Hungerford & Terry, Inc.
California American Water Isleton, CA Well 3A
Arsenic Treatment Pilot Report

Summary

The Hungerford & Terry, Inc. process effectively reduced the arsenic at the California American Water Isleton, CA Well 3A site to as low as 5 µg/L using 5 mg Fe/L. The arsenic was reduced to less than the 10 µg/L MCL with just 3 mg Fe/L. The 5 mg Fe/L dosage results in a 14 hour runlength. It is being recommended that an all Manganese Greensand media bed be considered, because the iron tends to filter in-depth.

Pilot Plant Set-Up

The Hungerford & Terry, Inc. pilot plant is a small self-contained unit capable of being transported, along with the required appurtenances, to the test location. The fiberglass tank is approximately 5 feet tall and 9 ½ inches in diameter. This provides a media surface area of 0.5 ft^2.

Illustration 1. Hungerford & Terry, Inc. Pilot Unit

The media was composed of two different layers. The bottom layer consists of approximately 18" Ferrosand, or Manganese Greensand and the top layer consisted of approximately 18" of anthracite. The pilot plant was shipped to the location with the media already installed per the manufacturer's recommendation. Prior to entering the filter, ferric chloride was injected into the system with a solenoid pump. The unit is equipped with an in-line static mixer. An in-line flow meter attached to the unit monitors flow entering the unit (the target flow was 1.5 gpm, (3.0 gpm/ft^2)). The chemical feed pump was a solenoid driven pump manufactured by Jesco America Corp., Jesco model MAGDOS 1102B0002C-D2DD with a capacity of 0.5 gph at 150 psig.

Raw water was delivered to the pilot via hose, which was tapped directly to the Hydropnuematic tank downstream of the well pump. The supply tap was equipped with a back-flow preventer.

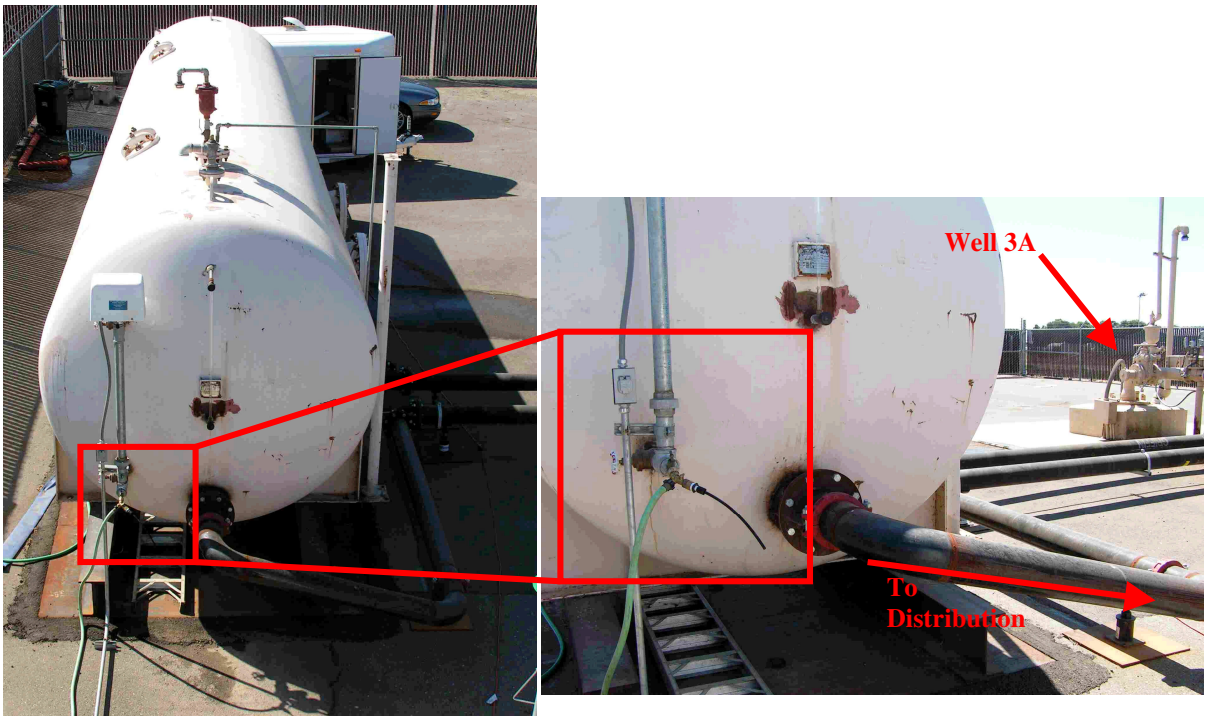


Illustration 2. Hydropnuematic tank and pilot plant feed. Isleton, CA. Well 3A

Pilot Plant Data

During each run, the treated water (effluent) was tested to determine the concentrations of arsenic (As), iron (Fe), pH, and free chlorine (Cl_2). Analysis of the data will indicate the ability to effectively treat arsenic.

The effluent was predominantly monitored using Hach field test kits, which largely consist of color comparison tests. The arsenic was monitored using an arsenic test kit manufactured by Industrial Test Systems. The pilot results, with the exception of arsenic, were confirmed by Hungerford & Terry, Inc.'s laboratory. The arsenic was confirmed by submitting samples to a laboratory selected by California American Water (CAW), BSK Analytical Laboratories. Additionally, CAW elected to analyze the same samples for iron, manganese, color, turbidity, and general physicals. The field test kits are intended to provide qualitative data. They are better capable of indicating the presence, or absence of a given constituent, and are not intended to provide the accuracy that a laboratory should.

The arsenic test is particularly subject to error. The color shades are difficult to differentiate which makes this test suitable for qualitative analysis, but not quantitative. The arsenic color comparison chart is below.

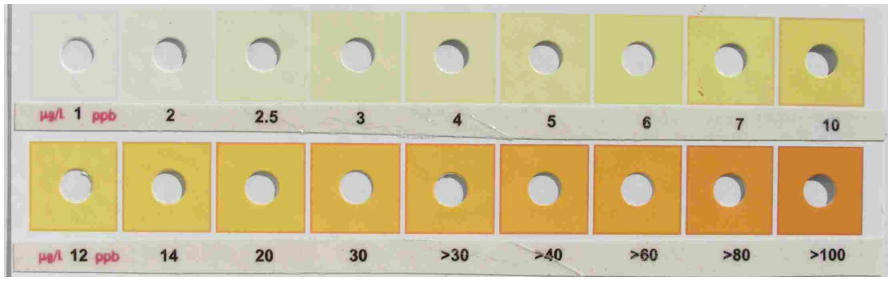


Illustration 3. Industrial Test System Arsenic Test Color

Procedure 1.0. Changing Solution Concentration

When it is required to change the dosage of a chemical feed, it is sometimes necessary to change the solution concentration. To change the solution concentration, it is necessary to first determine the existing solution concentration, the remaining solution volume, the desired solution concentration and the final solution volume required. Once these variables have been determined, it is then possible to determine the proper adjustment required. It is important to understand that any changes in solution concentration will not effect the solution already in the pump suction tubing. It will then be necessary to adjust the stroke, and/or frequency of the pump to deliver the desired dosage until the old solution can be flushed from the tubing. The alternative is to discharge the solution to waste. Approximately 0.25 gallons is required to flush the tubing.

Example:

The original ferric chloride solution is set to deliver 2 mg Fe/L and it is desired to change the solution concentration to deliver 3 mg Fe/L. The solution volume at the time of change is 2.5 gal. and it is desired to make up enough solution to have a final solution volume of 7.5 gallons.

The existing solution has a concentration of 13.2 g $FeCl_3$/gal. The new solution requires a concentration of 19.8 g FeCl3/gal. The difference between the two concentrations multiplied by the remaining solution volume gives the amount of $FeCl_3$ required to adjust the existing solution.

(1) (19.8 g $FeCl_3$/gal – 13.2 g $FeCl_3$/gal) * 2.5 gallons = 16.5 g Fe/Cl_3

Adjusting the existing solution requires that 16.5 g $FeCl_3$ be added to the remaining 2.5 gallons of solution.

Then determine the amount of $FeCl_3$ required to make up the additional volume of solution required:

(2) (19.8 g $FeCl_3$/gal) * 5 gallons = 99 g $FeCl_3$

Therefore it is required to added a total of 115.5 g $FeCl_3$ (adding equations 1 and 2) to enough water to make a final solution of 7.5 gallons.

Manganese Removal

The raw water manganese concentration was determined to be at or below the current MCL of 0.05 mg/L and therefore, was not a primary concern of this study. None-the-less, it is worth noting that the treatment process reduced the manganese from the raw water concentration of 0.04 – 0.05 mg/L to non-detectable concentrations. The utilization of Manganese Greensand effectively treated the low manganese concentration using chlorine as the only oxidant.

Manganese Greensand can operate in some applications with chlorine as the only oxidant when a sufficient free chlorine residual is maintained. Hungerford & Terry, Inc. is of the opinion that Isleton, CA is suitable for this process. Under these conditions, Manganese acts as a catalyst in the oxidation of manganese. The media in the filter was regenerated prior to start-up to ensure the media was ready for service. The pilot unit had sat idle for an extended period of time prior to the study at Isleton, CA. Extended idle times can cause the media to partially exhaust. The regeneration was conducted as a matter of good practice.

Arsenic Treatment

Arsenic treatment with iron was the primary focus of this study. It was desired to determine the minimum iron dosage required for acceptable arsenic removal, arsenic removal as a function of iron dosage, arsenic quality at filter start-up, filter runlength at acceptable arsenic quality and how, if at all, other parameters impact, or are impacted by the treatment process. Table 1 lists the parameters analyzed for and the respective influent water quality. Table 1 includes only the results from the samples collected for comprehensive analysis. The samples that were collected to monitor the steady-state conditions were limited to arsenic and iron analysis and are reported elsewhere. The data presented in Table 1 is as reported by BSK Analytical Laboratories. Hungerford & Terry, Inc. collected the samples submitted to the laboratory throughout the pilot study.

Table 1. Comprehensive Influent Water Quality

	Results (mg/L, except where noted)							
	BSK Sample ID							
Analyte	**624690**	**625547**	**626384**	**627483**	**627509**	**627589**	**628953**	**Average**
Aluminum (Al)	0.050	-	-	ND	ND	ND	ND	
Calcium (Ca)	6.3	6.4	6.6	6.5	6.5	6.5	6.1	6.4
Iron (Fe)	ND	ND	ND	ND	ND	ND	ND	ND
Magnesium (Mg)	2.7	2.8	2.9	2.8	2.8	2.8	2.7	2.8
Manganese (Mn)	0.040	0.040	0.040	0.050	0.050	0.050	0.040	0.044
Arsenic (As), µg/L	23	-	23	23	22	24	22	23
o-Phosphate as PO_4	1.2	1.5	1.2	1.2	1.2	1.2	1.2	1.2
Sulfate (SO_4)	19	19	19	19	19	19	18	19
Color (A.P.H.A.)	15	15	15	20	20	15	15	16
Turbidity (NTU)	0.50	0.80	0.90	0.50	0.60	0.60	0.80	7
Alkalinity (as $CaCO_3$)	250	-	250	250	260	250	250	252
Bicarbonate (as $CaCO_3$)	240	-	240	240	240	240	240	240
Carbonate (as $CaCO_3$)	13	-	11	10	18	11	12	13
Hardness (as $CaCO_3$)	-	-	-	28	28	28	26	28
Hydroxide (as $CaCO_3$)	ND	-	ND	ND	ND	ND	ND	ND
pH	8.5	8.5	8.5	8.4	8.5	8.5	8.5	8.5

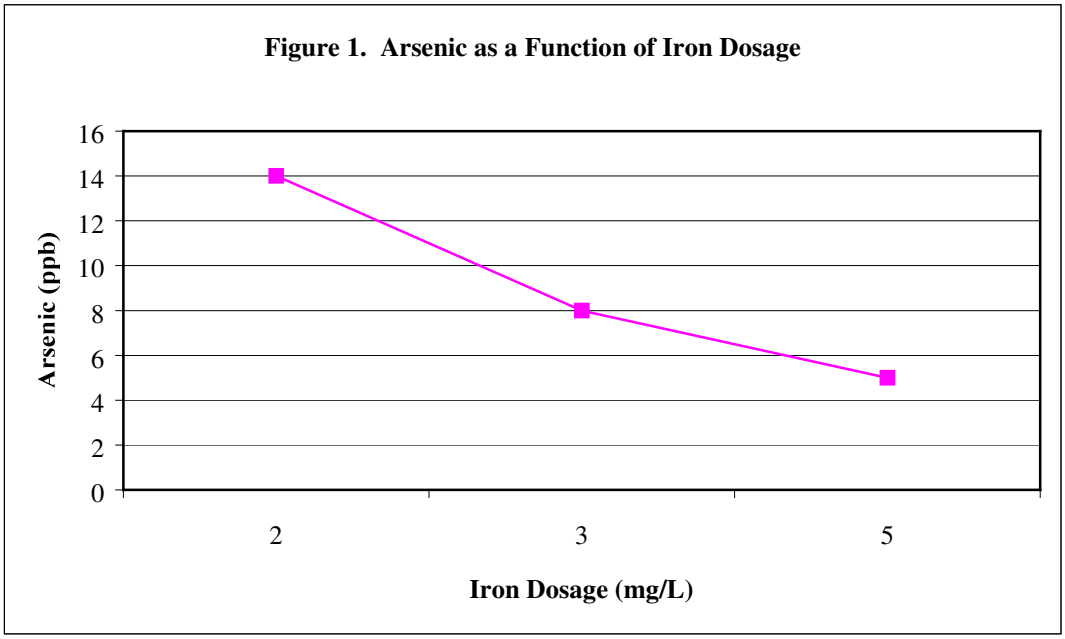
It was desired to collect arsenic quality data at the various iron dosages with the understanding that quick laboratory turn-around times would facilitate decisions and process evaluations. Difficulties with a quick turn-around time were encountered, which delayed the reporting of results, therefore, process evaluations and changes were largely based on field results. It was apparent from the field results, that arsenic reduction was taking place with 2 mg Fe/L. However, the arsenic field test kit has a history of reading low and therefore, the reduction could not be accurately quantified. It was assumed that the indicated arsenic reduction was insufficient to meet the process goal of 10 µg As/L, or less. Laboratory results later confirmed the effluent arsenic to be 14 µg As/L, which fails to meet the MCL of 10 µg As/L limit, thereby supporting the conclusion that 2 mg Fe/L dosage was insufficient. The iron dosage was subsequently increased to 3 mg Fe/L by changing the ferric chloride solution concentration. This change took place in accordance with Procedure 1.0. The filter was not backwashed at this change in iron dosage.

Initial field results indicated that increasing the iron dosage from 2 mg Fe/L to 3 mg Fe/L had minimal, if any impact on arsenic removal. The laboratory data, from this same period, indicates that changing the iron dosage to 3 mg Fe/L dosage had no impact. Based on the field data, the filter was backwashed and the iron dosage was further increased to 5 mg Fe/L, which did result in a significant reduction of the arsenic. The pilot was operated for two runs, at the 5 mg Fe/L dosage and these runs are discussed below. The iron dosage was returned to 3 mg Fe/L so that the process may be better evaluated using 3 mg Fe/L dosage. Steady-state conditions with the 3 mg Fe/L dosage suggest that arsenic can be reduced to 8 - 9 µg As/L at this iron dosage. Although 8 - 9 µg As/L is below the MCL for arsenic, it would leave little room for error and might not be practical on a full-scale system. It is not clear as to why the initial application of 3 mg Fe/L failed to show a significant change even though the process presumably had enough time to reach steady-state conditions.

The application of 5 mg Fe/L effectively reduced the arsenic to 5 – 6 µg As/L, at steady-state. The ferric chloride solution concentration was increased to deliver 5 mg Fe/L. The change in iron dosage was done in accordance with Procedure 1.0. Two filter runs were operated at this dosage. The first run was used to primarily determine the runlength achievable and to help evaluate the time required to reach steady-state conditions. This run was operated overnight, which did not permit sampling beyond the start-up. The second run was used to determine the steady-state arsenic reduction achievable while verifying the runlength and arsenic quality at start-up. This run was operated over the course of several days, shutting the unit down after each day so as not to overrun the breakpoint.

Figure 1 depicts the steady-state effluent arsenic concentrations as a function of iron dosage. The data, as mentioned above, indicates that an iron dosage of 3 mg/L would be sufficient to reduce the arsenic to the current 10 µg As/L MCL. Furthermore, it is apparent that there is a diminishing return on the iron dosage applied. The 2 mg Fe/L dosage effectively reduced the influent arsenic by 42%, while the subsequent 3 and 5 mg Fe/L dosages reduced the influent arsenic by 63 – 66% and 75 – 79%, respectively. These percentages are based on an influent quality of 24 µg As/L and an effluent quality of 14 µg As/L, 9 – 8 µg As/L and 6 – 5 µg As/L, respectively. Increasing the iron dosage by 50%, from 2 mg Fe/L to 3 mg Fe/L, improved arsenic removal by 40%. Further increasing the iron dosage by 67% from 3 mg Fe/L to 5 mg Fe/L improved arsenic removal by only 35%.

Figure 1. Arsenic as a Function of Iron Dosage



The runlength at 5 mg Fe/L was determined to be approximately 14 hours. The end of the run was determined by an elevated effluent iron concentration. The iron primarily filtered in-depth over the course of this study resulting in a headloss of less than 10 psi across the filter, at the time of iron breakthrough. The headloss on a clean bed was approximately 2 psi and went as high as 8 – 9 psi. It would be my recommendation that a deeper Manganese Greensand bed be utilized. However, California American Water would be better served by using a media bed consisting of no anthracite. But replacing all of the anthracite with Manganese Greensand has the potential to exceed the maximum recommended pressure differential for that media. The maximum pressure differential for Manganese Greensand is 10 psi. The pilot unit was operated to a pressure differential of approximately 8 - 9 psi with the dual Manganese Greensand/anthracite bed when the iron broke through. Replacement of the anthracite with Manganese Greensand would surely cause the maximum headloss to be exceeded.

If it is desired to move forward without anthracite, the best media selection would then be Greensand Plus, which is not limited to 10 psi pressure differential. Greensand Plus is manufactured from a different substrate than Manganese Greensand and it is this substrate that makes operating beyond the 10 psi possible. Alternatively, if it is desired to remain with Manganese Greensand and to replace some of the anthracite, the recommendation would then be to include no more than 24 inches of Manganese Greensand and 12 inches of anthracite, as opposed the original 18 inches of each. The effective size of Manganese Greensand and Greensand Plus, compared to anthracite, makes them better suited for applications where in-depth filtration is predominant. The runlength of the filter, when operated at the 2 and 3 mg Fe/L dosages, were estimated at 35 and 23 hours, respectively.

The iron to arsenic ratio is 208:1at the 5 mg Fe/L dosage, which is high, compared to some applications. Ratios as low as 20:1 have been experienced. Water quality, i.e., pH, silica, etc., can interfere with this process thereby increasing the iron:arsenic. Although the iron:arsenic is considerably high for this application, it may not be feasible to improve this ratio.

The coagulation/filtration process for arsenic removal is typically more efficient at lower pH's. Well 3A had a relatively high pH of 8.3 – 8.5. The high pH most likely makes this process less efficient than a process operated at lower pH. Ferric chloride is acidic in nature and did reduce the pH to 7.5 – 7.8, at a 5 mg Fe/L dosage, according to the field measurements. Lower iron dosages brought about lessor reductions in pH. Table 2, below, gives the results from the samples submitted for a comprehensive analysis. The sample times are the same as those for Table 1.

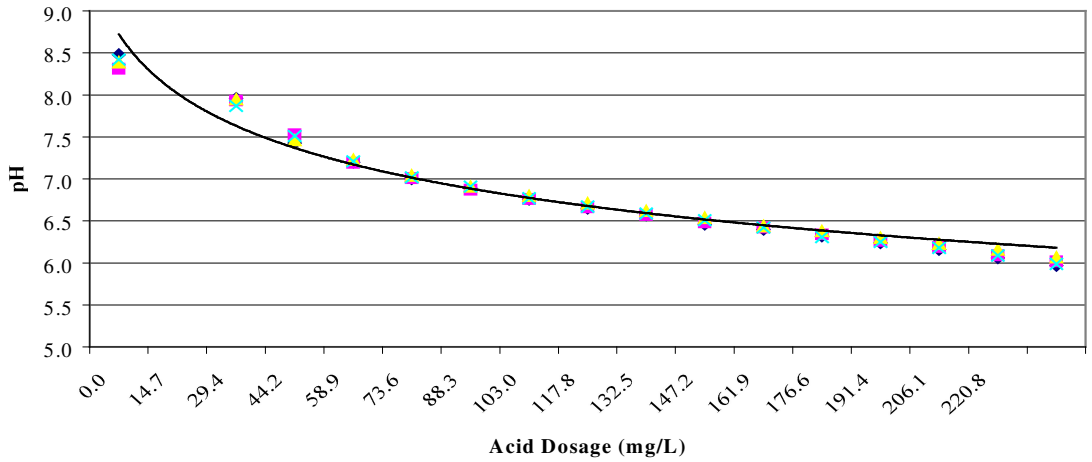
Table 2. Comprehensive Effluent Quality

	Results (mg/L, except where noted)							
	BSK Sample ID							
Analyte	**624691**	**625548**	**626383**	**627588**	**627510**	**627484**	**628952**	**Average**
Aluminum (Al)	0.10	-	-	ND	ND	ND	ND	ND
Calcium (Ca)	4.9	5.9	8.2	6.6	6.3	6.4	5.6	6.3
Iron (Fe)	ND	ND	0.050	0.11	ND	ND	0.080	0.03
Magnesium (Mg)	2.8	2.6	3.2	2.9	2.8	2.8	2.6	2.8
Manganese (Mn)	0.010	ND	ND	ND	ND	ND	ND	ND
Arsenic (As), µg/L	14	-	8.0	7.0	5.0	5.0	7.0	N/A
o-Phosphate as PO_4	0.60	0.60	ND	ND	ND	ND	ND	N/A
Sulfate (SO_4)	19	19	19	19	19	19	19	19
Color (A.P.H.A.)	ND	ND	ND	ND	ND	ND	5.0	0.7
Turbidity (NTU)	ND	0.20	0.10	0.10	0.20	ND	0.40	0.14
Alkalinity (as $CaCO_3$)	240	-	230	240	240	230	240	237
Bicarbonate (as $CaCO_3$)	240	-	230	240	240	230	240	237
Carbonate (as $CaCO_3$)	2.0	-	ND	ND	ND	ND	ND	0.3
Hardness (as $CaCO_3$)	-	-	-	28	27	28	25	27
Hydroxide (as $CaCO_3$)	ND	-	ND	ND	ND	ND	ND	ND
pH	8.3	8.3	8.1	8.1	8.2	8.0	8.1	N/A

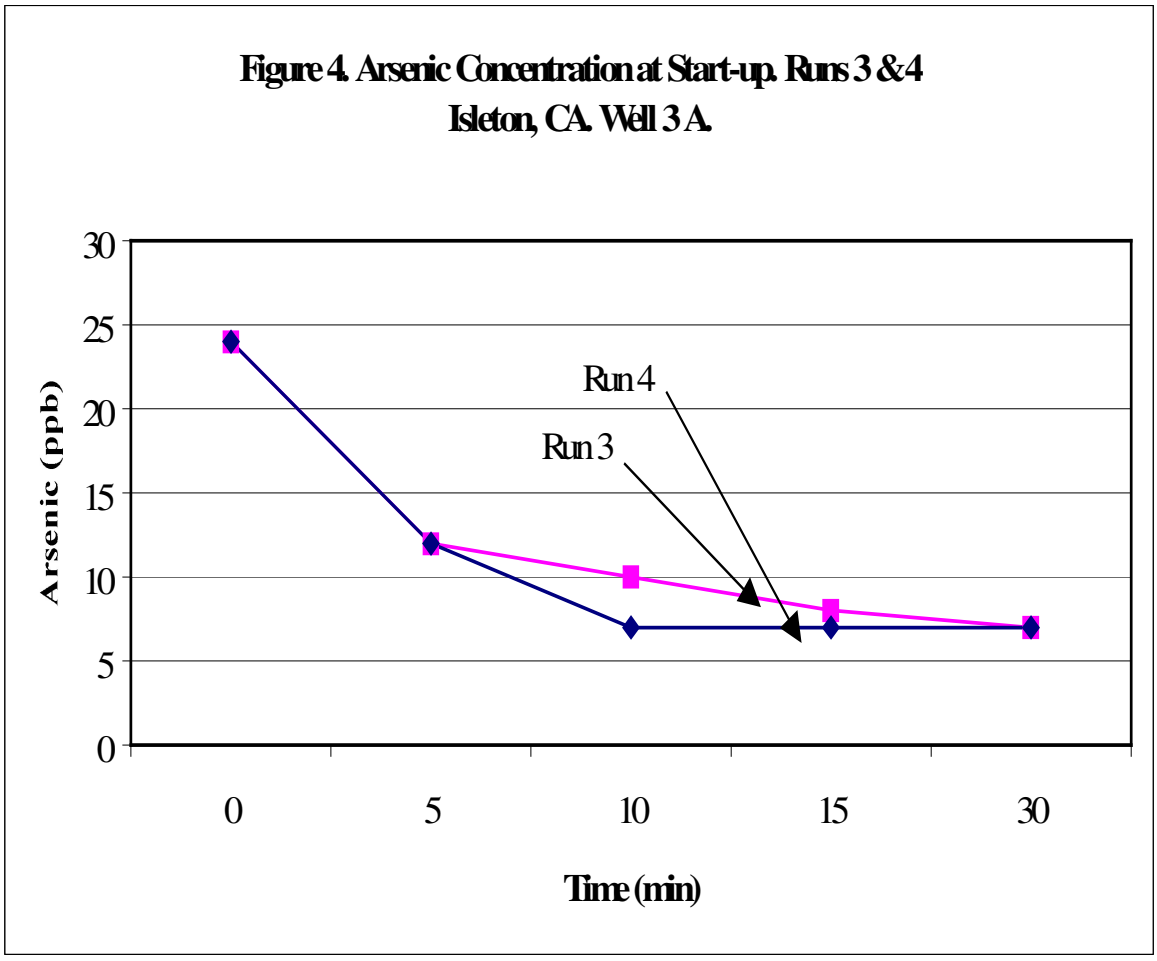
The laboratory pH measurements in Tables 1 and 2 indicate that the pH was reduced from 8.3 to 8.1, regardless of the iron dosage applied. The pH reduction at the iron dosages applied during this study was not significant and the study of arsenic reduction as a function of pH was outside the scope of this study. The field results for pH are available in Appendix B.

Although the study of arsenic reduction as a function of pH was outside the scope of this study, it was feasible to study pH as a function of acid dosage. Jar testing was used to evaluate pH as a function of acid dosage to determine if the pH could be feasibly reduced by acid addition. The jar tests were conducted using an 8 µg As/L sulfuric acid solution and 500 mL samples of raw water. The results are plotted in Figure 2. High acid dosages result in only minimal pH changes due to the high alkalinity of the water. It can be concluded from the jar test results that the costs of applying acid, including the pumps, operator safety, operator training and overall operations, would not be feasible enough to offset the inefficiency that a higher pH imposes on the process.

