPA200.7	μg/L	11	1		10		10/27/2017	8:31	MW
Iron, Total	EPA200.7	μg/L	66	1		10		10/26/2017	12:38	MW
Manganese, Dissolved	EPA200.7	μg/L	ND	1		10	50	10/27/2017	8:31	MW
Manganese, Total	EPA200.7	μg/L	ND	1		10		10/26/2017	12:38	MW
Zinc, Dissolved	EPA200.7	μg/L	272	1	_	10		10/27/2017	8:31	MW
Boron	EPA200.7	mg/L	ND	1		0.05		10/27/2017	20:16	MW
Calcium	EPA200.7	mg/L	38	1		1		10/27/2017	20:16	MW
Magnesium	EPA200.7	mg/L	14	1		1		10/27/2017	20:16	MW
Potassium	EPA200.7	mg/L	2.8	1		1		10/27/2017	20:16	MW
Silica (SiO2), Total	EPA200.7	mg/L	24	1		0.05		10/27/2017	20:16	MW
Sodium	EPA200.7	mg/L	43	1		1		10/27/2017	20:16	MW
Zinc, Total	EPA200.7	μg/L	209	1		10	5000	10/26/2017	12:38	MW
Aluminum, Total	EPA200.8	μg/L	ND	1		5	1000	10/26/2017	12:38	MW
Arsenic, Total	EPA200.8	μg/L	ND	1		1	10	10/26/2017	12:38	MW
Barium, Total	EPA200.8	μg/L	62	1		1	1000	10/26/2017	12:38	MW
Lithium	EPA200.8	μg/L	7	1		0.5		10/26/2017	12:38	MW

mg/L: Millgrams per liter (=ppm) H = Analyzed outside of hold time MDL = Method Detection Limit

Mercury, Total

Molybdenum, Total

ug/L: Micrograms per liter (=ppb)

EPA200.8

EPA200.8

PQL: Practical Quantitation Limit

1

1

0.5

0.5

2

MCL: Maximum Contamination Level T = Temperature Exceedance

10/26/2017

10/26/2017

12:38

12:38

MW

MW

E = Analysis performed by External Laboratory; See Report attachments

μg/L

µg/L

J = Result is less than PQL

ND

6



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y ,				EL	AP C	ertific	ation	Number: 2	385	
Page 2 of 5							F	Friday, Nove	mber 03	, 2017
Nickel, Total	EPA200.8	μg/L	2	1		1	100	10/26/2017	12:38	MW
Selenium, Total	EPA200.8	μg/L	3	1		1	50	10/26/2017	12:38	MW
Strontium, Total	EPA200.8	μg/L	208	1		1		10/26/2017	12:38	MW
Uranium, Total	EPA200.8	μg/L	2.4	1		0.5		10/26/2017	12:38	MW
Vanadium, Total	EPA200.8	μg/L	ND	1		5	50	10/26/2017	12:38	MW
Uranium, Radiological	EPA200.8	pCi/L	1.6	1		0.5	20	10/26/2017	12:38	MW
Bromide	EPA300.0	mg/L	ND	1		0.1		10/12/2017	7:48	НМ
Chloride	EPA300.0	mg/L	28	1		1		10/5/2017	0:15	НМ
Fluoride	EPA300.0	mg/L	0.3	1		0.1	2	10/5/2017	0:15	НМ
Nitrate as N	EPA300.0	mg/L	0.2	1		0.1	10	10/5/2017	0:15	НМ
Nitrite as N	EPA300.0	mg/L	ND	1		0.1	1	10/5/2017	0:15	НМ
Orthophosphate as P	EPA300.0	mg/L	0.26	1		0.1		10/5/2017	0:15	НМ
Sulfate	EPA300.0	mg/L	70	1		1		10/5/2017	0:15	НМ
Trihalomethanes	EPA524.2	μg/L	87	1	Е			10/11/2017	12:00	
Haloacetic Acids	EPA552	μg/L	4	1	Е			10/13/2017	12:00	
Gross Alpha	EPA900.0	pCi/L	2.04 ± 1.15	1	Е	1.17		10/25/2017	4:40	
Radium 226	EPA903.0	pCi/L	0.090 ± 0.124	1	Е	0.322		10/14/2017	13:40	
Alkalinity, Total (as CaCO3)	SM2320B	mg/L	134	1		10		10/12/2017	8:48	LM
Specific Conductance (EC)	SM2510B	µmhos/cm	า 495	1		1	900	10/5/2017	10:55	НМ
Total Dissolved Solids	SM2540C	mg/L	297	1		10	500	10/5/2017	14:25	НМ
Chlorine Residual,Total (Laboratory)	SM4500-CI G	mg/L	N.D.	1		0.05		10/4/2017	16:52	LRH
Chlorine Residual, Free (Laboratory)	SM4500-CI G	mg/L	N/A	1		0.05		10/4/2017	16:52	LRH
Chloramines	SM4500-CI G	mg/L	N.D.	1		0.05		10/4/2017	16:52	LRH
pH (Laboratory)	SM4500-H+B	pH (H)	7.4	1		0.1	10	10/4/2017	16:20	LM
Dissolved Organic Carbon	SM5310C	mg/L	1.9	1		0.2		10/17/2017	14:20	НМ
TOC	SM5310C	mg/L	1.4	1		0.2		10/17/2017	14:39	НМ

Comments:

mg/L : Millgrams per liter (=ppm)
H = Analyzed outside of hold time
MDL = Method Detection Limit

ug/L : Micrograms per liter (=ppb)

PQL : Practical Quantitation Limit

MCL : Maximum Contamination Level T = Temperature Exceedance

E = Analysis performed by External Laboratory; See Report attachments



Monterey Peninsula Water Mgmt. District

MPWMD-Attn: Jon Lear

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ELAP Certification Number: 2385

Friday, November 03, 2017

Page 3 of 5

Lab Number: 171004 36-02

11:55

Sample Collector: LEAR J

Client Sample #:

Collection Date/Time:

Submittal Date/Time: 10/4/2017 Sample ID: 13:01

10/4/2017

	Sample Description	: ASR	4							
<u>Analyte</u>	<u>Method</u>	<u>Unit</u>	Result	<u>Dil.</u>	Qual	<u>PQL</u>	MCL	Anal. Date	Anal. Time	Analyst
QC Ratio TDS/SEC	Calculation	NA	0.61	1				10/5/2017	14:25	НМ
Total Nitrogen	Calculation	mg/L	ND	1		0.5				
Ammonia-N	EPA 350.1	mg/L	ND	1		0.1		10/9/2017	14:35	BS
Total Kjeldahl Nitrogen	EPA 351.2	mg/L	ND	1		0.5		10/16/2017	16:12	BS
Phosphorus, Total	EPA 365.1	mg/L	0.17	1		0.02		10/13/2017	10:31	BS
Methane	EPA174/175	μg/L	0.98	1	E			10/12/2017	13:42	
Iron, Dissolved	EPA200.7	μg/L	18	1		10		10/27/2017	8:34	MW
Iron, Total	EPA200.7	μg/L	201	1		10		10/26/2017	13:48	MW
Manganese, Dissolved	EPA200.7	μg/L	13	1		10	50	10/27/2017	8:34	MW
Manganese, Total	EPA200.7	μg/L	14	1		10		10/26/2017	13:48	MW
Zinc, Dissolved	EPA200.7	μg/L	139	1		10		10/27/2017	8:34	MW
Boron	EPA200.7	mg/L	ND	1		0.05		10/27/2017	20:34	MW
Calcium	EPA200.7	mg/L	36	1		1		10/27/2017	20:34	MW
Magnesium	EPA200.7	mg/L	13	1		1		10/27/2017	20:34	MW
Potassium	EPA200.7	mg/L	2.7	1		1		10/27/2017	20:34	MW
Silica (SiO2), Total	EPA200.7	mg/L	24	1		0.05		10/27/2017	20:34	MW
Sodium	EPA200.7	mg/L	39	1		1		10/27/2017	20:34	MW
Zinc, Total	EPA200.7	μg/L	104	1		10	5000	10/26/2017	13:48	MW
Aluminum, Total	EPA200.8	μg/L	ND	1		5	1000	10/26/2017	13:48	MW
Arsenic, Total	EPA200.8	μg/L	8	1		1	10	10/26/2017	13:48	MW
Barium, Total	EPA200.8	μg/L	60	1		1	1000	10/26/2017	13:48	MW
Lithium	EPA200.8	μg/L	7	1		0.5		10/26/2017	13:48	MW
Mercury, Total	EPA200.8	μg/L	ND	1		0.5	2	10/26/2017	13:48	MW
Molybdenum, Total	EPA200.8	μg/L	55	1		0.5		10/26/2017	13:48	MW

mg/L: Millgrams per liter (=ppm) H = Analyzed outside of hold time MDL = Method Detection Limit

ug/L: Micrograms per liter (=ppb)

PQL: Practical Quantitation Limit

MCL: Maximum Contamination Level T = Temperature Exceedance

J = Result is less than PQL

E = Analysis performed by External Laboratory; See Report attachments



Monterey Peninsula Water Mgmt. District

MPWMD-Attn: Jon Lear

P.O. Box 85

Monterey, CA 93940

4 Justin Court Suite D, Monterey, CA 93940 831.375.MBAS (6227) www.MBASinc.com

ELAP Certification Number: 2385

ELAP Certification Number: 2365										
Page 4 of 5							F	riday, Nove	mber 03	, 2017
Nickel, Total	EPA200.8	μg/L	23	1		1	100	10/26/2017	13:48	MW
Selenium, Total	EPA200.8	μg/L	10	1		1	50	10/26/2017	13:48	MW
Strontium, Total	EPA200.8	μg/L	206	1		1		10/26/2017	13:48	MW
Uranium, Total	EPA200.8	μg/L	1.7	1		0.5		10/26/2017	13:48	MW
Vanadium, Total	EPA200.8	μg/L	ND	1		5	50	10/26/2017	13:48	MW
Uranium, Radiological	EPA200.8	pCi/L	1.2	1		0.5	20	10/26/2017	13:48	MW
Bromide	EPA300.0	mg/L	ND	1		0.1		10/12/2017	8:22	НМ
Chloride	EPA300.0	mg/L	27	1		1		10/5/2017	0:32	НМ
Fluoride	EPA300.0	mg/L	0.3	1		0.1	2	10/5/2017	0:32	НМ
Nitrate as N	EPA300.0	mg/L	0.2	1		0.1	10	10/5/2017	0:32	НМ
Nitrite as N	EPA300.0	mg/L	ND	1		0.1	1	10/5/2017	0:32	НМ
Orthophosphate as P	EPA300.0	mg/L	0.16	1		0.1		10/5/2017	0:32	НМ
Sulfate	EPA300.0	mg/L	70	1		1		10/5/2017	0:32	НМ
Trihalomethanes	EPA524.2	μg/L	59	1	Е	_		10/11/2017	12:00	
Haloacetic Acids	EPA552	μg/L	2	1	Е			10/13/2017	12:00	
Gross Alpha	EPA900.0	pCi/L	2.02 ± 1.14	1	E	1.16		10/25/2017	6:25	
Radium 226	EPA903.0	pCi/L	0.000 ± 0.088	1	Е	0.322		10/14/2017	14:50	
Alkalinity, Total (as CaCO3)	SM2320B	mg/L	134	1		10		10/12/2017	8:48	LM
Specific Conductance (EC)	SM2510B	µmhos/c	m 487	1		1	900	10/5/2017	10:55	НМ
Total Dissolved Solids	SM2540C	mg/L	297	1		10	500	10/5/2017	14:25	НМ
Chlorine Residual,Total (Laboratory)	SM4500-CI G	mg/L	N.D.	1		0.05		10/4/2017	16:52	LRH
Chlorine Residual, Free (Laboratory)	SM4500-CI G	mg/L	N/A	1		0.05		10/4/2017	16:52	LRH
Chloramines	SM4500-CI G	mg/L	N.D.	1		0.05		10/4/2017	16:52	LRH
pH (Laboratory)	SM4500-H+B	pH (H)	7.5	1		0.1	10	10/4/2017	16:20	LM
Dissolved Organic Carbon	SM5310C	mg/L	1.7	1		0.2		10/17/2017	16:20	НМ
TOC	SM5310C	mg/L	1.3	1		0.2		10/17/2017	16:39	НМ

Comments:

mg/L : Millgrams per liter (=ppm)
H = Analyzed outside of hold time
MDL = Method Detection Limit

ug/L : Micrograms per liter (=ppb)

PQL : Practical Quantitation Limit

MCL : Maximum Contamination Level T = Temperature Exceedance

E = Analysis performed by External Laboratory; See Report attachments



Monterey Peninsula Water Mgmt. District

MPWMD-Attn: Jon Lear

P.O. Box 85

Monterey, CA 93940

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4 Justin Court Suite D, Monterey, CA 93940 831.375.MBAS (6227) www.MBASinc.com **ELAP Certification Number: 2385**

Friday, November 03, 2017

Report Approved by: (

David Holland, Laboratory Director

Monterey Bay Analytical Services Chain Of Custody / Analysis Request

		4 Justin Ct	t. Suite D • Mon	terey, C	a 93940 •	(831) 37	5-MBAS	(6227)	• (831)	641-073	34 (Fa	x)							
1	1		Client/Compa	ny Name	e:			Attent	ion:						Ar	nalysis R	equeste	d	
-		1BAS	1116	111	1			1	100/	DI	IDU	ind	1051						
			Billing Address		4				VOV	Can	Th) I/ CI	,,,,						
		ay Analytical Services	Dilling Address	3.															
Project/System	n Informatio	n:	E-Mail Address(es): Contract/P.O.#:																
	Local Health	nce? YES NO Department reporting:	Turn Around Time: Phone# STD (7-14 Days)													0_			
System ID No			Drinking water	☐ Wa	astewater	Monito	oring Well		Soil [Sluc	dge [Ott	her	4	71	M			
MBAS Lab#	Project ID or Source Code #	Sample Site / Description (Well Name, APN#, Address, Stormdrain #)	Samplin	g Time	Receiving Temp.	CL2 Residual	Colife Routine	orm Ana		Special	# Cont.	Cont	ainer Size	S	5	6			
01		ASR 2	10/4/17	1100	209									×	×	×			
02		ASRY	10/4/17	1155	19.4									X	X	×			
			1																
			17																
									20										
		Printed Name				_ 9	ignatu	•				Dat	•	Time		Comm	ents or Spe	niol Instru	otionas
Sampled by:		JATHAN LEAR		(a)	w)9.	C					Dat		Time		Commi	ints or spe	ciai irisu d	uons.
Relinquished by:	1	NATITAN LEAR		7	net		e					10/0	1/17	1300)				
Received by:													1						
Relinquished by:														1					
Received by:	Monterey E	Bay Analytical Services	9									10/	1/7	130					
Payment	received	Check #	1	Amou	nt.						Pace	int#				Date:			

Sample Condition Upon Receipt

Is there evidence of chilling? COC Info NA <2 Hr Was temp acceptable? Chemistry ≤6°C Micro ≤10°C YES NO YES NO NA Did bottles arrive intact? NA NO Did bottle labels agree with COC? **Discrepency Documentation:** Method: In Person/Phone/Email Person Contacted: Problem Resolution Person Contacted: Method: In Person/Phone/Email Problem Resolution Date/Initials Cont. Size Pres Cont. Size Pres Date/Initials Lab ID Lab ID 5 HISOU + Thin 01 250ml 60 01 250ml 41102 ()2 01

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Pag	e 7	of	26



	Composite		Injection at ASP2 Hall			
Date Taken	From	То	Hours	Injection at ASR2	Hg (mg/L)	
12/16/2016				Yes		
12/17/2016	12/16/16 16:00	12/17/16 9:20	17.3	Yes	<0.05	
12/18/2016	12/17/16 9:20	12/18/16 13:40	28.3	Yes	<0.05	
12/19/2016	12/18/16 13:40	12/19/16 11:30	21.8	Yes	<0.05	
12/20/2016	12/19/16 11:30	12/20/16 8:50	21.3	Yes	<0.05	
12/21/2016	12/20/16 8:50	12/21/16 8:30	15.2	No	<0.05	
12/22/2016				Yes		
12/23/2016	12/22/16 9:15	12/23/16 12:00	26.8	Yes	<0.05	
12/24/2016	12/23/16 12:00	12/24/16 11:00	23.0	Yes	<0.05	
12/25/2016	12/24/16 11:00	12/25/16 9:10	22.2	Yes	<0.05	
12/26/2016	12/25/16 9:10	12/26/16 12:45	27.6	Yes	<0.05	
12/27/2016	12/26/16 12:45	12/27/16 10:40	21.9	Yes	<0.05	
	12/27/16 10:40	12/28/16 9:30	22.8	Yes	<0.05	
12/29/2016	12/28/16 9:30	12/29/16 9:40	24.2	No	<0.05	
12/30/2016				No		
12/31/2016				No		
1/1/2017				No		
1/2/2017				No		
1/3/2017				Yes		
1/4/2017	1/3/17 8:30	1/4/17 11:45	35.8	Yes	<0.05	
1/5/2017	1/4/17 11:45	1/5/17 9:00	21.2	Yes	<0.05	
1/6/2017	1/5/17 9:00	1/6/17 9:00	24.0	Yes	<0.05	
1/7/2017	1/6/17 9:00	1/7/17 8:45	23.8	Yes	<0.05	
1/8/2017	1/7/17 8:45	1/8/17 8:50	24.1	Yes	<0.05	
1/9/2017	1/8/17 8:50	1/9/17 9:00	24.2	Yes	<0.05	
1/10/2017	1/9/17 9:00	1/10/17 10:00	25.0	Yes	<0.05	
1/11/2017	1/10/17 10:00	1/11/17 9:00	23.0	Yes	<0.05	
1/12/2017	1/11/17 9:00	1/12/17 9:00	24.0	Yes	<0.05	
1/13/2017	1/12/17 9:00	1/13/17 9:00	24.0	Yes	<0.05	
1/14/2017	1/13/17 9:00	1/14/17 9:30	24.5	Yes	<0.05	
1/15/2017	1/14/17 9:30	1/15/17 8:40	23.2	Yes	<0.05	
1/16/2017	1/15/17 8:40	1/16/17 9:30	24.8	Yes	<0.05	
1/17/2017	1/16/17 9:30	1/17/17 9:35	24.1	Yes	<0.05	
1/18/2017	1/17/17 9:35	1/18/17 9:00	23.4	Yes	<0.05	
1/19/2017	1/18/17 9:00	1/19/17 9:55	24.9	Yes	<0.05	
1/20/2017	1/19/17 9:55	1/20/17 9:05	23.2	Yes	<0.05	
1/21/2017	1/20/17 9:05	1/21/17 10:00	24.9	Yes	<0.05	
1/22/2017	1/21/17 10:00	1/22/17 8:30	22.5	Yes	<0.05	
1/23/2017	1/22/17 8:30	1/23/17 8:45	24.3	Yes	<0.05	
1/24/2017	1/23/17 8:45	1/24/17 8:45	24.0	Yes	<0.05	
1/25/2017	1/24/17 8:45	1/25/17 8:30	23.7	Yes	<0.05	
1/26/2017	1/25/17 8:30	1/26/17 8:00	23.5	Yes	<0.05	
1/27/2017	1/26/17 8:00	1/27/17 13:00	29.0	Yes	<0.05	

	Composite		Injection at ACD2	Ha (ma/L)	
Date Taken	From	То	Hours	Injection at ASR2	Hg (mg/L)
					-
1/28/2017	1/27/17 13:00	1/28/17 10:30	21.5	Yes	<0.05
1/29/2017	1/28/17 10:30	1/29/17 11:00	24.5	Yes	<0.05
1/30/2017	1/29/17 11:00	1/30/17 8:45	21.8	Yes	<0.05
1/31/2017	1/30/17 8:45	1/31/17 9:25	24.7	Yes	<0.05
2/1/2017	1/31/17 9:25	2/1/17 9:30	24.1	Yes	<0.05
2/2/2017	2/1/17 9:30	2/2/17 10:30	25.0	Yes	<0.05
2/3/2017	2/2/17 10:30	2/3/17 9:15	22.7	Yes	<0.05
2/4/2017	2/3/17 9:15	2/4/17 9:30	24.3	Yes	<0.05
2/5/2017	2/4/17 9:30	2/5/17 8:50	23.3	Yes	<0.05
2/6/2017	2/5/17 8:50	2/6/17 9:00	24.2	Yes	<0.05
2/7/2017	2/6/17 9:00	2/7/17 9:00	24.0	Yes	<0.05
2/8/2017	2/7/17 9:00	2/8/17 9:00	24.0	Yes	<0.05
2/9/2017	2/8/17 9:00	2/9/17 9:00	24.0	Yes	<0.05
2/10/2017	2/9/17 9:00	2/10/17 9:30	24.5	Yes	<0.05
2/11/2017	2/10/17 9:30	2/11/17 9:10	23.7	Yes	<0.05
2/12/2017	2/11/17 9:10	2/12/17 9:30	24.3	Yes	<0.05
2/13/2017	2/12/17 9:30	2/13/17 9:30	24.0	Yes	<0.05
2/14/2017	2/13/17 9:30	2/14/17 8:40	23.2	Yes	<0.05
2/15/2017	2/14/17 8:40	2/15/17 8:30	23.8	Yes	<0.05
2/16/2017	2/15/17 8:30	2/16/17 9:00	24.5	No	<0.05
2/17/2017				Yes	
2/18/2017	2/17/17 7:20	2/18/17 0:00	16.7	No	<0.05
2/19/2017				No	
2/20/2017				No	
2/21/2017				Yes	
2/22/2017	2/21/17 0:00	2/22/17 14:00	38.0	Yes	<0.05
2/23/2017	2/22/17 14:00	2/23/17 8:30	18.5	Yes	<0.05
2/24/2017	2/23/17 8:30	2/24/17 11:00	26.5	Yes	<0.05
2/25/2017	2/24/17 11:00	2/25/17 8:10	21.2	Yes	<0.05
2/26/2017	2/25/17 8:10	2/26/17 9:10	25.0	Yes	<0.05
2/27/2017	2/26/17 9:10	2/27/17 8:45	23.6	Yes	<0.05
2/28/2017	2/27/17 8:45	2/28/17 8:40	23.9	Yes	<0.05
3/1/2017	2/28/17 8:40	3/1/17 8:40	24.0	Yes	<0.05
3/2/2017	3/1/17 8:40	3/2/17 8:40	24.0	Yes	<0.05
3/3/2017	3/2/17 8:40	3/3/17 8:45	24.1	Yes	<0.05
3/4/2017	3/3/17 8:45	3/4/17 9:00	24.2	Yes	<0.05
3/5/2017	3/4/17 9:00	3/5/17 9:05	24.1	Yes	<0.05
3/6/2017	3/5/17 9:05	3/6/17 8:45	23.7	Yes	<0.05
3/7/2017	3/6/17 8:45	3/7/17 8:40	23.9	Yes	<0.05
3/8/2017	3/7/17 12:45	3/8/17 9:00	20.3	Yes	<0.05
3/9/2017	3/8/17 9:00	3/9/17 8:30	23.5	Yes	<0.05
3/10/2017	3/9/17 8:30	3/10/17 8:15	23.8	Yes	<0.05

	Composite		Lateration of ACDO	11. 1 11.	
Date Taken	From	То	Hours	Injection at ASR2	Hg (mg/L)
					<u> </u>
3/13/2017	3/12/17 10:10	3/13/17 8:40	22.5	Yes	< 0.05
3/14/2017	3/13/17 8:40	3/14/17 8:05	23.4	Yes	<0.05
3/15/2017	3/14/17 8:05	3/15/17 8:25	24.3	Yes	<0.05
3/16/2017	3/15/17 8:25	3/16/17 9:00	24.6	Yes	<0.05
3/17/2017	3/16/17 9:00	3/17/17 9:10	24.2	Yes	<0.05
3/18/2017	3/17/17 9:10	3/18/17 8:10	23.0	Yes	<0.05
3/19/2017	3/18/17 8:10	3/19/17 9:30	25.3	Yes	<0.05
3/20/2017	3/19/17 9:30	3/20/17 9:15	23.7	Yes	<0.05
3/21/2017	3/20/17 9:15	3/21/17 8:20	23.1	Yes	<0.05
3/22/2017	3/21/17 8:20	3/22/17 11:15	26.9	Yes	<0.05
3/23/2017	3/22/17 11:15	3/23/17 8:45	21.5	Yes	<0.05
3/24/2017	3/23/17 8:45	3/24/17 12:30	27.8	Yes	<0.05
3/25/2017	3/24/17 12:30	3/25/17 8:00	19.5	Yes	<0.05
3/26/2017	3/25/17 8:00	3/26/17 8:15	24.2	Yes	<0.05
3/27/2017	3/26/17 8:15	3/27/17 12:30	28.3	Yes	<0.05
3/28/2017	3/27/17 12:30	3/28/17 8:10	19.7	Yes	<0.05
3/29/2017	3/28/17 8:10	3/29/17 9:20	25.2	Yes	<0.05
3/30/2017	3/29/17 9:20	3/30/17 8:45	23.4	Yes	<0.05
3/31/2017	3/30/17 8:45	3/31/17 8:40	23.9	Yes	<0.05
4/1/2017	3/31/17 8:40	4/1/17 8:05	23.4	Yes	<0.05
4/2/2017	4/1/17 8:05	4/2/17 10:10	26.1	Yes	<0.05
4/3/2017	4/2/17 10:10	4/3/17 8:10	22.0	Yes	<0.05
4/4/2017	4/3/17 8:10	4/4/17 8:05	23.9	Yes	<0.05
4/5/2017	4/4/17 8:05	4/5/17 8:00	23.9	Yes	<0.2
4/6/2017	4/5/17 8:00	4/6/17 12:00	28.0	Yes	<0.2
4/7/2017	4/6/17 12:00	4/7/17 9:00	21.0	Yes	<0.2
4/8/2017	4/7/17 9:00	4/8/17 8:10	23.2	Yes	<0.2
4/9/2017	4/8/17 8:10	4/9/17 9:40	25.5	Yes	<0.2
4/10/2017	4/9/17 9:40	4/10/17 8:00	22.3	Yes	<0.2
4/11/2017	4/10/17 8:00	4/11/17 8:00	24.0	Yes	<0.2
4/12/2017	4/11/17 8:00	4/12/17 9:00	25.0	Yes	<0.2
4/13/2017	4/12/17 9:00	4/13/17 9:00	24.0	Yes	<0.5
4/14/2017	4/13/17 9:00	4/14/17 8:45	23.8	Yes	<0.5
4/15/2017	4/14/17 8:45	4/15/17 7:50	23.1	Yes	<0.5
4/16/2017	4/15/17 7:50	4/16/17 9:00	25.2	Yes	<0.5
4/17/2017	4/16/17 9:00	4/17/17 8:05	23.1	Yes	<0.5
4/18/2017	4/17/17 8:05	4/18/17 8:35	24.5	Yes	<0.5
4/19/2017	4/18/17 8:35	4/19/17 8:05	23.5	Yes	<0.5
4/20/2017	4/19/17 8:05	4/20/17 8:00	23.9	Yes	<0.5
4/21/2017	4/20/17 8:00	4/21/17 15:05	31.1	Yes	<0.5
4/22/2017	4/21/17 15:05	4/22/17 9:45	18.7	Yes	<0.5
4/23/2017	4/22/17 9:45	4/23/17 9:20	23.6	Yes	<0.5
4/24/2017	4/23/17 9:20	4/24/17 8:40	23.3	Yes	<0.5

	Composite	Sample		Injustice at ACD2	115 (505 (1)
Date Taken	From	То	Hours	Injection at ASR2	Hg (mg/L)
4/27/2017	4/26/17 9:00	4/27/17 9:30	24.5	Yes	<0.25
4/28/2017	4/27/17 9:30	4/28/17 8:30	23.0	Yes	<0.25
4/29/2017	4/28/17 8:30	4/29/17 9:45	25.3	Yes	<0.25
4/30/2017	4/29/17 9:45	4/30/17 8:05	22.3	Yes	<0.25
5/1/2017	4/30/17 8:05	5/1/17 8:00	23.9	Yes	<0.25
5/2/2017	5/1/17 8:00	5/2/17 8:00	24.0	Yes	<0.25
5/3/2017	5/2/17 8:00	5/3/17 9:00	25.0	Yes	<0.25
5/4/2017	5/3/17 9:00	5/4/17 9:00	24.0	Yes	<0.25
5/5/2017	5/4/17 9:00	5/5/17 9:00	24.0	Yes	<0.25
5/6/2017	5/5/17 9:00	5/6/17 10:40	25.7	Yes	<0.25
5/7/2017	5/6/17 10:40	5/7/17 12:25	25.7	Yes	<0.25
5/8/2017	5/7/17 12:25	5/8/17 8:00	19.6	Yes	<0.25
5/9/2017	5/8/17 8:00	5/9/17 8:15	24.2	Yes	<0.25
5/10/2017	5/9/17 8:15	5/10/17 8:30	24.2	Yes	<0.25
5/11/2017	5/10/17 8:30	5/11/17 8:30	24.0	Yes	<0.25
5/12/2017	5/11/17 8:30	5/12/17 8:50	24.3	Yes	<0.25
5/13/2017	5/12/17 8:50	5/13/17 8:15	23.4	Yes	<0.25
5/14/2017	5/13/17 8:15	5/14/17 10:45	26.5	Yes	<0.25
5/15/2017	5/14/17 10:45	5/15/17 8:05	21.3	Yes	<0.25
5/16/2017	5/15/17 8:05	5/16/17 8:15	24.2	Yes	<0.25
5/17/2017	5/16/17 8:15	5/17/17 8:00	23.8	Yes	<0.25
5/18/2017	5/17/17 8:00	5/18/17 8:30	24.5	Yes	<0.25
5/19/2017	5/18/17 8:30	5/19/17 11:30	27.0	Yes	<0.25
5/20/2017	5/19/17 11:30	5/20/17 9:15	21.8	Yes	<0.25
5/21/2017	5/20/17 9:15	5/21/17 6:20	21.1	Yes	<0.25
5/22/2017	5/21/17 6:20	5/22/17 8:05	25.7	Yes	<0.25
5/23/2017	5/22/17 8:05	5/23/17 8:05	24.0	Yes	<0.25
5/24/2017	5/23/17 8:05	5/24/17 9:30	25.4	Yes	<0.25
5/25/2017	5/24/17 9:30	5/25/17 8:35	23.1	Yes	<0.25
5/26/2017	5/25/17 8:35	5/26/17 8:35	24.0	Yes	<0.25
5/27/2017	5/26/17 8:35	5/27/17 8:05	23.5	Yes	<0.25
5/28/2017	5/27/17 8:05	5/28/17 8:05	24.0	Yes	<0.25
5/29/2017	5/28/17 8:05	5/29/17 9:40	25.6	Yes	<0.25
5/30/2017	5/29/17 9:40	5/30/17 8:05	22.4	No	<0.25

Carmel Valley Wellfield Production During 2017 ASR Operations (all values in cubic feet)

Date	Panetta #1	Panetta #2	Garzas #3	Garzas #4	LL #5	LL #6	Berwick #8	Berwick #9	Begonia #2	Manor #2	Schulte #2	Pearce	Cypress #2	R. Canada #2	Eastwood-Canada
12/16/2016	0	0	0	58550	52910	65731	60640	0	165724	0	0	0	238709	0	0
12/17/2016	0	0	0	57661	52000	64659	60640	0	165724	0	0	0	238709	0	0
12/18/2016	0	0	0	57629	52019	60733	60640	0	165724	0	0	0	238709	0	0
12/19/2016	0	0	0	58112	52440	67770	60640	63600	165724	0	0	0	238709	0	0
12/20/2016	0	0	0	59699	53930	68608	121000	98800	222976	0	0	0	238709	0	0
12/21/2016	20493	0	0	59158	53611	67242	120300	98500	222080	0	0	0	238709	0	0
12/22/2016	40685	0	0	57542	52389	27638	48400	50800	199936	0	8608	0	238709	0	0
12/23/2016	40595	0	0	57360	52200	61741	50700	62900	171904	0	97888	0	238709	0	0
12/24/2016	40256	0	0	57018	51840	61251	118300	96100	216768	0	23520	0	238709	0	0
12/25/2016	40480	0	0	57200	52010	61360	73700	96900	217984	0	42176	0	238709	0	0
12/26/2016	40454	0	0	57261	52042	61520	74300	96700	217408	0	63712	0	238709	0	0
12/27/2016	40557	0	0	57280	52080	61408	91000	95300	214848	0	147488	0	255300	0	12515
12/28/2016	40678	0	0	57450	52210	61482	97300	94400	212672	0	161216	0	248900	0	12515
12/29/2016	40403	0	0	57110	51899	61440	106000	94500	212992	0	138912	0	239700	0	13566
12/30/2016	40090	0	0	56771	51590	61178	43400	39100	131520	0	39680	0	298250	0	13566
12/31/2016	40768	0	0	40979	52200	61472	60700	56600	216000	0	90304	0	298250	0	13566
1/1/2017	41069	0	0	0	52030	61088	73900	76900	215680	0	88096	0	205750	0	13566
1/2/2017	41062	0	0	0	52010	61072	32900	66800	176704	0	0	0	205750	0	13566
1/3/2017	23782	0	0	0	29379	34829	70300	76100	217024	0	65792	0	252100	0	13174
1/4/2017	16608	0	0	25811	22390	1670	55900	47900	157568	0	111520	0	261850	0	13174
1/5/2017	36698	18130	0	58179	53130	30630	112800	90600	204736	0	229984	0	261850	0	11076
1/6/2017	31814	35901	0	57331	52571	58461	116900	93400	212480	0	247008	0	213233	0	11076
1/7/2017	31808	36050	0	57299	52520	67139	114400	92100	206976	0	243392	0	213233	0	11076
1/8/2017	31840	35920	0	40118	52150	76230	110100	88500	198144	0	234208	0	213233	0	11076
1/9/2017	32710	37349	0	0	52859	76771	46800	37400	84672	0	99200	0	276400	0	11076
1/10/2017	32122	36630	0	0	52170	76259	140567	59050	256043	0	299872	0	269700	0	11076
1/11/2017	32717	37370	0	0	52981	76810	140567	59050	256043	0	299872	0	184300	0	0
1/12/2017	33101	38282	0	0	53880	77181	140567	59050	256043	0	299872	0	44600	0	0
1/13/2017	32672	37530	0	0	53210	76547	110500	59050	126592	0	100288	138750	44600	0	12395
1/14/2017	32838	37789	0	0	53430	76710	70000	99160	185779	0	247397	138750		0	12395
1/15/2017	33197	38400	0	0	40850	77142	128050	99160	185779	0	247397	138750	171000	220107	12395
1/16/2017	32973	38021	0	0	10	76800	128050	99160		0	247397	138750		220107	12395
1/17/2017	32032	36760	0	0	0	75949	128050	99160	185779	0	247397	176300		220107	13338
1/18/2017	31520	35930	0	0	0	75450	128050	99160		0	247397	176300		220107	13338
1/19/2017	31456	35651	0	0	0	75331	117200	92800	212288	0	247397	133400		220107	13447
1/20/2017	32371	36989	0	0	0	76250	112600	89100	203712	0	198720	133400		220107	13447
1/21/2017	32864	37821	0	0	0	76598	92300	73400	169472	0	188384	0		167168	13447
1/22/2017	33248	38370	0	0	0	76762	129167	101033	234432	0	260939	0		173156	13447
1/23/2017	33280	38410	0	0	0	76701	129167	101033	234432	0	260939	133400		173156	13447
1/24/2017	31059	35120	0	0	0	72960	129167	101033	234432	0	260939	133400		173156	13447
1/25/2017	31603	35760	0	0	0	72579	31800	26800	216332	0	72608	133400		173156	13447
1/26/2017	31603	35760	0	0	0	72579	125742	98233	214000	0	229010	180700		173156	13448
1/27/2017	31648	35650	0	0	0	72451	125742	98233	214000	0	229010	180700		173156	13448
1/28/2017	31693	35421	0	0	0	72250	125742	98233	214000	0	229010	180700	269300	173156	13448

