TECHNICAL REPORT: WASTEWATER SAMPLING

Chevron Kern River, Coalinga, and Midway Sunset Oil Fields

Kern and Fresno Counties, California

Prepared for:

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This report was prepared by the staff of Amec Foster Wheeler Environment & Infrastructure, Inc., under the supervision of the Geologists whose seals and signatures appear hereon.

The findings, recommendations, specifications, or professional opinions presented in this report were prepared in accordance with generally accepted professional geologic practice and within the scope of the project. No other warranty, express or implied, is provided.

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TECHNICAL REPORT: WASTEWATER SAMPLING

Chevron Kern River, Coalinga, and Midway Sunset Oil Fields
Kern and Fresno Counties, California

EXECUTIVE SUMMARY

Amec Foster Wheeler Environment & Infrastructure, Inc. (Amec Foster Wheeler), has prepared this technical report on behalf of Chevron U.S.A. Inc. (Chevron) describing the methodology and presenting the analytical results of wastewater sampling in the Kern River Oil Field, Coalinga Oil Field, and Midway Sunset Oil Field.

Amec Foster Wheeler has prepared this technical report to comply with the reporting provisions contained in the Central Valley Regional Water Quality Control Board's Section 13267 Order (Order) dated April 1, 2015, issued to Chevron. The Order directs Chevron to undertake the collection and analysis of wastewater samples from each of the impoundments or ponds listed in Attachment A of the Order. As directed by the Order, Chevron also identified additional locations where oil field produced water is discharged to land and obtained samples from those locations. All samples were tested for each of the constituents listed in Attachment B of the Order.

As directed by the Order, this technical report includes the following information:

- In addition to discharges of oil field produced waters to land identified in the Order, identify any additional discharges of oil field produced waters to land since April 2014.
- Surface impoundment information, including dimensions (i.e., length, width, and depth), latitude and longitude, Assessor's Parcel Numbers of the lease, duration of the discharge (in months), and the volume of wastewater discharged per year.
- Maps that include the surface impoundment(s) at the Facility, the boundary lines for the leases at the Facility, and the names of the surface impoundment(s). Detail maps showing the sampling locations.
- Sampling procedures and tabulated analytical results.

TECHNICAL REPORT: WASTEWATER SAMPLING

Chevron Kern River, Coalinga, and Midway Sunset Oil Fields
Kern and Fresno Counties, California

1.0 INTRODUCTION

Amec Foster Wheeler Environment & Infrastructure, Inc. (Amec Foster Wheeler), has prepared this technical report on behalf of Chevron U.S.A. Inc. (Chevron) to comply with the reporting provisions contained in the Central Valley Regional Water Quality Control Board's (RWQCB) Section 13267 Order (Order) dated April 1, 2015, issued to Chevron. A copy of the Order is provided in Appendix A. The Order directs Chevron to undertake the collection and analysis of wastewater samples from each of the impoundments or ponds at the Kern River Oil Field (KROF) and Coalinga Oil Field (COF) listed in Attachment A of the Order. The Order also directs Chevron to identify and sample any additional discharge(s) of oil field produced water to land that are not identified in Attachment A that have occurred since April 2014. Chevron identified additional discharge locations of produced water within the KROF and COF. Chevron also identified a discharge location within its operations at the Midway Sunset Oil Field (MSOF). Samples from these additional areas were obtained and tested for each of the constituents listed in Attachment B of the Order.

In addition to the sampling locations included in this technical report, the Cawelo Water District ponds near the KROF have been identified as off-site discharge locations of produced water. The produced water provided to the Cawelo Water District ponds by Chevron is reclaimed and treated for use as agricultural irrigation water. Since the Cawelo Water District ponds also contain water that is not from Chevron, a separate technical report has been prepared and is being submitted under separate cover. Therefore, the Cawelo Water District ponds are not discussed further in this technical report.

2.0 SAMPLING AND REPORTING REQUIREMENTS

The Order directs the collection of produced water samples from ponds, impoundments, and other areas where there are discharges of produced water to land. The samples were tested for each of the constituents listed in Attachment B of the Order. The Order also directs Chevron to submit a technical report by June 15, 2015. This document is the technical report for produced water sampling from KROF, COF, and MSOF.

The Order directs that representative samples be taken of water from each pond or impoundment and provides that the technical report contain the following information:

- In addition to discharges of oil field produced waters to land identified in the Order, identify any additional discharges of oil field produced waters to land since April 2014.
- Surface impoundment information, including dimensions (i.e., length, width, and depth), latitude and longitude, Assessor's Parcel Numbers (APN) of the lease, duration of the discharge (in months), and the estimated volume of wastewater discharged during 2014.
- Maps that include the surface impoundment(s) at the Facility, the boundary lines for the leases at the Facility, and the names of the surface impoundment(s). Detail maps showing the sampling locations.
- Sampling procedures and tabulated analytical results.

3.0 CHEVRON OIL FIELD DISCHARGE LOCATIONS

The Order identified two discharge locations within the KROF, and Chevron subsequently identified two additional discharge locations within the KROF (Figure 1). The Order identified 11 COF impoundments, and Chevron subsequently identified one additional discharge location on the COF (Figure 2). The MSOF is not listed in the Order, but Chevron identified one discharge location within the MSOF (Figure 3).

3.1 KERN RIVER OIL FIELD

The Order identified two ponds on the KROF. Chevron refers to these ponds as Sump 1 and Sump 2 (Figure 4). Sump 0 was included by Chevron as an additional potential produced water discharge (Figure 4). These sumps are steel or concrete lined and are not used for wastewater disposal but are instead used as part of a wastewater transfer system from transport trucks to a processing plant. The wastewater processing plant is referred to by Chevron as the Foam Plant. These sumps contain liquid during the transfer process and are used as settling points to separate and remove solids from the liquid. The sumps are cleaned of solids as needed. Sump 0 is a partially buried steel tank, Sump 1 is steel lined, and Sump 2 is concrete lined. Sample locations are shown on Figure 4.

Chevron also identified the Section 19 roadmix facility as an additional discharge location. Roadmix combines tank sludges and other oilfield solids with clean soil for use to make and maintain roads within the field. The roadmix facility receives solids with associated residual liquids that are mixed with clean soil to create roadmix. Associated liquids include produced water. Chevron personnel observed that standing water was not present at the roadmix facility so a water sample and sludge sample was collected from one of the settling tanks, at Pump

Station 36, used to store materials that are ultimately transferred to the roadmix facility. The fluid sample is representative of the associated residual liquids that are transferred with the settling tank solids. The settling tank sample location and the roadmix facility are shown on Figure 5.

Table 1 includes information, if applicable, on the dimensions, location, APN numbers of the lease, duration of discharge, and the estimated volumes discharged per year. Sump 0 is a truck washout sump. The annual discharge to Sump 0 is also included in the annual discharge volumes to Sumps 1 and 2. The volume discharged to Sumps 0, 1, and 2 is the approximate volume that passes through the sumps on the way to the treatment plant. The annual discharge to the roadmix facility includes solids in the form of sludge that contains associated liquids. Chevron reports the majority of the discharge to the roadmix facility is solids.

The lease boundaries for the KROF are shown on Figure 6.

3.2 COALINGA OIL FIELD IMPOUNDMENTS

The Order identified 11 impoundments on the COF. Figure 2 shows the location of the impoundments within the COF. A detail of the impoundments is shown on Figure 7. The COF impoundments are used for produced water disposal. The northern pair of impoundments is referred to as the Inca impoundments. Both of these impoundments were sampled. The central pair of impoundments is referred to as the Inca Twin or Whittier impoundments. Both of these impoundments were sampled. The southern group of seven impoundments is collectively referred to as the Section 23 D impoundments. Impoundments 2, 5, and 7 were sampled; impoundment 3 was empty; impoundments 4 and 6 only receive waste from impoundment 5; and impoundment 8 only receives waste from impoundment 7. As specified in the Order, if more than one impoundment is connected in series with no additional source of inflow, then only the upstream pond must be sampled. Sample locations are shown on Figure 7.

Chevron also identified the Coalinga 25D steam plant as an additional discharge location within the COF (Figure 2). The drain lines occasionally plug, and collection basins can overflow releasing filtered and softened produced water to the ground. Produced water was not present at the time sampling occurred, so a sample representative of liquid that could be discharged to land in the event of a plugged line was collected from one of the produced water supply lines connected to one of the steam generators. Operational procedures to prevent further discharges have been implemented by Chevron pending longer term facility modifications. The sample locations are shown on Figure 8.

Table 1 includes information, where applicable, on the dimensions, location, APN numbers of the lease, duration of discharge, and the volume discharged per year. For the COF impoundments, the produced water is piped to a manifold system that services the 11 impoundments. Produced water is also delivered to the impoundments by truck. Chevron reported that the total volume of produced water delivered to the 11 impoundments during 2014 was 10,522,610 barrels.
The total volume of filtered and softened produced water intermittently discharged to land at the Coalinga 25D steam plant since April 2014 due to maintenance issues is approximately 12 barrels. Individual discharge events did not rise to a reportable volume.

The lease boundaries for the COF are shown on Figure 9.

3.3 MIDWAY SUNSET OIL FIELD

MSOF is not identified in the Order. Chevron identified the Section 23 roadmix facility within the MSOF (Figure 3) as a potential additional location of produced water discharge to land. The roadmix facility receives solids with associated residual liquids that are mixed with clean soil to create roadmix. Associated liquids include produced water. Chevron personnel observed that standing water was not present on the roadmix facility so a water sample was collected from a concrete lined truck washout pad situated adjacent to the roadmix facility prior to that material being transferred to the roadmix facility. The sample from the truck washout pad was collected to be representative of produced water associated with the solids that reach the roadmix facility. The truck washout pad sample location and the roadmix facility are shown on Figure 10.

Table 1 includes information, where applicable, on the dimensions, location, APN numbers of the lease, duration of discharge, and the volume discharged per year. The annual discharge volume to the roadmix facility includes solids in the form of sludge that contains associated liquids. Chevron reports the majority of the discharge to land is solids.

The lease boundaries for the MSOF are shown on Figure 11.

4.0 WASTEWATER SAMPLING PROCEDURES

Sample containers were ordered from TestAmerica Laboratories, Inc. (TestAmerica), a California certified laboratory. Samples were collected at the locations shown on Figures 4, 5, 7, 8, and 10. As described in the following subsections, samples were collected with new clean disposable bailers, new clean disposable sample cups, new clean disposable sample tubing, or directly into the sample containers. The samples were collected to be representative of the material sampled at the time the samples were collected. The sample containers were placed into sample shuttles (ice chests) packed with ice. A sample control log

and chain-of-custody was prepared for the samples. The sample shuttles were shipped by FedEx to TestAmerica.

4.1 KERN RIVER OIL FIELD

A total of seven samples were collected from the KROF sumps as shown on Figure 4. Sample W046 was collected with a sample cup from Sump 0. Samples W040, W041, and W047 were collected in Sump 1. Samples W040 and W041 were collected with a sample cup from pipes flowing from an aboveground holding tank and from Sump 0, respectively, into Sump 1 (Figure 4). Sample W047 was collected with a sample cup from liquid that was flowing through Sump 1. Samples W048, W049, and W050 were collected with bailers directly from Sump 2. Sample W049 was collected for quality control as a replicate of sample W048.

Two samples were collected from one of the settling tanks used to supply material to the Section 19 roadmix facility. WKR001 is a liquid sample and SKR001 is a sludge sample. Both samples were collected directly into the sample bottles from ports on the settling tank. The sample locations are shown on Figure 5.

4.2 COALINGA OIL FIELD IMPOUNDMENTS

A total of eight samples were collected from the COF impoundments as shown on Figure 7. The samples were collected with a pump through sample tubing. Samples W001 and W002 were collected from the Inca North impoundment. Sample W002 was a duplicate of sample W001. Sample W003 was collected from the Inca South impoundment. Samples W006 and W007 were collected from the Inca West and Inca East impoundments, respectively. Samples W004, W005, and W008 were collected from impoundments 7, 5, and 2, respectively, of the Section 23 D impoundments (Figure 2).

Sample WC001 was collected from a produced water supply lines to one of the steam generators. The sample was collected directly into the sample containers. The Coalinga 25D steam plant sample location is shown on Figure 8.

4.3 MIDWAY SUNSET OIL FIELD

Sample WMS001 was collected from a concrete lined truck washout pad situated adjacent to the Section 23 roadmix facility as shown on Figure 10. The sample was collected with a bailer.

5.0 QUALITY ASSURANCE AND QUALITY CONTROL SAMPLES

The wastewater and quality assurance/quality control (QA/QC) samples were labeled with pertinent information including sample identification, the date and time the samples were collected, and the sampler's name. A sample control log was prepared to identify the sample with the appropriate locations, date and time of sampling, analytical methods, and other pertinent information.

TestAmerica reported that the samples were received in good condition. A number of the volatile organic bottles were received with bubbles greater than 6 millimeters in diameter. This appears to be due to the sample water reacting with the hydrochloric acid preservative. Due to a sampling error, the sample times on the chain of custody for some of the KROF samples were not consistent with the sample times on the sample bottles. The time listed on the sample bottles were the correct sample times. Although not included in the list of analytical parameters included in Appendix B of the Order, testing for acetone was inadvertently requested for three of the KROF samples. Analytical results are summarized in Table 2.

Amec Foster Wheeler collected replicate samples for QA/QC purposes during this investigation. The replicate samples were collected to assess sample consistency and laboratory precision. Sample W049 was a replicate of sample W048 and was collected from wastewater with KROF sump 2. Sample W002 was a replicate of sample W001 and was collected from wastewater in the COF Inca North impoundment. The primary and replicate sample results are included in Tables 2 through 6.

The case narrative in the analytical reports states that due to the nature of the sample matrix, samples required dilution that resulted in elevated reporting limits and due to the dilution, surrogate spike recoveries did not provide useful information. The case narrative in each of the TestAmerica analytical reports included details of the sample matrix effects.

6.0 LABORATORY ANALYTICAL METHODS

The wastewater and QA/QC samples were submitted to TestAmerica for the following constituents using U.S. Environmental Protection Agency (EPA) approved methods:

- total dissolved solids by Standard Method (SM) 2540C;
- California Code of Regulations Title 22 metals (antimony, arsenic, barium, beryllium, cadmium, chromium, cobalt, copper, fluoride salts, lead, , molybdenum,

nickel, selenium, silver, thallium, vanadium, and zinc) by EPA Method 6010B and mercury by EPA Method 7470A;

- benzene, toluene, ethyl benzene, and xylenes by EPA Method 8260B;
- total petroleum hydrocarbons for crude oil by EPA Method 8015B;
- polynuclear aromatic hydrocarbons (acenaphthene, acenaphthylene, anthracene, benzo[a]anthracene, benzo[b]fluoranthene, benzo[k]fluoranthene, benzo[a]pyrene, benzo[g,h,i]perylene, chrysene, dibenz[a,h]anthracene, fluoranthene, fluorene, indeno[1,2,3-cd]pyrene, naphthalene, phenanthrene, and pyrene) by EPA Method 8270C SIM;
- radionuclides (radium-226, radium-228 by EPA Methods 9315 and 9320, gross alpha particle activity [excluding radon and uranium]) by EPA Method 9310, and uranium by EPA Method 200.8;
- major and minor cations (sodium, potassium, magnesium, and calcium) by EPA Method 6010B;
- major and minor anions (nitrate, chloride, sulfate, and bromide by EPA Method 300.0 and alkalinity (carbonate, bicarbonate and hydroxyl) by SM 2320B;
- trace elements (lithium, strontium, and boron) by EPA Method 200.7 Rev 4.4.

Analytical results, including quality assurance data for wastewater samples provided by the laboratory, are summarized in Tables 2 through 6. Laboratory analytical reports are provided in Appendix B.

7.0 ANALYTICAL RESULTS

The analytical results for VOCs, SVOCs, and TPH are summarized in Table 2. The analytical results for anions, dissolved metals, general minerals, and dissolved metals are summarized in Table 3. The analytical results for Title 22 metals are summarized in Table 4. The analytical results for soluble threshold limit concentration metals are summarized in Table 5. The analytical results for radionuclides are summarized in Table 6.

TABLE 1

DISCHARGE LOCATION INFORMATION[1]

Chevron Kern River, Coalinga, and Midway Sunset Oil Fields
Kern and Fresno Counties, California

Impoundment	Field	Lease	Length (feet)	Width (feet)	Depth (feet)	Latitude and Longitude		Assessor Parcel Number	Approximate Duration of Discharge (months)	Approximate Volume Discharged Per Year (barrels)
Sump 0	Kern River	San Joaquin	45	8	5	35°25'43.83"	119°0'6.41"	436-030-02-00-2	18	6,240
Sump 1	Kern River	San Joaquin	36	8	5	35°25'43.83"	119°0'6.41"	436-030-02-00-2	166	465,309[3]
Sump 2	Kern River	San Joaquin	17	11	6	35°25'43.83"	119°0'6.41"	436-030-02-00-2	166	
Section 19 Roadmix Facility[2]	Kern River	Section 19	50	25	4	35°29'01.18"	118°59'49.67"	093-120-20	195	80,997[4]
Inca North	Coalinga	Inca	517	377	20	36°10'29.54"N	120°24'19.39"W	063-210-14S	18	10,522,610[5]
Inca South	Coalinga	Inca	236	475	12	36°10'23.61"N	120°24'22.62"W	063-210-14S	162	
Inca West	Coalinga	Chevron Fee	97	435	15	36°10'12.32"N	120°24'26.00"W	063-210-13	138	
Inca East	Coalinga	Chevron Fee	97	435	15	36°10'12.12"N	120°24'24.66"W	063-210-13	138	
Sec 23D Imp 2	Coalinga	Chevron Fee	217	323	20	36°09'57.84"	120°24'42.65"	063-210-15	291	
Sec 23D Imp 3	Coalinga	Chevron Fee	118	267	15	36°09'56.58"	120°24'41.11"	063-210-15	291	
Sec 23D Imp 4	Coalinga	Chevron Fee	228	239	20	36°09'56.79"	120°24'37.68"	063-210-15	291	
Sec 23D Imp 5	Coalinga	Chevron Fee	309	229	20	36°09'58.57'	120°24'37.17"	063-210-15	291	
Sec 23D Imp 6	Coalinga	Chevron Fee	236	155	20	36°10'00.55"	120°24'37.55'	063-210-15	291	
Sec 23D Imp 7	Coalinga	Chevron Fee	227	229	20	36°10'04.25"	120°24'37.68'	063-210-15	291	
Sec 23D Imp 8	Coalinga	Chevron Fee	331	217	20	36°10'07.00"	120°24'38.80"	063-210-15	291	
25D Steam Plan	Coalinga	Chevron Fee	NA	NA	NA	36°9'21.20"	120°23'59.21"	063-270-10	Variable unintentional discharge associated with feedwater	12[6]
Section 23 Roadmix Facility: Excavation #1	Midway Sunset	Chevron Fee	88	16	5	35°12'50.75"N	119°35'7.80"W	183-210-39	126	71,635[7]
Section 23 Roadmix Facility: Excavation #2	Midway Sunset	Chevron Fee	99	15	5	35°12'50.42"N	119°35'7.81"W	183-210-39	126	
Section 23 Roadmix Facility: Excavation #3	Midway Sunset	Chevron Fee	103	16	5	35°12'50.15"N	119°35'7.82"W	183-210-39	126	
Section 23 Roadmix Facility: Excavation #4	Midway Sunset	Chevron Fee	102	15	5	35°12'49.90"N	119°35'7.82"W	183-210-39	126	
Section 23 Roadmix Facility: Excavation #5	Midway Sunset	Chevron Fee	117	16	5	35°12'49.62"N	119°35'7.82"W	183-210-39	90	
Section 23 Roadmix Facility: Excavation #6	Midway Sunset	Chevron Fee	120	15	5	35°12'49.34"N	119°35'7.82"W	183-210-39	90	
Section 23 Roadmix Facility: Excavation #7	Midway Sunset	Chevron Fee	118	14	5	35°12'49.07"N	119°35'7.82"W	183-210-39	54	
Section 23 Roadmix Facility: Excavation #8	Midway Sunset	Chevron Fee	126	16	5	35°12'48.77"N	119°35'7.84"W	183-210-39	54	

Notes:

1. Information for this table was provided by Chevron.
2. A total of seven excavations each with the dimensions described.
3. Total volume passing though Sump 1 and Sump 2 to the treatment plant at the Kern River Oil Field during 2014.
4. Total volume of produced water and sludge solids delivered to the Section 19 Road Mix Facility during 2014.
5. Total volume discharged to the Coalinga impoundments during 2014.
6. Approximate volume discharged during 2014.
7. Total volume of produced water and sludge solids delivered to the Section 23 Road Mix Facility during 2014.

Abbreviations:

NA = not applicable

TABLE 2

ANALYTICAL RESULTS SUMMARY -
VOCs, PAH SVOCs, AND TPH

Chevron Kern River, Coalinga, and Midway Sunset Oil Fields
Kern and Fresno Counties, California

				VOCs[1] (ug/L)							PAH SVOCs[2] (ug/L)								
Well/Sample ID	Field	Sample ID	Date	Acetone	Benzene	Ethyl-benzene	m,p-Xylene	o-Xylene	Toluene	Total Xylenes	Acenaphthene	Acenaphthylene	Benzo[a]-anthracene	Chrysene	Fluorene	Naphthalene	Phenanthrene	Pyrene	TPH[3] (mg/L)
Sump 1	Kern River	W040	04/22/15	300	<6.3	<6.3	<13	<6.3	<6.3	<13	36 J	<19	<19	44	83	<19	100	93	98
Sump 1	Kern River	W041	04/22/15	<450	<25	<25	<50	<25	<25	<50	3.8	7.3	<1.9	<1.9	3.0 J	4.3	6.6	11	39
Sump 0 (Washout Tank)	Kern River	W046	04/23/15	na	<5.0	19	110	110	15	220	2.8	<1.0	<1.0	<1.0	2.3	10	3.2	1.8 J	7.0
Sump 1	Kern River	W047	04/23/15	na	0.90	5.9	17	7.7	12	25	<80	<80	<80	<80	<80	<80	<80	<80	220
Sump 2	Kern River	W048	04/23/15	na	0.51	1.1	3.0	1.7	3.7	4.7	<80	<80	<80	<80	<80	<80	<80	<80	590
Sump 2	Kern River	W049[4]	04/23/15	na	0.56	2.0	5.8	3.3	5.0	9.1	<40	<40	<40	<40	<40	<40	<40	<40	400
Sump 2	Kern River	W050	05/05/15	530	4.2 J	3.8 J	14	7.2	12	21	35 J	<24	<24	<24	40 J	59	<24	<24	290
Section 19 Roadmix Facility	Kern River	WKR001	05/29/05	na	0.41 J	0.75	3.0	1.4	1.4	4.4	1.6	<0.51	<0.51	1.7	1.2	<0.51	2.7	3.9	2.5
Inca North	Coalinga	W001	05/27/15	na	<0.25	<0.25	<0.50	<0.25	<0.25	<0.50	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	0.089
Inca North (Dup)	Coalinga	W002[5]	05/27/15	na	<0.25	<0.25	<0.50	<0.25	<0.25	<0.50	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	0.084
Inca South	Coalinga	W003	05/27/15	na	1.9	0.34 J	<0.50	<0.25	0.55	<0.50	<3.8	<3.8	<3.8	<3.8	<3.8	<3.8	<3.8	<3.8	0.82
Sec 23D Imp 7	Coalinga	W004	05/27/15	na	<0.25	<0.25	<0.50	<0.25	<0.25	<0.50	<0.49	<0.49	<0.49	<0.49	<0.49	<0.49	<0.49	<0.49	0.39
Sec 23D Imp 5	Coalinga	W005	05/27/15	na	6.8	0.59	<0.50	<0.25	0.53	<0.50	<1.9	<1.9	<1.9	<1.9	<1.9	2.4 J	<1.9	<1.9	0.71
Inca West	Coalinga	W006	05/27/15	na	17	2.5	6.3	3.6	17	9.9	<1.9	<1.9	<1.9	<1.9	<1.9	4.3	<1.9	<1.9	2.5
Inca East	Coalinga	W007	05/27/15	na	16	2.8	7.5	4.4	17	12	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	2.2
Sec 23 D Imp 2	Coalinga	W008	05/27/15	na	490	29	67	24	110	91	<1.9	<1.9	<1.9	<1.9	<1.9	18	<1.9	<1.9	2.3
Trip Blank	Coalinga	W009	05/27/15	na	<0.25	<0.25	<0.50	<0.25	<0.25	<0.50	na	na	na	na	na	na	na	na	na
25D Steam Plant	Coalinga	WC001	05/29/15	na	18	4.7	2.9	1.4	2.4	4.3	<1.0	<1.0	<1.0	<1.0	4.1	61	2.5	<1.0	0.43
Section 23 Roadmix Facility	Midway Sunset	WMWS001	05/29/15	na	8.0	3.2	7.1	3.6	16	11	3.0	<1.0	2.5	8.3	4.3	<1.0	36	15	40

Notes:
1. VOCs analyzed using EPA Method 8260B.
2. PAH SVOCs analyzed using EPA Method 8270C SIM.
3. TPH (carbon range C29-C40) analyzed using EPA Method 8015B.
4. Replicate sample of W048.
5. Replicate sample of W001.

Abbreviations:
< = less than the RL
EPA = U.S. Environmental Protection Agency
J = result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value
MDL = method detection limit
mg/L = milligrams per liter
na = not analyzed
PAH = polynuclear aromatic hydrocarbons
RL = reporting limit
SVOCs = semivolatile organic compounds; only detected constituents listed in the table
TPH = total petroleum hydrocarbons
ug/L = micrograms per liter
VOCs = volatile organic compounds

TABLE 3

ANALYTICAL RESULTS SUMMARY -
ANIONS, DISSOLVED METALS, AND GENERAL MINERALS

Chevron Kern River, Coalinga, and Midway Sunset Oil Fields
Kern and Fresno Counties, California

				Anions[1] (mg/L)					Dissolved Metals[2] (mg/L)										General Chemistry[3] (mg/L)				
Well/Sample ID	Field	Sample ID	Date	Bromide	Nitrate as NO3	Sulfate	Fluoride	Chloride	Boron	Calcium	Iron	Potassium	Lithium	Magnesium	Manganese	Sodium	Strontium	Uranium (ug/L)	Alkalinity as CaCO3	Bicarbonate Alkalinity as CaC03	Carbonate Alkalinity as CaCO3	Hydroxide Alkalinity as CaCO3	TDS
Sump 1	Kern River	W040	04/22/15	1.9 J	<1.3	43	1.5 J	220	0.97	85	9.4	65	<0.13	5.6	0.31	380	1.0	5.6	400	400	<4.0	<4.0	3,700
Sump 1	Kern River	W041	04/22/15	1.3 J	<1.3	38	1.4 J	220	0.81	63	1.2	66	<0.13	5.3	0.19	260	0.88	<2.5	310	310	<4.0	<4.0	2,400
Washout Tank	Kern River	W046	04/23/15	2.1 J	13 J	40	<1.3	150	0.81	80	37	32	<0.13	6.0	0.64	260	0.83	4.2 J	230	230	<4.0	<4.0	2,300
Sump 1	Kern River	W047	04/23/15	<1.3	<1.3	53	<1.3	100	0.90	38	6.8	8.6	<0.13	4.3	0.41	190	0.57	<2.5	240	240	<4.0	<4.0	1,600
Sump 2	Kern River	W048	04/23/15	<1.3	<1.3	50	<1.3	110	0.89	45	23	13	<0.13	4.6	0.58	200	0.57	<2.5	250	250	<4.0	<4.0	1,600
Sump 2	Kern River	W049[4]	04/23/15	<1.3	1.7 J	42	<1.3	130	0.88	52	25	17	<0.13	4.9	0.57	200	0.61	<2.5	240	240	<4.0	<4.0	1,800
Sump 2	Kern River	W050	05/05/15	3.6	13	26	1.6 J	290	0.99	42 B	1.1	70	<0.13	3.3	<0.050	290	0.60	1.4 J	270	270	<4.0	<4.0	2,000
Section 19 Roadmix Facility	Kern River	WKR001	05/29/15	1.4	<0.25	4.5	0.55	92	0.90	30	0.51	6.6	0.040 J	4.8	0.10	110	0.48	<2.5	180	180	<4.0	<4.0	530
Inca North	Coalinga	W001	05/27/15	<13	<13	380	29	5,000	67	54	<0.050	65	0.59 J	59	<0.050	3,400	4.0	<1.0	570	340	220	<4.0	12,000
Inca North (Dup)	Coalinga	W002[5]	05/27/15	60	<13	360	<13	5,000	67	53	<0.050	67	0.70 J	58	<0.050	3,500	4.1	<1.0	560	350	220	<4.0	12,000
Inca South	Coalinga	W003	05/27/15	89	<25	54	<25	8,700	62	230	<0.050	77	0.64 J	100	0.52	5,000	8.9	<1.0	1,300	1,300	<4.0	<4.0	19,000
Sec 23D Imp 7	Coalinga	W004	05/27/15	<13	<13	350	<13	5,400	58	120	<0.050	65	0.64 J	60	0.18	3,500	5.2	<1.0	710	710	<4.0	<4.0	12,000
Sec 23D Imp 5	Coalinga	W005	05/27/15	56	<13	260	30	6,500	58	180	0.19 J	73	0.65 J	70	0.45	4,000	6.6	<1.0	830	830	<4.0	<4.0	14,000
Inca West	Coalinga	W006	05/27/15	65	<13	270	32	6,200	61	160	0.24	97	0.67 J	67	0.42	4,100	6.3	1.2 J	790	790	<4.0	<4.0	14,000
Inca East	Coalinga	W007	05/27/15	47	<13	230	31	5,300	56	150	0.17 J	99	0.61 J	58	0.37	3,700	5.6	<1.0	780	780	<4.0	<4.0	13,000
Sec 23 D Imp 2	Coalinga	W008	05/27/15	30	<13	81	25	3,800	38	120	0.051 J	870	0.46 J	30	0.17	2,100	2.9	<1.0	880	880	<4.0	<4.0	9,500
25D Steam Plant	Coalinga	WC001	05/29/15	33	<5.0	210	<5.0	1,600	66	0.081 J	0.22	55	0.47 J	0.027	0.018 J	1,700	<0.010	<2.5	760	760	<4.0	<4.0	4,800
Section 23 Roadmix Facility	Midway Sunset	WMS001	05/29/15	64	<5.0	420	<5.0	3,100	110	45	0.13	120	1.1	31	0.26	3,400	2.5	<2.5	1,200	1,200	<4.0	<4.0	9,200

Notes:
1. Anions analyzed using EPA Method 300.0.
2. Dissolved metals analyzed using EPA Method 200.7, except for uranium that was analyzed using EPA Method 200.8.
3. General chemistry analyzed using various EPA methods.
4. Replicate sample of W048.
5. Replicate sample of W001.