Figure 2. pH as Function of Acid Dosage



Phosphate is another known interference that can hamper arsenic treatment. California American Water/RBF elected to include o-Phosphate in the analytical results and those results are presented in Figure 3. Figure 3 was provided by RBF and modified to include operating conditions by Hungerford & Terry, Inc. The results indicate that o-Phosphate is removed to non-detectable concentrations with 3 mg Fe/L, or less. The elimination of o-Phosphate does coincide with the lowest arsenic results, but there is not enough data to suggest that the presence, or elimination of the o-Phosphate impacted the results of this study. It is my opinion that the data indicates that the relationship between iron and arsenic is stronger than the relationship between o-phosphate and arsenic, or o-Phosphate and iron. The data indicates that satisfactory arsenic removal was not achieved until after sufficient iron was applied. It is worthwhile to note that the lowest effluent arsenic concentrations coincided with the lowest effluent o-Phosphate concentrations. However, it should also be noted, as a point of interest, that the lowest iron:arsenic coincided with the lowest iron dosage applied, 2 mg Fe/L, and in the presence of o-Phosphate. This is not to suggest that the effluent arsenic concentration of 14 µg/L, at the 2 mg Fe/L dosage, is an acceptable result.



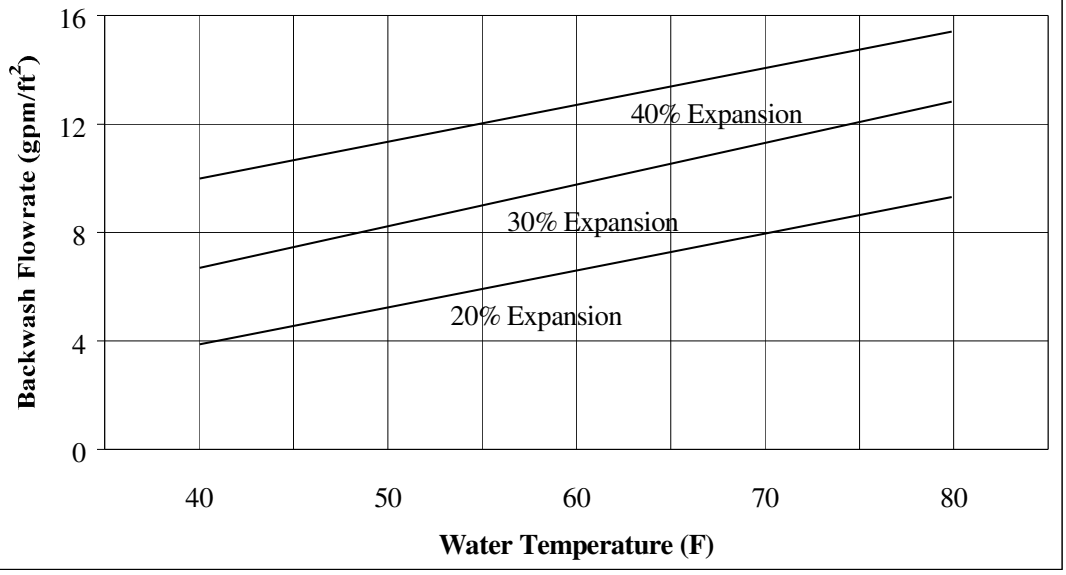
The iron to arsenic ratio at the 2 mg Fe/L dosage was approximately 143:1, or 2 mg Fe/L removed 14 µg As/L. This took place without meeting the o-Phosphate demand. The BSK data indicates that the effluent o-Phosphate was 0.6 mg/L at this iron dosage. The iron:arsenic only increases as the o-Phosphate demand is met and exceeded. The respective iron:arsenic ratios at the 3 mg Fe/L and 5 mg Fe/L dosages are 194:1 and 270:1 assuming an influent arsenic concentration of 24 µg/L and effluent of 8.5 µg/L and 5.5 µg/L, at the respective iron dosages. In meeting the o-Phosphate demand, theoretically eliminating this source of

interference, the iron:arsenic, in my opinion would have leveled off, if not decrease. The fact that the iron:arsenic continued to rise even after meeting the o-Phosphate demand, in my opinion, implies that a direct correlation between the iron dosage and o-Phosphate is questionable.

Silica is another known interference in the arsenic treatment process. Hungerford & Terry, Inc. determined the influent silica concentration to be 38 mg/L as SiO_2. This is a relatively high concentration and is believed to have had some impact on arsenic treatment.

The time required for the arsenic to reach steady-state was evaluated during this study. Samples were collected at 5, 10, 15 and 30 minutes after filter start up and sent to BSK for iron and arsenic analysis. Figure 4 displays the typical start-up trend for arsenic and indicates that the arsenic can be reduced to 10 µg As/L within 7 – 10 minutes. Backwashing with raw water, as the pilot unit was, would have contributed to the time required. Backwashing with raw water filled the unit with untreated, arsenic laden water. The unit holds approximately 14 gallons of water, which would take approximately 9 minutes, at 1.5 gpm (3 gpm/ft^2), to flush, assuming plug flow.

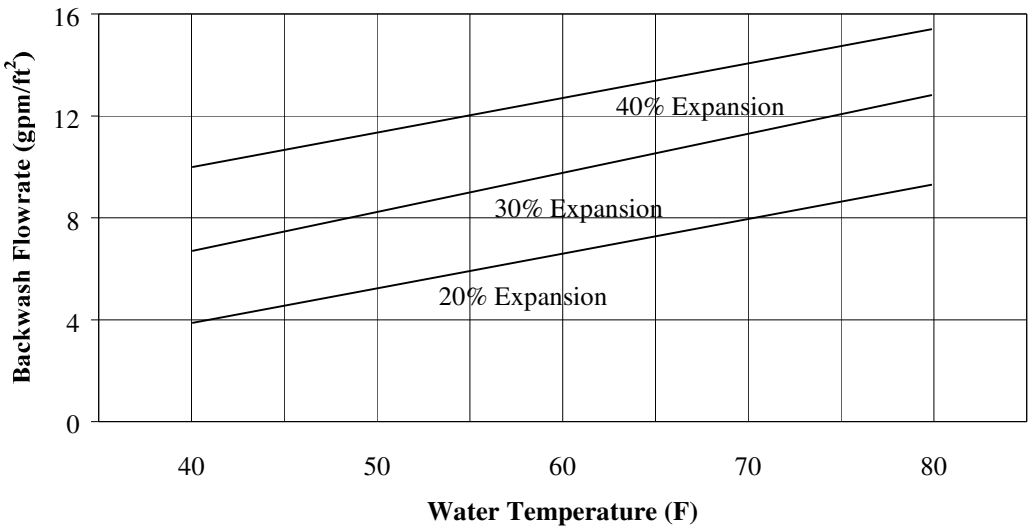
Figure 5. Backwash as a Function of Water Temperature



The effluent iron quality took longer than anticipated to reach steady-state conditions, taking approximately 5 minutes to fall below the MCL of 0.3 mg/L. The rinse time is typically three minutes. Extended rinse times are fairly common on applications where the iron filters in-depth. Start-up of the filter can subject the filter to changing head pressures, which would work to push the iron through. With regard to this specific application, previous study at this site demonstrated that changes in feed pressure could severely impact the effluent iron quality by pushing the iron through. Changes in feed pressure during this study were minimized by the incorporation of a hydropnuematic tank and a pressure regulating valve, none-the-less, changes in feed pressure were still noticeable, especially at start-up. Changing the media configuration in accordance with the previously recommended media change might be sufficient to eliminate this extended rinse time.

The recommended backwash rate for this site is 15 gpm/ft^2 given the water temperature of 70 °F. Lower water temperatures permit lower backwash rates due to differences in viscosity. The recommended bed expansion upon backwash is 40% for which the 15 gpm/ft^2 would be required, here. Achieving the required 15 gpm/ft^2 backwash rate was known to be a problem at this site, because of this backwash supply was boosted with a portable pump, which allowed a higher backwash flowrate than that achievable without the pump. Figure 5 gives the recommended backwash flowrate as a function of water temperature.

Figure 5. Backwash as a Function of Water Temperature



Color and Turbidity

The color and turbidity were significantly reduced with color often reaching non-detectable levels and turbidity reaching 0.1 – 0.2 NTU. Tables 1 and 2 contain the laboratory results for Color and Turbidity for the Influent and Effluent, respectively.

Backwash Sludge

The backwash sludge was collected for the purpose of collecting as much sludge as was possible for submission to BSK. California American Water intended to perform the California WET test on the sludge. The sludge was collected at the end of the study period by first allowing the backwash waste to settle, then siphoning off the supernatant. The sludge was collected in glass jars provided by BSK.

It should be noted that the bulk of the sludge did readily settle, but left a cloudy supernatant. The supernatant became clear when allowed to sit overnight. Below are two photographs of the backwash sludge. The sludge was collected in a large trash can. The trash can was purchased new by California American Water at the beginning of this study for the purpose of containing the backwash. The left photograph shows how the supernatant typically looked after settling. Here, the sludge had settled for seven hours. The right photograph shows how the supernatant typically looked after it sat overnight. The supernatant is quite clear. The lid to the trash can was put on after backwashing so that no debris could enter the can while it sat idle.

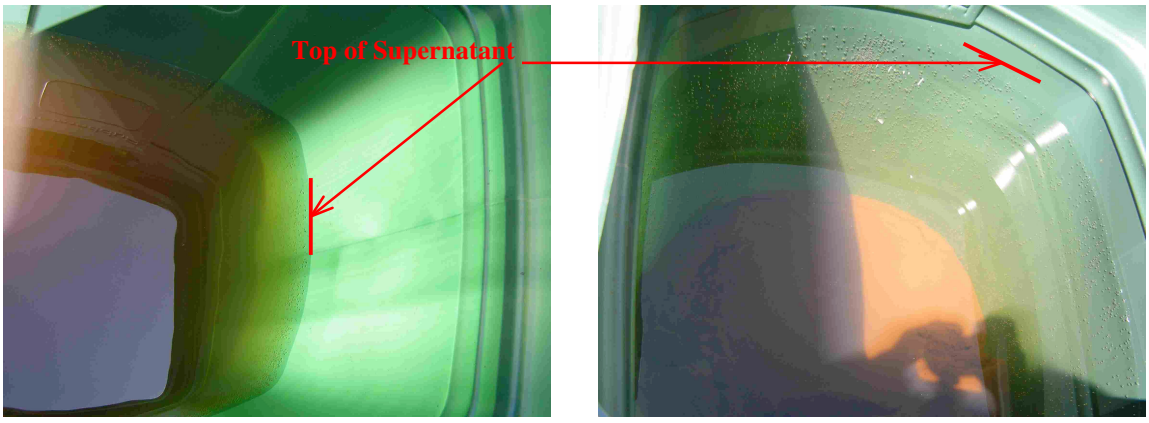


Illustration 4. Backwash waste. Cloudy supernatant (left). And clear supernatant (right).

Conclusions

Arsenic can be reduced to less than 10 µg As/L with as little as 3 mg Fe/L, but that an iron dosage of 5 mg Fe/L might best meet California American Water's needs.

Reducing the pH with an acid in an effort to improve arsenic removal would not be feasible.

In-depth filtration is the primary iron filtration mechanism. Increasing the depth of Manganese Greensand should be beneficial by reducing the time required for rinse and to help prevent iron breakthrough when the feed pressure changes.

The impact of o-Phosphate on this process is inconclusive, although o-Phosphate was reduced to non-detectable concentrations with less than 3 mg Fe/L.

Appendix A

Hungerford & Terry, Inc. Sample Analysis

Appendix A

Hungerford & Terry, Inc. Sample Analysis

WATER ANALYSIS
by
HUNGERFORD & TERRY, INC.
MANUFACTURERS OF WATER TREATING EQUIPMENT
CLAYTON, NEW JERSEY 08312

Customer: **California American Water Co.**
Address: Isleton, CA

Date Taken: 8/29/05
Received: 9/9/05
Analyzed: 9/16/05

LAB.NO.		**42199**	**42201**
SOURCE		Well 3A w/Cl2	Pilot Effluent
CATIONS			
Calcium	mg/L as $CaCO_3$	13	---
Magnesium	mg/L as $CaCO_3$	7	---
Sodium Calc.	mg/L as $CaCO_3$	309	---
Sodium Anal.	mg/L as $CaCO_3$		300
TOTAL	mg/L as $CaCO_3$	329	---
ANIONS			
Hydroxide Alk.	mg/L as $CaCO_3$	0	0
Carbonate Alk.	mg/L as $CaCO_3$	0	0
Bicarb. Alk.	mg/L as $CaCO_3$	240	217
Chloride	mg/L as $CaCO_3$	77	---
Sulfate	mg/L as $CaCO_3$	12	---
Nitrate	mg/L as $CaCO_3$	0.4	---
TOTAL	mg/L as $CaCO_3$	329	---
Carbon Dioxide	mg/L as CO_2	11	---
Soluble Silica	mg/L as SiO_2	38.6	---
Iron (Total)	mg/L as Fe	0.02	0.04
Manganese	mg/L as Mn	0.057	<0.04
Chlorine (Total)	mg/L as Cl_2	0.03	0.02
Total Hardness	mg/L as $CaCO_3$	20	19
Nitrate	mg/L as Nitrogen	0.1	---
Spec. Cond.	(µS/cm @ 25°C)	678	680
pH	(at Lab.)	7.9	7.6
Turbidity	(NTU)	0.29	0.13
True Color	(APHA units)	<5	<5
Ammonia	mg/L as Nitrogen	<0.05	<0.05
Sediment	(Appearance)	None	None

Remarks: Sample #42199: 8:30 AM
Sample #42201: 8:30 AM

Analyzed by: RDB
(Robin D. Biegenwald)

To convert mg/L (ppm) to grains per gallon divide by 17.1.
To convert mg/L as calcium carbonate to equivalents per liter, divide by 50.
To convert to other, refer to chart available through your representative.
To convert specific conductance in uS/cm (micromhos/cm) to specific resistance in ohms, divide the uS/cm into 1 million.

WATER ANALYSIS
by
HUNGERFORD & TERRY, INC.
MANUFACTURERS OF WATER TREATING EQUIPMENT
CLAYTON, NEW JERSEY 08312

Customer: **California American Water Co.**
Address: Isleton, CA

Date Taken: 8/25/05
Received: 9/9/05
Analyzed: 9/14/05

		LAB.NO.	42197	42198	42200
		SOURCE	8/25 Inf.	8/29 Inf.	8/30 Inf.
CATIONS					
Calcium	mg/L as $CaCO_3$		---	---	---
Magnesium	mg/L as $CaCO_3$		---	---	---
Sodium Calc.	mg/L as $CaCO_3$		---	---	---
Sodium Anal.	mg/L as $CaCO_3$		---	---	---
TOTAL	mg/L as $CaCO_3$		---	---	---
ANIONS					
Hydroxide Alk.	mg/L as $CaCO_3$		---	---	---
Carbonate Alk.	mg/L as $CaCO_3$		---	---	---
Bicarb. Alk.	mg/L as $CaCO_3$		---	---	---
Chloride	mg/L as $CaCO_3$		---	---	---
Sulfate	mg/L as $CaCO_3$		---	---	---
Nitrate	mg/L as $CaCO_3$		---	---	---
TOTAL	mg/L as $CaCO_3$		---	---	---
Carbon Dioxide	mg/L as CO_2		---	---	---
Soluble Silica	mg/L as SiO_2		---	---	---
Iron (Total)	mg/L as Fe		4.74	4.38	3.24
Manganese	mg/L as Mn		---	---	---
Chlorine (Total)	mg/L as Cl_2		---	---	---
Total Hardness	mg/L as $CaCO_3$		---	---	---
Nitrate	mg/L as Nitrogen		---	---	---
Spec. Cond.	(µS/cm @ 25°C)		---	---	---
pH	(at Lab.)		---	---	---
Turbidity	(NTU)		---	---	---
True Color	(APHA units)		---	---	---
Ammonia	mg/L as Nitrogen		---	---	---
Sediment	(Appearance)		---	---	---

Remarks: Sample #42197: 8/25/05 @ 12:00 PM
Sample #42198: 8/29/05 @ 8:30 AM
Sample #42200: 8/30/05 @ 10:00 AM

Analyzed by: RDB
(Robin D. Biegenwald)

To convert mg/L (ppm) to grains per gallon divide by 17.1.
To convert mg/L as calcium carbonate to equivalents per liter, divide by 50.
To convert to other, refer to chart available through your representative.
To convert specific conductance in uS/cm (micromhos/cm) to specific resistance in ohms, divide the uS/cm into 1 million.

Appendix B

Field Results

For: California American Water / Isleton,CA Well 3A

Performed by: Hungerford & Terry Inc. Ben Gaskill

Meter	Time	Flow (gpm)	Pressure		Chem Feed (mg/L)			Infl. (mg/L)			Effl. (mg/L)				Remarks
			In	Out	Fe	Cl_2		As	Mn	Cl_2	Fe	As	Cl_2	Mn	
8/23/2005															
827768	9:05	1.5	34	32	2				0.05	0.7					Fe @ 4.75 gal
															T_i = 21ºC (70ºF) From Hydrotank
															pH_i = 8.34
	9:25	1.5	34	32	2			10-14			0.11	<5	1.2		Effl Highly effervescent. pH_f = 7.68
		Arsenic samples allowed to rest until temp = 24ºC. Meter stopped to fix leak, but plant remained running													
827833	10:00	1.5	37	35	2										Fe_{Eff} = 2.1 sample dilution of 1:2 resulting in Fe = 0.7
	11:50	1.5	38	36		1.1		20-30				<10	1.1		pH_i = 8.08 T_i = 22ºC Fe @ 4 gal
															pH_f = 7.72 T_f = 23ºC
	1:00pm	1.5	38	36						1.2			1.0		Fe @ 3.75 gal
															T_f = 24ºC pH_f = 7.7
															T_i = 22ºC pH_i = 8.3
828226	3:00		36	33	2			14-30			0.06	<10	0.7	0.0	pH_f = 7.76 T_f = 23ºC Fe @ 3 gal
															pH_i = 8.2 T_i = 22ºC
															$FeCl_3$ made-up w/66gal, $FeCl_3$ $6H_20$. to 5 gal/n of sol'n. Fe @ 8 gal
828315	4:00	1.5	33	30											
8/24/2005	8:00							20-30	0.04		0.06	<5	0.9	0.0	Ambient T=18ºC; T_E=20ºC; pH_E=7.97
829479	8:30	Flow corrected to 1.5 gpm(10.6 sec/L)													pH_i = 8.37 T_i = 20ºC Fe @3.5 gal

For: California American Water / Isleton,CA Well 3A

Performed by: Hungerford & Terry Inc. Ben Gaskill

8/24/2005					2										
829717	11:00	1.5	33	28	3				0.04	0.9	0.04		0.7	0.0	Made-up $FeCl_3$. Start 2.5 gal
		Increased $FeCl_3$ Dosage to 3 mg/L by increasing pump.													Finish 7.5 gal
		Frequency to 55 until lines were flushed (aaprox. 0.3 gal) pump to be returned to frequency of 37 when line is flushed w/higher sol'n conc.													
															T_E=22ºC pH_E=7.9
															T_i = 21ºC pH_i = 8.3
															Drawdown = 0.37gph
		Effluent sampled before Fe dosage change. Influent Fe @ 2.5 w/ 1.4 dilution & 0.56 mg/L													
	11:40	Fe pump returned to 37 frequency. Fe dosage = 3 mg/L													Fe @ 8.25 gal
829811	12:00	1.5	36	30	3			12-30			0.04	<5	1.0		pH_f = 7.9, T_f = 22ºC pHi = 8.38 Ti = 21ºC
	1:20	Fe = 2.85 mg/L(approx. 3.0mg Fe/L) Based on color reading of 0.57 mg/L w/ 1:4 dilution													
	1:30	1.5										<5			As sample only (field)
															pH_f = 7.89 T_f = 22ºC
															Fe sol'n pH=1.8
830164	3:30	1.5	35	28	3				0.03	1.0	0.06	<5	0.8	0.0	pH_f = 7.86 T_f = 23ºC Fe @ 6.125 gal
															pH_i = 8.35 T_i = 22ºC
	4:00	1.5	33	26	Made up 2 gallons $FeCl_3$ to continue 3 mg/L Fe dosage										
		$FeCl_3$ start @ 6 gal. Final vol 8 gal													

For: California American Water / Isleton,CA Well 3A

Performed by: Hungerford & Terry Inc. Ben Gaskill

8/25/2005					3										
831649	8:20	1.5	35	26							0.6				Iron break. B/W
															pH_f = 7.86 T_f = 20ºC Fe @ 3.25 gal
		Changed sol'n conc. To deliver 5 mg/L Fe. Made up 3 gallons of sol'n using 141.9 g $FeCl_3$ 6 H_20 to 3 gallons of sol'n. Final level: 6.25 gal													
	9:26	Restart Fe increased frequency to 62 to flush tubing and deliver 5 mg Fe/L													
		1.5	34	32	5										
	9:50	1.5	35	33	5				0.05	1.1	0.06	<5	0.3	0.0	pH_f = 7.6 T_f = 22ºC
															pH_i = 8.35 T_i = 22ºC
	10:20	Fe @ 6 gal. Fe slowed/returned to *f*=37													
831867	12:00	1.5	33	30	5					0.9	0.05	<3	0.9	0.0	Fe @ 5.5 gal pH_f = 7.5 T_f = 23ºC
															pH_i = 8.36 T_i = 21ºC
					4.2	Per influent test diluted 1:19 Influent -- 0.2 mg/L * 20 = 4.2 mg/L									
832199	2:30	1.5	34	31	5				0.05	1.0	0.04	0.9	0.0		pH_f = 7.57 T_f = 23ºC
		Fe @ 4.75 gal. Make up 3 gal Fe 5 mg/L dosage													pH_i = 8.4 T_i = 22ºC
		Final level: 7.75 gal													
		Sludge supernatant not clear although bulk of sludge did settle													
8/26/2005															
833500	8:00	1.5	34	26	5						>1.0				Fe @ 2.75 gal B/W
		Sludge from first B/W settled overnight													
	9:02	Restart	33	31	5										
	9:30	1.5	33	31	5				0.05	0.9	0.1	<	0.5	0.0	pH_i = 8.5 T_i = 22ºC
															T_f = 21ºC pH_f = 7.82
	10:30	Made-up Fe sol'n w/165 g $FeCl_3$-6 H_20 and enough H_20 for 5 gal. Start @ 2.25gal. Final level: 7.25 gal													
833776	12:00	1.5	32	30	5			20-30		0.9	0.08	<3	0.8		pH_i = 8.4 T_i = 22ºC
															pH_f = 7.5 T_f = 23ºC Fe @ 7 gal
	2:00pm	1.5			5			20-30		0.5	0.06	<5	0.3	0.0	pH_i = 8.3 T_i = 23ºC
834069	3:00	Shut down-overnight													pH_f = 7.83 T_f = 23ºC
8/27/2005	1:06	Restarted. B/W sludge settled													Fe @ 6 gal

For: California American Water / Isleton,CA Well 3A

Performed by: Hungerford & Terry Inc. Ben Gaskill

		1.5	34	30	5										
	1:30	1.5	35	31	5			16-30		0.8	0.06	4-7	0.2		$pH_f = 7.72$ $T_f = 25ºC$
															$pH_i = 8.38$ $T_i = 22ºC$
	3:00	1.5	34	29	5						0.06	<4			$pH_f = 7.6$ $T_f = 24ºC$
		10 µg/L as standard was diluted 1:1.5 Giving a 4µg/L sol'n and field tested beside effluent sample.													
		Effluent was determined to be <4 by comparison to known sample													
834397	5:00pm	1.5	33	28	5						0.06		0.4		$pH_f = 7.5$ $T_f = 24ºC$. Shut off overnight
8/28/2005	10:20am	Restart													
		1.5	33	28	5										Fe @ 4.8 gal
	10:45										0.06			0.3	$pH_f = 7.6$ $T_f = 23ºC$
	11:30	1.5	35	30	5			16-30	0.05	1.0	0.06	<4	0.4	0.0	$pH_f=7.5$, $T_f=24ºC$, $pH_i=8.3$, $T_i=23ºC$
															Sampled for BSK
	12:00														$FeCl_3$ @ 4.25 gal
	1:30pm	Sampled. For B.S.K.													
834743	2:30	1.5	33	26	5						0.1				$pH_f = 7.61$ $T_f = 25ºC$ Fe @ 3.75 gal
834760	14:40										0.2				B/W
	19:00	Restart													
		1.5	36	34	Fe @ 3.5 gal made-up 5 gal for 5mgFe/L dosage w/165 g $FeCl_3$-$6H_20$ to enough water for 5 gal. Final level: 8.5gal										
		B/W sludge settled supernatant is clear. This better than past B/W's													

For: California American Water / Isleton,CA Well 3A

Performed by: Hungerford & Terry Inc. Ben Gaskill

8/29/2005															
835818	8:30	1.5	33	27	5					0.7	0.04	<4	0.4		$pH_f = 7.73$ $T_f = 20ºC$
															$pH_i = 8.41$ $T_i = 20ºC$ Fe @ 4.75 gal
		* Sampled for H&T & B.S.K.													
	9:00	1.5	35	27							0.06			0.0	$pH_f = 7.68$ $T_f = 21ºC$
	9:30										0.1				
	9:50										0.12				
833960	10:00	1.5	32	25							0.2				Stop
8/30/2005	8:00	B/W w/Booster pump.													Fe @ 4 gal
	8:30	Restart. w/Fe frequency set at 23 to effectively reduce Fe dosage to 3 mg/L													
		1.5	34	32	3				0.6				0.3		$T_f = 23$ $pH_f = 7.9$ $pH_i = 8.43$ $T_i = 22ºC$
836103	10:00														
	10:30	1.5	30	32	3						0.04			0.0	
836277	12:00	1.5	32	30	3								0.2		$pH_f = 7.7$ $T_f = 23ºC$ Fe @ 3.5 gal
															$pH_i = 8.26$ $T_i = 22ºC$
836455	2:00	1.5	34	31	3				0.7		0.04		0.3		$pH_i = 8.33$ $T_i = 22ºC$
															$pH_f = 7.8$ $T_f = 23ºC$
836688	5:30	END	33	30	3										

Appendix C

BSK Laboratory Results

BSK ANALYTICAL LABORATORIES

Certificate of Analysis

NELAP Certificate #04227CA
ELAP Certificate #1180

Shawn Sevey
California American Water - Sac.
PO Box 15468
Sacramento, CA 95851-0468

BSK Submission #: 2005082005

BSK Sample ID #: 624690

Report Issue Date: 08/29/2005

Project ID / Desc.: Isleton
Submission Comments:

Sample Type: Liquid
Sample Description: Filter Influent
Sample Comments:

Date Sampled: 08/23/2005
Time Sampled: 1130
Date Received: 08/24/2005

Inorganics

Analyte	Method	Result	Units	PQL	Dilution	DLR	Prep Date	Analysis Date
Aluminum (Al)	EPA 200.7	**0.050**	mg/L	0.05	1	0.05	08/26/2005	08/26/2005
Calcium (Ca)	EPA 200.7	**6.3**	mg/L	0.1	1	0.1	08/26/2005	08/26/2005
Iron (Fe)	EPA 200.7	**ND**	mg/L	0.05	1	0.05	08/26/2005	08/26/2005
Magnesium (Mg)	EPA 200.7	**2.7**	mg/L	0.1	1	0.1	08/26/2005	08/26/2005
Manganese (Mn)	EPA 200.7	**0.040**	mg/L	0.01	1	0.01	08/26/2005	08/26/2005
Arsenic (As)	EPA 200.8	**23**	µg/L	2	1	2	08/26/2005	08/26/2005
o-Phosphate as PO4	EPA 300.0	**1.2**	mg/L	0.6	1	0.6	08/24/2005	08/24/2005
Sulfate (SO4)	EPA 300.0	**19**	mg/L	2	1	2	08/24/2005	08/24/2005
Color (A.P.H.A)	SM 2120 B	**15**	units	1	1	1	08/24/2005	08/24/2005
Turbidity	SM 2130 B	**0.50**	NTU	0.1	1	0.1	08/24/2005	08/24/2005
Alkalinity (as CaCO3)	SM 2320 B	**250**	mg/L	1	1	1	08/24/2005	08/24/2005
Bicarbonate (as CaCO3)	SM 2320 B	**240**	mg/L	1	1	1	08/24/2005	08/24/2005
Carbonate (as CaCO3)	SM 2320 B	**13**	mg/L	1	1	1	08/24/2005	08/24/2005
Hydroxide (as CaCO3)	SM 2320 B	**ND**	mg/L	1	1	1	08/24/2005	08/24/2005
pH	SM 4500-H+ B	**8.5**	Std.Unit	-	1	N/A	08/24/2005	08/24/2005

mg/L: milligrams/liter (ppm)
mg/Kg: milligrams/kilogram (ppm)
µg/L: micrograms/liter (ppb)
µg/Kg: micrograms/kilogram (ppb)
%Rec: percent recovered (surrogates)

PQL: practical quantitation limit
DLR: detection limit for reporting : PQL x Dilution

ND: none detected at DLR

H: analyzed outside of hold time

P: preliminary result

S: suspect result. See Case Narrative for comments

1414 Stanislaus Street Fresno, CA 93706-1623 Phone 559-497-2888, In CA 800-877-8310 Fax 559-485-6935

BSK ANALYTICAL LABORATORIES

Certificate of Analysis

NELAP Certificate #04227CA
ELAP Certificate #1180

Shawn Sevey
California American Water - Sac.
PO Box 15468
Sacramento, CA 95851-0468

BSK Submission #: 2005082005

BSK Sample ID #: 624691

Report Issue Date: 08/29/2005

Project ID / Desc.: Isleton
Submission Comments:

Sample Type: Liquid
Sample Description: Finished
Sample Comments:

Date Sampled: 08/23/2005
Time Sampled: 1130
Date Received: 08/24/2005

Inorganics

Analyte	Method	Result	Units	PQL	Dilution	DLR	Prep Date	Analysis Date
Aluminum (Al)	EPA 200.7	**0.10**	mg/L	0.05	1	0.05	08/26/2005	08/26/2005
Calcium (Ca)	EPA 200.7	**4.9**	mg/L	0.1	1	0.1	08/26/2005	08/26/2005
Iron (Fe)	EPA 200.7	**ND**	mg/L	0.05	1	0.05	08/26/2005	08/26/2005
Magnesium (Mg)	EPA 200.7	**2.8**	mg/L	0.1	1	0.1	08/26/2005	08/26/2005
Manganese (Mn)	EPA 200.7	**0.010**	mg/L	0.01	1	0.01	08/26/2005	08/26/2005
Arsenic (As)	EPA 200.8	**14**	µg/L	2	1	2	08/26/2005	08/26/2005
o-Phosphate as PO4	EPA 300.0	**0.60**	mg/L	0.6	1	0.6	08/24/2005	08/24/2005
Sulfate (SO4)	EPA 300.0	**19**	mg/L	2	1	2	08/24/2005	08/24/2005
Color (A.P.H.A)	SM 2120 B	**ND**	units	1	1	1	08/24/2005	08/24/2005
Turbidity	SM 2130 B	**ND**	NTU	0.1	1	0.1	08/24/2005	08/24/2005
Alkalinity (as CaCO3)	SM 2320 B	**240**	mg/L	1	1	1	08/24/2005	08/24/2005
Bicarbonate (as CaCO3)	SM 2320 B	**240**	mg/L	1	1	1	08/24/2005	08/24/2005
Carbonate (as CaCO3)	SM 2320 B	**2.0**	mg/L	1	1	1	08/24/2005	08/24/2005
Hydroxide (as CaCO3)	SM 2320 B	**ND**	mg/L	1	1	1	08/24/2005	08/24/2005
pH	SM 4500-H+ B	**8.3**	Std.Unit	-	1	N/A	08/24/2005	08/24/2005

mg/L: milligrams/liter (ppm)
mg/Kg: milligrams/kilogram (ppm)
µg/L: micrograms/liter (ppb)
µg/Kg: micrograms/kilogram (ppb)
%Rec: percent recovered (surrogates)

PQL: practical quantitation limit
DLR: detection limit for reporting : PQL x Dilution

ND: none detected at DLR

H: analyzed outside of hold time

P: preliminary result

S: suspect result. See Case Narrative for comments

1414 Stanislaus Street Fresno, CA 93706-1623 Phone 559-497-2888, In CA 800-877-8310 Fax 559-485-6935

BSK ANALYTICAL LABORATORIES

Certificate of Analysis

NELAP Certificate #04227CA
ELAP Certificate #1180

Shawn Sevey
California American Water - Sac.
PO Box 15468
Sacramento, CA 95851-0468

BSK Submission #: 2005082029

BSK Sample ID #: 624797

Report Issue Date: 08/29/2005

Project ID / Desc.: Isleton
Submission Comments:

Sample Type: Liquid
Sample Description: Filter Influent
Sample Comments:

Date Sampled: 08/23/2005
Time Sampled: 1300
Date Received: 08/24/2005

Inorganics

Analyte	Method	Result	Units	PQL	Dilution	DLR	Prep Date	Analysis Date
Arsenic (As)	EPA 200.8	**23**	µg/L	2	1	2	08/26/2005	08/26/2005

mg/L: milligrams/liter (ppm)
mg/Kg: milligrams/kilogram (ppm)
µg/L: micrograms/liter (ppb)
µg/Kg: micrograms/kilogram (ppb)
%Rec: percent recovered (surrogates)

PQL: practical quantitation limit
DLR: detection limit for reporting : PQL x Dilution

ND: none detected at DLR

H: analyzed outside of hold time

P: preliminary result

S: suspect result. See Case Narrative for comments

1414 Stanislaus Street Fresno, CA 93706-1623 Phone 559-497-2888, In CA 800-877-8310 Fax 559-485-6935

BSK ANALYTICAL LABORATORIES

Certificate of Analysis

NELAP Certificate #04227CA
ELAP Certificate #1180

Shawn Sevey
California American Water - Sac.
PO Box 15468
Sacramento, CA 95851-0468

BSK Submission #: 2005082029

BSK Sample ID #: 624798

Report Issue Date: 08/29/2005

Project ID / Desc.: Isleton
Submission Comments:

Sample Type: Liquid
Sample Description: Finished
Sample Comments:

Date Sampled: 08/23/2005
Time Sampled: 1300
Date Received: 08/24/2005

Inorganics

Analyte	Method	Result	Units	PQL	Dilution	DLR	Prep Date	Analysis Date
Iron (Fe)	EPA 200.7	**ND**	mg/L	0.05	1	0.05	08/26/2005	08/29/2005
Arsenic (As)	EPA 200.8	**14**	µg/L	2	1	2	08/26/2005	08/26/2005

mg/L: milligrams/liter (ppm)
mg/Kg: milligrams/kilogram (ppm)
µg/L: micrograms/liter (ppb)
µg/Kg: micrograms/kilogram (ppb)
%Rec: percent recovered (surrogates)

PQL: practical quantitation limit
DLR: detection limit for reporting : PQL x Dilution

ND: none detected at DLR

H: analyzed outside of hold time

P: preliminary result

S: suspect result. See Case Narrative for comments

1414 Stanislaus Street Fresno, CA 93706-1623 Phone 559-497-2888, In CA 800-877-8310 Fax 559-485-6935

BSK ANALYTICAL LABORATORIES

Certificate of Analysis

NELAP Certificate #04227CA
ELAP Certificate #1180

Shawn Sevey
California American Water - Sac.
PO Box 15468
Sacramento, CA 95851-0468

BSK Submission #: 2005082134

BSK Sample ID #: 625554

Report Issue Date: 08/29/2005

Project ID / Desc.: Isleton
Submission Comments:

Sample Type: Liquid
Sample Description: Filter Influent
Sample Comments:

Date Sampled: 08/23/2005
Time Sampled: 1500
Date Received: 08/25/2005

Inorganics

Analyte	Method	Result	Units	PQL	Dilution	DLR	Prep Date	Analysis Date
Arsenic (As)	EPA 200.8	**24**	µg/L	2	1	2	08/26/2005	08/29/2005

mg/L: milligrams/liter (ppm)
mg/Kg: milligrams/kilogram (ppm)
µg/L: micrograms/liter (ppb)
µg/Kg: micrograms/kilogram (ppb)
%Rec: percent recovered (surrogates)

PQL: practical quantitation limit
DLR: detection limit for reporting : PQL x Dilution

ND: none detected at DLR

H: analyzed outside of hold time

P: preliminary result

S: suspect result. See Case Narrative for comments

1414 Stanislaus Street Fresno, CA 93706-1623 Phone 559-497-2888, In CA 800-877-8310 Fax 559-485-6935

BSK ANALYTICAL LABORATORIES

Certificate of Analysis

NELAP Certificate #04227CA
ELAP Certificate #1180

Shawn Sevey
California American Water - Sac.
PO Box 15468
Sacramento, CA 95851-0468

BSK Submission #: 2005082134

BSK Sample ID #: 625555

Report Issue Date: 08/29/2005

Project ID / Desc.: Isleton
Submission Comments:

Sample Type: Liquid
Sample Description: Finished
Sample Comments:

Date Sampled: 08/23/2005
Time Sampled: 1500
Date Received: 08/25/2005

Inorganics

Analyte	Method	Result	Units	PQL	Dilution	DLR	Prep Date	Analysis Date
Iron (Fe)	EPA 200.7	**ND**	mg/L	0.05	1	0.05	08/26/2005	08/29/2005
Arsenic (As)	EPA 200.8	**15**	µg/L	2	1	2	08/26/2005	08/29/2005

mg/L: milligrams/liter (ppm)
mg/Kg: milligrams/kilogram (ppm)
µg/L: micrograms/liter (ppb)
µg/Kg: micrograms/kilogram (ppb)
%Rec: percent recovered (surrogates)

PQL: practical quantitation limit
DLR: detection limit for reporting : PQL x Dilution

ND: none detected at DLR

H: analyzed outside of hold time

P: preliminary result

S: suspect result. See Case Narrative for comments

1414 Stanislaus Street Fresno, CA 93706-1623 Phone 559-497-2888, In CA 800-877-8310 Fax 559-485-6935

BSK ANALYTICAL LABORATORIES

Certificate of Analysis

NELAP Certificate #04227CA
ELAP Certificate #1180

Shawn Sevey
California American Water - Sac.
PO Box 15468
Sacramento, CA 95851-0468

BSK Submission #: 2005082132

BSK Sample ID #: 625547

Report Issue Date: 08/29/2005

Project ID / Desc.: Isleton
Submission Comments:

Sample Type: Liquid
Sample Description: Filter Influent
Sample Comments:

Date Sampled: 08/24/2005
Time Sampled: 0820
Date Received: 08/25/2005

Inorganics

Analyte	Method	Result	Units	PQL	Dilution	DLR	Prep Date	Analysis Date	
Calcium (Ca)	EPA 200.7	**6.4**	mg/L	0.1	1	0.1	08/26/2005	08/29/2005	
Iron (Fe)	EPA 200.7	**ND**	mg/L	0.05	1	0.05	08/26/2005	08/29/2005	
Magnesium (Mg)	EPA 200.7	**2.8**	mg/L	0.1	1	0.1	08/26/2005	08/29/2005	
Manganese (Mn)	EPA 200.7	**0.040**	mg/L	0.01	1	0.01	08/26/2005	08/29/2005	
o-Phosphate as PO4	EPA 300.0	**1.5**	mg/L	0.6	1	0.6	08/25/2005	08/25/2005	
Sulfate (SO4)	EPA 300.0	**19**	mg/L	2	1	2	08/25/2005	08/25/2005	
Color (A.P.H.A)	SM 2120 B	**15**	units	1	1	1	08/25/2005	08/25/2005	P
Turbidity	SM 2130 B	**0.80**	NTU	0.1	1	0.1	08/25/2005	08/25/2005	P
pH	SM 4500-H+ B	**8.5**	Std.Unit	-	1	N/A	08/25/2005	08/25/2005	

mg/L: milligrams/liter (ppm)
mg/Kg: milligrams/kilogram (ppm)
µg/L: micrograms/liter (ppb)
µg/Kg: micrograms/kilogram (ppb)
%Rec: percent recovered (surrogates)

PQL: practical quantitation limit
DLR: detection limit for reporting
: PQL x Dilution

ND: none detected at DLR

H: analyzed outside of hold time

P: preliminary result

S: suspect result. See Case Narrative for comments

1414 Stanislaus Street Fresno, CA 93706-1623 Phone 559-497-2888, In CA 800-877-8310 Fax 559-485-6935

BSK ANALYTICAL LABORATORIES

Certificate of Analysis

NELAP Certificate #04227CA
ELAP Certificate #1180

Shawn Sevey
California American Water - Sac.
PO Box 15468
Sacramento, CA 95851-0468

BSK Submission #: 2005082132

BSK Sample ID #: 625548

Report Issue Date: 08/29/2005

Project ID / Desc.: Isleton
Submission Comments:

Sample Type: Liquid
Sample Description: Finished
Sample Comments:

Date Sampled: 08/24/2005
Time Sampled: 0820
Date Received: 08/25/2005

Inorganics

Analyte	Method	Result	Units	PQL	Dilution	DLR	Prep Date	Analysis Date	
Calcium (Ca)	EPA 200.7	**5.9**	mg/L	0.1	1	0.1	08/26/2005	08/29/2005	
Iron (Fe)	EPA 200.7	**ND**	mg/L	0.05	1	0.05	08/26/2005	08/29/2005	
Magnesium (Mg)	EPA 200.7	**2.6**	mg/L	0.1	1	0.1	08/26/2005	08/29/2005	
Manganese (Mn)	EPA 200.7	**ND**	mg/L	0.01	1	0.01	08/26/2005	08/29/2005	
o-Phosphate as PO4	EPA 300.0	**0.60**	mg/L	0.6	1	0.6	08/25/2005	08/25/2005	
Sulfate (SO4)	EPA 300.0	**19**	mg/L	2	1	2	08/25/2005	08/25/2005	
Color (A.P.H.A)	SM 2120 B	**ND**	units	1	1	1	08/25/2005	08/25/2005	P
Turbidity	SM 2130 B	**0.20**	NTU	0.1	1	0.1	08/25/2005	08/25/2005	P
pH	SM 4500-H+ B	**8.3**	Std.Unit	-	1	N/A	08/25/2005	08/25/2005	

mg/L: milligrams/liter (ppm)
mg/Kg: milligrams/kilogram (ppm)
µg/L: micrograms/liter (ppb)
µg/Kg: micrograms/kilogram (ppb)
%Rec: percent recovered (surrogates)

PQL: practical quantitation limit
DLR: detection limit for reporting
: PQL x Dilution

ND: none detected at DLR

H: analyzed outside of hold time

P: preliminary result

S: suspect result. See Case Narrative for comments

1414 Stanislaus Street Fresno, CA 93706-1623 Phone 559-497-2888, In CA 800-877-8310 Fax 559-485-6935

BSK ANALYTICAL LABORATORIES

Certificate of Analysis

NELAP Certificate #04227CA
ELAP Certificate #1180

Shawn Sevey
California American Water - Sac.
PO Box 15468
Sacramento, CA 95851-0468

BSK Submission #: 2005082225

BSK Sample ID #: 625909

Report Issue Date: 08/29/2005

Project ID / Desc.:
Submission Comments:

Sample Type: Liquid
Sample Description: Filter Influent
Sample Comments:

Date Sampled: 08/24/2005
Time Sampled: 1200
Date Received: 08/25/2005

Inorganics

Analyte	Method	Result	Units	PQL	Dilution	DLR	Prep Date	Analysis Date
Arsenic (As)	EPA 200.8	**24**	µg/L	2	1	2	08/26/2005	08/29/2005

mg/L: milligrams/liter (ppm)
mg/Kg: milligrams/kilogram (ppm)
µg/L: micrograms/liter (ppb)
µg/Kg: micrograms/kilogram (ppb)
%Rec: percent recovered (surrogates)

PQL: practical quantitation limit
DLR: detection limit for reporting : PQL x Dilution

ND: none detected at DLR

H: analyzed outside of hold time

P: preliminary result

S: suspect result. See Case Narrative for comments

1414 Stanislaus Street Fresno, CA 93706-1623 Phone 559-497-2888, In CA 800-877-8310 Fax 559-485-6935

BSK ANALYTICAL LABORATORIES

Certificate of Analysis

NELAP Certificate #04227CA
ELAP Certificate #1180

Shawn Sevey
California American Water - Sac.
PO Box 15468
Sacramento, CA 95851-0468

BSK Submission #: 2005082225

BSK Sample ID #: 625910

Report Issue Date: 08/29/2005

Project ID / Desc.:
Submission Comments:

Sample Type: Liquid
Sample Description: Finished
Sample Comments:

Date Sampled: 08/24/2005
Time Sampled: 1200
Date Received: 08/25/2005

Inorganics

Analyte	Method	Result	Units	PQL	Dilution	DLR	Prep Date	Analysis Date
Iron (Fe)	EPA 200.7	**ND**	mg/L	0.05	1	0.05	08/26/2005	08/29/2005
Arsenic (As)	EPA 200.8	**15**	µg/L	2	1	2	08/26/2005	08/29/2005

mg/L: milligrams/liter (ppm)
mg/Kg: milligrams/kilogram (ppm)
µg/L: micrograms/liter (ppb)
µg/Kg: micrograms/kilogram (ppb)
%Rec: percent recovered (surrogates)

PQL: practical quantitation limit
DLR: detection limit for reporting
: PQL x Dilution

ND: none detected at DLR

H: analyzed outside of hold time

P: preliminary result

S: suspect result. See Case Narrative for comments

1414 Stanislaus Street Fresno, CA 93706-1623 Phone 559-497-2888, In CA 800-877-8310 Fax 559-485-6935

BSK ANALYTICAL LABORATORIES

Certificate of Analysis

NELAP Certificate #04227CA
ELAP Certificate #1180

Shawn Sevey
California American Water - Sac.
PO Box 15468
Sacramento, CA 95851-0468

BSK Submission #: 2005082133

BSK Sample ID #: 625552

Report Issue Date: 08/29/2005

Project ID / Desc.: Isleton
Submission Comments:

Sample Type: Liquid
Sample Description: Filter Influent
Sample Comments:

Date Sampled: 08/24/2005
Time Sampled: 1200
Date Received: 08/25/2005

Inorganics

Analyte	Method	Result	Units	PQL	Dilution	DLR	Prep Date	Analysis Date
Arsenic (As)	EPA 200.8	**23**	µg/L	2	1	2	08/26/2005	08/29/2005

mg/L: milligrams/liter (ppm)
mg/Kg: milligrams/kilogram (ppm)
µg/L: micrograms/liter (ppb)
µg/Kg: micrograms/kilogram (ppb)
%Rec: percent recovered (surrogates)

PQL: practical quantitation limit
DLR: detection limit for reporting : PQL x Dilution

ND: none detected at DLR

H: analyzed outside of hold time

P: preliminary result

S: suspect result. See Case Narrative for comments

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BSK ANALYTICAL LABORATORIES

Certificate of Analysis

NELAP Certificate #04227CA
ELAP Certificate #1180

Shawn Sevey
California American Water - Sac.
PO Box 15468
Sacramento, CA 95851-0468

BSK Submission #: 2005082133

BSK Sample ID #: 625553

Report Issue Date: 08/29/2005

Project ID / Desc.: Isleton
Submission Comments:

Sample Type: Liquid
Sample Description: Finished
Sample Comments:

Date Sampled: 08/24/2005
Time Sampled: 1200
Date Received: 08/25/2005

Inorganics

Analyte	Method	Result	Units	PQL	Dilution	DLR	Prep Date	Analysis Date
Iron (Fe)	EPA 200.7	**ND**	mg/L	0.05	1	0.05	08/26/2005	08/29/2005
Arsenic (As)	EPA 200.8	**11**	µg/L	2	1	2	08/26/2005	08/29/2005

mg/L: milligrams/liter (ppm)
mg/Kg: milligrams/kilogram (ppm)
µg/L: micrograms/liter (ppb)
µg/Kg: micrograms/kilogram (ppb)
%Rec: percent recovered (surrogates)

PQL: practical quantitation limit
DLR: detection limit for reporting
: PQL x Dilution

ND: none detected at DLR

H: analyzed outside of hold time

P: preliminary result

S: suspect result. See Case Narrative for comments

1414 Stanislaus Street Fresno, CA 93706-1623 Phone 559-497-2888, In CA 800-877-8310 Fax 559-485-6935

BSK ANALYTICAL LABORATORIES

Certificate of Analysis

NELAP Certificate #04227CA
ELAP Certificate #1180

Shawn Sevey
California American Water - Sac.
PO Box 15468
Sacramento, CA 95851-0468

BSK Submission #: 2005082275

BSK Sample ID #: 626402

Report Issue Date: 08/29/2005

Project ID / Desc.:
Submission Comments:

Sample Type: Liquid
Sample Description: Filter Influent
Sample Comments:

Date Sampled: 08/24/2005
Time Sampled: 1530
Date Received: 08/26/2005

Inorganics

Analyte	Method	Result	Units	PQL	Dilution	DLR	Prep Date	Analysis Date
Arsenic (As)	EPA 200.8	**24**	µg/L	2	1	2	08/29/2005	08/29/2005

mg/L: milligrams/liter (ppm)
mg/Kg: milligrams/kilogram (ppm)
µg/L: micrograms/liter (ppb)
µg/Kg: micrograms/kilogram (ppb)
%Rec: percent recovered (surrogates)

PQL: practical quantitation limit
DLR: detection limit for reporting : PQL x Dilution

ND: none detected at DLR

H: analyzed outside of hold time

P: preliminary result

S: suspect result. See Case Narrative for comments

1414 Stanislaus Street Fresno, CA 93706-1623 Phone 559-497-2888, In CA 800-877-8310 Fax 559-485-6935

BSK ANALYTICAL LABORATORIES

BSK Submission Number: 2005082473

09/20/2005

Shawn Sevey
California American Water - Sac.
PO Box 15468
Sacramento, CA 95851-0468

Dear Shawn Sevey,

Thank you for selecting BSK Analytical Laboratories for your analytical testing needs. We have prepared this report in response to your request for analytical services. Please find enclosed the following sections for your complete laboratory report, each uniquely paginated:

CASE NARRATIVE: An overview of the work performed.
CERTIFICATE OF ANALYSIS: Analytical results.
REPORT OF SAMPLE INTEGRITY
CHAIN OF CUSTODY FORM

Certification: I certify that this data package is in compliance with NELAC Standards for applicable analyses under NELAP Certificate #04227CA, and is in compliance with ELAP Standards for applicable certified analyses under ELAP Certificate #1180, except for the conditions listed.

If additional clarification of any information is required, please contact your Client Services Representative, Debra Skelton, at (800) 877-8310 or (559) 497-2888.

BSK ANALYTICAL LABORATORIES

Debra Skelton
Client Services Representative

Case Narrative

BSK Submission Number: 2005082473

SAMPLE AND RECEIPT INFORMATION

The sample(s) was received, prepared, and analyzed within the method specified holding times unless otherwise noted on the Certificate of Analysis. Samples, when shipped, arrived within acceptable temperature requirements of 0° to 6° Celsius unless otherwise noted on the Report of Sample Integrity. Samples collected by BSK Analytical Laboratories were collected in accordance with the BSK Sampling and Collection Standard Operating Procedures.

QUALITY CONTROL

All analytical quality controls are within established method criteria except when noted in the Quality Control section or on the Certificate of Analysis. All positive results for EPA Methods 504.1, 502.2, 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. QC samples may include analytes not requested in this submission.

SAMPLE RESULT INFORMATION

Samples are analyzed as received (wet weight basis) unless noted here. The results relate only to the items tested. Any exceptions to be considered when evaluating these results are also listed here, if applicable. Results contained in this package shall not be reproduced, except in full, without written approval of BSK Analytical Laboratories.

ORDER	TEST	ANALYTE	COMMENT

BSK ANALYTICAL LABORATORIES

Certificate of Analysis

NELAP Certificate #04227CA
ELAP Certificate #1180

Shawn Sevey
California American Water - Sac.
PO Box 15468
Sacramento, CA 95851-0468

BSK Submission #: 2005082473
BSK Sample ID #: 627567

Report Issue Date: 09/20/2005

Project ID: Project Desc: Isleton

Submission Comments:
Sample Type: Liquid
Sample Description: Finished
Sample Comments:

Date Sampled: 08/24/2005
Time Sampled: 1530
Date Received: 08/30/2005

Inorganics

Analyte	Method	Result	Units	PQL	Dilution	DLR	Prep Date/Time	Analysis Date/Time
Arsenic (As)	EPA 200.8	**12**	µg/L	2	1	2	09/03/05	09/16/05
Iron (Fe)	EPA 200.7	**ND**	mg/L	0.05	1	0.05	09/03/05	09/08/05

mg/L: Milligrams/Liter (ppm)
mg/Kg: Milligrams/Kilogram (ppm)
µg/L: Micrograms/Liter (ppb)
µg/Kg: Micrograms/Kilogram (ppb)
%Rec: Percent Recovered (surrogates)

PQL: Practical Quantitation Limit
DLR: Detection Limit for Reporting : PQL x Dilution
ND: None Detected at DLR
pCi/L: Picocurie per Liter

H: Analyzed outside of hold time
P: Preliminary result
S: Suspect result. See Case Narrative for comments.
E: Analysis performed by External laboratory. See External Laboratory Report attachments.