Date	Panetta #1	Panetta #2	Garzas #3	Garzas #4	LL #5	LL #6	Berwick #8	Berwick #9	Begonia #2	Manor #2	Schulte #2	Pearce	Cypress #2	R. Canada #2	Eastwood-Canada
1/29/2017	30867	34450	0	0	0	72499	125742	98233	214000	0	229010	180700	268000	173156	13448
1/30/2017	31840	35840	0	0	0	72810	125742	98233	214000	0	229010	180700	110300	173156	13448
1/31/2017	32422	36741	0	0	0	73562	125742	98233	214000	0	229010	180700	174100	173156	13448
2/1/2017	31955	36019	0	0	0	72950	125742	98233	197200	0	229010	172000	268800	173156	13153
2/2/2017	32301	36579	0	0	0	73530	125742	98233	201338	0	229010	170823	267600	173156	13411
2/3/2017	32730	37150	0	0	0	73920	125742	98233	201338	0	229010	170823	271900	173156	13411
2/4/2017	32819	37581	0	0	0	74189	125742	98233	201338	0	237408	170823	277400	173156	13411
2/5/2017	32762	37230	0	0	0	73939	125742	98233	201338	0	237600	170823	277000	173156	13411
2/6/2017	33651	37090	11749	0	0	74051	125742	98233	201338	0	237888	170823	275900	173156	13411
2/7/2017	33318	36570	29270	0	0	73981	79600	92800	201338	0	242112	170823	279800	98624	13411
2/8/2017	32384	34690	57050	0	0	73238	157900	91800	213376	0	236096	170823	283200	172992	13411
2/9/2017	32218	34451	56731	0	0	72912	117900	39047	202624	0	169600	180304	282700	177088	13448
2/10/2017	32546	35165	57277	0	0	73110	115356	90350	211072	0	234600	176324	260067	160224	13448
2/11/2017	32546	35165	57277	0	0	73110	115356	90350	211072	0	234600	176324	260067	160224	13448
2/12/2017	32546	35165	57277	0	0	73110	115356	90350	211072	0	234600	176324	260067	160224	13448
2/13/2017	32546	35165	57277	0	0	73110	115356	90350	211072	0	234600	176324	260100	160224	13448
2/14/2017	32038	34090	56520	0	0	72662	118000	90900	212288	0	235488	176496	279700	168448	13448
2/15/2017	31840	33710	56280	0	0	72570	118000	90500	212224	0	235808	176608	277900	166848	13448
2/16/2017	31802	33750	55830	0	0	73869	116900	90100	210880	0	235200	175792	275400	166912	13099
2/17/2017	31648	34010	56670	0	0	18669	81300	63200	76416	0	231200	92208	107600	56320	13099
2/18/2017	32877	34800	58090	0	0	0	60100	46400	0	0	127008	204688	159400	78080	13099
2/19/2017	33024	33870	56920	0	0	0	0	0	0	0	41184	56608	221700	235328	13099
2/20/2017	21370	21699	36570	0	0	0	18700	0	42688	0	60096	50704	204000	161088	13099
2/21/2017	0	0	0	0	0	0		0	221824	0		195504	319600	0	13099
2/22/2017	0	0	0	0	0	0	46200	100	155648	0	205696	188288	309600	84672	13099
2/23/2017	0	0	0	0	0	0	28000	63800	217600	0	237984	176304	301700	171456	13664
2/24/2017	18650	18690	34190	23712	0	0	14300	70800	151808	0	236992	176896	297700	171648	13664
2/25/2017	32870	32741	56330	49798	0	0		91100	215808	0	236896	175104	293700	168320	13664
2/26/2017	32749	32581	56210	49590	0	0	119100	90700	214592	0	236928	175696	291000	167872	13664
2/27/2017	32832	32650	56210	49651	0	0	119000	90600	214528	0	237280	176608	288200	169728	0
2/28/2017	32858	33240	40381	36550	0	0	118600	90400	214272	0	237024	176704	286100	172800	0
3/1/2017	32749	32520	56080	48438	0	0	118400	90200	213696	0	237888	177296	284100	169216	13038
3/2/2017	32781	32390	55949	48621	0	0	118400	90100	213056	0	235712	176992	282400	167616	12964
3/3/2017	32678	32358	55870	49469	0	0	118400	90000	212992	0	237088	175504	280500	167680	12964
3/4/2017	32723	32510	56000	49610	0	0	118400	90000	213184	0		176304	279400	167808	12964
3/5/2017	32832	32811	56301	49859	0	0		89900	214272	0	237504	175504	279200	168576	12964
3/6/2017	32486	32029	55720	49242	23741	41062		84600	213312	0	236224	175088	277600	167680	12964
3/7/2017	32474	31850	55539	49101	52050	85978		23700	74432	0		124912	180600	126016	12964
3/8/2017	32339	31301	55221	48739	51579	85670		35100	127104	0	239776	181792	234300	178240	12964
3/9/2017	32390	31200	55099	48640	51430	85741	70200	67500	212160	0	239104	181504	232600	175680	13316
3/10/2017	32378	31320	55110	48710	51450	85869	98900	90000	212416	0	239808	182304	231300	175872	13316
3/11/2017	32461	31310	55181	48739	51470	79312	118700	89600	211904	0		181296	230400	174208	13316
3/12/2017	32582	31390	55189	48819	51541	86989	118600	89500	212096	0	239520	181488	229900	175104	13316
3/13/2017	32678	31090	54880	48570	51229	86819	118300	89400	210880	0	238784	180608	243800	171776	13316
3/14/2017	32621	31600	51790	36723	51280	86810		89200	211904	0	239008	179104	251800	170624	13316
3/15/2017	19149	18290	56141	49187	51451	86790	95900	88900	212416	0	238912	178496	251800	170624	13316

Date	Panetta #1	Panetta #2	Garzas #3	Garzas #4	LL #5	LL #6	Berwick #8	Berwick #9	Begonia #2	Manor #2	Schulte #2	Pearce	Cypress #2	R. Canada #2	Eastwood-Canada
3/16/2017	17920	16870	56149	49402	51579	86880	118800	89400	211520	0	238400	179200	252400	171008	13613
3/17/2017	33050	31059	55701	48730	51461	87002	118200	89000	211200	0	238688	179600	251000	168896	13613
3/18/2017	32806	31110	55699	48730	51450	86659	118300	88600	211968	0	238592	178704	251500	169664	13613
3/19/2017	32742	31080	55651	48682	51400	86499	118000	88400	211584	0	237920	178304	251400	170112	13613
3/20/2017	32851	31579	55819	49018	51699	87030	118400	88800	212544	0	243296	46986	269600	189376	13613
3/21/2017	32941	32061	55970	49382	52110	87341	118400	88900	213504	0	241984	104000	262200	181440	13613
3/22/2017	32627	31421	55781	48938	51270	86650	117900	88600	211904	0	237600	179088	250500	168896	13613
3/23/2017	32512	31059	55570	48672	51300	86490	118000	87900	210944	0	237120	178512	249900	167680	13624
3/24/2017	32499	31261	55501	48800	51499	86470	117700	87900	211712	0	231680	179392	250700	168704	13624
3/25/2017	32672	31549	55669	48979	51590	86762	117200	87800	211392	0	239104	179600	249700	168384	13624
3/26/2017	32678	31501	55390	48899	51610	86768	117700	88200	210752	0	237600	179504	250000	168320	13624
3/27/2017	32877	31610	55710	49082	51760	87011	117900	88200	211968	0	239104	178896	250100	168512	13624
3/28/2017	13235	12550	56430	50128	52050	86509	118100	88400	212224	0	238688	180400	250700	168512	13624
3/29/2017	11750	11430	56709	50682	31341	49181	118300	88000	211264	0	241408	189808	145000	186944	10570
3/30/2017	32659	30389	55131	48381	51139	85251	81200	71600	211392	0	238816	183904	192400	177408	13829
3/31/2017	31501	30101	49440	43488	45690	78909	118500	88400	212608	0	237888	183392	194600	178304	13829
4/1/2017	34010	32379	56179	49722	52371	87760	118900	88900	213248	0	239008	186000	195800	179008	13138
4/2/2017	34195	33080	56760	50358	53160	88442	119300	88900	214464	0	239680	186496	197900	180224	13138
4/3/2017	34080	32830	56560	50141	52979	88128	118900	88600	213696	0	238112	184112	213600	176960	13138
4/4/2017	33523	31650	55880	49229	51990	86960	118000	87800	212224	0	236896	181888	217000	173696	13138
4/5/2017	33651	31760	56040	49462	52170	87270	118200	88000	211776	0	236896	183600	216400	173760	13138
4/6/2017	33126	30691	55461	48630	51301	86358	89600	73200	210340	0	236224	183104		171200	13258
4/7/2017	33370	31318	55650	49098	51739	86902	118400	87900	197184	0	225792	185600	221400	150848	13258
4/8/2017	33613	32131	56270	49741	52430	87299		87900	190912	0	220512	184592		130624	13258
4/9/2017	33798	32400	56278	49869	52579	87539	118400	87700	190528	0	218880	183616	278100	128896	13258
4/10/2017	33728	32000	56110	49651	52362	87501	100800	82900	174080	0	208320	175792		74112	13258
4/11/2017	33414	30829	52701	46211	51261	86621	43000	38400	150720	0	219296	185904	257800	132800	13258
4/12/2017	29421	27421	55810	48829	50637	85258		88400	183104	0	219392	186000		132800	13258
4/13/2017	32685	31170	55770	48842	51571	85990		87500	183104	0	160096	188096		138624	13132
4/14/2017	32506	30811	55541	48438	51139	90170		59900	182784	0	218304	182992		131392	13132
4/15/2017	32890	31238	55390	48909	51552	90861	58550	70700	182720	0	219008	184912		132096	13132
4/16/2017	32499	30981	55579	48733	36608	90192		74500	182272	0	217280	184304		130304	13132
4/17/2017	32499	31010	54760	48698	29110	82029	90300	86900	181568	0	218912	184688		129984	13132
4/18/2017	32378	31120	55530	47002	51370	90490	63600	70200	182656	0	217696	184704		129600	13132
4/19/2017	32211	31160	55380	48358	51261	90531	118600	86700	180992	0		183696		128064	13132
4/20/2017	32390	31550	55600	48640	51600	90950	118200	86600	181312	0	217216	184208		129216	12848
4/21/2017	33062	32440	55840	49261	52230	91818		87300	181952	0	218496	187088		131392	12848
4/22/2017	33670	32030	55979	49562	52531	91933	118900	87300	182720	0		186112		132352	12848
4/23/2017	33920	32370	56211	49549	52579	91770	118800	87200	183104	0		184592		129344	12848
4/24/2017	33798	32070	56130	49440	52480	91590	118900	87300	183296	0	217600	184208		128128	12848
4/25/2017	33869	32120	56080	49370	52410	91610		87000	182592	0	190208	185200		142912	12848
4/26/2017	33651	31709	55880	49171	52189	79418		86900	182016	0		183088		148608	12848
4/27/2017	34266	31858	56170	46144	52320	83332		86560	181837	0	211143	183040		148429	12463
4/28/2017	34266	31858	56170	46144	52320	83332		86560	181837	0	211143	183040		148429	12463
4/29/2017	34266	31858	56170	46144	52320	83332		86560	181837	0	211143	183040		148429	12463
4/30/2017	34266	31858	56170	46144	52320	83332	118100	86560	181837	0	211143	183040	257775	148429	12463

Date	Panetta #1	Panetta #2	Garzas #3	Garzas #4	LL #5	LL #6	Berwick #8	Berwick #9	Begonia #2	Manor #2	Schulte #2	Pearce	Cypress #2	R. Canada #2	Eastwood-Canada
5/1/2017	34266	31858	56170	46144	52320	83333	118100	86560	181837	0	211142	183040	257800	148429	12774
5/2/2017	35021	32430	56030	49699	52742	91939	118300	87100	182080	0	218496	184608	258400	149056	12774
5/3/2017	34669	31909	55840	49328	52310	91360	118400	87100	182592	0	216896	183504	257400	147456	12774
5/4/2017	33632	31010	55539	48691	51728	90358	117000	85500	181504	0	215712	181392	255900	145728	12150
5/5/2017	33208	30433	55670	48062	31675	89798	104900	85200	180400	0	214552	180252	254667	143552	12150
5/6/2017	33208	30433	55670	48062	31675	89798	104900	85200	180400	0	214552	180252	254667	143552	12150
5/7/2017	33208	30433	55670	48062	31675	89798	104900	85200	180400	0	214552	180252	254667	143552	12150
5/8/2017	33208	30433	55670	19024	31675	89798	104900	85200	180400	0	214552	180252	254600	143552	12150
5/9/2017	34419	32819	57360	0	52170	90541	111300	80900	170432	0	196096	172800	243100	149760	12150
5/10/2017	34470	32941	57400	0	52259	90560		85500	180608	0	215392	181792		145216	12150
5/11/2017	34368	32779	57190	0	50682	90419	117500	85500	180672	0	215488	182512		144704	12310
5/12/2017	34490	33211	57581	0	52509	90672	117500	85100	180288	0	215712	181792	256300	144896	12310
5/13/2017	34643	33610	57779	0	52810	95299		85700	181952	0	214912	181200		145920	12310
5/14/2017	34618	33680	57821	0	52861	95091	117700	85600	181952	0	215584	182304	257300	145472	12310
5/15/2017	34566	33610	57760	0	52790	99370		85100	181312	0	214592	181488		145792	12310
5/16/2017	34790	33970	57829	0	53050	106458	117400	85600	181824	0	215712	183104	257400	146112	12310
5/17/2017	34995	34171	58021	0	53229	106653		85600	182208	0	215712	183008		145536	12310
5/18/2017	35328	34259	57810	0	53341	105888		85900	182272	0	215776	183600		146496	11879
5/19/2017	35290	34160	57730	0	53190	106710		80900	170816	0	203904	173696		138688	11879
5/20/2017	35258	33661	57301	0	52838	107290		85300	181504	0	215808	183296		147072	11879
5/21/2017	35072	34090	57890	0	53152	109440		85500	181568	0	215808	183104		147008	11879
5/22/2017	34138	32219	56950	0	51638	92640		84700	178944	0	212800	181008		142592	11879
5/23/2017	34144	32210	57010	0	51661	101811	2600	45600	153600	0	197088	194992	82400	169216	11879
5/24/2017	33958	32211	56990	0	51600	105181		44900	168896	0		193296		164608	11879
5/25/2017	34067	32050	56739	0	51482	101347		42300	106112	0	215424	183104		143424	9897
5/26/2017	34003	32261	57030	0	51667	106653		80300	175744	0	210080	178800		139776	9897
5/27/2017	33997	32130	56861	0	51552	104730		84500	179840	0	213312	181200		142080	9897
5/28/2017	33901	32080	56789	0	51459	104320		67300	179584	0	214688	181600		141184	9897
5/29/2017	33990	32350	57000	0	51731	103370		84500	180288	0		180992		141952	9897
5/30/2017	33824	31878	56730	0	51379	103030		84300	179584	0	213120	180208		140672	9897
5/31/2017	19258	18202	33931	0	33590	69699	40400	62000	145216	0	179968	158096	235400	131520	9897



"When Quality Counts"

Analytical Report

WorkOrder: 1612C51

Report Created for: Monterey Peninsula Water Management

5 Harris Ct. Bldg G Monterey, CA 93940

Project Contact:

Maureen Hamilton

Project P.O.:

Project Name: ASR; Monterey, CA

Project Received: 12/27/2016

Analytical Report reviewed & approved for release on 01/03/2017 by:

Angela Rydelius,

Laboratory Manager

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Glossary of Terms & Qualifier Definitions

Client: Monterey Peninsula Water Management

Project: ASR; Monterey, CA

WorkOrder: 1612C51

Glossary Abbreviation

%D Serial Dilution Percent Difference

95% Interval 95% Confident Interval

DF Dilution Factor

DI WET (DISTLC) Waste Extraction Test using DI water

DISS Dissolved (direct analysis of 0.45 µm filtered and acidified water sample)

DLT Dilution Test (Serial Dilution)

DUP Duplicate

EDL Estimated Detection Limit

ITEF International Toxicity Equivalence Factor

LCS Laboratory Control Sample

MB Method Blank

MB % Rec % Recovery of Surrogate in Method Blank, if applicable

MDL Method Detection Limit

ML Minimum Level of Quantitation

MS Matrix Spike

MSD Matrix Spike Duplicate

N/A Not Applicable

ND Not detected at or above the indicated MDL or RL

NR Data Not Reported due to matrix interference or insufficient sample amount.

PDS Post Digestion Spike

PDSD Post Digestion Spike Duplicate

PF Prep Factor

RD Relative Difference

RL Reporting Limit (The RL is the lowest calibration standard in a multipoint calibration.)

RPD Relative Percent Deviation
RRT Relative Retention Time

SPK Val Spike Value

SPKRef Val Spike Reference Value

SPLP Synthetic Precipitation Leachate Procedure

ST Sorbent Tube

TCLP Toxicity Characteristic Leachate Procedure

TEQ Toxicity Equivalents

WET (STLC) Waste Extraction Test (Soluble Threshold Limit Concentration)

Quality Control Qualifiers

F13 Indigenous sample results too high for a representative matrix spike analysis.



Analytical Report

Client: Monterey Peninsula Water Management

 Date Received:
 12/27/16 9:14

 Date Prepared:
 12/27/16-12/29/16

 Project:
 ASR; Monterey, CA

WorkOrder: 1612C51
Extraction Method: E200.8
Analytical Method: μg/L

		Metals	3		
Client ID	Lab ID	Matrix	Date Collecte	l Instrument	Batch ID
1	1612C51-001A	Water	12/17/2016 09:2	0 ICP-MS3	131834
<u>Analytes</u>	Result		RL DF		Date Analyzed
Mercury	ND		0.050 1		12/27/2016 21:42
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>		
Terbium	107		70-130		12/27/2016 21:42
Analyst(s): DVH					
Client ID	Lab ID	Matrix	Date Collecte	l Instrument	Batch ID
2	1612C51-002A	Water	12/18/2016 13:4	0 ICP-MS2	131904
<u>Analytes</u>	<u>Result</u>		<u>RL</u> <u>DF</u>		Date Analyzed
Mercury	ND		0.050 1		12/29/2016 22:43
Surrogates	<u>REC (%)</u>		<u>Limits</u>		
Terbium	110		70-130		12/29/2016 22:43
Analyst(s): DB					
Client ID	Lab ID	Matrix	Date Collecte	l Instrument	Batch ID
3	1612C51-003A	Water	12/19/2016 11:3	2 ICP-MS3	131834
<u>Analytes</u>	<u>Result</u>		<u>RL</u> <u>DF</u>		Date Analyzed
Mercury	ND		0.050 1		12/27/2016 22:45
Surrogates	<u>REC (%)</u>		<u>Limits</u>		
Terbium	102		70-130		12/27/2016 22:45
Analyst(s): DVH					
Client ID	Lab ID	Matrix	Date Collecte	l Instrument	Batch ID
4	1612C51-004A	Water	12/20/2016 08:5	5 ICP-MS3	131834
<u>Analytes</u>	Result		RL DF		Date Analyzed
Mercury	ND		0.050 1		12/27/2016 22:51
Surrogates	<u>REC (%)</u>		<u>Limits</u>		
Terbium	105		70-130		12/27/2016 22:51
Analyst(s): DVH					

Analytical Report

Client: Monterey Peninsula Water Management

 Date Received:
 12/27/16 9:14

 Date Prepared:
 12/27/16-12/29/16

 Project:
 ASR; Monterey, CA

WorkOrder: 1612C51
Extraction Method: E200.8
Analytical Method: E200.8

Unit: $\mu g/L$

		Metals	5		
Client ID	Lab ID	Matrix	Date C	ollected Instrument	Batch ID
5	1612C51-005A	Water	12/21/20	16 09:15 ICP-MS3	131834
<u>Analytes</u>	Result		<u>RL</u>	<u>DF</u>	Date Analyzed
Mercury	ND		0.050	1	12/27/2016 22:57
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>		
Terbium	104		70-130		12/27/2016 22:57
Analyst(s): DVH					

Quality Control Report

Client:Monterey Peninsula Water ManagementWorkOrder:1612C51Date Prepared:12/27/16BatchID:131834Date Analyzed:12/27/16Extraction Method:E200.8

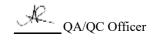
Instrument: ICP-MS3 Analytical Method: E200.8 Matrix: Water Unit: µg/L

Project: ASR; Monterey, CA **Sample ID:** MB/LCS-131834

1612C51-001AMS/MSD

	QC Sun	nmary R	eport f	or Metals						
Analyte	MB Result	LCS Result		RL	SPK Val		B SS REC	LCS %REC	;	LCS Limits
Mercury	ND	1.30		0.050	1.25	-		104		85-115
Surrogate Recovery										
Terbium	774	806			750	10)3	108		70-130
Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/N Limit		RPD	RPD Limit
Mercury	1.38	1.38	1.25	ND	107	107	75-12	25	0	20
Surrogate Recovery										
Terbium	810	826	750		108	110	70-13	30	1.88	20
Analyte	DLT Result			DLTRef Val				,	%D	%D Limit
Mercury	ND<0.25			ND					_	_

[%]D Control Limit applied to analytes with concentrations greater than 25 times the reporting limits.



1612C51

131904

Quality Control Report

Client: Monterey Peninsula Water Management WorkOrder:

Date Prepared: 12/28/16 BatchID:

Date Analyzed:12/29/16Extraction Method:E200.8Instrument:ICP-MS2Analytical Method:E200.8Matrix:WaterUnit:µg/L

Project: ASR; Monterey, CA **Sample ID:** MB/LCS-131904

1612D40-001CMS/MSD

	QC Sur	mmary R	eport f	or Metals						
Analyte	MB Result	LCS Result		RL	SPK Val		B SS REC	LCS %REC	;	LCS Limits
Mercury	ND	1.34		0.050	1.25	-		107		85-115
Surrogate Recovery										
Terbium	800	853			750	10)7	114		70-130
Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/N Limit	_	RPD	RPD Limit
Mercury	3.77	2.86	1.25	9.0	0,F13	0,F13	75-12	25	NA	20
Surrogate Recovery										
Terbium	873	856	750		116	114	70-13	30	1.96	20
Analyte	DLT Result			DLTRef Val				•	%D	%D Limit
Mercury	8.20			9.0					8.89	20

[%]D Control Limit applied to analytes with concentrations greater than 25 times the reporting limits.

1534 Willow Pass Rd Pittsburg, CA 94565-1701

CHAIN-OF-CUSTODY RECORD

(925) 252-9262				WorkOrder	: 1612C51	ChentC	ode: MPWN	I QuoteID:	6557
	WaterTrax	WriteOn	EDF	Excel	EQuIS	Email	HardCo	pyThirdParty	J-flag
Report to:				Bill	to:		i	Requested TAT:	5 days;
Maureen Hamilton	Email:	mhamilton@mpw	md.net	1	Maureen Hami	ton			
Monterey Peninsula Water Management	cc/3rd Party:			M	Monterey Penir	nsula Water M	anagement		
5 Harris Ct. Bldg G	PO:			5	5 Harris Ct. Bld	g G	1	Date Received:	12/27/2016
Monterey, CA 93940 (831) 658-5600 FAX:	ProjectNo:	ASR; Monterey, C	CA	יו	Monterey, CA 9	93940	1	Date Logged:	12/27/2016
(001) 000 0000									

					Requested Tests (See legend below)											
Lab ID	Client ID	Matrix	Collection Date	Hold	1	2	3	4	5	6	7	8	9	10	11	12
1612C51-001	1	Water	12/17/2016 09:20		Α											
1612C51-002	2	Water	12/18/2016 13:40		Α											
1612C51-003	3	Water	12/19/2016 11:32		Α											
1612C51-004	4	Water	12/20/2016 08:55		Α											
1612C51-005	5	Water	12/21/2016 09:15		Α											

Test Legend:

1 METALSMS_TTLC_W	2	3	4
5	6	7	8
9	10	11	12

Project Manager: Heidi Fruhlinger Prepared by: Agustina Venegas

32 samples per month for alyr **Comments:**

> NOTE: Soil samples are discarded 60 days after results are reported unless other arrangements are made (Water samples are 30 days). Hazardous samples will be returned to client or disposed of at client expense.



"When Quality Counts"

1534 Willow Pass Road, Pittsburg, CA 94565-1701 Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269 http://www.mccampbell.com / E-mail: main@mccampbell.com

WORK ORDER SUMMARY

Client Name: MONTEREY PENINSULA WATER MANAGEMENT Project: ASR; Monterey, CA Work Order: 1612C51

Client Contact: Maureen Hamilton

QC Level:

Contact's Email: mhamilton@mpwmd.net Comments: 32 samples per month for alyr Date Logged: 12/27/2016

		WaterTrax	WriteOnEDF	Excel	Fax Email	HardC	opyThirdPar	у 🔳	J-flag	
Lab ID	Client ID	Matrix	Test Name	Containers /Composites	Bottle & Preservative	De- chlorinated	Collection Date & Time	TAT	Sediment Content	Hold SubOut
1612C51-001A	1	Water	E200.8 (Metals) <mercury></mercury>	1	250mL HDPE w/ HNO3		12/17/2016 9:20	5 days	Present	
1612C51-002A	2	Water	E200.8 (Metals) <mercury></mercury>	1	250mL HDPE w/ HNO3		12/18/2016 13:40	5 days	Present	
1612C51-003A	3	Water	E200.8 (Metals) <mercury></mercury>	1	250mL HDPE w/ HNO3		12/19/2016 11:32	5 days	None	
1612C51-004A	4	Water	E200.8 (Metals) <mercury></mercury>	1	250mL HDPE w/ HNO3		12/20/2016 8:55	5 days	None	
1612C51-005A	5	Water	E200.8 (Metals) <mercury></mercury>	1	250mL HDPE w/ HNO3		12/21/2016 9:15	5 days	None	

NOTES: - STLC and TCLP extractions require 2 days to complete; therefore, all TATs begin after the extraction is completed (i.e., One-day TAT yields results in 3 days from sample submission).

- MAI assumes that all material present in the provided sampling container is considered part of the sample - MAI does not exclude any material from the sample prior to sample preparation unless requested in writing by the client.

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Sample Receipt Checklist

Client Name:	Monterey Peninsula	Water Management			Date and Time Received	12/27/2016 09:14
Project Name:	ASR; Monterey, CA				Date Logged:	12/27/2016
					Received by:	Agustina Venegas
WorkOrder №: Carrier:	1612C51 <u>FedEx</u>	Matrix: <u>Water</u>			Logged by:	Agustina Venegas
		Chain of C	ustody	(COC) Infor	<u>mation</u>	
Chain of custody	present?		Yes	•	No 🗆	
Chain of custody	signed when relinquis	hed and received?	Yes	✓	No 🗆	
Chain of custody	agrees with sample la	bels?	Yes	✓	No 🗌	
Sample IDs note	d by Client on COC?		Yes	•	No 🗆	
Date and Time o	f collection noted by C	lient on COC?	Yes	✓	No 🗆	
Sampler's name	noted on COC?		Yes	✓	No 🗆	
		Sample	e Rece	eipt Informati	i <u>on</u>	
Custody seals in	tact on shipping contai	ner/cooler?	Yes		No 🗆	NA 🗹
Shipping contain	er/cooler in good cond	ition?	Yes	✓	No 🗆	
Samples in prope	er containers/bottles?		Yes	✓	No 🗆	
Sample containe	rs intact?		Yes	✓	No 🗆	
Sufficient sample	e volume for indicated	test?	Yes	✓	No 🗆	
		Sample Preservation	on and	Hold Time (HT) Information	
All samples rece	ived within holding time	e?	Yes	✓	No 🗌	NA 🗌
Sample/Temp Bl	ank temperature			Temp:		NA 🗹
Water - VOA vial	s have zero headspac	e / no bubbles?	Yes		No 🗌	NA 🗹
Sample labels ch	necked for correct pres	ervation?	Yes	✓	No 🗌	
pH acceptable up	pon receipt (Metal: <2;	522: <4; 218.7: >8)?	Yes		No 🗹	NA 🗌
Samples Receive	ed on Ice?		Yes		No 🗹	
UCMR3 Samples	<u>s:</u>					
Total Chlorine	tested and acceptable	upon receipt for EPA 522?	Yes		No 🗌	NA 🗹
Free Chlorine t 300.1, 537, 539		upon receipt for EPA 218.7,	Yes		No 🗌	NA ✓
Comments: pl	H adjusted in Lab.	:======			=======	=======



"When Quality Counts"

Analytical Report

WorkOrder: 1612E19

Report Created for: Monterey Peninsula Water Management

5 Harris Ct. Bldg G Monterey, CA 93940

Project Contact:

Maureen Hamilton

Project P.O.:

Project Name: ASR; Monterey, CA

Project Received: 12/29/2016

Analytical Report reviewed & approved for release on 01/05/2017 by:

Angela Rydelius,

Laboratory Manager

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Glossary of Terms & Qualifier Definitions

Client: Monterey Peninsula Water Management

Project: ASR; Monterey, CA

WorkOrder: 1612E19

Glossary Abbreviation

%D Serial Dilution Percent Difference

95% Interval 95% Confident Interval

DF Dilution Factor

DI WET (DISTLC) Waste Extraction Test using DI water

DISS Dissolved (direct analysis of 0.45 µm filtered and acidified water sample)

DLT Dilution Test (Serial Dilution)

DUP Duplicate

EDL Estimated Detection Limit

ITEF International Toxicity Equivalence Factor

LCS Laboratory Control Sample

MB Method Blank

MB % Rec % Recovery of Surrogate in Method Blank, if applicable

MDL Method Detection Limit

ML Minimum Level of Quantitation

MS Matrix Spike

MSD Matrix Spike Duplicate

N/A Not Applicable

ND Not detected at or above the indicated MDL or RL

NR Data Not Reported due to matrix interference or insufficient sample amount.

PDS Post Digestion Spike

PDSD Post Digestion Spike Duplicate

PF Prep Factor

RD Relative Difference

RL Reporting Limit (The RL is the lowest calibration standard in a multipoint calibration.)

RPD Relative Percent Deviation
RRT Relative Retention Time

SPK Val Spike Value

SPKRef Val Spike Reference Value

SPLP Synthetic Precipitation Leachate Procedure

ST Sorbent Tube

TCLP Toxicity Characteristic Leachate Procedure

TEQ Toxicity Equivalents

WET (STLC) Waste Extraction Test (Soluble Threshold Limit Concentration)



Analytical Report

Client: Monterey Peninsula Water Management

Date Received: 12/29/16 13:10 **Date Prepared:** 12/29/16

Project: ASR; Monterey, CA

WorkOrder: 1612E19

Extraction Method: E200.8 **Analytical Method:** E200.8

Unit: $\mu g/L$

		Mercui	·y		
Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW 1	1612E19-001A	Water	12/28/2016 11:42	ICP-MS3	131984
<u>Analytes</u>	Result		<u>RL</u> <u>DF</u>		Date Analyzed
Mercury	0.23		0.050 1		12/30/2016 09:11
Surrogates	REC (%)		<u>Limits</u>		
Terbium	102		70-130		12/30/2016 09:11
Analyst(s): DB					
Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
5 ASR 2	1612E19-002A	Water	12/22/2016	ICP-MS3	131984
<u>Analytes</u>	Result		<u>RL</u> <u>DF</u>		Date Analyzed
Mercury	ND		0.050 1		12/30/2016 09:17
Surrogates	<u>REC (%)</u>		<u>Limits</u>		
Terbium	101		70-130		12/30/2016 09:17
Analyst(s): DB					
Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
6 ASR 2	1612E19-003A	Water	12/24/2016	ICP-MS3	131984
<u>Analytes</u>	Result		<u>RL</u> <u>DF</u>		Date Analyzed
Mercury	ND		0.050 1		12/30/2016 09:42
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>		
Terbium	100		70-130		12/30/2016 09:42
Analyst(s): DB					
Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
7 ASR 2	1612E19-004A	Water	12/25/2016	ICP-MS3	131984
Analytes	Result		<u>RL</u> <u>DF</u>		Date Analyzed
Mercury	ND		0.050 1		12/30/2016 09:48
Surrogates	<u>REC (%)</u>		<u>Limits</u>		
Terbium	100		70-130		12/30/2016 09:48
Analyst(s): DB					

Analytical Report

Client: Monterey Peninsula Water Management

Date Received: 12/29/16 13:10 **Date Prepared:** 12/29/16

Project: ASR; Monterey, CA

WorkOrder: 1612E19

Extraction Method: E200.8 **Analytical Method:** E200.8

Unit: $\mu g/L$

		Mercur	y			
Client ID	Lab ID	Matrix	Date Co	ollected	Instrument	Batch ID
8 ASR 2	1612E19-005A	Water	12/26/20	16 12:45	ICP-MS3	131984
<u>Analytes</u>	Result		<u>RL</u>	<u>DF</u>		Date Analyzed
Mercury	ND		0.050	1		12/30/2016 09:55
Surrogates	REC (%)		<u>Limits</u>			
Terbium	102		70-130			12/30/2016 09:55
Analyst(s): DB						
Client ID	Lab ID	Matrix	Date Co	ollected	Instrument	Batch ID
9 ASR 2	1612E19-006A	Water	12/27/20	16 10:40	ICP-MS3	131984
<u>Analytes</u>	Result		<u>RL</u>	<u>DF</u>		Date Analyzed
Mercury	ND		0.050	1		12/30/2016 10:01
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>			
Terbium	99		70-130			12/30/2016 10:01
Analyst(s): DB						
Client ID	Lab ID	Matrix	Date Co	ollected	Instrument	Batch ID
10 ASR 2	1612E19-007A	Water	12/28/20	16 09:30	ICP-MS3	131984
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>		Date Analyzed
Mercury	ND		0.050	1		12/30/2016 10:07
<u>Surrogates</u>	REC (%)		<u>Limits</u>			
Terbium	99		70-130			12/30/2016 10:07
Analyst(s): DB						

Quality Control Report

Client: Monterey Peninsula Water Management

Date Prepared: 12/29/16

Date Analyzed: 12/29/16 - 12/30/16

Instrument: ICP-MS2 **Matrix:** Water

Project: ASR; Monterey, CA

WorkOrder: 1612E19

BatchID: 131984

Extraction Method: E200.8 **Analytical Method:** E200.8

Unit: $\mu g/L$

Sample ID: MB/LCS-131984

1612E08-001AMS/MSD

	QC Sum	mary Re	port fo	r Mercury	7				
Analyte	MB Result	LCS Result		RL	SPK Val		B SS REC	LCS %REC	LCS Limits
Mercury	ND	1.25		0.050	1.25	-		100	85-115
Surrogate Recovery									
Terbium	794	807			750	10)6	108	70-130
Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/N Limit	_	D RPD Limit
Mercury	1.40	1.39	1.25	ND	111	110	75-12	25 1.2	2 20
Surrogate Recovery									
Terbium	842	842	750		112	112	70-13	30 0	20
Analyte	DLT Result			DLTRef Val				% [) %D Limit
Mercury	ND<0.25			ND				_	

[%]D Control Limit applied to analytes with concentrations greater than 25 times the reporting limits.

1534 Wille Pittsburg, (925) 252-

1534 Willow Pass Rd Pittsburg, CA 94565-1701 (925) 252-9262

CHAIN-OF-CUSTODY RECORD

Page 1 of 1

Worker to the court will will	WorkOrder:	1612E19	ClientCode:	MPWM
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	WaterTrax	WriteOn	EDF	Excel	EQuIS	Email	HardC	Copy ThirdParty	J-flag
Report to:				Bill	to:			Requested TAT:	5 days;
Maureen Hamilton Monterey Peninsula Water Managemen 5 Harris Ct. Bldg G Monterey, CA 93940 (831) 658-5600 FAX:	t cc/3rd Party: PO:	hamilton@mpw SR; Monterey, C		N 5	Maureen Hamil Monterey Penin 5 Harris Ct. Bld Monterey, CA 9	ısula Water Ma g G	•	Date Received: Date Logged:	12/29/2016 12/29/2016

								Re	quested	l Tests (See leg	end bel	ow)			
Lab ID	Client ID	Matrix	Collection Date	Hold	1	2	3	4	5	6	7	8	9	10	11	12
1612E19-001	MW 1	Water	12/28/2016 11:42		Α											T
1612E19-002	5 ASR 2	Water	12/22/2016 00:00		Α											†
1612E19-003	6 ASR 2	Water	12/24/2016 00:00		Α											
1612E19-004	7 ASR 2	Water	12/25/2016 00:00		Α											
1612E19-005	8 ASR 2	Water	12/26/2016 12:45		Α											
1612E19-006	9 ASR 2	Water	12/27/2016 10:40		Α											
1612E19-007	10 ASR 2	Water	12/28/2016 09:30		Α											

Test Legend:

1	HGMS_W	2	3	4
5		6	7	8
9		10	11	12

Prepared by: Agustina Venegas

Comments:

NOTE: Soil samples are discarded 60 days after results are reported unless other arrangements are made (Water samples are 30 days).

Hazardous samples will be returned to client or disposed of at client expense.



"When Quality Counts"

1534 Willow Pass Road, Pittsburg, CA 94565-1701 Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269 http://www.mccampbell.com / E-mail: main@mccampbell.com

WORK ORDER SUMMARY

Client Name: MONTEREY PENINSULA WATER MANAGEMENT Project: ASR; Monterey, CA Work Order: 1612E19

 Client Contact:
 Maureen Hamilton

 Contact's Email:
 mhamilton@mpwmd.net
 Comments:

 Date Logged:
 12/29/2016

		WaterTrax	☐WriteOn ☐EDF	Excel	Fax Email	HardC	opyThirdPart	у 🗀	J-flag
Lab ID	Client ID	Matrix	Test Name	Containers /Composites	Bottle & Preservative	De- chlorinated	Collection Date & Time	TAT	Sediment Hold SubOut Content
1612E19-001A	MW 1	Water	E200.8 (Mercury)	1	250mL HDPE w/ HNO3		12/28/2016 11:42	5 days	None
1612E19-002A	5 ASR 2	Water	E200.8 (Mercury)	1	250mL HDPE w/ HNO3		12/22/2016	5 days	None
1612E19-003A	6 ASR 2	Water	E200.8 (Mercury)	1	250mL HDPE w/ HNO3		12/24/2016	5 days	None
1612E19-004A	7 ASR 2	Water	E200.8 (Mercury)	1	250mL HDPE w/ HNO3		12/25/2016	5 days	Present
1612E19-005A	8 ASR 2	Water	E200.8 (Mercury)	1	250mL HDPE w/ HNO3		12/26/2016 12:45	5 days	None
1612E19-006A	9 ASR 2	Water	E200.8 (Mercury)	1	250mL HDPE w/ HNO3		12/27/2016 10:40	5 days	None
1612E19-007A	10 ASR 2	Water	E200.8 (Mercury)	1	250mL HDPE w/ HNO3		12/28/2016 9:30	5 days	None

NOTES: - STLC and TCLP extractions require 2 days to complete; therefore, all TATs begin after the extraction is completed (i.e., One-day TAT yields results in 3 days from sample submission).