Abbreviations:
< = less than the RL
B = compound was found in the blank sample
EPA = U.S. Environmental Protection Agency
J = result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value
MDL = method detection limit
mg/L = milligrams per liter
RL = reporting limit
TDS = total dissolved solids
ug/L = micrograms per liter

TABLE 4

ANALYTICAL RESULTS SUMMARY -
TITLE 22 METALS

Chevron Kern River, Coalinga, and Midway Sunset Oil Fields
Kern and Fresno Counties, California

				Title 22 Metals - Dissolved[1] (mg/L)																	
Well/Sample ID	**Lease Name**	**Sample ID**	**Date**	**Antimony**	**Arsenic**	**Barium**	**Beryllium**	**Cadmium**	**Chromium**	**Cobalt**	**Copper**	**Lead**	**Molybdenum**	**Nickel**	**Selenium**	**Silver**	**Thallium**	**Vanadium**	**Zinc**	**Mercury**
Sump 1	Kern River	W040	04/22/15	0.033	0.035	0.24	<0.0010	<0.0020	0.016	0.0034 J	0.0092 J	<0.0025	0.17	0.035	0.0062 J	<0.0050	<0.0050	0.024	0.070	<0.00040
Sump 1	Kern River	W041	04/22/15	0.0081 J	0.020	0.12	<0.0010	<0.0020	<0.0025	<0.0025	0.0058 J	<0.0025	0.088	0.019	<0.0061	<0.0050	<0.0050	0.0057 J	0.033	<0.00040
Washout Tank	Kern River	W046	04/23/15	0.016	0.073	0.097	0.0010 J	<0.0020	0.044	0.0067 J	0.0082 J	<0.0025	0.14	0.055	<0.0061	<0.0050	0.0052 J	0.042	0.80	<0.00040
Sump 1	Kern River	W047	04/23/15	0.027	0.040	0.066	<0.0010	<0.0020	0.0065	<0.0025	0.0076 J	0.012	0.18	0.037	<0.0061	<0.0050	<0.0050	0.0098 J	0.078	<0.00040
Sump 2	Kern River	W048	04/23/15	0.028	0.054	0.054	<0.0010	<0.0020	0.014	0.0033 J	0.010	0.0046 J	0.27	0.067	<0.0061	<0.0050	<0.0050	0.011	0.13	<0.00040
Sump 2	Kern River	W049[2]	04/23/15	0.025	0.059	0.056	<0.0010	<0.0020	0.020	0.0043 J	0.015	<0.0025	0.19	0.058	<0.0061	<0.0050	<0.0050	0.018	0.41	0.00052 J
Sump 2	Kern River	W050	05/05/15	0.015	0.037	0.034	<0.0010	<0.0020	0.0040 J	<0.0025	0.023	0.023	0.038	0.025	<0.0061	<0.0050	0.0055 J	0.010	0.39	<0.00040
Section 19 Roadmix Facility	Kern River	WKR001	05/29/15	<0.0060	0.021	0.13	<0.0010	<0.0020	<0.0025	<0.0025	<0.0050	<0.0025	<0.010	<0.0050	<0.0061	<0.0050	<0.0050	<0.0050	<0.010	0.00013 J
Inca North	Coalinga	W001	05/27/15	<0.060	0.096 J B	0.43	<0.010	<0.020	<0.025	<0.025	<0.050	<0.025	<0.10	<0.050	<0.061	<0.050	<0.050	<0.050	<0.10	<0.00010
Inca North (Dup)	Coalinga	W002[3]	05/27/15	<0.0060	<0.050	0.47	<0.010	<0.020	<0.025	<0.025	<0.050	<0.025	<0.10	<0.050	<0.061	<0.050	<0.050	<0.050	<0.10	<0.00010
Inca South	Coalinga	W003	05/27/15	<0.0060	0.19 B	1.4	<0.010	<0.020	<0.025	<0.025	<0.050	<0.025	<0.10	<0.050	<0.061	<0.050	<0.050	<0.050	<0.10	<0.00010
Sec 23D Imp 7	Coalinga	W004	05/27/15	<0.0060	<0.050	0.70	<0.010	<0.020	<0.025	<0.025	<0.050	<0.025	<0.10	<0.050	<0.061	<0.050	<0.050	<0.050	<0.10	<0.00010
Sec 23D Imp 5	Coalinga	W005	05/27/15	<0.0060	0.069 J B	1.0	<0.010	<0.020	<0.025	<0.025	<0.050	<0.025	<0.10	<0.050	<0.061	<0.050	<0.050	<0.050	<0.10	<0.00010
Inca West	Coalinga	W006	05/27/15	<0.0060	<0.050	0.95	<0.010	<0.020	<0.025	<0.025	<0.050	<0.025	<0.10	<0.050	<0.061	<0.050	<0.050	<0.050	<0.10	<0.00010
Inca East	Coalinga	W007	05/27/15	<0.060	0.096 J B	0.85	<0.010	<0.020	<0.025	<0.025	<0.050	<0.025	<0.10	<0.050	<0.061	<0.050	<0.050	<0.050	<0.10	<0.00010
Sec 23 D Imp 2	Coalinga	W008	05/27/15	<0.0060	0.12 B	1.5	<0.010	<0.020	<0.025	<0.025	<0.050	<0.025	<0.10	<0.050	<0.061	<0.050	<0.050	<0.050	<0.10	<0.00010
25D Steam Plant	Coalinga	WC001	05/29/15	<0.0060	<0.0050	<0.0050	<0.0010	<0.0020	<0.0025	<0.0025	<0.0050	<0.0025	<0.010	<0.0050	<0.0061	<0.0050	<0.0050	<0.0050	<0.010	0.00018 J
Section 23 Roadmix Facility	Midway Sunset	WMS001	05/29/15	<0.0060	0.013	0.75	<0.0010	<0.0020	0.0029 J	<0.0025	<0.0050	<0.0025	<0.010	<0.0050	<0.0061	<0.0050	<0.0050	0.0061 J	0.014 J	<0.00010

Notes:
1. Dissolved metals analyzed using EPA Method 6010B, except for mercury that was analyzed using EPA Method 7470A.
2. Replicate sample of W048.
3. Replicate sample of W001.

Abbreviations:
< = less than the RL
B = compound was found in the blank and sample
EPA = U.S. Environmental Protection Agency
J = result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value
MDL = method detection limit
mg/L = milligrams per liter
RL = reporting limit

TABLE 5

ANALYTICAL RESULTS SUMMARY -
STLC METALS

Chevron Kern River, Coalinga, and Midway Sunset Oil Fields
Kern and Fresno Counties, California

Well/Sample ID	Lease Name	Sample ID	Date	STLC Metals[1] (mg/L)																	
				Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc	Mercury
Sump 1	Kern River	W040	04/22/15	<0.12	<0.10	0.73	<0.020	<0.040	0.067 J	<0.050	<0.10	<0.050	<0.20	<0.10	<0.12	<0.10	<0.10	<0.10	0.86	<0.0010
Sump 1	Kern River	W041	04/22/15	0.21	<0.10	0.15 J	<0.020	<0.040	<0.050	<0.050	<0.10	<0.050	0.42	<0.10	0.16 J	<0.10	<0.10	<0.10	<0.20	<0.0010
Washout Tank	Kern River	W046	04/23/15	<0.12	0.11 J B	0.17 J	<0.020	<0.040	<0.050	<0.050	<0.10	<0.050	<0.20	<0.10	<0.12	<0.10	<0.10	<0.10	0.57	<0.0010
Sump 1	Kern River	W047	04/23/15	0.30	<0.10	<0.10	<0.020	<0.040	<0.050	<0.050	<0.10	<0.050	0.52	<0.10	<0.12	<0.10	<0.10	<0.10	<0.20	<0.0010
Sump 2	Kern River	W048	04/23/15	<0.12	0.36	2.4	<0.020	<0.040	0.19	<0.050	<0.10	0.16	0.29 J	0.51	0.13 J B	<0.10	<0.10	<0.10	12	0.0012 J
Sump 2	Kern River	W049[2]	04/23/15	<0.12	0.20	2.1	<0.020	<0.040	0.11	<0.050	<0.10	0.12	<0.20	0.26	<0.12	<0.10	<0.10	<0.10	9.8	<0.0010
Sump 2	Kern River	W050	05/05/15	<0.12	<0.10	0.28	<0.020	<0.040	<0.050	<0.050	<0.10	0.073 J	<0.20	<0.10	<0.12	<0.10	<0.10	<0.10	1.1	<0.0010
Section 19 Roadmix Facility	Kern River	WKR001	05/29/15	<0.12	<0.10	0.13 J	<0.020	<0.040	<0.050	<0.050	<0.10	<0.050	<0.20	<0.10	<0.12	<0.10	<0.10	<0.10	<0.20	<0.0010
Inca North	Coalinga	W001	05/27/15	<0.12	<0.10	0.45	<0.020	<0.040	<0.050	<0.050	<0.10	<0.050	<0.20	<0.10	<0.12	<0.10	<0.10	<0.10	<0.20	<0.0010
Inca North (Dup)	Coalinga	W002[3]	05/27/15	<0.12	<0.10	0.48	<0.020	<0.040	<0.050	<0.050	<0.10	<0.050	<0.20	<0.10	<0.12	<0.10	<0.10	<0.10	<0.20	<0.0010
Inca South	Coalinga	W003	05/27/15	<0.12	<0.10	1.5	<0.020	<0.040	<0.050	<0.050	<0.10	<0.050	<0.20	<0.10	<0.12	<0.10	<0.10	<0.10	<0.20	<0.0010
Sec 23D Imp 7	Coalinga	W004	05/27/15	<0.12	<0.10	0.71	<0.020	<0.040	<0.050	<0.050	<0.10	<0.050	<0.20	<0.10	<0.12	<0.10	0.12 J B	<0.10	<0.20	<0.0010
Sec 23D Imp 5	Coalinga	W005	05/27/15	<0.12	<0.10	1.0	<0.020	<0.040	<0.050	<0.050	<0.10	<0.050	<0.20	<0.10	<0.12	<0.10	<0.10	<0.10	<0.20	<0.0010
Inca West	Coalinga	W006	05/27/15	<0.12	<0.10	0.99	<0.020	<0.040	<0.050	<0.050	<0.10	<0.050	<0.20	<0.10	<0.12	<0.10	<0.10	<0.10	<0.20	<0.0010
Inca East	Coalinga	W007	05/27/15	0.16 J B	<0.10	0.91	<0.020	<0.040	0.15	<0.050	<0.10	<0.050	<0.20	<0.10	<0.12	<0.10	<0.10	<0.10	<0.20	<0.0010
Sec 23 D Imp 2	Coalinga	W008	05/27/15	<0.12	<0.10	1.6	<0.020	<0.040	<0.050	<0.050	<0.10	<0.050	<0.20	<0.10	<0.12	<0.10	<0.10	<0.10	<0.20	<0.0010
25D Steam Plant	Coalinga	WC001	05/29/15	<0.12	<0.10	<0.10	<0.020	<0.040	<0.050	<0.050	<0.10	<0.050	<0.20	<0.10	<0.12	<0.10	<0.10	<0.10	<0.20	0.0010 J
Section 23 Roadmix Facility	Midway Sunset	WMWS001	05/29/15	<0.12	<0.10	0.75	<0.020	<0.040	<0.050	<0.050	<0.10	<0.050	<0.20	<0.10	<0.12	<0.10	<0.10	<0.10	<0.20	<0.0010

Notes:
1. STLC metals analyzed using EPA Method 6010B, except for mercury that was analyzed using EPA Method 7470A.
2. Replicate sample of W048.
3. Replicate sample of W001.

Abbreviations:
< = less than the RL
B = compound was found in the blank sample
EPA = U.S. Environmental Protection Agency
J = result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value
MDL = method detection limit
mg/L = milligrams per liter
RL = reporting limit
STLC = Soluble Threshold Limit Concentration

TABLE 6

ANALYTICAL RESULTS - WELLS - RADIOISOTOPES

Chevron Kern River, Coalinga, and Midway Sunset Oil Fields
Kern and Fresno Counties, California

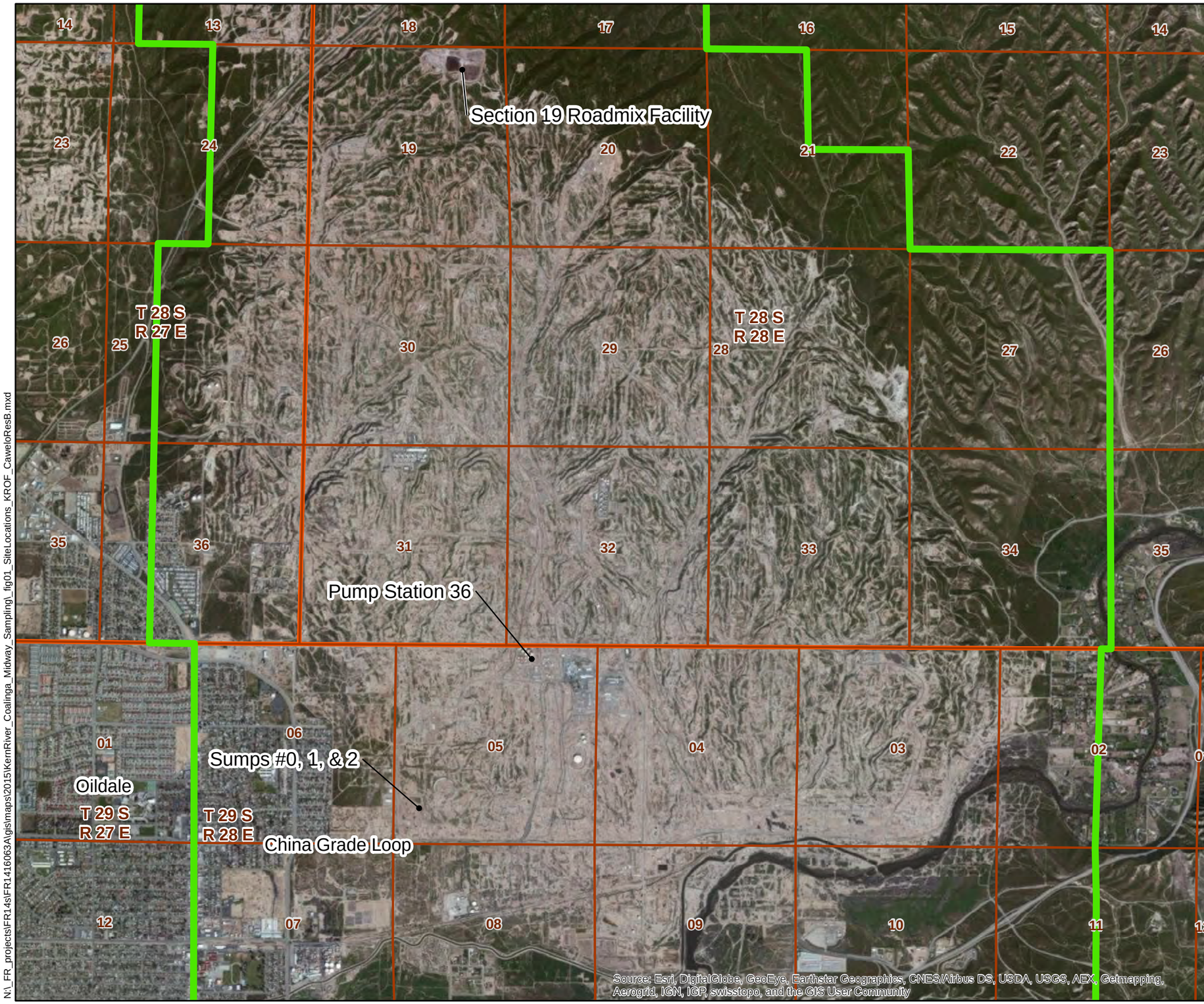
Well/Sample ID	Lease Name	Sample ID	Date	Gross Alpha[1] (pCi/L)	Gross Beta[1] (pCi/L)	Radium-226[2] (pCi/L)	Radium-228[3] (pCi/L)
Sump 1	Kern River	W040	04/22/15	33.0 G	46.1 G	3.06	1.27
Sump 1	Kern River	W041	04/22/15	7.57 U G	44.7 G	0.797	0.331 U
Washout Tank	Kern River	W046	04/23/15	27.3 G	25.8 G	2.45	0.591 U
Sump 1	Kern River	W047	04/23/15	4.93 U G	7.45	1.09	0.682 U
Sump 2	Kern River	W048	04/23/15	9.75 U G	11.3	1.23	0.552 U
Sump 2	Kern River	W049[4]	04/23/15	13.9 G	16.6	1.05	0.0417 U
Sump 2	Kern River	W050	05/05/15	16.4 U G	46.6 G	0.287 U	0.197 U
Section 19 Roadmix Facility	Kern River	WKR001	05/29/15	12.9 G	4.18	1.90	0.670 U G
Inca North	Coalinga	W001	05/27/15	11.7 U G	4.89 U G	0.141 U	1.48 G
Inca North (Dup)	Coalinga	W002[5]	05/27/15	24.2 U G	68.0 G	3.47	0.919 U G
Inca South	Coalinga	W003	05/27/15	-33.8 U G	74.0 G	3.10	2.54 U G
Sec 23D Imp 7	Coalinga	W004	05/27/15	26.7 U G	46.1 G	1.71	1.46 U G
Sec 23D Imp 5	Coalinga	W005	05/27/15	32.2 U G	36.1 U G	3.79	0.254 U G
Inca West	Coalinga	W006	05/27/15	6.58 U G	73.5 G	4.13	0.955 U G
Inca East	Coalinga	W007	05/27/15	-18.6 U G	30.6 U G	2.86	1.37 G
Sec 23 D Imp 2	Coalinga	W008	05/27/15	36.8 U G	707 G	0.974	0.443 U G
25D Steam Plant	Coalinga	WC001	05/29/15	16.1 U G	23.0 G	0.315 U	-0.0350 U G
Section 23 Roadmix Facility	Midway Sunset	WMWS001	05/29/15	76.1 U G	84.5 G	2.52	0.832 U G

Notes:

1. Gross alpha/beta analyzed using EPA Method 9310.
2. Radium-226 analyzed using EPA Method 9315.
3. Radium-228 analyzed using EPA Method 9320.
4. Replicate sample of W048.
5. Replicate sample of W001.

Abbreviations:

EPA = U.S. Environmental Protection Agency
G = the sample minimum detectable concentration is greater than requested RL
MCL = Maximum Contaminant Limit
pCi/L = picocuries per liter
RL = reporting limit
U = result is less than the sample detection limit



Explanation

- Kern River Oil Field Boundary
- Township, Range
- Section line

N

APPROXIMATE SCALE IN MILES
0 0.25 0.5

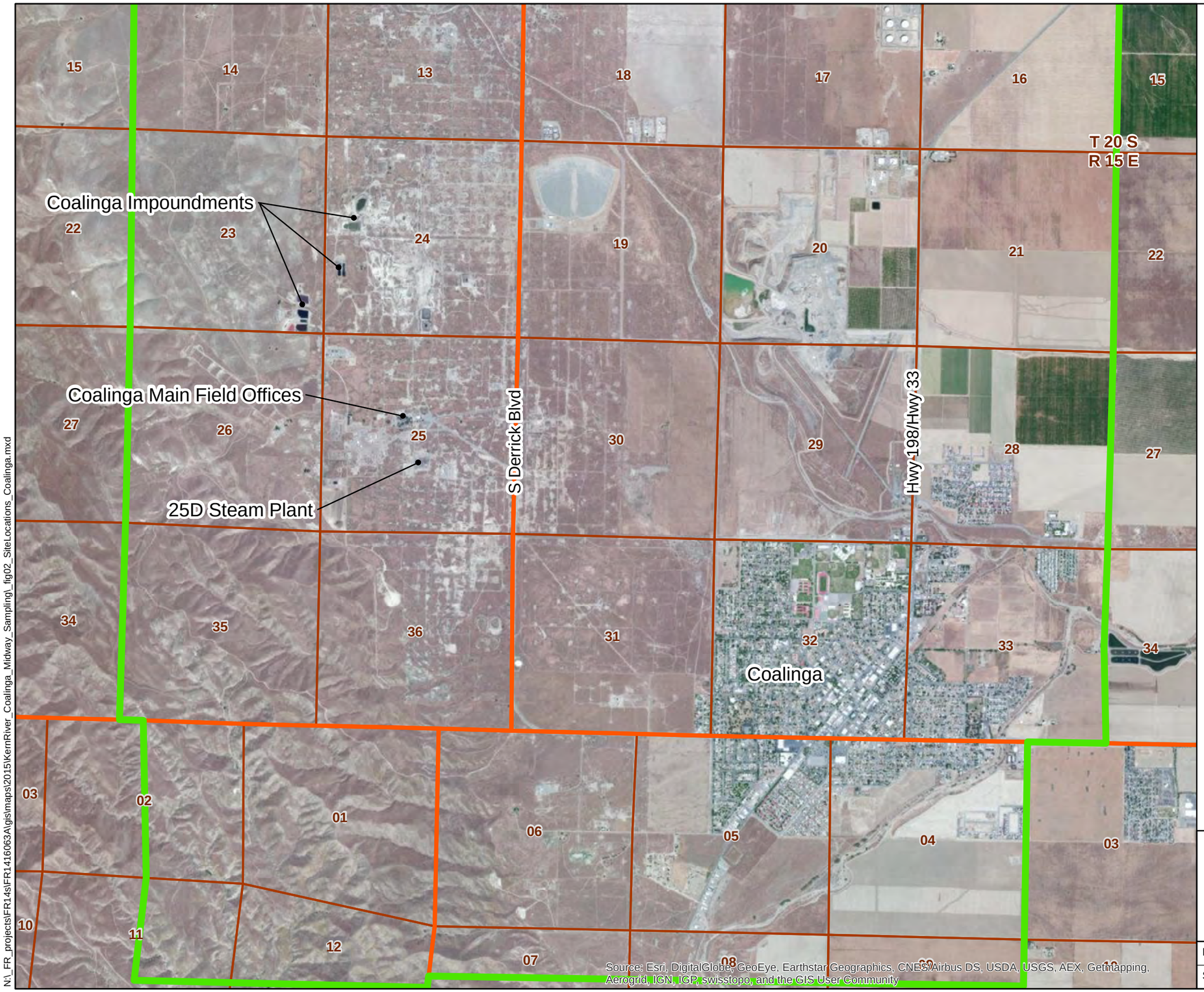
0 0.4 0.8
APPROXIMATE SCALE IN KILOMETERS

KERN RIVER
OIL FIELD MAP
Kern County, California

amec foster wheeler

Date: 6/15/2015	Project No.: FR1416063A	Figure
Submitted By: BL	Drawn By: JFE	1

N:_FR_projects\FR14s\FR1416063A\gis\maps\2015\KernRiver_Coalinga_Midway_Sampling_fig01_SiteLocations_KROF_CaweloResB.mxd



Explanation

- Coalinga Oil Field Boundary
- Township, Range
- Section line

N

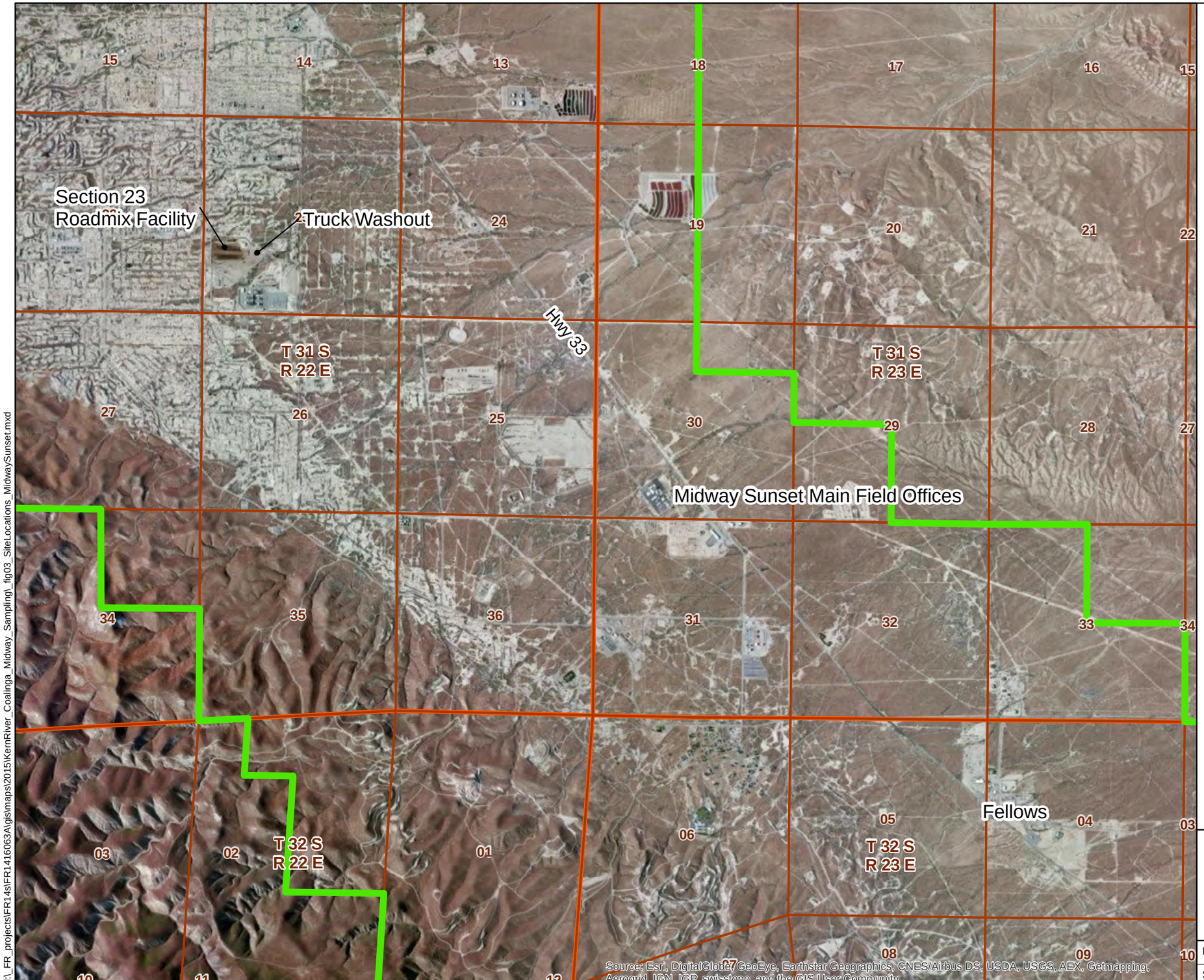
APPROXIMATE SCALE IN MILES
0 0.25 0.5
0 0.4 0.8
APPROXIMATE SCALE IN KILOMETERS

COALINGA
OIL FIELD MAP
Fresno County, California

amec foster wheeler

Date: 6/15/2015	Project No.: FR1416063A	Figure 2
Submitted By: BL	Drawn By: JFE	

N:_FR_projects\FR14s\FR1416063A\gis\maps\2015\KernRiver_Coalinga_Midway_Sampling_fig02_SiteLocations_Coalinga.mxd



Explanation

- Midway Sunset Oil Field Boundary
- Township, Range
- Section line

N

APPROXIMATE SCALE IN MILES
0 0.25 0.5
0 0.4 0.8
APPROXIMATE SCALE IN KILOMETERS

MIDWAY SUNSET
OIL FIELD MAP
Kern County, California

amec foster wheeler

Date: 6/15/2015	Project No.: FR1416063A	Figure 3
Submitted By: BL	Drawn By: JFE	

N:_FR_projects\FR14s\FR1416063A\gis\maps\2015\KernRiver_Coalinga_Midway_Sampling_fig03_SiteLocations_MidwaySunset.mxd

Explanation

W041 — Sample location and sample ID

N

APPROXIMATE SCALE IN FEET
0 25 50
0 7.5 15
APPROXIMATE SCALE IN METERS

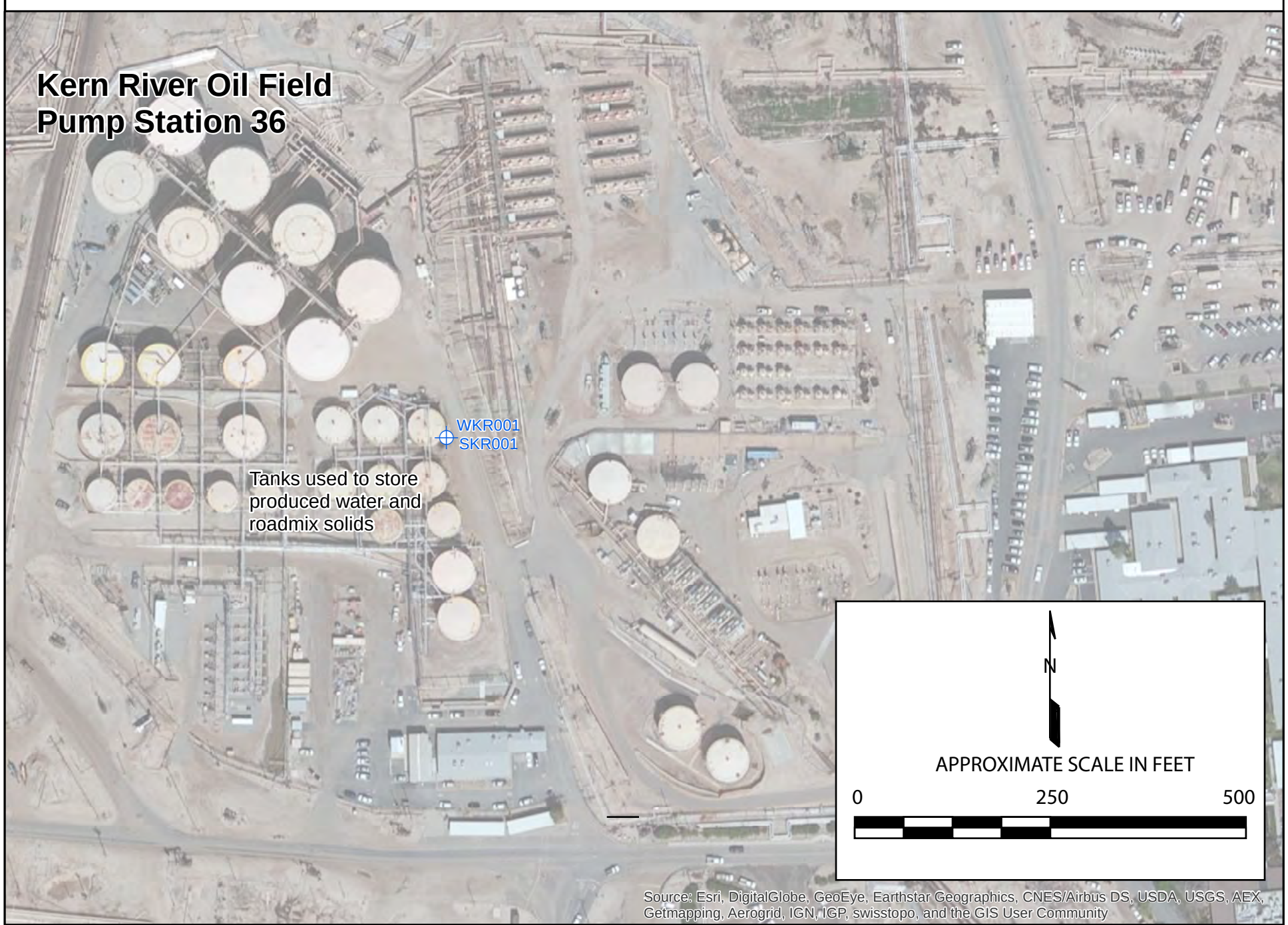
SAMPLE LOCATIONS AT
KERN RIVER OIL FIELD SUMPS
Kern County, California

amec foster wheeler

Date: 6/15/2015	Project No.: FR1416063A	Figure 4
Submitted By: BL	Drawn By: JFE	

N:_FR_projects\FR14s\FR1416063A\gis\maps\2015\KernRiver_Coalinga_Midway_Sampling_fig04_SampleLocations_SJFoamPlant_Sumps.mxd

Path: N:_FR_projects\FR14s\FR1416063A\gis\maps\2015\KernRiver_Coalinga_Midway_Sampling_fig05_SampleLocations_Section36PumpStation_RoadMixFacility.mxd



WKR001

Explanation

Sample location and sample ID

SAMPLE LOCATION AT
KERN RIVER OIL FIELD
PUMP STATION 36
AND AERIAL VIEW OF
SECTION 19 ROADMIX FACILITY
Kern County, California

amec foster wheeler

Date: 6/15/2015	Project No.: FR1416063A	Figure
Submitted By: BL	Drawn By: JFE	5

Path: N:_FR_projects\FR14s\FR1416063A\gis\maps\2015\KernRiver_Coalinga_Midway_Sampling_fig06_KROF_LeaseBoundaries.mxd

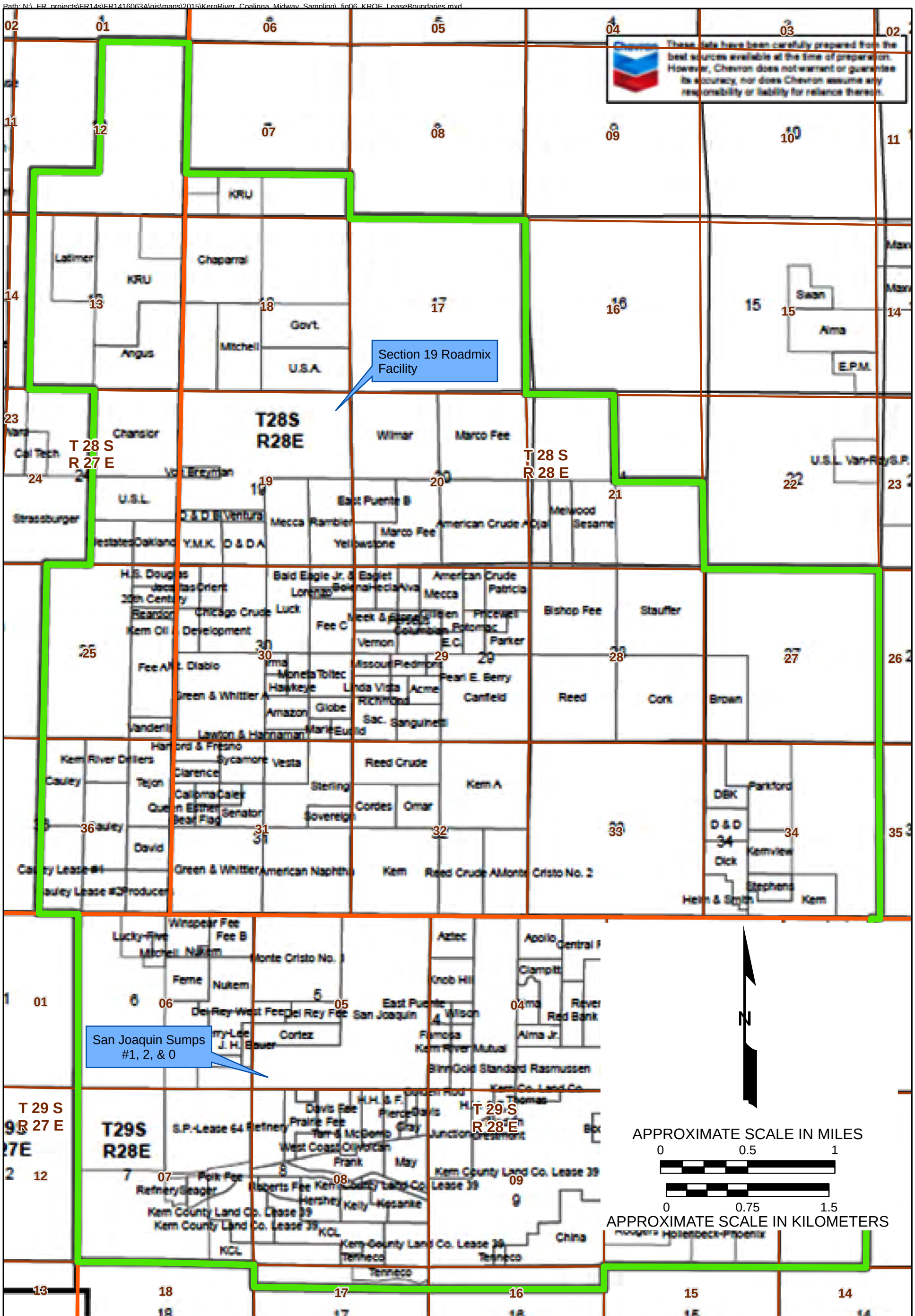


Image provided by Chevron USA Inc.