Report Authentication Code:

1414 Stanislaus Street Fresno, CA 93706-1623 Phone 559-497-2888, In CA 800-877-8310 Fax 559-485-6935

Sample Integrity

Pg. 1 of 2

C 2005082473 08/30/2005
CAL AM SAC
830055
TAT: Standard

Date Received 08/30/05

Section 1- Sampled Same Day

Sample Transport: Walk In SJVC BSK-Courier Transported In: Ice Chest Box Hand

Has chilling process begun? Y N Samples Received: Chilled to Touch / Ambient / On Ice

Section 2- Sampled Previously

Sample Transport: CAO UPS SJVC Walk-In BSK-Courier GSO Fed Exp. Other:

No. Coolers/Ice Chests: 1-4 Temperature(s): Metals

Was Temperature In Range : Y N Received On Ice: Wet Blue

Describe type of packing materials: Bubble Wrap Foam Packing Peanuts Paper Other:

Were ice chest custody seals present? Y N Intact: Y N

Section 3- COC Info.	Completed Yes	Completed No	Info From Container		Completed Yes	Completed No	Info From Container
Was COC Received	✓			Analysis Requested	✓		
Date Sampled	✓			Any hold times less than 72hr		✓	
Time Sampled	✓			Client Name	✓		
Sample ID	✓			Address	✓		
Special Storage/Handling Ins.		✓		Telephone #	✓		

Section 4- Bottles / Analysis	Yes	No	N/A	Comment
Did all bottles arrive unbroken and intact?:	✓			
Were bottle custody seals present?		✓		
Were bottle custody seals intact?		✓		
Did all bottle labels agree with COC?:	✓			
Were correct containers used for the tests requested?:	✓			
Were correct preservations used for the tests requested?:	✓			
Was a sufficient amount of sample sent for tests indicated?:	✓			
Were bubbles present in VOA Vials?: **(Volatile Methods Only)**			✓	
Were Ascorbic Acid Bottles received with the VOAs			✓	

Section 5- Comments / Discrepancies

Sample(s) Split/Preserve: Yes (No) Container: Preservation: Init.:

Was Client Service Rep. notified of discrepancies: Yes No (N/A) CSR: Notified By:

Explanations / Comments

Report Comment Entered:

F:/SHARE/QC/DOCCONTROL/FORMS/SMPINTG05 Labeled by: Labels checked by:

Sample Integrity Pg 2 of 2

BSK Bottles (Yes) No

CLIENT:

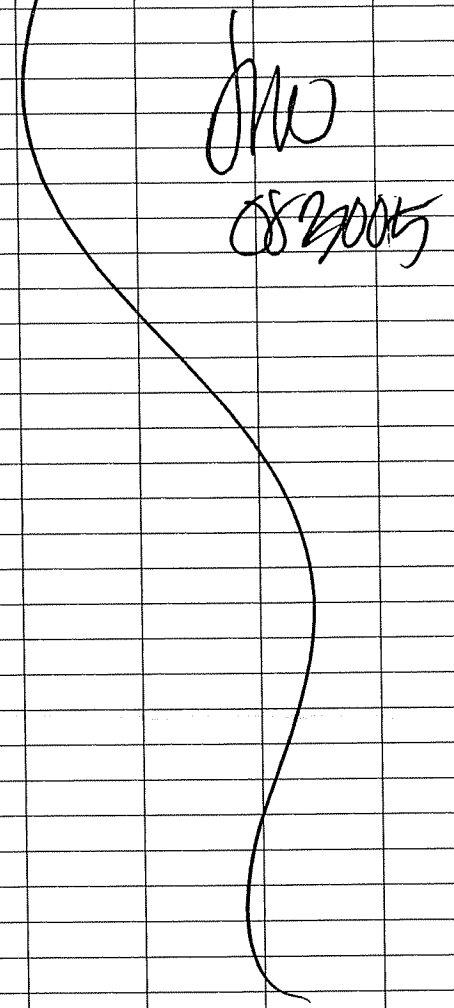
2005082473 08/30/2005

CAL AM SAC TAT: Standard

830055

8oz (A) 16oz (B) 32oz (C) Amber Glass (AG)

Container(s) Received	1	
Bacti $Na_2S_2O_3$		
None (p) White Cap		
None (p) Blue Cap		
HNO_3 (p) Red Cap	1A	
H_2SO_4 (p) Yellow Cap		
NaOH (p) Green Cap		
Other:		
Dissolved Oxygen 300ml (g)		
250ml (AG) None		
250ml (AG) H_2SO_4 TOC,COD Yellow Label		
250ml (AG) $Na_2S_2O_3$ 515,547 Blue Label		
250ml (AG) $Na_2S_2O_3$+ MCAA 531.1 Orange Label		
250ml (AG) NH_4Cl 552 Purple Label		
250ml (AG) EDA DBPs Brown Label		
250ml (AG) Other:		
500ml (AG) None		
500ml (AG) H_2SO_4 TPH-Diesel Yellow Label		
500ml (AG) Other:		
1 Liter (AG) None		
1 Liter (AG) H_2SO_4 O&G Yellow Label		
1 Liter (AG) Na_2SO_3 525 N-Green Label		
1 Liter (AG) $Na_2S_2O_3$ 548 Blue Label		
1 Liter (P) $Na_2S_2O_3$+ H_2SO_4 549		
1 Liter (AG) NaOH+ZnAc Sulfide		
1 Liter (AG) Other:		
40ml VOA Vial Clear – HCL		
40ml VOA Vial Amber – $Na_2S_2O_3$		
40ml VOA Vial Clear – None		
40ml VOA Vial Clear - $Na_2S_2O_3$ 504, 505		
40ml VOA Vial Other		
Other:		
Asbestos 1-Liter Plastic/Foil		
Radiological GA / GB (½ Gal Plastic)		
Radiological 226 / 228 (32 oz plastic N-BSK)		
Radon 200ml Clear (g)		
Low Level Hg/Metals Double Baggie		
THM-FP 4-40ml VOA None		
250 Clear Glass Jar		
500 Clear Glass Jar		
1 Liter Clear Glass Jar		
Plastic Bag		
Soil Tube Brass / Steel / Plastic		
Tedlar Bags		



BSK ANALYTICAL LABORATORIES

1414 Stanislaus Street
Fresno, CA 93706-1623
(559) 497-2888, (800) 877-8310
FAX (559) 485-6935
www.bsklabs.com

TEMP:

No Rush PER ~~RUSH~~ Shawn

2005082473 08/30/2005
CAL AM SAC TAT: Standard
830055

Client Name	Report Attn:	Phone #	FAX #	E-mail:
CAL AM	SHAWN SOLEY			
Address	**Project Name**	**Project #**	**Carbon Copies: (Check Box)**	
	ISLETON		CDHS ☐ FresnoCo ☐ EPA ☐ Merced Co ☐ Tulare Co ☐ Other:	
City State Zip	**Quote #** / **PO #**	**Rush Request (Circle One)**		
		No Rush per Shawn 7Day 5Day (2Day) 1Day		
Sampler Name Printed	**Sampler Signature**	**QC Required (Circle One)**	**Regulatory Compliance**	
B. CASKILL		STD Level II Level III	Electronic Data Transfer: Y N System #	

Matrix Types: RSW = Raw Surface Water CFW = Chlorinated Finished Water CWW = Chlorinated Waste Water BW = Bottled Water
RGW = Raw Ground Water FW = Finished Water WW = Waste Water SW = Storm Water DW = Drinking Water SO = Solid

Sample #	# Btls	Date / Time Sampled	Sample Description/Location	Matrix	Comments / Station Code
1	1	8/24/05 1530	FINISHED		
		/			
		/			
		/			
		/			
		/			
		/			
		/			
		/			
		/			

Shaded area lab use only

Relinquished by: (Signature and Printed Name)	Company	Date	Time	Received by (Signature and Print Name)	Company
B. CASKILL	HUNGERFORD + TERRY	8/24/05	1400		
Relinquished by: (Signature and Printed Name)	Company	Date	Time	Received by (Signature and Print Name)	Company
Relinquished by: (Signature and Printed Name)	Company	Date	Time	Received by (Signature and Print Name)	Company
Received for lab by: (Signature and Printed Name)		Date	Time	Payment Received at Delivery: Date: Amount: Check/Cash/Card PIA # Init.	
		082605	0745		

BSK ANALYTICAL LABORATORIES

Certificate of Analysis

NELAP Certificate #04227CA
ELAP Certificate #1180

Shawn Sevey
California American Water - Sac.
PO Box 15468
Sacramento, CA 95851-0468

BSK Submission #: 2005082274

BSK Sample ID #: 626380

Report Issue Date: 08/29/2005

Project ID / Desc.: Pilot Study Isleton Ca Well 3A
Submission Comments:

Sample Type: Liquid
Sample Description: Finishe 5
Sample Comments:

Date Sampled: 08/25/2005
Time Sampled: 0931
Date Received: 08/26/2005

Inorganics

Analyte	Method	Result	Units	PQL	Dilution	DLR	Prep Date	Analysis Date
Iron (Fe)	EPA 200.7	**0.41**	mg/L	0.05	1	0.05	08/29/2005	08/29/2005

mg/L: milligrams/liter (ppm)
mg/Kg: milligrams/kilogram (ppm)
µg/L: micrograms/liter (ppb)
µg/Kg: micrograms/kilogram (ppb)
%Rec: percent recovered (surrogates)

PQL: practical quantitation limit
DLR: detection limit for reporting : PQL x Dilution

ND: none detected at DLR

H: analyzed outside of hold time

P: preliminary result

S: suspect result. See Case Narrative for comments

1414 Stanislaus Street Fresno, CA 93706-1623 Phone 559-497-2888, In CA 800-877-8310 Fax 559-485-6935

BSK ANALYTICAL LABORATORIES

Certificate of Analysis

NELAP Certificate #04227CA
ELAP Certificate #1180

Shawn Sevey
California American Water - Sac.
PO Box 15468
Sacramento, CA 95851-0468

BSK Submission #: 2005082274

BSK Sample ID #: 626381

Report Issue Date: 08/29/2005

Project ID / Desc.: Pilot Study Isleton Ca Well 3A
Submission Comments:

Sample Type: Liquid
Sample Description: Finishe 10
Sample Comments:

Date Sampled: 08/25/2005
Time Sampled: 0931
Date Received: 08/26/2005

Inorganics

Analyte	Method	Result	Units	PQL	Dilution	DLR	Prep Date	Analysis Date
Iron (Fe)	EPA 200.7	**0.15**	mg/L	0.05	1	0.05	08/29/2005	08/29/2005
Arsenic (As)	EPA 200.8	**14**	µg/L	2	1	2	08/29/2005	08/29/2005

mg/L: milligrams/liter (ppm)
mg/Kg: milligrams/kilogram (ppm)
µg/L: micrograms/liter (ppb)
µg/Kg: micrograms/kilogram (ppb)
%Rec: percent recovered (surrogates)

PQL: practical quantitation limit
DLR: detection limit for reporting : PQL x Dilution

ND: none detected at DLR

H: analyzed outside of hold time

P: preliminary result

S: suspect result. See Case Narrative for comments

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BSK ANALYTICAL LABORATORIES

Certificate of Analysis

NELAP Certificate #04227CA
ELAP Certificate #1180

Shawn Sevey
California American Water - Sac.
PO Box 15468
Sacramento, CA 95851-0468

BSK Submission #: 2005082274

BSK Sample ID #: 626382

Report Issue Date: 08/29/2005

Project ID / Desc.: Pilot Study Isleton Ca Well 3A
Submission Comments:

Sample Type: Liquid
Sample Description: Finishe 15
Sample Comments:

Date Sampled: 08/25/2005
Time Sampled: 0931
Date Received: 08/26/2005

Inorganics

Analyte	Method	Result	Units	PQL	Dilution	DLR	Prep Date	Analysis Date
Iron (Fe)	EPA 200.7	**0.080**	mg/L	0.05	1	0.05	08/29/2005	08/29/2005
Arsenic (As)	EPA 200.8	**12**	µg/L	2	1	2	08/29/2005	08/29/2005

mg/L: milligrams/liter (ppm)
mg/Kg: milligrams/kilogram (ppm)
µg/L: micrograms/liter (ppb)
µg/Kg: micrograms/kilogram (ppb)
%Rec: percent recovered (surrogates)

PQL: practical quantitation limit
DLR: detection limit for reporting : PQL x Dilution

ND: none detected at DLR

H: analyzed outside of hold time

P: preliminary result

S: suspect result. See Case Narrative for comments

1414 Stanislaus Street Fresno, CA 93706-1623 Phone 559-497-2888, In CA 800-877-8310 Fax 559-485-6935

BSK ANALYTICAL LABORATORIES

Certificate of Analysis

NELAP Certificate #04227CA
ELAP Certificate #1180

Shawn Sevey
California American Water - Sac.
PO Box 15468
Sacramento, CA 95851-0468

BSK Submission #: 2005082274

BSK Sample ID #: 626383

Report Issue Date: 08/29/2005

Project ID / Desc.: Pilot Study Isleton Ca Well 3A
Submission Comments:

Sample Type: Liquid
Sample Description: Finishe 30
Sample Comments:

Date Sampled: 08/25/2005
Time Sampled: 0931
Date Received: 08/26/2005

Inorganics

Analyte	Method	Result	Units	PQL	Dilution	DLR	Prep Date	Analysis Date	
Calcium (Ca)	EPA 200.7	**8.2**	mg/L	0.1	1	0.1	08/29/2005	08/29/2005	
Iron (Fe)	EPA 200.7	**0.050**	mg/L	0.05	1	0.05	08/29/2005	08/29/2005	
Magnesium (Mg)	EPA 200.7	**3.2**	mg/L	0.1	1	0.1	08/29/2005	08/29/2005	
Manganese (Mn)	EPA 200.7	**ND**	mg/L	0.01	1	0.01	08/29/2005	08/29/2005	
Arsenic (As)	EPA 200.8	**8.0**	µg/L	2	1	2	08/29/2005	08/29/2005	
o-Phosphate as PO4	EPA 300.0	**ND**	mg/L	0.6	1	0.6	08/26/2005	08/26/2005	
Sulfate (SO4)	EPA 300.0	**19**	mg/L	2	1	2	08/26/2005	08/26/2005	
Color (A.P.H.A)	SM 2120 B	**ND**	units	1	1	1	08/26/2005	08/26/2005	P
Turbidity	SM 2130 B	**0.10**	NTU	0.1	1	0.1	08/26/2005	08/26/2005	P
Alkalinity (as CaCO3)	SM 2320 B	**230**	mg/L	1	1	1	08/26/2005	08/26/2005	P
Bicarbonate (as CaCO3)	SM 2320 B	**230**	mg/L	1	1	1	08/26/2005	08/26/2005	P
Carbonate (as CaCO3)	SM 2320 B	**ND**	mg/L	1	1	1	08/26/2005	08/26/2005	P
Hydroxide (as CaCO3)	SM 2320 B	**ND**	mg/L	1	1	1	08/26/2005	08/26/2005	P
pH	SM 4500-H+ B	**8.1**	Std.Unit	-	1	N/A	08/26/2005	08/26/2005	P

mg/L: milligrams/liter (ppm)
mg/Kg: milligrams/kilogram (ppm)
µg/L: micrograms/liter (ppb)
µg/Kg: micrograms/kilogram (ppb)
%Rec: percent recovered (surrogates)

PQL: practical quantitation limit
DLR: detection limit for reporting : PQL x Dilution

ND: none detected at DLR

H: analyzed outside of hold time

P: preliminary result

S: suspect result. See Case Narrative for comments

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BSK ANALYTICAL LABORATORIES

Certificate of Analysis

NELAP Certificate #04227CA
ELAP Certificate #1180

Shawn Sevey
California American Water - Sac.
PO Box 15468
Sacramento, CA 95851-0468

BSK Submission #: 2005082274

BSK Sample ID #: 626384

Report Issue Date: 08/29/2005

Project ID / Desc.: Pilot Study Isleton Ca Well 3A
Submission Comments:

Sample Type: Liquid
Sample Description: Influent
Sample Comments:

Date Sampled: 08/25/2005
Time Sampled: 0931
Date Received: 08/26/2005

Inorganics

Analyte	Method	Result	Units	PQL	Dilution	DLR	Prep Date	Analysis Date	
Calcium (Ca)	EPA 200.7	**6.6**	mg/L	0.1	1	0.1	08/29/2005	08/29/2005	
Iron (Fe)	EPA 200.7	**ND**	mg/L	0.05	1	0.05	08/29/2005	08/29/2005	
Magnesium (Mg)	EPA 200.7	**2.9**	mg/L	0.1	1	0.1	08/29/2005	08/29/2005	
Manganese (Mn)	EPA 200.7	**0.040**	mg/L	0.01	1	0.01	08/29/2005	08/29/2005	
Arsenic (As)	EPA 200.8	**23**	µg/L	2	1	2	08/29/2005	08/29/2005	
o-Phosphate as PO4	EPA 300.0	**1.2**	mg/L	0.6	1	0.6	08/26/2005	08/26/2005	
Sulfate (SO4)	EPA 300.0	**19**	mg/L	2	1	2	08/26/2005	08/26/2005	
Color (A.P.H.A)	SM 2120 B	**15**	units	1	1	1	08/26/2005	08/26/2005	P
Turbidity	SM 2130 B	**0.90**	NTU	0.1	1	0.1	08/26/2005	08/26/2005	P
Alkalinity (as CaCO3)	SM 2320 B	**250**	mg/L	1	1	1	08/26/2005	08/26/2005	P
Bicarbonate (as CaCO3)	SM 2320 B	**240**	mg/L	1	1	1	08/26/2005	08/26/2005	P
Carbonate (as CaCO3)	SM 2320 B	**11**	mg/L	1	1	1	08/26/2005	08/26/2005	P
Hydroxide (as CaCO3)	SM 2320 B	**ND**	mg/L	1	1	1	08/26/2005	08/26/2005	P
pH	SM 4500-H+ B	**8.5**	Std.Unit	-	1	N/A	08/26/2005	08/26/2005	P

mg/L: milligrams/liter (ppm)
mg/Kg: milligrams/kilogram (ppm)
µg/L: micrograms/liter (ppb)
µg/Kg: micrograms/kilogram (ppb)
%Rec: percent recovered (surrogates)

PQL: practical quantitation limit
DLR: detection limit for reporting : PQL x Dilution

ND: none detected at DLR

H: analyzed outside of hold time

P: preliminary result

S: suspect result. See Case Narrative for comments

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BSK ANALYTICAL LABORATORIES

Certificate of Analysis

NELAP Certificate #04227CA
ELAP Certificate #1180

Shawn Sevey
California American Water - Sac.
PO Box 15468
Sacramento, CA 95851-0468

BSK Submission #: 2005082274

BSK Sample ID #: 626385

Report Issue Date: 08/29/2005

Project ID / Desc.: Pilot Study Isleton Ca Well 3A
Submission Comments:

Sample Type: Liquid
Sample Description: Finishe
Sample Comments:

Date Sampled: 08/25/2005
Time Sampled: 0931
Date Received: 08/26/2005

Inorganics

Analyte	Method	Result	Units	PQL	Dilution	DLR	Prep Date	Analysis Date
Iron (Fe)	EPA 200.7	**ND**	mg/L	0.05	1	0.05	08/29/2005	08/29/2005
Arsenic (As)	EPA 200.8	**7.0**	µg/L	2	1	2	08/29/2005	08/29/2005

mg/L: milligrams/liter (ppm)
mg/Kg: milligrams/kilogram (ppm)
µg/L: micrograms/liter (ppb)
µg/Kg: micrograms/kilogram (ppb)
%Rec: percent recovered (surrogates)

PQL: practical quantitation limit
DLR: detection limit for reporting : PQL x Dilution

ND: none detected at DLR

H: analyzed outside of hold time

P: preliminary result

S: suspect result. See Case Narrative for comments

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BSK ANALYTICAL LABORATORIES

Certificate of Analysis

NELAP Certificate #04227CA
ELAP Certificate #1180

Shawn Sevey
California American Water - Sac.
PO Box 15468
Sacramento, CA 95851-0468

BSK Submission #: 2005082274

BSK Sample ID #: 626386

Report Issue Date: 08/29/2005

Project ID / Desc.: Pilot Study Isleton Ca Well 3A
Submission Comments:

Sample Type: Liquid
Sample Description: Influent
Sample Comments:

Date Sampled: 08/25/2005
Time Sampled: 0931
Date Received: 08/26/2005

Inorganics

Analyte	Method	Result	Units	PQL	Dilution	DLR	Prep Date	Analysis Date
Arsenic (As)	EPA 200.8	**25**	µg/L	2	1	2	08/29/2005	08/29/2005

mg/L: milligrams/liter (ppm)
mg/Kg: milligrams/kilogram (ppm)
µg/L: micrograms/liter (ppb)
µg/Kg: micrograms/kilogram (ppb)
%Rec: percent recovered (surrogates)

PQL: practical quantitation limit
DLR: detection limit for reporting : PQL x Dilution

ND: none detected at DLR

H: analyzed outside of hold time

P: preliminary result

S: suspect result. See Case Narrative for comments

1414 Stanislaus Street Fresno, CA 93706-1623 Phone 559-497-2888, In CA 800-877-8310 Fax 559-485-6935

BSK ANALYTICAL LABORATORIES

BSK Submission Number: 2005082475

09/20/2005

Shawn Sevey
California American Water - Sac.
PO Box 15468
Sacramento, CA 95851-0468

Dear Shawn Sevey,

Thank you for selecting BSK Analytical Laboratories for your analytical testing needs. We have prepared this report in response to your request for analytical services. Please find enclosed the following sections for your complete laboratory report, each uniquely paginated:

CASE NARRATIVE: An overview of the work performed.
CERTIFICATE OF ANALYSIS: Analytical results.
REPORT OF SAMPLE INTEGRITY
CHAIN OF CUSTODY FORM

Certification: I certify that this data package is in compliance with NELAC Standards for applicable analyses under NELAP Certificate #04227CA, and is in compliance with ELAP Standards for applicable certified analyses under ELAP Certificate #1180, except for the conditions listed.

If additional clarification of any information is required, please contact your Client Services Representative, Debra Skelton, at (800) 877-8310 or (559) 497-2888.

BSK ANALYTICAL LABORATORIES

Debra Skelton
Client Services Representative

Case Narrative

BSK Submission Number: 2005082475

SAMPLE AND RECEIPT INFORMATION

The sample(s) was received, prepared, and analyzed within the method specified holding times unless otherwise noted on the Certificate of Analysis. Samples, when shipped, arrived within acceptable temperature requirements of 0° to 6° Celsius unless otherwise noted on the Report of Sample Integrity. Samples collected by BSK Analytical Laboratories were collected in accordance with the BSK Sampling and Collection Standard Operating Procedures.

QUALITY CONTROL

All analytical quality controls are within established method criteria except when noted in the Quality Control section or on the Certificate of Analysis. All positive results for EPA Methods 504.1, 502.2, 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. QC samples may include analytes not requested in this submission.

SAMPLE RESULT INFORMATION

Samples are analyzed as received (wet weight basis) unless noted here. The results relate only to the items tested. Any exceptions to be considered when evaluating these results are also listed here, if applicable. Results contained in this package shall not be reproduced, except in full, without written approval of BSK Analytical Laboratories.

ORDER	TEST	ANALYTE	COMMENT
627585			Sample has a turbidity of greater than 1 NTU. Sample was digested using EPA method 200.2 prior to metals analysis
627588	EPA 300.0	o-Phosphate as PO4	Sample received out of holding time.
627588	SM 2120 B	Color (A.P.H.A)	Sample received out of holding time.
627588	SM 2130 B	Turbidity	Sample received out of holding time.
627588	SM 4500-H+ B	pH	Sample received out of holding time.
627589	EPA 300.0	o-Phosphate as PO4	Sample received out of holding time.
627589	SM 2120 B	Color (A.P.H.A)	Sample received out of holding time.
627589	SM 2130 B	Turbidity	Sample received out of holding time.
627589	SM 4500-H+ B	pH	Sample received out of holding time.

BSK ANALYTICAL LABORATORIES

Certificate of Analysis

NELAP Certificate #04227CA
ELAP Certificate #1180

Shawn Sevey
California American Water - Sac.
PO Box 15468
Sacramento, CA 95851-0468

BSK Submission #: 2005082475
BSK Sample ID #: 627585

Report Issue Date: 09/20/2005

Project ID: Project Desc: Isleton CA Well 3A
Submission Comments:
Sample Type: Liquid
Sample Description: Finish-5
Sample Comments:

Date Sampled: 08/26/2005
Time Sampled: 0907
Date Received: 08/30/2005

Inorganics

Analyte	Method	Result	Units	PQL	Dilution	DLR	Prep Date/Time	Analysis Date/Time
Arsenic (As)	EPA 200.8	**12**	µg/L	2	1	2	08/31/05	09/12/05
Iron (Fe)	EPA 200.7	**0.96**	mg/L	0.05	1	0.05	08/31/05	09/09/05

mg/L: Milligrams/Liter (ppm)
mg/Kg: Milligrams/Kilogram (ppm)
µg/L: Micrograms/Liter (ppb)
µg/Kg: Micrograms/Kilogram (ppb)
%Rec: Percent Recovered (surrogates)

PQL: Practical Quantitation Limit
DLR: Detection Limit for Reporting : PQL x Dilution
ND: None Detected at DLR
pCi/L: Picocurie per Liter

H: Analyzed outside of hold time
P: Preliminary result
S: Suspect result. See Case Narrative for comments.
E: Analysis performed by External laboratory. See External Laboratory Report attachments.

Report Authentication Code:

1414 Stanislaus Street Fresno, CA 93706-1623 Phone 559-497-2888, In CA 800-877-8310 Fax 559-485-6935

BSK ANALYTICAL LABORATORIES

Certificate of Analysis

NELAP Certificate #04227CA
ELAP Certificate #1180

Shawn Sevey
California American Water - Sac.
PO Box 15468
Sacramento, CA 95851-0468

BSK Submission #: 2005082475
BSK Sample ID #: 627586

Report Issue Date: 09/20/2005

Project ID: Project Desc: Isleton CA Well 3A
Submission Comments:
Sample Type: Liquid
Sample Description: Finish-10
Sample Comments:

Date Sampled: 08/26/2005
Time Sampled: 0912
Date Received: 08/30/2005

Inorganics

Analyte	Method	Result	Units	PQL	Dilution	DLR	Prep Date/Time	Analysis Date/Time
Arsenic (As)	EPA 200.8	**10**	µg/L	2	1	2	08/31/05	09/16/05
Iron (Fe)	EPA 200.7	**0.29**	mg/L	0.05	1	0.05	08/31/05	09/08/05

mg/L: Milligrams/Liter (ppm)
mg/Kg: Milligrams/Kilogram (ppm)
µg/L: Micrograms/Liter (ppb)
µg/Kg: Micrograms/Kilogram (ppb)
%Rec: Percent Recovered (surrogates)

PQL: Practical Quantitation Limit
DLR: Detection Limit for Reporting : PQL x Dilution
ND: None Detected at DLR
pCi/L: Picocurie per Liter

H: Analyzed outside of hold time
P: Preliminary result
S: Suspect result. See Case Narrative for comments.
E: Analysis performed by External laboratory. See External Laboratory Report attachments.

Report Authentication Code:

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BSK ANALYTICAL LABORATORIES

Certificate of Analysis

NELAP Certificate #04227CA
ELAP Certificate #1180

Shawn Sevey
California American Water - Sac.
PO Box 15468
Sacramento, CA 95851-0468

BSK Submission #: 2005082475
BSK Sample ID #: 627587

Report Issue Date: 09/20/2005

Project ID: Project Desc: Isleton CA Well 3A
Submission Comments:
Sample Type: Liquid
Sample Description: Finish-15
Sample Comments:

Date Sampled: 08/26/2005
Time Sampled: 0917
Date Received: 08/30/2005

Inorganics

Analyte	Method	Result	Units	PQL	Dilution	DLR	Prep Date/Time	Analysis Date/Time
Arsenic (As)	EPA 200.8	**8.0**	µg/L	2	1	2	08/31/05	09/16/05
Iron (Fe)	EPA 200.7	**0.15**	mg/L	0.05	1	0.05	08/31/05	09/08/05

mg/L: Milligrams/Liter (ppm)
mg/Kg: Milligrams/Kilogram (ppm)
µg/L: Micrograms/Liter (ppb)
µg/Kg: Micrograms/Kilogram (ppb)
%Rec: Percent Recovered (surrogates)

PQL: Practical Quantitation Limit
DLR: Detection Limit for Reporting : PQL x Dilution
ND: None Detected at DLR
pCi/L: Picocurie per Liter

H: Analyzed outside of hold time
P: Preliminary result
S: Suspect result. See Case Narrative for comments.
E: Analysis performed by External laboratory. See External Laboratory Report attachments.