- MAI assumes that all material present in the provided sampling container is considered part of the sample - MAI does not exclude any material from the sample prior to sample preparation unless requested in writing by the client.

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Company: Monte	erey Penir	sula Wa	ter Disti	rict																															
Tolo: (931) 659	ele: (831) 658-5622 E-Mail: mhamilton@mpwmd.net															ł	i																		
Project #:	J-3022) W 111	u.II	CL_					1																	
	roject Location: Monterey, CA // Purchase Order#																																		
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6 ASR2		13/24															į															•			
7 ASRZ		12/25												П		П																			
& ASRZ		12/26	12:47											T		П											*****								
9 ASR2		12/21	10:40									Т		П																					
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Sample Receipt Checklist

Client Name:	Monterey Peninsula	Water Management			Date and Time Received:	12/29/2016 13:10
Project Name:	ASR; Monterey, CA				Date Logged:	12/29/2016
					Received by:	Agustina Venegas
WorkOrder №: Carrier:	1612E19 <u>FedEx</u>	Matrix: <u>Water</u>			Logged by:	Agustina Venegas
		Chain of C	ustody	(COC) Infor	mation	
Chain of custody	present?		Yes	✓	No 🗆	
Chain of custody	signed when relinquis	shed and received?	Yes	✓	No 🗌	
Chain of custody	agrees with sample la	abels?	Yes	✓	No 🗌	
Sample IDs note	d by Client on COC?		Yes	✓	No 🗌	
Date and Time of	f collection noted by C	Client on COC?	Yes	✓	No 🗌	
Sampler's name	noted on COC?		Yes	✓	No 🗌	
		Sampl	e Rece	eipt Informat	<u>ion</u>	
Custody seals int	tact on shipping conta	iner/cooler?	Yes		No 🗌	NA 🗹
Shipping containe	er/cooler in good cond	lition?	Yes	✓	No 🗌	
Samples in prope	er containers/bottles?		Yes	✓	No 🗌	
Sample containe	ers intact?		Yes	✓	No 🗌	
Sufficient sample	e volume for indicated	test?	Yes	✓	No 🗌	
		Sample Preservation	on and	Hold Time (HT) Information	
All samples recei	ived within holding tim	e?	Yes	✓	No 🗆	NA 🗌
Sample/Temp Bla	ank temperature			Temp:		NA 🗹
Water - VOA vial	ls have zero headspac	ce / no bubbles?	Yes		No 🗌	NA 🗹
Sample labels ch	necked for correct pres	servation?	Yes	✓	No 🗌	
pH acceptable up	pon receipt (Metal: <2	; 522: <4; 218.7: >8)?	Yes	✓	No 🗌	NA 🗆
Samples Receive	ed on Ice?		Yes		No 🗹	
UCMR3 Samples	<u>s:</u>					
		upon receipt for EPA 522?	Yes		No 🗆	NA 🗹
Free Chlorine t 300.1, 537, 539		upon receipt for EPA 218.7,	Yes		No 🗆	NA 🗹
Comments:	======	=======	==:	====	=======	=======



"When Quality Counts"

Analytical Report

WorkOrder: 1612C51

Report Created for: Monterey Peninsula Water Management

5 Harris Ct. Bldg G Monterey, CA 93940

Project Contact:

Maureen Hamilton

Project P.O.:

Project Name: ASR; Monterey, CA

Project Received: 12/27/2016

Analytical Report reviewed & approved for release on 01/03/2017 by:

Angela Rydelius,

Laboratory Manager

The report shall not be reproduced except in full, without the written approval of the laboratory. The analytical results relate only to the items tested. Results reported conform to the most current NELAP standards, where applicable, unless otherwise stated in the case narrative.



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Glossary of Terms & Qualifier Definitions

Client: Monterey Peninsula Water Management

Project: ASR; Monterey, CA

WorkOrder: 1612C51

Glossary Abbreviation

%D Serial Dilution Percent Difference

95% Interval 95% Confident Interval

DF Dilution Factor

DI WET (DISTLC) Waste Extraction Test using DI water

DISS Dissolved (direct analysis of 0.45 µm filtered and acidified water sample)

DLT Dilution Test (Serial Dilution)

DUP Duplicate

EDL Estimated Detection Limit

ITEF International Toxicity Equivalence Factor

LCS Laboratory Control Sample

MB Method Blank

MB % Rec % Recovery of Surrogate in Method Blank, if applicable

MDL Method Detection Limit

ML Minimum Level of Quantitation

MS Matrix Spike

MSD Matrix Spike Duplicate

N/A Not Applicable

ND Not detected at or above the indicated MDL or RL

NR Data Not Reported due to matrix interference or insufficient sample amount.

PDS Post Digestion Spike

PDSD Post Digestion Spike Duplicate

PF Prep Factor

RD Relative Difference

RL Reporting Limit (The RL is the lowest calibration standard in a multipoint calibration.)

RPD Relative Percent Deviation
RRT Relative Retention Time

SPK Val Spike Value

SPKRef Val Spike Reference Value

SPLP Synthetic Precipitation Leachate Procedure

ST Sorbent Tube

TCLP Toxicity Characteristic Leachate Procedure

TEQ Toxicity Equivalents

WET (STLC) Waste Extraction Test (Soluble Threshold Limit Concentration)

Quality Control Qualifiers

F13 Indigenous sample results too high for a representative matrix spike analysis.



Analytical Report

Client: Monterey Peninsula Water Management

 Date Received:
 12/27/16 9:14

 Date Prepared:
 12/27/16-12/29/16

 Project:
 ASR; Monterey, CA

WorkOrder: 1612C51
Extraction Method: E200.8
Analytical Method: μg/L

		Metals	S		
Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
1	1612C51-001A	Water	12/17/2016 09:20	ICP-MS3	131834
Analytes	Result		<u>RL</u> <u>DF</u>		Date Analyzed
Mercury	ND		0.050 1		12/27/2016 21:42
Surrogates	REC (%)		<u>Limits</u>		
Terbium	107		70-130		12/27/2016 21:42
Analyst(s): DVH					
Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
2	1612C51-002A	Water	12/18/2016 13:40	ICP-MS2	131904
<u>Analytes</u>	Result		<u>RL</u> <u>DF</u>		Date Analyzed
Mercury	ND		0.050 1		12/29/2016 22:43
Surrogates	REC (%)		<u>Limits</u>		
Terbium	110		70-130		12/29/2016 22:43
Analyst(s): DB					
Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
3	1612C51-003A	Water	12/19/2016 11:32	ICP-MS3	131834
<u>Analytes</u>	<u>Result</u>		<u>RL</u> <u>DF</u>		Date Analyzed
Mercury	ND		0.050 1		12/27/2016 22:45
<u>Surrogates</u>	REC (%)		<u>Limits</u>		
Terbium	102		70-130		12/27/2016 22:45
Analyst(s): DVH					
Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
4	1612C51-004A	Water	12/20/2016 08:55	ICP-MS3	131834
<u>Analytes</u>	Result		<u>RL</u> <u>DF</u>		Date Analyzed
Mercury	ND		0.050 1		12/27/2016 22:51
Surrogates	<u>REC (%)</u>		<u>Limits</u>		
Terbium	105		70-130		12/27/2016 22:51
Analyst(s): DVH					

Analytical Report

Client: Monterey Peninsula Water Management

 Date Received:
 12/27/16 9:14

 Date Prepared:
 12/27/16-12/29/16

 Project:
 ASR; Monterey, CA

WorkOrder: 1612C51
Extraction Method: E200.8
Analytical Method: E200.8

Unit: $\mu g/L$

Metals										
Client ID	Lab ID	Matrix	Date C	ollected Instrument	Batch ID					
5	1612C51-005A	Water	12/21/20	16 09:15 ICP-MS3	131834					
<u>Analytes</u>	Result		<u>RL</u>	<u>DF</u>	Date Analyzed					
Mercury	ND		0.050	1	12/27/2016 22:57					
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>							
Terbium	104		70-130		12/27/2016 22:57					
Analyst(s): DVH										

Quality Control Report

Client:Monterey Peninsula Water ManagementWorkOrder:1612C51Date Prepared:12/27/16BatchID:131834Date Analyzed:12/27/16Extraction Method:E200.8

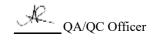
Instrument: ICP-MS3 Analytical Method: E200.8 Matrix: Water Unit: µg/L

Project: ASR; Monterey, CA **Sample ID:** MB/LCS-131834

1612C51-001AMS/MSD

	QC Sun	nmary R	eport f	or Metals						
Analyte	MB Result	LCS Result		RL	SPK Val		B SS REC	LCS %REC	;	LCS Limits
Mercury	ND	1.30		0.050	1.25	-		104		85-115
Surrogate Recovery										
Terbium	774	806			750	10)3	108		70-130
Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/N Limit		RPD	RPD Limit
Mercury	1.38	1.38	1.25	ND	107	107	75-12	25	0	20
Surrogate Recovery										
Terbium	810	826	750		108	110	70-13	30	1.88	20
Analyte	DLT Result			DLTRef Val				,	%D	%D Limit
Mercury	ND<0.25			ND					_	_

[%]D Control Limit applied to analytes with concentrations greater than 25 times the reporting limits.



1612C51

131904

Quality Control Report

Client: Monterey Peninsula Water Management WorkOrder:

Date Prepared: 12/28/16 BatchID:

Date Analyzed:12/29/16Extraction Method:E200.8Instrument:ICP-MS2Analytical Method:E200.8Matrix:WaterUnit:µg/L

Project: ASR; Monterey, CA **Sample ID:** MB/LCS-131904

1612D40-001CMS/MSD

	QC Sur	mmary R	eport f	or Metals						
Analyte	MB Result	LCS Result		RL	SPK Val		B SS REC	LCS %REC	;	LCS Limits
Mercury	ND	1.34		0.050	1.25	-		107		85-115
Surrogate Recovery										
Terbium	800	853			750	10)7	114		70-130
Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/N Limit	_	RPD	RPD Limit
Mercury	3.77	2.86	1.25	9.0	0,F13	0,F13	75-12	25	NA	20
Surrogate Recovery										
Terbium	873	856	750		116	114	70-13	30	1.96	20
Analyte	DLT Result			DLTRef Val				•	%D	%D Limit
Mercury	8.20			9.0					8.89	20

[%]D Control Limit applied to analytes with concentrations greater than 25 times the reporting limits.

1534 Willow Pass Rd Pittsburg, CA 94565-1701

CHAIN-OF-CUSTODY RECORD

(925) 252-9262				WorkOrder	: 1612C51	ChentC	ode: MPWN	I QuoteID:	6557
	WaterTrax	WriteOn	EDF	Excel	EQuIS	Email	HardCo	pyThirdParty	J-flag
Report to:				Bill	to:		i	Requested TAT:	5 days;
Maureen Hamilton	Email:	mhamilton@mpw	md.net	1	Maureen Hami	ton			
Monterey Peninsula Water Management	cc/3rd Party:			M	Monterey Penir	nsula Water M	anagement		
5 Harris Ct. Bldg G	PO:			5	5 Harris Ct. Bld	g G	1	Date Received:	12/27/2016
Monterey, CA 93940 (831) 658-5600 FAX:	ProjectNo:	ASR; Monterey, C	CA	יו	Monterey, CA 9	93940	1	Date Logged:	12/27/2016
(001) 000 0000									

					Requested Tests (See legend below)											
Lab ID	Client ID	Matrix	Collection Date	Hold	1	2	3	4	5	6	7	8	9	10	11	12
1612C51-001	1	Water	12/17/2016 09:20		Α											
1612C51-002	2	Water	12/18/2016 13:40		Α											
1612C51-003	3	Water	12/19/2016 11:32		Α											
1612C51-004	4	Water	12/20/2016 08:55		Α											
1612C51-005	5	Water	12/21/2016 09:15		Α											

Test Legend:

1 METALSMS_TTLC_W	2	3	4
5	6	7	8
9	10	11	12

Project Manager: Heidi Fruhlinger Prepared by: Agustina Venegas

32 samples per month for alyr **Comments:**

> NOTE: Soil samples are discarded 60 days after results are reported unless other arrangements are made (Water samples are 30 days). Hazardous samples will be returned to client or disposed of at client expense.



"When Quality Counts"

1534 Willow Pass Road, Pittsburg, CA 94565-1701 Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269 http://www.mccampbell.com / E-mail: main@mccampbell.com

WORK ORDER SUMMARY

Client Name: MONTEREY PENINSULA WATER MANAGEMENT Project: ASR; Monterey, CA Work Order: 1612C51

Client Contact: Maureen Hamilton

QC Level:

Contact's Email: mhamilton@mpwmd.net Comments: 32 samples per month for alyr Date Logged: 12/27/2016

		WaterTrax	WriteOnEDF	Excel	Fax Email	HardC	opyThirdPar	у 🔳	J-flag	
Lab ID	Client ID	Matrix	Test Name	Containers /Composites	Bottle & Preservative	De- chlorinated	Collection Date & Time	TAT	Sediment Content	Hold SubOut
1612C51-001A	1	Water	E200.8 (Metals) <mercury></mercury>	1	250mL HDPE w/ HNO3		12/17/2016 9:20	5 days	Present	
1612C51-002A	2	Water	E200.8 (Metals) <mercury></mercury>	1	250mL HDPE w/ HNO3		12/18/2016 13:40	5 days	Present	
1612C51-003A	3	Water	E200.8 (Metals) <mercury></mercury>	1	250mL HDPE w/ HNO3		12/19/2016 11:32	5 days	None	
1612C51-004A	4	Water	E200.8 (Metals) <mercury></mercury>	1	250mL HDPE w/ HNO3		12/20/2016 8:55	5 days	None	
1612C51-005A	5	Water	E200.8 (Metals) <mercury></mercury>	1	250mL HDPE w/ HNO3		12/21/2016 9:15	5 days	None	

NOTES: - STLC and TCLP extractions require 2 days to complete; therefore, all TATs begin after the extraction is completed (i.e., One-day TAT yields results in 3 days from sample submission).

- MAI assumes that all material present in the provided sampling container is considered part of the sample - MAI does not exclude any material from the sample prior to sample preparation unless requested in writing by the client.

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Company: Mont	erey Penir	sula W	ater Dist	rict																															
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Sample Receipt Checklist

Project Name:	ASR; Monterey, CA			Date Logged: Received by:	12/27/2016 09:14 12/27/2016 Agustina Venegas
WorkOrder №: Carrier:	1612C51 Matrix: Water FedEx			Logged by:	Agustina Venegas
	Chain of C	ustod	y (COC) Infor	rmation	
Chain of custody	present?	Yes	✓	No 🗆	
Chain of custody	signed when relinquished and received?	Yes	✓	No 🗆	
Chain of custody	agrees with sample labels?	Yes	✓	No 🗌	
Sample IDs note	ed by Client on COC?	Yes	✓	No 🗆	
Date and Time o	of collection noted by Client on COC?	Yes	✓	No 🗆	
Sampler's name	noted on COC?	Yes	✓	No 🗆	
	Sampl	e Rece	eipt Informati	<u>ion</u>	
Custody seals in	tact on shipping container/cooler?	Yes		No 🗌	NA 🗸
Shipping contain	er/cooler in good condition?	Yes	✓	No 🗆	
Samples in prope	er containers/bottles?	Yes	✓	No 🗆	
Sample containe	ers intact?	Yes	✓	No 🗆	
Sufficient sample	e volume for indicated test?	Yes	✓	No 🗌	
	Sample Preservation	on and	Hold Time (HT) Information	
All samples rece	ived within holding time?	Yes	✓	No 🗌	NA 🗌
Sample/Temp Bl	lank temperature		Temp:		NA 🗹
Water - VOA vial	ls have zero headspace / no bubbles?	Yes		No 🗌	NA 🗹
Sample labels ch	necked for correct preservation?	Yes	✓	No 🗌	
pH acceptable up	pon receipt (Metal: <2; 522: <4; 218.7: >8)?	Yes		No 🗸	NA 🗌
Samples Receive	ed on Ice?	Yes		No 🗹	
UCMR3 Samples	S:				
•		Yes		No 🗌	NA 🗹
Free Chlorine t 300.1, 537, 539	tested and acceptable upon receipt for EPA 218.7, 9?	Yes		No 🗌	NA 🗹
Comments: pl	— — — — — — — — — — — — — — — — — — —				



"When Quality Counts"

Analytical Report

WorkOrder: 1701512

Report Created for: Monterey Peninsula Water Management

5 Harris Ct. Bldg G Monterey, CA 93940

Project Contact:

Maureen Hamilton

Project P.O.:

Project Name: Injection @ ASR2

Project Received: 01/13/2017

Analytical Report reviewed & approved for release on 01/20/2017 by:

Angela Rydelius,

Laboratory Manager

The report shall not be reproduced except in full, without the written approval of the laboratory. The analytical results relate only to the items tested. Results reported conform to the most current NELAP standards, where applicable, unless otherwise stated in the case narrative.



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Glossary of Terms & Qualifier Definitions

Client: Monterey Peninsula Water Management

Project: Injection @ ASR2

WorkOrder: 1701512

Glossary Abbreviation

%D Serial Dilution Percent Difference

95% Interval 95% Confident Interval

DF Dilution Factor

DI WET (DISTLC) Waste Extraction Test using DI water

DISS Dissolved (direct analysis of 0.45 µm filtered and acidified water sample)

DLT Dilution Test (Serial Dilution)

DUP Duplicate

EDL Estimated Detection Limit

ITEF International Toxicity Equivalence Factor

LCS Laboratory Control Sample

MB Method Blank

MB % Rec % Recovery of Surrogate in Method Blank, if applicable

MDL Method Detection Limit

ML Minimum Level of Quantitation

MS Matrix Spike

MSD Matrix Spike Duplicate

N/A Not Applicable

ND Not detected at or above the indicated MDL or RL

NR Data Not Reported due to matrix interference or insufficient sample amount.

PDS Post Digestion Spike

PDSD Post Digestion Spike Duplicate

PF Prep Factor

RD Relative Difference

RL Reporting Limit (The RL is the lowest calibration standard in a multipoint calibration.)

RPD Relative Percent Deviation
RRT Relative Retention Time

SPK Val Spike Value

SPKRef Val Spike Reference Value

SPLP Synthetic Precipitation Leachate Procedure

ST Sorbent Tube

TCLP Toxicity Characteristic Leachate Procedure

TEQ Toxicity Equivalents

WET (STLC) Waste Extraction Test (Soluble Threshold Limit Concentration)



Analytical Report

Client: Monterey Peninsula Water Management

Date Received: 1/13/17 10:12

Date Prepared: 1/13/17

Project: Injection @ ASR2

WorkOrder: 1701512 Extraction Method: E200.8

Analytical Method: E200.8 **Unit:** µg/L

		Mercur	\mathbf{y}		
Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
INJ@ASR2 #19	1701512-001A	Water	01/11/2017 09:00	ICP-MS3	132608
<u>Analytes</u>	Result		RL DF		Date Analyzed
Mercury	ND		0.050 1		01/17/2017 19:23
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>		
Terbium	103		70-130		01/17/2017 19:23
Analyst(s): DVH					
Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
INJ@ASR #18	1701512-002A	Water	01/10/2017	ICP-MS3	132608
<u>Analytes</u>	Result		<u>RL</u> <u>DF</u>		Date Analyzed
Mercury	ND		0.050 1		01/17/2017 19:29
Surrogates	<u>REC (%)</u>		<u>Limits</u>		
Terbium	102		70-130		01/17/2017 19:29
Analyst(s): DVH					
Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
#16	1701512-003A	Water	01/09/2017 09:30	ICP-MS3	132608
<u>Analytes</u>	Result		<u>RL</u> <u>DF</u>		Date Analyzed
Mercury	ND		0.050 1		01/17/2017 19:35
<u>Surrogates</u>	REC (%)		<u>Limits</u>		
Terbium	105		70-130		01/17/2017 19:35
Analyst(s): DVH					
Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
#15	1701512-004A	Water	01/08/2017	ICP-MS3	132608
Analytes	<u>Result</u>		<u>RL</u> <u>DF</u>		Date Analyzed
Mercury	ND		0.050 1		01/17/2017 19:42
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>		
Terbium	108		70-130		01/17/2017 19:42
Analyst(s): DVH					



Analytical Report

Client: Monterey Peninsula Water Management

Date Received: 1/13/17 10:12

Date Prepared: 1/13/17

Project: Injection @ ASR2

WorkOrder: 1701512

Extraction Method: E200.8 **Analytical Method:** E200.8

Unit: $\mu g/L$

		Mercur	y			
Client ID	Lab ID	Matrix	Date C	ollected	Instrument	Batch II
#14	1701512-005A	Water	01/07/20	17 08:45	ICP-MS3	132608
<u>Analytes</u>	Result		<u>RL</u>	<u>DF</u>		Date Analyzed
Mercury	ND		0.050	1		01/17/2017 19:48
<u>Surrogates</u>	REC (%)		<u>Limits</u>			
Terbium	103		70-130			01/17/2017 19:48
Analyst(s): DVH						
Client ID	Lab ID	Matrix	Date C	ollected	Instrument	Batch II
#13	1701512-006A	Water	01/06/20	17 09:00	ICP-MS3	132608
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>		Date Analyzed
Mercury	ND		0.050	1		01/17/2017 19:54
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>			
Terbium	103		70-130			01/17/2017 19:54
Analyst(s): DVH						
Client ID	Lab ID	Matrix	Date C	ollected	Instrument	Batch ID
#11	1701512-007A	Water	12/29/20	16	ICP-MS3	132608
<u>Analytes</u>	Result		<u>RL</u>	<u>DF</u>		Date Analyzed
Mercury	ND		0.050	1		01/17/2017 20:00
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>			
Terbium	105		70-130			01/17/2017 20:0
Analyst(s): DVH						

Quality Control Report

Client: Monterey Peninsula Water Management

Date Prepared: 1/13/17

Date Analyzed: 1/13/17 - 1/17/17

Instrument: ICP-MS3 **Matrix:** Water

Project: Injection @ ASR2

WorkOrder: 1701512

BatchID: 132608

Extraction Method: E200.8 **Analytical Method:** E200.8

Unit: $\mu g/L$

Sample ID: MB/LCS-132608

1701485-002AMS/MSD

	QC Summary Report for Mercury													
Analyte	MB Result	LCS Result		RL	SPK Val			LCS %REC	LCS Limits					
Mercury	ND	1.27		0.050	1.25	-	,	101	85-115					
Surrogate Recovery														
Terbium	726.3	765			750	97	7	102	70-130					
Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MS Limits	SD RPD	RPD Limit					
Mercury	1.37	1.41	1.25	ND	109	113	75-125	2.95	20					
Surrogate Recovery														
Terbium	821	795	750		110	106	70-130	3.30	20					
Analyte	DLT Result			DLTRef Val				%D	%D Limit					
Mercury	ND<0.25			ND				_	_					

[%]D Control Limit applied to analytes with concentrations greater than 25 times the reporting limits.

1534 Willow Pass Rd Pittsburg, CA 94565-1 (925) 252-9262

CHAIN-OF-CUSTODY RECORD

Page 1 of 1

rittsburg, CA 94565-1701 925) 252-9262				WorkOrder	: 1701512	ClientC	ode: MPWM	QuoteID:	6557
	☐ WaterTrax	WriteOn	□EDF	Excel	EQuIS	∏Email	∏HardCopy	ThirdParty	J-fl

Report to: Bill to: Requested TAT: 5 days;

Maureen Hamilton Email: mhamilton@mpwmd.net Maureen Hamilton

Monterey Peninsula Water Management cc/3rd Party: Monterey Peninsula Water Management

5 Harris Ct. Bldg G PO: 5 Harris Ct. Bldg G Date Received: 01/13/2017

Monterey, CA 93940 ProjectNo: Injection @ ASR2 Monterey, CA 93940 Date Logged: 01/13/2017

(831) 658-5600 FAX:

		Requested Tests (See legend below)														
Lab ID	Client ID	Matrix	Collection Date	Hold	1	2	3	4	5	6	7	8	9	10	11	12
1701512-001	INJ@ASR2 #19	Water	1/11/2017 09:00		Α											
1701512-002	INJ@ASR #18	Water	1/10/2017 00:00		Α											
1701512-003	#16	Water	1/9/2017 09:30		Α											
1701512-004	#15	Water	1/8/2017 00:00		Α											
1701512-005	#14	Water	1/7/2017 08:45		Α		İ									
1701512-006	#13	Water	1/6/2017 09:00		Α		İ									
1701512-007	#11	Water	12/29/2016 00:00		Α											

Test Legend:

1 HGMS_W	2	3	4
5	6	7	8
9	10	11	12

Project Manager: Heidi Fruhlinger

Prepared by: Alexandra Iniguez

Comments: 32 samples per month for alyr

NOTE: Soil samples are discarded 60 days after results are reported unless other arrangements are made (Water samples are 30 days).

Hazardous samples will be returned to client or disposed of at client expense.



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WORK ORDER SUMMARY

Client Name:	MONTEREY PENINSULA WATER MANAGEMENT	Project:	Injection @ ASR2	Work Order: 1701512

Client Contact: Maureen Hamilton

QC Level:

Contact's Email: mhamilton@mpwmd.net

Comments: 32 samples per month for alyr

Date Logged: 1/13/2017

		WaterTrax	WriteOn EDF	Excel	Fax Email	HardC	opyThirdPar	ty 🔳	J-flag	
Lab ID	Client ID	Matrix	Test Name	Containers /Composites	Bottle & Preservative	De- chlorinated	Collection Date & Time	TAT	Sediment Content	Hold SubOut
1701512-001A	INJ@ASR2 #19	Water	E200.8 (Mercury)	1	250mL HDPE w/ HNO3		1/11/2017 9:00	5 days	Trace	
1701512-002A	INJ@ASR #18	Water	E200.8 (Mercury)	1	250mL HDPE w/ HNO3		1/10/2017	5 days	Trace	
1701512-003A	#16	Water	E200.8 (Mercury)	1	250mL HDPE w/ HNO3		1/9/2017 9:30	5 days	Trace	
1701512-004A	#15	Water	E200.8 (Mercury)	1	250mL HDPE w/ HNO3		1/8/2017	5 days	Trace	
1701512-005A	#14	Water	E200.8 (Mercury)	1	250mL HDPE w/ HNO3		1/7/2017 8:45	5 days	Trace	
1701512-006A	#13	Water	E200.8 (Mercury)	1	250mL HDPE w/ HNO3		1/6/2017 9:00	5 days	Trace	
1701512-007A	#11	Water	E200.8 (Mercury)	1	250mL HDPE w/ HNO3		12/29/2016	5 days	Trace	

NOTES: - STLC and TCLP extractions require 2 days to complete; therefore, all TATs begin after the extraction is completed (i.e., One-day TAT yields results in 3 days from sample submission).

- MAI assumes that all material present in the provided sampling container is considered part of the sample - MAI does not exclude any material from the sample prior to sample preparation unless requested in writing by the client.



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McCampbell Analytical, Inc.

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Sample Receipt Checklist

Project Name: Injection @ ASR2 WorkOrder №: 1701512 Matrix: Water Carrier: FedEx Chain of Custody (COC) Information Chain of custody present? Yes ✓ No □ Chain of custody signed when relinquished and received? Yes ✓ No □ Chain of custody agrees with sample labels? Yes ✓ No □	1/13/2017 Alexandra Iniguez Alexandra Iniguez NA
WorkOrder №: 1701512 Matrix: Water Logged by: Carrier: FedEx Chain of Custody (COC) Information Chain of custody present? Yes No No No Other No O	Alexandra Iniguez
Chain of Custody (COC) Information Chain of custody present? Yes ✓ No □ Chain of custody signed when relinquished and received? Yes ✓ No □	
Chain of custody present? Yes ✓ No ☐ Chain of custody signed when relinquished and received? Yes ✓ No ☐	na 🗆
Chain of custody signed when relinquished and received? Yes ✓ No □	na 🗆
	na 🗆
Chain of quotedly agrees with comple labels?	na 🗆
Chain of custody agrees with sample labels? Yes ✓ No □	na 🗆
Sample IDs noted by Client on COC? Yes \checkmark No \Box	na 🗆
Date and Time of collection noted by Client on COC? Yes ✓ No □	na 🗆
Sampler's name noted on COC? Yes ✓ No □	na 🗆
Sample Receipt Information	NA 🗌
Custody seals intact on shipping container/cooler? Yes ✓ No □	
Shipping container/cooler in good condition? Yes ✓ No □	
Samples in proper containers/bottles? Yes ✓ No □	
Sample containers intact? Yes ✓ No □	
Sufficient sample volume for indicated test? Yes \checkmark No \Box	
Sample Preservation and Hold Time (HT) Information	
All samples received within holding time? Yes ✓ No □	NA 🗌
Sample/Temp Blank temperature Temp:	NA 🗹
Water - VOA vials have zero headspace / no bubbles? Yes \square No \square	NA 🗹
Sample labels checked for correct preservation? Yes ✓ No □	
pH acceptable upon receipt (Metal: <2; 522: <4; 218.7: >8)? Yes ✓ No □	NA \square
Samples Received on Ice? Yes ☐ No ✓	
UCMR3 Samples:	
Total Chlorine tested and acceptable upon receipt for EPA 522? Yes No	NA 🗸
Free Chlorine tested and acceptable upon receipt for EPA 218.7, Yes $\hfill\Box$ No $\hfill\Box$ 300.1, 537, 539?	NA 🗸
	========



"When Quality Counts"

Analytical Report

WorkOrder: 1701B03

Report Created for: Monterey Peninsula Water Management

> 5 Harris Ct. Bldg G Monterey, CA 93940

Project Contact:

Maureen Hamilton

Project P.O.:

Project Name: ASR

Project Received: 01/25/2017

Analytical Report reviewed & approved for release on 01/31/2017 by:

Angela Rydelius,

Laboratory Manager

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CA ELAP 1644 ♦ NELAP 4033ORELAP

Glossary of Terms & Qualifier Definitions

Client: Monterey Peninsula Water Management

Project: ASR **WorkOrder:** 1701B03

Glossary Abbreviation

%D Serial Dilution Percent Difference

95% Interval 95% Confident Interval

DF Dilution Factor

DI WET (DISTLC) Waste Extraction Test using DI water

DISS Dissolved (direct analysis of 0.45 µm filtered and acidified water sample)

DLT Dilution Test (Serial Dilution)

DUP Duplicate

EDL Estimated Detection Limit

ITEF International Toxicity Equivalence Factor

LCS Laboratory Control Sample

MB Method Blank

MB % Rec % Recovery of Surrogate in Method Blank, if applicable

MDL Method Detection Limit

ML Minimum Level of Quantitation

MS Matrix Spike

MSD Matrix Spike Duplicate

N/A Not Applicable

ND Not detected at or above the indicated MDL or RL

NR Data Not Reported due to matrix interference or insufficient sample amount.

PDS Post Digestion Spike

PDSD Post Digestion Spike Duplicate

PF Prep Factor

RD Relative Difference

RL Reporting Limit (The RL is the lowest calibration standard in a multipoint calibration.)

RPD Relative Percent Deviation
RRT Relative Retention Time

SPK Val Spike Value

SPKRef Val Spike Reference Value

SPLP Synthetic Precipitation Leachate Procedure

ST Sorbent Tube

TCLP Toxicity Characteristic Leachate Procedure

TEQ Toxicity Equivalents

WET (STLC) Waste Extraction Test (Soluble Threshold Limit Concentration)

Analytical Report

Client: Monterey Peninsula Water Management

Date Received: 1/25/17 9:50 **Date Prepared:** 1/25/17 **Project:** ASR

WorkOrder: 1701B03
Extraction Method: E200.8
Analytical Method: E200.8
Unit: μg/L

		Mercur	y		
Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
28	1701B03-001A	Water	01/20/2017 09:0	5 ICP-MS2	133101
Analytes	Result		<u>RL</u> <u>DF</u>		Date Analyzed
Mercury	ND		0.050 1		01/26/2017 03:17
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>		
Terbium	104		70-130		01/26/2017 03:17
Analyst(s): DB					
Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
29	1701B03-002A	Water	01/21/2017 10:00	ICP-MS2	133101
<u>Analytes</u>	Result		<u>RL</u> <u>DF</u>		Date Analyzed
Mercury	ND		0.050 1		01/26/2017 03:23
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>		
Terbium	101		70-130		01/26/2017 03:23
Analyst(s): DB					
Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
30	1701B03-003A	Water	01/22/2017	ICP-MS2	133101
<u>Analytes</u>	<u>Result</u>		<u>RL</u> <u>DF</u>		Date Analyzed
Mercury	ND		0.050 1		01/26/2017 03:29
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>		
Terbium	101		70-130		01/26/2017 03:29
Analyst(s): DB					
Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
31	1701B03-004A	Water	01/23/2017	ICP-MS2	133101
<u>Analytes</u>	Result		<u>RL</u> <u>DF</u>		Date Analyzed
Mercury	ND		0.050 1		01/26/2017 11:40
Surrogates	<u>REC (%)</u>		<u>Limits</u>		
Terbium	102		70-130		01/26/2017 11:40
Analyst(s): DVH					

Quality Control Report

Client: Monterey Peninsula Water Management

Date Prepared:1/25/17Date Analyzed:1/26/17Instrument:ICP-MS2Matrix:Water

Project: ASR

WorkOrder: 1701B03 **BatchID:** 133101

Extraction Method: E200.8 **Analytical Method:** E200.8

Unit: $\mu g/L$

Sample ID: MB/LCS-133101

1701A59-001CMS/MSD

	QC Summary Report for Mercury												
Analyte	MB Result	LCS Result		RL	SPK Val			CS REC	LCS Limits				
Mercury	ND	1.31		0.050	1.25	-	10)5	85-115				
Surrogate Recovery													
Terbium	743.7	791			750	99	10)5	70-130				
Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit				
Mercury	1.59	1.62	1.25	0.2372	108	110	75-125	1.87	20				
Surrogate Recovery													
Terbium	803	790	750		107	105	70-130	1.70) 20				
Analyte	DLT Result			DLTRef Val				%D	%D Limit				
Mercury	0.332			0.2372				40.0	-				

[%]D Control Limit applied to analytes with concentrations greater than 25 times the reporting limits.

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CHAIN-OF-CUSTODY RECORD

1 of 1

WorkOrder. 1701b05 CheftCode. Wil WWI Quoteib. 0337	WorkOrder: 1701B03	ClientCode: MPWM	QuoteID: 6557
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WaterTrax	WriteOn	EDF	Excel	■ EQuIS	Email	HardCopy	ThirdParty	J-flaç
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Bill to: Report to: Requested TAT: 5 days:

Maureen Hamilton Maureen Hamilton Email: mhamilton@mpwmd.net

cc/3rd Party: Monterey Peninsula Water Management Monterey Peninsula Water Management 01/25/2017 Date Received: 5 Harris Ct. Bldg G 5 Harris Ct. Bldg G PO:

Monterey, CA 93940 ProjectNo: ASR Monterey, CA 93940 Date Logged: 01/25/2017 (831) 658-5600 FAX:

					Requested Tests (See legend below)											
Lab ID	Client ID	Matrix	Collection Date	Hold	1	2	3	4	5	6	7	8	9	10	11	12
1701B03-001	28	Water	1/20/2017 09:05		Α											
1701B03-002	29	Water	1/21/2017 10:00		Α											
1701B03-003	30	Water	1/22/2017 00:00		A											
1701B03-004	31	Water	1/23/2017 00:00		Α											

Test Legend:

1 HGMS_W	2	3	4
5	6	7	8
9	10	11	12

Project Manager: Heidi Fruhlinger Prepared by: Jena Alfaro

32 samples per month for alyr **Comments:**

> NOTE: Soil samples are discarded 60 days after results are reported unless other arrangements are made (Water samples are 30 days). Hazardous samples will be returned to client or disposed of at client expense.



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WORK ORDER SUMMARY

Client Name:	MONTEREY PENINSULA WATER MANAGEMENT	Project:	ASR	Work Order:	1701B03
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Client Contact: Maureen Hamilton

QC Level:

Contact's Email: mhamilton@mpwmd.net

Comments: 32 samples per month for alyr

Date Logged: 1/25/2017

		WaterTrax	WriteOn EDF	Excel	Fax Email	HardC	opyThirdPar	ty 🔳	J-flag	
Lab ID	Client ID	Matrix	Test Name	Containers /Composites	Bottle & Preservative	De- chlorinated	Collection Date & Time	TAT	Sediment Content	Hold SubOut
1701B03-001A	28	Water	E200.8 (Mercury)	1	250mL HDPE w/ 1ml HNO3 & .25ml HCl		1/20/2017 9:05	5 days	None	
1701B03-002A	29	Water	E200.8 (Mercury)	1	250mL HDPE w/ 1ml HNO3 & .25ml HCl		1/21/2017 10:00	5 days	None	
1701B03-003A	30	Water	E200.8 (Mercury)	1	250mL HDPE w/ 1ml HNO3 & .25ml HCl		1/22/2017	5 days	None	
1701B03-004A	31	Water	E200.8 (Mercury)	1	250mL HDPE w/ 1ml HNO3 & .25ml HCl		1/23/2017	5 days	None	

NOTES: - STLC and TCLP extractions require 2 days to complete; therefore, all TATs begin after the extraction is completed (i.e., One-day TAT yields results in 3 days from sample submission).

- MAI assumes that all material present in the provided sampling container is considered part of the sample - MAI does not exclude any material from the sample prior to sample preparation unless requested in writing by the client.