Explanation

- Kern River Oil Field Boundary
- Township, Range
- Section line
- DOGGR Lease Boundaries

KERN RIVER OIL FIELD
LEASE BOUNDARIES
Kern County, California

amec foster wheeler

Date: 6/15/2015	Project No.: FR1416063A	Figure
Submitted By: BL	Drawn By: JFE	6

Path: N:_FR_projects\FR14s\FR1416063A\gis\maps\2015\KernRiver_Coalinga_Midway_Sampling_fig07_SampleLocations_CoalingaImpoundments_AerialView.mxd

Explanation

W001 Sample location and sample ID

Township, Range

Section line

SAMPLE LOCATIONS AT
COALINGA OIL FIELD IMPOUNDMENTS
Fresno County, California

amec foster wheeler

Date: 6/15/2015	Project No.: FR1416063A	Figure
Submitted By: BL	Drawn By: JWT/JFE	7

Explanation

WC001 — Sample location and sample ID

N

APPROXIMATE SCALE IN FEET
0 75 150
0 22.5 45
APPROXIMATE SCALE IN METERS

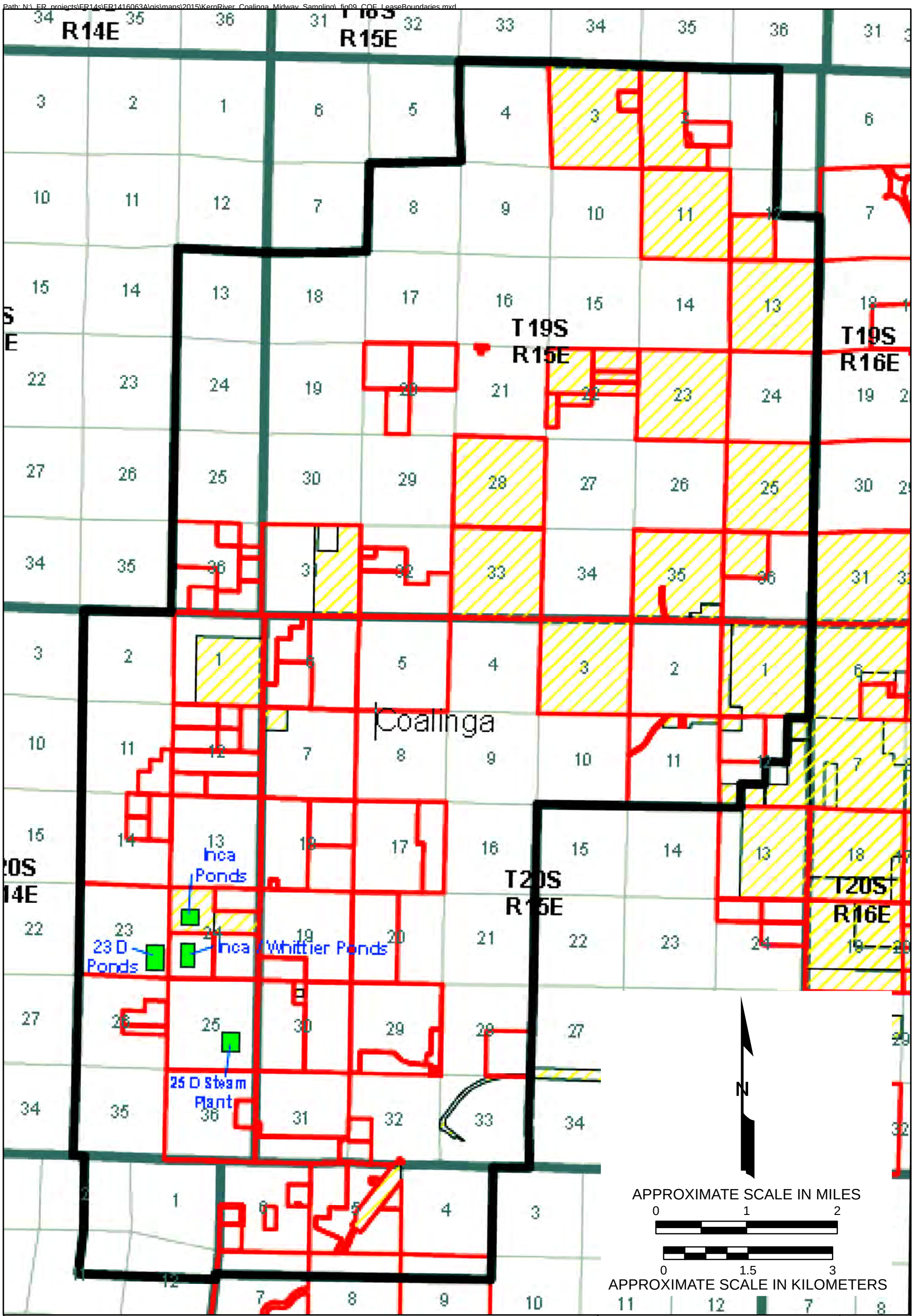
SAMPLE LOCATION AT
COALINGA OIL FIELD
25D STEAM PLANT
Fresno County, California

amec foster wheeler

Date: 6/15/2015	Project No.: FR1416063A	Figure
Submitted By: BL	Drawn By: JFE	8

N:_FR_projects\FR14s\FR1416063A\gis\maps\2015\KernRiver_Coalinga_Midway_Sampling_fig08_SampleLocation_Coalinga_25DSteamplant.mxd

Path: N:_FR_projects\FR14s\FR1416063A\gis\maps\2015\KernRiver_Coalinga_Midway_Sampling_fig09_COE_LeaseBoundaries.mxd



Explanation

- DOGGR Administration Boundary
- Fee - All
- Township, Range
- Section line
- Lease - Oil and Gass

Image provided by Chevron USA Inc.

COALINGA OIL FIELD
LEASE BOUNDARIES
Kern County, California

amec foster wheeler

Date: 6/15/2015	Project No.: FR1416063A	Figure
Submitted By: BL	Drawn By: JFE	9

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

Explanation

WMWS001 — Sample location and sample ID

N

APPROXIMATE SCALE IN FEET
0 50 100
0 15 30
APPROXIMATE SCALE IN METERS

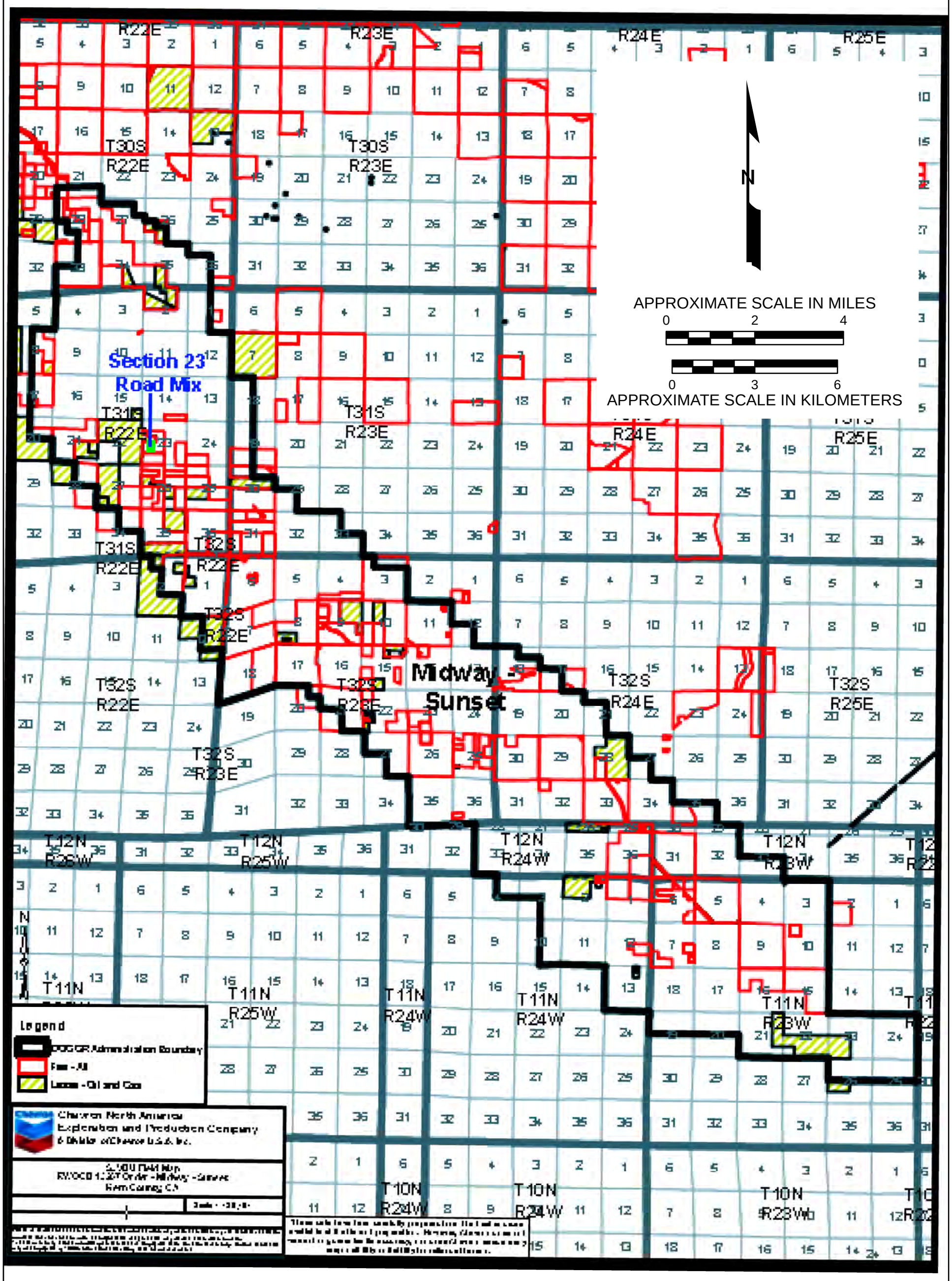
SAMPLE LOCATION AT
MIDWAY SUNSET
SECTION 23 ROADMIX FACILITY
Kern County, California

amec foster wheeler

Date: 6/15/2015	Project No.: FR1416063A	Figure
Submitted By: BL	Drawn By: JFE	10

N:_FR_projects\FR14s\FR1416063A\gis\maps\2015\KernRiver_Coalinga_Midway_Sampling_fig10_SampleLocations_MidwaySunset.mxd

Path: N:_FR_projects\FR14s\FR1416063A\gis\maps\2015\KernRiver_Coalinga_Midway_Sampling_fig11_MWSOF_LeaseBoundaries.mxd



Explanation

- DOGGR Administration Boundary
- Fee - All
- Township, Range
- Section line
- Lease - Oil and Gass

Image provided by Chevron USA Inc.

MIDWAY SUNSET OIL FIELD
LEASE BOUNDARIES
Kern County, California

amec foster wheeler

Date: 6/15/2015	Project No.: FR1416063A	Figure
Submitted By: BL	Drawn By: JFE	11

APPENDIX A

Regional Water Quality Control Board Section 13267 Order

CALIFORNIA
Water Boards

RECEIVED
APR 05 2015
D&C

EDMUND G. BROWN JR.
GOVERNOR

MATTHEW RODRIQUEZ
SECRETARY FOR
ENVIRONMENTAL PROTECTION

Central Valley Regional Water Quality Control Board

1 April 2015

Kelsey Helburg
Chevron U.S.A. Inc.
P.O. Box 1392
Bakersfield, CA 93302

CERTIFIED MAIL
7014 3490 0001 7023 0223

CALIFORNIA WATER CODE DIRECTIVE PURSUANT TO SECTION 13267. You are legally obligated to respond to this Order. Please read this Order carefully.

Chevron U.S.A. Inc. (hereafter Discharger) has been identified as the owner or operator of petroleum production wastewater disposal ponds (ponds). A list of the ponds (and the leases and oil fields where they are located) that the California Regional Water Quality Control Board, Central Valley Region (Central Valley Water Board) identifies as under your control is presented in Attachment A. Ponds for the disposal of wastewater generated during the course of petroleum production have the potential to affect the quality of groundwater (a water of the State). Groundwater underlying the areas where your ponds are located have beneficial uses as identified in the Water Quality Control Plan for the Tulare Lake Basin (Basin Plan).

This order requires the collection and analysis of wastewater samples collected from each of the ponds listed in Attachment A to characterize the discharge. Each sample is to be analyzed for each of the constituents listed in Attachment B. These data are needed to comprehensively characterize wastewater in each pond and provide data needed to evaluate the threat to the quality of waters of the State. If more than one pond is connected in series (i.e., one pond drains directly to the next with no other source of inflow) then only the upstream pond must be sampled. This order is not intended to require the collection of duplicative data. If during the 12 months (one year) prior to the date of this order, samples required by this order have been analyzed from one or more of the ponds for the required constituents, that data can be submitted for the appropriate order requirements.

This order also requires Discharger to identify any discharge(s) of oil field wastewater to land that is not identified in Attachment A. Discharger must also collect and analyze wastewater samples in accordance with Attachment B from any additionally identified discharge to characterize the discharge.

The Central Valley Water Board's authority to require technical reports derives from Section 13267 of the California Water Code, which specifies, in part, that:

(v) A regional Board … in connection with any action relating to any plan or requirement authorized by this division, may investigate the quality of any waters of the State within its region.

(b)(1) In conducting an investigation specified in subdivision (a), the regional board may require that any person who has discharged, or is suspected of having discharged or discharging, or who proposes to discharge waste within its region, or any citizen or domiciliary, or political agency or entity of this state who has discharged, discharges, or is suspected of having discharged or discharging, or who proposes to discharge, waste outside of its region that could affect the quality of waters within its region shall furnish, under penalty of perjury, technical or monitoring program reports which the regional board requires. The burden, including costs, of these reports shall bear a reasonable relationship to the need for the report and the benefit to be obtained from the reports. In requiring those reports, the regional board shall provide the person with a written explanation with regard to the need for the reports, and shall identify the evidence that supports requiring that person to provide the reports.

The Central Valley Water Board is concerned about the potential impacts to water quality posed by the discharge of oil field produced waters in surface ponds. The technical information and reports required by this order are necessary to assess the potential threat to water quality. The need to understand the potential impacts to water quality justify the need for the information and reports required by this order. Based on the nature and possible consequences of the discharges of waste, the burden of providing the required information, including the reporting costs, bears a reasonable relationship to the need for the report, and the benefits to be obtained. Discharger is required to submit this information and reports because it is the operator of the ponds listed in Attachment A of this order.

The unauthorized discharge of waste containing oil field waste constituents to land, including unlined ponds, may result in the degradation of water quality and creates or threatens to create, a condition of pollution in groundwater. Significant concentrations of salinity (measured as TDS and EC), significant contributors to salinity such as chloride and sulfate, and boron are present in oil field wastewater. Other potential constituents such as, but not limited to, metals, radionuclides, and organic compounds pose a threat to water quality. The concentrations of these waste constituents in wastewater being discharged needs to be known to evaluate the threat. In addition, all locations where these discharges are occurring needs to be known.

Underlying groundwater can be degraded if mixed with oil field wastewater. Elevated concentrations of oil field waste constituents could impair the groundwater for municipal and domestic supply and agricultural supply uses.

Under the prescribed authority of California Water Code section 13267, the Central Valley Water Board directs Discharger to:

1. **By 15 June 2015**, submit a technical report containing the following information:

   A. Identification of any discharges of oil field produced waters to land, including but not limited to ponds, since April of 2014 that are not listed in Attachment A;

   B. Collect representative samples of wastewater within each of the ponds. Samples must be analyzed in accordance with the water quality analysis and reporting requirements contained in Attachment B to this Order;[1]

   If a representative sample cannot feasibly be collected from one or more of the sources discharging to a surface impoundment(s), then a comment will need to be added to the technical report required by this Order demonstrating that collection of a representative sample from a specific source is not feasible within the required timeframe, and propose an alternative sampling procedure and expeditious time schedule for obtaining a representative sample for each source. Alternative sampling procedures and time schedules are subject to approval by the Assistant Executive Officer of the Central Valley Regional Water Quality Control Board.

   C. All available information for each of the surface impoundment(s), including dimensions (i.e., length, width, and depth), latitude and longitude, Assessor's Parcel Numbers of the lease, duration of the discharge (in months), and the volume of wastewater discharged per year.

   D. A location map that includes the following information:

      i. All surface impoundment(s) at the Facility,
      ii. Include the boundary lines for all leases at the Facility, and
      iii. Legend with the name of the surface impoundment(s).

2. **By 15 April 2015**, Discharger needs to contact Dane S. Johnson of this office at (559) 445-5525 if you have received this Order and cannot collect the required samples.

[1] All previously obtained analytical data for oil field produced wastewater samples collected at the Facility, if any, with a description of the source and location for each analysis may be submitted in the alternative for re-running tests if the sample(s) was collected and analyzed within 12 months (one year) of the date of this order.

The technical report required by this Order must be submitted to the attention of:

Ronald Holcomb
Central Valley Water Board
1685 E Street
Fresno, CA 93706

Based on the information submitted in the technical report, additional information or action may be required.

With the report required by this Order, Discharger shall provide under penalty of perjury under the laws of California a "Certification" statement to the Central Valley Water Board. The "Certification" shall include the following signed statement:

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

The Central Valley Water Board reserves the right to issue a Notice of Violation or pursue enforcement for Discharger's activities after reviewing the documentation provided in response to this Order.

The Technical Report is to be signed and stamped by a California Professional Engineer (Registered as a Civil Engineer) or a registered California Professional Geologist. Any laboratory analyses shall be performed by an analytical laboratory certified by the State of California for the analyses performed. Submissions pursuant to this Order shall include a statement by Discharger, or an authorized representative of Discharger, certifying (as described above) that the information submitted is true, complete, and accurate.

The failure to furnish the required report, or the submission of a substantially incomplete report or false information, is a misdemeanor, and may result in additional enforcement actions being taken against Discharger, including issuance of an Administrative Civil Liability Complaint pursuant to California Water Code section 13268. Liability may be imposed pursuant to California Water Code section 13268 in an amount not to exceed one thousand dollars ($1,000) for each day in which the violation occurs. All discharges to unpermitted ponds should cease pending review and submission of the technical information sought by this order.

Any person aggrieved by this action of the Central Valley Water Board may petition the State Water Resources Control Board (State Water Board) to review the action in accordance with

California Water Code section 13320 and California Code of Regulations, title 23, sections 2050 and following. The State Water Board must receive the petition by 5:00 p.m., within 30 days after the date of this directive, except that if the thirtieth day following the date of this directive falls on a Saturday, Sunday, or state holiday, the petition must be received by the State Water Board by 5:00 p.m. on the next business day. Copies of the law and regulations applicable to filing petitions may be found on the Internet at: www.waterboards.ca.gov/public_notices/petitions/water_quality or will be provided upon request.

If you have any questions regarding this matter, please contact Doug Patteson of this office at (559) 445-5577 or at doug.patteson@waterboards.ca.gov.

Clay L. Rodgers

Clay L. Rodgers
Assistant Executive Officer

cc: Julie Macedo, Office of Enforcement, State Water Resources Control Board, Sacramento
Mike Toland, California Division of Oil, Gas, and Geothermal Resources, Bakersfield

ATTACHMENT A

The following table contains the names of oil fields and lease(s) and the corresponding number of ponds that the Central Valley Water Board has identified as active and under your control:

OPERATOR	OIL FIELD	LEASE	NO. OF PONDS
Chevron U.S.A. Inc.	Coalinga	Inca	2
		Inca-Whittier	2
		Sec23D	7
	Kern River	San Joaquin	2

ATTACHMENT B

Water Quality Analysis

Wastewater samples collected from the ponds shall be analyzed by a laboratory certified by the Environmental Laboratory Accreditation Program using currently applicable United States Environmental Protection Agency-approved analytical methods for water for the following:

A. Total dissolved solids;

B. Metals listed in California Code of Regulations, title 22, section 66261.24. subdivision (a)(2)(A);

C. Benzene, toluene, ethylbenzene, and xylenes;

D. Total petroleum hydrocarbons as crude oil;

E. Polynuclear aromatic hydrocarbons (including acenaphthene, acenaphthylene, anthracene, benzo[a]anthracene, benzo[b]fluoranthene, benzo[a]pyrene, benzo[g,h,i]perylene, chrysene, dibenzo[a,h]anthracene, fluoranthene, fluorine, indeno[1,2,3-cd]pyrene, naphthalene, phenanthrene, and pyrene);

F. Radionuclides listed under California Code of Regulations, title 22, Table 64442;

G. Major and minor cations (including sodium, potassium, magnesium, and calcium);

H. Major and minor anions (including nitrate, chloride, sulfate, carbonate, bicarbonate, and bromide);

I. Trace elements (including lithium, strontium, boron, iron, and manganese).

Reporting Requirements

Water Quality information shall be submitted in a technical report that includes at a minimum:

A. Site plan(s) with the location(s) of where the samples were collected;

B. A description of how the samples, representative of the pond contents, were collected;

Table(s) of analytical results organized by pond number with the data also submitted electronically as an Excel spreadsheet.

APPENDIX B

Analytical Reports

TABLE B1

SAMPLE CONTROL

Chevron Kern River, Coalinga, and Midway Sunset Oil Fields
Kern and Fresno Counties, California

Well/Sample ID	Lease Name	Sample ID	Date	Test America Job ID
Sump 1	Kern River	W040	04/22/15	440-107943-1
Sump 1	Kern River	W041	04/22/15	440-107943-1
Washout Tank	Kern River	W046	04/23/15	440-107993-1
Sump 1	Kern River	W047	04/23/15	440-107993-1
Sump 2	Kern River	W048	04/23/15	440-107933-1
Sump 2	Kern River	W049[1]	04/23/15	440-107933-1
Sump 2	Kern River	W050	05/05/15	440-108953-1
Section 19 Roadmix Facility	Kern River	WKR001	05/29/15	440-111456-1
Inca North	Coalinga	W001	05/27/15	440-111303-1
Inca North (Dup)	Coalinga	W002[2]	05/27/15	440-111303-1
Inca South	Coalinga	W003	05/27/15	440-111303-1
Sec 23D Imp 7	Coalinga	W004	05/27/15	440-111303-1
Sec 23D Imp 5	Coalinga	W005	05/27/15	440-111303-1
Inca West	Coalinga	W006	05/27/15	440-111303-1
Inca East	Coalinga	W007	05/27/15	440-111303-1
Sec 23 D Imp 2	Coalinga	W008	05/27/15	440-111303-1
Trip Blank	Coalinga	W009	05/27/15	440-111303-1
25D Steam Plant	Coalinga	WC001	05/29/15	440-111456-1
Section 23 Roadmix Facility	Midway Sunset	WMWS001	05/29/15	440-111456-1

Notes:

1. Replicate sample of W048.
2. Replicate sample of W001.

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Irvine
17461 Derian Ave
Suite 100
Irvine, CA 92614-5817
Tel: (949)261-1022

TestAmerica Job ID: 440-107943-1
TestAmerica Sample Delivery Group: FR1416063A
Client Project/Site: Chevron Kern River

For:
AMEC Foster Wheeler E & I, Inc
1281 E Alluvial Ave, Ste 101
Fresno, California 93720

Attn: Gary Kramer

Authorized for release by:
5/6/2015 10:48:35 AM

Patty Mata, Senior Project Manager
(949)261-1022
patty.mata@testamericainc.com

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at: www.testamericainc.com

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Sample Summary

Client: AMEC Foster Wheeler E & I, Inc
Project/Site: Chevron Kern River

TestAmerica Job ID: 440-107943-1
SDG: FR1416063A

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
440-107943-1	W040	Water	04/22/15 08:55	04/24/15 07:15
440-107943-2	W041	Water	04/22/15 09:30	04/24/15 07:15

Job ID: 440-107943-1

Laboratory: TestAmerica Irvine

Narrative

Job Narrative
440-107943-1

Comments
No additional comments.

Receipt
The samples were received on 4/24/2015 7:15 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 0.8º C and 1.9º C.

Except:
The following samples were received at the laboratory without a sample collection time documented on the chain of custody: W040 (440-107943-1) and W041 (440-107943-2). The samples were logged in based on the sample labels.

GC/MS VOA
Method(s) 8260B: The following volatiles sample was diluted due to foaming at the time of purging during the original sample analysis: W040 (440-107943-1). Elevated reporting limits (RLs) are provided.

Method(s) 8260B: The following volatile sample was analyzed with significant headspace in the sample vial(s): W041 (440-107943-2). Significant headspace is defined as a bubble greater than 6 mm in diameter. Sample was received with headspace.

Method(s) 8260B: The following sample was diluted due to the nature of the sample matrix: W041 (440-107943-2). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC/MS Semi VOA
Method(s) 8270C SIM: The following samples required dilution due to the nature of the sample matrix: W040 (440-107943-1) and W041 (440-107943-2). Because of the dilution, the surrogate spike concentration in each sample was reduced to a level where the recovery calculation does not provide useful information.

Method(s) 8270C SIM: The internal standard response was below the 50% minimum QC limit for the following samples: W040 (440-107943-1) and W041 (440-107943-2) . The chromatography showed some matrix interference that could have adversely affected the recovery of the affected internal standard. All affected target analytes were flagged with an asterisk (*). If the matrix effect is isolated to the internal standards, then the affect on the associated target analyte results are potentially biased high.

Method(s) 8270C SIM: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with 251224. The laboratory control sample (LCS) was performed in duplicate to provide precision data for the batch.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

HPLC/IC
Method(s) 300.0: The following samples were diluted for nitrate due to the nature of the sample matrix: W040 (440-107943-1) and W041 (440-107943-2). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC Semi VOA
Method(s) 8015B: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with batch 251142. The laboratory control sample (LCS) was performed in duplicate to provide precision data for this batch.

Method(s) 8015B: The following samples required dilutions due to the nature of the sample matrix: W040 (440-107943-1) and W041 (440-107943-2). Because of these dilutions, the surrogate spike concentration in each samples was reduced to a level where the recovery calculation does not provide useful information.

Job ID: 440-107943-1 (Continued)

Laboratory: TestAmerica Irvine (Continued)

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Metals

Method(s) 200.7 and 200.8: Methods require dissolved metals to be filtered immediately which is taken to mean within 15 minutes of sampling. The sample results have HF qualifiers to note that the lab was requested to filter the samples after receipt.

Method(s) 200.7 Rev 4.4: The following samples were diluted due to the nature of the sample matrix: W040 (440-107943-1), W041 (440-107943-2). Elevated reporting limits (RLs) are provided.