Report Authentication Code:

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BSK ANALYTICAL LABORATORIES

Certificate of Analysis

NELAP Certificate #04227CA
ELAP Certificate #1180

Shawn Sevey
California American Water - Sac.
PO Box 15468
Sacramento, CA 95851-0468

BSK Submission #: 2005082475
BSK Sample ID #: 627588

Report Issue Date: 09/20/2005

Project ID: Project Desc: Isleton CA Well 3A
Submission Comments:
Sample Type: Liquid
Sample Description: Finish-30
Sample Comments:

Date Sampled: 08/26/2005
Time Sampled: 0932
Date Received: 08/30/2005

Inorganics

Analyte	Method	Result	Units	PQL	Dilution	DLR	Prep Date/Time	Analysis Date/Time	
Alkalinity (as CaCO3)	SM 2320 B	**240**	mg/L	1	1	1	08/30/05	08/30/05	
Aluminum (Al)	EPA 200.7	**ND**	mg/L	0.05	1	0.05	08/31/05	09/08/05	
Arsenic (As)	EPA 200.8	**7.0**	µg/L	2	1	2	08/31/05	09/16/05	
Bicarbonate (as CaCO3)	SM 2320 B	**240**	mg/L	1	1	1	08/30/05	08/30/05	
Calcium (Ca)	EPA 200.7	**6.6**	mg/L	0.1	1	0.1	08/31/05	09/08/05	
Carbonate (as CaCO3)	SM 2320 B	**ND**	mg/L	1	1	1	08/30/05	08/30/05	
Color (A.P.H.A)	SM 2120 B	**ND**	units	1	1	1	08/30/05 16:56	08/30/05 16:56	H
Hardness (as CaCO3)	SM 2340 B	**28**	mg/L	1.0	1	1.0	09/16/05	09/16/05	
Hydroxide (as CaCO3)	SM 2320 B	**ND**	mg/L	1	1	1	08/30/05	08/30/05	
Iron (Fe)	EPA 200.7	**0.11**	mg/L	0.05	1	0.05	08/31/05	09/08/05	
Magnesium (Mg)	EPA 200.7	**2.9**	mg/L	0.1	1	0.1	08/31/05	09/08/05	
Manganese (Mn)	EPA 200.7	**ND**	mg/L	0.01	1	0.01	08/31/05	09/08/05	
o-Phosphate as PO4	EPA 300.0	**ND**	mg/L	0.6	1	0.6	08/31/05 00:12	08/31/05 00:12	H
pH	SM 4500-H+ B	**8.1**	Std.Unit	-	1	N/A	08/30/05 19:09	08/30/05 19:09	H
Sulfate (SO4)	EPA 300.0	**19**	mg/L	2	1	2	08/31/05	08/31/05	
Turbidity	SM 2130 B	**0.10**	NTU	0.1	1	0.1	08/30/05 16:56	08/30/05 16:56	H

mg/L: Milligrams/Liter (ppm)
mg/Kg: Milligrams/Kilogram (ppm)
µg/L: Micrograms/Liter (ppb)
µg/Kg: Micrograms/Kilogram (ppb)
%Rec: Percent Recovered (surrogates)

PQL: Practical Quantitation Limit
DLR: Detection Limit for Reporting : PQL x Dilution
ND: None Detected at DLR
pCi/L: Picocurie per Liter

H: Analyzed outside of hold time
P: Preliminary result
S: Suspect result. See Case Narrative for comments.
E: Analysis performed by External laboratory. See External Laboratory Report attachments.

Report Authentication Code:

1414 Stanislaus Street Fresno, CA 93706-1623 Phone 559-497-2888, In CA 800-877-8310 Fax 559-485-6935

BSK ANALYTICAL LABORATORIES

Certificate of Analysis

NELAP Certificate #04227CA
ELAP Certificate #1180

Shawn Sevey
California American Water - Sac.
PO Box 15468
Sacramento, CA 95851-0468

BSK Submission #: 2005082475
BSK Sample ID #: 627589

Report Issue Date: 09/20/2005

Project ID: Project Desc: Isleton CA Well 3A
Submission Comments:
Sample Type: Liquid
Sample Description: Influent
Sample Comments:

Date Sampled: 08/26/2005
Time Sampled: 0932
Date Received: 08/30/2005

Inorganics

Analyte	Method	Result	Units	PQL	Dilution	DLR	Prep Date/Time	Analysis Date/Time	
Alkalinity (as CaCO3)	SM 2320 B	**250**	mg/L	1	1	1	08/30/05	08/30/05	
Aluminum (Al)	EPA 200.7	**ND**	mg/L	0.05	1	0.05	08/31/05	09/08/05	
Arsenic (As)	EPA 200.8	**24**	µg/L	2	1	2	08/31/05	09/16/05	
Bicarbonate (as CaCO3)	SM 2320 B	**240**	mg/L	1	1	1	08/30/05	08/30/05	
Calcium (Ca)	EPA 200.7	**6.5**	mg/L	0.1	1	0.1	08/31/05	09/08/05	
Carbonate (as CaCO3)	SM 2320 B	**11**	mg/L	1	1	1	08/30/05	08/30/05	
Color (A.P.H.A)	SM 2120 B	**15**	units	1	1	1	08/30/05 16:58	08/30/05 16:58	H
Hardness (as CaCO3)	SM 2340 B	**28**	mg/L	1.0	1	1.0	09/16/05	09/16/05	
Hydroxide (as CaCO3)	SM 2320 B	**ND**	mg/L	1	1	1	08/30/05	08/30/05	
Iron (Fe)	EPA 200.7	**ND**	mg/L	0.05	1	0.05	08/31/05	09/08/05	
Magnesium (Mg)	EPA 200.7	**2.8**	mg/L	0.1	1	0.1	08/31/05	09/08/05	
Manganese (Mn)	EPA 200.7	**0.050**	mg/L	0.01	1	0.01	08/31/05	09/08/05	
o-Phosphate as PO4	EPA 300.0	**1.2**	mg/L	0.6	1	0.6	08/31/05 00:21	08/31/05 00:21	H
pH	SM 4500-H+ B	**8.5**	Std.Unit	-	1	N/A	08/30/05 19:18	08/30/05 19:18	H
Sulfate (SO4)	EPA 300.0	**19**	mg/L	2	1	2	08/31/05	08/31/05	
Turbidity	SM 2130 B	**0.60**	NTU	0.1	1	0.1	08/30/05 16:58	08/30/05 16:58	H

mg/L: Milligrams/Liter (ppm)
mg/Kg: Milligrams/Kilogram (ppm)
µg/L: Micrograms/Liter (ppb)
µg/Kg: Micrograms/Kilogram (ppb)
%Rec: Percent Recovered (surrogates)

PQL: Practical Quantitation Limit
DLR: Detection Limit for Reporting : PQL x Dilution
ND: None Detected at DLR
pCi/L: Picocurie per Liter

H: Analyzed outside of hold time
P: Preliminary result
S: Suspect result. See Case Narrative for comments.
E: Analysis performed by External laboratory. See External Laboratory Report attachments.

Report Authentication Code:

1414 Stanislaus Street Fresno, CA 93706-1623 Phone 559-497-2888, In CA 800-877-8310 Fax 559-485-6935

BSK ANALYTICAL LABORATORIES

Certificate of Analysis

NELAP Certificate #04227CA
ELAP Certificate #1180

Shawn Sevey
California American Water - Sac.
PO Box 15468
Sacramento, CA 95851-0468

BSK Submission #: 2005082475
BSK Sample ID #: 627590

Report Issue Date: 09/20/2005

Project ID: Project Desc: Isleton CA Well 3A
Submission Comments:
Sample Type: Liquid
Sample Description: Finish
Sample Comments:

Date Sampled: 08/26/2005
Time Sampled: 1200
Date Received: 08/30/2005

Inorganics

Analyte	Method	Result	Units	PQL	Dilution	DLR	Prep Date/Time	Analysis Date/Time
Arsenic (As)	EPA 200.8	**6.0**	µg/L	2	1	2	08/31/05	09/16/05
Iron (Fe)	EPA 200.7	**0.070**	mg/L	0.05	1	0.05	08/31/05	09/08/05

mg/L: Milligrams/Liter (ppm)
mg/Kg: Milligrams/Kilogram (ppm)
µg/L: Micrograms/Liter (ppb)
µg/Kg: Micrograms/Kilogram (ppb)
%Rec: Percent Recovered (surrogates)

PQL: Practical Quantitation Limit
DLR: Detection Limit for Reporting : PQL x Dilution
ND: None Detected at DLR
pCi/L: Picocurie per Liter

H: Analyzed outside of hold time
P: Preliminary result
S: Suspect result. See Case Narrative for comments.
E: Analysis performed by External laboratory. See External Laboratory Report attachments.

Report Authentication Code:

1414 Stanislaus Street Fresno, CA 93706-1623 Phone 559-497-2888, In CA 800-877-8310 Fax 559-485-6935

BSK ANALYTICAL LABORATORIES

Certificate of Analysis

NELAP Certificate #04227CA
ELAP Certificate #1180

Shawn Sevey
California American Water - Sac.
PO Box 15468
Sacramento, CA 95851-0468

BSK Submission #: 2005082475
BSK Sample ID #: 627591

Report Issue Date: 09/20/2005

Project ID:
Project Desc: Isleton CA Well 3A
Submission Comments:
Sample Type: Liquid
Sample Description: Influent
Sample Comments:

Date Sampled: 08/26/2005
Time Sampled: 1200
Date Received: 08/30/2005

Inorganics

Analyte	Method	Result	Units	PQL	Dilution	DLR	Prep Date/Time	Analysis Date/Time
Arsenic (As)	EPA 200.8	**22**	µg/L	2	1	2	08/31/05	09/16/05

mg/L: Milligrams/Liter (ppm)
mg/Kg: Milligrams/Kilogram (ppm)
µg/L: Micrograms/Liter (ppb)
µg/Kg: Micrograms/Kilogram (ppb)
%Rec: Percent Recovered (surrogates)

PQL: Practical Quantitation Limit
DLR: Detection Limit for Reporting : PQL x Dilution
ND: None Detected at DLR
pCi/L: Picocurie per Liter

H: Analyzed outside of hold time
P: Preliminary result
S: Suspect result. See Case Narrative for comments.
E: Analysis performed by External laboratory. See External Laboratory Report attachments.

Report Authentication Code:

1414 Stanislaus Street Fresno, CA 93706-1623 Phone 559-497-2888, In CA 800-877-8310 Fax 559-485-6935

BSK ANALYTICAL LABORATORIES

Certificate of Analysis

NELAP Certificate #04227CA
ELAP Certificate #1180

Shawn Sevey
California American Water - Sac.
PO Box 15468
Sacramento, CA 95851-0468

BSK Submission #: 2005082475
BSK Sample ID #: 627592

Report Issue Date: 09/20/2005

Project ID: Project Desc: Isleton CA Well 3A
Submission Comments:
Sample Type: Liquid
Sample Description: Finish
Sample Comments:

Date Sampled: 08/26/2005
Time Sampled: 1400
Date Received: 08/30/2005

Inorganics

Analyte	Method	Result	Units	PQL	Dilution	DLR	Prep Date/Time	Analysis Date/Time
Arsenic (As)	EPA 200.8	**6.0**	µg/L	2	1	2	08/31/05	09/16/05
Iron (Fe)	EPA 200.7	**ND**	mg/L	0.05	1	0.05	08/31/05	09/09/05

mg/L: Milligrams/Liter (ppm)
mg/Kg: Milligrams/Kilogram (ppm)
µg/L: Micrograms/Liter (ppb)
µg/Kg: Micrograms/Kilogram (ppb)
%Rec: Percent Recovered (surrogates)

PQL: Practical Quantitation Limit
DLR: Detection Limit for Reporting : PQL x Dilution
ND: None Detected at DLR
pCi/L: Picocurie per Liter

H: Analyzed outside of hold time
P: Preliminary result
S: Suspect result. See Case Narrative for comments.
E: Analysis performed by External laboratory. See External Laboratory Report attachments.

Report Authentication Code:

1414 Stanislaus Street Fresno, CA 93706-1623 Phone 559-497-2888, In CA 800-877-8310 Fax 559-485-6935

BSK ANALYTICAL LABORATORIES

Certificate of Analysis

NELAP Certificate #04227CA
ELAP Certificate #1180

Shawn Sevey
California American Water - Sac.
PO Box 15468
Sacramento, CA 95851-0468

BSK Submission #: 2005082475
BSK Sample ID #: 627593

Report Issue Date: 09/20/2005

Project ID: Project Desc: Isleton CA Well 3A
Submission Comments:
Sample Type: Liquid
Sample Description: Inflluent
Sample Comments:

Date Sampled: 08/26/2005
Time Sampled: 1400
Date Received: 08/30/2005

Inorganics

Analyte	Method	Result	Units	PQL	Dilution	DLR	Prep Date/Time	Analysis Date/Time
Arsenic (As)	EPA 200.8	**23**	µg/L	2	1	2	09/03/05	09/16/05

mg/L: Milligrams/Liter (ppm)
mg/Kg: Milligrams/Kilogram (ppm)
µg/L: Micrograms/Liter (ppb)
µg/Kg: Micrograms/Kilogram (ppb)
%Rec: Percent Recovered (surrogates)

PQL: Practical Quantitation Limit
DLR: Detection Limit for Reporting : PQL x Dilution
ND: None Detected at DLR
pCi/L: Picocurie per Liter

H: Analyzed outside of hold time
P: Preliminary result
S: Suspect result. See Case Narrative for comments.
E: Analysis performed by External laboratory. See External Laboratory Report attachments.

Report Authentication Code:

1414 Stanislaus Street Fresno, CA 93706-1623 Phone 559-497-2888, In CA 800-877-8310 Fax 559-485-6935

Sample Integrity

Pg. 1 of 2

CJ

2005082475 08/30/2005

CAL AM SAC TAT: Standard

830053

Date Received 083005

Section 1- Sampled Same Day

Sample Transport: Walk In SJVC BSK-Courier Transported In: Ice Chest Box Hand

Has chilling process begun? Y N Samples Received: Chilled to Touch / Ambient / On Ice

Section 2- Sampled Previously

Sample Transport: CAO UPS SJVC Walk-In BSK-Courier GSO Fed Exp. Other:_____

No. Coolers/Ice Chests: 1-4 Temperature(s): 4°-4°-0°-3°

Was Temperature In Range : Y N Received On Ice: Wet Blue

Describe type of packing materials: Bubble Wrap ~~Foam~~ ~~Packing Peanuts~~ ~~Paper~~ ~~Other:~~

Were ice chest custody seals present? Y ~~N~~ Intact: Y N

Section 3- COC Info.	Completed Yes	Completed No	Info From Container		Completed Yes	Completed No	Info From Container
Was COC Received	✓			Analysis Requested	✓		
Date Sampled	✓			Any hold times less than 72hr			
Time Sampled	✓			Client Name	✓		
Sample ID	✓			Address	✓		
Special Storage/Handling Ins.		✓		Telephone #	✓		

Section 4- Bottles / Analysis	Yes	No	N/A	Comment
Did all bottles arrive unbroken and intact?:	✓			
Were bottle custody seals present?		✓		
Were bottle custody seals intact?		✓		
Did all bottle labels agree with COC?:	✓			
Were correct containers used for the tests requested?:	✓			
Were correct preservations used for the tests requested?:	✓			
Was a sufficient amount of sample sent for tests indicated?:	✓			
Were bubbles present in VOA Vials?: **(Volatile Methods Only)**			✓	
Were Ascorbic Acid Bottles received with the VOAs			✓	

Section 5- Comments / Discrepancies

Sample(s) Split/Preserve: Yes No Container: _____ Preservation: _____ Init.:____

Was Client Service Rep. notified of discrepancies: Yes No N/A CSR: Notified By:

Explanations / Comments

Report Comment Entered:

F:/SHARE/QC/DOCCONTROL/FORMS/SMPINTG05 Labeled by: Labels checked by:

Sample Integrity Pg 2 of 2

BSK Bottles (Yes) No

2005082475 08/30/2005
CAL AM SAC TAT: Standard
830053

8oz (A) 16oz (B) 32oz (C) Amber Glass (AG)

Container(s) Received	1-3	4-5	6-9
Bacti $Na_2S_2O_3$			
None (p) White Cap		1C	
None (p) Blue Cap			
HNO_3 (p) Red Cap	1A	1B	1A
H_2SO_4 (p) Yellow Cap			
NaOH (p) Green Cap			
Other:			
Dissolved Oxygen 300ml (g)			
250ml (AG) None			
250ml (AG) H_2SO_4 TOC,COD Yellow Label		1	
250ml (AG) $Na_2S_2O_3$ 515,547 Blue Label			
250ml (AG) $Na_2S_2O_3$+ MCAA 531.1 Orange Label			
250ml (AG) NH_4Cl 552 Purple Label			
250ml (AG) EDA DBPs Brown Label			
250ml (AG) Other:			
500ml (AG) None			
500ml (AG) H_2SO_4 TPH-Diesel Yellow Label			
500ml (AG) Other:			
1 Liter (AG) None			
1 Liter (AG) H_2SO_4 O&G Yellow Label			
1 Liter (AG) Na_2SO_3 525 N-Green Label			
1 Liter (AG) $Na_2S_2O_3$ 548 Blue Label			
1 Liter (P) $Na_2S_2O_3$+ H_2SO_4 549			
1 Liter (AG) NaOH+ZnAc Sulfide			
1 Liter (AG) Other:			
40ml VOA Vial Clear – HCL			
40ml VOA Vial Amber – $Na_2S_2O_3$			
40ml VOA Vial Clear – None			
40ml VOA Vial Clear - $Na_2S_2O_3$ 504, 505			
40ml VOA Vial Other			
Other:			
Asbestos 1-Liter Plastic/Foil			
Radiological GA / GB (½ Gal Plastic)			
Radiological 226 / 228 (32 oz plastic N-BSK)			
Radon 200ml Clear (g)			
Low Level Hg/Metals Double Baggie			
THM-FP 4-40ml VOA None			
250 Clear Glass Jar			
500 Clear Glass Jar			
1 Liter Clear Glass Jar			
Plastic Bag			
Soil Tube Brass / Steel / Plastic			
Tedlar Bags			

08/30/05

BSK ANALYTICAL LABORATORIES

1414 Stanisla
Fresno, CA 9
(559) 497-288
FAX (559) 48

2005082475
CAL AM SAC
830053

08/30/2005 #7 NO RUSH PER SHAWN & 830053

TAT: Standard

Client Name	Report Attn:	Phone #	FAX #	E-mail:
CAL AMERICAN WTR	SHAWN SEVEY	916-568-4216		

Address	Project Name	Project #	Carbon Copies: (Check Box)
4701 BELOIT DRIVE	ISLETON, CA WELL 3A		CDHS ☐ FresnoCo ☐ EPA ☐ Merced Co ☐ Tulare Co ☐ Other:

City State Zip	Quote #	PO #	Rush Request (Circle One)
SACRAMENTO, CA			7Day 5Day 2Day 1Day

Sampler Name Printed	Sampler Signature	QC Required (Circle One)	Regulatory Compliance
BEN GASKILL	[signature]	STD Level II Level III	Electronic Data Transfer: Y N; System #

Matrix Types: RSW = Raw Surface Water CFW = Chlorinated Finished Water CWW = Chlorinated Waste Water BW = Bottled Water
RGW = Raw Ground Water FW = Finished Water WW = Waste Water SW = Storm Water DW = Drinking Water SO = Solid

ANALYSIS REQUESTED

Sample #	# Btls	Date / Time Sampled	Sample Description/Location		Matrix	Comments / Station Code	TOTAL ALK, HARDNESS, TURBIDITY	Al, Mn	As	Fe	SO4, PHOSPHATE	COLOR
1	1	8/26 9:07	FINISH-5	022585	FW				X	X		
2	1	9:12	FINISH-10	86					X	X		
3	1	9:17	FINISH-15	87					X	X		
4	3	9:32	FINISH-30	88			X	X	X	X	X	X
5	3	9:32	INFLUENT	89		INFLUENT CHLORINATED	X	X	X	X	X	X
6	1	12:00	FINISH	90	FW				X	X		
7	1	12:00	INFLUENT	91		INFLUENT CHLORINATED			X			
8	1	14:00	FINISH	92	FW				X	X		
9	1	14:00	INFLUENT	93		INFLUENT CHLORINATED			X			
		/										
		/										

Relinquished by: (Signature and Printed Name)	Company	Date	Time	Received by (Signature and Print Name)	Company
BEN GASKILL	HUNGERFORD + TERRY	8/26/05	14:00	JON BORTELINK	BSK-SAC

Received for lab by: (Signature and Printed Name)	Date	Time	Payment Received at Delivery:
J. Morales BSK	08/30/05	0746	Date: Amount: Check/Cash/Card PIA # Init.

Shaded area lab use only

BSK ANALYTICAL LABORATORIES

BSK Submission Number: 2005082477

09/20/2005

Shawn Sevey
California American Water - Sac.
PO Box 15468
Sacramento, CA 95851-0468

Dear Shawn Sevey,

Thank you for selecting BSK Analytical Laboratories for your analytical testing needs. We have prepared this report in response to your request for analytical services. Please find enclosed the following sections for your complete laboratory report, each uniquely paginated:

CASE NARRATIVE: An overview of the work performed.
CERTIFICATE OF ANALYSIS: Analytical results.
REPORT OF SAMPLE INTEGRITY
CHAIN OF CUSTODY FORM

Certification: I certify that this data package is in compliance with NELAC Standards for applicable analyses under NELAP Certificate #04227CA, and is in compliance with ELAP Standards for applicable certified analyses under ELAP Certificate #1180, except for the conditions listed.

If additional clarification of any information is required, please contact your Client Services Representative, Debra Skelton, at (800) 877-8310 or (559) 497-2888.

BSK ANALYTICAL LABORATORIES

Debra Skelton
Client Services Representative

Case Narrative

BSK Submission Number: 2005082477

SAMPLE AND RECEIPT INFORMATION

The sample(s) was received, prepared, and analyzed within the method specified holding times unless otherwise noted on the Certificate of Analysis. Samples, when shipped, arrived within acceptable temperature requirements of 0° to 6° Celsius unless otherwise noted on the Report of Sample Integrity. Samples collected by BSK Analytical Laboratories were collected in accordance with the BSK Sampling and Collection Standard Operating Procedures.

QUALITY CONTROL

All analytical quality controls are within established method criteria except when noted in the Quality Control section or on the Certificate of Analysis. All positive results for EPA Methods 504.1, 502.2, 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. QC samples may include analytes not requested in this submission.

SAMPLE RESULT INFORMATION

Samples are analyzed as received (wet weight basis) unless noted here. The results relate only to the items tested. Any exceptions to be considered when evaluating these results are also listed here, if applicable. Results contained in this package shall not be reproduced, except in full, without written approval of BSK Analytical Laboratories.

ORDER	TEST	ANALYTE	COMMENT

BSK ANALYTICAL LABORATORIES

Certificate of Analysis

NELAP Certificate #04227CA
ELAP Certificate #1180

Shawn Sevey
California American Water - Sac.
PO Box 15468
Sacramento, CA 95851-0468

BSK Submission #: 2005082477
BSK Sample ID #: 627610

Report Issue Date: 09/20/2005

Project ID: Project Desc: Isleton
Submission Comments:
Sample Type: Liquid
Sample Description: Influent
Sample Comments:

Date Sampled: 08/27/2005
Time Sampled: 1330
Date Received: 08/30/2005

Inorganics

Analyte	Method	Result	Units	PQL	Dilution	DLR	Prep Date/Time	Analysis Date/Time
Arsenic (As)	EPA 200.8	**24**	µg/L	2	1	2	09/03/05	09/16/05

mg/L: Milligrams/Liter (ppm)
mg/Kg: Milligrams/Kilogram (ppm)
µg/L: Micrograms/Liter (ppb)
µg/Kg: Micrograms/Kilogram (ppb)
%Rec: Percent Recovered (surrogates)

PQL: Practical Quantitation Limit
DLR: Detection Limit for Reporting : PQL x Dilution
ND: None Detected at DLR
pCi/L: Picocurie per Liter

H: Analyzed outside of hold time
P: Preliminary result
S: Suspect result. See Case Narrative for comments.
E: Analysis performed by External laboratory. See External Laboratory Report attachments.

Report Authentication Code:

1414 Stanislaus Street Fresno, CA 93706-1623 Phone 559-497-2888, In CA 800-877-8310 Fax 559-485-6935

BSK ANALYTICAL LABORATORIES

Certificate of Analysis

NELAP Certificate #04227CA
ELAP Certificate #1180

Shawn Sevey
California American Water - Sac.
PO Box 15468
Sacramento, CA 95851-0468

BSK Submission #: 2005082477
BSK Sample ID #: 627611

Report Issue Date: 09/20/2005

Project ID: Project Desc: Isleton

Submission Comments:
Sample Type: Liquid
Sample Description: Finished
Sample Comments:

Date Sampled: 08/27/2005
Time Sampled: 1330
Date Received: 08/30/2005

Inorganics

Analyte	Method	Result	Units	PQL	Dilution	DLR	Prep Date/Time	Analysis Date/Time
Arsenic (As)	EPA 200.8	**6.0**	µg/L	2	1	2	09/03/05	09/16/05
Iron (Fe)	EPA 200.7	**ND**	mg/L	0.05	1	0.05	09/03/05	09/13/05

mg/L: Milligrams/Liter (ppm)
mg/Kg: Milligrams/Kilogram (ppm)
µg/L: Micrograms/Liter (ppb)
µg/Kg: Micrograms/Kilogram (ppb)
%Rec: Percent Recovered (surrogates)

PQL: Practical Quantitation Limit
DLR: Detection Limit for Reporting : PQL x Dilution
ND: None Detected at DLR
pCi/L: Picocurie per Liter

H: Analyzed outside of hold time
P: Preliminary result
S: Suspect result. See Case Narrative for comments.
E: Analysis performed by External laboratory. See External Laboratory Report attachments.