1701B03

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Sample Receipt Checklist

Client Name: Project Name: WorkOrder №: Carrier:	Monterey Peninsula Water Management ASR 1701B03 Matrix: Water FedEx			Date and Time Received Date Logged: Received by: Logged by:	1/25/2017 09:50 1/25/2017 Jena Alfaro Jena Alfaro
	Chain of C	ustody	(COC) Infor	mation	
Chain of custody	present?	Yes	✓	No 🗆	
Chain of custody	signed when relinquished and received?	Yes	✓	No 🗌	
Chain of custody	agrees with sample labels?	Yes	✓	No 🗌	
Sample IDs noted	d by Client on COC?	Yes	✓	No 🗌	
Date and Time of	f collection noted by Client on COC?	Yes	✓	No 🗌	
Sampler's name	noted on COC?	Yes	✓	No 🗌	
	<u>Sampl</u>	e Rece	eipt Informati	<u>ion</u>	
Custody seals int	act on shipping container/cooler?	Yes		No 🗌	NA 🗹
Shipping containe	er/cooler in good condition?	Yes	✓	No 🗆	
Samples in prope	er containers/bottles?	Yes	✓	No 🗆	
Sample containe	rs intact?	Yes	✓	No 🗆	
Sufficient sample	volume for indicated test?	Yes	✓	No 🗌	
	Sample Preservation	on and	Hold Time (HT) Information	
All samples recei	ved within holding time?	Yes	✓	No 🗌	NA 🗌
Sample/Temp Bla	ank temperature		Temp:		NA 🗹
Water - VOA vial	s have zero headspace / no bubbles?	Yes		No 🗌	NA 🗹
Sample labels ch	ecked for correct preservation?	Yes	✓	No 🗌	
pH acceptable up	oon receipt (Metal: <2; 522: <4; 218.7: >8)?	Yes	✓	No 🗌	NA 🗌
Samples Receive	ed on Ice?	Yes		No 🗹	
	tested and acceptable upon receipt for EPA 522? ested and acceptable upon receipt for EPA 218.7,	Yes Yes			na ✓ na ✓
Comments:		==:	====	=======	



"When Quality Counts"

Analytical Report

WorkOrder: 1703999

Report Created for: Monterey Peninsula Water Management

5 Harris Ct. Bldg G Monterey, CA 93940

Project Contact:

Maureen Hamilton

Project P.O.:

Project Name: ASR

Project Received: 03/21/2017

Analytical Report reviewed & approved for release on 03/27/2017 by:

Angela Rydelius, Laboratory Manager

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Glossary of Terms & Qualifier Definitions

Client: Monterey Peninsula Water Management

Project: ASR **WorkOrder:** 1703999

Glossary Abbreviation

%D Serial Dilution Percent Difference

95% Interval 95% Confident Interval

DF Dilution Factor

DI WET (DISTLC) Waste Extraction Test using DI water

DISS Dissolved (direct analysis of 0.45 µm filtered and acidified water sample)

DLT Dilution Test (Serial Dilution)

DUP Duplicate

EDL Estimated Detection Limit

ITEF International Toxicity Equivalence Factor

LCS Laboratory Control Sample

MB Method Blank

MB % Rec % Recovery of Surrogate in Method Blank, if applicable

MDL Method Detection Limit

ML Minimum Level of Quantitation

MS Matrix Spike

MSD Matrix Spike Duplicate

N/A Not Applicable

ND Not detected at or above the indicated MDL or RL

NR Data Not Reported due to matrix interference or insufficient sample amount.

PDS Post Digestion Spike

PDSD Post Digestion Spike Duplicate

PF Prep Factor

RD Relative Difference

RL Reporting Limit (The RL is the lowest calibration standard in a multipoint calibration.)

RPD Relative Percent Deviation
RRT Relative Retention Time

SPK Val Spike Value

SPKRef Val Spike Reference Value

SPLP Synthetic Precipitation Leachate Procedure

ST Sorbent Tube

TCLP Toxicity Characteristic Leachate Procedure

TEQ Toxicity Equivalents

WET (STLC) Waste Extraction Test (Soluble Threshold Limit Concentration)



Analytical Report

Client: Monterey Peninsula Water Management

Date Received: 3/21/17 10:01 **Date Prepared:** 3/21/17 **Project:** ASR WorkOrder: 1703999
Extraction Method: E200.8
Analytical Method: E200.8
Unit: μg/L

		Mercur	\mathbf{y}		
Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
63	1703999-001A	Water	03/05/2017 09:05	ICP-MS2	135896
<u>Analytes</u>	Result		<u>RL</u> <u>DF</u>		Date Analyzed
Mercury	ND		0.050 1		03/22/2017 01:13
Surrogates	<u>REC (%)</u>		<u>Limits</u>		
Terbium	99		70-130		03/22/2017 01:13
<u>Analyst(s):</u> DVH					
Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
64	1703999-002A	Water	03/06/2017 08:4	ICP-MS2	135896
<u>Analytes</u>	Result		<u>RL</u> <u>DF</u>		Date Analyzed
Mercury	ND		0.050 1		03/22/2017 01:20
Surrogates	<u>REC (%)</u>		<u>Limits</u>		
Terbium	102		70-130		03/22/2017 01:20
Analyst(s): DVH					
Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
65	1703999-003A	Water	03/07/2017 08:40	ICP-MS2	135896
<u>Analytes</u>	<u>Result</u>		<u>RL</u> <u>DF</u>		Date Analyzed
Mercury	ND		0.050 1		03/22/2017 01:26
Surrogates	<u>REC (%)</u>		<u>Limits</u>		
Terbium	101		70-130		03/22/2017 01:26
Analyst(s): DVH					
Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
66	1703999-004A	Water	03/08/2017 09:00	ICP-MS2	135896
<u>Analytes</u>	Result		<u>RL</u> <u>DF</u>		Date Analyzed
Mercury	ND		0.050 1		03/22/2017 01:32
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>		
Terbium	103		70-130		03/22/2017 01:32
Analyst(s): DVH					



Analytical Report

Client: Monterey Peninsula Water Management

Date Received: 3/21/17 10:01 **Date Prepared:** 3/21/17 **Project:** ASR

WorkOrder: 1703999 Extraction Method: E200.8 Analytical Method: E200.8 Unit: μ g/L

		Mercur	\mathbf{y}			
Client ID	Lab ID	Matrix	Date Coll	ected Inst	rument	Batch II
67	1703999-005A	Water	03/09/2017	08:30 ICP-	MS2	135896
<u>Analytes</u>	Result		<u>RL</u>	<u>DF</u>		Date Analyzed
Mercury	ND		0.050	1		03/22/2017 01:38
Surrogates	<u>REC (%)</u>		<u>Limits</u>			
Terbium	103		70-130			03/22/2017 01:38
Analyst(s): DVH						
Client ID	Lab ID	Matrix	Date Coll	ected Inst	rument	Batch II
70	1703999-006A	Water	03/10/2017	08:15 ICP-	MS2	135896
Analytes	Result		<u>RL</u>	<u>DF</u>		Date Analyzed
Mercury	ND		0.050	1		03/22/2017 01:44
Surrogates	<u>REC (%)</u>		<u>Limits</u>			
Terbium	100		70-130			03/22/2017 01:44
Analyst(s): DVH						
Client ID	Lab ID	Matrix	Date Coll	ected Inst	rument	Batch II
71	1703999-007A	Water	03/11/2017	08:15 ICP-	MS2	135896
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>		Date Analyzed
Mercury	ND		0.050	1		03/22/2017 02:09
Surrogates	<u>REC (%)</u>		<u>Limits</u>			
Terbium	102		70-130			03/22/2017 02:09
Analyst(s): DVH						
Client ID	Lab ID	Matrix	Date Coll	ected Inst	rument	Batch II
72	1703999-008A	Water	03/12/2017	10:10 ICP-	MS2	135896
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>		Date Analyzed
Mercury	ND			1		03/22/2017 02:1
<u>Surrogates</u>	REC (%)		<u>Limits</u>			
Terbium	101		70-130			03/22/2017 02:1
Analyst(s): DVH						

Analytical Report

Client: Monterey Peninsula Water Management

Date Received: 3/21/17 10:01 **Date Prepared:** 3/21/17 **Project:** ASR

WorkOrder: 1703999
Extraction Method: E200.8
Analytical Method: E200.8
Unit: μg/L

		Mercur	<u>y</u>		
Client ID	Lab ID	Matrix	Date Collect	ed Instrument	Batch II
73	1703999-009A	Water	03/13/2017 08:	40 ICP-MS2	135896
<u>Analytes</u>	Result		<u>RL</u> <u>DF</u>		Date Analyzed
Mercury	ND		0.050 1		03/22/2017 02:2
<u>Surrogates</u>	REC (%)		<u>Limits</u>		
Terbium	96		70-130		03/22/2017 02:2
<u>Analyst(s):</u> DVH					
Client ID	Lab ID	Matrix	Date Collect	ed Instrument	Batch II
74	1703999-010A	Water	03/14/2017 08:	05 ICP-MS2	135896
<u>Analytes</u>	Result		<u>RL</u> <u>DF</u>		Date Analyzed
Mercury	ND		0.050 1		03/22/2017 02:2
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>		
Terbium	99		70-130		03/22/2017 02:2
Analyst(s): DVH					
Client ID	Lab ID	Matrix	Date Collect	ed Instrument	Batch II
75	1703999-011A	Water	03/15/2017 08:	25 ICP-MS2	135896
<u>Analytes</u>	<u>Result</u>		<u>RL</u> <u>DF</u>		Date Analyzed
Mercury	ND		0.050 1		03/22/2017 02:3
Surrogates	<u>REC (%)</u>		<u>Limits</u>		
Terbium	93		70-130		03/22/2017 02:3
Analyst(s): DVH					

Quality Control Report

Client: Monterey Peninsula Water Management

Date Prepared: 3/20/17 **Date Analyzed:** 3/21/17 **Instrument:** ICP-MS3 **Matrix:** Water

ASR Project:

WorkOrder: 1703999 **BatchID:** 135896

Extraction Method: E200.8 **Analytical Method:** E200.8 Unit:

Sample ID: MB/LCS-135896

 $\mu g/L$

1703981-012BMS/MSD

	QC Sum	mary Re	port fo	r Mercury	7				
Analyte	MB Result	LCS Result		RL	SPK Val		B SS REC	LCS %REC	LCS Limits
Mercury	ND	1.23		0.050	1.25	-		98	85-115
Surrogate Recovery									
Terbium	749.6	806			750	10	00	107	70-130
Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/M	-	RPD Limit
Mercury	1.28	1.27	1.25	ND	103	102	75-12	5 1.10	20
Surrogate Recovery									
Terbium	832	831	750		111	111	70-130	0 0	20
Analyte	DLT Result			DLTRef Val				%D	%D Limit
Mercury	ND<0.25			ND				_	_

[%]D Control Limit applied to analytes with concentrations greater than 25 times the reporting limits.

1534 Willow Pass Rd

CHAIN-OF-CUSTODY RECORD

(925) 252-9262					Worl	kOrde	er: 170	3999		Client	Code:	MPW	M	Quote	eID: 6	557		
Description		WaterTrax	WriteOn	EDF	E	xcel		EQuIS		Email		HardC	ору [ThirdF	Party	J-fla	ıg	
Report to: Maureen Hamilton Monterey Peninsula W 5 Harris Ct. Bldg G Monterey, CA 93940 (831) 658-5600 FA	· ·	Email: m cc/3rd Party: PO: ProjectNo: A	nhamilton@mp .SR	wmd.net		В	Monte 5 Har	een Ham erey Per ris Ct. B erey, CA	insula ldg G		∕lanage	ement	Date K	sted TAT Received ogged:	d:	5 days; 03/21/2017 03/21/2017		
									Re	quested	Tests	(See leg	end bel	ow)				
Lab ID	Client ID		Matrix	Collection Date	Hold	1	2	3	4	5	6	7	8	9	10	11	12	
1703999-001	63		Water	3/5/2017 09:05		Α											Т	
1703999-002	64		Water	3/6/2017 08:45		Α												
1703999-003	65		Water	3/7/2017 08:40		Α											†	
1703999-004	66		Water	3/8/2017 09:00		Α												
1703999-005	67		Water	3/9/2017 08:30		Α												
1703999-006	70		Water	3/10/2017 08:15		Α												
1703999-007	71		Water	3/11/2017 08:15		Α												
1703999-008	72		Water	3/12/2017 10:10		Α												
1703999-009	73		Water	3/13/2017 08:40		Α												
1703999-010	74		Water	3/14/2017 08:05		Α												
1703999-011	75		Water	3/15/2017 08:25		Α												

Project Manager: Heidi Fruhlinger Prepared by: Jena Alfaro

32 samples per month for alyr **Comments:**

> NOTE: Soil samples are discarded 60 days after results are reported unless other arrangements are made (Water samples are 30 days). Hazardous samples will be returned to client or disposed of at client expense.



"When Quality Counts"

1534 Willow Pass Road, Pittsburg, CA 94565-1701 Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269 http://www.mccampbell.com / E-mail: main@mccampbell.com

WORK ORDER SUMMARY

Client Name: MONTEREY PENINSULA WATER MANAGEMENT Project: ASR Work Order: 1703999

Client Contact: Maureen Hamilton

QC Level:

Contact's Email: mhamilton@mpwmd.net Comments: 32 samples per month for alyr Date Logged: 3/21/2017

		☐ WaterTrax	WriteOn	EDF Excel	FaxEmail	HardC	opyThirdPart	ty 🔳	l-flag	
Lab ID	Client ID	Matrix	Test Name	Containers /Composites	Bottle & Preservative	De- chlorinated	Collection Date & Time	TAT	Sediment Content	Hold SubOut
1703999-001A	63	Water	E200.8 (Mercury)	1	250mL HDPE w/ 1mL HNO3 & .25mL HCl		3/5/2017 9:05	5 days	None	
1703999-002A	64	Water	E200.8 (Mercury)	1	250mL HDPE w/ 1mL HNO3 & .25mL HCl		3/6/2017 8:45	5 days	None	
1703999-003A	65	Water	E200.8 (Mercury)	1	250mL HDPE w/ 1mL HNO3 & .25mL HCl		3/7/2017 8:40	5 days	None	
1703999-004A	66	Water	E200.8 (Mercury)	1	250mL HDPE w/ 1mL HNO3 & .25mL HCl		3/8/2017 9:00	5 days	None	
1703999-005A	67	Water	E200.8 (Mercury)	1	250mL HDPE w/ 1mL HNO3 & .25mL HCl		3/9/2017 8:30	5 days	None	
1703999-006A	70	Water	E200.8 (Mercury)	1	250mL HDPE w/ 1mL HNO3 & .25mL HCl		3/10/2017 8:15	5 days	None	
1703999-007A	71	Water	E200.8 (Mercury)	1	250mL HDPE w/ 1mL HNO3 & .25mL HCl		3/11/2017 8:15	5 days	None	
1703999-008A	72	Water	E200.8 (Mercury)	1	250mL HDPE w/ 1mL HNO3 & .25mL HCl		3/12/2017 10:10	5 days	None	
1703999-009A	73	Water	E200.8 (Mercury)	1	250mL HDPE w/ 1mL HNO3 & .25mL HCl		3/13/2017 8:40	5 days	None	
1703999-010A	74	Water	E200.8 (Mercury)	1	250mL HDPE w/ 1mL HNO3 & .25mL HCl		3/14/2017 8:05	5 days	None	
1703999-011A	75	Water	E200.8 (Mercury)	1	250mL HDPE w/ 1mL HNO3 & .25mL HCl		3/15/2017 8:25	5 days	None	

NOTES: - STLC and TCLP extractions require 2 days to complete; therefore, all TATs begin after the extraction is completed (i.e., One-day TAT yields results in 3 days from sample submission).

- MAI assumes that all material present in the provided sampling container is considered part of the sample - MAI does not exclude any material from the sample prior to sample preparation unless requested in writing by the client.



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Report To: Maur	een Hamil	ton			Bi	l To	: sa	me					_		_	_	_	_			-	_	_	Ans	lvei	R R	ques	+	_	-		-			_
Company: Mont	erey Penin	sula W	ater Dist	rict															T	T	T			T	I	T	ques					Т	\neg		-
Tele: (831) 65 Project #: Project Location:		ev. CA			Pro	ject	Man	ne:	ASR		owm	ıd.n	et			5H	1																		
Sampler Signatur	re: \	min	Hum	1	57		se O	Q		F	70	6	55	7	-	do			1	1	11							П					- 1		
			PLING				M	ATI			000		ME	THO		0.				П	W.														
SAMPLE ID	Location/ Field Point Name	Date	Time	# Containers	Ground Water	Waste Water	Drinking Water	Sea Water	Soil	Air	Sludge		HCL	SER\ SONH	Other	FPA 360																			
63	ASRZINI	3/4	0905	1	Χ							+	X	X	\dashv	+	-	1	╁	+	+	+	-	-	-	-	\vdash	-	\vdash	-		-	+	+	
64	1	-1	0845	1	1							+	Î	1				1	1	+	+	-		-	-	-	+-		-			-	+	+	
65		3/7	0840										$\dagger \dagger$	+		+		1	-	+	+	-		-	-		-						+	-	
66		3/8	09 00			1						1	$\dagger \dagger$	\forall		+		1	1	+	+	-	-		-	-	-		-	_	-	-4	+	-	_
67		3/01	0630	T									+	+		+	-		1		+	-	-	-		-				-		+	+	-	-
70		2/10	0815	1									H	+	-	+			-	+	+		-		-	-	-	-	-	-	-	-	-	4	
71		3/11	0815	1		-				-			1	1	-	+				+	+		-	-	_	-	-		_		_		-		
72		3/17	1010	\top								1	+	+1	-	+		-	-	-	-	-			-		H	_	-		-	_	-	_	
73		71	0840	1							_	+	+	+	-	+	-	-		+	1						-	_			_	_	-	4	
74	1-1-1	3/14	0404	1						7			tt	+		+					-	-				-	-		_		-	-	+	-	_
75		3/15	0425	1	1	- 1)	1		1			-	+	-			-			-			-		+	+	-	
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Sample Receipt Checklist

Client Name:	Monterey Peninsul	a Water Management			Date and Time Received	3/21/2017 10:01
Project Name:	ASR				Date Logged:	3/21/2017
					Received by:	Jena Alfaro
WorkOrder №: Carrier:	1703999 <u>FedEx</u>	Matrix:			Logged by:	Jena Alfaro
		Chain of C	ustody	(COC) Infor	mation	
Chain of custody	present?		Yes	✓	No 🗆	
Chain of custody	signed when relinqu	ished and received?	Yes	•	No 🗌	
Chain of custody	agrees with sample	labels?	Yes	•	No 🗌	
Sample IDs note	d by Client on COC?		Yes	✓	No 🗌	
Date and Time of	f collection noted by	Client on COC?	Yes	✓	No 🗌	
Sampler's name	noted on COC?		Yes	✓	No 🗌	
		Sample	e Rece	eipt Informati	i <u>on</u>	
Custody seals in	tact on shipping cont	ainer/cooler?	Yes		No 🗌	NA 🗹
Shipping contain	er/cooler in good cor	dition?	Yes	•	No 🗌	
Samples in prope	er containers/bottles?	•	Yes	•	No 🗌	
Sample containe	ers intact?		Yes	•	No 🗌	
Sufficient sample	e volume for indicated	i test?	Yes	•	No 🗌	
		Sample Preservation	on and	Hold Time (HT) Information	
All samples recei	ived within holding tir	me?	Yes	✓	No 🗌	NA 🗌
Sample/Temp Bl	ank temperature			Temp:		NA 🗹
Water - VOA vial	ls have zero headspa	ice / no bubbles?	Yes		No 🗌	NA 🗹
Sample labels ch	necked for correct pre	eservation?	Yes	✓	No 🗌	
pH acceptable up	pon receipt (Metal: <2	2; 522: <4; 218.7: >8)?	Yes	✓	No 🗌	NA \square
Samples Receive	ed on Ice?		Yes		No 🗹	
UCMR3 Samples	S:					
		e upon receipt for EPA 522?	Yes		No 🗌	NA 🗹
Free Chlorine t 300.1, 537, 539		e upon receipt for EPA 218.7,	Yes		No 🗌	NA 🗹
Comments:	======	=======	:	====	=	=======



"When Quality Counts"

Analytical Report

WorkOrder: 1701512

Report Created for: Monterey Peninsula Water Management

5 Harris Ct. Bldg G Monterey, CA 93940

Project Contact:

Maureen Hamilton

Project P.O.:

Project Name: Injection @ ASR2

Project Received: 01/13/2017

Analytical Report reviewed & approved for release on 01/20/2017 by:

Angela Rydelius,

Laboratory Manager

The report shall not be reproduced except in full, without the written approval of the laboratory. The analytical results relate only to the items tested. Results reported conform to the most current NELAP standards, where applicable, unless otherwise stated in the case narrative.



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Glossary of Terms & Qualifier Definitions

Client: Monterey Peninsula Water Management

Project: Injection @ ASR2

WorkOrder: 1701512

Glossary Abbreviation

%D Serial Dilution Percent Difference

95% Interval 95% Confident Interval

DF Dilution Factor

DI WET (DISTLC) Waste Extraction Test using DI water

DISS Dissolved (direct analysis of 0.45 µm filtered and acidified water sample)

DLT Dilution Test (Serial Dilution)

DUP Duplicate

EDL Estimated Detection Limit

ITEF International Toxicity Equivalence Factor

LCS Laboratory Control Sample

MB Method Blank

MB % Rec % Recovery of Surrogate in Method Blank, if applicable

MDL Method Detection Limit

ML Minimum Level of Quantitation

MS Matrix Spike

MSD Matrix Spike Duplicate

N/A Not Applicable

ND Not detected at or above the indicated MDL or RL

NR Data Not Reported due to matrix interference or insufficient sample amount.

PDS Post Digestion Spike

PDSD Post Digestion Spike Duplicate

PF Prep Factor

RD Relative Difference

RL Reporting Limit (The RL is the lowest calibration standard in a multipoint calibration.)

RPD Relative Percent Deviation
RRT Relative Retention Time

SPK Val Spike Value

SPKRef Val Spike Reference Value

SPLP Synthetic Precipitation Leachate Procedure

ST Sorbent Tube

TCLP Toxicity Characteristic Leachate Procedure

TEQ Toxicity Equivalents

WET (STLC) Waste Extraction Test (Soluble Threshold Limit Concentration)



Analytical Report

Client: Monterey Peninsula Water Management

Date Received: 1/13/17 10:12

Date Prepared: 1/13/17

Project: Injection @ ASR2

WorkOrder: 1701512 Extraction Method: E200.8

Analytical Method: E200.8 **Unit:** µg/L

		Mercur	\mathbf{y}		
Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
INJ@ASR2 #19	1701512-001A	Water	01/11/2017 09:00	ICP-MS3	132608
<u>Analytes</u>	Result		RL DF		Date Analyzed
Mercury	ND		0.050 1		01/17/2017 19:23
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>		
Terbium	103		70-130		01/17/2017 19:23
Analyst(s): DVH					
Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
INJ@ASR #18	1701512-002A	Water	01/10/2017	ICP-MS3	132608
<u>Analytes</u>	Result		<u>RL</u> <u>DF</u>		Date Analyzed
Mercury	ND		0.050 1		01/17/2017 19:29
Surrogates	REC (%)		<u>Limits</u>		
Terbium	102		70-130		01/17/2017 19:29
Analyst(s): DVH					
Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
#16	1701512-003A	Water	01/09/2017 09:30	ICP-MS3	132608
<u>Analytes</u>	Result		<u>RL</u> <u>DF</u>		Date Analyzed
Mercury	ND		0.050 1		01/17/2017 19:35
<u>Surrogates</u>	REC (%)		<u>Limits</u>		
Terbium	105		70-130		01/17/2017 19:35
Analyst(s): DVH					
Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
#15	1701512-004A	Water	01/08/2017	ICP-MS3	132608
Analytes	<u>Result</u>		<u>RL</u> <u>DF</u>		Date Analyzed
Mercury	ND		0.050 1		01/17/2017 19:42
Surrogates	<u>REC (%)</u>		<u>Limits</u>		
Terbium	108		70-130		01/17/2017 19:42
Analyst(s): DVH					



Analytical Report

Client: Monterey Peninsula Water Management

Date Received: 1/13/17 10:12

Date Prepared: 1/13/17

Project: Injection @ ASR2

WorkOrder: 1701512

Extraction Method: E200.8 **Analytical Method:** E200.8

Unit: $\mu g/L$

		Mercur	y			
Client ID	Lab ID	Matrix	Date C	ollected	Instrument	Batch II
#14	1701512-005A	Water	01/07/20	17 08:45	ICP-MS3	132608
<u>Analytes</u>	Result		<u>RL</u>	<u>DF</u>		Date Analyzed
Mercury	ND		0.050	1		01/17/2017 19:48
<u>Surrogates</u>	REC (%)		<u>Limits</u>			
Terbium	103		70-130			01/17/2017 19:48
Analyst(s): DVH						
Client ID	Lab ID	Matrix	Date C	ollected	Instrument	Batch II
#13	1701512-006A	Water	01/06/20	17 09:00	ICP-MS3	132608
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>		Date Analyzed
Mercury	ND		0.050	1		01/17/2017 19:54
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>			
Terbium	103		70-130			01/17/2017 19:54
Analyst(s): DVH						
Client ID	Lab ID	Matrix	Date C	ollected	Instrument	Batch ID
#11	1701512-007A	Water	12/29/20	16	ICP-MS3	132608
<u>Analytes</u>	Result		<u>RL</u>	<u>DF</u>		Date Analyzed
Mercury	ND		0.050	1		01/17/2017 20:00
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>			
Terbium	105		70-130			01/17/2017 20:0
Analyst(s): DVH						

Quality Control Report

Client: Monterey Peninsula Water Management

Date Prepared: 1/13/17

Date Analyzed: 1/13/17 - 1/17/17

Instrument: ICP-MS3 **Matrix:** Water

Project: Injection @ ASR2

WorkOrder: 1701512

BatchID: 132608

Extraction Method: E200.8 **Analytical Method:** E200.8

Unit: $\mu g/L$

Sample ID: MB/LCS-132608

1701485-002AMS/MSD

QC Summary Report for Mercury														
Analyte	MB Result	LCS Result		RL	SPK Val			LCS %REC	LCS Limits					
Mercury	ND	1.27		0.050	1.25	-	,	101	85-115					
Surrogate Recovery														
Terbium	726.3	765			750	97	7	102	70-130					
Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MS Limits	SD RPD	RPD Limit					
Mercury	1.37	1.41	1.25	ND	109	113	75-125	2.95	20					
Surrogate Recovery														
Terbium	821	795	750		110	106	70-130	3.30	20					
Analyte	DLT Result			DLTRef Val				%D	%D Limit					
Mercury	ND<0.25			ND				_	_					

[%]D Control Limit applied to analytes with concentrations greater than 25 times the reporting limits.

1534 Willow Pass Rd Pittsburg, CA 94565-1 (925) 252-9262

CHAIN-OF-CUSTODY RECORD

Page 1 of 1

rittsburg, CA 94565-1701 925) 252-9262				WorkOrder	: 1701512	ClientC	ode: MPWM	QuoteID:	6557
	☐ WaterTrax	WriteOn	□EDF	Excel	EQuIS	∏Email	∏HardCopy	ThirdParty	J-fl

Report to: Bill to: Requested TAT: 5 days;

Maureen Hamilton Email: mhamilton@mpwmd.net Maureen Hamilton

Monterey Peninsula Water Management cc/3rd Party: Monterey Peninsula Water Management

5 Harris Ct. Bldg G PO: 5 Harris Ct. Bldg G Date Received: 01/13/2017

Monterey, CA 93940 ProjectNo: Injection @ ASR2 Monterey, CA 93940 Date Logged: 01/13/2017

(831) 658-5600 FAX:

					Requested Tests (See legend below)											
Lab ID	Client ID	Matrix	Collection Date	Hold	1	2	3	4	5	6	7	8	9	10	11	12
1701512-001	INJ@ASR2 #19	Water	1/11/2017 09:00		Α											
1701512-002	INJ@ASR #18	Water	1/10/2017 00:00		Α											
1701512-003	#16	Water	1/9/2017 09:30		Α											
1701512-004	#15	Water	1/8/2017 00:00		Α											
1701512-005	#14	Water	1/7/2017 08:45		Α		İ									
1701512-006	#13	Water	1/6/2017 09:00		Α		İ									
1701512-007	#11	Water	12/29/2016 00:00		Α											

Test Legend:

1 HGMS_W	2	3	4
5	6	7	8
9	10	11	12

Project Manager: Heidi Fruhlinger

Prepared by: Alexandra Iniguez

Comments: 32 samples per month for alyr

NOTE: Soil samples are discarded 60 days after results are reported unless other arrangements are made (Water samples are 30 days).

Hazardous samples will be returned to client or disposed of at client expense.



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WORK ORDER SUMMARY

Client Name:	MONTEREY PENINSULA WATER MANAGEMENT	Project:	Injection @ ASR2	Work Order: 1701512

Client Contact: Maureen Hamilton

QC Level:

Contact's Email: mhamilton@mpwmd.net

Comments: 32 samples per month for alyr

Date Logged: 1/13/2017

		WaterTrax	WriteOn EDF	Excel	Fax Email	HardC	opyThirdPar	ty 🔳	J-flag	
Lab ID	Client ID	Matrix	Test Name	Containers /Composites	Bottle & Preservative	De- chlorinated	Collection Date & Time	TAT	Sediment Content	Hold SubOut
1701512-001A	INJ@ASR2 #19	Water	E200.8 (Mercury)	1	250mL HDPE w/ HNO3		1/11/2017 9:00	5 days	Trace	
1701512-002A	INJ@ASR #18	Water	E200.8 (Mercury)	1	250mL HDPE w/ HNO3		1/10/2017	5 days	Trace	
1701512-003A	#16	Water	E200.8 (Mercury)	1	250mL HDPE w/ HNO3		1/9/2017 9:30	5 days	Trace	
1701512-004A	#15	Water	E200.8 (Mercury)	1	250mL HDPE w/ HNO3		1/8/2017	5 days	Trace	
1701512-005A	#14	Water	E200.8 (Mercury)	1	250mL HDPE w/ HNO3		1/7/2017 8:45	5 days	Trace	
1701512-006A	#13	Water	E200.8 (Mercury)	1	250mL HDPE w/ HNO3		1/6/2017 9:00	5 days	Trace	
1701512-007A	#11	Water	E200.8 (Mercury)	1	250mL HDPE w/ HNO3		12/29/2016	5 days	Trace	

NOTES: - STLC and TCLP extractions require 2 days to complete; therefore, all TATs begin after the extraction is completed (i.e., One-day TAT yields results in 3 days from sample submission).

- MAI assumes that all material present in the provided sampling container is considered part of the sample - MAI does not exclude any material from the sample prior to sample preparation unless requested in writing by the client.



#150

McCampbell Analytical, Inc.

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1534 Willow Pass Rd. / Piftsburg, Ca. 94565-1701 www.mccampbell.com / main@mccampbell.com																						_				DAY [1	5 DA	Υ 📮	l					
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Report To: Maure	een Hamil	ton			Bi	ll To	: sai	me														_		An	alys	is R	eque	st				-	-	-	-
Company: Monte	erey Penin	sula W	ater Dist	trict	t																				Ť		1	T	4	T					
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		1		# C	Ground	Waste Water	Drin	Sea	Soil	Air	Sludge	Other	HCL	HNO3	Other	I																			
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Sample Receipt Checklist

Client Name: Project Name: WorkOrder №: Carrier:	Monterey Peninsula Water Management Injection @ ASR2 1701512 Matrix: Water FedEx			Date and Time Received Date Logged: Received by: Logged by:	1/13/2017 10:12 1/13/2017 Alexandra Iniguez Alexandra Iniguez
	Chain of C	ustody	y (COC) Infor	rmation	
Chain of custody	present?	Yes	✓	No 🗆	
Chain of custody	signed when relinquished and received?	Yes	✓	No 🗌	
Chain of custody	agrees with sample labels?	Yes	✓	No 🗆	
Sample IDs note	ed by Client on COC?	Yes	✓	No 🗌	
Date and Time o	f collection noted by Client on COC?	Yes	•	No 🗌	
Sampler's name	noted on COC?	Yes	✓	No 🗌	
	<u>Sampl</u>	e Rece	eipt Informati	<u>ion</u>	
Custody seals in	tact on shipping container/cooler?	Yes	✓	No 🗌	na 🗆
Shipping contain	er/cooler in good condition?	Yes	✓	No 🗌	
Samples in prope	er containers/bottles?	Yes	✓	No 🗌	
Sample containe	ers intact?	Yes	✓	No 🗆	
Sufficient sample	e volume for indicated test?	Yes	•	No 🗆	
	Sample Preservation	on and	Hold Time (HT) Information	
All samples rece	ived within holding time?	Yes	✓	No 🗆	NA 🗌
Sample/Temp Bl	lank temperature		Temp:		NA 🗹
Water - VOA via	ls have zero headspace / no bubbles?	Yes		No 🗌	NA 🗹
Sample labels ch	necked for correct preservation?	Yes	✓	No 🗌	
pH acceptable up	pon receipt (Metal: <2; 522: <4; 218.7: >8)?	Yes	✓	No 🗌	NA 🗌
Samples Receive	ed on Ice?	Yes		No 🗹	
	tested and acceptable upon receipt for EPA 522? tested and acceptable upon receipt for EPA 218.7,				na ♥ na ♥
Comments:	=========	:	====	=======	=======



"When Quality Counts"

Analytical Report

WorkOrder: 1701303

Report Created for: Monterey Peninsula Water Management

5 Harris Ct. Bldg G Monterey, CA 93940

Project Contact:

Maureen Hamilton

Project P.O.:

Project Name: ASR

Project Received: 01/10/2017

Analytical Report reviewed & approved for release on 01/12/2017 by:

Angela Rydelius,

Laboratory Manager

The report shall not be reproduced except in full, without the written approval of the laboratory. The analytical results relate only to the items tested. Results reported conform to the most current NELAP standards, where applicable, unless otherwise stated in the case narrative.



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CA ELAP 1644 ♦ NELAP 4033ORELAP

Glossary of Terms & Qualifier Definitions

Client: Monterey Peninsula Water Management

Project: ASR **WorkOrder:** 1701303

Glossary Abbreviation

%D Serial Dilution Percent Difference

95% Interval 95% Confident Interval

DF Dilution Factor

DI WET (DISTLC) Waste Extraction Test using DI water

DISS Dissolved (direct analysis of 0.45 µm filtered and acidified water sample)

DLT Dilution Test (Serial Dilution)

DUP Duplicate

EDL Estimated Detection Limit

ITEF International Toxicity Equivalence Factor

LCS Laboratory Control Sample

MB Method Blank

MB % Rec % Recovery of Surrogate in Method Blank, if applicable

MDL Method Detection Limit

ML Minimum Level of Quantitation

MS Matrix Spike

MSD Matrix Spike Duplicate

N/A Not Applicable

ND Not detected at or above the indicated MDL or RL

NR Data Not Reported due to matrix interference or insufficient sample amount.

PDS Post Digestion Spike

PDSD Post Digestion Spike Duplicate

PF Prep Factor

RD Relative Difference

RL Reporting Limit (The RL is the lowest calibration standard in a multipoint calibration.)

RPD Relative Percent Deviation
RRT Relative Retention Time

SPK Val Spike Value

SPKRef Val Spike Reference Value

SPLP Synthetic Precipitation Leachate Procedure

ST Sorbent Tube

TCLP Toxicity Characteristic Leachate Procedure

TEQ Toxicity Equivalents

WET (STLC) Waste Extraction Test (Soluble Threshold Limit Concentration)

Analytical Report

Client: Monterey Peninsula Water Management

Date Received: 1/10/17 11:54 **Date Prepared:** 1/10/17

Project: ASR WorkOrder: 1701303

Extraction Method: E200.8 **Analytical Method:** E200.8

Unit: $\mu g/L$

Client ID	Lab ID	Matrix	Date Co	ollected Instrument	Batch ID
INJASR2 12/30/16	1701303-001A	Water	12/30/20	16 08:15 ICP-MS3	132371
<u>Analytes</u>	Result		<u>RL</u>	<u>DF</u>	Date Analyzed
Mercury	ND		0.050	1	01/11/2017 00:44
<u>Surrogates</u>	REC (%)		<u>Limits</u>		
Terbium	99		70-130		01/11/2017 00:44
Analyst(s): BBO					

<u>rtialyst(s).</u>					
Client ID	Lab ID	Matrix	Date Co	ollected Instrument	Batch ID
INJASR2 1/5/17	1701303-002A	Water	01/05/201	17 09:00 ICP-MS3	132371
<u>Analytes</u>	Result		<u>RL</u>	<u>DF</u>	Date Analyzed
Mercury	ND		0.050	1	01/11/2017 00:51
Surrogates	<u>REC (%)</u>		<u>Limits</u>		
Terbium	102		70-130		01/11/2017 00:51
Analyst(s): BBO					

Quality Control Report

Client: Monterey Peninsula Water Management

Date Prepared: 1/9/17 **Date Analyzed:** 1/10/17 ICP-MS3 **Instrument: Matrix:** Water

Project:

ASR

WorkOrder: 1701303 **BatchID:** 132371

Extraction Method: E200.8 **Analytical Method:** E200.8 **Unit:** $\mu g/L$

Sample ID: MB/LCS-132371

1701285-008DMS/MSD

	QC Sum	mary Re	port fo	r Mercury	7				
Analyte	MB Result	LCS Result		RL	SPK Val		B SS REC	LCS %REC	LCS Limits
Mercury	ND	1.25		0.050	1.25	-		100	85-115
Surrogate Recovery									
Terbium	762	776			750	10)2	103	70-130
Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/M Limit	-	RPD Limit
Mercury	1.30	1.50	1.25	ND<0.50	104	120	75-12	5 14.3	20
Surrogate Recovery									
Terbium	799	805	750		107	107	70-13	0 0	20
Analyte	DLT Result			DLTRef Val				%D	%D Limit
Mercury	ND<2.5			ND<0.50				-	-

[%]D Control Limit applied to analytes with concentrations greater than 25 times the reporting limits.