Method(s) 200.8: The following sample was diluted due to the nature of the sample matrix: W041 (440-107943-2). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

General Chemistry

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Organic Prep

Method(s) 3520C / 8270C SIM: Due to the matrix, the following sample could not be concentrated to the final method required volume: W040 (440-107943-1). The reporting limits (RLs) are elevated proportionately.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

VOA Prep

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Client Sample Results

Client: AMEC Foster Wheeler E & I, Inc
Project/Site: Chevron Kern River

TestAmerica Job ID: 440-107943-1
SDG: FR1416063A

Client Sample ID: W040

Date Collected: 04/22/15 08:55
Date Received: 04/24/15 07:15

Lab Sample ID: 440-107943-1

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		13	6.3	ug/L			04/29/15 00:50	25
Ethylbenzene	ND		13	6.3	ug/L			04/29/15 00:50	25
m,p-Xylene	ND		25	13	ug/L			04/29/15 00:50	25
o-Xylene	ND		13	6.3	ug/L			04/29/15 00:50	25
Toluene	ND		13	6.3	ug/L			04/29/15 00:50	25
Xylenes, Total	ND		25	13	ug/L			04/29/15 00:50	25
Acetone	**300**		250	110	ug/L			04/29/15 00:50	25

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*98*		*80 - 120*		*04/29/15 00:50*	*25*
Dibromofluoromethane (Surr)	*97*		*76 - 132*		*04/29/15 00:50*	*25*
Toluene-d8 (Surr)	*102*		*80 - 128*		*04/29/15 00:50*	*25*

Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	**36**	**J ***	38	19	ug/L		04/26/15 13:54	04/28/15 02:09	40
Acenaphthylene	ND	*	38	19	ug/L		04/26/15 13:54	04/28/15 02:09	40
Anthracene	ND	*	38	19	ug/L		04/26/15 13:54	04/28/15 02:09	40
Benzo[a]anthracene	ND	*	38	19	ug/L		04/26/15 13:54	04/28/15 02:09	40
Benzo[a]pyrene	ND	*	38	19	ug/L		04/26/15 13:54	04/28/15 02:09	40
Benzo[b]fluoranthene	ND	*	38	19	ug/L		04/26/15 13:54	04/28/15 02:09	40
Benzo[g,h,i]perylene	ND	*	38	19	ug/L		04/26/15 13:54	04/28/15 02:09	40
Benzo[k]fluoranthene	ND	*	38	19	ug/L		04/26/15 13:54	04/28/15 02:09	40
Chrysene	**44**	*	38	19	ug/L		04/26/15 13:54	04/28/15 02:09	40
Dibenz(a,h)anthracene	ND	*	38	19	ug/L		04/26/15 13:54	04/28/15 02:09	40
Fluoranthene	ND	*	38	19	ug/L		04/26/15 13:54	04/28/15 02:09	40
Fluorene	**83**	*	38	19	ug/L		04/26/15 13:54	04/28/15 02:09	40
Indeno[1,2,3-cd]pyrene	ND	*	38	19	ug/L		04/26/15 13:54	04/28/15 02:09	40
Naphthalene	ND	*	38	19	ug/L		04/26/15 13:54	04/28/15 02:09	40
Phenanthrene	**100**	*	38	19	ug/L		04/26/15 13:54	04/28/15 02:09	40
Pyrene	**93**	*	38	19	ug/L		04/26/15 13:54	04/28/15 02:09	40

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*495*	*X **	*31 - 120*	*04/26/15 13:54*	*04/28/15 02:09*	*40*
Nitrobenzene-d5	*1642*	*X **	*25 - 133*	*04/26/15 13:54*	*04/28/15 02:09*	*40*
Terphenyl-d14	*423*	*X **	*10 - 120*	*04/26/15 13:54*	*04/28/15 02:09*	*40*

Method: 8015B - Diesel Range Organics (DRO) (GC) Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C29-C40	**98**		2.4	1.2	mg/L		04/25/15 09:06	04/27/15 16:49	50

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane	*223*	*X*	*45 - 120*	*04/25/15 09:06*	*04/27/15 16:49*	*50*

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	**1.9**	**J**	2.5	1.3	mg/L			04/24/15 08:44	5
Nitrate as NO3	ND		2.5	1.3	mg/L			04/24/15 08:44	5
Chloride	**220**		25	13	mg/L			04/24/15 11:53	50
Fluoride	**1.5**	**J**	2.5	1.3	mg/L			04/24/15 08:44	5
Sulfate	**43**		2.5	1.3	mg/L			04/24/15 08:44	5

Client Sample Results

Client: AMEC Foster Wheeler E & I, Inc
Project/Site: Chevron Kern River

TestAmerica Job ID: 440-107943-1
SDG: FR1416063A

Client Sample ID: W040

Date Collected: 04/22/15 08:55
Date Received: 04/24/15 07:15

Lab Sample ID: 440-107943-1

Matrix: Water

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.97	HF	0.25	0.050	mg/L		04/28/15 09:13	04/29/15 10:34	5
Calcium	85	HF	0.50	0.25	mg/L		04/28/15 09:13	04/29/15 10:34	5
Iron	9.4	HF	0.20	0.050	mg/L		04/28/15 09:13	04/29/15 10:34	5
Lithium	ND	HF	2.5	0.13	mg/L		04/28/15 09:13	04/29/15 10:34	5
Magnesium	5.6	HF	0.10	0.050	mg/L		04/28/15 09:13	04/29/15 10:34	5
Manganese	0.31	HF	0.10	0.050	mg/L		04/28/15 09:13	04/29/15 10:34	5
Potassium	65	HF	2.5	1.3	mg/L		04/28/15 09:13	04/29/15 10:34	5
Sodium	380	HF	2.5	1.3	mg/L		04/28/15 09:13	04/29/15 10:34	5
Strontium	1.0	HF	0.10	0.050	mg/L		04/28/15 09:13	04/29/15 10:34	5

Method: 200.8 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Uranium	5.6	HF	5.0	2.5	ug/L		04/28/15 09:15	04/29/15 06:41	5

Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.033		0.010	0.0060	mg/L		04/28/15 09:17	04/29/15 10:56	1
Arsenic	0.035		0.010	0.0050	mg/L		04/28/15 09:17	04/29/15 10:56	1
Barium	0.24		0.010	0.0050	mg/L		04/28/15 09:17	04/29/15 10:56	1
Beryllium	ND		0.0020	0.0010	mg/L		04/28/15 09:17	04/29/15 10:56	1
Cadmium	ND		0.0050	0.0020	mg/L		04/28/15 09:17	04/29/15 10:56	1
Chromium	0.016		0.0050	0.0025	mg/L		04/28/15 09:17	04/29/15 10:56	1
Cobalt	0.0034	J	0.010	0.0025	mg/L		04/28/15 09:17	04/29/15 10:56	1
Copper	0.0092	J	0.010	0.0050	mg/L		04/28/15 09:17	04/29/15 10:56	1
Lead	ND		0.0050	0.0025	mg/L		04/28/15 09:17	04/29/15 10:56	1
Molybdenum	0.17		0.020	0.010	mg/L		04/28/15 09:17	04/29/15 10:56	1
Nickel	0.035		0.010	0.0050	mg/L		04/28/15 09:17	04/29/15 10:56	1
Selenium	0.0062	J	0.010	0.0061	mg/L		04/28/15 09:17	04/29/15 10:56	1
Silver	ND		0.010	0.0050	mg/L		04/28/15 09:17	04/29/15 10:56	1
Thallium	ND		0.010	0.0050	mg/L		04/28/15 09:17	04/29/15 10:56	1
Vanadium	0.024		0.010	0.0050	mg/L		04/28/15 09:17	04/29/15 10:56	1
Zinc	0.070		0.020	0.010	mg/L		04/28/15 09:17	04/29/15 10:56	1

Method: 6010B - Metals (ICP) - STLC Citrate

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.20	0.12	mg/L			04/30/15 10:11	20
Arsenic	ND		0.20	0.10	mg/L			04/30/15 10:11	20
Barium	0.73		0.20	0.10	mg/L			04/30/15 10:11	20
Beryllium	ND		0.040	0.020	mg/L			04/30/15 10:11	20
Cadmium	ND		0.10	0.040	mg/L			04/30/15 10:11	20
Chromium	0.067	J	0.10	0.050	mg/L			04/30/15 10:11	20
Cobalt	ND		0.20	0.050	mg/L			04/30/15 10:11	20
Copper	ND		0.20	0.10	mg/L			04/30/15 10:11	20
Lead	ND		0.10	0.050	mg/L			04/30/15 10:11	20
Molybdenum	ND		0.40	0.20	mg/L			04/30/15 10:11	20
Nickel	ND		0.20	0.10	mg/L			04/30/15 10:11	20
Selenium	ND		0.20	0.12	mg/L			04/30/15 10:11	20
Silver	ND		0.20	0.10	mg/L			04/30/15 10:11	20
Thallium	ND		0.20	0.10	mg/L			04/30/15 10:11	20
Vanadium	ND		0.20	0.10	mg/L			04/30/15 10:11	20

Client Sample Results

Client: AMEC Foster Wheeler E & I, Inc
Project/Site: Chevron Kern River

TestAmerica Job ID: 440-107943-1
SDG: FR1416063A

Client Sample ID: W040

Lab Sample ID: 440-107943-1

Date Collected: 04/22/15 08:55
Matrix: Water
Date Received: 04/24/15 07:15

Method: 6010B - Metals (ICP) - STLC Citrate (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Zinc	**0.86**		0.40	0.20	mg/L			04/30/15 10:11	20

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00080	0.00040	mg/L		04/28/15 13:03	04/28/15 19:05	1

Method: 7470A - Mercury (CVAA) - STLC Citrate

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.0020	0.0010	mg/L		04/30/15 01:10	04/30/15 13:04	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	**400**		4.0	4.0	mg/L			04/25/15 16:52	1
Bicarbonate Alkalinity as CaCO3	**400**		4.0	4.0	mg/L			04/25/15 16:52	1
Carbonate Alkalinity as CaCO3	ND		4.0	4.0	mg/L			04/25/15 16:52	1
Hydroxide Alkalinity as CaCO3	ND		4.0	4.0	mg/L			04/25/15 16:52	1
Total Dissolved Solids	**3700**		20	10	mg/L			04/28/15 08:13	1

Client Sample ID: W041

Lab Sample ID: 440-107943-2

Date Collected: 04/22/15 09:30
Matrix: Water
Date Received: 04/24/15 07:15

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		50	25	ug/L			04/29/15 11:50	100
Ethylbenzene	ND		50	25	ug/L			04/29/15 11:50	100
m,p-Xylene	ND		100	50	ug/L			04/29/15 11:50	100
o-Xylene	ND		50	25	ug/L			04/29/15 11:50	100
Toluene	ND		50	25	ug/L			04/29/15 11:50	100
Xylenes, Total	ND		100	50	ug/L			04/29/15 11:50	100
Acetone	ND		1000	450	ug/L			04/29/15 11:50	100

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*100*		*80 - 120*		*04/29/15 11:50*	*100*
Dibromofluoromethane (Surr)	*97*		*76 - 132*		*04/29/15 11:50*	*100*
Toluene-d8 (Surr)	*103*		*80 - 128*		*04/29/15 11:50*	*100*

Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	**3.8**		3.8	1.9	ug/L		04/26/15 13:54	04/28/15 01:49	20
Acenaphthylene	**7.3**		3.8	1.9	ug/L		04/26/15 13:54	04/28/15 01:49	20
Anthracene	ND		3.8	1.9	ug/L		04/26/15 13:54	04/28/15 01:49	20
Benzo[a]anthracene	ND		3.8	1.9	ug/L		04/26/15 13:54	04/28/15 01:49	20
Benzo[a]pyrene	ND	*	3.8	1.9	ug/L		04/26/15 13:54	04/28/15 01:49	20
Benzo[b]fluoranthene	ND	*	3.8	1.9	ug/L		04/26/15 13:54	04/28/15 01:49	20
Benzo[g,h,i]perylene	ND	*	3.8	1.9	ug/L		04/26/15 13:54	04/28/15 01:49	20
Benzo[k]fluoranthene	ND	*	3.8	1.9	ug/L		04/26/15 13:54	04/28/15 01:49	20
Chrysene	ND		3.8	1.9	ug/L		04/26/15 13:54	04/28/15 01:49	20
Dibenz(a,h)anthracene	ND	*	3.8	1.9	ug/L		04/26/15 13:54	04/28/15 01:49	20
Fluoranthene	ND		3.8	1.9	ug/L		04/26/15 13:54	04/28/15 01:49	20
Fluorene	**3.0**	**J**	3.8	1.9	ug/L		04/26/15 13:54	04/28/15 01:49	20

Client Sample Results

Client: AMEC Foster Wheeler E & I, Inc
Project/Site: Chevron Kern River

TestAmerica Job ID: 440-107943-1
SDG: FR1416063A

Client Sample ID: W041

Date Collected: 04/22/15 09:30
Date Received: 04/24/15 07:15

Lab Sample ID: 440-107943-2

Matrix: Water

Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Indeno[1,2,3-cd]pyrene	ND	*	3.8	1.9	ug/L		04/26/15 13:54	04/28/15 01:49	20
Naphthalene	**4.3**		3.8	1.9	ug/L		04/26/15 13:54	04/28/15 01:49	20
Phenanthrene	**6.6**		3.8	1.9	ug/L		04/26/15 13:54	04/28/15 01:49	20
Pyrene	**11**		3.8	1.9	ug/L		04/26/15 13:54	04/28/15 01:49	20

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*145*	*X*	*31 - 120*	*04/26/15 13:54*	*04/28/15 01:49*	*20*
Nitrobenzene-d5	*392*	*X*	*25 - 133*	*04/26/15 13:54*	*04/28/15 01:49*	*20*
Terphenyl-d14	*0*	*X*	*10 - 120*	*04/26/15 13:54*	*04/28/15 01:49*	*20*

Method: 8015B - Diesel Range Organics (DRO) (GC) Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C29-C40	**39**		2.4	1.2	mg/L		04/25/15 09:06	04/27/15 17:12	50

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane	*145*	*X*	*45 - 120*	*04/25/15 09:06*	*04/27/15 17:12*	*50*

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	**1.3**	**J**	2.5	1.3	mg/L			04/24/15 08:59	5
Nitrate as NO3	ND		2.5	1.3	mg/L			04/24/15 08:59	5
Chloride	**220**		25	13	mg/L			04/24/15 12:08	50
Fluoride	**1.4**	**J**	2.5	1.3	mg/L			04/24/15 08:59	5
Sulfate	**38**		2.5	1.3	mg/L			04/24/15 08:59	5

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	**0.81**	**HF**	0.25	0.050	mg/L		04/28/15 09:13	04/28/15 18:34	5
Calcium	**63**	**HF**	0.50	0.25	mg/L		04/28/15 09:13	04/28/15 18:34	5
Iron	**1.2**	**HF**	0.20	0.050	mg/L		04/28/15 09:13	04/28/15 18:34	5
Lithium	ND	HF	2.5	0.13	mg/L		04/28/15 09:13	04/28/15 18:34	5
Magnesium	**5.3**	**HF**	0.10	0.050	mg/L		04/28/15 09:13	04/28/15 18:34	5
Manganese	**0.19**	**HF**	0.10	0.050	mg/L		04/28/15 09:13	04/28/15 18:34	5
Potassium	**66**	**HF**	2.5	1.3	mg/L		04/28/15 09:13	04/28/15 18:34	5
Sodium	**260**	**HF**	2.5	1.3	mg/L		04/28/15 09:13	04/28/15 18:34	5
Strontium	**0.88**	**HF**	0.10	0.050	mg/L		04/28/15 09:13	04/28/15 18:34	5

Method: 200.8 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Uranium	ND	HF	5.0	2.5	ug/L		04/28/15 09:15	04/29/15 06:34	5

Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	**0.0081**	**J**	0.010	0.0060	mg/L		04/28/15 09:17	04/29/15 10:58	1
Arsenic	**0.020**		0.010	0.0050	mg/L		04/28/15 09:17	04/29/15 10:58	1
Barium	**0.12**		0.010	0.0050	mg/L		04/28/15 09:17	04/29/15 10:58	1
Beryllium	ND		0.0020	0.0010	mg/L		04/28/15 09:17	04/29/15 10:58	1
Cadmium	ND		0.0050	0.0020	mg/L		04/28/15 09:17	04/29/15 10:58	1
Chromium	ND		0.0050	0.0025	mg/L		04/28/15 09:17	04/29/15 10:58	1
Cobalt	ND		0.010	0.0025	mg/L		04/28/15 09:17	04/29/15 10:58	1
Copper	**0.0058**	**J**	0.010	0.0050	mg/L		04/28/15 09:17	04/29/15 10:58	1

Client Sample Results

Client: AMEC Foster Wheeler E & I, Inc
Project/Site: Chevron Kern River

TestAmerica Job ID: 440-107943-1
SDG: FR1416063A

Client Sample ID: W041

Date Collected: 04/22/15 09:30
Date Received: 04/24/15 07:15

Lab Sample ID: 440-107943-2

Matrix: Water

Method: 6010B - Metals (ICP) - Dissolved (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		0.0050	0.0025	mg/L		04/28/15 09:17	04/29/15 10:58	1
Molybdenum	**0.088**		0.020	0.010	mg/L		04/28/15 09:17	04/29/15 10:58	1
Nickel	**0.019**		0.010	0.0050	mg/L		04/28/15 09:17	04/29/15 10:58	1
Selenium	ND		0.010	0.0061	mg/L		04/28/15 09:17	04/29/15 10:58	1
Silver	ND		0.010	0.0050	mg/L		04/28/15 09:17	04/29/15 10:58	1
Thallium	ND		0.010	0.0050	mg/L		04/28/15 09:17	04/29/15 10:58	1
Vanadium	**0.0057**	**J**	0.010	0.0050	mg/L		04/28/15 09:17	04/29/15 10:58	1
Zinc	**0.033**		0.020	0.010	mg/L		04/28/15 09:17	04/29/15 10:58	1

Method: 6010B - Metals (ICP) - STLC Citrate

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	**0.21**		0.20	0.12	mg/L			04/28/15 12:25	20
Arsenic	ND		0.20	0.10	mg/L			04/28/15 12:25	20
Barium	**0.15**	**J**	0.20	0.10	mg/L			04/28/15 12:25	20
Beryllium	ND		0.040	0.020	mg/L			04/28/15 12:25	20
Cadmium	ND		0.10	0.040	mg/L			04/28/15 12:25	20
Chromium	ND		0.10	0.050	mg/L			04/28/15 12:25	20
Cobalt	ND		0.20	0.050	mg/L			04/28/15 12:25	20
Copper	ND		0.20	0.10	mg/L			04/28/15 12:25	20
Lead	ND		0.10	0.050	mg/L			04/28/15 12:25	20
Molybdenum	**0.42**		0.40	0.20	mg/L			04/28/15 12:25	20
Nickel	ND		0.20	0.10	mg/L			04/28/15 12:25	20
Selenium	**0.16**	**J**	0.20	0.12	mg/L			04/28/15 12:25	20
Silver	ND		0.20	0.10	mg/L			04/28/15 12:25	20
Thallium	ND		0.20	0.10	mg/L			04/28/15 12:25	20
Vanadium	ND		0.20	0.10	mg/L			04/28/15 12:25	20
Zinc	ND		0.40	0.20	mg/L			04/28/15 12:25	20

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00080	0.00040	mg/L		04/28/15 13:03	04/28/15 19:07	1

Method: 7470A - Mercury (CVAA) - STLC Citrate

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.0020	0.0010	mg/L		04/28/15 12:08	04/28/15 17:46	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	**310**		4.0	4.0	mg/L			04/25/15 16:43	1
Bicarbonate Alkalinity as CaCO3	**310**		4.0	4.0	mg/L			04/25/15 16:43	1
Carbonate Alkalinity as CaCO3	ND		4.0	4.0	mg/L			04/25/15 16:43	1
Hydroxide Alkalinity as CaCO3	ND		4.0	4.0	mg/L			04/25/15 16:43	1
Total Dissolved Solids	**2400**		20	10	mg/L			04/28/15 08:13	1

Method Summary

Client: AMEC Foster Wheeler E & I, Inc
Project/Site: Chevron Kern River

TestAmerica Job ID: 440-107943-1
SDG: FR1416063A

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL IRV
8270C SIM	Semivolatile Organic Compounds (GC/MS SIM)	SW846	TAL IRV
8015B	Diesel Range Organics (DRO) (GC) Low Level	SW846	TAL IRV
300.0	Anions, Ion Chromatography	MCAWW	TAL IRV
200.7 Rev 4.4	Metals (ICP)	EPA	TAL IRV
200.8	Metals (ICP/MS)	EPA	TAL IRV
6010B	Metals (ICP)	SW846	TAL IRV
7470A	Mercury (CVAA)	SW846	TAL IRV
SM 2320B	Alkalinity	SM	TAL IRV
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL IRV

Protocol References:

EPA = US Environmental Protection Agency

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

SM = "Standard Methods For The Examination Of Water And Wastewater",

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL IRV = TestAmerica Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

Lab Chronicle

Client: AMEC Foster Wheeler E & I, Inc
Project/Site: Chevron Kern River

TestAmerica Job ID: 440-107943-1
SDG: FR1416063A

Client Sample ID: W040

Lab Sample ID: 440-107943-1

Date Collected: 04/22/15 08:55

Matrix: Water

Date Received: 04/24/15 07:15

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		25	10 mL	10 mL	251680	04/29/15 00:50	MP	TAL IRV
Total/NA	Prep	3520C			1055 mL	5 mL	251224	04/26/15 13:54	AK	TAL IRV
Total/NA	Analysis	8270C SIM		40	1055 mL	5 mL	251421	04/28/15 02:09	AI	TAL IRV
Total/NA	Prep	3510C			1055 mL	1 mL	251142	04/25/15 09:06	MMT	TAL IRV
Total/NA	Analysis	8015B		50	1055 mL	1 mL	251259	04/27/15 16:49	KW	TAL IRV
Total/NA	Analysis	300.0		5	5 mL		250903	04/24/15 08:44	NN	TAL IRV
Total/NA	Analysis	300.0		5	5 mL		250904	04/24/15 08:44	NN	TAL IRV
Total/NA	Analysis	300.0		50	5 mL		250973	04/24/15 11:53	NN	TAL IRV
Dissolved	Filtration	FILTRATION			250 mL	250 mL	251384	04/27/15 14:00	EN	TAL IRV
Dissolved	Prep	200.2			25 mL	25 mL	251540	04/28/15 09:13	APS	TAL IRV
Dissolved	Analysis	200.7 Rev 4.4		5	25 mL	25 mL	251846	04/29/15 10:34	VS	TAL IRV
Dissolved	Filtration	FILTRATION			250 mL	250 mL	251384	04/27/15 14:00	EN	TAL IRV
Dissolved	Prep	200.2			25 mL	25 mL	251541	04/28/15 09:15	APS	TAL IRV
Dissolved	Analysis	200.8		5	25 mL	25 mL	251785	04/29/15 06:41	NH	TAL IRV
Dissolved	Filtration	FILTRATION			250 mL	250 mL	251384	04/27/15 14:00	EN	TAL IRV
Dissolved	Prep	3005A			25 mL	25 mL	251542	04/28/15 09:17	APS	TAL IRV
Dissolved	Analysis	6010B		1	25 mL	25 mL	251867	04/29/15 10:56	VS	TAL IRV
STLC Citrate	Leach	CA WET Citrate			4.2 g	42 mL	251465	04/27/15 18:32	CH	TAL IRV
STLC Citrate	Analysis	6010B		20			252123	04/30/15 10:11	VS	TAL IRV
Dissolved	Filtration	FILTRATION			250 mL	250 mL	251384	04/27/15 14:00	EN	TAL IRV
Dissolved	Prep	7470A			5 mL	20 mL	251617	04/28/15 13:03	DB	TAL IRV
Dissolved	Analysis	7470A		1	5 mL	20 mL	251939	04/28/15 19:05	EN	TAL IRV
STLC Citrate	Leach	CA WET Citrate			4.2 g	42 mL	251465	04/27/15 18:32	CH	TAL IRV
STLC Citrate	Prep	7470A			2 mL	20 mL	252032	04/30/15 01:10	DB	TAL IRV
STLC Citrate	Analysis	7470A		1	2 mL	20 mL	252176	04/30/15 13:04	EN	TAL IRV
Total/NA	Analysis	SM 2320B		1			251207	04/25/15 16:52	YZ	TAL IRV
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	251526	04/28/15 08:13	XL	TAL IRV

Client Sample ID: W041

Lab Sample ID: 440-107943-2

Date Collected: 04/22/15 09:30

Matrix: Water

Date Received: 04/24/15 07:15

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		100	10 mL	10 mL	251770	04/29/15 11:50	AL	TAL IRV
Total/NA	Prep	3520C			1050 mL	1 mL	251224	04/26/15 13:54	AK	TAL IRV
Total/NA	Analysis	8270C SIM		20	1050 mL	1 mL	251421	04/28/15 01:49	AI	TAL IRV
Total/NA	Prep	3510C			1050 mL	1 mL	251142	04/25/15 09:06	MMT	TAL IRV
Total/NA	Analysis	8015B		50	1050 mL	1 mL	251259	04/27/15 17:12	KW	TAL IRV
Total/NA	Analysis	300.0		5	5 mL		250903	04/24/15 08:59	NN	TAL IRV
Total/NA	Analysis	300.0		5	5 mL		250904	04/24/15 08:59	NN	TAL IRV
Total/NA	Analysis	300.0	DL	50	5 mL		250903	04/24/15 09:45	NN	TAL IRV
Total/NA	Analysis	300.0	DL	50	5 mL		250904	04/24/15 09:45	NN	TAL IRV
Total/NA	Analysis	300.0		50	5 mL		250973	04/24/15 12:08	NN	TAL IRV

Lab Chronicle

Client: AMEC Foster Wheeler E & I, Inc
Project/Site: Chevron Kern River

TestAmerica Job ID: 440-107943-1
SDG: FR1416063A

Client Sample ID: W041

Date Collected: 04/22/15 09:30
Date Received: 04/24/15 07:15

Lab Sample ID: 440-107943-2

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Filtration	FILTRATION			250 mL	250 mL	251384	04/27/15 14:00	EN	TAL IRV
Dissolved	Prep	200.2			25 mL	25 mL	251540	04/28/15 09:13	APS	TAL IRV
Dissolved	Analysis	200.7 Rev 4.4		5	25 mL	25 mL	251786	04/28/15 18:34	VS	TAL IRV
Dissolved	Filtration	FILTRATION			250 mL	250 mL	251384	04/27/15 14:00	EN	TAL IRV
Dissolved	Prep	200.2			25 mL	25 mL	251541	04/28/15 09:15	APS	TAL IRV
Dissolved	Analysis	200.8		5	25 mL	25 mL	251785	04/29/15 06:34	NH	TAL IRV
Dissolved	Filtration	FILTRATION			250 mL	250 mL	251384	04/27/15 14:00	EN	TAL IRV
Dissolved	Prep	3005A			25 mL	25 mL	251542	04/28/15 09:17	APS	TAL IRV
Dissolved	Analysis	6010B		1	25 mL	25 mL	251867	04/29/15 10:58	VS	TAL IRV
STLC Citrate	Leach	CA WET Citrate			100 g	100 mL	251482	04/27/15 22:41	CH	TAL IRV
STLC Citrate	Analysis	6010B		20			251619	04/28/15 12:25	VS	TAL IRV
Dissolved	Filtration	FILTRATION			250 mL	250 mL	251384	04/27/15 14:00	EN	TAL IRV
Dissolved	Prep	7470A			5 mL	20 mL	251617	04/28/15 13:03	DB	TAL IRV
Dissolved	Analysis	7470A		1	5 mL	20 mL	251939	04/28/15 19:07	EN	TAL IRV
STLC Citrate	Leach	CA WET Citrate			100 g	100 mL	251482	04/27/15 22:41	CH	TAL IRV
STLC Citrate	Prep	7470A			2 mL	20 mL	251591	04/28/15 12:08	DB	TAL IRV
STLC Citrate	Analysis	7470A		1	2 mL	20 mL	251701	04/28/15 17:46	DB	TAL IRV
Total/NA	Analysis	SM 2320B		1			251207	04/25/15 16:43	YZ	TAL IRV
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	251526	04/28/15 08:13	XL	TAL IRV

Laboratory References:

TAL IRV = TestAmerica Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

QC Sample Results

Client: AMEC Foster Wheeler E & I, Inc
Project/Site: Chevron Kern River

TestAmerica Job ID: 440-107943-1
SDG: FR1416063A

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 440-251680/4
Matrix: Water
Analysis Batch: 251680

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.50	0.25	ug/L			04/28/15 19:57	1
Ethylbenzene	ND		0.50	0.25	ug/L			04/28/15 19:57	1
m,p-Xylene	ND		1.0	0.50	ug/L			04/28/15 19:57	1
o-Xylene	ND		0.50	0.25	ug/L			04/28/15 19:57	1
Toluene	ND		0.50	0.25	ug/L			04/28/15 19:57	1
Xylenes, Total	ND		1.0	0.50	ug/L			04/28/15 19:57	1
Acetone	ND		10	4.5	ug/L			04/28/15 19:57	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*96*		*80 - 120*		*04/28/15 19:57*	*1*
Dibromofluoromethane (Surr)	*98*		*76 - 132*		*04/28/15 19:57*	*1*
Toluene-d8 (Surr)	*103*		*80 - 128*		*04/28/15 19:57*	*1*

Lab Sample ID: LCS 440-251680/5
Matrix: Water
Analysis Batch: 251680

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	25.0	23.8		ug/L		95	68 - 130
Ethylbenzene	25.0	22.9		ug/L		92	70 - 130
m,p-Xylene	25.0	23.1		ug/L		92	70 - 130
o-Xylene	25.0	23.7		ug/L		95	70 - 130
Toluene	25.0	22.9		ug/L		92	70 - 130
Acetone	25.0	19.6		ug/L		79	10 - 150

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*95*		*80 - 120*
Dibromofluoromethane (Surr)	*102*		*76 - 132*
Toluene-d8 (Surr)	*98*		*80 - 128*

Lab Sample ID: 440-107882-A-1 MS
Matrix: Water
Analysis Batch: 251680

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	3.4		25.0	28.1		ug/L		99	66 - 130
Ethylbenzene	0.45	J	25.0	24.0		ug/L		94	70 - 130
m,p-Xylene	ND		25.0	24.5		ug/L		98	70 - 133
o-Xylene	0.44	J	25.0	24.9		ug/L		98	70 - 133
Toluene	ND		25.0	23.5		ug/L		94	70 - 130
Acetone	ND		25.0	21.0		ug/L		84	10 - 150

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*97*		*80 - 120*
Dibromofluoromethane (Surr)	*102*		*76 - 132*
Toluene-d8 (Surr)	*97*		*80 - 128*

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 440-107882-A-1 MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 251680

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	3.4		25.0	28.2		ug/L		99	66 - 130	0	20
Ethylbenzene	0.45	J	25.0	24.5		ug/L		96	70 - 130	2	20
m,p-Xylene	ND		25.0	24.4		ug/L		98	70 - 133	0	25
o-Xylene	0.44	J	25.0	25.6		ug/L		101	70 - 133	3	20
Toluene	ND		25.0	23.6		ug/L		95	70 - 130	1	20
Acetone	ND		25.0	20.1		ug/L		80	10 - 150	4	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*96*		*80 - 120*
Dibromofluoromethane (Surr)	*100*		*76 - 132*
Toluene-d8 (Surr)	*98*		*80 - 128*

Lab Sample ID: MB 440-251770/5 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 251770

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.50	0.25	ug/L			04/29/15 08:13	1
Ethylbenzene	ND		0.50	0.25	ug/L			04/29/15 08:13	1
m,p-Xylene	ND		1.0	0.50	ug/L			04/29/15 08:13	1
o-Xylene	ND		0.50	0.25	ug/L			04/29/15 08:13	1
Toluene	ND		0.50	0.25	ug/L			04/29/15 08:13	1
Xylenes, Total	ND		1.0	0.50	ug/L			04/29/15 08:13	1
Acetone	ND		10	4.5	ug/L			04/29/15 08:13	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*		*04/29/15 08:13*	*1*
Dibromofluoromethane (Surr)	*98*		*76 - 132*		*04/29/15 08:13*	*1*
Toluene-d8 (Surr)	*103*		*80 - 128*		*04/29/15 08:13*	*1*

Lab Sample ID: LCS 440-251770/6 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 251770

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	25.0	23.7		ug/L		95	68 - 130
Ethylbenzene	25.0	23.4		ug/L		94	70 - 130
m,p-Xylene	25.0	23.4		ug/L		93	70 - 130
o-Xylene	25.0	23.9		ug/L		96	70 - 130
Toluene	25.0	23.0		ug/L		92	70 - 130
Acetone	25.0	18.3		ug/L		73	10 - 150

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*83*		*80 - 120*
Dibromofluoromethane (Surr)	*99*		*76 - 132*
Toluene-d8 (Surr)	*100*		*80 - 128*

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 440-107818-B-16 MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 251770

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	ND		25.0	22.5		ug/L		90	66 - 130
Ethylbenzene	ND		25.0	22.4		ug/L		89	70 - 130
m,p-Xylene	ND		25.0	22.3		ug/L		89	70 - 133
o-Xylene	ND		25.0	23.1		ug/L		93	70 - 133
Toluene	ND		25.0	22.2		ug/L		89	70 - 130
Acetone	ND		25.0	13.4		ug/L		54	10 - 150

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*98*		*80 - 120*
Dibromofluoromethane (Surr)	*98*		*76 - 132*
Toluene-d8 (Surr)	*98*		*80 - 128*

Lab Sample ID: 440-107818-B-16 MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 251770

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	ND		25.0	22.9		ug/L		92	66 - 130	2	20
Ethylbenzene	ND		25.0	22.3		ug/L		89	70 - 130	0	20
m,p-Xylene	ND		25.0	22.5		ug/L		90	70 - 133	1	25
o-Xylene	ND		25.0	22.9		ug/L		91	70 - 133	1	20
Toluene	ND		25.0	22.3		ug/L		89	70 - 130	0	20
Acetone	ND		25.0	14.1		ug/L		57	10 - 150	5	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*98*		*80 - 120*
Dibromofluoromethane (Surr)	*99*		*76 - 132*
Toluene-d8 (Surr)	*99*		*80 - 128*

Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM)

Lab Sample ID: MB 440-251224/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 251421 — **Prep Batch: 251224**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.20	0.10	ug/L		04/26/15 13:54	04/27/15 16:14	1
Acenaphthylene	ND		0.20	0.10	ug/L		04/26/15 13:54	04/27/15 16:14	1
Anthracene	ND		0.20	0.10	ug/L		04/26/15 13:54	04/27/15 16:14	1
Benzo[a]anthracene	ND		0.20	0.10	ug/L		04/26/15 13:54	04/27/15 16:14	1
Benzo[a]pyrene	ND		0.20	0.10	ug/L		04/26/15 13:54	04/27/15 16:14	1
Benzo[b]fluoranthene	ND		0.20	0.10	ug/L		04/26/15 13:54	04/27/15 16:14	1
Benzo[g,h,i]perylene	ND		0.20	0.10	ug/L		04/26/15 13:54	04/27/15 16:14	1
Benzo[k]fluoranthene	ND		0.20	0.10	ug/L		04/26/15 13:54	04/27/15 16:14	1
Chrysene	ND		0.20	0.10	ug/L		04/26/15 13:54	04/27/15 16:14	1
Dibenz(a,h)anthracene	ND		0.20	0.10	ug/L		04/26/15 13:54	04/27/15 16:14	1
Fluoranthene	ND		0.20	0.10	ug/L		04/26/15 13:54	04/27/15 16:14	1

Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

Lab Sample ID: MB 440-251224/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 251421 — **Prep Batch: 251224**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluorene	ND		0.20	0.10	ug/L		04/26/15 13:54	04/27/15 16:14	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.10	ug/L		04/26/15 13:54	04/27/15 16:14	1
Naphthalene	ND		0.20	0.10	ug/L		04/26/15 13:54	04/27/15 16:14	1
Phenanthrene	ND		0.20	0.10	ug/L		04/26/15 13:54	04/27/15 16:14	1
Pyrene	ND		0.20	0.10	ug/L		04/26/15 13:54	04/27/15 16:14	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*84*		*31 - 120*	*04/26/15 13:54*	*04/27/15 16:14*	*1*
Nitrobenzene-d5	*81*		*25 - 133*	*04/26/15 13:54*	*04/27/15 16:14*	*1*
Terphenyl-d14	*95*		*10 - 120*	*04/26/15 13:54*	*04/27/15 16:14*	*1*