Report Authentication Code:

1414 Stanislaus Street Fresno, CA 93706-1623 Phone 559-497-2888, In CA 800-877-8310 Fax 559-485-6935

Sample Integrity

Pg. 1 of 2

2005082477
CAL AM SAC
830059

08/30/2005

TAT: Standard

Date Received 083005

Section 1- Sampled Same Day

Sample Transport: Walk In SJVC BSK-Courier Transported In: Ice Chest Box Hand

Has chilling process begun? Y N Samples Received: Chilled to Touch / Ambient / On Ice

Section 2- Sampled Previously

Sample Transport: CAO UPS SJVC Walk-In BSK-Courier GSO Fed Exp. Other:_____

No. Coolers/Ice Chests: 1-4 Temperature(s): Metals

Was Temperature In Range : Y N Received On Ice: Wet Blue

Describe type of packing materials: Bubble Wrap Foam Packing Peanuts Paper Other:_____

Were ice chest custody seals present? Y N Intact: Y N

Section 3- COC Info.	Completed Yes	Completed No	Info From Container		Completed Yes	Completed No	Info From Container
Was COC Received	✓			Analysis Requested	✓		
Date Sampled	✓			Any hold times less than 72hr		✓	
Time Sampled	✓			Client Name	✓		
Sample ID	✓			Address	✓		
Special Storage/Handling Ins.		✓		Telephone #	✓		

Section 4- Bottles / Analysis	Yes	No	N/A	Comment
Did all bottles arrive unbroken and intact?:	✓			
Were bottle custody seals present?		✓		
Were bottle custody seals intact?		✓		
Did all bottle labels agree with COC?:	✓			
Were correct containers used for the tests requested?:	✓			
Were correct preservations used for the tests requested?:	✓			
Was a sufficient amount of sample sent for tests indicated?:	✓			
Were bubbles present in VOA Vials?: **(Volatile Methods Only)**			✓	
Were Ascorbic Acid Bottles received with the VOAs				

Section 5- Comments / Discrepancies

Sample(s) Split/Preserve: Yes No Container:_____ Preservation:_____ Init.:____

Was Client Service Rep. notified of discrepancies: Yes No N/A CSR: Notified By:

Explanations / Comments

Report Comment Entered:

F:/SHARE/QC/DOCCONTROL/FORMS/SMPINTG05 Labeled by: Labels checked by:

Sample Integrity Pg 2 of 2

BSK Bottles (Yes) No

2005082477 08/30/2005
CAL AM SAC
TAT: Standard
830059

8oz (A) 16oz (B) 32oz (C) Amber Glass (AG)

Container(s) Received	1-2						
Bacti $Na_2S_2O_3$							
None (p) White Cap	1A						
None (p) Blue Cap							
HNO_3 (p) Red Cap							
H_2SO_4 (p) Yellow Cap							
NaOH (p) Green Cap							
Other:							
Dissolved Oxygen 300ml (g)							
250ml (AG) None							
250ml (AG) H_2SO_4 TOC,COD Yellow Label							
250ml (AG) $Na_2S_2O_3$ 515,547 Blue Label							
250ml (AG) $Na_2S_2O_3$+ MCAA 531.1 Orange Label							
250ml (AG) NH_4Cl 552 Purple Label							
250ml (AG) EDA DBPs Brown Label							
250ml (AG) Other:							
500ml (AG) None							
500ml (AG) H_2SO_4 TPH-Diesel Yellow Label							
500ml (AG) Other:							
1 Liter (AG) None							
1 Liter (AG) H_2SO_4 O&G Yellow Label							
1 Liter (AG) Na_2SO_3 525 N-Green Label							
1 Liter (AG) $Na_2S_2O_3$ 548 Blue Label							
1 Liter (P) $Na_2S_2O_3$+ H_2SO_4 549							
1 Liter (AG) NaOH+ZnAc Sulfide							
1 Liter (AG) Other:							
40ml VOA Vial Clear – HCL							
40ml VOA Vial Amber – $Na_2S_2O_3$							
40ml VOA Vial Clear – None							
40ml VOA Vial Clear - $Na_2S_2O_3$ 504, 505							
40ml VOA Vial Other							
Other:							
Asbestos 1-Liter Plastic/Foil							
Radiological GA / GB (½ Gal Plastic)							
Radiological 226 / 228 (32 oz plastic N-BSK)							
Radon 200ml Clear (g)							
Low Level Hg/Metals Double Baggie							
THM-FP 4-40ml VOA None							
250 Clear Glass Jar							
500 Clear Glass Jar							
1 Liter Clear Glass Jar							
Plastic Bag							
Soil Tube Brass / Steel / Plastic							
Tedlar Bags							

08/30/2005

NO RUSH PER Sharon

~~2 DAY TAT~~

830059

2005082477 08/30/2005
CAL AM SAC TAT: Standard
830059

BSK ANALYTICAL LABORATORIES

1414 Stanislaus Street, Fresno, CA 93706-1623
(559) 497-2888, (800) 877-8310, fax (559) 485-6935

BSK Submission:

Client: Cal American Water	Report Attention: Shaw Sevey	Phone: (916) 568-4216
Address: 4701 Beloit Drive	Project, Quote or PO #	FAX
City, State, Zip: Sacramento, Ca 95630	Copy to:	System #: ISLETON
Sampling Info	Sampled by: BEN GASKILL	Other

S#	T	#C	Date	Time	Sample Description / Location	Comment or Station Code (916) 568-4216	Total Alk, Hardness, Turbidity	Al, Fe, Mn, As	SO4, Phosphate	Color	As	Fe	Rush Priority (2-Day,
~~1~~			8/27/05		~~FILTER INFLUENT~~		X	X	X	X			
~~2~~			8/27/05		~~FINISHED~~								
1	L	1	8/27/05	13:30	INFLUENT	022610					X		
2		1	8/27/05	13:30	FINISHED	11					X	X	
					Filter influent Temp= 22 °C								
					Filter Influent cl2= 0.8 mg/L								
					Filter Influent PH= 8.38								
					Finished Temp= 25°C								
					Finished cl2= 0.2 mg/L								
					Finished PH= 7.72								

QC Report Type: Level [ ] 2 [ ] 3 [ ] 4

Formal COC Required: [ ]

Additional Services authorized by:

Signature	Print Name	Company	Date	Time
Received / Reliquished by: [signature]	BEN GASKILL	HUNGERFORD + TERRY, INC	8/29/05	13:49
Received / Reliquished by: [signature]	Brenda Hamilton	BSK-SAC	8/29/05	1349
Received / Reliquished by: [signature]	Morales	BSK Laboratories, Inc.	083005	0745

Payments Received with delivery

Date ______ Amount ______
Ref # ______ Initials ______

BSK ANALYTICAL LABORATORIES

BSK Submission Number: 2005082464

09/20/2005

Shawn Sevey
California American Water - Sac.
PO Box 15468
Sacramento, CA 95851-0468

Dear Shawn Sevey,

Thank you for selecting BSK Analytical Laboratories for your analytical testing needs. We have prepared this report in response to your request for analytical services. Please find enclosed the following sections for your complete laboratory report, each uniquely paginated:

CASE NARRATIVE: An overview of the work performed.
CERTIFICATE OF ANALYSIS: Analytical results.
REPORT OF SAMPLE INTEGRITY
CHAIN OF CUSTODY FORM

Certification: I certify that this data package is in compliance with NELAC Standards for applicable analyses under NELAP Certificate #04227CA, and is in compliance with ELAP Standards for applicable certified analyses under ELAP Certificate #1180, except for the conditions listed.

If additional clarification of any information is required, please contact your Client Services Representative, Debra Skelton, at (800) 877-8310 or (559) 497-2888.

BSK ANALYTICAL LABORATORIES

Debra Skelton
Client Services Representative

Case Narrative

BSK Submission Number: 2005082464

SAMPLE AND RECEIPT INFORMATION

The sample(s) was received, prepared, and analyzed within the method specified holding times unless otherwise noted on the Certificate of Analysis. Samples, when shipped, arrived within acceptable temperature requirements of 0° to 6° Celsius unless otherwise noted on the Report of Sample Integrity. Samples collected by BSK Analytical Laboratories were collected in accordance with the BSK Sampling and Collection Standard Operating Procedures.

QUALITY CONTROL

All analytical quality controls are within established method criteria except when noted in the Quality Control section or on the Certificate of Analysis. All positive results for EPA Methods 504.1, 502.2, 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. QC samples may include analytes not requested in this submission.

SAMPLE RESULT INFORMATION

Samples are analyzed as received (wet weight basis) unless noted here. The results relate only to the items tested. Any exceptions to be considered when evaluating these results are also listed here, if applicable. Results contained in this package shall not be reproduced, except in full, without written approval of BSK Analytical Laboratories.

ORDER	TEST	ANALYTE	COMMENT
627509	EPA 300.0	o-Phosphate as PO4	Sample received out of holding time.
627509	SM 2120 B	Color (A.P.H.A)	Sample received out of holding time.
627509	SM 2130 B	Turbidity	Sample received out of holding time.
627509	SM 4500-H+ B	pH	Sample received out of holding time.
627510	EPA 300.0	o-Phosphate as PO4	Sample received out of holding time.
627510	SM 2120 B	Color (A.P.H.A)	Sample received out of holding time.
627510	SM 2130 B	Turbidity	Sample received out of holding time.
627510	SM 4500-H+ B	pH	Sample received out of holding time.

BSK ANALYTICAL LABORATORIES

Certificate of Analysis

NELAP Certificate #04227CA
ELAP Certificate #1180

Shawn Sevey
California American Water - Sac.
PO Box 15468
Sacramento, CA 95851-0468

BSK Submission #: 2005082464
BSK Sample ID #: 627509

Report Issue Date: 09/20/2005

Project ID: Project Desc: Isleton

Submission Comments:
Sample Type: Liquid
Sample Description: Filter Influent
Sample Comments:

Date Sampled: 08/27/2005
Time Sampled: 1540
Date Received: 08/30/2005

Inorganics

Analyte	Method	Result	Units	PQL	Dilution	DLR	Prep Date/Time	Analysis Date/Time	
Alkalinity (as CaCO3)	SM 2320 B	**260**	mg/L	1	1	1	08/31/05	08/31/05	
Aluminum (Al)	EPA 200.7	**ND**	mg/L	0.05	1	0.05	09/03/05	09/12/05	
Arsenic (As)	EPA 200.8	**22**	µg/L	2	1	2	09/03/05	09/16/05	
Bicarbonate (as CaCO3)	SM 2320 B	**240**	mg/L	1	1	1	08/31/05	08/31/05	
Calcium (Ca)	EPA 200.7	**6.5**	mg/L	0.1	1	0.1	09/03/05	09/12/05	
Carbonate (as CaCO3)	SM 2320 B	**18**	mg/L	1	1	1	08/31/05	08/31/05	
Color (A.P.H.A)	SM 2120 B	**20**	units	1	1	1	08/31/05 16:36	08/31/05 16:36	H
Hardness (as CaCO3)	SM 2340 B	**28**	mg/L	1.0	1	1.0	09/16/05	09/16/05	
Hydroxide (as CaCO3)	SM 2320 B	**ND**	mg/L	1	1	1	08/31/05	08/31/05	
Iron (Fe)	EPA 200.7	**ND**	mg/L	0.05	1	0.05	09/03/05	09/12/05	
Magnesium (Mg)	EPA 200.7	**2.8**	mg/L	0.1	1	0.1	09/03/05	09/12/05	
Manganese (Mn)	EPA 200.7	**0.050**	mg/L	0.01	1	0.01	09/03/05	09/12/05	
o-Phosphate as PO4	EPA 300.0	**1.2**	mg/L	0.6	1	0.6	08/31/05 13:48	08/31/05 13:48	H
pH	SM 4500-H+ B	**8.5**	Std.Unit	-	1	N/A	08/31/05 20:00	08/31/05 20:00	H
Sulfate (SO4)	EPA 300.0	**19**	mg/L	2	1	2	08/31/05	08/31/05	
Turbidity	SM 2130 B	**0.60**	NTU	0.1	1	0.1	08/31/05 16:36	08/31/05 16:36	H

mg/L: Milligrams/Liter (ppm)
mg/Kg: Milligrams/Kilogram (ppm)
µg/L: Micrograms/Liter (ppb)
µg/Kg: Micrograms/Kilogram (ppb)
%Rec: Percent Recovered (surrogates)

PQL: Practical Quantitation Limit
DLR: Detection Limit for Reporting : PQL x Dilution
ND: None Detected at DLR
pCi/L: Picocurie per Liter

H: Analyzed outside of hold time
P: Preliminary result
S: Suspect result. See Case Narrative for comments.
E: Analysis performed by External laboratory. See External Laboratory Report attachments.

Report Authentication Code:

1414 Stanislaus Street Fresno, CA 93706-1623 Phone 559-497-2888, In CA 800-877-8310 Fax 559-485-6935

BSK ANALYTICAL LABORATORIES

Certificate of Analysis

NELAP Certificate #04227CA
ELAP Certificate #1180

Shawn Sevey
California American Water - Sac.
PO Box 15468
Sacramento, CA 95851-0468

BSK Submission #: 2005082464
BSK Sample ID #: 627510

Report Issue Date: 09/20/2005

Project ID: Project Desc: Isleton

Submission Comments:
Sample Type: Liquid
Sample Description: Finished
Sample Comments:

Date Sampled: 08/27/2005
Time Sampled: 1540
Date Received: 08/30/2005

Inorganics

Analyte	Method	Result	Units	PQL	Dilution	DLR	Prep Date/Time	Analysis Date/Time	
Alkalinity (as CaCO3)	SM 2320 B	**240**	mg/L	1	1	1	08/31/05	08/31/05	
Aluminum (Al)	EPA 200.7	**ND**	mg/L	0.05	1	0.05	09/03/05	09/12/05	
Arsenic (As)	EPA 200.8	**5.0**	µg/L	2	1	2	09/03/05	09/16/05	
Bicarbonate (as CaCO3)	SM 2320 B	**240**	mg/L	1	1	1	08/31/05	08/31/05	
Calcium (Ca)	EPA 200.7	**6.3**	mg/L	0.1	1	0.1	09/03/05	09/12/05	
Carbonate (as CaCO3)	SM 2320 B	**ND**	mg/L	1	1	1	08/31/05	08/31/05	
Color (A.P.H.A)	SM 2120 B	**ND**	units	1	1	1	08/31/05 16:38	08/31/05 16:38	H
Hardness (as CaCO3)	SM 2340 B	**27**	mg/L	1.0	1	1.0	09/16/05	09/16/05	
Hydroxide (as CaCO3)	SM 2320 B	**ND**	mg/L	1	1	1	08/31/05	08/31/05	
Iron (Fe)	EPA 200.7	**ND**	mg/L	0.05	1	0.05	09/03/05	09/12/05	
Magnesium (Mg)	EPA 200.7	**2.8**	mg/L	0.1	1	0.1	09/03/05	09/12/05	
Manganese (Mn)	EPA 200.7	**ND**	mg/L	0.01	1	0.01	09/03/05	09/12/05	
o-Phosphate as PO4	EPA 300.0	**ND**	mg/L	0.6	1	0.6	08/31/05 13:58	08/31/05 13:58	H
pH	SM 4500-H+ B	**8.2**	Std.Unit	-	1	N/A	08/31/05 20:09	08/31/05 20:09	H
Sulfate (SO4)	EPA 300.0	**19**	mg/L	2	1	2	08/31/05	08/31/05	
Turbidity	SM 2130 B	**0.20**	NTU	0.1	1	0.1	08/31/05 16:38	08/31/05 16:38	H

mg/L: Milligrams/Liter (ppm)
mg/Kg: Milligrams/Kilogram (ppm)
µg/L: Micrograms/Liter (ppb)
µg/Kg: Micrograms/Kilogram (ppb)
%Rec: Percent Recovered (surrogates)

PQL: Practical Quantitation Limit
DLR: Detection Limit for Reporting : PQL x Dilution
ND: None Detected at DLR
pCi/L: Picocurie per Liter

H: Analyzed outside of hold time
P: Preliminary result
S: Suspect result. See Case Narrative for comments.
E: Analysis performed by External laboratory. See External Laboratory Report attachments.

Report Authentication Code:

1414 Stanislaus Street Fresno, CA 93706-1623 Phone 559-497-2888, In CA 800-877-8310 Fax 559-485-6935

Sample Integrity

Pg. 1 of 2

2005082464 08/30/2005
CAL AM SAC TAT: Standard
830056

Date Received 083005

Section 1- Sampled Same Day

Sample Transport: Walk In SJVC BSK-Courier Transported In: Ice Chest Box Hand

Has chilling process begun? Y N Samples Received: Chilled to Touch / Ambient / On Ice

Section 2- Sampled Previously

Sample Transport: CAO UPS SJVC Walk-In BSK-Courier GSO Fed Exp. Other:

No. Coolers/Ice Chests: 1-4 Temperature(s): 4°-4°-0°-3°

Was Temperature In Range: Y N Received On Ice: Wet Blue

Describe type of packing materials: Bubble Wrap ~~Foam~~ ~~Packing Peanuts~~ ~~Paper~~ ~~Other:~~

Were ice chest custody seals present? Y ~~N~~ Intact: Y N

Section 3- COC Info.	Completed Yes	Completed No	Info From Container		Completed Yes	Completed No	Info From Container
Was COC Received	✓			Analysis Requested	✓		
Date Sampled	✓			Any hold times less than 72hr		✓	
Time Sampled	✓			Client Name	✓		
Sample ID	✓			Address	✓		
Special Storage/Handling Ins.		✓		Telephone #	✓		

Section 4- Bottles / Analysis	Yes	No	N/A	Comment
Did all bottles arrive unbroken and intact?:	✓			
Were bottle custody seals present?		✓		
Were bottle custody seals intact?		✓		
Did all bottle labels agree with COC?:	✓			
Were correct containers used for the tests requested?:	✓			
Were correct preservations used for the tests requested?:	✓			
Was a sufficient amount of sample sent for tests indicated?:	✓			
Were bubbles present in VOA Vials?: **(Volatile Methods Only)**			✓	
Were Ascorbic Acid Bottles received with the VOAs			✓	

Section 5- Comments / Discrepancies

Sample(s) Split/Preserve: Yes No Container: Preservation: Init.:

Was Client Service Rep. notified of discrepancies: Yes No N/A CSR: Notified By:

Explanations / Comments

Report Comment Entered:

Labeled by: Labels checked by:

Sample Integrity Pg 1 of 1

BSK Bottles (Yes) No

2005082464 08/30/2005
CAL AM SAC TAT: Standard
830056

8oz (A) 16oz (B) 32oz (C) Amber Glass (AG)

Container(s) Received	1+2	
Bacti $Na_2S_2O_3$		
None (p) White Cap	1C	
None (p) Blue Cap		
HNO_3 (p) Red Cap	1B	
H_2SO_4 (p) Yellow Cap		
NaOH (p) Green Cap		
Other:		
Dissolved Oxygen 300ml (g)		
250ml (AG) None		
250ml (AG) H_2SO_4 TOC,COD Yellow Label	1	
250ml (AG) $Na_2S_2O_3$ 515,547 Blue Label		
250ml (AG) $Na_2S_2O_3$+ MCAA 531.1 Orange Label		
250ml (AG) NH_4Cl 552 Purple Label		
250ml (AG) EDA DBPs Brown Label		
250ml (AG) Other:		
500ml (AG) None		
500ml (AG) H_2SO_4 TPH-Diesel Yellow Label		
500ml (AG) Other:		
1 Liter (AG) None		
1 Liter (AG) H_2SO_4 O&G Yellow Label		
1 Liter (AG) Na_2SO_3 525 N-Green Label		
1 Liter (AG) $Na_2S_2O_3$ 548 Blue Label		
1 Liter (P) $Na_2S_2O_3$+ H_2SO_4 549		
1 Liter (AG) NaOH+ZnAc Sulfide		
1 Liter (AG) Other:		
40ml VOA Vial Clear – HCL		
40ml VOA Vial Amber – $Na_2S_2O_3$		
40ml VOA Vial Clear – None		
40ml VOA Vial Clear - $Na_2S_2O_3$ 504, 505		
40ml VOA Vial Other		
Other:		
~~Asbestos 1-Liter Plastic/Foil~~		
Radiological GA / GB (½ Gal Plastic)		
Radiological 226 / 228 (32 oz plastic N-BSK)		
Radon 200ml Clear (g)		
Low Level Hg/Metals Double Baggie		
THM-FP 4-40ml VOA None		
250 Clear Glass Jar		
500 Clear Glass Jar		
1 Liter Clear Glass Jar		
Plastic Bag		
Soil Tube Brass / Steel / Plastic		
Tedlar Bags		

JMD 8/30/2005

NO RUSH PER Shawn

~~Day TAT~~ 830056

BSK ANALYTICAL LABORATORIES

1414 Stanislaus Street, Fresno, CA 93706-1623
(559) 497-2888, (800) 877-8310, fax (559) 485-6935

2005082464 08/30/2005
CAL AM SAC TAT: Standard
830056

Laboratory Chain of Custody

Client: Cal American Water	Report Attention: Shaw Sevey	Phone: (916) 568-4216
Address: 4701 Beloit Drive	Project, Quote or PO #	FAX
City, State, Zip: Sacramento, Ca 95630	Copy to:	System #: ISLETON
	Sampled by: BEN GASKILL	Other

S#	T	#C	Date	Time	Sample Description / Location	Comment or Station Code	Total Alk, Hardness, Turbidity	Al, Fe, Mn, As	SO4, Phosphate	Color	Rush Priority (2-Day, 5-Day, 7-Day)
1	✓	3	8-27-05	15:40	FILTER INFLUENT	1027-509	X	X	X	X	
2	✓	3	8-27-05	15:40	FINISHED	1027-510	X	X	X	X	
					Filter influent Temp=	22°C					
					Filter Influent cl2=	1.1 mg/L					
					Filter Influent PH=	8.27					
					Finished Temp=	24°C					
					Finished cl2=	0.5 mg/L					
					Finished PH=	7.45					

QC Report Type: Level [ ] 2 [ ] 3 [ ] 4 Formal COC Required: [ ] Additional Services authorized by: ______

Signature	Print Name	Company	Date	Time
Received / Relinquished by: [signature]	BEN GASKILL	HUNGERFORD & TERRY, INC	8/29/05	13:45
Received / Relinquished by: [signature]	Brenda Hamilton	BSK SAC	8/29/05	1345
Received / Relinquished by: [signature]	[signature]	BSK Laboratories, Inc.	083005	0746

Notice: Payment for services rendered as noted herein are due within 30 days from the invoice date. If not so paid, account balances are deemed deliquent. Deliquent balances are subject to monthly services/re-billing charges and interest calculated at 1.5% per month, 18% per annum. BSK & Associates shall be entitled to recover on deliquent accounts, costs of collections, including attorney's fees incurred prior to or in litigation whether concluded by judgment, settlement, compromise or otherwise. The person signing for the Client/Company expressly acknowledges that they are either the Client or authorized agent of the Company.

Payments Received with delivery

Date ______ Amount ______
Ref # ______ Initials ______

BSK ANALYTICAL LABORATORIES

BSK Submission Number: 2005082476

09/20/2005

Shawn Sevey
California American Water - Sac.
PO Box 15468
Sacramento, CA 95851-0468

Dear Shawn Sevey,

Thank you for selecting BSK Analytical Laboratories for your analytical testing needs. We have prepared this report in response to your request for analytical services. Please find enclosed the following sections for your complete laboratory report, each uniquely paginated:

CASE NARRATIVE: An overview of the work performed.
CERTIFICATE OF ANALYSIS: Analytical results.
REPORT OF SAMPLE INTEGRITY
CHAIN OF CUSTODY FORM

Certification: I certify that this data package is in compliance with NELAC Standards for applicable analyses under NELAP Certificate #04227CA, and is in compliance with ELAP Standards for applicable certified analyses under ELAP Certificate #1180, except for the conditions listed.

If additional clarification of any information is required, please contact your Client Services Representative, Debra Skelton, at (800) 877-8310 or (559) 497-2888.

BSK ANALYTICAL LABORATORIES

Debra Skelton
Client Services Representative

Case Narrative

BSK Submission Number: 2005082476

SAMPLE AND RECEIPT INFORMATION

The sample(s) was received, prepared, and analyzed within the method specified holding times unless otherwise noted on the Certificate of Analysis. Samples, when shipped, arrived within acceptable temperature requirements of 0° to 6° Celsius unless otherwise noted on the Report of Sample Integrity. Samples collected by BSK Analytical Laboratories were collected in accordance with the BSK Sampling and Collection Standard Operating Procedures.

QUALITY CONTROL

All analytical quality controls are within established method criteria except when noted in the Quality Control section or on the Certificate of Analysis. All positive results for EPA Methods 504.1, 502.2, 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. QC samples may include analytes not requested in this submission.

SAMPLE RESULT INFORMATION

Samples are analyzed as received (wet weight basis) unless noted here. The results relate only to the items tested. Any exceptions to be considered when evaluating these results are also listed here, if applicable. Results contained in this package shall not be reproduced, except in full, without written approval of BSK Analytical Laboratories.

ORDER	TEST	ANALYTE	COMMENT

BSK ANALYTICAL LABORATORIES

Certificate of Analysis

NELAP Certificate #04227CA
ELAP Certificate #1180

Shawn Sevey
California American Water - Sac.
PO Box 15468
Sacramento, CA 95851-0468

BSK Submission #: 2005082476
BSK Sample ID #: 627602

Report Issue Date: 09/20/2005

Project ID: Project Desc: Isleton
Submission Comments:
Sample Type: Liquid
Sample Description: Filter Influent
Sample Comments:

Date Sampled: 08/28/2005
Time Sampled: 1430
Date Received: 08/30/2005

Inorganics

Analyte	Method	Result	Units	PQL	Dilution	DLR	Prep Date/Time	Analysis Date/Time
Arsenic (As)	EPA 200.8	**23**	µg/L	2	1	2	09/03/05	09/16/05

mg/L: Milligrams/Liter (ppm)
mg/Kg: Milligrams/Kilogram (ppm)
µg/L: Micrograms/Liter (ppb)
µg/Kg: Micrograms/Kilogram (ppb)
%Rec: Percent Recovered (surrogates)

PQL: Practical Quantitation Limit
DLR: Detection Limit for Reporting : PQL x Dilution
ND: None Detected at DLR
pCi/L: Picocurie per Liter

H: Analyzed outside of hold time
P: Preliminary result
S: Suspect result. See Case Narrative for comments.
E: Analysis performed by External laboratory. See External Laboratory Report attachments.

Report Authentication Code:

1414 Stanislaus Street Fresno, CA 93706-1623 Phone 559-497-2888, In CA 800-877-8310 Fax 559-485-6935

BSK ANALYTICAL LABORATORIES

Certificate of Analysis

NELAP Certificate #04227CA
ELAP Certificate #1180

Shawn Sevey
California American Water - Sac.
PO Box 15468
Sacramento, CA 95851-0468

BSK Submission #: 2005082476
BSK Sample ID #: 627603

Report Issue Date: 09/20/2005

Project ID: Project Desc: Isleton
Submission Comments:
Sample Type: Liquid
Sample Description: Finished
Sample Comments:

Date Sampled: 08/28/2005
Time Sampled: 1430
Date Received: 08/30/2005

Inorganics

Analyte	Method	Result	Units	PQL	Dilution	DLR	Prep Date/Time	Analysis Date/Time
Arsenic (As)	EPA 200.8	**6.0**	µg/L	2	1	2	09/03/05	09/16/05
Iron (Fe)	EPA 200.7	**ND**	mg/L	0.05	1	0.05	09/03/05	09/09/05

mg/L: Milligrams/Liter (ppm)
mg/Kg: Milligrams/Kilogram (ppm)
µg/L: Micrograms/Liter (ppb)
µg/Kg: Micrograms/Kilogram (ppb)
%Rec: Percent Recovered (surrogates)

PQL: Practical Quantitation Limit
DLR: Detection Limit for Reporting : PQL x Dilution
ND: None Detected at DLR
pCi/L: Picocurie per Liter

H: Analyzed outside of hold time
P: Preliminary result
S: Suspect result. See Case Narrative for comments.
E: Analysis performed by External laboratory. See External Laboratory Report attachments.