CHAIN-OF-CUSTODY RECORD

Page 1 of 1

Pittsburg, CA (925) 252-92					Work	Orde	er: 1701	303	Clie	ntCode: MF	WM	QuoteII): 65	57	
	[WaterTrax	WriteOn	EDF		xcel		EQuIS	Email	∏На	rdCopy	ThirdPar	ty	J-flag	3
Report to: Maureen Hamilto		Email: n	nhamilton@mp	wmd.net		В	ill to: Maure					uested TAT:	5	days;	
Monterey Penins 5 Harris Ct. Bldg Monterey, CA 93 (831) 658-5600		PO: ProjectNo: A	ASR				5 Harri Monter	s Ct. Bl	dg G	r Manageme	Dat	e Received: e Logged:		01/10/2(01/10/2(
									Request	ed Tests (See	legend				
	Client ID		Matrix	Collection Date	Hold	1	2	3	4 5	6	7 8	9	10	11	12
Lab ID	5												$\neg \neg$		
1701303-001	INJASR2 12/30/1	6	Water	12/30/2016 08:15		Α							1	·	
			Water Water	12/30/2016 08:15 1/5/2017 09:00		A A									

Test Legend:

1 HGMS_W	2	3	4
5	6	7	8
9	10	11	12

Project Manager: Heidi Fruhlinger Prepared by: Jena Alfaro

32 samples per month for alyr **Comments:**

> NOTE: Soil samples are discarded 60 days after results are reported unless other arrangements are made (Water samples are 30 days). Hazardous samples will be returned to client or disposed of at client expense.



"When Quality Counts"

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WORK ORDER SUMMARY

Client Name: MONTEREY PENINSULA WATER MANAGEMENT Project: ASR	Work Order: 1701303
---	---------------------

Client Contact: Maureen Hamilton

QC Level:

Contact's Email: mhamilton@mpwmd.net

Comments: 32 samples per month for alyr

Date Logged: 1/10/2017

		WaterTrax	☐WriteOn ☐ED	F Excel	FaxEmail	HardC	opyThirdParty	y <u></u> J	-flag	
Lab ID	Client ID	Matrix	Test Name	Containers /Composites	Bottle & Preservative	De- chlorinated	Collection Date & Time	TAT	Sediment 1 Content	Hold SubOut
1701303-001A	INJASR2 12/30/16	Water	E200.8 (Mercury)	1	250mL HDPE w/ HNO3		12/30/2016 8:15	5 days	None	
1701303-002A	INJASR2 1/5/17	Water	E200.8 (Mercury)	1	250mL HDPE w/ HNO3		1/5/2017 9:00	5 days	None	

NOTES: - STLC and TCLP extractions require 2 days to complete; therefore, all TATs begin after the extraction is completed (i.e., One-day TAT yields results in 3 days from sample submission).

- MAI assumes that all material present in the provided sampling container is considered part of the sample - MAI does not exclude any material from the sample prior to sample preparation unless requested in writing by the client.



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Company: Mont	erey Penir	sula W	ater Disti	rict																				T	Ť						T	T		
Tele: (831) 65	8-5622				F-M	ail.	mb	ami	lton(@m	nun.	,d =	· ot													L		1	1 1					
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M		1 = 1		# C	Gro	Was	Drin	Sea	Soil	Air	Sludge	Other	HCL	HNO3	Other	8													014	Ш				
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Sample Receipt Checklist

Client Name: Project Name: WorkOrder №: Carrier:	Monterey Peninsula Water Management ASR 1701303 Matrix: Water FedEx			Date and Time Received Date Logged: Received by: Logged by:	1/10/2017 11:54 1/10/2017 Jena Alfaro Jena Alfaro
	Chain of C	ustody	y (COC) Infor	<u>mation</u>	
Chain of custody	present?	Yes	✓	No 🗌	
Chain of custody	signed when relinquished and received?	Yes		No 🗹	
Chain of custody	agrees with sample labels?	Yes	✓	No 🗌	
Sample IDs note	d by Client on COC?	Yes	✓	No 🗌	
Date and Time of	f collection noted by Client on COC?	Yes	✓	No 🗌	
Sampler's name	noted on COC?	Yes	✓	No 🗌	
	Sampl	le Rece	eipt Informat	<u>ion</u>	
Custody seals in	tact on shipping container/cooler?	Yes		No 🗆	NA 🗹
Shipping contain	er/cooler in good condition?	Yes	✓	No 🗌	
Samples in prope	er containers/bottles?	Yes	✓	No 🗌	
Sample containe	ers intact?	Yes	✓	No 🗌	
Sufficient sample	e volume for indicated test?	Yes	✓	No 🗌	
	Sample Preservation	on and	Hold Time (HT) Information	
All samples recei	ived within holding time?	Yes	✓	No 🗌	NA 🗌
Sample/Temp Bl	ank temperature		Temp:		NA 🗹
Water - VOA vial	ls have zero headspace / no bubbles?	Yes		No 🗌	NA 🗹
Sample labels ch	necked for correct preservation?	Yes	✓	No 🗌	
pH acceptable up	pon receipt (Metal: <2; 522: <4; 218.7: >8)?	Yes	✓	No 🗌	NA 🗆
Samples Receive	ed on Ice?	Yes		No 🗸	
	tested and acceptable upon receipt for EPA 522? tested and acceptable upon receipt for EPA 218.7,				na ✔ na ✔
Comments:		==:	====	=======	=======



4 Justin Court Suite D, Monterey, CA 93940 831.375.MBAS www.MBASinc.com

ELAP Certification Number: 2385

Page 1 of 1 Tuesday, April 18, 2017

Lab Number: AB65010

Collection Date/Time: 4/5/2017 8:00 Sample Collector: JS Client Sample #:

Submittal Date/Time: 4/10/2017 10:06 Sample ID Coliform Designation:

Sample Description: #96, Inj @ ASR2

Analyte Method Unit Result Qual PQL MCL Date Analyzed Analyst:

Mercury, Total EPA200.8 µg/L Not Detected IJ 0.2 2 4/14/2017 SM

Sample Comments: IJ: ICV and/or CCV above acceptance limits.

Lab Number: AB65011

Collection Date/Time: 4/6/2017 8:30 Sample Collector: JL Client Sample #:
Submittal Date/Time: 4/10/2017 10:06 Sample ID Coliform Designation:

Sample Description: #97, Inj @ ASR2

Unit PQL Analyte Method Qual MCL Date Analyzed Result Analyst: Mercury, Total EPA200.8 µg/L Not Detected IJ 0.2 2 4/14/2017 SM

Sample Comments: IJ: ICV and/or CCV above acceptance limits.

Lab Number: AB65012

Collection Date/Time: 4/7/2017 9:00 Sample Collector: JL Client Sample #:
Submittal Date/Time: 4/10/2017 10:06 Sample ID Coliform Designation:

Sample Description: #98, Inj @ ASR2

MCL Analyte Method Unit Result Qual **PQL** Date Analyzed Analyst: Mercury, Total EPA200.8 Not Detected IJ 0.2 4/14/2017 SM μg/L

Sample Comments: IJ: ICV and/or CCV above acceptance limits.

Lab Number: AB65013

Collection Date/Time: 4/8/2017 8:20 Sample Collector: JS Client Sample #:
Submittal Date/Time: 4/10/2017 10:06 Sample ID Coliform Designation:

Sample Description: #99, Inj @ ASR2

Method Unit PQL MCL Date Analyzed Analyte Result Analyst: EPA200.8 2 4/14/2017 Mercury, Total μg/L Not Detected IJ 0.2 SM

Lab Number: AB65014

Collection Date/Time: 4/9/2017 9:40 Sample Collector: TL Client Sample #:
Submittal Date/Time: 4/10/2017 10:06 Sample ID Coliform Designation:

Sample Description: #100, Inj @ ASR2

Unit PQL MCL Analyte Method Result Qual Date Analyzed Analyst: μg/L Mercury, Total EPA200.8 Not Detected IJ 0.2 2 4/14/2017 SM

Sample Comments: IJ: ICV and/or CCV above acceptance limits.

Lab Number: AB65015

Collection Date/Time: 4/10/2017 8:00 Sample Collector: JS Client Sample #:

Submittal Date/Time: 4/10/2017 10:06 Sample ID Coliform Designation:

Sample Description: #101, Inj @ ASR2

Analyte Method Unit Result Qual PQL MCL Date Analyzed Analyst: Mercury, Total EPA200.8 μg/L Not Detected IJ 0.2 2 4/14/2017 SM

Sample Comments: IJ: ICV and/or CCV above acceptance limits.

Report Approved by:

David Holland, Laboratory Director

Monterey Bay Analytical Services

QC Summary for 200.8

Spiked Sample Date Analyzed

AB65015 **Not Diluted** 4/14/2017 4:53:07 PM

	ICVB	QCS	LCB	LCS	LCSD	LCS/LCSD	Sample	Spiked	MS	MSD	MS-MSD	ICV	CCV	ICV-CCV	CCVB	Qualifier
	ug/L	%Rec.	ug/L	% Rec	%Rec	%RPD	ug/L	ug/L	%Rec.	% Rec.	% RPD	% Rec	% Rec	% RPD	ug/L	Code
		85-115%		70-130%	70-130%	20%			70-130%	70-130%	20%	85-115%	85-115%	20%		
Mercury	0.03	106.1	0.02	102.7	102.8	0.16	0.02	2.5	118.57	121.28	2.23	108.6	118.5	8.70	0.02	IJ

LQ: LCS recovery above method control limits.; IJ: ICV and/or CCV above acceptance limits.

ICVB = Initial Calibration Verification Blank QCS = Quality Control Sample LCB = Laboratory Control Blank LCS(D) = Laboratory Control Sample (Duplicate) MS(D) = Matrix Spike (Duplicate) ICV = Initial Calibration Verification CCV = Continuing Calibration Verification RPD = Relative Percent Difference [Note QCS contains W; Hg %Rec based on Hg201]



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ELAP Certification Number: 2385

Page 1 of 2 Tuesday, April 18, 2017

Lab Number: AB65016

Collection Date/Time: 4/5/2017 18:20 Sample Collector: RM Client Sample #:
Submittal Date/Time: 4/10/2017 10:06 Sample ID Coliform Designation:

Sample Description: ASR4 5 Min

Analyte Method PQL MCL Date Analyzed Result Qual Analyst: 4/14/2017 Mercury, Total EPA200.8 µg/L 0.9 IJ 0.2 2 SM

Lab Number: AB65017

Collection Date/Time: 4/5/2017 18:25 Sample Collector: RM Client Sample #:
Submittal Date/Time: 4/10/2017 10:06 Sample ID Coliform Designation:

Sample Description: ASR4 10 Min

Unit PQL Analyte Method Result Qual MCL Date Analyzed Analyst: EPA200.8 Mercury, Total IJ 0.2 2 4/14/2017 SM μg/L 0.7

Lab Number: AB65018

Collection Date/Time: 4/5/2017 18:30 Sample Collector: RM Client Sample #:
Submittal Date/Time: 4/10/2017 10:06 Sample ID Coliform Designation:

Sample Description: ASR4 15 Min Analyte Method Unit Result Qual PΩI MCI Date Analyzed Analyst: Mercury, Total EPA200.8 0.2 4/14/2017 μg/L 0.8 IJ 2 SM

Sample Comments: IJ: ICV and/or CCV above acceptance limits.

Lab Number: AB65019

Collection Date/Time: 4/5/2017 18:35 Sample Collector: RM Client Sample #:
Submittal Date/Time: 4/10/2017 10:06 Sample ID Coliform Designation:

Sample Description: ASR4 20 Min Analyte Method Unit Result Qual **PQL** MCL Date Analyzed Analyst: EPA200.8 IJ 4/14/2017 SM Mercury, Total µg/L 0.8 0.2 2

Sample Comments: IJ: ICV and/or CCV above acceptance limits.

Lab Number: AB65020

Collection Date/Time: 4/6/2017 9:40 Sample Collector: RM Client Sample #:
Submittal Date/Time: 4/10/2017 10:06 Sample ID Coliform Designation:

Sample Description: ASR4 5 Min Unit PQL Analyte Method Qual MCL Result Date Analyzed Analyst: EPA200.8 IJ 2 4/14/2017 Mercury, Total 0.7 0.2 SM µg/L

Sample Comments: IJ: ICV and/or CCV above acceptance limits.

Lab Number: AB65021

Collection Date/Time: 4/6/2017 9:45 Sample Collector: RM Client Sample #:
Submittal Date/Time: 4/10/2017 10:06 Sample ID Coliform Designation:

Sample Description: ASR4 10 Min Analyte Method Unit Result Qual PQL MCL Date Analyzed Analyst: Mercury, Total EPA200.8 μg/L 0.7 IJ 0.2 2 4/14/2017 SM

 Page 2 of 2 Tuesday, April 18, 2017

Lab Number: AB65022

Collection Date/Time: 4/6/2017 9:50 Sample Collector: RM Client Sample #:
Submittal Date/Time: 4/10/2017 10:06 Sample ID Coliform Designation:

	Sample Description: ASR4 15 Min												
Analyte	Method	Unit	Result	Qual	PQL	MCL	Date Analyzed	Analyst:					
Mercury, Total	EPA200.8	μg/L	0.7	IJ	0.2	2	4/14/2017	SM					

Lab Number: AB65023

Collection Date/Time: 4/6/2017 9:55 Sample Collector: RM Client Sample #:
Submittal Date/Time: 4/10/2017 10:06 Sample ID Coliform Designation:

	Sample Description: ASR4 20 Min									
Analyte	Method	Unit	Result	Qual	PQL	MCL	Date Analyzed	Analyst:		
Mercury, Total	EPA200.8	μg/L	0.8	IJ	0.2	2	4/14/2017	SM		

Sample Comments: IJ: ICV and/or CCV above acceptance limits.

Report Approved by:

David Holland, Laboratory Director

Monterey Bay Analytical Services

QC Summary for 200.8

Spiked Sample

Date Analyzed

AB65120

4/14/2017 5:41:31 PM

	ICVB	QCS	LCB	LCS	LCSD	LCS/LCSD	Sample	Spiked	MS	MSD	MS-MSD	ICV	CCV	ICV-CCV	CCVB	Qualifier
	ug/L	%Rec.	ug/L	% Rec	%Rec	%RPD	ug/L	ug/L	%Rec.	% Rec.	% RPD	% Rec	% Rec	% RPD	ug/L	Code
		85-115%		70-130%	70-130%	20%			70-130%	70-130%	20%	85-115%	85-115%	20%		
Mercury	0.03	106.1	0.02	102.7	102.8	0.16	0.02	2.5	113.40	119.18	4.94	108.6	118.5	8.74	0.02	IJ

IJ: ICV and/or CCV above acceptance limits.

ICVB = Initial Calibration Verification Blank QCS = Quality Control Sample LCB = Laboratory Control Blank LCS(D) = Laboratory Control Sample (Duplicate) MS(D) = Matrix Spike (Duplicate) ICV = Initial Calibration Verification CCV = Continuing Calibration Verification RPD = Relative Percent Difference [Note QCS contains W; Hg %Rec based on Hg201]



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AB65523 Lab Number:

4/13/2017 9:00 Sample Collector: LEAR, J Client Sample #: 104 Collection Date/Time: Submittal Date/Time: 4/18/2017 Sample ID NON-REG Coliform Designation: 8:56

Sample Description: 104 Inj @ ASR2 Date Analyzed Method PQL MCL Analyte Unit Result Qual Analyst: Mercury, Total EPA200.8 0.5 2 4/20/2017 MW μg/L **Not Detected**

Sample Comments:

AB65524 Lab Number:

Collection Date/Time: 4/14/2017 8:45 Sample Collector: LEAR, J Client Sample #: 105 Submittal Date/Time: 4/18/2017 8:56 Sample ID NON-REG Coliform Designation:

Sample Description: 105 Inj @ ASR2 MCL Analyte Method Result **PQL** Date Analyzed Unit Qual Analyst: Mercury, Total EPA200.8 μg/L **Not Detected** 0.5 2 4/20/2017 MW

Sample Comments:

AB65525 Lab Number:

Collection Date/Time: 4/15/2017 7:50 Sample Collector: LEAR, J Client Sample #: 106 Submittal Date/Time: 4/18/2017 8:56 Sample ID NON-REG Coliform Designation:

Sample Description: 106 Inj @ ASR2 Analyte Method Unit Result **PQL** MCL Date Analyzed Analyst: EPA200.8 Mercury, Total 0.5 2 4/20/2017 MW μg/L **Not Detected**

Sample Comments:

Lab Number: AB65526

Collection Date/Time: Sample Collector: LEAR, J 4/16/2017 9:00 Client Sample #: 107 Submittal Date/Time: 4/18/2017 8:56 Sample ID **NON-REG** Coliform Designation:

Sample Description: 107 Ini @ ASR2 Analyte Method Unit **PQL** MCL Date Analyzed Analyst: Result Qual Mercury, Total EPA200.8 μg/L 0.5 2 4/20/2017 MW **Not Detected**

Sample Comments:

AB65527 Lab Number:

Collection Date/Time: 4/17/2017 Sample Collector: LEAR, J Client Sample #: 108 8:05 Submittal Date/Time: 4/18/2017 8:56 Sample ID **NON-REG** Coliform Designation:

Sample Description: 108 Inj @ ASR2 Method Analyte Unit Result Qual **PQL** MCL Date Analyzed Analyst: EPA200.8 2 4/20/2017 MW Mercury, Total μg/L **Not Detected** 0.5

Sample Comments:

AB65528 Lab Number:

Collection Date/Time: 4/18/2017 8:30 Sample Collector: LEAR, J Client Sample #: 109 Submittal Date/Time: 4/18/2017 8:56 Sample ID NON-REG Coliform Designation:

Sample Description: 109 Inj @ ASR2 Method MCL Date Analyzed Analyte Unit Result **PQL** Analyst: EPA200.8 MW Mercury, Total µg/L **Not Detected** 0.5 2 4/20/2017

Sample Comments:

Report Approved by:

20 1222



831.375.MBAS www.MBASinc.com **ELAP Certification Number: 2385** Monday, May 01, 2017

Lab Number: AB65241

Sample Collector:

Client Sample #:

PQL: Practical Quantitation Limit

Collection Date/Time: 4/12/2017 Submittal Date/Time: 4/12/2017

9:00

10:18

Sample ID

	Sample Description: #103 inj @ ASR2									
Analyte	Method	Unit	Result	Dilution	Qual	PQL	MDL	Date Analyzed	Time Analyzed	Analyst:
Mercury, Total	EPA200.8	μg/L	Not Detected	1 1	IJ	0.2	0.04	4/14/2017	6:50 PM	SM

LEAR. J

Sample Comments: IJ: ICV and/or CCV above acceptance limits.

ug/L : Micrograms per liter (=ppb)

T = Temperature Exceedance

E = Analysis performed by External Laboratory; See External Laboratory Report attachments.



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ELAP Certification Number: 2385

Page 1 of 2 Thursday, May 04, 2017

Lab Number: AB65972

Collection Date/Time: 4/19/2017 8:05 Sample Collector: LEAR, J Client Sample #:

Submittal Date/Time: 4/25/2017 8:47 Sample ID

Sample Description: #110 Inj @ ASR2 Analyte Method Result Dilution Qual PQL MDL Date Analyzed Time Analyzed Analyst: Unit Mercury, Total EPA200.8 µg/L Not Detected 0.5 0.08 4/26/2017 2:45:00 PM MW

Sample Comments:

Lab Number: AB65973

Collection Date/Time: 4/20/2017 8:00 Sample Collector: LEAR, J Client Sample #:

Submittal Date/Time: 4/25/2017 8:47 Sample ID

Sample Description: #111 Inj @ ASR2

Analyte Method Unit Result Dilution Qual PQL MDL Date Analyzed Time Analyzed Analyst:

Mercury, Total EPA200.8 μg/L Not Detected 2 0.5 0.08 4/26/2017 2:49:00 PM MW

Sample Comments:

Lab Number: AB65974

Collection Date/Time: 4/21/2017 8:30 Sample Collector: LEAR, J Client Sample #:

Submittal Date/Time: 4/25/2017 8:47 Sample ID

Sample Description: #112 Inj @ ASR2 Analyte Method Result Dilution Qual PQL MDL Date Analyzed Time Analyzed Analyst: Unit Mercury, Total EPA200.8 μg/L Not Detected 0.5 0.08 4/26/2017 2:52:00 PM MW

Sample Comments:

Lab Number: AB65975

Collection Date/Time: 4/22/2017 9:45 Sample Collector: LEAR, J Client Sample #:

Submittal Date/Time: 4/25/2017 8:47 Sample ID

Sample Description: #113 Inj @ ASR2 Analyte Method Unit Result Dilution Qual PQL MDL Date Analyzed Time Analyzed Analyst: 2:56:00 PM Mercury, Total EPA200.8 μg/L Not Detected 2 0.5 0.08 4/26/2017 MW

Sample Comments:

Lab Number: AB65976

Collection Date/Time: 4/23/2017 9:20 Sample Collector: LEAR, J Client Sample #:

Submittal Date/Time: 4/25/2017 8:47 Sample ID

Sample Description: #114 Inj @ ASR2 Date Analyzed Analyte Method Unit Result Dilution Qual PQL MDL Time Analyzed Analyst: Mercury, Total EPA200.8 µg/L Not Detected 0.5 0.08 4/26/2017 2:59:00 PM

Sample Comments:

mg/L: Milligrams per liter (=ppm) ug/L: Micrograms per liter (=ppb) PQL: Practical Quantitation Limit J = Result is less than PQL H = Analyzed ouside of hold time E = Analysis performed by External Laboratory; See Report attachments.

Page 2 of 2 Thursday, May 04, 2017

Lab Number: AB65977

Collection Date/Time: 4/24/2017 8:40 Sample Collector: LEAR, J Client Sample #:

Submittal Date/Time: 4/25/2017 8:47 Sample ID

Sample Description: #115 Inj @ ASR2										
Analyte	Method	Unit	Result	Dilution Qua	l PQL	MDL	Date Analyzed	Time Analyzed Analys		
Mercury, Total	EPA200.8	μg/L	Not Detecte	ed 2	0.5	0.08	4/26/2017	3:03:00 PM MW		

Sample Comments:

Lab Number: AB65978

Collection Date/Time: 4/25/2017 8:20 Sample Collector: LEAR, J Client Sample #:

Submittal Date/Time: 4/25/2017 8:47 Sample ID

Sample Description: #116 Inj @ ASR2									
Analyte	Method	Unit	Result	Dilution Qua	l PQL	MDL	Date Analyzed	Time Analyzed	Analyst:
Mercury, Total	EPA200.8	μg/L	Not Detect	ed 2	0.5	0.08	4/26/2017	3:06:00 PM	MW

Sample Comments:

Report Approved by:



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Lab Number: AB65121

Collection Date/Time: 4/11/2017 8:00 Sample Collector: LEAR J Client Sample #:

Submittal Date/Time: 4/11/2017 9:26 Sample ID

	Sample Description: #101 ASR 2									
Analyte	Method	Unit	Result	Dilution	Qual	PQL	MDL	Date Analyzed	Time Analyzed	Analyst:
Mercury, Total	EPA200.8	μg/L	Not Detected	I 1	IJ	0.2	0.04	4/14/2017	5:48 PM	SM

Sample Comments: IJ: ICV and/or CCV above acceptance limits.

Report Approved by:

ug/L : Micrograms per liter (=ppb)

T = Temperature Exceedance

E = Analysis performed by External Laboratory; See External Laboratory Report attachments.

PQL: Practical Quantitation Limit



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Page 1 of 1 Friday, May 05, 2017

Lab Number: AB66306

Collection Date/Time: 4/26/2017 9:00 Sample Collector: LEAR J Client Sample #:

Submittal Date/Time: 5/1/2017 8:59 Sample ID

Sample Description: #117 Inj @ ASR2 Date Analyzed Analyte Method Unit **Result** Dilution Qual PQL MDL Time Analyzed Analyst: Mercury, Total EPA200.8 μg/L **Not Detected** 0.25 0.04 5/4/2017 2:42:00 PM MW

Sample Comments:

Lab Number: AB66307

Collection Date/Time: 4/27/2017 9:30 Sample Collector: LEAR J Client Sample #:

Submittal Date/Time: 5/1/2017 8:59 Sample ID

Sample Description: #118 Inj @ ASR2 Method Result Dilution Qual PQL Analyte Unit MDL Date Analyzed Time Analyzed Analyst: Mercury, Total EPA200.8 **Not Detected** 0.25 0.04 5/5/2017 2:39:00 PM µg/L

Sample Comments:

Lab Number: AB66308

Collection Date/Time: 4/28/2017 8:30 Sample Collector: LEAR J Client Sample #:

Submittal Date/Time: 5/1/2017 8:59 Sample ID

Sample Description: #119 Inj @ ASR2 Method Analyte Unit Result Dilution Qual PQL MDL Date Analyzed Time Analyzed Analyst: Mercury, Total EPA200.8 μg/L **Not Detected** 0.25 0.04 5/5/2017 2:39:00 PM

Sample Comments:

Lab Number: AB66309

Collection Date/Time: 4/29/2017 9:45 Sample Collector: LEAR J Client Sample #:

Submittal Date/Time: 5/1/2017 8:59 Sample ID

Sample Description: #120 Inj @ ASR2 Analyte Method Unit Result Dilution Qual PQL MDL Date Analyzed Time Analyzed Analyst: EPA200.8 0.25 0.04 5/5/2017 2:39:00 PM Mercury, Total µg/L **Not Detected** MW

Sample Comments:

Lab Number: AB66310

Collection Date/Time: 4/30/2017 8:05 Sample Collector: LEAR J Client Sample #:

Submittal Date/Time: 5/1/2017 8:59 Sample ID

Sample Description: #121 Inj @ ASR2

Analyte Method Unit Result Dilution Qual PQL MDL Date Analyzed Time Analyzed Analyst:

Mercury, Total EPA200.8 μg/L Not Detected 1 0.25 0.04 5/5/2017 2:39:00 PM MW

Sample Comments:

Lab Number: AB66311

Collection Date/Time: 5/1/2017 8:00 Sample Collector: LEAR J Client Sample #:

Submittal Date/Time: 5/1/2017 8:59 Sample ID

Sample Description: #122 Inj @ ASR2 Method Date Analyzed Analyte Unit Result Dilution Qual PQL MDL Time Analyzed Analyst: Mercury, Total EPA200.8 µg/L Not Detected 0.25 0.04 5/5/2017 2:39:00 PM MW

Sample Comments:

Report Approved by:

J = Result is less than PQL

mg/L: Milligrams per liter (=ppm)

PQL: Practical Quantitation Limit

ug/L : Micrograms per liter (=ppb)



"When Quality Counts"

Analytical Report

WorkOrder: 1702475

Report Created for: Monterey Peninsula Water Management

5 Harris Ct. Bldg G Monterey, CA 93940

Project Contact:

Maureen Hamilton

Project P.O.:

Project Name: ASR

Project Received: 02/08/2017

Analytical Report reviewed & approved for release on 02/13/2017 by:

Angela Rydelius,

Laboratory Manager

The report shall not be reproduced except in full, without the written approval of the laboratory. The analytical results relate only to the items tested. Results reported conform to the most current NELAP standards, where applicable, unless otherwise stated in the case narrative.



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CA ELAP 1644 ♦ NELAP 4033ORELAP

Glossary of Terms & Qualifier Definitions

Client: Monterey Peninsula Water Management

Project: ASR **WorkOrder:** 1702475

Glossary Abbreviation

%D Serial Dilution Percent Difference

95% Interval 95% Confident Interval

DF Dilution Factor

DI WET (DISTLC) Waste Extraction Test using DI water

DISS Dissolved (direct analysis of 0.45 µm filtered and acidified water sample)

DLT Dilution Test (Serial Dilution)

DUP Duplicate

EDL Estimated Detection Limit

ITEF International Toxicity Equivalence Factor

LCS Laboratory Control Sample

MB Method Blank

MB % Rec % Recovery of Surrogate in Method Blank, if applicable

MDL Method Detection Limit

ML Minimum Level of Quantitation

MS Matrix Spike

MSD Matrix Spike Duplicate

N/A Not Applicable

ND Not detected at or above the indicated MDL or RL

NR Data Not Reported due to matrix interference or insufficient sample amount.

PDS Post Digestion Spike

PDSD Post Digestion Spike Duplicate

PF Prep Factor

RD Relative Difference

RL Reporting Limit (The RL is the lowest calibration standard in a multipoint calibration.)

RPD Relative Percent Deviation
RRT Relative Retention Time

SPK Val Spike Value

SPKRef Val Spike Reference Value

SPLP Synthetic Precipitation Leachate Procedure

ST Sorbent Tube

TCLP Toxicity Characteristic Leachate Procedure

TEQ Toxicity Equivalents

WET (STLC) Waste Extraction Test (Soluble Threshold Limit Concentration)



Analytical Report

Client: Monterey Peninsula Water Management

Date Received: 2/8/17 10:04 **Date Prepared:** 2/8/17 **Project:** ASR $\begin{tabular}{lll} \textbf{WorkOrder:} & 1702475 \\ \textbf{Extraction Method:} & E200.8 \\ \textbf{Analytical Method:} & E200.8 \\ \textbf{Unit:} & \mu g/L \\ \end{tabular}$

		Mercur	\mathbf{y}		
Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch II
39	1702475-001A	Water	01/31/2017 09:29	ICP-MS1	133850
<u>Analytes</u>	Result		RL DF		Date Analyzed
Mercury	ND		0.050 1		02/09/2017 18:42
Surrogates	REC (%)		<u>Limits</u>		
Terbium	104		70-130		02/09/2017 18:42
<u>Analyst(s):</u> DVH					
Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch II
40	1702475-002A	Water	02/01/2017 09:30	ICP-MS1	133850
<u>Analytes</u>	<u>Result</u>		<u>RL</u> <u>DF</u>		Date Analyzed
Mercury	ND		0.050 1		02/09/2017 18:48
Surrogates	<u>REC (%)</u>		<u>Limits</u>		
Terbium	105		70-130		02/09/2017 18:48
Analyst(s): DVH					
Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch II
41	1702475-003A	Water	02/02/2017 10:30	ICP-MS1	133850
<u>Analytes</u>	<u>Result</u>		<u>RL</u> <u>DF</u>		Date Analyzed
Mercury	ND		0.050 1		02/09/2017 18:54
Surrogates	<u>REC (%)</u>		<u>Limits</u>		
Terbium	105		70-130		02/09/2017 18:54
Analyst(s): DVH					
Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch II
42	1702475-004A	Water	02/03/2017 09:15	ICP-MS1	133850
<u>Analytes</u>	Result		RL DF		Date Analyzed
Mercury	ND		0.050 1		02/09/2017 19:00
<u>Surrogates</u>	REC (%)		<u>Limits</u>		
Terbium	107		70-130		02/09/2017 19:00
Analyst(s): DVH					

Analytical Report

Client: Monterey Peninsula Water Management

Date Received: 2/8/17 10:04 **Date Prepared:** 2/8/17

Project: ASR

WorkOrder: 1702475

Extraction Method: E200.8 **Analytical Method:** E200.8

Unit: $\mu g/L$

		Mercur	y		
Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
43	1702475-005A	Water	02/04/2017 09:30	ICP-MS1	133850
<u>Analytes</u>	Result		<u>RL</u> <u>DF</u>		Date Analyzed
Mercury	ND		0.050 1		02/09/2017 19:07
Surrogates	REC (%)		<u>Limits</u>		
Terbium	105		70-130		02/09/2017 19:07
Analyst(s): DVH					
Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
44	1702475-006A	Water	02/05/2017 08:50	ICP-MS1	133850
<u>Analytes</u>	<u>Result</u>		<u>RL</u> <u>DF</u>		Date Analyzed
Mercury	ND		0.050 1		02/10/2017 18:31
Surrogates	REC (%)		<u>Limits</u>		
Terbium	103		70-130		02/10/2017 18:31
Analyst(s): DVH					
Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
45	1702475-007A	Water	02/06/2017 09:00	ICP-MS1	133850
Analytes	Result		<u>RL</u> <u>DF</u>		Date Analyzed
Mercury	ND		0.050 1		02/10/2017 18:37
<u>Surrogates</u>	<u>REC (%)</u>		<u>Limits</u>		
Terbium	104		70-130		02/10/2017 18:37
Analyst(s): DVH					

Quality Control Report

Client: Monterey Peninsula Water Management

Date Prepared:2/7/17Date Analyzed:2/8/17Instrument:ICP-MS3Matrix:Water

Project:

ASR

WorkOrder: 1702475

BatchID: 133850

Extraction Method: E200.8 **Analytical Method:** E200.8

 $\textbf{Unit:} \hspace{1cm} \mu g/L$

Sample ID: MB/LCS-133850

1702451-001AMS/MSD

	QC Sum	mary Re	port fo	r Mercury	,					
Analyte	MB Result	LCS Result		RL	SPK Val		B SS REC	LCS %RE	С	LCS Limits
Mercury	ND	1.28		0.050	1.25	-		103		85-115
Surrogate Recovery										
Terbium	767.4	784			750	10)2	104		70-130
Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/N Limit	-	RPD	RPD Limit
Mercury	1.42	1.44	1.25	ND	111	112	75-12	25	0.699	20
Surrogate Recovery										
Terbium	803	792	750		107	106	70-13	30	1.33	20
Analyte	DLT Result			DLTRef Val					%D	%D Limit
Mercury	ND<0.25			ND					_	_

[%]D Control Limit applied to analytes with concentrations greater than 25 times the reporting limits.

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CHAIN-OF-CUSTODY RECORD

(925) 252-9262				WorkOrder	: 1702475	ClientC	ode: MPW	M QuoteID:	6557
	WaterTrax	WriteOn	EDF	Excel	EQuIS	Email	HardC	opyThirdParty	J-flag
Report to:				Bill	to:			Requested TAT:	5 days;
Maureen Hamilton	Email: m	nhamilton@mpw	md.net		Maureen Hami	lton			
Monterey Peninsula Water Management	cc/3rd Party:				Monterey Penii	nsula Water M	anagement		
5 Harris Ct. Bldg G	PO:				5 Harris Ct. Blo	lg G		Date Received:	02/08/2017
Monterey, CA 93940	ProjectNo: A	SR			Monterey, CA 9	93940		Date Logged:	02/08/2017
(831) 658-5600 FAX:								00	

				Requested Tests (See legend below)														
Lab ID	Client ID	Matrix	Collection Date	Hold	1	2	3	3	4		5	6	7	8	9	10	11	12
1702475-001	39	Water	1/31/2017 09:29		Δ													
1702475-001	40	Water	2/1/2017 09:30		A													
1702475-003	41	Water	2/2/2017 10:30		Α													
1702475-004	42	Water	2/3/2017 09:15		Α													
1702475-005	43	Water	2/4/2017 09:30		Α													
1702475-006	44	Water	2/5/2017 08:50		Α													
1702475-007	45	Water	2/6/2017 09:00		Α													

Test Legend:

1	HGMS_W	2	3	4
5		6	7	8
9		10	11	12

Prepared by: Jena Alfaro

Comments: 32 samples per month for alyr

> NOTE: Soil samples are discarded 60 days after results are reported unless other arrangements are made (Water samples are 30 days). Hazardous samples will be returned to client or disposed of at client expense.



"When Quality Counts"

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WORK ORDER SUMMARY

Client Name: MONTEREY PENINSULA WATER MANAGEMENT Project: ASR Work Order: 1702475

Client Contact: Maureen Hamilton

QC Level:

Contact's Email: mhamilton@mpwmd.net Comments: 32 samples per month for alyr Date Logged: 2/8/2017

		WaterTrax	WriteOnEDF	Excel F	axEmail	HardC	opyThirdPart	у 🔳	J-flag	
Lab ID	Client ID	Matrix	Test Name	Containers /Composites	Bottle & Preservative	De- chlorinated	Collection Date & Time	TAT	Sediment Content	Hold SubOut
1702475-001A	39	Water	E200.8 (Mercury)	1 v	v/ 1ml HNO3 & .25ml HCl		1/31/2017 9:29	5 days	None	
1702475-002A	40	Water	E200.8 (Mercury)	1 v	v/ 1ml HNO3 & .25ml HCl		2/1/2017 9:30	5 days	None	
1702475-003A	41	Water	E200.8 (Mercury)	1 v	v/ 1ml HNO3 & .25ml HCl		2/2/2017 10:30	5 days	None	
1702475-004A	42	Water	E200.8 (Mercury)	1 v	v/ 1ml HNO3 & .25ml HCl		2/3/2017 9:15	5 days	None	
1702475-005A	43	Water	E200.8 (Mercury)	1 v	v/ 1ml HNO3 & .25ml HCl		2/4/2017 9:30	5 days	None	
1702475-006A	44	Water	E200.8 (Mercury)	1 v	v/ 1ml HNO3 & .25ml HCl		2/5/2017 8:50	5 days	None	
1702475-007A	45	Water	E200.8 (Mercury)	1 v	v/ 1ml HNO3 & .25ml HCl		2/6/2017 9:00	5 days	None	

NOTES: - STLC and TCLP extractions require 2 days to complete; therefore, all TATs begin after the extraction is completed (i.e., One-day TAT yields results in 3 days from sample submission).