Lab Sample ID: LCS 440-251224/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 251421 — **Prep Batch: 251224**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthene	1.00	0.751		ug/L		75	47 - 103
Acenaphthylene	1.00	0.728		ug/L		73	45 - 102
Anthracene	1.00	0.806		ug/L		81	47 - 111
Benzo[a]anthracene	1.00	0.860		ug/L		86	56 - 110
Benzo[a]pyrene	1.00	0.814		ug/L		81	48 - 110
Benzo[b]fluoranthene	1.00	0.911		ug/L		91	53 - 116
Benzo[g,h,i]perylene	1.00	1.05		ug/L		105	44 - 130
Benzo[k]fluoranthene	1.00	0.898		ug/L		90	51 - 127
Chrysene	1.00	0.889		ug/L		89	52 - 118
Dibenz(a,h)anthracene	1.00	0.967		ug/L		97	44 - 125
Fluoranthene	1.00	0.926		ug/L		93	51 - 116
Fluorene	1.00	0.787		ug/L		79	50 - 106
Indeno[1,2,3-cd]pyrene	1.00	1.00		ug/L		100	41 - 127
Naphthalene	1.00	0.667		ug/L		67	40 - 100
Phenanthrene	1.00	0.841		ug/L		84	49 - 110
Pyrene	1.00	0.861		ug/L		86	41 - 115

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl (Surr)	*71*		*31 - 120*
Nitrobenzene-d5	*67*		*25 - 133*
Terphenyl-d14	*82*		*10 - 120*

Lab Sample ID: LCSD 440-251224/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 251421 — **Prep Batch: 251224**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acenaphthene	1.00	0.719		ug/L		72	47 - 103	4	35
Acenaphthylene	1.00	0.703		ug/L		70	45 - 102	4	35
Anthracene	1.00	0.766		ug/L		77	47 - 111	5	35
Benzo[a]anthracene	1.00	0.841		ug/L		84	56 - 110	2	35
Benzo[a]pyrene	1.00	0.799		ug/L		80	48 - 110	2	35

Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

Lab Sample ID: LCSD 440-251224/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 251421 — **Prep Batch: 251224**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzo[b]fluoranthene	1.00	0.903		ug/L		90	53 - 116	1	35
Benzo[g,h,i]perylene	1.00	1.03		ug/L		103	44 - 130	3	35
Benzo[k]fluoranthene	1.00	0.889		ug/L		89	51 - 127	1	35
Chrysene	1.00	0.865		ug/L		86	52 - 118	3	35
Dibenz(a,h)anthracene	1.00	0.950		ug/L		95	44 - 125	2	35
Fluoranthene	1.00	0.851		ug/L		85	51 - 116	8	35
Fluorene	1.00	0.762		ug/L		76	50 - 106	3	35
Indeno[1,2,3-cd]pyrene	1.00	0.955		ug/L		95	41 - 127	5	35
Naphthalene	1.00	0.664		ug/L		66	40 - 100	0	35
Phenanthrene	1.00	0.806		ug/L		81	49 - 110	4	35
Pyrene	1.00	0.849		ug/L		85	41 - 115	1	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2-Fluorobiphenyl (Surr)	*74*		*31 - 120*
Nitrobenzene-d5	*66*		*25 - 133*
Terphenyl-d14	*84*		*10 - 120*

Method: 8015B - Diesel Range Organics (DRO) (GC) Low Level

Lab Sample ID: MB 440-251142/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 251256 — **Prep Batch: 251142**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C29-C40	ND		0.050	0.025	mg/L		04/25/15 09:06	04/27/15 09:14	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane	*77*		*45 - 120*	*04/25/15 09:06*	*04/27/15 09:14*	*1*

Lab Sample ID: LCS 440-251142/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 251257 — **Prep Batch: 251142**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
C10-C28	1.00	0.827		mg/L		83	40 - 115

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
n-Octacosane	*88*		*45 - 120*

Lab Sample ID: LCSD 440-251142/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 251257 — **Prep Batch: 251142**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
C10-C28	1.00	0.805		mg/L		81	40 - 115	3	25

Method: 8015B - Diesel Range Organics (DRO) (GC) Low Level (Continued)

Lab Sample ID: LCSD 440-251142/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 251257 — **Prep Batch: 251142**

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
n-Octacosane	*74*		*45 - 120*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 440-250903/4 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 250903

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as NO3	ND		0.50	0.25	mg/L			04/24/15 05:51	1

Lab Sample ID: LCS 440-250903/2 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 250903

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrate as NO3	5.00	5.22		mg/L		104	90 - 110

Lab Sample ID: MB 440-250904/4 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 250904

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	ND		0.50	0.25	mg/L			04/24/15 05:51	1
Fluoride	ND		0.50	0.25	mg/L			04/24/15 05:51	1
Sulfate	ND		0.50	0.25	mg/L			04/24/15 05:51	1

Lab Sample ID: LCS 440-250904/2 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 250904

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Bromide	5.00	4.71		mg/L		94	90 - 110
Fluoride	5.00	4.54		mg/L		91	90 - 110
Sulfate	5.00	4.77		mg/L		95	90 - 110

Lab Sample ID: MB 440-250973/4 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 250973

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		0.50	0.25	mg/L			04/24/15 10:35	1

Lab Sample ID: LCS 440-250973/2 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 250973

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	5.00	4.95		mg/L		99	90 - 110

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 440-107928-E-6 MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 250973

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	68	F1	50.0	105	F1	mg/L		74	80 - 120

Lab Sample ID: 440-107928-E-6 MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 250973

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	68	F1	50.0	105	F1	mg/L		74	80 - 120	0	20

Method: 300.0 - Anions, Ion Chromatography - DL

Lab Sample ID: 440-107943-2 MS — **Client Sample ID: W041**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 250903

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrate as NO3 - DL	ND	H	50.0	48.4		mg/L		97	80 - 120

Lab Sample ID: 440-107943-2 MSD — **Client Sample ID: W041**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 250903

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Nitrate as NO3 - DL	ND	H	50.0	52.1		mg/L		104	80 - 120	7	20

Lab Sample ID: 440-107943-2 MS — **Client Sample ID: W041**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 250904

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Bromide - DL	ND		50.0	52.0		mg/L		104	80 - 120
Fluoride - DL	ND	F1	50.0	58.1		mg/L		116	80 - 120
Sulfate - DL	48		50.0	91.9		mg/L		88	80 - 120

Lab Sample ID: 440-107943-2 MSD — **Client Sample ID: W041**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 250904

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Bromide - DL	ND		50.0	56.5		mg/L		113	80 - 120	8	20
Fluoride - DL	ND	F1	50.0	62.4	F1	mg/L		125	80 - 120	7	20
Sulfate - DL	48		50.0	98.1		mg/L		100	80 - 120	6	20

QC Sample Results

Client: AMEC Foster Wheeler E & I, Inc
Project/Site: Chevron Kern River

TestAmerica Job ID: 440-107943-1
SDG: FR1416063A

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: MB 440-251384/1-B — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 251786 — **Prep Batch: 251540**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	ND		0.050	0.010	mg/L		04/28/15 09:13	04/28/15 18:24	1
Calcium	ND		0.10	0.050	mg/L		04/28/15 09:13	04/28/15 18:24	1
Iron	ND		0.040	0.010	mg/L		04/28/15 09:13	04/28/15 18:24	1
Lithium	ND		0.50	0.025	mg/L		04/28/15 09:13	04/28/15 18:24	1
Magnesium	ND		0.020	0.010	mg/L		04/28/15 09:13	04/28/15 18:24	1
Manganese	ND		0.020	0.010	mg/L		04/28/15 09:13	04/28/15 18:24	1
Potassium	ND		0.50	0.25	mg/L		04/28/15 09:13	04/28/15 18:24	1
Sodium	ND		0.50	0.25	mg/L		04/28/15 09:13	04/28/15 18:24	1
Strontium	ND		0.020	0.010	mg/L		04/28/15 09:13	04/28/15 18:24	1

Lab Sample ID: LCS 440-251384/2-B — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 251786 — **Prep Batch: 251540**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	0.500	0.479		mg/L		96	85 - 115
Calcium	2.50	2.38		mg/L		95	85 - 115
Iron	0.500	0.474		mg/L		95	85 - 115
Lithium	0.500	0.497	J	mg/L		99	85 - 115
Magnesium	2.50	2.46		mg/L		98	85 - 115
Manganese	0.500	0.505		mg/L		101	85 - 115
Potassium	5.00	4.82		mg/L		96	85 - 115
Sodium	5.00	4.73		mg/L		95	85 - 115
Strontium	0.500	0.472		mg/L		94	85 - 115

Lab Sample ID: 440-107943-D-1-C MS ^5 — **Client Sample ID: 440-107943-D-1-C MS ^5**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 251786 — **Prep Batch: 251540**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	0.97	HF	0.500	1.48		mg/L		102	70 - 130
Calcium	85	HF	2.50	91.0		mg/L		256	70 - 130
Iron	9.4	HF	0.500	11.5		mg/L		427	70 - 130
Lithium	ND	HF	0.500	0.517	J	mg/L		103	70 - 130
Magnesium	5.6	HF	2.50	8.34		mg/L		109	70 - 130
Manganese	0.31	HF	0.500	0.799		mg/L		98	70 - 130
Potassium	65	HF	5.00	69.3		mg/L		80	70 - 130
Sodium	380	HF	5.00	385		mg/L		61	70 - 130
Strontium	1.0	HF	0.500	1.53		mg/L		97	70 - 130

Lab Sample ID: 440-107943-D-1-D MSD ^5 — **Client Sample ID: 440-107943-D-1-D MSD ^5**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 251786 — **Prep Batch: 251540**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Boron	0.97	HF	0.500	1.52		mg/L		110	70 - 130	3	20
Calcium	85	HF	2.50	90.3		mg/L		227	70 - 130	1	20
Iron	9.4	HF	0.500	11.5		mg/L		412	70 - 130	1	20
Lithium	ND	HF	0.500	0.531	J	mg/L		106	70 - 130	3	20

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: 440-107943-D-1-D MSD ^5 — **Client Sample ID: 440-107943-D-1-D MSD ^5**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 251786 — **Prep Batch: 251540**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Magnesium	5.6	HF	2.50	8.51		mg/L		116	70 - 130	2	20
Manganese	0.31	HF	0.500	0.823		mg/L		103	70 - 130	3	20
Potassium	65	HF	5.00	70.0		mg/L		95	70 - 130	1	20
Sodium	380	HF	5.00	390		mg/L		156	70 - 130	1	20
Strontium	1.0	HF	0.500	1.57		mg/L		105	70 - 130	2	20

Method: 200.8 - Metals (ICP/MS)

Lab Sample ID: MB 440-251384/1-C — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 251753 — **Prep Batch: 251541**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Uranium	ND		1.0	0.50	ug/L		04/28/15 09:15	04/29/15 00:44	1

Lab Sample ID: LCS 440-251384/2-C — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 251753 — **Prep Batch: 251541**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Uranium	80.0	73.1		ug/L		91	85 - 115

Lab Sample ID: LCSD 440-251384/3-B — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 251753 — **Prep Batch: 251541**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Uranium	80.0	72.7		ug/L		91	85 - 115	1	20

Lab Sample ID: 440-107943-2 MS — **Client Sample ID: W041**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 251785 — **Prep Batch: 251541**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Uranium	ND	HF	80.0	78.5		ug/L		98	70 - 130

Lab Sample ID: 440-107943-2 MSD — **Client Sample ID: W041**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 251785 — **Prep Batch: 251541**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Uranium	ND	HF	80.0	79.0		ug/L		99	70 - 130	1	20

QC Sample Results

Client: AMEC Foster Wheeler E & I, Inc
Project/Site: Chevron Kern River

TestAmerica Job ID: 440-107943-1
SDG: FR1416063A

Method: 6010B - Metals (ICP)

Lab Sample ID: MB 440-251384/1-D
Matrix: Water
Analysis Batch: 251867

Client Sample ID: Method Blank
Prep Type: Dissolved
Prep Batch: 251542

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.010	0.0060	mg/L		04/28/15 09:17	04/29/15 10:18	1
Arsenic	ND		0.010	0.0050	mg/L		04/28/15 09:17	04/29/15 10:18	1
Barium	ND		0.010	0.0050	mg/L		04/28/15 09:17	04/29/15 10:18	1
Beryllium	ND		0.0020	0.0010	mg/L		04/28/15 09:17	04/29/15 10:18	1
Cadmium	ND		0.0050	0.0020	mg/L		04/28/15 09:17	04/29/15 10:18	1
Chromium	ND		0.0050	0.0025	mg/L		04/28/15 09:17	04/29/15 10:18	1
Cobalt	ND		0.010	0.0025	mg/L		04/28/15 09:17	04/29/15 10:18	1
Copper	ND		0.010	0.0050	mg/L		04/28/15 09:17	04/29/15 10:18	1
Lead	ND		0.0050	0.0025	mg/L		04/28/15 09:17	04/29/15 10:18	1
Molybdenum	ND		0.020	0.010	mg/L		04/28/15 09:17	04/29/15 10:18	1
Nickel	ND		0.010	0.0050	mg/L		04/28/15 09:17	04/29/15 10:18	1
Selenium	ND		0.010	0.0061	mg/L		04/28/15 09:17	04/29/15 10:18	1
Silver	ND		0.010	0.0050	mg/L		04/28/15 09:17	04/29/15 10:18	1
Thallium	ND		0.010	0.0050	mg/L		04/28/15 09:17	04/29/15 10:18	1
Vanadium	ND		0.010	0.0050	mg/L		04/28/15 09:17	04/29/15 10:18	1
Zinc	ND		0.020	0.010	mg/L		04/28/15 09:17	04/29/15 10:18	1

Lab Sample ID: LCS 440-251384/2-D
Matrix: Water
Analysis Batch: 251867

Client Sample ID: Lab Control Sample
Prep Type: Dissolved
Prep Batch: 251542

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	1.00	0.994		mg/L		99	80 - 120
Arsenic	1.00	0.945		mg/L		94	80 - 120
Barium	1.00	0.972		mg/L		97	80 - 120
Beryllium	1.00	0.980		mg/L		98	80 - 120
Cadmium	1.00	0.963		mg/L		96	80 - 120
Chromium	1.00	0.957		mg/L		96	80 - 120
Cobalt	1.00	0.969		mg/L		97	80 - 120
Copper	1.00	0.966		mg/L		97	80 - 120
Lead	1.00	0.963		mg/L		96	80 - 120
Molybdenum	1.00	0.963		mg/L		96	80 - 120
Nickel	1.00	0.969		mg/L		97	80 - 120
Selenium	1.00	0.915		mg/L		92	80 - 120
Silver	0.500	0.487		mg/L		97	80 - 120
Thallium	1.00	0.926		mg/L		93	80 - 120
Vanadium	1.00	0.964		mg/L		96	80 - 120
Zinc	1.00	0.931		mg/L		93	80 - 120

Lab Sample ID: 440-108001-L-1-C MS
Matrix: Water
Analysis Batch: 251867

Client Sample ID: Matrix Spike
Prep Type: Dissolved
Prep Batch: 251542

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	0.0086	J	1.00	1.03		mg/L		102	75 - 125
Arsenic	ND		1.00	1.01		mg/L		101	75 - 125
Barium	0.024		1.00	1.01		mg/L		99	75 - 125
Beryllium	ND		1.00	1.01		mg/L		101	75 - 125

Method: 6010B - Metals (ICP) (Continued)

Lab Sample ID: 440-108001-L-1-C MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 251867 — **Prep Batch: 251542**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Cadmium	ND		1.00	0.979		mg/L		98	75 - 125
Chromium	ND		1.00	0.990		mg/L		99	75 - 125
Cobalt	ND		1.00	0.988		mg/L		99	75 - 125
Copper	ND		1.00	1.01		mg/L		101	75 - 125
Lead	ND		1.00	0.986		mg/L		99	75 - 125
Molybdenum	0.019	J	1.00	1.00		mg/L		98	75 - 125
Nickel	ND		1.00	0.985		mg/L		98	75 - 125
Selenium	ND		1.00	0.955		mg/L		95	75 - 125
Silver	ND		0.500	0.506		mg/L		101	75 - 125
Thallium	0.0062	J	1.00	0.934		mg/L		93	75 - 125
Vanadium	ND		1.00	0.996		mg/L		100	75 - 125
Zinc	0.031		1.00	0.989		mg/L		96	75 - 125

Lab Sample ID: 440-108001-L-1-D MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 251867 — **Prep Batch: 251542**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Antimony	0.0086	J	1.00	1.02		mg/L		101	75 - 125	1	20
Arsenic	ND		1.00	1.00		mg/L		100	75 - 125	1	20
Barium	0.024		1.00	1.02		mg/L		99	75 - 125	0	20
Beryllium	ND		1.00	1.01		mg/L		101	75 - 125	0	20
Cadmium	ND		1.00	0.984		mg/L		98	75 - 125	1	20
Chromium	ND		1.00	0.977		mg/L		98	75 - 125	1	20
Cobalt	ND		1.00	0.977		mg/L		98	75 - 125	1	20
Copper	ND		1.00	1.02		mg/L		102	75 - 125	0	20
Lead	ND		1.00	0.976		mg/L		98	75 - 125	1	20
Molybdenum	0.019	J	1.00	1.01		mg/L		99	75 - 125	1	20
Nickel	ND		1.00	0.974		mg/L		97	75 - 125	1	20
Selenium	ND		1.00	0.944		mg/L		94	75 - 125	1	20
Silver	ND		0.500	0.507		mg/L		101	75 - 125	0	20
Thallium	0.0062	J	1.00	0.935		mg/L		93	75 - 125	0	20
Vanadium	ND		1.00	0.997		mg/L		100	75 - 125	0	20
Zinc	0.031		1.00	0.992		mg/L		96	75 - 125	0	20

Lab Sample ID: MB 440-251482/1-A ^20 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: STLC Citrate**
Analysis Batch: 251619

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.20	0.12	mg/L			04/28/15 12:19	20
Arsenic	ND		0.20	0.10	mg/L			04/28/15 12:19	20
Barium	ND		0.20	0.10	mg/L			04/28/15 12:19	20
Beryllium	ND		0.040	0.020	mg/L			04/28/15 12:19	20
Cadmium	ND		0.10	0.040	mg/L			04/28/15 12:19	20
Chromium	ND		0.10	0.050	mg/L			04/28/15 12:19	20
Cobalt	ND		0.20	0.050	mg/L			04/28/15 12:19	20
Copper	ND		0.20	0.10	mg/L			04/28/15 12:19	20
Lead	ND		0.10	0.050	mg/L			04/28/15 12:19	20

Method: 6010B - Metals (ICP) (Continued)

Lab Sample ID: MB 440-251482/1-A ^20 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: STLC Citrate**
Analysis Batch: 251619

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Molybdenum	ND		0.40	0.20	mg/L			04/28/15 12:19	20
Nickel	ND		0.20	0.10	mg/L			04/28/15 12:19	20
Selenium	ND		0.20	0.12	mg/L			04/28/15 12:19	20
Silver	ND		0.20	0.10	mg/L			04/28/15 12:19	20
Thallium	ND		0.20	0.10	mg/L			04/28/15 12:19	20
Vanadium	ND		0.20	0.10	mg/L			04/28/15 12:19	20
Zinc	ND		0.40	0.20	mg/L			04/28/15 12:19	20

Lab Sample ID: LCS 440-251482/2-A ^20 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: STLC Citrate**
Analysis Batch: 251619

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	20.0	19.5		mg/L		98	80 - 120
Arsenic	20.0	19.4		mg/L		97	80 - 120
Barium	20.0	19.4		mg/L		97	80 - 120
Beryllium	20.0	19.4		mg/L		97	80 - 120
Cadmium	20.0	19.2		mg/L		96	80 - 120
Chromium	20.0	18.1		mg/L		90	80 - 120
Cobalt	20.0	18.5		mg/L		93	80 - 120
Copper	20.0	20.1		mg/L		101	80 - 120
Lead	20.0	19.6		mg/L		98	80 - 120
Molybdenum	20.0	18.9		mg/L		95	80 - 120
Nickel	20.0	18.7		mg/L		93	80 - 120
Selenium	20.0	19.2		mg/L		96	80 - 120
Silver	10.0	9.62		mg/L		96	80 - 120
Thallium	20.0	19.3		mg/L		97	80 - 120
Vanadium	20.0	19.8		mg/L		99	80 - 120
Zinc	20.0	19.3		mg/L		96	80 - 120

Lab Sample ID: 440-107943-2 MS — **Client Sample ID: W041**
Matrix: Water — **Prep Type: STLC Citrate**
Analysis Batch: 251619

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	0.21		20.0	20.2		mg/L		100	75 - 125
Arsenic	ND		20.0	20.0		mg/L		100	75 - 125
Barium	0.15	J	20.0	19.9		mg/L		99	75 - 125
Beryllium	ND		20.0	20.0		mg/L		100	75 - 125
Cadmium	ND		20.0	19.4		mg/L		97	75 - 125
Chromium	ND		20.0	18.4		mg/L		92	75 - 125
Cobalt	ND		20.0	18.9		mg/L		94	75 - 125
Copper	ND		20.0	20.8		mg/L		104	75 - 125
Lead	ND		20.0	20.0		mg/L		100	75 - 125
Molybdenum	0.42		20.0	19.6		mg/L		96	75 - 125
Nickel	ND		20.0	19.0		mg/L		95	75 - 125
Selenium	0.16	J	20.0	19.9		mg/L		99	75 - 125
Silver	ND		10.0	9.85		mg/L		99	75 - 125
Thallium	ND		20.0	19.7		mg/L		98	75 - 125

Method: 6010B - Metals (ICP) (Continued)

Lab Sample ID: 440-107943-2 MS — **Client Sample ID: W041**
Matrix: Water — **Prep Type: STLC Citrate**
Analysis Batch: 251619

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Vanadium	ND		20.0	20.4		mg/L		102	75 - 125		
Zinc	ND		20.0	19.8		mg/L		99	75 - 125		

Lab Sample ID: 440-107943-2 MSD — **Client Sample ID: W041**
Matrix: Water — **Prep Type: STLC Citrate**
Analysis Batch: 251619

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Antimony	0.21		20.0	19.9		mg/L		99	75 - 125	1	20
Arsenic	ND		20.0	19.8		mg/L		99	75 - 125	1	20
Barium	0.15	J	20.0	19.6		mg/L		97	75 - 125	2	20
Beryllium	ND		20.0	19.8		mg/L		99	75 - 125	1	20
Cadmium	ND		20.0	19.3		mg/L		96	75 - 125	1	20
Chromium	ND		20.0	18.2		mg/L		91	75 - 125	1	20
Cobalt	ND		20.0	18.6		mg/L		93	75 - 125	1	20
Copper	ND		20.0	20.4		mg/L		102	75 - 125	2	20
Lead	ND		20.0	19.6		mg/L		98	75 - 125	2	20
Molybdenum	0.42		20.0	19.5		mg/L		96	75 - 125	0	20
Nickel	ND		20.0	18.8		mg/L		94	75 - 125	1	20
Selenium	0.16	J	20.0	19.5		mg/L		96	75 - 125	2	20
Silver	ND		10.0	9.68		mg/L		97	75 - 125	2	20
Thallium	ND		20.0	19.2		mg/L		96	75 - 125	3	20
Vanadium	ND		20.0	20.0		mg/L		100	75 - 125	2	20
Zinc	ND		20.0	19.5		mg/L		97	75 - 125	1	20

Lab Sample ID: MB 440-251465/1-A ^20 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: STLC Citrate**
Analysis Batch: 252123

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.20	0.12	mg/L			04/30/15 09:49	20
Arsenic	0.146	J	0.20	0.10	mg/L			04/30/15 09:49	20
Barium	ND		0.20	0.10	mg/L			04/30/15 09:49	20
Beryllium	ND		0.040	0.020	mg/L			04/30/15 09:49	20
Cadmium	ND		0.10	0.040	mg/L			04/30/15 09:49	20
Chromium	ND		0.10	0.050	mg/L			04/30/15 09:49	20
Cobalt	ND		0.20	0.050	mg/L			04/30/15 09:49	20
Copper	ND		0.20	0.10	mg/L			04/30/15 09:49	20
Lead	ND		0.10	0.050	mg/L			04/30/15 09:49	20
Molybdenum	ND		0.40	0.20	mg/L			04/30/15 09:49	20
Nickel	ND		0.20	0.10	mg/L			04/30/15 09:49	20
Selenium	0.147	J	0.20	0.12	mg/L			04/30/15 09:49	20
Silver	ND		0.20	0.10	mg/L			04/30/15 09:49	20
Thallium	ND		0.20	0.10	mg/L			04/30/15 09:49	20
Vanadium	ND		0.20	0.10	mg/L			04/30/15 09:49	20
Zinc	ND		0.40	0.20	mg/L			04/30/15 09:49	20

Method: 6010B - Metals (ICP) (Continued)

Lab Sample ID: LCS 440-251465/2-A ^20 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: STLC Citrate**
Analysis Batch: 252123

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	20.0	20.7		mg/L		104	80 - 120
Arsenic	20.0	21.8		mg/L		109	80 - 120
Barium	20.0	20.0		mg/L		100	80 - 120
Beryllium	20.0	19.7		mg/L		99	80 - 120
Cadmium	20.0	19.8		mg/L		99	80 - 120
Chromium	20.0	19.5		mg/L		98	80 - 120
Cobalt	20.0	18.7		mg/L		93	80 - 120
Copper	20.0	20.6		mg/L		103	80 - 120
Lead	20.0	19.8		mg/L		99	80 - 120
Molybdenum	20.0	20.0		mg/L		100	80 - 120
Nickel	20.0	19.1		mg/L		96	80 - 120
Selenium	20.0	20.0		mg/L		100	80 - 120
Silver	10.0	9.89		mg/L		99	80 - 120
Thallium	20.0	18.2		mg/L		91	80 - 120
Vanadium	20.0	20.5		mg/L		102	80 - 120
Zinc	20.0	20.0		mg/L		100	80 - 120

Lab Sample ID: 440-107782-A-1-D MS ^20 — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: STLC Citrate**
Analysis Batch: 252123

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	ND		20.0	22.2		mg/L		111	75 - 125
Arsenic	ND		20.0	24.5		mg/L		122	75 - 125
Barium	2.2		20.0	23.4		mg/L		106	75 - 125
Beryllium	ND		20.0	20.8		mg/L		104	75 - 125
Cadmium	ND		20.0	21.3		mg/L		106	75 - 125
Chromium	22		20.0	42.3		mg/L		103	75 - 125
Cobalt	0.68		20.0	21.8		mg/L		106	75 - 125
Copper	ND		20.0	21.4		mg/L		107	75 - 125
Lead	ND		20.0	21.3		mg/L		106	75 - 125
Molybdenum	2.2		20.0	23.3		mg/L		106	75 - 125
Nickel	3.9		20.0	25.6		mg/L		108	75 - 125
Selenium	0.21	B	20.0	21.9		mg/L		108	75 - 125
Silver	0.35		10.0	10.7		mg/L		103	75 - 125
Thallium	ND		20.0	19.1		mg/L		95	75 - 125
Vanadium	0.73		20.0	22.0		mg/L		107	75 - 125
Zinc	1.4		20.0	22.7		mg/L		106	75 - 125

Lab Sample ID: 440-107782-A-1-D MSD ^20 — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: STLC Citrate**
Analysis Batch: 252123

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Antimony	ND		20.0	21.9		mg/L		109	75 - 125	1	20
Arsenic	ND		20.0	24.3		mg/L		121	75 - 125	1	20
Barium	2.2		20.0	23.2		mg/L		105	75 - 125	1	20
Beryllium	ND		20.0	20.9		mg/L		105	75 - 125	0	20

Method: 6010B - Metals (ICP) (Continued)

Lab Sample ID: 440-107782-A-1-D MSD ^20 — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: STLC Citrate**
Analysis Batch: 252123

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cadmium	ND		20.0	21.4		mg/L		107	75 - 125	1	20
Chromium	22		20.0	41.9		mg/L		101	75 - 125	1	20
Cobalt	0.68		20.0	21.6		mg/L		105	75 - 125	1	20
Copper	ND		20.0	21.1		mg/L		106	75 - 125	1	20
Lead	ND		20.0	21.0		mg/L		105	75 - 125	2	20
Molybdenum	2.2		20.0	23.3		mg/L		106	75 - 125	0	20
Nickel	3.9		20.0	25.3		mg/L		107	75 - 125	1	20
Selenium	0.21	B	20.0	21.7		mg/L		107	75 - 125	1	20
Silver	0.35		10.0	10.5		mg/L		101	75 - 125	2	20
Thallium	ND		20.0	19.1		mg/L		95	75 - 125	0	20
Vanadium	0.73		20.0	21.8		mg/L		106	75 - 125	1	20
Zinc	1.4		20.0	22.5		mg/L		105	75 - 125	1	20

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 440-251384/1-F — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 251939 — **Prep Batch: 251617**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00010	mg/L		04/28/15 13:03	04/28/15 18:38	1

Lab Sample ID: LCS 440-251384/2-F — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 251939 — **Prep Batch: 251617**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00800	0.00861		mg/L		108	80 - 120

Lab Sample ID: 440-108004-L-3-E MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 251939 — **Prep Batch: 251617**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	ND		0.00800	0.00861		mg/L		108	70 - 130

Lab Sample ID: 440-108004-L-3-F MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 251939 — **Prep Batch: 251617**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	ND		0.00800	0.00873		mg/L		109	70 - 130	1	20

Lab Sample ID: MB 440-251482/1-B — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: STLC Citrate**
Analysis Batch: 251701 — **Prep Batch: 251591**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.0020	0.0010	mg/L		04/28/15 12:08	04/28/15 17:41	1

Method: 7470A - Mercury (CVAA) (Continued)

Lab Sample ID: LCS 440-251482/2-B — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: STLC Citrate**
Analysis Batch: 251701 — **Prep Batch: 251591**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.0800	0.0821		mg/L		103	80 - 120

Lab Sample ID: 440-107943-2 MS — **Client Sample ID: W041**
Matrix: Water — **Prep Type: STLC Citrate**
Analysis Batch: 251701 — **Prep Batch: 251591**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	ND		0.0800	0.0837		mg/L		105	70 - 130

Lab Sample ID: 440-107943-2 MSD — **Client Sample ID: W041**
Matrix: Water — **Prep Type: STLC Citrate**
Analysis Batch: 251701 — **Prep Batch: 251591**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	ND		0.0800	0.0821		mg/L		103	70 - 130	2	20

Lab Sample ID: MB 440-251465/1-B — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: STLC Citrate**
Analysis Batch: 252176 — **Prep Batch: 252032**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.0020	0.0010	mg/L		04/30/15 01:10	04/30/15 13:00	1

Lab Sample ID: LCS 440-251465/2-B — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: STLC Citrate**
Analysis Batch: 252176 — **Prep Batch: 252032**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.0800	0.0800		mg/L		100	80 - 120

Lab Sample ID: 440-107943-1 MS — **Client Sample ID: W040**
Matrix: Water — **Prep Type: STLC Citrate**
Analysis Batch: 252176 — **Prep Batch: 252032**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	ND		0.0800	0.0827		mg/L		103	70 - 130

Lab Sample ID: 440-107943-1 MSD — **Client Sample ID: W040**
Matrix: Water — **Prep Type: STLC Citrate**
Analysis Batch: 252176 — **Prep Batch: 252032**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	ND		0.0800	0.0840		mg/L		105	70 - 130	2	20

Method: SM 2320B - Alkalinity

Lab Sample ID: MB 440-251207/3 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 251207

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	ND		4.0	4.0	mg/L			04/25/15 13:33	1
Bicarbonate Alkalinity as CaCO3	ND		4.0	4.0	mg/L			04/25/15 13:33	1
Carbonate Alkalinity as CaCO3	ND		4.0	4.0	mg/L			04/25/15 13:33	1
Hydroxide Alkalinity as CaCO3	ND		4.0	4.0	mg/L			04/25/15 13:33	1

Lab Sample ID: LCS 440-251207/2 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 251207

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Alkalinity as CaCO3	85.4	101		mg/L		118	80 - 120

Lab Sample ID: 440-107966-A-1 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 251207

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Alkalinity as CaCO3	1300		1300		mg/L		0.1	20
Bicarbonate Alkalinity as CaCO3	1300		1300		mg/L		0.1	20
Carbonate Alkalinity as CaCO3	ND		ND		mg/L		NC	20
Hydroxide Alkalinity as CaCO3	ND		ND		mg/L		NC	20

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 440-251526/1 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 251526

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		10	5.0	mg/L			04/28/15 08:13	1

Lab Sample ID: LCS 440-251526/2 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 251526

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	1000	1010		mg/L		101	90 - 110

Lab Sample ID: 440-107966-A-1 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 251526

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	20000		20600		mg/L		1	5

QC Association Summary

Client: AMEC Foster Wheeler E & I, Inc
Project/Site: Chevron Kern River

TestAmerica Job ID: 440-107943-1
SDG: FR1416063A

GC/MS VOA

Analysis Batch: 251680

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-107882-A-1 MS	Matrix Spike	Total/NA	Water	8260B	
440-107882-A-1 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	
440-107943-1	W040	Total/NA	Water	8260B	
LCS 440-251680/5	Lab Control Sample	Total/NA	Water	8260B	
MB 440-251680/4	Method Blank	Total/NA	Water	8260B	