Report Authentication Code:

1414 Stanislaus Street Fresno, CA 93706-1623 Phone 559-497-2888, In CA 800-877-8310 Fax 559-485-6935

Sample Integrity

Pg. 1 of 2

2005082476 08/30/2005

CAL AM SAC TAT: Standard

830058

Date Received 083005

Section 1- Sampled Same Day

Sample Transport: Walk In SJVC BSK-Courier Transported In: Ice Chest Box Hand

Has chilling process begun? Y N Samples Received: Chilled to Touch / Ambient / On Ice

Section 2- Sampled Previously

Sample Transport: CAO UPS SJVC Walk-In BSK-Courier GSO Fed Exp. Other:

No. Coolers/Ice Chests: 1-4 Temperature(s): Metals

Was Temperature In Range : Y N Received On Ice: Wet Blue

Describe type of packing materials: Bubble Wrap Foam Packing Peanuts Paper Other:

Were ice chest custody seals present? Y N Intact: Y N

Section 3- COC Info.	Completed Yes	Completed No	Info From Container		Completed Yes	Completed No	Info From Container
Was COC Received	✓			Analysis Requested	✓		
Date Sampled	✓			Any hold times less than 72hr		✓	
Time Sampled	✓			Client Name	✓		
Sample ID	✓			Address	✓		
Special Storage/Handling Ins.		✓		Telephone #	✓		

Section 4- Bottles / Analysis	Yes	No	N/A	Comment
Did all bottles arrive unbroken and intact?:	✓			
Were bottle custody seals present?		✓		
Were bottle custody seals intact?		✓		
Did all bottle labels agree with COC?:	✓			
Were correct containers used for the tests requested?:	✓			
Were correct preservations used for the tests requested?:	✓			
Was a sufficient amount of sample sent for tests indicated?:	✓			
Were bubbles present in VOA Vials?: **(Volatile Methods Only)**			✓	
Were Ascorbic Acid Bottles received with the VOAs			✓	

Section 5- Comments / Discrepancies

Sample(s) Split/Preserve: Yes (No) Container: Preservation: Init.:

Was Client Service Rep. notified of discrepancies: Yes No (N/A) CSR: Notified By:

Explanations / Comments

Report Comment Entered:

F:/SHARE/QC/DOCCONTROL/FORMS/SMPINTG05 Labeled by: Labels checked by:

Sample Integrity Pg 2 of 2

BSK Bottles (Yes) No

2005082476 08/30/2005
CAL AM SAC TAT: Standard
830058

8oz (A) 16oz (B) 32oz (C) Amber Glass (AG)

Container(s) Received	1-2
Bacti $Na_2S_2O_3$	
None (p) White Cap	~~1A~~
None (p) Blue Cap	
HNO_3 (p) Red Cap	1A
H_2SO_4 (p) Yellow Cap	
NaOH (p) Green Cap	
Other:	
Dissolved Oxygen 300ml (g)	
250ml (AG) None	
250ml (AG) H_2SO_4 TOC,COD Yellow Label	
250ml (AG) $Na_2S_2O_3$ 515,547 Blue Label	
250ml (AG) $Na_2S_2O_3$+ MCAA 531.1 Orange Label	
250ml (AG) NH_4Cl 552 Purple Label	
250ml (AG) EDA DBPs Brown Label	
250ml (AG) Other:	
500ml (AG) None	
500ml (AG) H_2SO_4 TPH-Diesel Yellow Label	
500ml (AG) Other:	
1 Liter (AG) None	
1 Liter (AG) H_2SO_4 O&G Yellow Label	
1 Liter (AG) Na_2SO_3 525 N-Green Label	
1 Liter (AG) $Na_2S_2O_3$ 548 Blue Label	
1 Liter (P) $Na_2S_2O_3$+ H_2SO_4 549	
1 Liter (AG) NaOH+ZnAc Sulfide	
1 Liter (AG) Other:	
40ml VOA Vial Clear – HCL	
40ml VOA Vial Amber – $Na_2S_2O_3$	
40ml VOA Vial Clear – None	
40ml VOA Vial Clear - $Na_2S_2O_3$ 504, 505	
40ml VOA Vial Other	
Other:	
Asbestos 1-Liter Plastic/Foil	
Radiological GA / GB (½ Gal Plastic)	
Radiological 226 / 228 (32 oz plastic N-BSK)	
Radon 200ml Clear (g)	
Low Level Hg/Metals Double Baggie	
THM-FP 4-40ml VOA None	
250 Clear Glass Jar	
500 Clear Glass Jar	
1 Liter Clear Glass Jar	
Plastic Bag	
Soil Tube Brass / Steel / Plastic	
Tedlar Bags	

8/30/2005

~~2-Day TAT~~ & NO RUSH PER ~~Rush~~ Shawn   830058

BSK ANALYTICAL LABORATORIES

1414 Stanislaus Street, Fresno, CA 93706-1623
(559) 497-2888, (800) 877-8310, fax (559) 485-6935

BSK Submission:

2005082476   08/30/2005 dy
CAL AM SAC   TAT: Standard
830058

Client: Cal American Water	Report Attention: Shaw Sevey	Phone: (916) 568-4216
Address: 4701 Beloit Drive	Project, Quote or PO #	FAX
City, State, Zip: Sacramento, Ca 95630	Copy to:	System #: ISLETON
	Sampled by:	Other

S#	T	#C	Date	Time	Sample Description / Location	Comment or Station Code	~~Total Alk, Hardness, Turbidity~~	~~Al, Fe, Mn, As~~	~~SO4, Phosphate~~	~~Color~~	As	Fe	Rush Priority (2-Day, 5
1	L	1	8/25/05	14:30	FILTER INFLUENT	007100U	~~X~~	~~X~~	~~X~~	~~X~~	X		
2	4	4	8/25/05	14:30	FINISHED	-03					X	X	
					Filter influent Temp=	~~84~~ 22°C							
					Filter Influent cl2=	1.0 mg/L							
					Filter Influent PH=	8.4							
					Finished Temp=	23°C							
					Finished cl2=	0.9 mg/L							
					Finished PH=	7.57							

QC Report Type: Level [ ] 2 [ ] 3 [ ] 4   Formal COC Required: [ ]   Additional Services authorized by: ______

	Signature	Print Name	Company	Date	Time
Received / Relinquished by:	[signature]	Ben Gaskin	Hungerford & Terry, Inc.	8/26/05	14:00
Received / Relinquished by:	[signature]	Jon Bartelink	BSK-Sac	8/26/05	1400
Received / Relinquished by:	[signature]	[signature]	BSK Laboratories, Inc.	083005	0746

Notice: Payment for services rendered as noted herein are due within 30 days from the invoice date. If not so paid, account balances are deemed deliquent. Deliquent balances are subject to monthly services/re-billing charges and interest calculated at 1.5% per month, 18% per annum. BSK & Associates shall be entitled to recover on deliquent accounts, costs of collections, including attorney's fees incurred prior to or in litigation whether concluded by judgment, settlement, compromise or otherwise. The person signing for the Client/Company expressly acknowledges that they are either the Client or authorized agent of the Company.

Payments Received with delivery

Date ______ Amount ______
Ref # ______ Initials ______

BSK ANALYTICAL LABORATORIES

BSK Submission Number: 2005082454

09/20/2005

Shawn Sevey
California American Water - Sac.
PO Box 15468
Sacramento, CA 95851-0468

Dear Shawn Sevey,

Thank you for selecting BSK Analytical Laboratories for your analytical testing needs. We have prepared this report in response to your request for analytical services. Please find enclosed the following sections for your complete laboratory report, each uniquely paginated:

CASE NARRATIVE: An overview of the work performed.
CERTIFICATE OF ANALYSIS: Analytical results.
REPORT OF SAMPLE INTEGRITY
CHAIN OF CUSTODY FORM

Certification: I certify that this data package is in compliance with NELAC Standards for applicable analyses under NELAP Certificate #04227CA, and is in compliance with ELAP Standards for applicable certified analyses under ELAP Certificate #1180, except for the conditions listed.

If additional clarification of any information is required, please contact your Client Services Representative, Debra Skelton, at (800) 877-8310 or (559) 497-2888.

BSK ANALYTICAL LABORATORIES

Debra Skelton
Client Services Representative

Case Narrative

BSK Submission Number: 2005082454

SAMPLE AND RECEIPT INFORMATION

The sample(s) was received, prepared, and analyzed within the method specified holding times unless otherwise noted on the Certificate of Analysis. Samples, when shipped, arrived within acceptable temperature requirements of 0° to 6° Celsius unless otherwise noted on the Report of Sample Integrity. Samples collected by BSK Analytical Laboratories were collected in accordance with the BSK Sampling and Collection Standard Operating Procedures.

QUALITY CONTROL

All analytical quality controls are within established method criteria except when noted in the Quality Control section or on the Certificate of Analysis. All positive results for EPA Methods 504.1, 502.2, 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. QC samples may include analytes not requested in this submission.

SAMPLE RESULT INFORMATION

Samples are analyzed as received (wet weight basis) unless noted here. The results relate only to the items tested. Any exceptions to be considered when evaluating these results are also listed here, if applicable. Results contained in this package shall not be reproduced, except in full, without written approval of BSK Analytical Laboratories.

ORDER	TEST	ANALYTE	COMMENT
627483	EPA 300.0	o-Phosphate as PO4	Sample analyzed outside holding time.
627483	SM 2120 B	Color (A.P.H.A)	Sample analyzed outside holding time.
627483	SM 2130 B	Turbidity	Sample analyzed outside holding time.
627483	SM 4500-H+ B	pH	Sample analyzed outside holding time.
627484	EPA 300.0	o-Phosphate as PO4	Sample analyzed outside holding time.
627484	SM 2120 B	Color (A.P.H.A)	Sample analyzed outside holding time.
627484	SM 2130 B	Turbidity	Sample analyzed outside holding time.
627484	SM 4500-H+ B	pH	Sample analyzed outside holding time.

BSK ANALYTICAL LABORATORIES

Certificate of Analysis

NELAP Certificate #04227CA
ELAP Certificate #1180

Shawn Sevey
California American Water - Sac.
PO Box 15468
Sacramento, CA 95851-0468

BSK Submission #: 2005082454
BSK Sample ID #: 627483

Report Issue Date: 09/20/2005

Project ID: Project Desc: Isleton

Submission Comments:

Sample Type: Liquid
Sample Description: Filter Influent
Sample Comments:

Date Sampled: 08/28/2005
Time Sampled: 1130
Date Received: 08/30/2005

Inorganics

Analyte	Method	Result	Units	PQL	Dilution	DLR	Prep Date/Time	Analysis Date/Time	
Alkalinity (as CaCO3)	SM 2320 B	**250**	mg/L	1	1	1	09/06/05	09/06/05	
Aluminum (Al)	EPA 200.7	**ND**	mg/L	0.05	1	0.05	08/31/05	09/08/05	
Arsenic (As)	EPA 200.8	**23**	µg/L	2	1	2	08/31/05	09/16/05	
Bicarbonate (as CaCO3)	SM 2320 B	**240**	mg/L	1	1	1	09/06/05	09/06/05	
Calcium (Ca)	EPA 200.7	**6.5**	mg/L	0.1	1	0.1	08/31/05	09/08/05	
Carbonate (as CaCO3)	SM 2320 B	**10**	mg/L	1	1	1	09/06/05	09/06/05	
Color (A.P.H.A)	SM 2120 B	**20**	units	1	1	1	08/31/05 16:30	08/31/05 16:30	H
Hardness (as CaCO3)	SM 2340 B	**28**	mg/L	1.0	1	1.0	09/16/05	09/16/05	
Hydroxide (as CaCO3)	SM 2320 B	**ND**	mg/L	1	1	1	09/06/05	09/06/05	
Iron (Fe)	EPA 200.7	**ND**	mg/L	0.05	1	0.05	08/31/05	09/08/05	
Magnesium (Mg)	EPA 200.7	**2.8**	mg/L	0.1	1	0.1	08/31/05	09/08/05	
Manganese (Mn)	EPA 200.7	**0.050**	mg/L	0.01	1	0.01	08/31/05	09/08/05	
o-Phosphate as PO4	EPA 300.0	**1.2**	mg/L	0.6	1	0.6	08/31/05 14:35	08/31/05 14:35	H
pH	SM 4500-H+ B	**8.4**	Std.Unit	-	1	N/A	08/31/05 10:15	08/31/05 10:15	H
Sulfate (SO4)	EPA 300.0	**19**	mg/L	2	1	2	08/31/05	08/31/05	
Turbidity	SM 2130 B	**0.50**	NTU	0.1	1	0.1	08/31/05 16:30	08/31/05 16:30	H

mg/L: Milligrams/Liter (ppm)
mg/Kg: Milligrams/Kilogram (ppm)
µg/L: Micrograms/Liter (ppb)
µg/Kg: Micrograms/Kilogram (ppb)
%Rec: Percent Recovered (surrogates)

PQL: Practical Quantitation Limit
DLR: Detection Limit for Reporting : PQL x Dilution
ND: None Detected at DLR
pCi/L: Picocurie per Liter

H: Analyzed outside of hold time
P: Preliminary result
S: Suspect result. See Case Narrative for comments.
E: Analysis performed by External laboratory. See External Laboratory Report attachments.

Report Authentication Code:

1414 Stanislaus Street Fresno, CA 93706-1623 Phone 559-497-2888, In CA 800-877-8310 Fax 559-485-6935

BSK ANALYTICAL LABORATORIES

Certificate of Analysis

NELAP Certificate #04227CA
ELAP Certificate #1180

Shawn Sevey
California American Water - Sac.
PO Box 15468
Sacramento, CA 95851-0468

BSK Submission #: 2005082454
BSK Sample ID #: 627484

Report Issue Date: 09/20/2005

Project ID: Project Desc: Isleton

Submission Comments:
Sample Type: Liquid
Sample Description: Finished
Sample Comments:

Date Sampled: 08/28/2005
Time Sampled: 1130
Date Received: 08/30/2005

Inorganics

Analyte	Method	Result	Units	PQL	Dilution	DLR	Prep Date/Time	Analysis Date/Time	
Alkalinity (as CaCO3)	SM 2320 B	**230**	mg/L	1	1	1	09/06/05	09/06/05	
Aluminum (Al)	EPA 200.7	**ND**	mg/L	0.05	1	0.05	08/31/05	09/08/05	
Arsenic (As)	EPA 200.8	**5.0**	µg/L	2	1	2	08/31/05	09/16/05	
Bicarbonate (as CaCO3)	SM 2320 B	**230**	mg/L	1	1	1	09/06/05	09/06/05	
Calcium (Ca)	EPA 200.7	**6.4**	mg/L	0.1	1	0.1	08/31/05	09/08/05	
Carbonate (as CaCO3)	SM 2320 B	**ND**	mg/L	1	1	1	09/06/05	09/06/05	
Color (A.P.H.A)	SM 2120 B	**ND**	units	1	1	1	08/31/05 16:34	08/31/05 16:34	H
Hardness (as CaCO3)	SM 2340 B	**28**	mg/L	1.0	1	1.0	09/16/05	09/16/05	
Hydroxide (as CaCO3)	SM 2320 B	**ND**	mg/L	1	1	1	09/06/05	09/06/05	
Iron (Fe)	EPA 200.7	**ND**	mg/L	0.05	1	0.05	08/31/05	09/08/05	
Magnesium (Mg)	EPA 200.7	**2.8**	mg/L	0.1	1	0.1	08/31/05	09/08/05	
Manganese (Mn)	EPA 200.7	**ND**	mg/L	0.01	1	0.01	08/31/05	09/08/05	
o-Phosphate as PO4	EPA 300.0	**ND**	mg/L	0.6	1	0.6	08/31/05 14:44	08/31/05 14:44	H
pH	SM 4500-H+ B	**8.0**	Std.Unit	-	1	N/A	08/31/05 10:19	08/31/05 10:19	H
Sulfate (SO4)	EPA 300.0	**19**	mg/L	2	1	2	08/31/05	08/31/05	
Turbidity	SM 2130 B	**ND**	NTU	0.1	1	0.1	08/31/05 16:34	08/31/05 16:34	H

mg/L: Milligrams/Liter (ppm)
mg/Kg: Milligrams/Kilogram (ppm)
µg/L: Micrograms/Liter (ppb)
µg/Kg: Micrograms/Kilogram (ppb)
%Rec: Percent Recovered (surrogates)

PQL: Practical Quantitation Limit
DLR: Detection Limit for Reporting : PQL x Dilution
ND: None Detected at DLR
pCi/L: Picocurie per Liter

H: Analyzed outside of hold time
P: Preliminary result
S: Suspect result. See Case Narrative for comments.
E: Analysis performed by External laboratory. See External Laboratory Report attachments.

Report Authentication Code:

1414 Stanislaus Street Fresno, CA 93706-1623 Phone 559-497-2888, In CA 800-877-8310 Fax 559-485-6935

Sample Integrity

Pg. 1 of 2

2005082454
CAL AM SAC
830057

08/30/2005
TAT: Standard

Date Received 083005

Section 1- Sampled Same Day

Sample Transport: Walk In SJVC BSK-Courier Transported In: Ice Chest ~~Box~~ Hand

Has chilling process begun? Y N Samples Received: Chilled to Touch / Ambient / On Ice

Section 2- Sampled Previously

Sample Transport: CAO UPS SJVC Walk-In BSK-Courier GSO Fed Exp. Other:_____

No. Coolers/Ice Chests: 1-4 Temperature(s): 4°-4°-0°-3°

Was Temperature In Range : Y N Received On Ice: Wet Blue

Describe type of packing materials: Bubble Wrap ~~Foam~~ ~~Packing Peanuts~~ ~~Paper~~ ~~Other:~~

Were ice chest custody seals present? Y ~~N~~ Intact: Y N

Section 3- COC Info.	Completed Yes	Completed No	Info From Container		Completed Yes	Completed No	Info From Container
Was COC Received	✓			Analysis Requested	✓		
Date Sampled	✓			Any hold times less than 72hr		✓	
Time Sampled	✓			Client Name	✓		
Sample ID	✓			Address	✓		
Special Storage/Handling Ins.		✓		Telephone #	✓		

Section 4- Bottles / Analysis	Yes	No	N/A	Comment
Did all bottles arrive unbroken and intact?:	✓			
Were bottle custody seals present?		✓		
Were bottle custody seals intact?		✓		
Did all bottle labels agree with COC?:	✓			
Were correct containers used for the tests requested?:	✓			
Were correct preservations used for the tests requested?:	✓			
Was a sufficient amount of sample sent for tests indicated?:	✓			
Were bubbles present in VOA Vials?: **(Volatile Methods Only)**			✓	
Were Ascorbic Acid Bottles received with the VOAs			✓	

Section 5- Comments / Discrepancies

Sample(s) Split/Preserve: Yes No Container:_____ Preservation:_____ Init.:____

Was Client Service Rep. notified of discrepancies: Yes No N/A CSR: Notified By:

Explanations / Comments

Report Comment Entered:

F:/SHARE/QC/DOCCONTROL/FORMS/SMPINTG05 Labeled by: Labels checked by:

Sample Integrity Pg 1 of 2

BSK Bottles (Yes) No

2005082454 08/30/2005
CAL AM SAC TAT: Standard
830057

8oz (A) 16oz (B) 32oz (C) Amber Glass (AG)

Container(s) Received	1	2
Bacti $Na_2S_2O_3$		
None (p) White Cap	1C	
None (p) Blue Cap		
HNO_3 (p) Red Cap	1B	
H_2SO_4 (p) Yellow Cap		
NaOH (p) Green Cap		
Other:		
Dissolved Oxygen 300ml (g)		
250ml (AG) None		
250ml (AG) H_2SO_4 TOC,COD Yellow Label	1	
250ml (AG) $Na_2S_2O_3$ 515,547 Blue Label		
250ml (AG) $Na_2S_2O_3$+ MCAA 531.1 Orange Label		
250ml (AG) NH_4Cl 552 Purple Label		
250ml (AG) EDA DBPs Brown Label		
250ml (AG) Other:		
500ml (AG) None		
500ml (AG) H_2SO_4 TPH-Diesel Yellow Label		
500ml (AG) Other:		
1 Liter (AG) None		
1 Liter (AG) H_2SO_4 O&G Yellow Label		
1 Liter (AG) Na_2SO_3 525 N-Green Label		
1 Liter (AG) $Na_2S_2O_3$ 548 Blue Label		
1 Liter (P) $Na_2S_2O_3$+ H_2SO_4 549		
1 Liter (AG) NaOH+ZnAc Sulfide		
1 Liter (AG) Other:		
40ml VOA Vial Clear – HCL		
40ml VOA Vial Amber – $Na_2S_2O_3$		
40ml VOA Vial Clear – None		
40ml VOA Vial Clear - $Na_2S_2O_3$ 504, 505		
40ml VOA Vial Other		
Other:		
Asbestos 1-Liter Plastic/Foil		
Radiological GA / GB (½ Gal Plastic)		
Radiological 226 / 228 (32 oz plastic N-BSK)		
Radon 200ml Clear (g)		
Low Level Hg/Metals Double Baggie		
THM-FP 4-40ml VOA None		
250 Clear Glass Jar		
500 Clear Glass Jar		
1 Liter Clear Glass Jar		
Plastic Bag		
Soil Tube Brass / Steel / Plastic		
Tedlar Bags		

MO
8/30/2005

NO RUSH ~~2 DAY TAT~~ 830057

2005082454 08/30/2005
CAL AM SAC
830057
TAT: Standard

BSK ANALYTICAL LABORATORIES

B

Laboratory Chain of Custody

1414 Stanislaus Street, Fresno, CA 93706-1623
(559) 497-2888, (800) 877-8310, fax (559) 485-6935

Client: Cal American Water	Report Attention: Shaw Sevey	Phone: (916) 568-4216
Address: 4701 Beloit Drive	Project, Quote or PO #	FAX
City, State, Zip: Sacramento, Ca 95630	Copy to:	System #: ISLETON
	Sampled by: BEN GASKILL	Other

S#	T	#C	Date	Time	Sample Description / Location	Comment or Station Code	Total Alk, Hardness, Turbidity	Al, Fe, Mn, As	SO4, Phosphate	Color	Rush Priority (2-Day, 5-Day, 7-Day)
1	L	3	8/28/05	11:30	FILTER INFLUENT	627483	X	X	X	X	
2	D	3	8/28/05	11:30	FINISHED	627484	X	X	X	X	
					Filter influent Temp= 23 °C						
					Filter Influent cl2= 1.0 mg/L						
					Filter Influent PH= 8.3						
					Finished Temp= 24 °C						
					Finished cl2= 0.4 mg/L						
					Finished PH= 7.5						

QC Report Type: Level [ ] 2 [ ] 3 [ ] 4

Formal COC Required: [ ]

Additional Services authorized by: ____________

Signature	Print Name	Company	Date	Time
Received / Relinquished by: [signature]	BEN GASKILL	HUNGERFORD & TERRY, INC	8/29/05	13:45
Received / Relinquished by: [signature]	Brenda Hamilton	BSK-SAC	8/29/05	1345
Received / Relinquished by: [signature]	Morales	BSK Laboratories, Inc.	083005	0746

Notice: Payment for services rendered as noted herein are due within 30 days from the invoice date. If not so paid, account balances are deemed deliquent. Deliquent balances are subject to monthly services/re-billing charges and interest calculated at 1.5% per month, 18% per annum. BSK & Associates shall be entitled to recover on deliquent accounts, costs of collections, including attorney's fees incurred prior to or in litigation whether concluded by judgment, settlement, compromise or otherwise. The person signing for the Client/Company expressly acknowledges that they are either the Client or authorized agent of the Company.

Payments Received with delivery

Date ________ Amount ________
Ref # ________ Initials ________

BSK ANALYTICAL LABORATORIES

BSK Submission Number: 2005090048

09/20/2005

Shawn Sevey
California American Water - Sac.
PO Box 15468
Sacramento, CA 95851-0468

Dear Shawn Sevey,

Thank you for selecting BSK Analytical Laboratories for your analytical testing needs. We have prepared this report in response to your request for analytical services. Please find enclosed the following sections for your complete laboratory report, each uniquely paginated:

CASE NARRATIVE: An overview of the work performed.
CERTIFICATE OF ANALYSIS: Analytical results.
REPORT OF SAMPLE INTEGRITY
CHAIN OF CUSTODY FORM

Certification: I certify that this data package is in compliance with NELAC Standards for applicable analyses under NELAP Certificate #04227CA, and is in compliance with ELAP Standards for applicable certified analyses under ELAP Certificate #1180, except for the conditions listed.

If additional clarification of any information is required, please contact your Client Services Representative, Debra Skelton, at (800) 877-8310 or (559) 497-2888.

BSK ANALYTICAL LABORATORIES

Debra Skelton
Client Services Representative

Case Narrative

BSK Submission Number: 2005090048

SAMPLE AND RECEIPT INFORMATION

The sample(s) was received, prepared, and analyzed within the method specified holding times unless otherwise noted on the Certificate of Analysis. Samples, when shipped, arrived within acceptable temperature requirements of 0° to 6° Celsius unless otherwise noted on the Report of Sample Integrity. Samples collected by BSK Analytical Laboratories were collected in accordance with the BSK Sampling and Collection Standard Operating Procedures.

QUALITY CONTROL

All analytical quality controls are within established method criteria except when noted in the Quality Control section or on the Certificate of Analysis. All positive results for EPA Methods 504.1, 502.2, 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. QC samples may include analytes not requested in this submission.

SAMPLE RESULT INFORMATION

Samples are analyzed as received (wet weight basis) unless noted here. The results relate only to the items tested. Any exceptions to be considered when evaluating these results are also listed here, if applicable. Results contained in this package shall not be reproduced, except in full, without written approval of BSK Analytical Laboratories.

ORDER	TEST	ANALYTE	COMMENT
628948			Sample has a turbidity of greater than 1 NTU. Sample was digested using EPA method 200.2 prior to metals analysis
628952	EPA 300.0	o-Phosphate as PO4	Sample analyzed outside holding time.
628952	SM 2120 B	Color (A.P.H.A)	Sample analyzed outside holding time.
628952	SM 2130 B	Turbidity	Sample analyzed outside holding time.
628952	SM 4500-H+ B	pH	Sample analyzed outside holding time.
628953	EPA 300.0	o-Phosphate as PO4	Sample analyzed outside holding time.
628953	SM 2120 B	Color (A.P.H.A)	Sample analyzed outside holding time.
628953	SM 2130 B	Turbidity	Sample analyzed outside holding time.
628953	SM 4500-H+ B	pH	Sample analyzed outside holding time.

BSK ANALYTICAL LABORATORIES

Certificate of Analysis

NELAP Certificate #04227CA
ELAP Certificate #1180

Shawn Sevey
California American Water - Sac.
PO Box 15468
Sacramento, CA 95851-0468

BSK Submission #: 2005090048
BSK Sample ID #: 628948

Report Issue Date: 09/20/2005

Project ID: Project Desc:
Submission Comments:
Sample Type: Liquid
Sample Description: Finish 5
Sample Comments:

Date Sampled: 08/30/2005
Time Sampled: 0835
Date Received: 09/01/2005

Inorganics

Analyte	Method	Result	Units	PQL	Dilution	DLR	Prep Date/Time	Analysis Date/Time
Arsenic (As)	EPA 200.8	**12**	µg/L	2	1	2	09/03/05	09/09/05
Iron (Fe)	EPA 200.7	**1.5**	mg/L	0.05	1	0.05	09/03/05	09/08/05

mg/L: Milligrams/Liter (ppm)
mg/Kg: Milligrams/Kilogram (ppm)
µg/L: Micrograms/Liter (ppb)
µg/Kg: Micrograms/Kilogram (ppb)
%Rec: Percent Recovered (surrogates)

PQL: Practical Quantitation Limit
DLR: Detection Limit for Reporting : PQL x Dilution
ND: None Detected at DLR
pCi/L: Picocurie per Liter

H: Analyzed outside of hold time
P: Preliminary result
S: Suspect result. See Case Narrative for comments.
E: Analysis performed by External laboratory. See External Laboratory Report attachments.