- MAI assumes that all material present in the provided sampling container is considered part of the sample - MAI does not exclude any material from the sample prior to sample preparation unless requested in writing by the client.

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McCampbell Analytical, Inc.

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1534 Willow Pass Rd. / Pittsburg, Ca. 94565-1701 www.mccampbell.com / main@mccampbell.com Telephone: (877) 252-9262 / Fax: (925) 252-9269											TURN AROUND TIME: RUSH 1 DAY 2 DAY 3 DAY 5 DAY GeoTracker EDF PDF EDD Write On (DW) EQuIS 10 DAY Effluent Sample Requiring "J" flag UST Clean Up Fund Project ; Claim #]													
Report To: Maur	reen Hamil	ton			Bi	ll To	: sa	me					1	-			_	-			-	-	-	Ā	nalv	eie l	Regi	neet	_	-	_				_	_
Company: Mont	erey Penin	sula W	ater Dist	rict														T	T	T	T	T	T	Ť	T	1	- Cu	T								
Tele: (831) 658-5622 E-Mail: mhamilton@mpwmd.net Project #: Project Name: ASR Project Location: Monterey, CA Purchase Order# Sampler Signature: QUOTE ID 6557												Ha	,																							
		SAMI	PLING	П				ATI					M	ETHO		8			1					1	1	-	- 1	- 1								
SAMPLE ID	Location/ Field Point Name	Date	Time	# Containers	Ground Water	Waste Water	Drinking Water	Sea Water	Soil	Air	Sludge			SER 'SONH		EPA 300,																				
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"MAI clients MUST disc handling by MAI staff. N "If metals are request Relinquished By:	ed for water so	Date:		type	is not	specifived E	ied or	the c	hain d	of cus	O 1011	iogu	1 1190	will de	efault CE/t°	t to m	etals	by E2	200.8.	ou tor	m or s your u	erious	futur tandi	e hed	ilth er d for	ndang	ing u	s to w	a res	afely.	brief, g	gloved	d, ope	n air, :	sample	6
Relinquished By: Date: Time: Received By: PRESENTATION							ECH PPR RESI	D SPACE ABSENT HLORINATED IN LAB BOTH S284 6972 VOAS O&G METALS OTHER HAZARDOUS: SERVATION PH-2																												
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Sample Receipt Checklist

Client Name: Monterey Peninsula Water Management Project Name: ASR			Date and Time Received Date Logged:	2/8/2017 10:04 2/8/2017
			Received by:	Jena Alfaro
WorkOrder №: 1702475 Matrix: Water Carrier: FedEx			Logged by:	Jena Alfaro
<u>Chain or</u>	f Custody	(COC) Infor	mation	
Chain of custody present?	Yes	•	No 🗆	
Chain of custody signed when relinquished and received?	Yes	•	No 🗆	
Chain of custody agrees with sample labels?	Yes	•	No 🗌	
Sample IDs noted by Client on COC?	Yes	•	No 🗌	
Date and Time of collection noted by Client on COC?	Yes	•	No 🗌	
Sampler's name noted on COC?	Yes	•	No 🗆	
<u>San</u>	nple Rece	eipt Informati	<u>on</u>	
Custody seals intact on shipping container/cooler?	Yes		No 🗆	NA 🗹
Shipping container/cooler in good condition?	Yes	✓	No 🗆	
Samples in proper containers/bottles?	Yes	•	No 🗌	
Sample containers intact?	Yes	•	No 🗌	
Sufficient sample volume for indicated test?	Yes	•	No 🗌	
Sample Preserva	ation and	Hold Time (I	HT) Information	
All samples received within holding time?	Yes	✓	No 🗌	NA 🗌
Sample/Temp Blank temperature		Temp:		NA 🗹
Water - VOA vials have zero headspace / no bubbles?	Yes		No 🗆	NA 🗹
Sample labels checked for correct preservation?	Yes	✓	No 🗌	
pH acceptable upon receipt (Metal: <2; 522: <4; 218.7: >8)?	Yes	✓	No 🗆	NA 🗌
Samples Received on Ice?	Yes		No 🗹	
UCMR3 Samples:				
Total Chlorine tested and acceptable upon receipt for EPA 522	?? Yes		No 🗌	NA 🗹
Free Chlorine tested and acceptable upon receipt for EPA 218. 300.1, 537, 539?	.7, Yes		No 🗌	NA 🗹
	=:=:=:	:	=======	=======



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ELAP Certification Number: 2385

Page 1 of 2 Friday, May 19, 2017

Lab Number: AB67342

Collection Date/Time: 5/9/2017 8:15 Sample Collector: LEAR J Client Sample #:

Submittal Date/Time: 5/15/2017 12:59 Sample ID

Sample Description: #130 ASR2 Inj MDL Date Analyzed Analyte Method Unit Result Dilution Qual PQL Time Analyzed Analyst: Mercury, Total EPA200.8 µq/L **Not Detected** 0.25 0.04 5/17/2017 3:44:00 PM MW

Sample Comments:

Lab Number: AB67343

Collection Date/Time: 5/10/2017 9:00 Sample Collector: LEAR J Client Sample #:

Submittal Date/Time: 5/15/2017 12:59 Sample ID

Sample Description: #131 Inj @ASR2 Result Dilution Qual PQL Analyte Method Unit MDL Date Analyzed Time Analyzed Analyst: 0.25 Mercury, Total EPA200.8 μg/L **Not Detected** 0.04 5/17/2017 3:44:00 PM MW

Sample Comments:

Lab Number: AB67344

Collection Date/Time: 5/11/2017 8:30 Sample Collector: LEAR J Client Sample #:

Submittal Date/Time: 5/15/2017 12:59 Sample ID

Sample Description: #132 Inj @ASR2 Analyte Method Unit Result Dilution Qual PQL MDL Date Analyzed Time Analyzed Analyst: EPA200.8 µg/L **Not Detected** 0.25 0.04 5/17/2017 3:44:00 PM Mercury, Total MW

Sample Comments:

Lab Number: AB67345

Collection Date/Time: 5/12/2017 8:45 Sample Collector: LEAR J Client Sample #:

Submittal Date/Time: 5/15/2017 12:59 Sample ID

Sample Description: #133 Inj @ASR2AnalyteMethodUnitResultDilutionQualPQLMDLDate AnalyzedTime AnalyzedAnalyst:Mercury, TotalEPA200.8μg/LNot Detected10.250.045/17/20173:44:00 PMMW

Sample Comments:

Lab Number: AB67346

Collection Date/Time: 5/13/2017 8:25 Sample Collector: LEAR J Client Sample #:

Submittal Date/Time: 5/15/2017 12:59 Sample ID

Sample Description: #134 Inj @ASR2 Method Analyte Unit Result Dilution Qual PQL MDL Date Analyzed Time Analyzed Analyst: Mercury, Total EPA200.8 0.25 0.04 5/17/2017 3:44:00 PM MW μg/L Not Detected 1

Sample Comments:

mg/L: Milligrams per liter (=ppm) ug/L: Micrograms per liter (=ppb) PQL: Practical Quantitation Limit J = Result is less than PQL H = Analyzed ouside of hold time E = Analysis performed by External Laboratory; See Report attachments.

Page 2 of 2 Friday, May 19, 2017

Lab Number: AB67347

Collection Date/Time: 5/14/2017 10:45 Sample Collector: LEAR J Client Sample #:

Submittal Date/Time: 5/15/2017 12:59 Sample ID

	Sa	mple D	Description	ı: #135 Inj 🤇	DASR	2			
Analyte	Method	Unit	Result	Dilution Qual	PQL	MDL	Date Analyzed	Time Analyzed	Analyst:
Mercury, Total	EPA200.8	μg/L	Not Detect	ed 1	0.25	0.04	5/17/2017	3:44:00 PM	MW

Sample Comments:

Lab Number: AB67348

Collection Date/Time: 5/15/2017 8:05 Sample Collector: LEAR J Client Sample #:

Submittal Date/Time: 5/15/2017 12:59 Sample ID

	Sa	mple D	escription: #136 Inj @	DASR	₹2		
Analyte	Method	Unit	Result Dilution Qual	PQL	MDL	Date Analyzed	Time Analyzed Analyst:
Mercury, Total	EPA200.8	μg/L	Not Detected 1	0.25	0.04	5/17/2017	3:44:00 PM MW

Sample Comments:

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ELAP Certification Number: 2385

Page 1 of 2 Tuesday, May 30, 2017

Lab Number: AB66879

Collection Date/Time: 5/2/2017 8:10 Sample Collector: LEAR, J Client Sample #:

Submittal Date/Time: 5/8/2017 9:54 Sample ID

Sample Description: #123 ASR 2-Inj

Analyte Method Unit Result Dilution Qual PQL MDL Date Analyzed Time Analyzed Analyst:

Mercury, Total EPA200.8 µg/L Not Detected 1 LP,IA 0.25 0.04 5/24/2017 1:15:00 PM MW

Sample Comments: LP: LCS recovery above method control limits. Analyte ND. IA: Results are valid even though CCV recovery

outside of limits.

Lab Number: AB66880

Collection Date/Time: 5/3/2017 9:00 Sample Collector: LEAR, J Client Sample #:

Submittal Date/Time: 5/8/2017 9:54 Sample ID

Sample Description: #124 Inj @ ASR2 Method MDL Date Analyzed Analyte Unit Result Dilution Qual PQL Time Analyzed Analyst: Mercury, Total EPA200.8 0.25 0.04 5/17/2017 1:50:00 PM MW µg/L Not Detected

Sample Comments:

Lab Number: AB66881

Collection Date/Time: 5/4/2017 9:00 Sample Collector: LEAR, J Client Sample #:

Submittal Date/Time: 5/8/2017 9:54 Sample ID

Sample Description: #125 Inj @ ASR2 Analyte Method Unit Result Dilution Qual PQL MDL Date Analyzed Time Analyzed Analyst: Mercury, Total EPA200.8 μg/L Not Detected 0.25 0.04 5/17/2017 1:53:00 PM MW

Sample Comments:

Lab Number: AB66882

Collection Date/Time: 5/5/2017 9:00 Sample Collector: LEAR, J Client Sample #:

Submittal Date/Time: 5/8/2017 9:54 Sample ID

Sample Description: #126 Inj @ ASR2 Result Dilution Qual PQL Analyte Unit MDL Date Analyzed Method Time Analyzed Analyst: Mercury, Total EPA200.8 µg/L **Not Detected** 0.25 0.04 5/17/2017 1:56:00 PM

Sample Comments:

Lab Number: AB66883

Collection Date/Time: 5/6/2017 10:40 Sample Collector: LEAR, J Client Sample #:

Submittal Date/Time: 5/8/2017 9:54 Sample ID

Sample Description: #127 Inj @ ASR2 Analyte Method Unit Result Dilution Qual PQL MDL Date Analyzed Time Analyzed Analyst: 2:00:00 PM Mercury, Total EPA200.8 0.25 0.04 5/17/2017 MW μg/L Not Detected

Sample Comments:

mg/L: Milligrams per liter (=ppm) ug/L: Micrograms per liter (=ppb) PQL: Practical Quantitation Limit J = Result is less than PQL H = Analyzed ouside of hold time E = Analysis performed by External Laboratory; See Report attachments.

Page 2 of 2 Tuesday, May 30, 2017

Lab Number: AB66884

Collection Date/Time: 5/7/2017 12:20 Sample Collector: LEAR, J Client Sample #:

Submittal Date/Time: 5/8/2017 9:54 Sample ID

	Saı	mple D	escription	: #128 Inj @) ASF	R2			
Analyte	Method	Unit	Result	Dilution Qual	PQL	MDL	Date Analyzed	Time Analyzed A	Analyst:
Mercury, Total	EPA200.8	μg/L	Not Detect	ed 1	0.25	0.04	5/17/2017	2:03:00 PM	MW

Sample Comments:

Lab Number: AB66885

Collection Date/Time: 5/8/2017 8:00 Sample Collector: LEAR, J Client Sample #:

Submittal Date/Time: 5/8/2017 9:54 Sample ID

	Sa	mple D	escription: #129	Inj @ AS	R2		
Analyte	Method	Unit	Result Dilution	Qual PQL	MDL	Date Analyzed	Time Analyzed Analyst:
Mercury, Total	EPA200.8	μg/L	Not Detected 1	0.25	0.04	4 5/17/2017	2:07:00 PM MW

Sample Comments:

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ELAP Certification Number: 2385

Page 1 of 2 Wednesday, May 31, 2017

Lab Number: AB67787

Collection Date/Time: 5/16/2017 8:15 Sample Collector: LEAR J Client Sample #:

Submittal Date/Time: 5/22/2017 9:16 Sample ID

Sample Description: #137 ASR2-INJ

Analyte Method Unit Result Dilution Qual PQL MDL Date Analyzed Time Analyzed Analyst:

Mercury, Total EPA200.8 µg/L Not Detected 1 LP,IA 0.25 0.04 5/24/2017 6:49:00 PM MW

Sample Comments: LP: LCS recovery above method control limits. Analyte ND. IA: Results are valid even though CCV recovery

outside of limits.

Lab Number: AB67788

Collection Date/Time: 5/17/2017 8:00 Sample Collector: LEAR J Client Sample #:

Submittal Date/Time: 5/22/2017 9:16 Sample ID

Sample Description: #138 ASR2-INJ

Analyte Method Unit Result Dilution Qual PQL MDL Date Analyzed Time Analyzed Analyst:

Mercury, Total EPA200.8 µg/L Not Detected 1 LP,IA 0.25 0.04 5/24/2017 6:53:00 PM MW

Sample Comments: LP: LCS recovery above method control limits. Analyte ND. IA: Results are valid even though CCV recovery

outside of limits.

Lab Number: AB67789

Collection Date/Time: 5/18/2017 8:30 Sample Collector: LEAR J Client Sample #:

Submittal Date/Time: 5/22/2017 9:16 Sample ID

Sample Description: #139 INJ@ASR2

Analyte Method Unit Result Dilution Qual PQL MDL Date Analyzed Time Analyzed Analyst:

Mercury, Total EPA200.8 μg/L Not Detected 1 LP,IA 0.25 0.04 5/24/2017 6:56:00 PM MW

Sample Comments: LP: LCS recovery above method control limits. Analyte ND. IA: Results are valid even though CCV recovery

outside of limits.

Lab Number: AB67790

Collection Date/Time: 5/19/2017 11:30 Sample Collector: LEAR J Client Sample #:

Submittal Date/Time: 5/22/2017 9:16 Sample ID

Sample Description: #140 INJ@ASR2

Analyte Method Unit **Result** Dilution Qual PQL MDL Date Analyzed Time Analyzed Analyst:

Mercury, Total EPA200.8 μg/L **Not Detected** 1 LP,IA 0.25 0.04 5/24/2017 7:00:00 PM MW

Sample Comments: LP: LCS recovery above method control limits. Analyte ND. IA: Results are valid even though CCV recovery

outside of limits

Lab Number: AB67791

Collection Date/Time: 5/20/2017 9:15 Sample Collector: LEAR J Client Sample #:

Submittal Date/Time: 5/22/2017 9:16 Sample ID

Sample Description: #141 ASR2 INJECTAnalyteMethodUnitResultDilution QualPQLMDLDate AnalyzedTime AnalyzedAnalyst:Mercury, TotalEPA200.8μg/LNot Detected1LP,IA0.250.045/24/20177:03:00 PMMW

Sample Comments: LP: LCS recovery above method control limits. Analyte ND. IA: Results are valid even though CCV recovery

outside of limits.

mg/L: Milligrams per liter (=ppm) ug/L: Micrograms per liter (=ppb) PQL: Practical Quantitation Limit J = Result is less than PQL

H = Analyzed ouside of hold time E = Analysis performed by External Laboratory; See Report attachments.

 $\label{eq:decomposition} D = \mbox{Method deviates from standard method due to insufficient sample for MS/MSD}$

Page 2 of 2 Wednesday, May 31, 2017

Lab Number: AB67792

Collection Date/Time: 5/21/2017 6:20 Sample Collector: LEAR J Client Sample #:

Submittal Date/Time: 5/22/2017 9:16 Sample ID

Sample Description: #142 ASR2 INJ

Analyte Method Unit Result Dilution Qual PQL MDL Date Analyzed Time Analyzed Analyst:

Mercury, Total EPA200.8 µg/L Not Detected 1 LP,IA 0.25 0.04 5/24/2017 7:06:00 PM MW

Sample Comments: LP: LCS recovery above method control limits. Analyte ND. IA: Results are valid even though CCV recovery

outside of limits.

Lab Number: AB67793

Collection Date/Time: 5/22/2017 8:05 Sample Collector: LEAR J Client Sample #:

Submittal Date/Time: 5/22/2017 9:16 Sample ID

Sample Description: #143 ASR2-INJ

Analyte Method Unit Result Dilution Qual PQL MDL Date Analyzed Time Analyzed Analyst:

Mercury, Total EPA200.8 µg/L Not Detected 1 LP,IA 0.25 0.04 5/24/2017 7:10:00 PM MW

David Holland, Laboratory Director

Sample Comments: LP: LCS recovery above method control limits. Analyte ND. IA: Results are valid even though CCV recovery

outside of limits.

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Page 1 of 2 Monday, June 05, 2017

Lab Number: AB68372

Collection Date/Time: 5/23/2017 8:05 Sample Collector: LEAR J Client Sample #:

Submittal Date/Time: 5/30/2017 16:10 Sample ID

Sample Description: #144 ASR2 INJ MDL Date Analyzed Analyte Method Unit Result Dilution Qual PQL Time Analyzed Analyst: Mercury, Total EPA200.8 µq/L **Not Detected** IL 0.25 0.04 5/31/2017 3:36:00 PM MW

Sample Comments: IL: RPD exceeds laboratory control limit

Lab Number: AB68373

Collection Date/Time: 5/24/2017 9:30 Sample Collector: LEAR J Client Sample #:

Submittal Date/Time: 5/30/2017 16:10 Sample ID

Sample Description: #145 Method Analyte Unit Result Dilution Qual PQL MDL Date Analyzed Time Analyzed Analyst: Not Detected Mercury, Total EPA200.8 µg/L IL 0.25 0.04 5/31/2017 3:36:00 PM MW

Sample Comments: IL: RPD exceeds laboratory control limit

Lab Number: AB68374

Collection Date/Time: 5/25/2017 8:35 Sample Collector: LEAR J Client Sample #:

Submittal Date/Time: 5/30/2017 16:10 Sample ID

Sample Description: #146 ASR2 INJ Analyte Method Unit Result Dilution Qual PQL MDL Date Analyzed Time Analyzed Analyst: EPA200.8 µg/L Not Detected 0.25 0.04 5/31/2017 3:36:00 PM Mercury, Total MW

Sample Comments: IL: RPD exceeds laboratory control limit

Lab Number: AB68375

Collection Date/Time: 5/26/2017 8:35 Sample Collector: LEAR J Client Sample #:

Submittal Date/Time: 5/30/2017 16:10 Sample ID

Sample Description: #147 ASR2 INJAnalyteMethodUnitResultDilutionQualPQLMDLDate AnalyzedTime AnalyzedAnalyst:Mercury, TotalEPA200.8μg/LNot Detected1IL0.250.045/31/20173:36:00 PMMW

Sample Comments: IL: RPD exceeds laboratory control limit

Lab Number: AB68376

Collection Date/Time: 5/27/2017 8:05 Sample Collector: LEAR J Client Sample #:

Submittal Date/Time: 5/30/2017 16:10 Sample ID

Sample Description: #148 ASR2 INJAnalyteMethodUnitResultDilutionQualPQLMDLDate AnalyzedTime AnalyzedAnalyst:Mercury, TotalEPA200.8μg/LNot Detected1IL0.250.045/31/20173:36:00 PMMW

Sample Comments: IL: RPD exceeds laboratory control limit

mg/L: Milligrams per liter (=ppm) ug/L: Micrograms per liter (=ppb) PQL: Practical Quantitation Limit J = Result is less than PQL H = Analyzed ouside of hold time E = Analysis performed by External Laboratory; See Report attachments.

Page 2 of 2 Monday, June 05, 2017

Lab Number: AB68377

Collection Date/Time: 5/28/2017 8:05 Sample Collector: LEAR J Client Sample #:

Submittal Date/Time: 5/30/2017 16:10 Sample ID

Sample Description: #149 ASR2 INJ

Analyte Method Unit Result Dilution Qual PQL MDL Date Analyzed Time Analyzed Analyst:

Mercury, Total EPA200.8 µg/L Not Detected 1 IL 0.25 0.04 5/31/2017 3:36:00 PM MW

Sample Comments: IL: RPD exceeds laboratory control limit

Lab Number: AB68378

Collection Date/Time: 5/29/2017 9:40 Sample Collector: LEAR J Client Sample #:

Submittal Date/Time: 5/30/2017 16:10 Sample ID

Sample Description: #150 ASR2 INJ Analyte Method Unit Result Dilution Qual PQL MDL Date Analyzed Time Analyzed Analyst: Mercury, Total EPA200.8 μg/L Not Detected IL 0.25 0.04 5/31/2017 3:36:00 PM MW

Sample Comments: IL: RPD exceeds laboratory control limit

Lab Number: AB68379

Collection Date/Time: 5/30/2017 8:05 Sample Collector: LEAR J Client Sample #:

Submittal Date/Time: 5/30/2017 16:10 Sample ID

Sample Description: #151 ASR2 INJ Analyte Method Unit Result Dilution Qual PQL MDL Date Analyzed Time Analyzed Analyst: Mercury, Total EPA200.8 µg/L **Not Detected** 0.25 0.04 5/31/2017 3:36:00 PM MW

David Holland, Laboratory Director

Sample Comments: IL: RPD exceeds laboratory control limit

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David Holland, Laboratory Director

Page 1 of 1 Monday, June 12, 2017

Lab Number: AB68856

Collection Date/Time: 5/31/2017 8:00 Sample Collector: LEAR J Client Sample #:

Submittal Date/Time: 6/6/2017 8:33 Sample ID

Sample Description: #152-ASR2-inj MDL Date Analyzed Analyte Method Result Dilution Qual PQL Time Analyzed Analyst: Unit Mercury, Total EPA200.8 6/7/2017 1:03:00 PM MWμg/L **Not Detected** ΙH 0.25 0.04

Sample Comments: IH: LCS and/or CCV below acceptance limits.

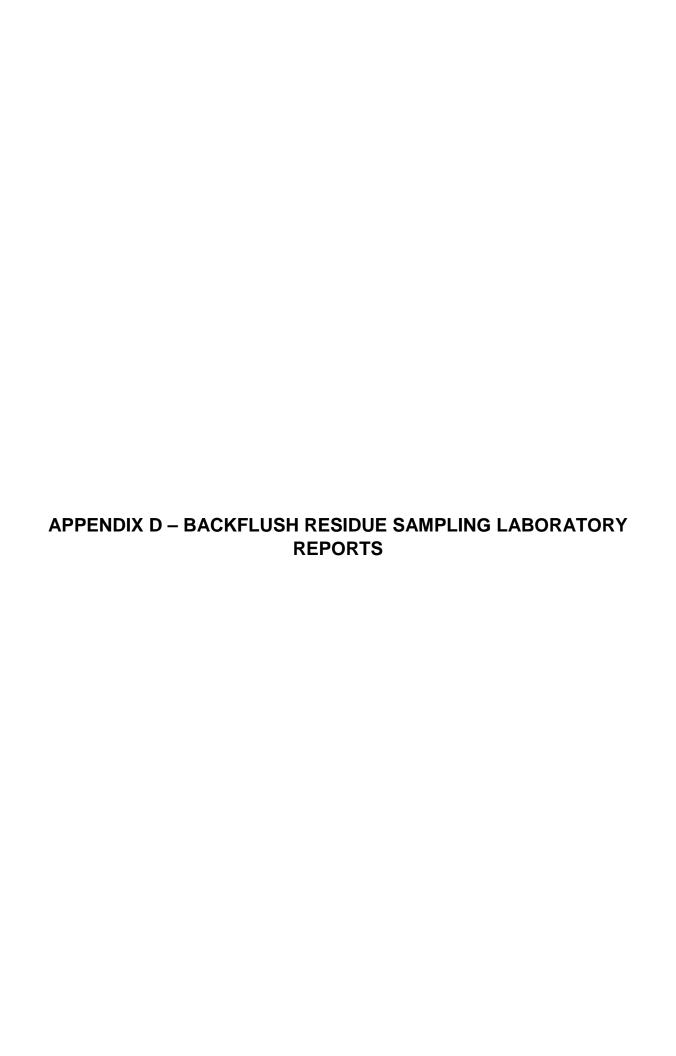
Carmel Valley Wellfield Production During 2017 ASR Operations

Date	Robles #3	Panetta #1	Panetta #2	Garzas #3	Garzas #4	LL #5	LL #6	Berwick #8	Berwick #9	Begonia #2	Manor#2	Schulte #2	Pearce	Cypress #2	R. Canada #2	Eastwood-Canada
12/16/2016	0	0	0	0	58550.4	52910.4	65731.2	60640		165724.4	0	0		238709.0909	0	0
	0	0	0	0	57660.8	52910.4	64659.2	60640		165724.4	0	0		238709.0909	0	0
12/17/2016		0	0								0				0	0
12/18/2016	0		-	0	57628.8	52019.2	60732.8	60640		165724.4	-	0	0		_	
12/19/2016	0	0	0	0	58112	52440	67769.6	60640	63600	165724.4	0	0	0	238709.0909	0	0
12/20/2016	0	0	0	0	59699.2	53929.6	68608	121000	98800	222976	0	0	0	238709.0909	0	0
12/21/2016	0	20492.8	0	0	59158.4	53611.2	67241.6	120300	98500	222080	0	0	0		0	0
12/22/2016	0	40684.8	0	0	57542.4	52388.8	27638.4	48400	50800	199936	0	8608	0		0	0
12/23/2016	0	40595.2	0	0	57360	52200	61740.8	50700	62900	171904	0	97888	0	238709.0909	0	0
12/24/2016	0	40256	0	0	57017.6	51840	61251.2	118300	96100	216768	0	23520	0	238709.0909	0	0
12/25/2016	0	40480	0	0	57200	52009.6	61360	73700	96900	217984	0	42176	0	238709.0909	0	0
12/26/2016	0	40454.4	0	0	57260.8	52041.6	61520	74300	96700	217408	0	63712	0	238709.0909	0	0
12/27/2016	0	40556.8	0	0	57280	52080	61408	91000	95300	214848	0	147488	0	255300	0	12515.17274
12/28/2016	0	40678.4	0	0	57449.6	52209.6	61481.6	97300	94400	212672	0	161216	0	248900	0	12515.17274
12/29/2016	0	40403.2	0	0	57110.4	51899.2	61440	106000	94500	212992	0	138912	0	239700	0	13565.90184
12/30/2016	0	40089.6	0	0	56771.2	51590.4	61177.6	43400	39100	131520	0	39680	0	298250	0	13565.90184
12/31/2016	0	40768	0	0	40979.2	52200	61472	60700	56600	216000	0	90304	0	298250	0	13565.90184
1/1/2017	0	41068.8	0	0	0	52030.4	61088	73900	76900	215680	0	88096	0	205750	0	13565.90184
1/2/2017	0	41062.4	0	0	0	52009.6	61072	32900	66800	176704	0	0	0	205750	0	13565.90184
1/3/2017	0	23782.4	0	0	0	29379.2	34828.8	70300	76100	217024	0	65792	0	252100	0	13173.54943
1/4/2017	0	16608	0	0		22390.04	1670.4	55900	47900	157568	0	111520	0	261850	0	13173.54943
1/5/2017	0	36697.6	18129.6	0	58179.2	53129.6	30630.4	112800	90600	204736	0	229984	0	261850	0	11076.32446
1/6/2017	0	31814.4	35900.8	0	57331.2	52571.2	58460.8	116900	93400	212480	0	247008	•	213233.3333	0	11076.32446
1/7/2017	0	31808	36049.6	0	57299.2	52520	67139.2	114400	92100	206976	0	243392	0		0	11076.32446
	0										0				0	
1/8/2017		31840	35920	0	40118.4	52150.4	76230.4	110100	88500	198144	-	234208		213233.3333		11076.32446
1/9/2017	0	32710.4	37348.8	0	0	52859.2	76771.2	46800	37400	84672	0	99200	0	276400	0	11076.32446
1/10/2017	0	32121.6	36630.4	0	0	52169.6		140566.667	59050	256042.7	0	299872	0	269700	0	11076.32446
1/11/2017	0	32716.8	37369.6	0	0	52980.8		140566.667	59050	256042.7	0	299872	0	184300	0	0
1/12/2017	0	33100.8	38281.6	0	0	53880		140566.667	59050	256042.7	0	299872	0	44600	0	0
1/13/2017	0	32672	37529.6	0	0	53209.6	76547.2	110500	59050	126592	0	100288	138750	44600	0	12395.19445
1/14/2017	0	32838.4	37788.8	0	0	53430.4	76710.4	70000		185779.2	0	247397.3	138750	216200	0	12395.19445
1/15/2017	0	33196.8	38400	0	0	40849.6	77142.4	128050	99160	185779.2	0	247397.3	138750	171000	220106.6667	12395.19445
1/16/2017	0	32972.8	38020.8	0	0	9.6	76800	128050	99160	185779.2	0	247397.3	138750	166800	220106.6667	12395.19445
1/17/2017	0	32032	36760	0	0	0	75948.8	128050	99160	185779.2	0	247397.3	176300	182700	220106.6667	13337.9765
1/18/2017	0	31520	35929.6	0	0	0	75449.6	128050	99160	185779.2	0	247397.3	176300	177300	220106.6667	13337.9765
1/19/2017	0	31456	35651.2	0	0	0	75331.2	117200	92800	212288	0	247397.3	133400	178700	220106.6667	13446.73518
1/20/2017	0	32371.2	36988.8	0	0	0	76249.6	112600	89100	203712	0	198720	133400	222500	220106.6667	13446.73518
1/21/2017	0	32864	37820.8	0	0	0	76598.4	92300	73400	169472	0	188384	0	239800	167168	13446.73518
1/22/2017	0	33248	38369.6	0	0	0	76761.6	129166.667	101033.3	234432	0	260938.7	0	260700	173156	13446.73518
1/23/2017	0	33280	38409.6	0	0	0		129166.667	101033.3	234432	0	260938.7	133400	273800	173156	13446.73518
1/24/2017	0	31059.2	35120	0	0	0		129166.667		234432	0	260938.7	133400	281200	173156	13446.73518
1/25/2017	0	31603.2	35760	0	0	0	72579.2	31800	26800	216332	0	72608	133400	275900	173156	13446.73518
1/26/2017	0	31603.2	35760	0	0	0		125741.667		214000	0	229009.8	180700	273900	173156	13447.81735
1/27/2017	0	31648	35649.6	0	0	0		125741.667		214000	-	229009.8	180700	271900	173156	13447.81735
1/27/2017	0	31692.8	35420.8	0	0	0		125741.667		214000		229009.8	180700	269300	173156	13447.81735
				0	0	0					0					
1/29/2017	0	30867.2	34449.6	-	-	ŭ		125741.667		214000		229009.8	180700	268000	173156	13447.81735
1/30/2017	0	31840	35840	0	0	0		125741.667	98233.33	214000	0		180700	110300	173156	13447.81735
1/31/2017	0	32422.4	36740.8	0	0	0	/3561.6	125741.667	98233.33	214000	0	229009.8	180700	174100	173156	13447.81735