Analysis Batch: 251770

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-107818-B-16 MS	Matrix Spike	Total/NA	Water	8260B	
440-107818-B-16 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	
440-107943-2	W041	Total/NA	Water	8260B	
LCS 440-251770/6	Lab Control Sample	Total/NA	Water	8260B	
MB 440-251770/5	Method Blank	Total/NA	Water	8260B	

GC/MS Semi VOA

Prep Batch: 251224

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-107943-1	W040	Total/NA	Water	3520C	
440-107943-2	W041	Total/NA	Water	3520C	
LCS 440-251224/2-A	Lab Control Sample	Total/NA	Water	3520C	
LCSD 440-251224/3-A	Lab Control Sample Dup	Total/NA	Water	3520C	
MB 440-251224/1-A	Method Blank	Total/NA	Water	3520C	

Analysis Batch: 251421

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-107943-1	W040	Total/NA	Water	8270C SIM	251224
440-107943-2	W041	Total/NA	Water	8270C SIM	251224
LCS 440-251224/2-A	Lab Control Sample	Total/NA	Water	8270C SIM	251224
LCSD 440-251224/3-A	Lab Control Sample Dup	Total/NA	Water	8270C SIM	251224
MB 440-251224/1-A	Method Blank	Total/NA	Water	8270C SIM	251224

GC Semi VOA

Prep Batch: 251142

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-107943-1	W040	Total/NA	Water	3510C	
440-107943-2	W041	Total/NA	Water	3510C	
LCS 440-251142/2-A	Lab Control Sample	Total/NA	Water	3510C	
LCSD 440-251142/3-A	Lab Control Sample Dup	Total/NA	Water	3510C	
MB 440-251142/1-A	Method Blank	Total/NA	Water	3510C	

Analysis Batch: 251256

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 440-251142/1-A	Method Blank	Total/NA	Water	8015B	251142

Analysis Batch: 251257

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 440-251142/2-A	Lab Control Sample	Total/NA	Water	8015B	251142
LCSD 440-251142/3-A	Lab Control Sample Dup	Total/NA	Water	8015B	251142

GC Semi VOA (Continued)

Analysis Batch: 251259

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-107943-1	W040	Total/NA	Water	8015B	251142
440-107943-2	W041	Total/NA	Water	8015B	251142

HPLC/IC

Analysis Batch: 250903

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-107943-1	W040	Total/NA	Water	300.0	
440-107943-2	W041	Total/NA	Water	300.0	
440-107943-2 - DL	W041	Total/NA	Water	300.0	
440-107943-2 MS - DL	W041	Total/NA	Water	300.0	
440-107943-2 MSD - DL	W041	Total/NA	Water	300.0	
LCS 440-250903/2	Lab Control Sample	Total/NA	Water	300.0	
MB 440-250903/4	Method Blank	Total/NA	Water	300.0	

Analysis Batch: 250904

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-107943-1	W040	Total/NA	Water	300.0	
440-107943-2	W041	Total/NA	Water	300.0	
440-107943-2 - DL	W041	Total/NA	Water	300.0	
440-107943-2 MS - DL	W041	Total/NA	Water	300.0	
440-107943-2 MSD - DL	W041	Total/NA	Water	300.0	
LCS 440-250904/2	Lab Control Sample	Total/NA	Water	300.0	
MB 440-250904/4	Method Blank	Total/NA	Water	300.0	

Analysis Batch: 250973

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-107928-E-6 MS	Matrix Spike	Total/NA	Water	300.0	
440-107928-E-6 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	
440-107943-1	W040	Total/NA	Water	300.0	
440-107943-2	W041	Total/NA	Water	300.0	
LCS 440-250973/2	Lab Control Sample	Total/NA	Water	300.0	
MB 440-250973/4	Method Blank	Total/NA	Water	300.0	

Metals

Filtration Batch: 251384

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-107943-1	W040	Dissolved	Water	FILTRATION	
440-107943-2	W041	Dissolved	Water	FILTRATION	
440-107943-2 MS	W041	Dissolved	Water	FILTRATION	
440-107943-2 MSD	W041	Dissolved	Water	FILTRATION	
440-107943-D-1-C MS ^5	440-107943-D-1-C MS ^5	Dissolved	Water	FILTRATION	
440-107943-D-1-D MSD ^5	440-107943-D-1-D MSD ^5	Dissolved	Water	FILTRATION	
440-108001-L-1-C MS	Matrix Spike	Dissolved	Water	FILTRATION	
440-108001-L-1-D MSD	Matrix Spike Duplicate	Dissolved	Water	FILTRATION	
440-108004-L-3-E MS	Matrix Spike	Dissolved	Water	FILTRATION	
440-108004-L-3-F MSD	Matrix Spike Duplicate	Dissolved	Water	FILTRATION	
LCS 440-251384/2-B	Lab Control Sample	Dissolved	Water	FILTRATION	
LCS 440-251384/2-C	Lab Control Sample	Dissolved	Water	FILTRATION	

Metals (Continued)

Filtration Batch: 251384 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 440-251384/2-D	Lab Control Sample	Dissolved	Water	FILTRATION	
LCS 440-251384/2-F	Lab Control Sample	Dissolved	Water	FILTRATION	
LCSD 440-251384/3-B	Lab Control Sample Dup	Dissolved	Water	FILTRATION	
MB 440-251384/1-B	Method Blank	Dissolved	Water	FILTRATION	
MB 440-251384/1-C	Method Blank	Dissolved	Water	FILTRATION	
MB 440-251384/1-D	Method Blank	Dissolved	Water	FILTRATION	
MB 440-251384/1-F	Method Blank	Dissolved	Water	FILTRATION	

Leach Batch: 251465

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-107782-A-1-D MS ^20	Matrix Spike	STLC Citrate	Water	CA WET Citrate	
440-107782-A-1-D MSD ^20	Matrix Spike Duplicate	STLC Citrate	Water	CA WET Citrate	
440-107943-1	W040	STLC Citrate	Water	CA WET Citrate	
440-107943-1 MS	W040	STLC Citrate	Water	CA WET Citrate	
440-107943-1 MSD	W040	STLC Citrate	Water	CA WET Citrate	
LCS 440-251465/2-A ^20	Lab Control Sample	STLC Citrate	Water	CA WET Citrate	
LCS 440-251465/2-B	Lab Control Sample	STLC Citrate	Water	CA WET Citrate	
MB 440-251465/1-A ^20	Method Blank	STLC Citrate	Water	CA WET Citrate	
MB 440-251465/1-B	Method Blank	STLC Citrate	Water	CA WET Citrate	

Leach Batch: 251482

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-107943-2	W041	STLC Citrate	Water	CA WET Citrate	
440-107943-2 MS	W041	STLC Citrate	Water	CA WET Citrate	
440-107943-2 MSD	W041	STLC Citrate	Water	CA WET Citrate	
LCS 440-251482/2-A ^20	Lab Control Sample	STLC Citrate	Water	CA WET Citrate	
LCS 440-251482/2-B	Lab Control Sample	STLC Citrate	Water	CA WET Citrate	
MB 440-251482/1-A ^20	Method Blank	STLC Citrate	Water	CA WET Citrate	
MB 440-251482/1-B	Method Blank	STLC Citrate	Water	CA WET Citrate	

Prep Batch: 251540

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-107943-1	W040	Dissolved	Water	200.2	251384
440-107943-2	W041	Dissolved	Water	200.2	251384
440-107943-D-1-C MS ^5	440-107943-D-1-C MS ^5	Dissolved	Water	200.2	251384
440-107943-D-1-D MSD ^5	440-107943-D-1-D MSD ^5	Dissolved	Water	200.2	251384
LCS 440-251384/2-B	Lab Control Sample	Dissolved	Water	200.2	251384
MB 440-251384/1-B	Method Blank	Dissolved	Water	200.2	251384

Prep Batch: 251541

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-107943-1	W040	Dissolved	Water	200.2	251384
440-107943-2	W041	Dissolved	Water	200.2	251384
440-107943-2 MS	W041	Dissolved	Water	200.2	251384
440-107943-2 MSD	W041	Dissolved	Water	200.2	251384
LCS 440-251384/2-C	Lab Control Sample	Dissolved	Water	200.2	251384
LCSD 440-251384/3-B	Lab Control Sample Dup	Dissolved	Water	200.2	251384
MB 440-251384/1-C	Method Blank	Dissolved	Water	200.2	251384

Metals (Continued)

Prep Batch: 251542

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-107943-1	W040	Dissolved	Water	3005A	251384
440-107943-2	W041	Dissolved	Water	3005A	251384
440-108001-L-1-C MS	Matrix Spike	Dissolved	Water	3005A	251384
440-108001-L-1-D MSD	Matrix Spike Duplicate	Dissolved	Water	3005A	251384
LCS 440-251384/2-D	Lab Control Sample	Dissolved	Water	3005A	251384
MB 440-251384/1-D	Method Blank	Dissolved	Water	3005A	251384

Prep Batch: 251591

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-107943-2	W041	STLC Citrate	Water	7470A	251482
440-107943-2 MS	W041	STLC Citrate	Water	7470A	251482
440-107943-2 MSD	W041	STLC Citrate	Water	7470A	251482
LCS 440-251482/2-B	Lab Control Sample	STLC Citrate	Water	7470A	251482
MB 440-251482/1-B	Method Blank	STLC Citrate	Water	7470A	251482

Prep Batch: 251617

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-107943-1	W040	Dissolved	Water	7470A	251384
440-107943-2	W041	Dissolved	Water	7470A	251384
440-108004-L-3-E MS	Matrix Spike	Dissolved	Water	7470A	251384
440-108004-L-3-F MSD	Matrix Spike Duplicate	Dissolved	Water	7470A	251384
LCS 440-251384/2-F	Lab Control Sample	Dissolved	Water	7470A	251384
MB 440-251384/1-F	Method Blank	Dissolved	Water	7470A	251384

Analysis Batch: 251619

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-107943-2	W041	STLC Citrate	Water	6010B	251482
440-107943-2 MS	W041	STLC Citrate	Water	6010B	251482
440-107943-2 MSD	W041	STLC Citrate	Water	6010B	251482
LCS 440-251482/2-A ^20	Lab Control Sample	STLC Citrate	Water	6010B	251482
MB 440-251482/1-A ^20	Method Blank	STLC Citrate	Water	6010B	251482

Analysis Batch: 251701

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-107943-2	W041	STLC Citrate	Water	7470A	251591
440-107943-2 MS	W041	STLC Citrate	Water	7470A	251591
440-107943-2 MSD	W041	STLC Citrate	Water	7470A	251591
LCS 440-251482/2-B	Lab Control Sample	STLC Citrate	Water	7470A	251591
MB 440-251482/1-B	Method Blank	STLC Citrate	Water	7470A	251591

Analysis Batch: 251753

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 440-251384/2-C	Lab Control Sample	Dissolved	Water	200.8	251541
LCSD 440-251384/3-B	Lab Control Sample Dup	Dissolved	Water	200.8	251541
MB 440-251384/1-C	Method Blank	Dissolved	Water	200.8	251541

Analysis Batch: 251785

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-107943-1	W040	Dissolved	Water	200.8	251541
440-107943-2	W041	Dissolved	Water	200.8	251541
440-107943-2 MS	W041	Dissolved	Water	200.8	251541

Metals (Continued)

Analysis Batch: 251785 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-107943-2 MSD	W041	Dissolved	Water	200.8	251541

Analysis Batch: 251786

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-107943-2	W041	Dissolved	Water	200.7 Rev 4.4	251540
440-107943-D-1-C MS ^5	440-107943-D-1-C MS ^5	Dissolved	Water	200.7 Rev 4.4	251540
440-107943-D-1-D MSD ^5	440-107943-D-1-D MSD ^5	Dissolved	Water	200.7 Rev 4.4	251540
LCS 440-251384/2-B	Lab Control Sample	Dissolved	Water	200.7 Rev 4.4	251540
MB 440-251384/1-B	Method Blank	Dissolved	Water	200.7 Rev 4.4	251540

Analysis Batch: 251846

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-107943-1	W040	Dissolved	Water	200.7 Rev 4.4	251540

Analysis Batch: 251867

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-107943-1	W040	Dissolved	Water	6010B	251542
440-107943-2	W041	Dissolved	Water	6010B	251542
440-108001-L-1-C MS	Matrix Spike	Dissolved	Water	6010B	251542
440-108001-L-1-D MSD	Matrix Spike Duplicate	Dissolved	Water	6010B	251542
LCS 440-251384/2-D	Lab Control Sample	Dissolved	Water	6010B	251542
MB 440-251384/1-D	Method Blank	Dissolved	Water	6010B	251542

Analysis Batch: 251939

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-107943-1	W040	Dissolved	Water	7470A	251617
440-107943-2	W041	Dissolved	Water	7470A	251617
440-108004-L-3-E MS	Matrix Spike	Dissolved	Water	7470A	251617
440-108004-L-3-F MSD	Matrix Spike Duplicate	Dissolved	Water	7470A	251617
LCS 440-251384/2-F	Lab Control Sample	Dissolved	Water	7470A	251617
MB 440-251384/1-F	Method Blank	Dissolved	Water	7470A	251617

Prep Batch: 252032

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-107943-1	W040	STLC Citrate	Water	7470A	251465
440-107943-1 MS	W040	STLC Citrate	Water	7470A	251465
440-107943-1 MSD	W040	STLC Citrate	Water	7470A	251465
LCS 440-251465/2-B	Lab Control Sample	STLC Citrate	Water	7470A	251465
MB 440-251465/1-B	Method Blank	STLC Citrate	Water	7470A	251465

Analysis Batch: 252123

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-107782-A-1-D MS ^20	Matrix Spike	STLC Citrate	Water	6010B	251465
440-107782-A-1-D MSD ^20	Matrix Spike Duplicate	STLC Citrate	Water	6010B	251465
440-107943-1	W040	STLC Citrate	Water	6010B	251465
LCS 440-251465/2-A ^20	Lab Control Sample	STLC Citrate	Water	6010B	251465
MB 440-251465/1-A ^20	Method Blank	STLC Citrate	Water	6010B	251465

Analysis Batch: 252176

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-107943-1	W040	STLC Citrate	Water	7470A	252032

Metals (Continued)

Analysis Batch: 252176 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-107943-1 MS	W040	STLC Citrate	Water	7470A	252032
440-107943-1 MSD	W040	STLC Citrate	Water	7470A	252032
LCS 440-251465/2-B	Lab Control Sample	STLC Citrate	Water	7470A	252032
MB 440-251465/1-B	Method Blank	STLC Citrate	Water	7470A	252032

General Chemistry

Analysis Batch: 251207

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-107943-1	W040	Total/NA	Water	SM 2320B	
440-107943-2	W041	Total/NA	Water	SM 2320B	
440-107966-A-1 DU	Duplicate	Total/NA	Water	SM 2320B	
LCS 440-251207/2	Lab Control Sample	Total/NA	Water	SM 2320B	
MB 440-251207/3	Method Blank	Total/NA	Water	SM 2320B	

Analysis Batch: 251526

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-107943-1	W040	Total/NA	Water	SM 2540C	
440-107943-2	W041	Total/NA	Water	SM 2540C	
440-107966-A-1 DU	Duplicate	Total/NA	Water	SM 2540C	
LCS 440-251526/2	Lab Control Sample	Total/NA	Water	SM 2540C	
MB 440-251526/1	Method Blank	Total/NA	Water	SM 2540C	

Qualifiers

GC/MS Semi VOA

Qualifier	Qualifier Description
*	ISTD response or retention time outside acceptable limits
X	Surrogate is outside control limits
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC Semi VOA

Qualifier	Qualifier Description
X	Surrogate is outside control limits

HPLC/IC

Qualifier	Qualifier Description
F1	MS and/or MSD Recovery is outside acceptance limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Metals

Qualifier	Qualifier Description
HF	Field parameter with a holding time of 15 minutes. Test performed by laboratory at client's request.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Certification Summary

Client: AMEC Foster Wheeler E & I, Inc
Project/Site: Chevron Kern River

TestAmerica Job ID: 440-107943-1
SDG: FR1416063A

Laboratory: TestAmerica Irvine

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Alaska	State Program	10	CA01531	06-30-15
Arizona	State Program	9	AZ0671	10-13-15
California	LA Cty Sanitation Districts	9	10256	01-31-16 *
California	State Program	9	2706	06-30-16
Guam	State Program	9	Cert. No. 12.002r	01-23-16
Hawaii	State Program	9	N/A	01-29-16
Nevada	State Program	9	CA015312007A	07-31-15
New Mexico	State Program	6	N/A	01-29-15 *
Northern Mariana Islands	State Program	9	MP0002	01-29-15 *
Oregon	NELAP	10	4005	01-29-16
USDA	Federal		P330-09-00080	06-06-15

* Certification renewal pending - certification considered valid.

Mata, Patty

From: Ebenhack, Johnathan [johnathan.ebenhack@amecfw.com]
Sent: Friday, April 24, 2015 9:29 AM
To: Mata, Patty
Subject: RE: Please confirm dates on TestAmerica COC files from 440-107943-1 Chevron Kern River

Patty,
Yes those were the samples that I collected on 4/22 but was unable to ship them until 4/23. Thanks for giving me the heads up and for analyzing them as quickly as possible.

Cheers,

Johnathan

From: Mata, Patty [mailto:patty.mata@testamericainc.com]
Sent: Friday, April 24, 2015 9:26 AM
To: Loewen, Brad; Ebenhack, Johnathan
Subject: Please confirm dates on TestAmerica COC files from 440-107943-1 Chevron Kern River

Hello,

Please confirm sample date on the attached COC file for job 440-107943-1; Chevron Kern River. The bottle labels say 4/22/15 but the COC says 4/23/15. Are these the samples that were expiring today for Nitrate?? We assumed the bottle labels were correct and got them analyzed right away.

Please feel free to contact me if you have any questions.

Thank you.

Please let us know if we met your expectations by rating the service you received from TestAmerica on this project by visiting our website at: Project Feedback

PATTY MATA
Senior Project Manager

TestAmerica Irvine
THE LEADER IN ENVIRONMENTAL TESTING

Tel: 949.261,1022

Reference: [197541]
Attachments: 1

amec foster wheeler

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CHAIN-OF-CUSTODY RECORD

FRE 16813

PROJECT NAME: Chevron Kern River Sampling of Sumps #1 & #2		DATE: 4/23/15	PAGE OF
PROJECT NUMBER: FR141603A	LABORATORY NAME: Test America	CLIENT INFORMATION:	REPORTING REQUIREMENTS:
RESULTS TO: Gary Kramer	LABORATORY ADDRESS: 17461 Derian Ave Suite 100		
TURNAROUND TIME: 5-day	Irvine CA 92614		
SAMPLE SHIPMENT METHOD: Fedex	LABORATORY CONTACT: Patty Mata		GEOTRACKER REQUIRED EDF (YES) NO
	LABORATORY PHONE NUMBER: 949-261-1022		SITE SPECIFIC GLOBAL ID NO.

SAMPLERS (SIGNATURE):

ANALYSES

DATE	TIME	SAMPLE NUMBER	8260B Acetone BTEX	8270C PAH	8015B	300 Cl, SO4, Br, F	300 NO3	2540C TDS	9320B AHK		200.7, 200.8	6010B, 7470A		6010B STLC metals				CONTAINER TYPE AND SIZE	Soil (S), Water (W), Vapor (V), or Other (O)	Filtered	Preservative Type	Cooled	MS/MSD	No. of Containers	ADDITIONAL COMMENTS
4/23/15		W040	3	2	1		1				1			1					W	N		Y		9	200.7 and 200.8
4/23/15		W041	3	2	1		1				1			1					W	N		Y		9	need to be filtered

440-107943 Chain of Custody

RELINQUISHED BY:	DATE	TIME	RECEIVED BY:	DATE	TIME
SIGNATURE:	4/23/15	8:50	SIGNATURE:		
PRINTED NAME: Johnathan Ebaker			PRINTED NAME:		
COMPANY: Amec FW			COMPANY:		
SIGNATURE:	4/23/15	8:50	SIGNATURE:		
PRINTED NAME: [illegible] (9267)			PRINTED NAME:		
COMPANY: FED EX			COMPANY:		
SIGNATURE:			SIGNATURE:	4/24/15	0715
PRINTED NAME:			PRINTED NAME: R FREITAG		
COMPANY:			COMPANY: TAI		

TOTAL NUMBER OF CONTAINERS:

SAMPLING COMMENTS: Send results to gary.kramer@amec.com
NO3 has 48hr hold - samples were taken 4/22/15 8:55 but could not be shipped till 4/23/15, will arrive @ lab @ 8:00 or earlier and need to be analyzed as quickly as possible

1281 East Alluvial Ave., Suite 101
Fresno, California 93720-2659
Tel 559.264.2535 Fax 559.264.7431

amec

806258392878

1.2/0.8 IR-75

Login Sample Receipt Checklist

Client: AMEC Foster Wheeler E & I, Inc

Job Number: 440-107943-1
SDG Number: FR1416063A

Login Number: 107943
List Number: 1
Creator: Freitag, Kevin R

List Source: TestAmerica Irvine

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	False	No time on COC, logged in per container labels.
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Irvine
17461 Derian Ave
Suite 100
Irvine, CA 92614-5817
Tel: (949)261-1022

TestAmerica Job ID: 440-107943-2
TestAmerica Sample Delivery Group: FR1416063A
Client Project/Site: Chevron Kern River

For:
AMEC Foster Wheeler E & I, Inc
1281 E Alluvial Ave, Ste 101
Fresno, California 93720

Attn: Gary Kramer

Authorized for release by:
5/12/2015 4:15:15 PM

Patty Mata, Senior Project Manager
(949)261-1022
patty.mata@testamericainc.com

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at: www.testamericainc.com

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Sample Summary

Client: AMEC Foster Wheeler E & I, Inc
Project/Site: Chevron Kern River

TestAmerica Job ID: 440-107943-2
SDG: FR1416063A

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
440-107943-1	W040	Water	04/22/15 08:55	04/24/15 07:15
440-107943-2	W041	Water	04/22/15 09:30	04/24/15 07:15

Job ID: 440-107943-2

Laboratory: TestAmerica Irvine

Narrative

Job Narrative
440-107943-2

Comments
No additional comments.

Receipt
The samples were received on 4/24/2015 7:15 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 0.8º C and 1.9º C.

Except:
The following samples were received at the laboratory without a sample collection time documented on the chain of custody: W040 (440-107943-1) and W041 (440-107943-2). The samples were logged in based on the sample labels.

RAD
Method(s) 9310: Gross Alpha-Beta, Total Dissolution prep batch # 189178:
The gross alpha and beta detection goal was not met for the following samples due to the presence of matrix interferences from high residual mass due to dissolved/suspended solids: W040 (440-107943-1), W041 (440-107943-2), (440-106783-P-1-A) and (440-106783-P-1-D DU). Analytical results are reported with the detection limit achieved.

Method(s) PrecSep_0: radium-228 batch 188975 and radium-226 batch #188974:
A deviation from the Standard Operating Procedure (SOP) occurred. The following samples were very oily, dark waters: W040 (440-107943-1) and W041 (440-107943-2). Per the direction of the technical director, a 500 mL aliquot was taken to dryness, muffled, and digested with acid. The sample were then precipitated and standard procedure was resumed. A LCS/LCSD was performed.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

General Chemistry
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Client Sample Results

Client: AMEC Foster Wheeler E & I, Inc
Project/Site: Chevron Kern River

TestAmerica Job ID: 440-107943-2
SDG: FR1416063A

Client Sample ID: W040

Lab Sample ID: 440-107943-1
Date Collected: 04/22/15 08:55
Matrix: Water
Date Received: 04/24/15 07:15

Method: 9310 - Gross Alpha / Beta (GFPC) - Dissolved

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	MDC	Unit	Prepared	Analyzed	Dil Fac
Gross Alpha	**33.0**	**G**	21.5	21.8	32.2	pCi/L	05/04/15 10:37	05/04/15 19:53	1
Gross Beta	**46.1**	**G**	7.95	9.19	7.69	pCi/L	05/04/15 10:37	05/04/15 19:53	1

Method: 9315 - Radium-226 (GFPC) - Dissolved

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	**3.06**		0.429	0.510	0.255	pCi/L	05/01/15 11:37	05/07/15 16:25	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*95.3*		*40 - 110*	*05/01/15 11:37*	*05/07/15 16:25*	*1*

Method: 9320 - Radium-228 (GFPC) - Dissolved

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	**1.27**		0.496	0.510	0.689	pCi/L	05/01/15 11:47	05/07/15 11:09	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*95.3*		*40 - 110*	*05/01/15 11:47*	*05/07/15 11:09*	*1*
Y Carrier	*87.5*		*40 - 110*	*05/01/15 11:47*	*05/07/15 11:09*	*1*

Client Sample ID: W041

Lab Sample ID: 440-107943-2
Date Collected: 04/22/15 09:30
Matrix: Water
Date Received: 04/24/15 07:15

Method: 9310 - Gross Alpha / Beta (GFPC) - Dissolved

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	MDC	Unit	Prepared	Analyzed	Dil Fac
Gross Alpha	7.57	U G	8.18	8.22	13.3	pCi/L	05/04/15 10:37	05/04/15 19:54	1
Gross Beta	**44.7**	**G**	5.49	7.08	4.63	pCi/L	05/04/15 10:37	05/04/15 19:54	1

Method: 9315 - Radium-226 (GFPC) - Dissolved

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	**0.797**		0.275	0.284	0.331	pCi/L	05/01/15 11:37	05/07/15 16:25	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*94.4*		*40 - 110*	*05/01/15 11:37*	*05/07/15 16:25*	*1*

Method: 9320 - Radium-228 (GFPC) - Dissolved

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.331	U	0.384	0.386	0.633	pCi/L	05/01/15 11:47	05/07/15 11:09	1

Client Sample Results

Client: AMEC Foster Wheeler E & I, Inc
Project/Site: Chevron Kern River

TestAmerica Job ID: 440-107943-2
SDG: FR1416063A

Client Sample ID: W041

Date Collected: 04/22/15 09:30
Date Received: 04/24/15 07:15

Lab Sample ID: 440-107943-2

Matrix: Water

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	94.4		40 - 110	05/01/15 11:47	05/07/15 11:09	1
Y Carrier	88.6		40 - 110	05/01/15 11:47	05/07/15 11:09	1

Method Summary

Client: AMEC Foster Wheeler E & I, Inc
Project/Site: Chevron Kern River

TestAmerica Job ID: 440-107943-2
SDG: FR1416063A

Method	Method Description	Protocol	Laboratory
9310	Gross Alpha / Beta (GFPC)	SW846	TAL SL
9315	Radium-226 (GFPC)	SW846	TAL SL
9320	Radium-228 (GFPC)	SW846	TAL SL

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL SL = TestAmerica St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Lab Chronicle

Client: AMEC Foster Wheeler E & I, Inc
Project/Site: Chevron Kern River

TestAmerica Job ID: 440-107943-2
SDG: FR1416063A

Client Sample ID: W040

Lab Sample ID: 440-107943-1

Date Collected: 04/22/15 08:55
Matrix: Water
Date Received: 04/24/15 07:15

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Filtration	Filtration			1 gal	1 gal	188579	04/29/15 10:55	JWM	TAL SL
Dissolved	Prep	Evaporation			23 mL	1.0 g	189178	05/04/15 10:37	MJS	TAL SL
Dissolved	Analysis	9310		1	23 mL		189179	05/04/15 19:53	RTM	TAL SL
Dissolved	Filtration	Filtration			1 gal	1 gal	188579	04/29/15 10:55	JWM	TAL SL
Dissolved	Prep	PrecSep_0			500.54 mL	1.0 g	188974	05/01/15 11:37	LEM	TAL SL
Dissolved	Analysis	9315		1	500.54 mL		189891	05/07/15 16:25	SMP	TAL SL
Dissolved	Filtration	Filtration			1 gal	1 gal	188579	04/29/15 10:55	JWM	TAL SL
Dissolved	Prep	PrecSep_0			500.54 mL	1.0 g	188975	05/01/15 11:47	LEM	TAL SL
Dissolved	Analysis	9320		1	500.54 mL		189893	05/07/15 11:09	SMP	TAL SL

Client Sample ID: W041

Lab Sample ID: 440-107943-2

Date Collected: 04/22/15 09:30
Matrix: Water
Date Received: 04/24/15 07:15

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Filtration	Filtration			1 gal	1 gal	188579	04/29/15 10:55	JWM	TAL SL
Dissolved	Prep	Evaporation			41 mL	1.0 g	189178	05/04/15 10:37	MJS	TAL SL
Dissolved	Analysis	9310		1	41 mL		189221	05/04/15 19:54	RTM	TAL SL
Dissolved	Filtration	Filtration			1 gal	1 gal	188579	04/29/15 10:55	JWM	TAL SL
Dissolved	Prep	PrecSep_0			500.01 mL	1.0 g	188974	05/01/15 11:37	LEM	TAL SL
Dissolved	Analysis	9315		1	500.01 mL		189891	05/07/15 16:25	SMP	TAL SL
Dissolved	Filtration	Filtration			1 gal	1 gal	188579	04/29/15 10:55	JWM	TAL SL
Dissolved	Prep	PrecSep_0			500.01 mL	1.0 g	188975	05/01/15 11:47	LEM	TAL SL
Dissolved	Analysis	9320		1	500.01 mL		189893	05/07/15 11:09	SMP	TAL SL

Laboratory References:

TAL SL = TestAmerica St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

QC Sample Results

Client: AMEC Foster Wheeler E & I, Inc
Project/Site: Chevron Kern River

TestAmerica Job ID: 440-107943-2
SDG: FR1416063A

Method: 9310 - Gross Alpha / Beta (GFPC)

Lab Sample ID: MB 160-189178/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 189179 — **Prep Batch: 189178**

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	MDC	Unit	Prepared	Analyzed	Dil Fac
Gross Alpha	-0.1342	U	0.710	0.710	1.41	pCi/L	05/04/15 10:37	05/04/15 19:52	1
Gross Beta	0.2223	U	0.492	0.492	0.849	pCi/L	05/04/15 10:37	05/04/15 19:52	1

Lab Sample ID: LCS 160-189178/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 189179 — **Prep Batch: 189178**

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	MDC	Unit	%Rec	%Rec. Limits
Gross Alpha	50.0	53.37		8.25	3.20	pCi/L	107	73 - 133

Lab Sample ID: LCSB 160-189178/3-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 189179 — **Prep Batch: 189178**

Analyte	Spike Added	LCSB Result	LCSB Qual	Total Uncert. (2σ+/-)	MDC	Unit	%Rec	%Rec. Limits
Gross Beta	95.1	93.72		9.90	0.908	pCi/L	99	75 - 125

Lab Sample ID: 440-106783-P-1-B MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 189179 — **Prep Batch: 189178**

Analyte	Sample Result	Sample Qual	Spike Added	MS Result	MS Qual	Total Uncert. (2σ+/-)	MDC	Unit	%Rec	%Rec. Limits
Gross Alpha	-17.5	U G	2000	2329		363	143	pCi/L	116	35 - 150

Lab Sample ID: 440-106783-P-1-C MSBT — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 189179 — **Prep Batch: 189178**

Analyte	Sample Result	Sample Qual	Spike Added	MSBT Result	MSBT Qual	Total Uncert. (2σ+/-)	MDC	Unit	%Rec	%Rec. Limits
Gross Beta	53.6	G	3810	3922	G	414	39.5	pCi/L	102	89 - 143

Lab Sample ID: 440-106783-P-1-D DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 189179 — **Prep Batch: 189178**

Analyte	Sample Result	Sample Qual	DU Result	DU Qual	Total Uncert. (2σ+/-)	MDC	Unit	RER	RER Limit
Gross Alpha	-17.5	U G	-31.09	U G	78.8	157	pCi/L	0.09	1
Gross Beta	53.6	G	14.83	U G	22.7	38.6	pCi/L	0.82	1

Method: 9315 - Radium-226 (GFPC)

Lab Sample ID: MB 160-188974/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 189891 — **Prep Batch: 188974**

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.07055	U	0.165	0.166	0.299	pCi/L	05/01/15 11:37	05/07/15 16:24	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*69.3*		*40 - 110*	*05/01/15 11:37*	*05/07/15 16:24*	*1*

Lab Sample ID: LCS 160-188974/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 189891 — **Prep Batch: 188974**

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	MDC	Unit	%Rec	%Rec. Limits
Radium-226	22.3	29.87		3.00	0.273	pCi/L	134	68 - 137

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*87.6*		*40 - 110*

Lab Sample ID: LCSD 160-188974/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 189982 — **Prep Batch: 188974**

Analyte	Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-226	22.3	29.24		2.86	0.169	pCi/L	131	68 - 137	0.11	1

Carrier	*LCSD %Yield*	*LCSD Qualifier*	*Limits*
Ba Carrier	*110*		*40 - 110*

Method: 9320 - Radium-228 (GFPC)