Report Authentication Code:

1414 Stanislaus Street Fresno, CA 93706-1623 Phone 559-497-2888, In CA 800-877-8310 Fax 559-485-6935

BSK ANALYTICAL LABORATORIES

Certificate of Analysis

NELAP Certificate #04227CA
ELAP Certificate #1180

Shawn Sevey
California American Water - Sac.
PO Box 15468
Sacramento, CA 95851-0468

BSK Submission #: 2005090048
BSK Sample ID #: 628949

Report Issue Date: 09/20/2005

Project ID: Project Desc:
Submission Comments:
Sample Type: Liquid
Sample Description: Finish 10
Sample Comments:

Date Sampled: 08/30/2005
Time Sampled: 0840
Date Received: 09/01/2005

Inorganics

Analyte	Method	Result	Units	PQL	Dilution	DLR	Prep Date/Time	Analysis Date/Time
Arsenic (As)	EPA 200.8	**7.0**	µg/L	2	1	2	09/03/05	09/16/05
Iron (Fe)	EPA 200.7	**0.22**	mg/L	0.05	1	0.05	09/03/05	09/13/05

mg/L: Milligrams/Liter (ppm)
mg/Kg: Milligrams/Kilogram (ppm)
µg/L: Micrograms/Liter (ppb)
µg/Kg: Micrograms/Kilogram (ppb)
%Rec: Percent Recovered (surrogates)

PQL: Practical Quantitation Limit
DLR: Detection Limit for Reporting : PQL x Dilution
ND: None Detected at DLR
pCi/L: Picocurie per Liter

H: Analyzed outside of hold time
P: Preliminary result
S: Suspect result. See Case Narrative for comments.
E: Analysis performed by External laboratory. See External Laboratory Report attachments.

Report Authentication Code:

1414 Stanislaus Street Fresno, CA 93706-1623 Phone 559-497-2888, In CA 800-877-8310 Fax 559-485-6935

BSK ANALYTICAL LABORATORIES

Certificate of Analysis

NELAP Certificate #04227CA
ELAP Certificate #1180

Shawn Sevey
California American Water - Sac.
PO Box 15468
Sacramento, CA 95851-0468

BSK Submission #: 2005090048
BSK Sample ID #: 628950

Report Issue Date: 09/20/2005

Project ID: Project Desc:
Submission Comments:
Sample Type: Liquid
Sample Description: Finish 15
Sample Comments:

Date Sampled: 08/30/2005
Time Sampled: 0845
Date Received: 09/01/2005

Inorganics

Analyte	Method	Result	Units	PQL	Dilution	DLR	Prep Date/Time	Analysis Date/Time
Arsenic (As)	EPA 200.8	**7.0**	µg/L	2	1	2	09/03/05	09/16/05
Iron (Fe)	EPA 200.7	**0.18**	mg/L	0.05	1	0.05	09/03/05	09/13/05

mg/L: Milligrams/Liter (ppm)
mg/Kg: Milligrams/Kilogram (ppm)
µg/L: Micrograms/Liter (ppb)
µg/Kg: Micrograms/Kilogram (ppb)
%Rec: Percent Recovered (surrogates)

PQL: Practical Quantitation Limit
DLR: Detection Limit for Reporting : PQL x Dilution
ND: None Detected at DLR
pCi/L: Picocurie per Liter

H: Analyzed outside of hold time
P: Preliminary result
S: Suspect result. See Case Narrative for comments.
E: Analysis performed by External laboratory. See External Laboratory Report attachments.

Report Authentication Code:

1414 Stanislaus Street Fresno, CA 93706-1623 Phone 559-497-2888, In CA 800-877-8310 Fax 559-485-6935

BSK ANALYTICAL LABORATORIES

Certificate of Analysis

NELAP Certificate #04227CA
ELAP Certificate #1180

Shawn Sevey
California American Water - Sac.
PO Box 15468
Sacramento, CA 95851-0468

BSK Submission #: 2005090048
BSK Sample ID #: 628951

Report Issue Date: 09/20/2005

Project ID: Project Desc:
Submission Comments:
Sample Type: Liquid
Sample Description: Finish 30
Sample Comments:

Date Sampled: 08/30/2005
Time Sampled: 0900
Date Received: 09/01/2005

Inorganics

Analyte	Method	Result	Units	PQL	Dilution	DLR	Prep Date/Time	Analysis Date/Time
Arsenic (As)	EPA 200.8	**7.0**	µg/L	2	1	2	09/03/05	09/16/05
Iron (Fe)	EPA 200.7	**0.19**	mg/L	0.05	1	0.05	09/03/05	09/13/05

mg/L: Milligrams/Liter (ppm)
mg/Kg: Milligrams/Kilogram (ppm)
µg/L: Micrograms/Liter (ppb)
µg/Kg: Micrograms/Kilogram (ppb)
%Rec: Percent Recovered (surrogates)

PQL: Practical Quantitation Limit
DLR: Detection Limit for Reporting : PQL x Dilution
ND: None Detected at DLR
pCi/L: Picocurie per Liter

H: Analyzed outside of hold time
P: Preliminary result
S: Suspect result. See Case Narrative for comments.
E: Analysis performed by External laboratory. See External Laboratory Report attachments.

Report Authentication Code:

1414 Stanislaus Street Fresno, CA 93706-1623 Phone 559-497-2888, In CA 800-877-8310 Fax 559-485-6935

BSK ANALYTICAL LABORATORIES

Certificate of Analysis

NELAP Certificate #04227CA
ELAP Certificate #1180

Shawn Sevey
California American Water - Sac.
PO Box 15468
Sacramento, CA 95851-0468

BSK Submission #: 2005090048
BSK Sample ID #: 628952

Report Issue Date: 09/20/2005

Project ID: Project Desc:
Submission Comments:
Sample Type: Liquid
Sample Description: Finish
Sample Comments:

Date Sampled: 08/30/2005
Time Sampled: 1000
Date Received: 09/01/2005

Inorganics

Analyte	Method	Result	Units	PQL	Dilution	DLR	Prep Date/Time	Analysis Date/Time	
Alkalinity (as CaCO3)	SM 2320 B	**240**	mg/L	1	1	1	09/01/05	09/01/05	
Aluminum (Al)	EPA 200.7	**ND**	mg/L	0.05	1	0.05	09/03/05	09/13/05	
Arsenic (As)	EPA 200.8	**7.0**	µg/L	2	1	2	09/03/05	09/16/05	
Bicarbonate (as CaCO3)	SM 2320 B	**240**	mg/L	1	1	1	09/01/05	09/01/05	
Calcium (Ca)	EPA 200.7	**5.6**	mg/L	0.1	1	0.1	09/03/05	09/13/05	
Carbonate (as CaCO3)	SM 2320 B	**ND**	mg/L	1	1	1	09/01/05	09/01/05	
Color (A.P.H.A)	SM 2120 B	**5.0**	units	1	1	1	09/01/05 16:53	09/01/05 16:53	H
Hardness (as CaCO3)	SM 2340 B	**25**	mg/L	1.0	1	1.0	09/20/05	09/20/05	
Hydroxide (as CaCO3)	SM 2320 B	**ND**	mg/L	1	1	1	09/01/05	09/01/05	
Iron (Fe)	EPA 200.7	**0.080**	mg/L	0.05	1	0.05	09/03/05	09/13/05	
Magnesium (Mg)	EPA 200.7	**2.6**	mg/L	0.1	1	0.1	09/03/05	09/13/05	
Manganese (Mn)	EPA 200.7	**ND**	mg/L	0.01	1	0.01	09/03/05	09/13/05	
o-Phosphate as PO4	EPA 300.0	**ND**	mg/L	0.6	1	0.6	09/01/05 17:20	09/01/05 17:20	H
pH	SM 4500-H+ B	**8.1**	Std.Unit	-	1	N/A	09/01/05 19:07	09/01/05 19:07	H
Sulfate (SO4)	EPA 300.0	**19**	mg/L	2	1	2	09/01/05	09/01/05	
Turbidity	SM 2130 B	**0.40**	NTU	0.1	1	0.1	09/01/05 16:53	09/01/05 16:53	H

mg/L: Milligrams/Liter (ppm)
mg/Kg: Milligrams/Kilogram (ppm)
µg/L: Micrograms/Liter (ppb)
µg/Kg: Micrograms/Kilogram (ppb)
%Rec: Percent Recovered (surrogates)

PQL: Practical Quantitation Limit
DLR: Detection Limit for Reporting : PQL x Dilution
ND: None Detected at DLR
pCi/L: Picocurie per Liter

H: Analyzed outside of hold time
P: Preliminary result
S: Suspect result. See Case Narrative for comments.
E: Analysis performed by External laboratory. See External Laboratory Report attachments.

Report Authentication Code:

1414 Stanislaus Street Fresno, CA 93706-1623 Phone 559-497-2888, In CA 800-877-8310 Fax 559-485-6935

BSK ANALYTICAL LABORATORIES

Certificate of Analysis

NELAP Certificate #04227CA
ELAP Certificate #1180

Shawn Sevey
California American Water - Sac.
PO Box 15468
Sacramento, CA 95851-0468

BSK Submission #: 2005090048
BSK Sample ID #: 628953

Report Issue Date: 09/20/2005

Project ID: Project Desc:
Submission Comments:
Sample Type: Liquid
Sample Description: Influent
Sample Comments:

Date Sampled: 08/30/2005
Time Sampled: 1000
Date Received: 09/01/2005

Inorganics

Analyte	Method	Result	Units	PQL	Dilution	DLR	Prep Date/Time	Analysis Date/Time	
Alkalinity (as CaCO3)	SM 2320 B	**250**	mg/L	1	1	1	09/01/05	09/01/05	
Aluminum (Al)	EPA 200.7	**ND**	mg/L	0.05	1	0.05	09/06/05	09/13/05	
Arsenic (As)	EPA 200.8	**22**	µg/L	2	1	2	09/06/05	09/16/05	
Bicarbonate (as CaCO3)	SM 2320 B	**240**	mg/L	1	1	1	09/01/05	09/01/05	
Calcium (Ca)	EPA 200.7	**6.1**	mg/L	0.1	1	0.1	09/06/05	09/13/05	
Carbonate (as CaCO3)	SM 2320 B	**12**	mg/L	1	1	1	09/01/05	09/01/05	
Color (A.P.H.A)	SM 2120 B	**15**	units	1	1	1	09/01/05 16:56	09/01/05 16:56	H
Hardness (as CaCO3)	SM 2340 B	**26**	mg/L	1.0	1	1.0	09/20/05	09/20/05	
Hydroxide (as CaCO3)	SM 2320 B	**ND**	mg/L	1	1	1	09/01/05	09/01/05	
Iron (Fe)	EPA 200.7	**ND**	mg/L	0.05	1	0.05	09/06/05	09/13/05	
Magnesium (Mg)	EPA 200.7	**2.7**	mg/L	0.1	1	0.1	09/06/05	09/13/05	
Manganese (Mn)	EPA 200.7	**0.040**	mg/L	0.01	1	0.01	09/06/05	09/13/05	
o-Phosphate as PO4	EPA 300.0	**1.2**	mg/L	0.6	1	0.6	09/01/05 17:30	09/01/05 17:30	H
pH	SM 4500-H+ B	**8.5**	Std.Unit	-	1	N/A	09/01/05 19:16	09/01/05 19:16	H
Sulfate (SO4)	EPA 300.0	**18**	mg/L	2	1	2	09/01/05	09/01/05	
Turbidity	SM 2130 B	**0.80**	NTU	0.1	1	0.1	09/01/05 16:56	09/01/05 16:56	H

mg/L: Milligrams/Liter (ppm)
mg/Kg: Milligrams/Kilogram (ppm)
µg/L: Micrograms/Liter (ppb)
µg/Kg: Micrograms/Kilogram (ppb)
%Rec: Percent Recovered (surrogates)

PQL: Practical Quantitation Limit
DLR: Detection Limit for Reporting : PQL x Dilution
ND: None Detected at DLR
pCi/L: Picocurie per Liter

H: Analyzed outside of hold time
P: Preliminary result
S: Suspect result. See Case Narrative for comments.
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BSK ANALYTICAL LABORATORIES

Certificate of Analysis

NELAP Certificate #04227CA
ELAP Certificate #1180

Shawn Sevey
California American Water - Sac.
PO Box 15468
Sacramento, CA 95851-0468

BSK Submission #: 2005090048
BSK Sample ID #: 628954

Report Issue Date: 09/20/2005

Project ID: Project Desc:
Submission Comments:
Sample Type: Liquid
Sample Description: Finish
Sample Comments:

Date Sampled: 08/30/2005
Time Sampled: 1200
Date Received: 09/01/2005

Inorganics

Analyte	Method	Result	Units	PQL	Dilution	DLR	Prep Date/Time	Analysis Date/Time
Arsenic (As)	EPA 200.8	**8.0**	µg/L	2	1	2	09/06/05	09/16/05
Iron (Fe)	EPA 200.7	**ND**	mg/L	0.05	1	0.05	09/06/05	09/13/05

mg/L: Milligrams/Liter (ppm)
mg/Kg: Milligrams/Kilogram (ppm)
µg/L: Micrograms/Liter (ppb)
µg/Kg: Micrograms/Kilogram (ppb)
%Rec: Percent Recovered (surrogates)

PQL: Practical Quantitation Limit
DLR: Detection Limit for Reporting : PQL x Dilution
ND: None Detected at DLR
pCi/L: Picocurie per Liter

H: Analyzed outside of hold time
P: Preliminary result
S: Suspect result. See Case Narrative for comments.
E: Analysis performed by External laboratory. See External Laboratory Report attachments.

Report Authentication Code:

1414 Stanislaus Street Fresno, CA 93706-1623 Phone 559-497-2888, In CA 800-877-8310 Fax 559-485-6935

BSK ANALYTICAL LABORATORIES

Certificate of Analysis

NELAP Certificate #04227CA
ELAP Certificate #1180

Shawn Sevey
California American Water - Sac.
PO Box 15468
Sacramento, CA 95851-0468

BSK Submission #: 2005090048
BSK Sample ID #: 628955

Report Issue Date: 09/20/2005

Project ID: Project Desc:
Submission Comments:
Sample Type: Liquid
Sample Description: Influent
Sample Comments:

Date Sampled: 08/30/2005
Time Sampled: 0835
Date Received: 09/01/2005

Inorganics

Analyte	Method	Result	Units	PQL	Dilution	DLR	Prep Date/Time	Analysis Date/Time
Arsenic (As)	EPA 200.8	**22**	µg/L	2	1	2	09/06/05	09/16/05

mg/L: Milligrams/Liter (ppm)
mg/Kg: Milligrams/Kilogram (ppm)
µg/L: Micrograms/Liter (ppb)
µg/Kg: Micrograms/Kilogram (ppb)
%Rec: Percent Recovered (surrogates)

PQL: Practical Quantitation Limit
DLR: Detection Limit for Reporting : PQL x Dilution
ND: None Detected at DLR
pCi/L: Picocurie per Liter

H: Analyzed outside of hold time
P: Preliminary result
S: Suspect result. See Case Narrative for comments.
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Report Authentication Code:

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BSK ANALYTICAL LABORATORIES

Certificate of Analysis

NELAP Certificate #04227CA
ELAP Certificate #1180

Shawn Sevey
California American Water - Sac.
PO Box 15468
Sacramento, CA 95851-0468

BSK Submission #: 2005090048
BSK Sample ID #: 628956

Report Issue Date: 09/20/2005

Project ID: Project Desc:
Submission Comments:
Sample Type: Liquid
Sample Description: Finish
Sample Comments:

Date Sampled: 08/30/2005
Time Sampled: 0835
Date Received: 09/01/2005

Inorganics

Analyte	Method	Result	Units	PQL	Dilution	DLR	Prep Date/Time	Analysis Date/Time
Arsenic (As)	EPA 200.8	**8.0**	µg/L	2	1	2	09/06/05	09/16/05
Iron (Fe)	EPA 200.7	**ND**	mg/L	0.05	1	0.05	09/06/05	09/13/05

mg/L: Milligrams/Liter (ppm)
mg/Kg: Milligrams/Kilogram (ppm)
µg/L: Micrograms/Liter (ppb)
µg/Kg: Micrograms/Kilogram (ppb)
%Rec: Percent Recovered (surrogates)

PQL: Practical Quantitation Limit
DLR: Detection Limit for Reporting : PQL x Dilution
ND: None Detected at DLR
pCi/L: Picocurie per Liter

H: Analyzed outside of hold time
P: Preliminary result
S: Suspect result. See Case Narrative for comments.
E: Analysis performed by External laboratory. See External Laboratory Report attachments.

Report Authentication Code:

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BSK ANALYTICAL LABORATORIES

Certificate of Analysis

NELAP Certificate #04227CA
ELAP Certificate #1180

Shawn Sevey
California American Water - Sac.
PO Box 15468
Sacramento, CA 95851-0468

BSK Submission #: 2005090048
BSK Sample ID #: 628957

Report Issue Date: 09/20/2005

Project ID: Project Desc:
Submission Comments:
Sample Type: Liquid
Sample Description: Influent
Sample Comments:

Date Sampled: 08/30/2005
Time Sampled: 0835
Date Received: 09/01/2005

Inorganics

Analyte	Method	Result	Units	PQL	Dilution	DLR	Prep Date/Time	Analysis Date/Time
Arsenic (As)	EPA 200.8	**23**	µg/L	2	1	2	09/06/05	09/16/05

mg/L: Milligrams/Liter (ppm)
mg/Kg: Milligrams/Kilogram (ppm)
µg/L: Micrograms/Liter (ppb)
µg/Kg: Micrograms/Kilogram (ppb)
%Rec: Percent Recovered (surrogates)

PQL: Practical Quantitation Limit
DLR: Detection Limit for Reporting : PQL x Dilution
ND: None Detected at DLR
pCi/L: Picocurie per Liter

H: Analyzed outside of hold time
P: Preliminary result
S: Suspect result. See Case Narrative for comments.
E: Analysis performed by External laboratory. See External Laboratory Report attachments.

Report Authentication Code:

1414 Stanislaus Street Fresno, CA 93706-1623 Phone 559-497-2888, In CA 800-877-8310 Fax 559-485-6935

BSK ANALYTICAL LABORATORIES

Certificate of Analysis

NELAP Certificate #04227CA
ELAP Certificate #1180

Shawn Sevey
California American Water - Sac.
PO Box 15468
Sacramento, CA 95851-0468

BSK Submission #: 2005090048
BSK Sample ID #: 628958

Report Issue Date: 09/20/2005

Project ID: Project Desc:
Submission Comments:
Sample Type: Liquid
Sample Description: Finish
Sample Comments:

Date Sampled: 08/30/2005
Time Sampled: 0835
Date Received: 09/01/2005

Inorganics

Analyte	Method	Result	Units	PQL	Dilution	DLR	Prep Date/Time	Analysis Date/Time
Arsenic (As)	EPA 200.8	**9.0**	µg/L	2	1	2	09/06/05	09/16/05
Iron (Fe)	EPA 200.7	**ND**	mg/L	0.05	1	0.05	09/06/05	09/13/05

mg/L: Milligrams/Liter (ppm)
mg/Kg: Milligrams/Kilogram (ppm)
µg/L: Micrograms/Liter (ppb)
µg/Kg: Micrograms/Kilogram (ppb)
%Rec: Percent Recovered (surrogates)

PQL: Practical Quantitation Limit
DLR: Detection Limit for Reporting : PQL x Dilution
ND: None Detected at DLR
pCi/L: Picocurie per Liter

H: Analyzed outside of hold time
P: Preliminary result
S: Suspect result. See Case Narrative for comments.
E: Analysis performed by External laboratory. See External Laboratory Report attachments.

Report Authentication Code:

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BSK ANALYTICAL LABORATORIES

Certificate of Analysis

NELAP Certificate #04227CA
ELAP Certificate #1180

Shawn Sevey
California American Water - Sac.
PO Box 15468
Sacramento, CA 95851-0468

BSK Submission #: 2005090048
BSK Sample ID #: 629107

Report Issue Date: 09/20/2005

Project ID: Project Desc:
Submission Comments:
Sample Type: Liquid
Sample Description: Influent
Sample Comments:

Date Sampled: 08/30/2005
Time Sampled: 1630
Date Received: 09/01/2005

Inorganics

Analyte	Method	Result	Units	PQL	Dilution	DLR	Prep Date/Time	Analysis Date/Time
Arsenic (As)	EPA 200.8	**22**	µg/L	2	1	2	09/06/05	09/16/05

mg/L: Milligrams/Liter (ppm)
mg/Kg: Milligrams/Kilogram (ppm)
µg/L: Micrograms/Liter (ppb)
µg/Kg: Micrograms/Kilogram (ppb)
%Rec: Percent Recovered (surrogates)

PQL: Practical Quantitation Limit
DLR: Detection Limit for Reporting : PQL x Dilution
ND: None Detected at DLR
pCi/L: Picocurie per Liter

H: Analyzed outside of hold time
P: Preliminary result
S: Suspect result. See Case Narrative for comments.
E: Analysis performed by External laboratory. See External Laboratory Report attachments.

Report Authentication Code:

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Sample Integrity

Pg. 1 of 2

C 2005090048 09/01/2005

CAL AM SAC TAT: Standard

91030

Date Received 9/1/05

Section 1- Sampled Same Day

Sample Transport: ~~Walk In~~ SJVC BSK-Courier Transported In: Ice Chest Box Hand

Has chilling process begun? Y N Samples Received: ~~Chilled to Touch~~ / Ambient / On Ice

Section 2- Sampled Previously

Sample Transport: CAO UPS SJVC Walk-In BSK-Courier GSO Fed Exp. Other:_____

No. Coolers/Ice Chests: 1 Temperature(s): 2.

Was Temperature In Range: Y N Received On Ice: Wet Blue

Describe type of packing materials: Bubble Wrap Foam Packing Peanuts Paper Other:_____

Were ice chest custody seals present? Y N Intact: Y N

Section 3- COC Info.	Completed Yes	Completed No	Info From Container		Completed Yes	Completed No	Info From Container
Was COC Received	—			Analysis Requested	—		
Date Sampled	—			Any hold times less than 72hr	—		
Time Sampled	—			Client Name	—		
Sample ID	—			Address	—		
Special Storage/Handling Ins.		—		Telephone #	—		

Section 4- Bottles / Analysis	Yes	No	N/A	Comment
Did all bottles arrive unbroken and intact?:	—			
Were bottle custody seals present?		—		
Were bottle custody seals intact?		—		
Did all bottle labels agree with COC?:	—			
Were correct containers used for the tests requested?:	—			
Were correct preservations used for the tests requested?:	—			
Was a sufficient amount of sample sent for tests indicated?:	—			
Were bubbles present in VOA Vials?: **(Volatile Methods Only)**			—	
Were Ascorbic Acid Bottles received with the VOAs			—	

Section 5- Comments / Discrepancies

Sample(s) Split/Preserve: Yes No Container:_____ Preservation:_____ Init.:____

Was Client Service Rep. notified of discrepancies: Yes No N/A CSR:_____ Notified By:_____

Explanations / Comments

Report Comment Entered:

F:/SHARE/QC/DOCCONTROL/FORMS/SMPINTG05 Labeled by: BA Labels checked by:

Sample Integrity

Pg 2 of 2

2005090048 09/01/2005

CAL AM SAC TAT: Standard

91030

BSK Bottles (Yes) No

8oz (A) 16oz (B) 32oz (C) Amber Glass (AG)

Container(s) Received	1-4	5-6	7-12				
Bacti $Na_2S_2O_3$							
None (p) White Cap		1c					
None (p) Blue Cap							
HNO_3 (p) Red Cap	1b	1b	1b				
H_2SO_4 (p) Yellow Cap							
NaOH (p) Green Cap							
Other:							
Dissolved Oxygen 300ml (g)							
250ml (AG) None							
250ml (AG) H_2SO_4 TOC,COD Yellow Label		1					
250ml (AG) $Na_2S_2O_3$ 515,547 Blue Label							
250ml (AG) $Na_2S_2O_3$+ MCAA 531.1 Orange Label							
250ml (AG) NH_4Cl 552 Purple Label							
250ml (AG) EDA DBPs Brown Label							
250ml (AG) Other:							
500ml (AG) None							
500ml (AG) H_2SO_4 TPH-Diesel Yellow Label							
500ml (AG) Other:							
1 Liter (AG) None							
1 Liter (AG) H_2SO_4 O&G Yellow Label							
1 Liter (AG) Na_2SO_3 525 N-Green Label							
1 Liter (AG) $Na_2S_2O_3$ 548 Blue Label							
1 Liter (P) $Na_2S_2O_3$+ H_2SO_4 549							
1 Liter (AG) NaOH+ZnAc Sulfide							
1 Liter (AG) Other:							
40ml VOA Vial Clear – HCL							
40ml VOA Vial Amber – $Na_2S_2O_3$							
40ml VOA Vial Clear – None							
40ml VOA Vial Clear - $Na_2S_2O_3$ 504, 505							
40ml VOA Vial Other							
Other:							
Asbestos 1-Liter Plastic/Foil							
Radiological GA / GB (½ Gal Plastic)							
Radiological 226 / 228 (32 oz plastic N-BSK)							
Radon 200ml Clear (g)							
Low Level Hg/Metals Double Baggie							
THM-FP 4-40ml VOA None							
250 Clear Glass Jar							
500 Clear Glass Jar							
1 Liter Clear Glass Jar							
Plastic Bag							
Soil Tube Brass / Steel / Plastic							
Tedlar Bags							

9/1

BSK ANALYTICAL LABORATORIES

1414 Stanislaus Street
Fresno, CA 93706-1623
(559) 497-2888, (800) 877-8310
FAX (559) 485-6935
www.bsklabs.com

TEMP:

2005090048 09/01/2005
CAL AM SAC TAT: Standard
91030

Client Name	Report Attn:	Phone #	FAX #	E-mail:
CAL AMERICAN WTR				

Address	Project Name	Project #	Carbon Copies: (Check Box)
			CDHS ☐ FresnoCo ☐ EPA ☐ Merced Co ☐ Tulare Co ☐ Other:

City State Zip	Quote #	PO #	Rush Request (Circle One)
			7Day 5Day 2Day 1Day

Sampler Name Printed	Sampler Signature	QC Required (Circle One)	Regulatory Compliance
BEN GASKILL		STD Level II Level III	Electronic Data Transfer: Y N System #

Matrix Types: RSW = Raw Surface Water CFW = Chlorinated Finished Water CWW = Chlorinated Waste Water BW = Bottled Water RGW = Raw Ground Water FW = Finished Water WW = Waste Water SW = Storm Water DW = Drinking Water SO = Solid

Sample #	# Btls	Date / Time Sampled	Sample Description/Location	Matrix	Comments / Station Code	As	FE	Total Alk, Hardness, Turbidity	Al, Mn	SO4, Phosphate, Color			
1	1	8/30 8:35	FINISH-5 628948	FW		X	X						
2	1	8:40	" - 10 49			X	X						
3	1	8:45	" - 15 50			X	X						
4	1	9:00	" - 30 51			X	X						
5	3	10:00	FINISH 52			X	X	X	X	X			
6	3	10:00	INFLUENT 53		CHLORINATED	X	X	X	X	X			
7	1	12:00	FINISH 54	FW		X	X						
8	1	12:00	INFLUENT 55		CHLORINATED	X							
9	1	14:00	FINISH 56	FW		X	X						
10	1	14:00	INFLUENT 57		CHLORINATED	X							
11	1	16:30	FINISH 58	FW		X	X						

Relinquished by: (Signature and Printed Name)	Company	Date	Time	Received by: (Signature and Print Name)	Company
BEN GASKILL	HFT	8/31	10:00	Barteling	BSK-Sac
Received for lab by: (Signature and Printed Name)		9/1	0740	Payment Received at Delivery: Date: Amount: Check/Cash/Card PIA # Init.	

Shaded area lab use only