Date	Robles #3	Panetta #1	Panetta #2	Garzas #3	Garzas #4	LL #5	LL #6	Berwick #8	Berwick #9	Begonia #2	Manor #2	Schulte #2	Pearce	Cypress #2	R. Canada #2	Eastwood-Canada
2/1/2017	0	31955.2	36019.2	0	0	0	72950.4	125741.667	98233.33	197200	0	229009.8	172000	268800	173156	13152.82895
2/2/2017	0	32300.8	36579.2	0	0	0	73529.6	125741.667	98233.33	201337.7	0	229009.8	170822.5	267600	173156	13411.02337
2/3/2017	0	32729.6	37150.4	0	0	0	73920	125741.667	98233.33	201337.7	0	229009.8	170822.5	271900	173156	13411.02337
2/4/2017	0	32819.2	37580.8	0	0	0	74188.8	125741.667	98233.33	201337.7	0	237408	170822.5	277400	173156	13411.02337
2/5/2017	0	32761.6	37230.4	0	0	0	73939.2	125741.667	98233.33	201337.7	0	237600	170822.5	277000	173156	13411.02337
2/6/2017	0	33651.2	37089.6	11748.8	0	0	74051.2	125741.667	98233.33	201337.7	0	237888	170822.5	275900	173156	13411.02337
2/7/2017	0	33318.4	36569.6	29270.4	0	0	73980.8	79600	92800	201337.7	0	242112	170822.5	279800	98624	13411.02337
2/8/2017	0	32384	34689.6	57049.6	0	0	73238.4	157900	91800	213376	0	236096	170822.5	283200	172992	13411.02337
2/9/2017	0	32217.6	34451.2	56731.2	0	0	72912	117900	39047.35	202624	0	169600	180304	282700	177088	13447.88101
2/10/2017	0	32545.6	35164.8	57277.2	0	0	73109.6	115356.483	90350	211072	0	234600	176324	260066.6667	160224	13447.88101
2/11/2017	0	32545.6	35164.8	57277.2	0	0	73109.6	115356.483	90350	211072	0	234600	176324	260066.6667	160224	13447.88101
2/12/2017	0	32545.6	35164.8	57277.2	0	0	73109.6	115356.483	90350	211072	0	234600	176324	260066.6667	160224	13447.88101
2/13/2017	0	32545.6	35164.8	57277.2	0	0	73109.6	115356.483	90350	211072	0	234600	176324	260100	160224	13447.88101
2/14/2017	0	32038.4	34089.6	56520	0	0	72662.4	118000	90900	212288	0	235488	176496	279700	168448	13447.88101
2/15/2017	0	31840	33710.4	56280	0	0	72569.6	118000	90500	212224	0	235808	176608	277900	166848	13447.88101
2/16/2017	0	31801.6	33750.4	55830.4	0	0	73868.8	116900	90100	210880	0	235200	175792	275400	166912	13098.97478
2/17/2017	0	31648	34009.6	56670.4	0	0	18668.8	81300	63200	76416	0	231200	92208	107600	56320	13098.97478
2/18/2017	0	32876.8	34800	58089.6	0	0	0	60100	46400	0	0	127008	204688	159400	78080	13098.97478
2/19/2017	0	33024	33870.4	56920	0	0	0	0	0	0	0	41184	56608	221700	235328	13098.97478
2/20/2017	0	21369.6	21699.2	36569.6	0	0	0	18700	0	42688	0	60096	50704	204000	161088	13098.97478
2/21/2017	0	0	0	0	0	0	0	123100	0	221824	0	249728	195504	319600	0	13098.97478
2/22/2017	0	0	0	0	0	0	0	46200	100	155648	0	205696	188288	309600	84672	13098.97478
2/23/2017	0	0	0	0	0	0	0	28000	63800	217600	0	237984	176304	301700	171456	13663.82284
2/24/2017	0	18649.6	18689.6	34190.4	23712	0	0	14300	70800	151808	0	236992	176896	297700	171648	13663.82284
2/25/2017	0	32870.4	32740.8	56329.6	49798.4	0	0	85500	91100	215808	0	236896	175104	293700	168320	13663.82284
2/26/2017	0	32748.8	32580.8	56209.6	49590.4	0	0	119100	90700	214592	0	236928	175696	291000	167872	13663.82284
2/27/2017	0	32832	32649.6	56209.6	49651.2	0	0	119000	90600	214528	0	237280	176608	288200	169728	0
2/28/2017	0	32857.6	33240	40380.8	36550.4	0	0	118600	90400	214272	0	237024	176704	286100	172800	0
3/1/2017	0	32748.8	32520	56080	48438.4	0	0	118400	90200	213696	0	237888	177296	284100	169216	13037.86368
3/2/2017	0	32780.8	32390.4	55948.8	48620.8	0	0	118400	90100	213056	0	235712	176992	282400	167616	12964.33938
3/3/2017	0	32678.4	32358.4	55870.4	49468.8	0	0	118400	90000	212992	0	237088	175504	280500	167680	12964.33938
3/4/2017	0	32723.2	32510.4	56000	49609.6	0	0	118400	90000	213184	0	237280	176304	279400	167808	12964.33938
3/5/2017	0	32832	32811.2	56300.8	49859.2	0	0	118800	89900	214272	0	237504	175504	279200	168576	12964.33938
3/6/2017	0	32486.4	32028.8	55720	49241.6	23740.8	41062.4	106700	84600	213312	0	236224	175088	277600	167680	12964.33938
3/7/2017	0	32473.6	31849.6	55539.2	49100.8	52049.6	85977.6	29900	23700	74432	0	169600	124912	180600	126016	12964.33938
3/8/2017	0	32339.2	31300.8	55220.8	48739.2	51579.2	85670.4	36900	35100	127104	0	239776	181792	234300	178240	12964.33938
3/9/2017	0	32390.4	31200	55099.2	48640	51430.4	85740.8	70200	67500	212160	0	239104	181504	232600	175680	13316.11019
3/10/2017	0	32377.6	31320	55110.4	48710.4	51449.6	85868.8	98900	90000	212416	0	239808	182304	231300	175872	13316.11019
3/11/2017	0	32460.8	31310.4	55180.8	48739.2	51470.4	79312	118700	89600	211904	0	239584	181296	230400	174208	13316.11019
3/12/2017	0	32582.4	31390.4	55188.8	48819.2	51540.8	86988.8	118600	89500	212096	0	239520	181488	229900	175104	13316.11019
3/13/2017	0	32678.4	31089.6	54880	48569.6	51228.8	86819.2	118300	89400	210880	0	238784	180608	243800	171776	13316.11019
3/14/2017	0	32620.8	31600	51790.4	36723.2	51280	86809.6	118300	89200	211904	0	239008	179104	251800	170624	13316.11019
3/15/2017	0	19148.8	18289.6	56140.8	49187.2	51451.2	86790.4	95900	88900	212416	0	238912	178496	251800	170624	13316.11019
3/16/2017	0	17920	16870.4	56148.8	49401.6	51579.2	86880	118800	89400	211520	0	238400	179200	252400	171008	13612.881
3/17/2017	0	33049.6	31059.2	55700.8	48729.6	51460.8	87001.6	118200	89000	211200	0	238688	179600	251000	168896	13612.881
3/18/2017	0	32806.4	31110.4	55699.2	48729.6	51449.6	86659.2	118300	88600	211968	0	238592	178704	251500	169664	13612.881
3/19/2017	0	32742.4	31080	55651.2	48681.6	51400	86499.2	118000	88400	211584	0	237920	178304	251400	170112	13612.881
3/20/2017	0	32851.2	31579.2	55819.2	49017.6	51699.2	87030.4	118400	88800	212544	0	243296	46986	269600	189376	13612.881
3/21/2017	0	32940.8	32060.8	55969.6	49382.4	52110.4	87340.8	118400	88900	213504	0	241984	104000	262200	181440	13612.881
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\$\frac{9}{2}(2) \$\frac{9}{2}(2) \$\frac{9}{2}(2) \$\frac{9}{2}(1) \$\frac{9}{	Date	Robles #3	Panetta #1	Panetta #2	Garzas #3	Garzas #4	LL #5	LL #6	Berwick #8	Berwick #9	Begonia #2	Manor #2	Schulte #2	Pearce	Cypress #2	R. Canada #2	Eastwood-Canada
19/24/2017 0 24-99 31508 55508 88-89 514-92 516-06 517-06 876-06 117700 876-06 1179-06 1179-06 1	3/22/2017	0	32627.2	31420.8	55780.8	48937.6	51270.4	86649.6	117900	88600	211904	0	237600	179088	250500	168896	13612.881
\$\frac{3}{5}/2/1017	3/23/2017	0	32512	31059.2	55569.6	48672	51300	86489.6	118000	87900	210944	0	237120	178512	249900	167680	13624.05287
3/2/2017 0 32678 315908 53904 88992 516906 82788 117900 83200 211955 0 237000 179504 250000 168320 13624-05287 3/2/2017 0 137352 125504 564804 50138 50486 565088 118100 8400 211224 0 238688 18000 257070 168512 13624-05287 3/2/2017 0 137552 235688 51812 483808 513408 495808 118100 8000 211264 0 238688 18000 240000 179008 168512 13624-05287 3/2/2017 0 340592 303888 55112 483808 51192 825512 81200 71600 211292 0 238816 183904 197000 177408 13825-89411 4/1/2017 0 34010 32,379 56,779 48772 52,371 87,770 118,500 83,500 214,464 0 239,008 166,000 179,008 138,318 4/2/2017 0 34,000 37,200 56,000 50	3/24/2017	0	32499.2	31260.8	55500.8	48800	51499.2	86470.4	117700	87900	211712	0	231680	179392	250700	168704	13624.05287
19/2/2017 0 137876 31696 53710 498816 51700 57010 11990 8100 219104 0 229104 178896 250100 168512 13624-05287 3/29/2017 0 117504 114804 56708 35816 313008 49190.8 118900 84000 211264 0 241408 189808 119400 18644 10570-12079 139017 139018 310008 309818 313008 49190.8 118900 81000 211506 0 241408 189808 119400 118944 10570-12079 139018 139018 319018	3/25/2017	0	32672	31548.8	55668.8	48979.2	51590.4	86761.6	117200	87800	211392	0	239104	179600	249700	168384	13624.05287
\$\frac{3}{2}(2)017\$ 0\$ 1750, \$\frac{1}{2}(3)027\$ 0\$ 1750, \$\frac{1}{2}(3)027\$ 0\$ 1750, \$\frac{1}{2}(3)027\$ 0\$ 1750, \$\frac{1}{2}(3)027\$ 1750, \$\fra	3/26/2017	0	32678.4	31500.8	55390.4	48899.2	51609.6	86768	117700	88200	210752	0	237600	179504	250000	168320	13624.05287
3/20/2017 0 1750.4 1149.4 5708.8 5661.6 3140.8 5130.0 513	3/27/2017	0	32876.8	31609.6	55710.4	49081.6	51760	87011.2	117900	88200	211968	0	239104	178896	250100	168512	13624.05287
3/19/2017 0 31699.2 80388.8 5131.2 4830.8 5131.2 825.12 81.200 71.00 71.00 71.30 0 1.20 17.40 17.40 17.40 17.30 17.30 17.00 13.00 17.00 18.00 19.00 17.00 17.00 18.00 17.00 17.00 18.00 17.00 18.00 17.00 17.00 18.00 17.00 17.00 18.00 17.00 17.00 18.00 17.00 18.00 17.00 17.00 18.00 17.00 17.00 18.00 17.00 17.00 18.00 17.00 18.00 17.00 17.00 18.00 17.00 17.00 18.00 17.00 17.00 18.00 17.00 18.00 17.00 17.00 18.00 17.00 17.00 18.00 17.00 17.00 18.00 17.00 17.00 18.00 17.00 17.00 18.00 17.00 17.00 18.00 17.00 17.00 18.00 17.00 17.00 18.00 17.00 17.00 18.00 17.00 17.00 17.00 17.00 18.00 17	3/28/2017	0	13235.2	12550.4	56430.4	50128	52049.6	86508.8	118100	88400	212224	0	238688	180400	250700	168512	13624.05287
34/2017 O 3150.8 3010.8 49440 43488 4588.6 7890.8 118500 88400 217.608 O 237.808 183.902 119.600 178304 13878.58411	3/29/2017	0	11750.4	11430.4	56708.8	50681.6	31340.8	49180.8	118300	88000	211264	0	241408	189808	145000	186944	10570.12079
41/2017 0 34.00 32.79 56.179 49.722 52.71 87.760 118.900 88.900 213.248 0 239.008 186.000 195.800 179.008 13.138 41/2017 0 34.00 32.80 56.50 56.70 50.358 53.160 88.42 119.300 85.00 213.666 0 238.112 184.112 215.000 176.966 13.138 41/2017 0 33.513 31.650 55.580 49.79 51.990 86.00 118.00 87.00 213.666 0 238.112 184.112 215.000 176.966 131.318 41/2017 0 33.651 31.760 56.040 49.462 52.170 87.270 118.200 86.000 211.775 0 23.806 138.000 216.400 173.760 13.138 41/2017 0 33.651 31.760 56.040 49.462 52.170 87.270 118.200 86.000 211.775 0 23.806 138.000 216.400 173.760 13.138 41/2017 0 33.613 31.315 55.614 48.630 31.301 86.358 89.00 73.00 210.340 0 25.896 138.000 216.400 173.760 13.138 41/2017 0 33.613 32.11 55.270 49.741 18.600 87.900 174.800 0 25.895 148.600 21.000 130.622 13.258 41/2017 0 33.783 32.000 56.110 49.651 52.362 87.501 118.600 87.700 190.912 0 25.791 18.500 21.000 130.622 13.258 41/12017 0 33.413 40.220 25.701 46.751 12.612 86.520 25.798 87.590 190.912 0 25.895 18.500 21.800 175.792 266.300 77.112 13.258 41/12017 0 32.506 30.811 55.541 48.438 51.139 90.170 66.800 59.900 174.080 0 208.370 175.792 266.300 77.112 13.258 41/12017 0 32.000 50.811 55.541 48.438 51.139 90.170 66.800 59.900 182.784 0 218.304 182.992 250.000 132.800 132.800 132.284 41/12017 0 32.000 50.801 15.551 48.483 51.139 90.170 66.800 59.900 182.784 0 218.304 182.992 250.000 132.800 132.324 41/12/1017 0 32.000 50.801 15.551 48.483 51.139 90.170 66.800 59.900 182.784 0 218.304 182.992 250.000 132.800 132.324 41/13/2017 0 32.000 50.801 15.551 48.483 51.139 90.170 66.800 59.900 182.784 0 218.304 182.992 250.000 133.300 133.324 41/13/2017 0 32.000 50.801 15.551 48.483 51.139 90.170 66.800 59.900 182.784 0 218.304 182.992 250.000 133.320 133.324 41/13/2017 0 32.000 50.801 15.551 48.483 51.139 90.170 66.800 59.900 182.784 0 218.304 182.992 250.000 133.320 133.324 41/13/2017 0 32.000 50.801 15.551 48.483 51.139 90.170 66.800 59.900 182.784 0 218.304 182.992 250.000 133.320 133.324 41/13/2017 0 32.000 50.801 15.551 48.483 51.139 90.170 66.800 59.900 1	3/30/2017	0	32659.2	30388.8	55131.2	48380.8	51139.2	85251.2	81200	71600	211392	0	238816	183904	192400	177408	13828.58411
44/2017	3/31/2017	0	31500.8	30100.8	49440	43488	45689.6	78908.8	118500	88400	212608	0	237888	183392	194600	178304	13828.58411
4/ 7/2017	4/1/2017	0	34,010	32,379	56,179	49,722	52,371	87,760	118,900	88,900	213,248	0	239,008	186,000	195,800	179,008	13,138
44/2017	4/2/2017	0	34,195	33,080	56,760	50,358	53,160	88,442	119,300	88,900	214,464	0	239,680	186,496	197,900	180,224	13,138
44/7/1017	4/3/2017	0	34,080	32,830	56,560	50,141	52,979	88,128	118,900	88,600	213,696	0	238,112	184,112	213,600	176,960	13,138
Aff-/2017	4/4/2017	0	33,523	31,650	55,880	49,229	51,990	86,960	118,000	87,800	212,224	0	236,896	181,888	217,000	173,696	13,138
4/7/2017	4/5/2017	0	33,651	31,760	56,040	49,462	52,170	87,270	118,200	88,000	211,776	0	236,896	183,600	216,400	173,760	13,138
4/8/2017	4/6/2017	0	33,126	30,691	55,461	48,630	51,301	86,358	89,600	73,200	210,340	0	236,224	183,104	213,600	171,200	13,258
49/9/1017	4/7/2017	0	33,370	31,318	55,650	49,098	51,739	86,902	118,400	87,900	197,184	0	225,792	185,600	221,400	150,848	13,258
4/10/2017	4/8/2017	0	33,613	32,131	56,270	49,741	52,430	87,299	118,600	87,900	190,912	0	220,512	184,592	262,000	130,624	13,258
4/11/2017	4/9/2017	0	33,798	32,400	56,278	49,869	52,579	87,539	118,400	87,700	190,528	0	218,880	183,616	278,100	128,896	13,258
4/12/2017	4/10/2017	0	33,728	32,000	56,110	49,651	52,362	87,501	100,800	82,900	174,080	0	208,320	175,792	266,300	74,112	13,258
4/13/2017	4/11/2017	0	33,414	30,829	52,701	46,211	51,261	86,621	43,000	38,400	150,720	0	219,296	185,904	257,800	132,800	13,258
4/14/2017 0 32,506 30,811 55,541 48,438 51,539 90,170 66,800 59,900 182,784 0 218,304 182,992 250,400 131,392 13,132 4/15/2017 0 32,890 31,238 55,390 48,703 36,608 90,912 89,70 77,00 182,727 0 219,008 184,912 251,000 132,096 13,132 4/17/2017 0 32,499 31,010 54,760 48,698 29,110 82,029 90,300 86,900 181,568 0 218,912 184,688 249,200 129,984 13,132 4/19/2017 0 32,271 31,160 55,380 48,588 51,261 90,531 118,000 86,000 181,568 0 217,096 184,704 249,000 129,600 13,132 4/19/2017 0 32,390 31,550 55,600 48,600 51,600 90,950 118,700 86,000 181,312 0 217,098 184,704	4/12/2017	0	29,421	27,421	55,810	48,829	50,637	85,258	26,300	88,400	183,104	0	219,392	186,000	250,800	132,800	13,258
4/15/2017 0 32,890 31,238 55,390 48,909 51,552 90,861 58,550 70,700 182,720 0 219,008 184,912 251,000 132,096 13,132 4/16/2017 0 32,499 30,981 55,579 48,733 36,608 90,129 89,200 74,500 182,727 0 217,280 184,304 249,600 130,304 13,132 4/18/2017 0 32,499 31,010 56,500 48,698 29,110 82,029 90,300 86,900 182,565 0 215,650 184,704 249,000 129,600 13,132 4/19/2017 0 32,211 31,660 55,380 48,358 51,261 90,531 118,600 86,600 181,312 0 217,696 184,704 249,000 129,600 13,132 4/19/2017 0 32,239 31,550 55,600 48,640 51,600 90,950 118,200 86,600 181,312 0 217,161 184,208 249,000 129,606 13,132 4/12/2017 0 33,062 32,440 55,840 49,261 52,230 91,818 118,700 87,300 181,952 0 218,496 187,088 250,500 131,392 12,848 4/22/2017 0 33,670 32,030 55,979 49,562 52,531 91,933 118,900 87,300 181,952 0 218,496 187,088 250,500 131,392 12,848 4/22/2017 0 33,693 32,240 56,211 49,549 52,579 91,770 118,800 87,200 183,104 0 218,304 184,502 265,900 129,344 12,848 4/22/2017 0 33,693 32,240 56,800 49,440 52,480 91,590 118,900 87,300 183,296 0 217,600 184,208 265,900 129,344 12,848 4/25/2017 0 33,686 32,120 56,080 49,440 52,480 91,590 118,900 87,300 183,296 0 217,600 184,208 265,900 129,344 12,848 4/25/2017 0 33,686 32,120 56,080 49,440 52,480 91,590 118,900 87,300 183,296 0 217,600 184,208 265,900 129,344 12,848 4/25/2017 0 33,686 32,120 56,080 49,140 52,320 83,332 118,100 86,560 181,837 0 211,43 183,040 257,775 148,429 12,463 4/26/2017 0 34,266 31,858 56,170 46,144 52,320 83,332 118,100 86,560 181,837 0 211,143 183,040 257,775 148,429 12,463 4/29/2017 0 34,266 31,858 56,170 46,144 52,320 83,332 118,100 86,560 181,837 0 211,143 183,040 257,775 148,429 12,463 4/29/2017 0 34,266 31,858 56,170 46,144 52,320 83,332 118,100 86,560 181,837 0 211,143 183,040 257,775 148,429 12,463 4/29/2017 0 34,266 31,858 56,170 46,144 52,320 83,332 118,100 86,560 181,837 0 211,143 183,040 257,775 148,429 12,463 4/29/2017 0 34,266 31,858 56,170 46,144 52,320 83,332 118,100 86,560 181,837 0 211,143 183,040 257,775 148,429 12,463 57/2017 0 34,266 31,858 56,170 46,144 52,320	4/13/2017	0	32,685	31,170	55,770	48,842	51,571	85,990	84,200	87,500	183,104	0	160,096	188,096	255,400	138,624	13,132
4/16/2017	4/14/2017	0	32,506	30,811	55,541	48,438	51,139	90,170	66,800	59,900	182,784	0	218,304	182,992	250,400	131,392	13,132
4/17/2017 0 32,499 31,010 54,760 48,698 29,110 82,029 90,300 86,900 181,568 0 218,912 184,688 249,200 129,980 13,132 4/18/2017 0 32,213 31,120 55,530 47,002 51,370 90,490 63,600 70,200 182,656 0 217,695 184,704 249,000 129,600 13,132 4/20/2017 0 32,390 31,550 55,600 48,640 51,600 90,950 118,200 86,600 181,312 0 217,216 184,208 249,000 129,216 12,848 4/21/2017 0 33,062 32,440 55,840 49,261 52,230 91,818 118,700 87,300 181,952 0 218,496 187,088 250,500 131,392 12,848 4/21/2017 0 33,670 32,030 55,979 49,562 52,531 91,933 118,900 87,300 182,720 0 22,000 186,112 55,900 132,352 12,848 4/23/2017 0 33,980 32,370 56,211 49,549 52,579 91,770 118,800 87,300 183,104 0 218,304 184,592 265,900 129,344 12,848 4/24/2017 0 33,798 32,070 56,130 49,440 52,480 91,590 118,900 87,300 183,296 0 217,600 184,208 267,300 128,128 12,848 4/24/2017 0 33,859 32,120 56,080 49,370 52,410 91,610 118,400 87,000 182,010 182,010 182,000 182,000 124,010 184,008 124,010 184,000 182,010 182	4/15/2017	0	32,890	31,238	55,390	48,909	51,552	90,861	58,550	70,700	182,720	0	219,008	184,912	251,000	132,096	13,132
4/18/2017 0 32,378 31,120 55,530 47,022 51,370 90,490 63,600 70,200 182,656 0 217,696 184,704 249,000 129,600 13,132 4/19/2017 0 32,330 31,550 55,800 48,358 51,610 90,950 118,000 86,600 181,312 0 217,126 84,209 249,000 129,606 13,132 4/20/2017 0 33,662 32,440 55,840 49,261 52,230 91,818 118,700 86,600 181,312 0 218,496 187,088 250,500 133,392 12,848 4/22/2017 0 33,670 35,797 49,562 52,531 91,933 118,900 87,300 182,720 0 2218,046 184,592 250,500 133,392 12,848 4/23/2017 0 33,989 32,100 56,300 49,470 52,480 91,560 118,900 87,300 182,292 0 190,208 185,200 265,900 <td>4/16/2017</td> <td>0</td> <td>32,499</td> <td>30,981</td> <td>55,579</td> <td>48,733</td> <td>36,608</td> <td>90,192</td> <td>89,200</td> <td>74,500</td> <td>182,272</td> <td>0</td> <td>217,280</td> <td>184,304</td> <td>249,600</td> <td>130,304</td> <td>13,132</td>	4/16/2017	0	32,499	30,981	55,579	48,733	36,608	90,192	89,200	74,500	182,272	0	217,280	184,304	249,600	130,304	13,132
4/19/2017 0 32,211 31,160 55,380 48,558 51,261 90,531 118,00 86,00 180,992 0 217,088 183,696 248,700 128,064 13,132 4/21/2017 0 32,390 31,550 55,600 48,640 51,600 90,950 118,200 86,600 181,312 0 217,216 184,208 249,000 129,216 12,848 4/21/2017 0 33,662 32,400 55,840 49,261 52,230 91,818 118,700 87,300 182,720 0 220,000 186,112 250,500 131,392 128,488 4/23/2017 0 33,930 32,370 56,211 49,549 52,579 91,770 118,800 87,200 183,104 0 218,304 184,592 265,900 129,344 12,848 4/25/2017 0 33,789 32,120 56,800 49,370 52,410 91,610 118,400 87,000 182,592 0 190,208 185,200 262,900 142,912 12,848 4/26/2017 0 34,266	4/17/2017	0	32,499	31,010	54,760	48,698	29,110	82,029	90,300	86,900	181,568	0	218,912	184,688	249,200	129,984	13,132
4/20/2017 0 32,390 31,550 55,600 48,640 51,600 90,950 118,200 86,600 181,312 0 217,216 184,208 249,000 129,216 12,848 4/21/2017 0 33,667 32,440 55,840 49,562 52,531 91,933 118,900 87,300 182,720 0 220,000 186,112 250,500 131,392 12,848 4/22/2017 0 33,920 32,370 56,211 49,549 52,579 91,770 118,800 87,300 183,104 0 218,304 184,592 265,900 129,344 12,848 4/24/2017 0 33,693 32,070 56,130 49,440 52,480 91,590 118,900 87,000 183,296 0 217,600 184,208 267,300 128,128 12,848 4/25/2017 0 33,651 31,709 55,880 49,171 52,189 91,610 118,400 87,000 182,592 0 190,208 185,200 <td>4/18/2017</td> <td>0</td> <td>32,378</td> <td>31,120</td> <td>55,530</td> <td>47,002</td> <td>51,370</td> <td>90,490</td> <td>63,600</td> <td>70,200</td> <td>182,656</td> <td>0</td> <td>217,696</td> <td>184,704</td> <td>249,000</td> <td>129,600</td> <td>13,132</td>	4/18/2017	0	32,378	31,120	55,530	47,002	51,370	90,490	63,600	70,200	182,656	0	217,696	184,704	249,000	129,600	13,132
4/21/2017 0 33,062 32,440 55,840 49,261 52,230 91,818 118,700 87,300 181,952 0 218,496 187,088 250,500 131,392 12,848 4/22/2017 0 33,670 32,030 55,979 49,562 52,571 91,770 118,800 87,300 182,720 0 220,000 186,112 250,900 123,352 12,848 4/23/2017 0 33,798 32,070 56,130 49,440 52,480 91,590 118,900 87,300 183,040 0 217,600 184,208 267,300 128,128 12,848 4/25/2017 0 33,869 32,120 56,080 49,370 52,410 91,610 118,400 87,000 182,592 0 190,208 185,200 262,900 142,912 12,848 4/26/2017 0 34,266 31,858 56,170 46,144 52,320 83,332 118,100 86,560 181,837 0 211,143 183,040 <td>4/19/2017</td> <td>0</td> <td>32,211</td> <td>31,160</td> <td>55,380</td> <td>48,358</td> <td>51,261</td> <td>90,531</td> <td>118,600</td> <td>86,700</td> <td>180,992</td> <td>0</td> <td>217,088</td> <td>183,696</td> <td>248,700</td> <td>128,064</td> <td>13,132</td>	4/19/2017	0	32,211	31,160	55,380	48,358	51,261	90,531	118,600	86,700	180,992	0	217,088	183,696	248,700	128,064	13,132
4/2/2017 0 33,670 32,030 55,979 49,562 52,511 91,933 118,900 87,300 182,720 0 220,000 186,112 250,900 132,352 12,848 4/23/2017 0 33,920 32,370 56,111 49,549 52,579 91,770 118,800 87,200 183,104 0 218,304 184,592 265,900 129,344 12,848 4/24/2017 0 33,798 32,170 56,130 49,440 52,480 91,590 118,900 87,000 183,104 0 217,600 184,208 267,300 128,128 12,848 4/26/2017 0 33,651 31,709 55,880 49,171 52,189 79,418 117,200 86,900 182,016 0 215,776 183,088 257,800 148,608 12,848 4/27/2017 0 34,266 31,858 56,170 46,144 52,320 83,332 118,100 86,560 181,837 0 211,143 183,040	4/20/2017	0	32,390	31,550	55,600	48,640	51,600	90,950	118,200	86,600	181,312	0	217,216	184,208	249,000	129,216	12,848
4/23/2017 0 33,920 32,370 56,211 49,549 52,579 91,770 118,800 87,200 183,104 0 218,304 184,592 265,900 129,344 12,848 4/24/2017 0 33,798 32,070 56,130 49,440 52,480 91,590 118,900 87,300 183,296 0 217,600 184,208 267,300 128,128 12,848 4/25/2017 0 33,869 32,120 56,080 49,370 52,140 91,610 118,400 87,000 182,592 0 190,208 185,200 262,900 142,912 12,848 4/26/2017 0 33,651 31,709 55,880 49,171 52,189 79,418 117,200 86,900 182,016 0 211,143 183,040 257,775 148,409 12,463 4/28/2017 0 34,266 31,858 56,170 46,144 52,320 83,332 118,100 86,560 181,837 0 211,143 183,040 <td>4/21/2017</td> <td>0</td> <td>33,062</td> <td>32,440</td> <td>55,840</td> <td>49,261</td> <td>52,230</td> <td>91,818</td> <td>118,700</td> <td>87,300</td> <td>181,952</td> <td>0</td> <td>218,496</td> <td>187,088</td> <td>250,500</td> <td>131,392</td> <td>12,848</td>	4/21/2017	0	33,062	32,440	55,840	49,261	52,230	91,818	118,700	87,300	181,952	0	218,496	187,088	250,500	131,392	12,848
4/24/2017 0 33,798 32,070 56,130 49,440 52,480 91,590 118,900 87,300 183,296 0 217,600 184,208 267,300 128,128 12,848 4/25/2017 0 33,669 32,120 56,080 49,370 52,410 91,610 118,400 87,000 182,592 0 190,208 185,200 262,900 142,912 12,848 4/26/2017 0 33,651 31,709 55,880 49,171 52,189 79,418 117,200 86,900 182,016 0 215,776 183,088 257,800 148,608 12,848 4/27/2017 0 34,266 31,858 56,170 46,144 52,320 83,332 118,100 86,560 181,837 0 211,143 183,040 257,775 148,429 12,463 4/28/2017 0 34,266 31,858 56,170 46,144 52,320 83,332 118,100 86,560 181,837 0 211,143 183,040 <td>4/22/2017</td> <td>0</td> <td>33,670</td> <td>32,030</td> <td>55,979</td> <td>49,562</td> <td>52,531</td> <td>91,933</td> <td>118,900</td> <td>87,300</td> <td>182,720</td> <td>0</td> <td>220,000</td> <td>186,112</td> <td>250,900</td> <td>132,352</td> <td>12,848</td>	4/22/2017	0	33,670	32,030	55,979	49,562	52,531	91,933	118,900	87,300	182,720	0	220,000	186,112	250,900	132,352	12,848
4/25/2017 0 33,869 32,120 56,080 49,370 52,410 91,610 118,400 87,000 182,592 0 190,208 185,200 262,900 142,912 12,848 4/26/2017 0 33,651 31,709 55,880 49,171 52,189 79,418 117,200 86,900 182,016 0 215,776 183,088 257,800 148,608 12,848 4/27/2017 0 34,266 31,858 56,170 46,144 52,320 83,332 118,100 86,560 181,837 0 211,143 183,040 257,775 148,429 12,463 4/28/2017 0 34,266 31,858 56,170 46,144 52,320 83,332 118,100 86,560 181,837 0 211,143 183,040 257,775 148,429 12,463 4/29/2017 0 34,266 31,858 56,170 46,144 52,320 83,332 118,100 86,560 181,837 0 211,143 183,040 257,775 148,429 12,463 4/30/2017 0 34265.6	4/23/2017	0	33,920	32,370	56,211	49,549	52,579	91,770	118,800	87,200	183,104	0	218,304	184,592	265,900	129,344	12,848
4/26/2017 0 33,651 31,709 55,880 49,171 52,189 79,418 117,200 86,900 182,016 0 215,776 183,088 257,800 148,608 12,848 4/27/2017 0 34,266 31,858 56,170 46,144 52,320 83,332 118,100 86,560 181,837 0 211,143 183,040 257,775 148,429 12,463 4/28/2017 0 34,266 31,858 56,170 46,144 52,320 83,332 118,100 86,560 181,837 0 211,143 183,040 257,775 148,429 12,463 4/29/2017 0 34,266 31,858 56,170 46,144 52,320 83,332 118,100 86,560 181,837 0 211,143 183,040 257,775 148,429 12,463 4/30/2017 0 34,266 31,858 56,170 46,144 52,320 83,332 118,100 86,560 181,837 0 211,143 183,040 257,775 148,429 12,463 5/1/2017 0 340,266	4/24/2017	0	33,798	32,070	56,130	49,440	52,480	91,590	118,900	87,300	183,296	0	217,600	184,208	267,300	128,128	12,848
4/27/2017 0 34,266 31,858 56,170 46,144 52,320 83,332 118,100 86,560 181,837 0 211,143 183,040 257,775 148,429 12,463 4/28/2017 0 34,266 31,858 56,170 46,144 52,320 83,332 118,100 86,560 181,837 0 211,143 183,040 257,775 148,429 12,463 4/29/2017 0 34,266 31,858 56,170 46,144 52,320 83,332 118,100 86,560 181,837 0 211,143 183,040 257,775 148,429 12,463 4/30/2017 0 34,266 31,858 56,170 46,144 52,320 83,332 118,100 86,560 181,837 0 211,143 183,040 257,775 148,429 12,463 5/1/2017 0 342,665 31,858 56,170 46,144 52,320 83,332 118,100 86,560 181,837 0 211,143 183,040 257,775 148,429 12,463 18,100	4/25/2017	0	33,869	32,120	56,080	49,370	52,410	91,610	118,400	87,000	182,592	0	190,208	185,200	262,900	142,912	12,848
4/28/2017 0 34,266 31,858 56,170 46,144 52,320 83,332 118,100 86,560 181,837 0 211,143 183,040 257,775 148,429 12,463 4/29/2017 0 34,266 31,858 56,170 46,144 52,320 83,332 118,100 86,560 181,837 0 211,143 183,040 257,775 148,429 12,463 4/30/2017 0 34,266 31,858 56,170 46,144 52,320 83,332 118,100 86,560 181,837 0 211,143 183,040 257,775 148,429 12,463 5/1/2017 0 34265.6 31858.2 56169.9 46144 52320 83,332 118100 86,560 181,837 0 211,143 183,040 257,775 148,429 12,463 5/1/2017 0 34265.6 31858.2 56169.9 46144 52320 83,332 118100 86,560 181837 0 211,143 183,040 257,775 148,429 12,463 5/2/2017 0 35020.8	4/26/2017	0		31,709	55,880	49,171	52,189	79,418	117,200	86,900	182,016	0	215,776	183,088	257,800	148,608	12,848
4/29/2017 0 34,266 31,858 56,170 46,144 52,320 83,332 118,100 86,560 181,837 0 211,143 183,040 257,775 148,429 12,463 4/30/2017 0 34,266 31,858 56,170 46,144 52,320 83,332 118,100 86,560 181,837 0 211,143 183,040 257,775 148,429 12,463 5/1/2017 0 34265.6 31,858.2 56169.9 46144 52320 83332.5 118100 86560 181837 0 211,143 183,040 257,775 148,429 12,463 5/1/2017 0 34265.6 31,858.2 56169.9 46144 52320 83332.5 118100 86560 181837 0 211,143 183,040 257,775 148,429 12,463 5/2/2017 0 34668.8 31908.4 46144 52320 83332.5 118100 86560 181837 0 21142 183040 257800 148429 12,463 5/2/2017 0 34668.8 31908.8	4/27/2017	0	34,266	31,858	56,170	46,144	52,320	83,332	118,100		181,837	0	211,143	183,040	257,775	148,429	12,463
4/30/2017 0 34,266 31,858 56,170 46,144 52,320 83,332 118,100 86,560 181,837 0 211,143 183,040 257,775 148,429 12,463 5/1/2017 0 34265.6 31858.2 56169.9 46144 52320 83332.5 118100 86560 181837 0 211,142 183040 257800 148429 12773.6218 5/2/2017 0 35020.8 32430.4 56030.4 49699.2 52742.4 91939.2 118300 87100 182080 0 218496 184608 258400 149056 12773.6218 5/3/2017 0 34668.8 31908.8 55840 49328 52310.4 91360 118400 87100 182592 0 216896 183504 257400 147456 12773.6218 5/4/2017 0 33632 31009.6 55539.2 48691.2 51728 90358.4 117000 85500 181504 0 215712 181392 255900 145728 12149.65193 5/5/2017 0 33208 30432.8 55670 48061.72 31675.2 89797.6 104900 85200 180400 0 214552 180252 254666.6667 143552 12149.65193 5/7/2017 0 33208 30432.8 55670 48061.72 31675.2 89797.6 104900 85200 180400 0 214552 180252 254666.6667 143552 12149.65193 5/8/2017 0 33208 30432.8 55670 48061.72 31675.2 89797.6 104900 85200 180400 0 214552 180252 254666.6667 143552 12149.65193 5/8/2017 0 33208 30432.8 55670 48061.72 31675.2 89797.6 104900 85200 180400 0 214552 180252 254666.6667 143552 12149.65193 5/8/2017 0 33208 30432.8 55670 48061.72 31675.2 89797.6 104900 85200 180400 0 214552 180252 254666.6667 143552 12149.65193 5/8/2017 0 33208 30432.8 55670 48061.72 31675.2 89797.6 104900 85200 180400 0 214552 180252 254666.6667 143552 12149.65193 5/8/2017 0 33208 30432.8 55670 48061.72 31675.2 89797.6 104900 85200 180400 0 214552 180252 254666.6667 143552 12149.65193 5/8/2017 0 33208 30432.8 55670 48061.72 31675.2 89797.6 104900 85200 180400 0 214552 180252 254666.6667 143552 12149.65193 5/8/2017 0 33208 30432.8 55670 48061.72 31675.2 89797.6 104900 85200 180400 0 214552 180252 254666.6667 143552 12149.65193 5/8/2017 0 33208 30432.8 55670 48061.72 31675.2 89797.6 104900 85200 180400 0 214552 180252 254666.6667 143552 12149.65193 5/8/2017 0 33208 30432.8 55670 48061.72 31675.2 89797.6 104900 85200 180400 0 214552 180252 254666.6667 143552 12149.65193 5/8/2017 0 33208 30432.8 55670 48061.72 31675.2 89797.6 104900 85200 180400 0 214552 180252 254666.6667 143	4/28/2017	0	34,266	31,858	56,170	46,144	52,320	83,332	118,100	86,560	181,837	0	211,143	183,040	257,775	148,429	12,463
5/1/2017 0 34265.6 31858.2 56169.9 46144 52320 83332.5 118100 86560 181837 0 211142 183040 257800 148429 12773.6218 5/2/2017 0 35020.8 32430.4 56030.4 49699.2 52742.4 91939.2 118300 87100 182080 0 218496 184608 258400 149056 12773.6218 5/3/2017 0 34668.8 31908.8 55840 49328 52310.4 91360 118400 87100 182592 0 216896 183504 257400 147456 12773.6218 5/4/2017 0 33632 3109.6 55539.2 48691.2 51728 90358.4 117000 85500 181504 0 215712 181392 255900 145728 12149.65193 5/5/2017 0 33208 30432.8 55670 48061.72 31675.2 89797.6 104900 85200 180400 0 214552 180252 254666.6667 143552 12149.65193 5/6/2017 0 33208	4/29/2017	0	34,266	31,858	56,170	46,144	52,320	83,332	118,100	86,560	181,837	0	211,143	183,040	257,775	148,429	12,463
5/2/2017 0 35020.8 32430.4 56030.4 49699.2 52742.4 91939.2 118300 87100 182080 0 218496 184608 258400 149056 12773.6218 5/3/2017 0 34668.8 31908.8 55840 49328 52310.4 91360 118400 87100 182592 0 216896 183504 257400 147456 12773.6218 5/4/2017 0 33632 3109.6 55539.2 48691.2 51728 90358.4 117000 85500 181504 0 215712 181392 255900 145728 12149.65193 5/5/2017 0 33208 30432.8 55670 48061.72 31675.2 89797.6 104900 85200 180400 0 214552 180252 254666.6667 143552 12149.65193 5/7/2017 0 33208 30432.8 55670 48061.72 31675.2 89797.6 104900 85200 180400 0 214552 180252	4/30/2017	0	34,266	31,858	56,170	46,144	52,320	83,332	118,100	86,560	181,837	0	211,143	183,040	257,775	148,429	12,463
5/3/2017 0 34668.8 31908.8 55840 49328 52310.4 91360 118400 87100 182592 0 216896 183504 257400 147456 12773.6218 5/4/2017 0 33632 31009.6 55539.2 48691.2 51728 90358.4 117000 85500 181504 0 215712 181392 255900 145728 12149.65193 5/5/2017 0 33208 30432.8 55670 48061.72 31675.2 89797.6 104900 85200 180400 0 214552 180252 254666.6667 143552 12149.65193 5/6/2017 0 33208 30432.8 55670 48061.72 31675.2 89797.6 104900 85200 180400 0 214552 180252 254666.6667 143552 12149.65193 5/7/2017 0 33208 30432.8 55670 48061.72 31675.2 89797.6 104900 85200 180400 0 214552 180252 254666.6667 143552 12149.65193 5/8/2017 0 33208 30432.8 55670 48061.72 31675.2 89797.6 104900 85200 180400 0 214552 180252 254666.6667 143552 12149.65193 5/8/2017 0 33208 30432.8 55670 19024.43 31675.2 89797.6 104900 85200 180400 0 214552 180252 254666.6667 143552 12149.65193	5/1/2017	0	34265.6	31858.2	56169.9	46144	52320	83332.5	118100	86560	181837	0	211142	183040	257800	148429	12773.6218
5/4/2017 0 33632 31009.6 55539.2 48691.2 51728 90358.4 117000 85500 181504 0 215712 181392 255900 145728 12149.65193 5/5/2017 0 33208 30432.8 55670 48061.72 31675.2 89797.6 104900 85200 180400 0 214552 180252 254666.6667 143552 12149.65193 5/6/2017 0 33208 30432.8 55670 48061.72 31675.2 89797.6 104900 85200 180400 0 214552 180252 254666.6667 143552 12149.65193 5/7/2017 0 33208 30432.8 55670 48061.72 31675.2 89797.6 104900 85200 180400 0 214552 180252 254666.6667 143552 12149.65193 5/8/2017 0 33208 30432.8 55670 48061.72 31675.2 89797.6 104900 85200 180400 0 214552 180252 254666.6667 143552 12149.65193 5/8/2017 0 33208 30432.8 55670 19024.43 31675.2 89797.6 104900 85200 180400 0 214552 180252 254666.6667 143552 12149.65193	5/2/2017	0	35020.8	32430.4	56030.4	49699.2	52742.4	91939.2	118300	87100	182080	0	218496	184608	258400	149056	12773.6218
5/5/2017 0 33208 30432.8 55670 48061.72 31675.2 89797.6 104900 85200 180400 0 214552 180252 254666.6667 143552 12149.65193 5/6/2017 0 33208 30432.8 55670 48061.72 31675.2 89797.6 104900 85200 180400 0 214552 180252 254666.6667 143552 12149.65193 5/7/2017 0 33208 30432.8 55670 48061.72 31675.2 89797.6 104900 85200 180400 0 214552 180252 254666.6667 143552 12149.65193 5/8/2017 0 33208 30432.8 55670 19024.43 31675.2 89797.6 104900 85200 180400 0 214552 180252 254666.6667 143552 12149.65193 5/8/2017 0 33208 30432.8 55670 19024.43 31675.2 89797.6 104900 85200 180400 0 214552 180252 254666.6667 143552 12149.65193 5/8/2017 0	5/3/2017	0	34668.8	31908.8	55840	49328	52310.4	91360	118400	87100	182592	0	216896	183504	257400	147456	12773.6218
5/6/2017 0 33208 30432.8 55670 48061.72 31675.2 89797.6 104900 85200 180400 0 214552 180252 254666.6667 143552 12149.65193 5/7/2017 0 33208 30432.8 55670 48061.72 31675.2 89797.6 104900 85200 180400 0 214552 180252 254666.6667 143552 12149.65193 5/8/2017 0 33208 30432.8 55670 19024.43 31675.2 89797.6 104900 85200 180400 0 214552 180252 254666.6667 143552 12149.65193 5/8/2017 0 33208 30432.8 55670 19024.43 31675.2 89797.6 104900 85200 180400 0 214552 180252 254666.6667 143552 12149.65193	5/4/2017	0	33632	31009.6	55539.2	48691.2	51728	90358.4	117000	85500	181504	0	215712	181392	255900	145728	12149.65193
5/7/2017 0 33208 30432.8 55670 48061.72 31675.2 89797.6 104900 85200 180400 0 214552 180252 254666.6667 143552 12149.65193 5/8/2017 0 33208 30432.8 55670 19024.43 31675.2 89797.6 104900 85200 180400 0 214552 180252 254660 143552 12149.65193	5/5/2017	0	33208	30432.8	55670	48061.72	31675.2	89797.6	104900	85200	180400	0	214552	180252	254666.6667	143552	12149.65193
5/8/2017 0 33208 30432.8 55670 19024.43 31675.2 89797.6 104900 85200 180400 0 214552 180252 254600 143552 12149.65193	5/6/2017	0	33208	30432.8	55670	48061.72	31675.2	89797.6	104900	85200	180400	0	214552	180252	254666.6667	143552	12149.65193
	5/7/2017	0	33208	30432.8	55670	48061.72	31675.2	89797.6	104900	85200	180400	0	214552	180252	254666.6667	143552	12149.65193
5/9/2017 0 34419.2 32819.2 57360 0 52169.6 90540.8 111300 80900 170432 0 196096 172800 243100 149760 12149.65193	5/8/2017	0	33208	30432.8	55670	19024.43	31675.2	89797.6	104900	85200	180400	0	214552	180252	254600	143552	12149.65193
	5/9/2017	0	34419.2	32819.2	57360	0	52169.6	90540.8	111300	80900	170432	0	196096	172800	243100	149760	12149.65193