Lab Sample ID: MB 160-188975/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 189893 — **Prep Batch: 188975**

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.2912	U	0.526	0.526	0.894	pCi/L	05/01/15 11:47	05/07/15 11:08	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*69.3*		*40 - 110*	*05/01/15 11:47*	*05/07/15 11:08*	*1*
Y Carrier	*91.2*		*40 - 110*	*05/01/15 11:47*	*05/07/15 11:08*	*1*

Method: 9320 - Radium-228 (GFPC) (Continued)

Lab Sample ID: LCS 160-188975/2-A
Matrix: Water
Analysis Batch: 189893

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 188975

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)		MDC	Unit	%Rec	%Rec. Limits		
Radium-228			6.86	9.084		1.29		0.782	pCi/L	132	56 - 140		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*87.6*		*40 - 110*
Y Carrier	*88.2*		*40 - 110*

Lab Sample ID: LCSD 160-188975/3-A
Matrix: Water
Analysis Batch: 189893

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 188975

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)		MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-228			6.86	9.581		1.24		0.636	pCi/L	140	56 - 140	0.20	1

Carrier	*LCSD %Yield*	*LCSD Qualifier*	*Limits*
Ba Carrier	*110*		*40 - 110*
Y Carrier	*91.2*		*40 - 110*

QC Association Summary

Client: AMEC Foster Wheeler E & I, Inc
Project/Site: Chevron Kern River

TestAmerica Job ID: 440-107943-2
SDG: FR1416063A

Rad

Filtration Batch: 188579

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-107943-1	W040	Dissolved	Water	Filtration	
440-107943-2	W041	Dissolved	Water	Filtration	

Prep Batch: 188974

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-107943-1	W040	Dissolved	Water	PrecSep_0	188579
440-107943-2	W041	Dissolved	Water	PrecSep_0	188579
LCS 160-188974/2-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
LCSD 160-188974/3-A	Lab Control Sample Dup	Total/NA	Water	PrecSep_0	
MB 160-188974/1-A	Method Blank	Total/NA	Water	PrecSep_0	

Prep Batch: 188975

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-107943-1	W040	Dissolved	Water	PrecSep_0	188579
440-107943-2	W041	Dissolved	Water	PrecSep_0	188579
LCS 160-188975/2-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
LCSD 160-188975/3-A	Lab Control Sample Dup	Total/NA	Water	PrecSep_0	
MB 160-188975/1-A	Method Blank	Total/NA	Water	PrecSep_0	

Prep Batch: 189178

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-106783-P-1-B MS	Matrix Spike	Total/NA	Water	Evaporation	
440-106783-P-1-C MSBT	Matrix Spike	Total/NA	Water	Evaporation	
440-106783-P-1-D DU	Duplicate	Total/NA	Water	Evaporation	
440-107943-1	W040	Dissolved	Water	Evaporation	188579
440-107943-2	W041	Dissolved	Water	Evaporation	188579
LCS 160-189178/2-A	Lab Control Sample	Total/NA	Water	Evaporation	
LCSB 160-189178/3-A	Lab Control Sample	Total/NA	Water	Evaporation	
MB 160-189178/1-A	Method Blank	Total/NA	Water	Evaporation	

Definitions/Glossary

Client: AMEC Foster Wheeler E & I, Inc
Project/Site: Chevron Kern River

TestAmerica Job ID: 440-107943-2
SDG: FR1416063A

Qualifiers

Rad

Qualifier	Qualifier Description
G	The Sample MDC is greater than the requested RL.
U	Result is less than the sample detection limit.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Certification Summary

Client: AMEC Foster Wheeler E & I, Inc
Project/Site: Chevron Kern River

TestAmerica Job ID: 440-107943-2
SDG: FR1416063A

Laboratory: TestAmerica Irvine

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Alaska	State Program	10	CA01531	06-30-15
Arizona	State Program	9	AZ0671	10-13-15
California	LA Cty Sanitation Districts	9	10256	01-31-16 *
California	State Program	9	2706	06-30-16
Guam	State Program	9	Cert. No. 12.002r	01-23-16
Hawaii	State Program	9	N/A	01-29-16
Nevada	State Program	9	CA015312007A	07-31-15
New Mexico	State Program	6	N/A	01-29-15 *
Northern Mariana Islands	State Program	9	MP0002	01-29-15 *
Oregon	NELAP	10	4005	01-29-16
USDA	Federal		P330-09-00080	06-06-15

Laboratory: TestAmerica St. Louis

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Alaska	State Program	10	MO00054	06-30-15
California	NELAP	9	2886	03-31-16
Connecticut	State Program	1	PH-0241	03-31-17
Florida	NELAP	4	E87689	06-30-15
Illinois	NELAP	5	200023	11-30-15
Iowa	State Program	7	373	12-01-16
Kansas	NELAP	7	E-10236	04-30-15 *
Kentucky (DW)	State Program	4	90125	12-31-15
L-A-B	DoD ELAP		L2305	01-10-16
Louisiana	NELAP	6	04080	06-30-15
Louisiana (DW)	NELAP	6	LA150017	12-31-16
Maryland	State Program	3	310	09-30-15
Missouri	State Program	7	780	06-30-15
Nevada	State Program	9	MO000542013-1	07-31-15
New Jersey	NELAP	2	MO002	06-30-15
New Mexico	State Program	6		06-30-10 *
New York	NELAP	2	11616	03-31-16
North Dakota	State Program	8	R207	06-30-15
NRC	NRC		24-24817-01	12-31-22
Oklahoma	State Program	6	9997	08-31-15
Pennsylvania	NELAP	3	68-00540	02-28-16
South Carolina	State Program	4	85002001	06-30-15
Texas	NELAP	6	T104704193-13-6	07-31-15
USDA	Federal		P330-07-00122	01-09-17
Utah	NELAP	8	MO000542013-5	07-31-15
Virginia	NELAP	3	460230	06-14-15
Washington	State Program	10	C592	08-30-15
West Virginia DEP	State Program	3	381	08-31-15

* Certification renewal pending - certification considered valid.

Mata, Patty

From: Ebenhack, Johnathan [johnathan.ebenhack@amecfw.com]
Sent: Friday, April 24, 2015 9:29 AM
To: Mata, Patty
Subject: RE: Please confirm dates on TestAmerica COC files from 440-107943-1 Chevron Kern River

Patty,
Yes those were the samples that I collected on 4/22 but was unable to ship them until 4/23. Thanks for giving me the heads up and for analyzing them as quickly as possible.

Cheers,

Johnathan

From: Mata, Patty [mailto:patty.mata@testamericainc.com]
Sent: Friday, April 24, 2015 9:26 AM
To: Loewen, Brad; Ebenhack, Johnathan
Subject: Please confirm dates on TestAmerica COC files from 440-107943-1 Chevron Kern River

Hello,

Please confirm sample date on the attached COC file for job 440-107943-1; Chevron Kern River. The bottle labels say 4/22/15 but the COC says 4/23/15. Are these the samples that were expiring today for Nitrate?? We assumed the bottle labels were correct and got them analyzed right away.

Please feel free to contact me if you have any questions.

Thank you.

Please let us know if we met your expectations by rating the service you received from TestAmerica on this project by visiting our website at: Project Feedback

PATTY MATA
Senior Project Manager

TestAmerica Irvine
THE LEADER IN ENVIRONMENTAL TESTING

Tel: 949.261,1022

Reference: [197541]
Attachments: 1

amec foster wheeler

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CHAIN-OF-CUSTODY RECORD

FRE 16814

PROJECT NAME: Chevron Kern River Sampling Sumps 1 & 2		DATE: 4/23/15	PAGE OF
PROJECT NUMBER: FR141606 3A	LABORATORY NAME: Test America	CLIENT INFORMATION:	REPORTING REQUIREMENTS:
RESULTS TO: gary Kramer	LABORATORY ADDRESS: 13215 River trail N. Earth City MO 63045		
TURNAROUND TIME: 5-day			
SAMPLE SHIPMENT METHOD: Fedex	LABORATORY CONTACT: Patty Maple		GEOTRACKER REQUIRED EDF YES NO
	LABORATORY PHONE NUMBER: 314-261-1022		SITE SPECIFIC GLOBAL ID NO.

SAMPLERS (SIGNATURE):

ANALYSES

DATE	TIME	SAMPLE NUMBER	9315 Ra 226	9320 Ra 228	9310 Alpha + Beta	CONTAINER TYPE AND SIZE	Soil (S), Water (W), Vapor (V), or Other (O)	Filtered	Preservative Type	Cooled	MS/MSD	No. of Containers	ADDITIONAL COMMENTS
4/23/15		W040	1				W	N		Y		1	
4/23/15		W041	1				W	N		Y		1	

RELINQUISHED BY:	DATE	TIME	RECEIVED BY:	DATE	TIME
SIGNATURE:	4/23/15	8:50	SIGNATURE:	4/24/15	0920
PRINTED NAME: Johnitha Eberhock			PRINTED NAME: Brian Hanlis		
COMPANY: Amec Fw			COMPANY: TA		
SIGNATURE:			SIGNATURE:		
PRINTED NAME: Hazel Pagal			PRINTED NAME:		
COMPANY: RO KC.			COMPANY:		
SIGNATURE:			SIGNATURE:		
PRINTED NAME:			PRINTED NAME:		
COMPANY:			COMPANY:		

TOTAL NUMBER OF CONTAINERS:

SAMPLING COMMENTS: Send results to gary.Kramer@amec.com

1281 East Alluvial Ave., Suite 101
Fresno, California 93720-2659
Tel 559.264.2535 Fax 559.264.7431

amec

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Lot #(s): _____

CUR Form #: 1 1 1

CONDITION UPON RECEIPT FORM

Client: TA Irvine

Quote No:

COC/RFA No: FRE 16814, FRE 16587

Initiated By: bm Date: 4/24/15 Time: 0920

Shipping Information

Shipper: (FedEx) UPS DHL Courier Client Other: _____ Multiple Packages: (Y) N

Shipping # (s):*

1. 8042 5838 2385
2. 8042 5838 2889
3.
4.
5.
6.
7.
8.
9.
10.

Sample Temperature (s):**

1. 2.2 -0.3
2. 2.4 -0.3
3.
4.
5.
6.
7.
8.
9.
10.

*Numbered shipping lines correspond to Numbered Sample Temp lines

**Sample must be received at 4°C ± 2°C- If not, note contents below. Temperature variance does NOT affect the following: Metals-Liquid; Rad tests- Liquid or Solids; Perchlorate

Condition (Circle "Y" for yes, "N" for no and "N/A" for not applicable):

1.	Y (N)	Are there custody seals present on the cooler?	8.	Y (N)	Are there custody seals present on bottles?
2.	Y N (N/A)	Do custody seals on cooler appear to be tampered with?	9.	Y N (N/A)	Do custody seals on bottles appear to be tampered with?
3.	(Y) N	Were contents of cooler frisked after opening, but before unpacking?	10.	Y N (N/A)	Was sample received with proper pH[1]? (If not, make note below)
4.	(Y) N	Sample received with Chain of Custody?	11.	Y N (N/A)	Containers for C-14, H-3 & I-129/131 marked with "Do Not Preserve" label?
5.	(Y) N N/A	Does the Chain of Custody match sample ID's on the container(s)?	12.	(Y) N	Sample received in proper containers?
6.	Y (N)	Was sample received broken?	13.	Y N (N/A)	Headspace in VOA or TOX liquid samples? (If Yes, note sample ID's below)
7.	(Y) N	Is sample volume sufficient for analysis?	14.	Y N (N/A)	Was Internal COC/Workshare received?

[1] For DOE-AL (Pantex, LANL, Sandia) sites, pH of ALL containers received must be verified, EXCEPT VOA, TOX, Oil & Grease and soils.

Notes:

Corrective Action:

☐ Client Contact Name: _____ Informed by: _____

☐ Sample(s) processed "as is"

☐ Sample(s) on hold until: _____ If released, notify: _____

Project Management Review: _____ Date: _____

THIS FORM MUST BE COMPLETED AT THE TIME THE ITEMS ARE BEING CHECKED IN. IF ANY ITEM IS COMPLETED BY SOMEONE OTHER THAN THE INITIATOR, THEN THAT PERSON IS REQUIRED TO APPLY THEIR INITIAL AND THE DATE NEXT TO THAT ITEM.

ADMIN-0004 rev13, REVISED 05/27/11 \\Slsvr01\QA\FORMS\ST-LOUIS\ADMIN\Admin-0004 CUR.doc

Login Sample Receipt Checklist

Client: AMEC Foster Wheeler E & I, Inc

Job Number: 440-107943-2
SDG Number: FR1416063A

Login Number: 107943
List Number: 1
Creator: Freitag, Kevin R

List Source: TestAmerica Irvine

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	False	No time on COC, logged in per container labels.
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: AMEC Foster Wheeler E & I, Inc

Job Number: 440-107943-2
SDG Number: FR1416063A

Login Number: 107943
List Number: 2
Creator: Clarke, Jill C

List Source: TestAmerica St. Louis
List Creation: 04/28/15 04:38 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	1.9, 2.3
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	Lab to filter & preserve
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Tracer/Carrier Summary

Client: AMEC Foster Wheeler E & I, Inc
Project/Site: Chevron Kern River

TestAmerica Job ID: 440-107943-2
SDG: FR1416063A

Method: 9315 - Radium-226 (GFPC)

Matrix: Water **Prep Type: Total/NA**

Lab Sample ID	Client Sample ID	Ba (40-110)
LCS 160-188974/2-A	Lab Control Sample	87.6
LCSD 160-188974/3-A	Lab Control Sample Dup	110
MB 160-188974/1-A	Method Blank	69.3

Percent Yield (Acceptance Limits)

Tracer/Carrier Legend

Ba = Ba Carrier

Method: 9315 - Radium-226 (GFPC)

Matrix: Water **Prep Type: Dissolved**

Lab Sample ID	Client Sample ID	Ba (40-110)
440-107943-1	W040	95.3
440-107943-2	W041	94.4

Percent Yield (Acceptance Limits)

Tracer/Carrier Legend

Ba = Ba Carrier

Method: 9320 - Radium-228 (GFPC)

Matrix: Water **Prep Type: Total/NA**

Lab Sample ID	Client Sample ID	Ba (40-110)	Y (40-110)
LCS 160-188975/2-A	Lab Control Sample	87.6	88.2
LCSD 160-188975/3-A	Lab Control Sample Dup	110	91.2
MB 160-188975/1-A	Method Blank	69.3	91.2

Percent Yield (Acceptance Limits)

Tracer/Carrier Legend

Ba = Ba Carrier
Y = Y Carrier

Method: 9320 - Radium-228 (GFPC)

Matrix: Water **Prep Type: Dissolved**

Lab Sample ID	Client Sample ID	Ba (40-110)	Y (40-110)
440-107943-1	W040	95.3	87.5
440-107943-2	W041	94.4	88.6

Percent Yield (Acceptance Limits)

Tracer/Carrier Legend

Ba = Ba Carrier
Y = Y Carrier

TestAmerica

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ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Irvine
17461 Derian Ave
Suite 100
Irvine, CA 92614-5817
Tel: (949)261-1022

TestAmerica Job ID: 440-107993-1
TestAmerica Sample Delivery Group: FR1416063A
Client Project/Site: Chevron Kern River

For:
AMEC Foster Wheeler E & I, Inc
1281 E Alluvial Ave, Ste 101
Fresno, California 93720

Attn: Gary Kramer

Authorized for release by:
5/6/2015 9:35:04 PM

Patty Mata, Senior Project Manager
(949)261-1022
patty.mata@testamericainc.com

LINKS

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This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Sample Summary

Client: AMEC Foster Wheeler E & I, Inc
Project/Site: Chevron Kern River

TestAmerica Job ID: 440-107993-1
SDG: FR1416063A

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
440-107993-1	W046	Water	04/23/15 14:55	04/24/15 09:45
440-107993-2	W047	Water	04/23/15 14:55	04/24/15 09:45
440-107993-3	W048	Water	04/23/15 14:55	04/24/15 09:45
440-107993-4	W049	Water	04/23/15 14:55	04/24/15 09:45

Job ID: 440-107993-1

Laboratory: TestAmerica Irvine

Narrative

Job Narrative
440-107993-1

Comments
No additional comments.

Receipt
The samples were received on 4/24/2015 9:45 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 2.1º C and 2.3º C.

Except:
Trip blank was submitted with these samples; however, it was not listed on the Chain of Custody (COC).

The sample time on container label for the following samples did not match the information listed on the Chain-of-Custody (COC): W046 (440-107993-1), W047 (440-107993-2), W048 (440-107993-3) and W049 (440-107993-4). The container labels for sample#1 list 10:42, while the COC lists 14:55, container labels for sample#2 list 11:18, while the COC lists 14:55, container labels for sample#3 list 12:25, while the COC lists 14:55,container labels for sample#4 list 12:40, while the COC lists 14:55.

GC/MS VOA
Method(s) 8260B: Internal standard (1,4-Dichlorobenzene-d4) response was below the lower acceptance limits for the following sample: W047 (440-107993-2). The sample shows evidence of matrix interference.

Method(s) 8260B: Surrogate (4-Bromofluorobenzene) recoveries for the following samples were above the upper control limits: W047 (440-107993-2) and W049 (440-107993-4). Evidence of matrix interference due to non-target analytes is present; therefore, re-analysis was not performed.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC/MS Semi VOA
Method(s) 8270C SIM: The internal standard response was below the 50% minimum QC limit for the following samples: W046 (440-107993-1) and W049 (440-107993-4) . The chromatography showed some matrix interference that could have adversely affected the recovery of the affected internal standard. All affected target analytes were flagged with an asterisk (*). If the matrix effect is isolated to the internal standards, then the affect on the associated target analyte results are potentially biased high.

Method(s) 8270C SIM: The following samples required dilution due to the nature of the sample matrix: W047 (440-107993-2), W048 (440-107993-3) and W049 (440-107993-4). Because of the dilution, the surrogate spike concentration in each sample was reduced to a level where the recovery calculation does not provide useful information.

Method(s) 8270C SIM: The following samples were diluted due to the nature of the sample matrix: W047 (440-107993-2), W048 (440-107993-3) and W049 (440-107993-4). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

HPLC/IC
Method(s) 300.0: The following samples were diluted due to the nature of the sample matrix: W046 (440-107993-1), W047 (440-107993-2), W048 (440-107993-3) and W049 (440-107993-4). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC Semi VOA
Method(s) 8015B: The following samples required dilution due to the nature of the sample matrix: W047 (440-107993-2), W048 (440-107993-3) and W049 (440-107993-4). Because of this dilution, the surrogate spike concentration in each sample was reduced to a level where the recovery calculation does not provide useful information.

Method(s) 8015B: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with

Job ID: 440-107993-1 (Continued)

Laboratory: TestAmerica Irvine (Continued)

batch 251518. The laboratory control sample (LCS) was performed in duplicate to provide precision data for this batch.

Method(s) 8015B: The %RPD between the laboratory control sample (LCS) and laboratory control standard duplicate (LCSD) for preparation batch 251518 recovered outside control limits for C10-C28. The individual analyte QA/QC recoveries, however, were within acceptance limits.

Method(s) 8015B: Surrogate recovery for the following sample was outside control limits: W046 (440-107993-1). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Metals
Method(s) 200.7 and 200.8: Methods require dissolved metals to be filtered immediately which is taken to mean within 15 minutes of sampling. The sample results have HF qualifiers to note that the lab was requested to filter the samples after receipt.

Method(s) 200.7 Rev 4.4: The following samples were diluted due to the nature of the sample matrix: W046 (440-107993-1), W047 (440-107993-2), W048 (440-107993-3) and W049 (440-107993-4). Elevated reporting limits (RLs) are provided.

Method(s) 200.8: The following samples were diluted due to the nature of the sample matrix: W047 (440-107993-2), W048 (440-107993-3) and W049 (440-107993-4). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

General Chemistry
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Organic Prep
Method(s) 3520C / 8270C-SIM: The following samples had smaller initial sample volumes used due to the nature of the sample matrix: W046 (440-107993-1), W047 (440-107993-2), W048 (440-107993-3) and W049 (440-107993-4). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

VOA Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Client Sample Results

Client: AMEC Foster Wheeler E & I, Inc
Project/Site: Chevron Kern River

TestAmerica Job ID: 440-107993-1
SDG: FR1416063A

Client Sample ID: W046

Date Collected: 04/23/15 14:55
Date Received: 04/24/15 09:45

Lab Sample ID: 440-107993-1

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		10	5.0	ug/L			04/28/15 14:43	20
Ethylbenzene	**19**		10	5.0	ug/L			04/28/15 14:43	20
m,p-Xylene	**110**		20	10	ug/L			04/28/15 14:43	20
o-Xylene	**110**		10	5.0	ug/L			04/28/15 14:43	20
Toluene	**15**		10	5.0	ug/L			04/28/15 14:43	20
Xylenes, Total	**220**		20	10	ug/L			04/28/15 14:43	20

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*104*		*80 - 120*		*04/28/15 14:43*	*20*
Dibromofluoromethane (Surr)	*96*		*76 - 132*		*04/28/15 14:43*	*20*
Toluene-d8 (Surr)	*109*		*80 - 128*		*04/28/15 14:43*	*20*

Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	**2.8**		2.0	1.0	ug/L		04/29/15 14:34	05/01/15 00:38	2
Acenaphthylene	ND		2.0	1.0	ug/L		04/29/15 14:34	05/01/15 00:38	2
Anthracene	ND		2.0	1.0	ug/L		04/29/15 14:34	05/01/15 00:38	2
Benzo[a]anthracene	ND		2.0	1.0	ug/L		04/29/15 14:34	05/01/15 00:38	2
Benzo[a]pyrene	ND	*	2.0	1.0	ug/L		04/29/15 14:34	05/01/15 00:38	2
Benzo[b]fluoranthene	ND	*	2.0	1.0	ug/L		04/29/15 14:34	05/01/15 00:38	2
Benzo[g,h,i]perylene	ND	*	2.0	1.0	ug/L		04/29/15 14:34	05/01/15 00:38	2
Benzo[k]fluoranthene	ND	*	2.0	1.0	ug/L		04/29/15 14:34	05/01/15 00:38	2
Chrysene	ND		2.0	1.0	ug/L		04/29/15 14:34	05/01/15 00:38	2
Dibenz(a,h)anthracene	ND	*	2.0	1.0	ug/L		04/29/15 14:34	05/01/15 00:38	2
Fluoranthene	ND		2.0	1.0	ug/L		04/29/15 14:34	05/01/15 00:38	2
Fluorene	**2.3**		2.0	1.0	ug/L		04/29/15 14:34	05/01/15 00:38	2
Indeno[1,2,3-cd]pyrene	ND	*	2.0	1.0	ug/L		04/29/15 14:34	05/01/15 00:38	2
Naphthalene	**10**	*	2.0	1.0	ug/L		04/29/15 14:34	05/01/15 00:38	2
Phenanthrene	**3.2**		2.0	1.0	ug/L		04/29/15 14:34	05/01/15 00:38	2
Pyrene	**1.8**	**J**	2.0	1.0	ug/L		04/29/15 14:34	05/01/15 00:38	2

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*34*		*31 - 120*	*04/29/15 14:34*	*05/01/15 00:38*	*2*
Nitrobenzene-d5	*88*	*	*25 - 133*	*04/29/15 14:34*	*05/01/15 00:38*	*2*
Terphenyl-d14	*39*		*10 - 120*	*04/29/15 14:34*	*05/01/15 00:38*	*2*

Method: 8015B - Diesel Range Organics (DRO) (GC) Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C29-C40	**7.0**		0.048	0.024	mg/L		04/28/15 07:06	04/29/15 21:45	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane	*6*	*X*	*45 - 120*	*04/28/15 07:06*	*04/29/15 21:45*	*1*

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	**2.1**	**J**	2.5	1.3	mg/L			04/24/15 15:52	5
Nitrate as NO3	**13**	**J**	25	13	mg/L			04/24/15 16:07	50
Chloride	**150**	**F1**	25	13	mg/L			04/24/15 16:07	50
Fluoride	ND		2.5	1.3	mg/L			04/24/15 15:52	5
Sulfate	**40**		2.5	1.3	mg/L			04/24/15 15:52	5

Client Sample Results

Client: AMEC Foster Wheeler E & I, Inc
Project/Site: Chevron Kern River

TestAmerica Job ID: 440-107993-1
SDG: FR1416063A

Client Sample ID: W046

Date Collected: 04/23/15 14:55
Date Received: 04/24/15 09:45

Lab Sample ID: 440-107993-1

Matrix: Water

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.81	HF	0.25	0.050	mg/L		04/28/15 09:13	04/28/15 18:36	5
Calcium	80	HF	0.50	0.25	mg/L		04/28/15 09:13	04/28/15 18:36	5
Iron	37	HF	0.20	0.050	mg/L		04/28/15 09:13	04/28/15 18:36	5
Lithium	ND	HF	2.5	0.13	mg/L		04/28/15 09:13	04/28/15 18:36	5
Magnesium	6.0	HF	0.10	0.050	mg/L		04/28/15 09:13	04/28/15 18:36	5
Manganese	0.64	HF	0.10	0.050	mg/L		04/28/15 09:13	04/28/15 18:36	5
Potassium	32	HF	2.5	1.3	mg/L		04/28/15 09:13	04/28/15 18:36	5
Sodium	260	HF	2.5	1.3	mg/L		04/28/15 09:13	04/28/15 18:36	5
Strontium	0.83	HF	0.10	0.050	mg/L		04/28/15 09:13	04/28/15 18:36	5

Method: 200.8 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Uranium	4.2	J HF	5.0	2.5	ug/L		04/28/15 09:15	04/29/15 06:44	5

Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.016		0.010	0.0060	mg/L		04/28/15 09:17	04/29/15 11:01	1
Arsenic	0.073		0.010	0.0050	mg/L		04/28/15 09:17	04/29/15 11:01	1
Barium	0.097		0.010	0.0050	mg/L		04/28/15 09:17	04/29/15 11:01	1
Beryllium	0.0010	J	0.0020	0.0010	mg/L		04/28/15 09:17	04/29/15 11:01	1
Cadmium	ND		0.0050	0.0020	mg/L		04/28/15 09:17	04/29/15 11:01	1
Chromium	0.044		0.0050	0.0025	mg/L		04/28/15 09:17	04/29/15 11:01	1
Cobalt	0.0067	J	0.010	0.0025	mg/L		04/28/15 09:17	04/29/15 11:01	1
Copper	0.0082	J	0.010	0.0050	mg/L		04/28/15 09:17	04/29/15 11:01	1
Lead	ND		0.0050	0.0025	mg/L		04/28/15 09:17	04/29/15 11:01	1
Molybdenum	0.14		0.020	0.010	mg/L		04/28/15 09:17	04/29/15 11:01	1
Nickel	0.055		0.010	0.0050	mg/L		04/28/15 09:17	04/29/15 11:01	1
Selenium	ND		0.010	0.0061	mg/L		04/28/15 09:17	04/29/15 11:01	1
Silver	ND		0.010	0.0050	mg/L		04/28/15 09:17	04/29/15 11:01	1
Thallium	0.0052	J	0.010	0.0050	mg/L		04/28/15 09:17	04/29/15 11:01	1
Vanadium	0.042		0.010	0.0050	mg/L		04/28/15 09:17	04/29/15 11:01	1
Zinc	0.80		0.020	0.010	mg/L		04/28/15 09:17	04/29/15 11:01	1

Method: 6010B - Metals (ICP) - STLC Citrate

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.20	0.12	mg/L			04/29/15 12:06	20
Arsenic	0.11	J B	0.20	0.10	mg/L			04/29/15 12:06	20
Barium	0.17	J	0.20	0.10	mg/L			04/29/15 12:06	20
Beryllium	ND		0.040	0.020	mg/L			04/29/15 12:06	20
Cadmium	ND		0.10	0.040	mg/L			04/29/15 12:06	20
Chromium	ND		0.10	0.050	mg/L			04/29/15 12:06	20
Cobalt	ND		0.20	0.050	mg/L			04/29/15 12:06	20
Copper	ND		0.20	0.10	mg/L			04/29/15 12:06	20
Lead	ND		0.10	0.050	mg/L			04/29/15 12:06	20
Molybdenum	ND		0.40	0.20	mg/L			04/29/15 12:06	20
Nickel	ND		0.20	0.10	mg/L			04/29/15 12:06	20
Selenium	ND		0.20	0.12	mg/L			04/29/15 12:06	20
Silver	ND		0.20	0.10	mg/L			04/29/15 12:06	20
Thallium	ND		0.20	0.10	mg/L			04/29/15 12:06	20
Vanadium	ND		0.20	0.10	mg/L			04/29/15 12:06	20

Client Sample Results

Client: AMEC Foster Wheeler E & I, Inc
Project/Site: Chevron Kern River

TestAmerica Job ID: 440-107993-1
SDG: FR1416063A

Client Sample ID: W046

Lab Sample ID: 440-107993-1

Date Collected: 04/23/15 14:55
Date Received: 04/24/15 09:45
Matrix: Water

Method: 6010B - Metals (ICP) - STLC Citrate (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Zinc	**0.57**		0.40	0.20	mg/L			04/29/15 12:06	20

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00080	0.00040	mg/L		04/28/15 13:03	04/28/15 19:10	1

Method: 7470A - Mercury (CVAA) - STLC Citrate

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.0020	0.0010	mg/L		04/29/15 15:48	04/30/15 16:14	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	**230**		4.0	4.0	mg/L			04/26/15 10:39	1
Bicarbonate Alkalinity as CaCO3	**230**		4.0	4.0	mg/L			04/26/15 10:39	1
Carbonate Alkalinity as CaCO3	ND		4.0	4.0	mg/L			04/26/15 10:39	1
Hydroxide Alkalinity as CaCO3	ND		4.0	4.0	mg/L			04/26/15 10:39	1
Total Dissolved Solids	**2300**		20	10	mg/L			04/28/15 08:13	1

Client Sample ID: W047

Lab Sample ID: 440-107993-2

Date Collected: 04/23/15 14:55
Date Received: 04/24/15 09:45
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**0.90**		0.50	0.25	ug/L			04/28/15 15:13	1
Ethylbenzene	**5.9**		0.50	0.25	ug/L			04/28/15 15:13	1
m,p-Xylene	**17**		1.0	0.50	ug/L			04/28/15 15:13	1
o-Xylene	**7.7**		0.50	0.25	ug/L			04/28/15 15:13	1
Toluene	**12**		0.50	0.25	ug/L			04/28/15 15:13	1
Xylenes, Total	**25**		1.0	0.50	ug/L			04/28/15 15:13	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*183*	*X **	*80 - 120*		*04/28/15 15:13*	*1*
Dibromofluoromethane (Surr)	*93*		*76 - 132*		*04/28/15 15:13*	*1*
Toluene-d8 (Surr)	*119*		*80 - 128*		*04/28/15 15:13*	*1*

Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		160	80	ug/L		04/29/15 14:34	05/01/15 00:58	40
Acenaphthylene	ND		160	80	ug/L		04/29/15 14:34	05/01/15 00:58	40
Anthracene	ND		160	80	ug/L		04/29/15 14:34	05/01/15 00:58	40
Benzo[a]anthracene	ND		160	80	ug/L		04/29/15 14:34	05/01/15 00:58	40
Benzo[a]pyrene	ND		160	80	ug/L		04/29/15 14:34	05/01/15 00:58	40
Benzo[b]fluoranthene	ND		160	80	ug/L		04/29/15 14:34	05/01/15 00:58	40
Benzo[g,h,i]perylene	ND		160	80	ug/L		04/29/15 14:34	05/01/15 00:58	40
Benzo[k]fluoranthene	ND		160	80	ug/L		04/29/15 14:34	05/01/15 00:58	40
Chrysene	ND		160	80	ug/L		04/29/15 14:34	05/01/15 00:58	40
Dibenz(a,h)anthracene	ND		160	80	ug/L		04/29/15 14:34	05/01/15 00:58	40
Fluoranthene	ND		160	80	ug/L		04/29/15 14:34	05/01/15 00:58	40
Fluorene	ND		160	80	ug/L		04/29/15 14:34	05/01/15 00:58	40
Indeno[1,2,3-cd]pyrene	ND		160	80	ug/L		04/29/15 14:34	05/01/15 00:58	40

Client Sample Results

Client: AMEC Foster Wheeler E & I, Inc
Project/Site: Chevron Kern River

TestAmerica Job ID: 440-107993-1
SDG: FR1416063A

Client Sample ID: W047

Date Collected: 04/23/15 14:55
Date Received: 04/24/15 09:45

Lab Sample ID: 440-107993-2

Matrix: Water

Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND		160	80	ug/L		04/29/15 14:34	05/01/15 00:58	40
Phenanthrene	ND		160	80	ug/L		04/29/15 14:34	05/01/15 00:58	40
Pyrene	ND		160	80	ug/L		04/29/15 14:34	05/01/15 00:58	40