Date	Robles #3	Panetta #1	Panetta #2	Garzas #3	Garzas #4	LL #5	LL #6	Berwick #8	Berwick #9	Begonia #2	Manor #2	Schulte #2	Pearce	Cypress #2	R. Canada #2	Eastwood-Canada
5/10/2017	0	34470.4	32940.8	57400	0	52259.2	90560	117200	85500	180608	0	215392	181792	255600	145216	12149.65193
5/11/2017	0	34368	32779.2	57190.4	0	50681.6	90419.2	117500	85500	180672	0	215488	182512	255800	144704	12309.68665
5/12/2017	0	34489.6	33211.2	57580.8	0	52508.8	90672	117500	85100	180288	0	215712	181792	256300	144896	12309.68665
5/13/2017	0	34643.2	33609.6	57779.2	0	52809.6	95299.2	117700	85700	181952	0	214912	181200	257100	145920	12309.68665
5/14/2017	0	34617.6	33680	57820.8	0	52860.8	95091.2	117700	85600	181952	0	215584	182304	257300	145472	12309.68665
5/15/2017	0	34566.4	33609.6	57760	0	52790.4	99369.6	117100	85100	181312	0	214592	181488	256900	145792	12309.68665
5/16/2017	0	34790.4	33969.6	57828.8	0	53049.6	106457.6	117400	85600	181824	0	215712	183104	257400	146112	12309.68665
5/17/2017	0	34995.2	34171.2	58020.8	0	53228.8	106652.8	117300	85600	182208	0	215712	183008	257800	145536	12309.68665
5/18/2017	0	35328	34259.2	57809.6	0	53340.8	105888	116900	85900	182272	0	215776	183600	258300	146496	11879.23529
5/19/2017	0	35289.6	34160	57729.6	0	53190.4	106710.4	111400	80900	170816	0	203904	173696	243500	138688	11879.23529
5/20/2017	0	35257.6	33660.8	57300.8	0	52838.4	107289.6	117100	85300	181504	0	215808	183296	256900	147072	11879.23529
5/21/2017	0	35072	34089.6	57889.6	0	53152	109440	117500	85500	181568	0	215808	183104	257200	147008	11879.23529
5/22/2017	0	34137.6	32219.2	56950.4	0	51638.4	92640	71300	84700	178944	0	212800	181008	253500	142592	11879.23529
5/23/2017	0	34144	32209.6	57009.6	0	51660.8	101811.2	2600	45600	153600	0	197088	194992	82400	169216	11879.23529
5/24/2017	0	33958.4	32211.2	56990.4	0	51600	105180.8	22500	44900	168896	0	221696	193296	97000	164608	11879.23529
5/25/2017	0	34067.2	32049.6	56739.2	0	51481.6	101347.2	46200	42300	106112	0	215424	183104	247700	143424	9897.325702
5/26/2017	0	34003.2	32260.8	57030.4	0	51667.2	106652.8	49500	80300	175744	0	210080	178800	254900	139776	9897.325702
5/27/2017	0	33996.8	32129.6	56860.8	0	51552	104729.6	68700	84500	179840	0	213312	181200	253300	142080	9897.325702
5/28/2017	0	33900.8	32080	56788.8	0	51459.2	104320	83000	67300	179584	0	214688	181600	252900	141184	9897.325702
5/29/2017	0	33990.4	32350.4	57000	0	51731.2	103369.6	58000	84500	180288	0	214400	180992	253200	141952	9897.325702
5/30/2017	0	33824	31878.4	56729.6	0	51379.2	103030.4	67000	84300	179584	0	213120	180208	251900	140672	9897.325702
5/31/2017	0	19257.6	18201.6	33931.2	0	33590.4	69699.2	40400	62000	145216	0	179968	158096	235400	131520	9897.325702





McCampbell Analytical, Inc.

"When Quality Counts"

Analytical Report

WorkOrder: 1710737

Report Created for: Pueblo Water Resources

P.O Box 1493

Goleta, CA 93117

Project Contact: Stephen Tanner

Project P.O.:

Project Name: MPWMD ASR Study

Project Received: 10/19/2017

Analytical Report reviewed & approved for release on 10/26/2017 by:

Yen Cao

Project Manager

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CA ELAP 1644 ♦ NELAP 4033 ORELAP

Glossary of Terms & Qualifier Definitions

Client: Pueblo Water Resources
Project: MPWMD ASR Study

WorkOrder: 1710737

Glossary Abbreviation

%D Serial Dilution Percent Difference

95% Interval 95% Confident Interval

DF Dilution Factor

DI WET (DISTLC) Waste Extraction Test using DI water

DISS Dissolved (direct analysis of 0.45 µm filtered and acidified water sample)

DLT Dilution Test (Serial Dilution)

DUP Duplicate

EDL Estimated Detection Limit

ERS External reference sample. Second source calibration verification.

ITEF International Toxicity Equivalence Factor

LCS Laboratory Control Sample

MB Method Blank

MB % Rec % Recovery of Surrogate in Method Blank, if applicable

MDL Method Detection Limit

ML Minimum Level of Quantitation

MS Matrix Spike

MSD Matrix Spike Duplicate

N/A Not Applicable

ND Not detected at or above the indicated MDL or RL

NR Data Not Reported due to matrix interference or insufficient sample amount.

PDS Post Digestion Spike

PDSD Post Digestion Spike Duplicate

PF Prep Factor

RD Relative Difference

RL Reporting Limit (The RL is the lowest calibration standard in a multipoint calibration.)

RPD Relative Percent Deviation
RRT Relative Retention Time

SPK Val Spike Value

SPKRef Val Spike Reference Value

SPLP Synthetic Precipitation Leachate Procedure

ST Sorbent Tube

TCLP Toxicity Characteristic Leachate Procedure

TEQ Toxicity Equivalents

WET (STLC) Waste Extraction Test (Soluble Threshold Limit Concentration)

Analytical Qualifiers

H Samples were analyzed out of holding time

Analytical Report

Client: Pueblo Water Resources

Date Received: 10/19/17 14:52 **Date Prepared:** 10/25/17

Project: MPWMD ASR Study

WorkOrder: 1710737

Extraction Method: SW3050B **Analytical Method:** SW6020

Unit: mg/Kg

		Mercur	'y			
Client ID	Lab ID	Matrix	Da	te Collected	Instrument	Batch ID
ASR-2 SLUDGE (9/6/17)	1710737-001B	Soil	09/0	06/2017 10:00	ICP-MS3 093SMPL.D	147517
<u>Analytes</u>	Result	<u>Qualifiers</u>	<u>RL</u>	<u>DF</u>		Date Analyzed
Mercury	6.3	Н	0.05	0 1		10/25/2017 23:48
<u>Surrogates</u>	<u>REC (%)</u>	<u>Qualifiers</u>	<u>Lim</u>	its.		
Terbium	97	Н	70-	130		10/25/2017 23:48
Analyst(s): ND						
Client ID	Lab ID	Matrix	Da	te Collected	Instrument	Batch ID
ASR-2-SLUDGE (8/1/17)	1710737-002B	Soil	08/0	01/2017 14:30	ICP-MS3 020SMPL.D	147517
<u>Analytes</u>	<u>Result</u>	Qualifiers	<u>RL</u>	<u>DF</u>		Date Analyzed
Mercury	2.0	Н	0.05	0 1		10/26/2017 09:44
Surrogates	REC (%)	<u>Qualifiers</u>	<u>Lim</u>	i <u>ts</u>		
Terbium	108	Н	70-	130		10/26/2017 09:44
Analyst(s): ND						
Client ID	Lab ID	Matrix	Da	te Collected	Instrument	Batch ID
ASR-3-SLUDGE (9/6/17)	1710737-003B	Soil	09/0	06/2017 13:00	ICP-MS3 022SMPL.D	147517
Analytes	<u>Result</u>	Qualifiers	<u>RL</u>	<u>DF</u>		Date Analyzed
Mercury	1.4	Н	0.05	0 1		10/26/2017 09:57
Surrogates	REC (%)	<u>Qualifiers</u>	<u>Lim</u>	its		
Terbium	104	Н	70-	130		10/26/2017 09:57
Analyst(s): ND						
Client ID	Lab ID	Matrix	Da	te Collected	Instrument	Batch ID
ASR-3-SLUDGE (7/3/17)	1710737-004B	Soil	07/3	31/2017 12:30	ICP-MS3 080SMPL.D	147549
<u>Analytes</u>	<u>Result</u>	Qualifiers	<u>RL</u>	<u>DF</u>		Date Analyzed
Mercury	1.9	Н	0.05	0 1		10/25/2017 22:27
Surrogates	REC (%)	<u>Qualifiers</u>	<u>Lim</u>	ts		
Terbium	108	Н	70-	130		10/25/2017 22:27
Analyst(s): ND						

Analytical Report

Client: Pueblo Water Resources

Date Received: 10/19/17 14:52 **Date Prepared:** 10/25/17

Analyst(s): ND

Project: MPWMD ASR Study

WorkOrder: 1710737

Extraction Method: SW3050B **Analytical Method:** SW6020

Unit: mg/Kg

		Mercu	ry				
Client ID	Lab ID	Matrix]	Date C	ollected	Instrument	Batch ID
ASR-4-SLUDGE (9/6/17)	1710737-005B	Soil	(09/06/20	017 11:45	ICP-MS3 096SMPL.D	147549
Analytes	Result	<u>Qualifiers</u>	<u> </u>	<u>RL</u>	<u>DF</u>		Date Analyzed
Mercury	8.9	Н	0	.050	1		10/26/2017 00:06
Surrogates	<u>REC (%)</u>	<u>Qualifiers</u>	<u> </u>	<u>Limits</u>			
Terbium	107	Н		70-130			10/26/2017 00:06
Analyst(s): ND							
Client ID	Lab ID	Matrix]	Date C	ollected	Instrument	Batch ID
ASR-4-SLUDGE (7/31/17)	1710737-006B	Soil	(07/31/20	017 10:00	ICP-MS3 097SMPL.D	147549
Analytes	Result	<u>Qualifiers</u>	E	<u> </u>	<u>DF</u>		Date Analyzed
Mercury	11	Н	0	.050	1		10/26/2017 00:12
Surrogates	<u>REC (%)</u>	<u>Qualifiers</u>		<u>Limits</u>			
Terbium	102	Н		70-130			10/26/2017 00:12



Analytical Report

Client: Pueblo Water Resources

Date Received: 10/19/17 14:52 **Date Prepared:** 10/23/17

Project: MPWMD ASR Study

WorkOrder: 1710737

Extraction Method: E200.8 **Analytical Method:** E200.8

Unit: $\mu g/L$

		Mercur	y				
Client ID	Lab ID	Matrix	Dat	e Collected	Instrum	ent	Batch ID
ASR-2 SLUDGE (9/6/17)	1710737-001A	Water	09/0	6/2017 10:00	ICP-MS1	119SMPL.D	147400
Analytes	<u>Result</u>	<u>Qualifiers</u>	<u>RL</u>	<u>DF</u>			Date Analyzed
Mercury	0.058	Н	0.050) 1			10/23/2017 22:48
Surrogates	REC (%)	<u>Qualifiers</u>	<u>Limi</u>	<u>ts</u>			
Terbium	102	Н	70-1	30			10/23/2017 22:48
Analyst(s): JC							
Client ID	Lab ID	Matrix	Dat	e Collected	Instrum	ent	Batch ID
ASR-2-SLUDGE (8/1/17)	1710737-002A	Water	08/0	1/2017 14:30	ICP-MS1	120SMPL.D	147400
Analytes	<u>Result</u>	<u>Qualifiers</u>	<u>RL</u>	<u>DF</u>			Date Analyzed
Mercury	ND	Н	0.050) 1			10/23/2017 22:55
Surrogates	REC (%)	<u>Qualifiers</u>	<u>Lim</u> i	<u>ts</u>			
Terbium	104	Н	70-1	30			10/23/2017 22:55
Analyst(s): JC							
Client ID	Lab ID	Matrix	Dat	e Collected	Instrum	ent	Batch ID
ASR-3-SLUDGE (9/6/17)	1710737-003A	Water	09/0	6/2017 13:00	ICP-MS1	121SMPL.D	147400
<u>Analytes</u>	<u>Result</u>	<u>Qualifiers</u>	<u>RL</u>	<u>DF</u>			Date Analyzed
Mercury	ND	Н	0.05) 1			10/23/2017 23:01
Surrogates	REC (%)	<u>Qualifiers</u>	<u>Lim</u> i	<u>ts</u>			
Terbium	103	Н	70-1	30			10/23/2017 23:01
Analyst(s): JC							
Client ID	Lab ID	Matrix	Dat	e Collected	Instrum	ent	Batch ID
ASR-3-SLUDGE (7/3/17)	1710737-004A	Water	07/3	1/2017 12:30	ICP-MS1	122SMPL.D	147400
Analytes	<u>Result</u>	Qualifiers	<u>RL</u>	<u>DF</u>			Date Analyzed
Mercury	ND	Н	0.050) 1			10/23/2017 23:07
Surrogates	REC (%)	<u>Qualifiers</u>	<u>Lim</u> i	<u>ts</u>			
Terbium	101	Н	70-1	30			10/23/2017 23:07
Analyst(s): JC							

Analytical Report

Client: Pueblo Water Resources

Date Received: 10/19/17 14:52 **Date Prepared:** 10/23/17

Project: MPWMD ASR Study

WorkOrder: 1710737

Extraction Method: E200.8 **Analytical Method:** E200.8

Unit: $\mu g/L$

Lab ID 1710737-005A Result ND	Matrix Water Qualifiers H		1 7 11:45	Instrument ICP-MS1 123SMPL.I	Batch ID D 147400 Date Analyzed
Result ND	Qualifiers	RL	<u>DF</u>	ICP-MS1 123SMPL.I	
ND					<u>Date Analyzed</u>
	Н	0.050	4		
DEO (0/)			1		10/23/2017 23:13
<u>REC (%)</u>	<u>Qualifiers</u>	<u>Limits</u>			
102	Н	70-130			10/23/2017 23:13
Lab ID	Matrix	Date Co	llected	Instrument	Batch ID
1710737-006A	Water	07/31/201	7 10:00	ICP-MS1 124SMPL.I	D 147400
Result	<u>Qualifiers</u>	<u>RL</u>	<u>DF</u>		Date Analyzed
ND	Н	0.050	1		10/23/2017 23:19
<u>REC (%)</u>	<u>Qualifiers</u>	<u>Limits</u>			
103	Н	70-130			10/23/2017 23:19
	102 Lab ID 1710737-006A Result ND REC (%)	Lab ID Matrix 1710737-006A Water Result Qualifiers ND H REC (%) Qualifiers	Lab ID Matrix Date Co 1710737-006A Water 07/31/201 Result Qualifiers RL ND H 0.050 REC (%) Qualifiers Limits	Lab ID Matrix Date Collected 1710737-006A Water 07/31/2017 10:00 Result Qualifiers RL DF ND H 0.050 1 REC (%) Qualifiers Limits	Lab ID Matrix Date Collected Instrument 1710737-006A Water 07/31/2017 10:00 ICP-MS1 124SMPL.I

Quality Control Report

Client: Pueblo Water Resources

Date Prepared: 10/24/17 **Date Analyzed:** 10/25/17

Instrument: ICP-MS2, ICP-MS3

Matrix: Soil

Project: MPWMD ASR Study

WorkOrder: 1710737

BatchID: 147517

Extraction Method: SW3050B

Analytical Method: SW6020 **Unit:** mg/Kg

Sample ID: MB/LCS-147517

1710921-001AMS/MSD

	QC Sum	mary Re	port fo	r Mercury	,					
Analyte	MB Result	LCS Result		RL	SPK Val		B SS REC	LCS %REG		LCS Limits
Mercury	ND	1.29		0.050	1.25	-		103		75-125
Surrogate Recovery										
Terbium	537.1	535			500	10)7	107		70-130
Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/N Limit	-	RPD	RPD Limit
Mercury	1.30	1.28	1.25	0.06470	99	97	75-12	25	1.78	20
Surrogate Recovery										
Terbium	533	531	500		107	106	70-13	80	0.432	20
Analyte	DLT Result			DLTRef Val					%D	%D Limit
Mercury	ND<0.25			0.06470					_	_

[%]D Control Limit applied to analytes with concentrations greater than 25 times the reporting limits.

Quality Control Report

Client: Pueblo Water Resources

Date Prepared:10/25/17Date Analyzed:10/25/17Instrument:ICP-MS3Matrix:Soil

Project: MPWMD ASR Study

WorkOrder: 1710737 **BatchID:** 147549

Extraction Method: SW3050B

Analytical Method: SW6020 **Unit:** mg/Kg

Sample ID: MB/LCS-147549

1710737-004BMS/MSD

	QC Sum	mary Re	port fo	r Mercury	7				
Analyte	MB Result	LCS Result		RL	SPK Val		B SS REC	LCS %REC	LCS Limits
Mercury	ND	1.23		0.050	1.25	-		98	75-125
Surrogate Recovery									
Terbium	538.6	539			500	10	08	108	70-130
Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/M Limit) RPD Limit
Mercury	3.30	3.11	1.25	1.882	114	98	75-12	5 5.92	20
Surrogate Recovery									
Terbium	506	449	500		101	90	70-13	0 12.	1 20
Analyte	DLT Result			DLTRef Val				%D	%D Limit
Mercury	1.86			1.882				1.17	20

[%]D Control Limit applied to analytes with concentrations greater than 25 times the reporting limits.

Quality Control Report

Client: Pueblo Water Resources

Date Prepared: 10/23/17Date Analyzed: 10/23/17Instrument: ICP-MS1Matrix: Water

Project: MPWMD ASR Study

WorkOrder: 1710737 **BatchID:** 147400

Extraction Method: E200.8 **Analytical Method:** E200.8

Unit: μg/L

Sample ID: MB/LCS-147400

1710822-001CMS/MSD

	QC Sum	mary Re	port fo	r Mercury	7				
Analyte	MB Result	LCS Result		RL	SPK Val		B SS REC	LCS %REC	LCS Limits
Mercury	ND	1.24		0.050	1.25	-		99	85-115
Surrogate Recovery									
Terbium	774	776			750	10)3	103	70-130
Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/M	-	RPD Limit
Mercury	1.28	1.35	1.25	ND	102	107	75-12	5 4.86	20
Surrogate Recovery									
Terbium	796	798	750		106	106	70-130	0 0	20
Analyte	DLT Result			DLTRef Val				%D	%D Limit
Mercury	ND<0.25			ND				-	-

[%]D Control Limit applied to analytes with concentrations greater than 25 times the reporting limits.

McCampbell Analytical, Inc.

153 Pitt (92:

Report to:

1534 Willow Pass Rd Pittsburg, CA 94565-1701 (925) 252-9262 CHAIN-OF-CUSTODY RECORD

Page 1 of 1

☐ J-flag

WorkOrder:	1710737	ClientCode:	PWRG
workOraer:	1/10/3/	ChentCode:	PWKG

Detection Summary Dry-Weight

Bill to: Requested TATs: 1 day;
Stephen Tanner 5 days;

Pueblo Water Resources

Goleta, CA 93117 *Date Logged*: 10/19/2017

stanner@pueblo-water.com; mburke@p

toportion.	
Stephen Tanner	Email: stanner@pueblo-water.com
Pueblo Water Resources	cc/3rd Party:
P.O Box 1493	PO:
Goleta, CA 93117	ProjectNo: MPWMD ASR Study
(805) 620-2238 FAX: (805) 967-1920	

□WaterTrax

☐ WriteOn

□ EDF

								Re	questec	Tests (See leg	end belo	ow)			
Lab ID	Client ID	Matrix	Collection Date	Hold	1	2	3	4	5	6	7	8	9	10	11	12
1710737-001	ASR-2 SLUDGE (9/6/17)	Soil	9/6/2017 10:00		В											
1710737-001	ASR-2 SLUDGE (9/6/17)	Water	9/6/2017 10:00			Α										
1710737-002	ASR-2-SLUDGE (8/1/17)	Soil	8/1/2017 14:30		В											
1710737-002	ASR-2-SLUDGE (8/1/17)	Water	8/1/2017 14:30			Α										
1710737-003	ASR-3-SLUDGE (9/6/17)	Soil	9/6/2017 13:00		В											
1710737-003	ASR-3-SLUDGE (9/6/17)	Water	9/6/2017 13:00			Α										
1710737-004	ASR-3-SLUDGE (7/3/17)	Soil	7/31/2017 12:30		В											
1710737-004	ASR-3-SLUDGE (7/3/17)	Water	7/31/2017 12:30			Α										
1710737-005	ASR-4-SLUDGE (9/6/17)	Soil	9/6/2017 11:45		В											
1710737-005	ASR-4-SLUDGE (9/6/17)	Water	9/6/2017 11:45			Α										
1710737-006	ASR-4-SLUDGE (7/31/17)	Soil	7/31/2017 10:00		В											
1710737-006	ASR-4-SLUDGE (7/31/17)	Water	7/31/2017 10:00			Α										

Test Legend:

1	HGMS_S	2 HGMS_W	3	4
5		6	7	8
9		10	11	12

Prepared by: Kena Ponce

Comments: Hg added to solid phase 10/25/17.

NOTE: Soil samples are discarded 60 days after results are reported unless other arrangements are made (Water samples are 30 days).

Hazardous samples will be returned to client or disposed of at client expense.



McCampbell Analytical, Inc.

"When Quality Counts"

1534 Willow Pass Road, Pittsburg, CA 94565-1701 Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269 http://www.mccampbell.com / E-mail: main@mccampbell.com

WORK ORDER SUMMARY

Client Name: PUEBLO WATER RESOURCES Project: MPWMD ASR Study Work Order: 1710737

Client Contact: Stephen Tanner QC Level: LEVEL 2

Contact's Email: stanner@pueblo-water.com

Comments: Hg added to solid phase 10/25/17.

Date Logged: 10/19/2017

	Wate	erTrax	WriteOn EDF	∠ Excel	Fax Email	HardC	opyThirdPart	у 🗀	I-flag
Lab ID	Client ID	Matrix	Test Name	Containers /Composites	Bottle & Preservative	De- chlorinated	Collection Date & Time	TAT	Sediment Hold SubOut Content
1710737-001A	ASR-2 SLUDGE (9/6/17)	Water	E200.8 (Mercury)	1	1G HDPE		9/6/2017 10:00	5 days	
1710737-001B	ASR-2 SLUDGE (9/6/17)	Soil	SW6020 (Mercury)	1	1G HDPE		9/6/2017 10:00	1 day	
1710737-002A	ASR-2-SLUDGE (8/1/17)	Water	E200.8 (Mercury)	1	1G HDPE		8/1/2017 14:30	5 days	
1710737-002B	ASR-2-SLUDGE (8/1/17)	Soil	SW6020 (Mercury)	1	1G HDPE		8/1/2017 14:30	1 day	
1710737-003A	ASR-3-SLUDGE (9/6/17)	Water	E200.8 (Mercury)	1	1G HDPE		9/6/2017 13:00	5 days	
1710737-003B	ASR-3-SLUDGE (9/6/17)	Soil	SW6020 (Mercury)	1	1G HDPE		9/6/2017 13:00	1 day	
1710737-004A	ASR-3-SLUDGE (7/3/17)	Water	E200.8 (Mercury)	1	1G HDPE		7/31/2017 12:30	5 days	
1710737-004B	ASR-3-SLUDGE (7/3/17)	Soil	SW6020 (Mercury)	1	1G HDPE		7/31/2017 12:30	1 day	
1710737-005A	ASR-4-SLUDGE (9/6/17)	Water	E200.8 (Mercury)	1	1G HDPE		9/6/2017 11:45	5 days	
1710737-005B	ASR-4-SLUDGE (9/6/17)	Soil	SW6020 (Mercury)	1	1G HDPE		9/6/2017 11:45	1 day	
1710737-006A	ASR-4-SLUDGE (7/31/17)	Water	E200.8 (Mercury)	1	1G HDPE		7/31/2017 10:00	5 days	
1710737-006B	ASR-4-SLUDGE (7/31/17)	Soil	SW6020 (Mercury)	1	1G HDPE		7/31/2017 10:00	1 day	

NOTES: - STLC and TCLP extractions require 2 days to complete; therefore, all TATs begin after the extraction is completed (i.e., One-day TAT yields results in 3 days from sample submission).

- MAI assumes that all material present in the provided sampling container is considered part of the sample - MAI does not exclude any material from the sample prior to sample preparation unless requested in writing by the client.

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McCampbell Analytical Inc

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Report To: Company: Put	Teleph Stephen 7	Willow Poccample none: (8	ass Rd. , pell.com 77) 252	/ Pit	tsbur main 2 / F	g, C @m ax: To:	a. 9	9456 imp) 25	5-17 bell 2-92 Vate	701 .coi 269	m 	O rce:	7	7		Ge	oTrac	cker	ED	Fζ		PDF		ED		US	ite O	n (D	W) [Up F	ו ב	EQuIS	s 🗖	1	10	DAY	/-	
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		SAMP	LING	4			10.	711						SER		peso	ırate	1	Na				ı	l				1		1							
SAMPLE ID	Location/ Field Point Name	Date	Time	# Containers	Ground Water	Waste Water	Drinking Water	Sea / Water	Soil	Air	Sludge	Other	HCL	HNO ₃	Other	Hg by attached procedure	Centrifuge & Sepa		Hg on 2011 p							- Transie											
ASR-2 Sludge	ASR-2	9.6.17	10:00	1							x	П			İ	х	х	×	1	٦		T	T	T	Ť	Ť	†	Ť	十	十	T	十	十	十	\dagger	Ť	
ASR-2 Sludge	ASR-2	8.1.17	14:30	1							х		7.1			X	Х	×	<											1						1	
ASR-3 Sludge	ASR-3	9.6.17	13:00	1				1			х	П				X	x	×		-					T	T		T		T		T		T	T	1	
ASR-3 Sludge	ASR-3	7.31.17	12:30	1							x	П				х	X	×								T						T				\neg	
ASR-4 Sludge	ASR-4	9.6.17	11:45	1		10					х					х	X	×			1														1		
ASR-4 Sludge	ASR-4	7.31.17	10:00	1							х					х	X	×	<																		
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TRK# 7881 1640 0960

Procedure for Sludge Processing

- 1- Several sludge samples are included herein . . . each sample must be processed separately.
- 2- Centrifuge each sample to separate solids. Record the weight of each solid sample. Do not dry or bake the solid samples.
- 3- Save the solids and the liquid in separate containers for each sample, therefore there will be 6 containers total, 3 each of solids and 3 each of liquids.
- 4- Analyze the liquid samples for Hg by 200.8 method
- 5- Call Steve Tanner at (805) 620-2238 and report the weight of each solid sample. Also determine how much solid sample would be needed to analyze for Hg.
- 6- Tanner will give authorization to analyze the solid samples for Hg, or to ship the samples to another lab for analysis. Do not analyze solid samples for Hg without authorization from Steve Tanner!

Thanks!

McCampbell Analytical, Inc.

From:

Steve Tanner <stanner@pueblo-water.com>

Sent:

Wednesday, October 25, 2017 11:50 AM 'McCampbell Analytical, Inc.'; 'Rosa Venegas'

To: Cc:

'Delano Boese': 'Theresa'

Subject:

RE: WIEGHTS FOR SEDIMENT WO#1710737

OK – Our geochemist says that the RL's aren't low enough for the Cu and Zn, but we do want to do the Hg. . . . so we'll do Hg only.

Please proceed immediately with analysis of the 6 sludge solids samples via method EPA 6020, with a RL of 0.05 mg/kg Hg.

Also please proceed with analysis of the 6 liquid/supernatant samples derived from the sludge for Hg via EPA 200.8

Please advise if you have any questions!

Thanks – Steve

From: McCampbell Analytical, Inc. [mailto:main@mccampbell.com]

Sent: Tuesday, October 24, 2017 11:31 AM

To: 'Steve Tanner'

Cc: 'Delano Boese'; 'Theresa'; main@mccampbell.com
Subject: RE: WIEGHTS FOR SEDIMENT WO#1710737

Due to the typical high abundance of Zn & Cu in soil, these are typical RLs for these elements.

Angela

From: Steve Tanner [mailto:stanner@pueblo-water.com]

Sent: Tuesday, October 24, 2017 11:26 AM

To: 'McCampbell Analytical, Inc.'
Cc: 'Delano Boese'; 'Theresa'

Subject: RE: WIEGHTS FOR SEDIMENT WO#1710737

I will check with our geochemist and see if the Cu and Zn RL's are OK they seem really high though $\ensuremath{\mathfrak{B}}$

From: McCampbell Analytical, Inc. [mailto:main@mccampbell.com]

Sent: Tuesday, October 24, 2017 11:24 AM

To: 'Steve Tanner'

Cc: 'Delano Boese'; 'Theresa'; main@mccampbell.com
Subject: RE: WIEGHTS FOR SEDIMENT WO#1710737

Hi Steve,

A minimum of 1 gram of sample for Hg +/- Zn, Cu. We would analyze by EPA 6020 (ICP-MS). Our Hg RL by 6020 is 0.05 mg/kg; Zn is 15 mg/kg and Cu is 2 mg/kg. Will these RLs work?

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McCampbell Analytical, Inc.												_	1 12		' '	'	_	00	, ,				<u> </u>	J 11	_										
1534 Willow Pass Rd. / Pittsburg, Ca. 94565-1701												TURN AROUND TIME: RUSH 24 HR 48 HR 72 HR 5 DAY																							
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Report To:	Stephen T				Bill	To:	Pueb	lo V	Vate	r Re	sour	ces						\equiv	_	_	_		_	Ana	lysis	Rec	ues			\equiv	_			_	= i
Company: Puc	blo Water	Resourc	es																																
E-Mail: stanner@pueblo-water.com													ıre	1															- 1						
Tele: (805)													procedu												1 1		- 1		- 1						
roject #: Project Name: MPWMD ASR Study											7														1 1			-1	-1						
Project Location: Monterey Purchase Order#													attached												1 1		- 1		- 1	- 1					
Sampler Signature: MATRIX METHOD												e.	by att												1 1				- 1						
		SAMP	LING	MATRIX MET PRES									procedur	rate b		1													-1	- 1					
SAMPLE ID	Location/ Field Point Name	Date	Time	# Containers	Ground Water	Waste Water	=	Sea / Water	Soil	Air	Sludge	Other	нсг	HNOs	Other	Hg by attached pro	Centrifuge & Separ																		
ASR-2 Sludge	ASR-2	9.6.17	10:00	1			\dashv	<i>v</i> 2	92		X	+	-	_	_	х	Х	\vdash	╁	╁	╁	┢	├	H	┝	-	\vdash	\vdash	\vdash	\vdash	\dashv	\dashv	\dashv	\dashv	-
ASR-2 Sludge	ASR-2	8.1.17	14:30	1		-					x	\pm				X	X	-	\vdash	1	\vdash		-			-	-		\vdash			+	+		
ASR-3 Sludge	ASR-3	9.6.17	13:00	1							X	+			\vdash	x	x	-	\vdash	+	1	-	1				1		1		-	+	\dashv	\dashv	-
ASR-3 Sludge	ASR-3	7.31.17	12:30	1							x	+		-6	\vdash	x	x		+	+	-	-										+	+		
ASR-4 Sludge	ASR-4	9.6.17	11:45	1							x	+				x	x		1	+	-	-				-						+	+		
ASR-4 Sludge	ASR-4	7.31.17	10:00	1							X			7		х	x			+	+								\vdash			+	+	\dashv	
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us to work safely. Relinquished By:		Date:	Time:		Rece	ived I	3v:	_				-		Tie	CE/t°	,	=		-	-	-	-	_	_	_	-	COM	MEN	NTS:	_	_		_		-
S.T. 10-17-2017 1500 Feder							G	100	D CO		TION		_																						
Relinquished By:	oder	Date:	Time:			ived F	fy:				_			D A	PPR	AD SPACE ABSENTCHLORINATED IN LAB PROPRIATE CONTAINERS SERVED IN LAB																			
Relinquished By:		Date:	Time:	_	Received By: PRESE											VOAS O&G METALS OTHER HAZARDOUS: SERVATIONpH<2																			

TRK# 7881 1640 0960

Sample Receipt Checklist

Client Name: Pueblo Water Resources			Date and Time Received	10/19/2017 14:52
Project Name: MPWMD ASR Study			Date Logged: Received by:	10/19/2017 Kena Ponce
WorkOrder №: 1710737 Matrix: <u>Water</u> Carrier: <u>FedEx</u>			Logged by:	Kena Ponce
Chain of C	ustody	/ (COC) Infor	<u>mation</u>	
Chain of custody present?	✓	No 🗌		
Chain of custody signed when relinquished and received?	Yes	✓	No 🗌	
Chain of custody agrees with sample labels?	Yes	✓	No 🗌	
Sample IDs noted by Client on COC?	Yes	✓	No 🗌	
Date and Time of collection noted by Client on COC?	Yes	✓	No 🗌	
Sampler's name noted on COC?	Yes	✓	No 🗌	
COC agrees with Quote?	Yes		No 🗆	NA 🗹
Samp	le Rece	eipt Informati	<u>ion</u>	
Custody seals intact on shipping container/cooler?	Yes		No 🗌	NA 🗹
Shipping container/cooler in good condition?	Yes	✓	No 🗆	
Samples in proper containers/bottles?	Yes	✓	No 🗆	
Sample containers intact?	Yes	✓	No 🗆	
Sufficient sample volume for indicated test?	Yes	•	No 🗌	
Sample Preservati	on and	Hold Time (I	HT) Information	
All samples received within holding time?	Yes	✓	No 🗌	NA 🗌
Sample/Temp Blank temperature		Temp:		NA 🗹
Water - VOA vials have zero headspace / no bubbles?	Yes		No 🗌	NA 🗹
Sample labels checked for correct preservation?	Yes	✓	No 🗌	
pH acceptable upon receipt (Metal: <2; 522: <4; 218.7: >8)?	Yes		No 🗸	NA 🗌
Samples Received on Ice?	Yes		No 🗸	
UCMR Samples:				
Total Chlorine tested and acceptable upon receipt for EPA 522?	Yes		No 🗌	NA 🗹
Free Chlorine tested and acceptable upon receipt for EPA 218.7, 300.1, 537, 539?	Yes		No 🗌	na 🗹
Comments: pH adjusted in Lab.	==:	====	=======	=======