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*63*		*31 - 120*	*04/29/15 14:34*	*05/01/15 00:58*	*40*
Nitrobenzene-d5	*24*	*X*	*25 - 133*	*04/29/15 14:34*	*05/01/15 00:58*	*40*
Terphenyl-d14	*14*		*10 - 120*	*04/29/15 14:34*	*05/01/15 00:58*	*40*

Method: 8015B - Diesel Range Organics (DRO) (GC) Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C29-C40	**220**		9.5	4.8	mg/L		04/28/15 07:06	04/29/15 17:22	100

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane	*951*	*X*	*45 - 120*	*04/28/15 07:06*	*04/29/15 17:22*	*100*

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	ND		2.5	1.3	mg/L			04/24/15 16:54	5
Nitrate as NO3	ND		2.5	1.3	mg/L			04/24/15 16:54	5
Chloride	**100**		25	13	mg/L			04/24/15 17:10	50
Fluoride	ND		2.5	1.3	mg/L			04/24/15 16:54	5
Sulfate	**53**		2.5	1.3	mg/L			04/24/15 16:54	5

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	**0.90**	**HF**	0.25	0.050	mg/L		04/28/15 09:13	04/28/15 18:38	5
Calcium	**38**	**HF**	0.50	0.25	mg/L		04/28/15 09:13	04/28/15 18:38	5
Iron	**6.8**	**HF**	0.20	0.050	mg/L		04/28/15 09:13	04/28/15 18:38	5
Lithium	ND	HF	2.5	0.13	mg/L		04/28/15 09:13	04/28/15 18:38	5
Magnesium	**4.3**	**HF**	0.10	0.050	mg/L		04/28/15 09:13	04/28/15 18:38	5
Manganese	**0.41**	**HF**	0.10	0.050	mg/L		04/28/15 09:13	04/28/15 18:38	5
Potassium	**8.6**	**HF**	2.5	1.3	mg/L		04/28/15 09:13	04/28/15 18:38	5
Sodium	**190**	**HF**	2.5	1.3	mg/L		04/28/15 09:13	04/28/15 18:38	5
Strontium	**0.57**	**HF**	0.10	0.050	mg/L		04/28/15 09:13	04/28/15 18:38	5

Method: 200.8 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Uranium	ND	HF	5.0	2.5	ug/L		04/28/15 09:15	04/29/15 06:46	5

Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	**0.027**		0.010	0.0060	mg/L		04/28/15 09:17	04/29/15 11:03	1
Arsenic	**0.040**		0.010	0.0050	mg/L		04/28/15 09:17	04/29/15 12:14	1
Barium	**0.066**		0.010	0.0050	mg/L		04/28/15 09:17	04/29/15 11:03	1
Beryllium	ND		0.0020	0.0010	mg/L		04/28/15 09:17	04/29/15 11:03	1
Cadmium	ND		0.0050	0.0020	mg/L		04/28/15 09:17	04/29/15 11:03	1
Chromium	**0.0065**		0.0050	0.0025	mg/L		04/28/15 09:17	04/29/15 11:03	1
Cobalt	ND		0.010	0.0025	mg/L		04/28/15 09:17	04/29/15 11:03	1
Copper	**0.0076**	**J**	0.010	0.0050	mg/L		04/28/15 09:17	04/29/15 11:03	1
Lead	**0.012**		0.0050	0.0025	mg/L		04/28/15 09:17	04/29/15 11:03	1

Client Sample ID: W047

Lab Sample ID: 440-107993-2

Date Collected: 04/23/15 14:55

Matrix: Water

Date Received: 04/24/15 09:45

Method: 6010B - Metals (ICP) - Dissolved (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Molybdenum	**0.18**		0.020	0.010	mg/L		04/28/15 09:17	04/29/15 11:03	1
Nickel	**0.037**		0.010	0.0050	mg/L		04/28/15 09:17	04/29/15 11:03	1
Selenium	ND		0.010	0.0061	mg/L		04/28/15 09:17	04/29/15 11:03	1
Silver	ND		0.010	0.0050	mg/L		04/28/15 09:17	04/29/15 11:03	1
Thallium	ND		0.010	0.0050	mg/L		04/28/15 09:17	04/29/15 11:03	1
Vanadium	**0.0098**	**J**	0.010	0.0050	mg/L		04/28/15 09:17	04/29/15 11:03	1
Zinc	**0.078**		0.020	0.010	mg/L		04/28/15 09:17	04/29/15 11:03	1

Method: 6010B - Metals (ICP) - STLC Citrate

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	**0.30**		0.20	0.12	mg/L			04/29/15 12:12	20
Arsenic	ND		0.20	0.10	mg/L			04/29/15 12:12	20
Barium	ND		0.20	0.10	mg/L			04/29/15 12:12	20
Beryllium	ND		0.040	0.020	mg/L			04/29/15 12:12	20
Cadmium	ND		0.10	0.040	mg/L			04/29/15 12:12	20
Chromium	ND		0.10	0.050	mg/L			04/29/15 12:12	20
Cobalt	ND		0.20	0.050	mg/L			04/29/15 12:12	20
Copper	ND		0.20	0.10	mg/L			04/29/15 12:12	20
Lead	ND		0.10	0.050	mg/L			04/29/15 12:12	20
Molybdenum	**0.52**		0.40	0.20	mg/L			04/29/15 12:12	20
Nickel	ND		0.20	0.10	mg/L			04/29/15 12:12	20
Selenium	ND		0.20	0.12	mg/L			04/29/15 12:12	20
Silver	ND		0.20	0.10	mg/L			04/29/15 12:12	20
Thallium	ND		0.20	0.10	mg/L			04/29/15 12:12	20
Vanadium	ND		0.20	0.10	mg/L			04/29/15 12:12	20
Zinc	ND		0.40	0.20	mg/L			04/29/15 12:12	20

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00080	0.00040	mg/L		04/28/15 13:03	04/28/15 19:12	1

Method: 7470A - Mercury (CVAA) - STLC Citrate

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.0020	0.0010	mg/L		04/29/15 15:48	04/30/15 16:22	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	**240**		4.0	4.0	mg/L			04/26/15 10:46	1
Bicarbonate Alkalinity as CaCO3	**240**		4.0	4.0	mg/L			04/26/15 10:46	1
Carbonate Alkalinity as CaCO3	ND		4.0	4.0	mg/L			04/26/15 10:46	1
Hydroxide Alkalinity as CaCO3	ND		4.0	4.0	mg/L			04/26/15 10:46	1
Total Dissolved Solids	**1600**		10	5.0	mg/L			04/28/15 08:13	1

Client Sample ID: W048

Lab Sample ID: 440-107993-3

Date Collected: 04/23/15 14:55

Matrix: Water

Date Received: 04/24/15 09:45

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**0.51**		0.50	0.25	ug/L			04/28/15 15:44	1
Ethylbenzene	**1.1**		0.50	0.25	ug/L			04/28/15 15:44	1

Client Sample Results

Client: AMEC Foster Wheeler E & I, Inc
Project/Site: Chevron Kern River

TestAmerica Job ID: 440-107993-1
SDG: FR1416063A

Client Sample ID: W048

Date Collected: 04/23/15 14:55
Date Received: 04/24/15 09:45

Lab Sample ID: 440-107993-3

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
m,p-Xylene	**3.0**		1.0	0.50	ug/L			04/28/15 15:44	1
o-Xylene	**1.7**		0.50	0.25	ug/L			04/28/15 15:44	1
Toluene	**3.7**		0.50	0.25	ug/L			04/28/15 15:44	1
Xylenes, Total	**4.7**		1.0	0.50	ug/L			04/28/15 15:44	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*108*		*80 - 120*		*04/28/15 15:44*	*1*
Dibromofluoromethane (Surr)	*97*		*76 - 132*		*04/28/15 15:44*	*1*
Toluene-d8 (Surr)	*113*		*80 - 128*		*04/28/15 15:44*	*1*

Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		160	80	ug/L		04/29/15 14:34	05/01/15 01:19	40
Acenaphthylene	ND		160	80	ug/L		04/29/15 14:34	05/01/15 01:19	40
Anthracene	ND		160	80	ug/L		04/29/15 14:34	05/01/15 01:19	40
Benzo[a]anthracene	ND		160	80	ug/L		04/29/15 14:34	05/01/15 01:19	40
Benzo[a]pyrene	ND		160	80	ug/L		04/29/15 14:34	05/01/15 01:19	40
Benzo[b]fluoranthene	ND		160	80	ug/L		04/29/15 14:34	05/01/15 01:19	40
Benzo[g,h,i]perylene	ND		160	80	ug/L		04/29/15 14:34	05/01/15 01:19	40
Benzo[k]fluoranthene	ND		160	80	ug/L		04/29/15 14:34	05/01/15 01:19	40
Chrysene	ND		160	80	ug/L		04/29/15 14:34	05/01/15 01:19	40
Dibenz(a,h)anthracene	ND		160	80	ug/L		04/29/15 14:34	05/01/15 01:19	40
Fluoranthene	ND		160	80	ug/L		04/29/15 14:34	05/01/15 01:19	40
Fluorene	ND		160	80	ug/L		04/29/15 14:34	05/01/15 01:19	40
Indeno[1,2,3-cd]pyrene	ND		160	80	ug/L		04/29/15 14:34	05/01/15 01:19	40
Naphthalene	ND		160	80	ug/L		04/29/15 14:34	05/01/15 01:19	40
Phenanthrene	ND		160	80	ug/L		04/29/15 14:34	05/01/15 01:19	40
Pyrene	ND		160	80	ug/L		04/29/15 14:34	05/01/15 01:19	40

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*68*		*31 - 120*	*04/29/15 14:34*	*05/01/15 01:19*	*40*
Nitrobenzene-d5	*0*	*X*	*25 - 133*	*04/29/15 14:34*	*05/01/15 01:19*	*40*
Terphenyl-d14	*0*	*X*	*10 - 120*	*04/29/15 14:34*	*05/01/15 01:19*	*40*

Method: 8015B - Diesel Range Organics (DRO) (GC) Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C29-C40	**590**		48	24	mg/L		04/28/15 07:06	04/29/15 18:08	100

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane	*1380*	*X*	*45 - 120*	*04/28/15 07:06*	*04/29/15 18:08*	*100*

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	ND		2.5	1.3	mg/L			04/24/15 17:57	5
Nitrate as NO3	ND		2.5	1.3	mg/L			04/24/15 17:57	5
Chloride	**110**		25	13	mg/L			04/24/15 18:12	50
Fluoride	ND		2.5	1.3	mg/L			04/24/15 17:57	5
Sulfate	**50**		2.5	1.3	mg/L			04/24/15 17:57	5

Client Sample Results

Client: AMEC Foster Wheeler E & I, Inc
Project/Site: Chevron Kern River

TestAmerica Job ID: 440-107993-1
SDG: FR1416063A

Client Sample ID: W048

Date Collected: 04/23/15 14:55
Date Received: 04/24/15 09:45

Lab Sample ID: 440-107993-3

Matrix: Water

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.89	HF	0.25	0.050	mg/L		04/28/15 09:13	04/28/15 18:39	5
Calcium	45	HF	0.50	0.25	mg/L		04/28/15 09:13	04/28/15 18:39	5
Iron	23	HF	0.20	0.050	mg/L		04/28/15 09:13	04/28/15 18:39	5
Lithium	ND	HF	2.5	0.13	mg/L		04/28/15 09:13	04/28/15 18:39	5
Magnesium	4.6	HF	0.10	0.050	mg/L		04/28/15 09:13	04/28/15 18:39	5
Manganese	0.58	HF	0.10	0.050	mg/L		04/28/15 09:13	04/28/15 18:39	5
Potassium	13	HF	2.5	1.3	mg/L		04/28/15 09:13	04/28/15 18:39	5
Sodium	200	HF	2.5	1.3	mg/L		04/28/15 09:13	04/28/15 18:39	5
Strontium	0.57	HF	0.10	0.050	mg/L		04/28/15 09:13	04/28/15 18:39	5

Method: 200.8 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Uranium	ND	HF	5.0	2.5	ug/L		04/28/15 09:15	04/29/15 06:49	5

Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.028		0.010	0.0060	mg/L		04/28/15 09:17	04/29/15 11:05	1
Arsenic	0.054		0.010	0.0050	mg/L		04/28/15 09:17	04/29/15 11:05	1
Barium	0.054		0.010	0.0050	mg/L		04/28/15 09:17	04/29/15 11:05	1
Beryllium	ND		0.0020	0.0010	mg/L		04/28/15 09:17	04/29/15 11:05	1
Cadmium	ND		0.0050	0.0020	mg/L		04/28/15 09:17	04/29/15 11:05	1
Chromium	0.014		0.0050	0.0025	mg/L		04/28/15 09:17	04/29/15 11:05	1
Cobalt	0.0033	J	0.010	0.0025	mg/L		04/28/15 09:17	04/29/15 11:05	1
Copper	0.010		0.010	0.0050	mg/L		04/28/15 09:17	04/29/15 11:05	1
Lead	0.0046	J	0.0050	0.0025	mg/L		04/28/15 09:17	04/29/15 11:05	1
Molybdenum	0.27		0.020	0.010	mg/L		04/28/15 09:17	04/29/15 11:05	1
Nickel	0.067		0.010	0.0050	mg/L		04/28/15 09:17	04/29/15 11:05	1
Selenium	ND		0.010	0.0061	mg/L		04/28/15 09:17	04/29/15 11:05	1
Silver	ND		0.010	0.0050	mg/L		04/28/15 09:17	04/29/15 11:05	1
Thallium	ND		0.010	0.0050	mg/L		04/28/15 09:17	04/29/15 11:05	1
Vanadium	0.011		0.010	0.0050	mg/L		04/28/15 09:17	04/29/15 11:05	1
Zinc	0.13		0.020	0.010	mg/L		04/28/15 09:17	04/29/15 11:05	1

Method: 6010B - Metals (ICP) - STLC Citrate

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.20	0.12	mg/L			04/30/15 22:33	20
Arsenic	0.36		0.20	0.10	mg/L			05/01/15 13:03	20
Barium	2.4		0.20	0.10	mg/L			04/30/15 22:33	20
Beryllium	ND		0.040	0.020	mg/L			04/30/15 22:33	20
Cadmium	ND		0.10	0.040	mg/L			04/30/15 22:33	20
Chromium	0.19		0.10	0.050	mg/L			04/30/15 22:33	20
Cobalt	ND		0.20	0.050	mg/L			04/30/15 22:33	20
Copper	ND		0.20	0.10	mg/L			04/30/15 22:33	20
Lead	0.16		0.10	0.050	mg/L			04/30/15 22:33	20
Molybdenum	0.29	J	0.40	0.20	mg/L			05/01/15 14:42	20
Nickel	0.51		0.20	0.10	mg/L			04/30/15 22:33	20
Selenium	0.13	J B	0.20	0.12	mg/L			04/30/15 22:33	20
Silver	ND		0.20	0.10	mg/L			04/30/15 22:33	20
Thallium	ND		0.20	0.10	mg/L			04/30/15 22:33	20
Vanadium	ND		0.20	0.10	mg/L			04/30/15 22:33	20

Client Sample Results

Client: AMEC Foster Wheeler E & I, Inc
Project/Site: Chevron Kern River

TestAmerica Job ID: 440-107993-1
SDG: FR1416063A

Client Sample ID: W048

Lab Sample ID: 440-107993-3

Date Collected: 04/23/15 14:55
Matrix: Water
Date Received: 04/24/15 09:45

Method: 6010B - Metals (ICP) - STLC Citrate (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Zinc	**12**		0.40	0.20	mg/L			04/30/15 22:33	20

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00080	0.00040	mg/L		04/28/15 13:03	04/28/15 19:15	1

Method: 7470A - Mercury (CVAA) - STLC Citrate

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.0012**	**J**	0.0020	0.0010	mg/L		05/01/15 05:54	05/01/15 09:45	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	**250**		4.0	4.0	mg/L			04/26/15 10:54	1
Bicarbonate Alkalinity as CaCO3	**250**		4.0	4.0	mg/L			04/26/15 10:54	1
Carbonate Alkalinity as CaCO3	ND		4.0	4.0	mg/L			04/26/15 10:54	1
Hydroxide Alkalinity as CaCO3	ND		4.0	4.0	mg/L			04/26/15 10:54	1
Total Dissolved Solids	**1600**		10	5.0	mg/L			04/28/15 08:13	1

Client Sample ID: W049

Lab Sample ID: 440-107993-4

Date Collected: 04/23/15 14:55
Matrix: Water
Date Received: 04/24/15 09:45

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**0.56**		0.50	0.25	ug/L			04/28/15 16:14	1
Ethylbenzene	**2.0**		0.50	0.25	ug/L			04/28/15 16:14	1
m,p-Xylene	**5.8**		1.0	0.50	ug/L			04/28/15 16:14	1
o-Xylene	**3.3**		0.50	0.25	ug/L			04/28/15 16:14	1
Toluene	**5.0**		0.50	0.25	ug/L			04/28/15 16:14	1
Xylenes, Total	**9.1**		1.0	0.50	ug/L			04/28/15 16:14	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*145*	*X*	*80 - 120*		*04/28/15 16:14*	*1*
Dibromofluoromethane (Surr)	*94*		*76 - 132*		*04/28/15 16:14*	*1*
Toluene-d8 (Surr)	*113*		*80 - 128*		*04/28/15 16:14*	*1*

Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		80	40	ug/L		04/29/15 14:34	05/01/15 01:39	20
Acenaphthylene	ND		80	40	ug/L		04/29/15 14:34	05/01/15 01:39	20
Anthracene	ND		80	40	ug/L		04/29/15 14:34	05/01/15 01:39	20
Benzo[a]anthracene	ND		80	40	ug/L		04/29/15 14:34	05/01/15 01:39	20
Benzo[a]pyrene	ND	*	80	40	ug/L		04/29/15 14:34	05/01/15 01:39	20
Benzo[b]fluoranthene	ND	*	80	40	ug/L		04/29/15 14:34	05/01/15 01:39	20
Benzo[g,h,i]perylene	ND	*	80	40	ug/L		04/29/15 14:34	05/01/15 01:39	20
Benzo[k]fluoranthene	ND	*	80	40	ug/L		04/29/15 14:34	05/01/15 01:39	20
Chrysene	ND		80	40	ug/L		04/29/15 14:34	05/01/15 01:39	20
Dibenz(a,h)anthracene	ND	*	80	40	ug/L		04/29/15 14:34	05/01/15 01:39	20
Fluoranthene	ND		80	40	ug/L		04/29/15 14:34	05/01/15 01:39	20
Fluorene	ND		80	40	ug/L		04/29/15 14:34	05/01/15 01:39	20
Indeno[1,2,3-cd]pyrene	ND	*	80	40	ug/L		04/29/15 14:34	05/01/15 01:39	20

Client Sample Results

Client: AMEC Foster Wheeler E & I, Inc
Project/Site: Chevron Kern River

TestAmerica Job ID: 440-107993-1
SDG: FR1416063A

Client Sample ID: W049

Date Collected: 04/23/15 14:55
Date Received: 04/24/15 09:45

Lab Sample ID: 440-107993-4

Matrix: Water

Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND		80	40	ug/L		04/29/15 14:34	05/01/15 01:39	20
Phenanthrene	ND		80	40	ug/L		04/29/15 14:34	05/01/15 01:39	20
Pyrene	ND		80	40	ug/L		04/29/15 14:34	05/01/15 01:39	20

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*44*		*31 - 120*	*04/29/15 14:34*	*05/01/15 01:39*	*20*
Nitrobenzene-d5	*89*		*25 - 133*	*04/29/15 14:34*	*05/01/15 01:39*	*20*
Terphenyl-d14	*6*	*X*	*10 - 120*	*04/29/15 14:34*	*05/01/15 01:39*	*20*

Method: 8015B - Diesel Range Organics (DRO) (GC) Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C29-C40	**400**		4.8	2.4	mg/L		04/28/15 07:06	04/29/15 18:53	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane	*41*	*X*	*45 - 120*	*04/28/15 07:06*	*04/29/15 18:53*	*10*

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	ND		2.5	1.3	mg/L			04/24/15 18:28	5
Nitrate as NO3	**1.7**	**J**	2.5	1.3	mg/L			04/24/15 18:28	5
Chloride	**130**		25	13	mg/L			04/24/15 18:43	50
Fluoride	ND		2.5	1.3	mg/L			04/24/15 18:28	5
Sulfate	**42**		2.5	1.3	mg/L			04/24/15 18:28	5

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	**0.88**	**HF**	0.25	0.050	mg/L		04/28/15 09:13	04/28/15 18:41	5
Calcium	**52**	**HF**	0.50	0.25	mg/L		04/28/15 09:13	04/28/15 18:41	5
Iron	**25**	**HF**	0.20	0.050	mg/L		04/28/15 09:13	04/28/15 18:41	5
Lithium	ND	HF	2.5	0.13	mg/L		04/28/15 09:13	04/28/15 18:41	5
Magnesium	**4.9**	**HF**	0.10	0.050	mg/L		04/28/15 09:13	04/28/15 18:41	5
Manganese	**0.57**	**HF**	0.10	0.050	mg/L		04/28/15 09:13	04/28/15 18:41	5
Potassium	**17**	**HF**	2.5	1.3	mg/L		04/28/15 09:13	04/28/15 18:41	5
Sodium	**200**	**HF**	2.5	1.3	mg/L		04/28/15 09:13	04/28/15 18:41	5
Strontium	**0.61**	**HF**	0.10	0.050	mg/L		04/28/15 09:13	04/28/15 18:41	5

Method: 200.8 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Uranium	ND	HF	5.0	2.5	ug/L		04/28/15 09:15	04/29/15 06:51	5

Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	**0.025**		0.010	0.0060	mg/L		04/28/15 09:17	04/29/15 11:07	1
Arsenic	**0.059**		0.010	0.0050	mg/L		04/28/15 09:17	04/29/15 11:07	1
Barium	**0.056**		0.010	0.0050	mg/L		04/28/15 09:17	04/29/15 11:07	1
Beryllium	ND		0.0020	0.0010	mg/L		04/28/15 09:17	04/29/15 11:07	1
Cadmium	ND		0.0050	0.0020	mg/L		04/28/15 09:17	04/29/15 11:07	1
Chromium	**0.020**		0.0050	0.0025	mg/L		04/28/15 09:17	04/29/15 11:07	1
Cobalt	**0.0043**	**J**	0.010	0.0025	mg/L		04/28/15 09:17	04/29/15 11:07	1
Copper	**0.015**		0.010	0.0050	mg/L		04/28/15 09:17	04/29/15 11:07	1
Lead	ND		0.0050	0.0025	mg/L		04/28/15 09:17	04/29/15 11:07	1

Client Sample Results

Client: AMEC Foster Wheeler E & I, Inc
Project/Site: Chevron Kern River

TestAmerica Job ID: 440-107993-1
SDG: FR1416063A

Client Sample ID: W049

Date Collected: 04/23/15 14:55
Date Received: 04/24/15 09:45

Lab Sample ID: 440-107993-4

Matrix: Water

Method: 6010B - Metals (ICP) - Dissolved (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Molybdenum	**0.19**		0.020	0.010	mg/L		04/28/15 09:17	04/29/15 11:07	1
Nickel	**0.058**		0.010	0.0050	mg/L		04/28/15 09:17	04/29/15 11:07	1
Selenium	ND		0.010	0.0061	mg/L		04/28/15 09:17	04/29/15 11:07	1
Silver	ND		0.010	0.0050	mg/L		04/28/15 09:17	04/29/15 11:07	1
Thallium	ND		0.010	0.0050	mg/L		04/28/15 09:17	04/29/15 11:07	1
Vanadium	**0.018**		0.010	0.0050	mg/L		04/28/15 09:17	04/29/15 11:07	1
Zinc	**0.41**		0.020	0.010	mg/L		04/28/15 09:17	04/29/15 11:07	1

Method: 6010B - Metals (ICP) - STLC Citrate

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.20	0.12	mg/L			04/30/15 22:35	20
Arsenic	**0.20**		0.20	0.10	mg/L			05/01/15 13:05	20
Barium	**2.1**		0.20	0.10	mg/L			04/30/15 22:35	20
Beryllium	ND		0.040	0.020	mg/L			04/30/15 22:35	20
Cadmium	ND		0.10	0.040	mg/L			04/30/15 22:35	20
Chromium	**0.11**		0.10	0.050	mg/L			04/30/15 22:35	20
Cobalt	ND		0.20	0.050	mg/L			04/30/15 22:35	20
Copper	ND		0.20	0.10	mg/L			04/30/15 22:35	20
Lead	**0.12**		0.10	0.050	mg/L			04/30/15 22:35	20
Molybdenum	ND		0.40	0.20	mg/L			05/01/15 13:05	20
Nickel	**0.26**		0.20	0.10	mg/L			04/30/15 22:35	20
Selenium	ND		0.20	0.12	mg/L			04/30/15 22:35	20
Silver	ND		0.20	0.10	mg/L			04/30/15 22:35	20
Thallium	ND		0.20	0.10	mg/L			04/30/15 22:35	20
Vanadium	ND		0.20	0.10	mg/L			04/30/15 22:35	20
Zinc	**9.8**		0.40	0.20	mg/L			04/30/15 22:35	20

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.00052**	**J**	0.00080	0.00040	mg/L		04/28/15 13:03	04/28/15 19:17	1

Method: 7470A - Mercury (CVAA) - STLC Citrate

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.0020	0.0010	mg/L		05/01/15 05:54	05/01/15 09:52	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	**240**		4.0	4.0	mg/L			04/26/15 11:01	1
Bicarbonate Alkalinity as CaCO3	**240**		4.0	4.0	mg/L			04/26/15 11:01	1
Carbonate Alkalinity as CaCO3	ND		4.0	4.0	mg/L			04/26/15 11:01	1
Hydroxide Alkalinity as CaCO3	ND		4.0	4.0	mg/L			04/26/15 11:01	1
Total Dissolved Solids	**1800**		10	5.0	mg/L			04/28/15 08:13	1

Method Summary

Client: AMEC Foster Wheeler E & I, Inc
Project/Site: Chevron Kern River

TestAmerica Job ID: 440-107993-1
SDG: FR1416063A

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL IRV
8270C SIM	Semivolatile Organic Compounds (GC/MS SIM)	SW846	TAL IRV
8015B	Diesel Range Organics (DRO) (GC) Low Level	SW846	TAL IRV
300.0	Anions, Ion Chromatography	MCAWW	TAL IRV
200.7 Rev 4.4	Metals (ICP)	EPA	TAL IRV
200.8	Metals (ICP/MS)	EPA	TAL IRV
6010B	Metals (ICP)	SW846	TAL IRV
7470A	Mercury (CVAA)	SW846	TAL IRV
SM 2320B	Alkalinity	SM	TAL IRV
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL IRV

Protocol References:

EPA = US Environmental Protection Agency

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

SM = "Standard Methods For The Examination Of Water And Wastewater",

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL IRV = TestAmerica Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

Lab Chronicle

Client: AMEC Foster Wheeler E & I, Inc
Project/Site: Chevron Kern River

TestAmerica Job ID: 440-107993-1
SDG: FR1416063A

Client Sample ID: W046

Lab Sample ID: 440-107993-1
Date Collected: 04/23/15 14:55
Matrix: Water
Date Received: 04/24/15 09:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		20	10 mL	10 mL	251507	04/28/15 14:43	SS	TAL IRV
Total/NA	Prep	3520C			200 mL	1 mL	251935	04/29/15 14:34	HN	TAL IRV
Total/NA	Analysis	8270C SIM		2	200 mL	1 mL	252293	05/01/15 00:38	AI	TAL IRV
Total/NA	Prep	3510C			1050 mL	1 mL	251518	04/28/15 07:06	AP	TAL IRV
Total/NA	Analysis	8015B		1	1050 mL	1 mL	251823	04/29/15 21:45	CN	TAL IRV
Total/NA	Analysis	300.0		5	5 mL		250973	04/24/15 15:52	NN	TAL IRV
Total/NA	Analysis	300.0		50	5 mL		250972	04/24/15 16:07	NN	TAL IRV
Total/NA	Analysis	300.0		50	5 mL		250973	04/24/15 16:07	NN	TAL IRV
Dissolved	Filtration	FILTRATION			250 mL	250 mL	251384	04/27/15 14:00	EN	TAL IRV
Dissolved	Prep	200.2			25 mL	25 mL	251540	04/28/15 09:13	APS	TAL IRV
Dissolved	Analysis	200.7 Rev 4.4		5	25 mL	25 mL	251786	04/28/15 18:36	VS	TAL IRV
Dissolved	Filtration	FILTRATION			250 mL	250 mL	251384	04/27/15 14:00	EN	TAL IRV
Dissolved	Prep	200.2			25 mL	25 mL	251541	04/28/15 09:15	APS	TAL IRV
Dissolved	Analysis	200.8		5	25 mL	25 mL	251785	04/29/15 06:44	NH	TAL IRV
Dissolved	Filtration	FILTRATION			250 mL	250 mL	251384	04/27/15 14:00	EN	TAL IRV
Dissolved	Prep	3005A			25 mL	25 mL	251542	04/28/15 09:17	APS	TAL IRV
Dissolved	Analysis	6010B		1	25 mL	25 mL	251867	04/29/15 11:01	VS	TAL IRV
STLC Citrate	Leach	CA WET Citrate			100 g	100 mL	251744	04/29/15 01:15	CH	TAL IRV
STLC Citrate	Analysis	6010B		20			251893	04/29/15 12:06	TK	TAL IRV
Dissolved	Filtration	FILTRATION			250 mL	250 mL	251384	04/27/15 14:00	EN	TAL IRV
Dissolved	Prep	7470A			5 mL	20 mL	251617	04/28/15 13:03	DB	TAL IRV
Dissolved	Analysis	7470A		1	5 mL	20 mL	251939	04/28/15 19:10	EN	TAL IRV
STLC Citrate	Leach	CA WET Citrate			100 g	100 mL	251744	04/29/15 01:15	CH	TAL IRV
STLC Citrate	Prep	7470A			2 mL	20 mL	251950	04/29/15 15:48	DB	TAL IRV
STLC Citrate	Analysis	7470A		1	2 mL	20 mL	252254	04/30/15 16:14	TK	TAL IRV
Total/NA	Analysis	SM 2320B		1			251247	04/26/15 10:39	YZ	TAL IRV
Total/NA	Analysis	SM 2540C		1	50 mL	100 mL	251526	04/28/15 08:13	XL	TAL IRV

Client Sample ID: W047

Lab Sample ID: 440-107993-2
Date Collected: 04/23/15 14:55
Matrix: Water
Date Received: 04/24/15 09:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	251507	04/28/15 15:13	SS	TAL IRV
Total/NA	Prep	3520C			50 mL	1 mL	251935	04/29/15 14:34	HN	TAL IRV
Total/NA	Analysis	8270C SIM		40	50 mL	1 mL	252293	05/01/15 00:58	AI	TAL IRV
Total/NA	Prep	3510C			1050 mL	2 mL	251518	04/28/15 07:06	AP	TAL IRV
Total/NA	Analysis	8015B		100	1050 mL	2 mL	251826	04/29/15 17:22	KW	TAL IRV
Total/NA	Analysis	300.0		5	5 mL		250972	04/24/15 16:54	NN	TAL IRV
Total/NA	Analysis	300.0		5	5 mL		250973	04/24/15 16:54	NN	TAL IRV
Total/NA	Analysis	300.0		50	5 mL		250973	04/24/15 17:10	NN	TAL IRV
Dissolved	Filtration	FILTRATION			250 mL	250 mL	251384	04/27/15 14:00	EN	TAL IRV
Dissolved	Prep	200.2			25 mL	25 mL	251540	04/28/15 09:13	APS	TAL IRV

Client Sample ID: W047

Lab Sample ID: 440-107993-2

Date Collected: 04/23/15 14:55
Matrix: Water
Date Received: 04/24/15 09:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Analysis	200.7 Rev 4.4		5	25 mL	25 mL	251786	04/28/15 18:38	VS	TAL IRV
Dissolved	Filtration	FILTRATION			250 mL	250 mL	251384	04/27/15 14:00	EN	TAL IRV
Dissolved	Prep	200.2			25 mL	25 mL	251541	04/28/15 09:15	APS	TAL IRV
Dissolved	Analysis	200.8		5	25 mL	25 mL	251785	04/29/15 06:46	NH	TAL IRV
Dissolved	Filtration	FILTRATION			250 mL	250 mL	251384	04/27/15 14:00	EN	TAL IRV
Dissolved	Prep	3005A			25 mL	25 mL	251542	04/28/15 09:17	APS	TAL IRV
Dissolved	Analysis	6010B		1	25 mL	25 mL	251867	04/29/15 11:03	VS	TAL IRV
Dissolved	Filtration	FILTRATION			250 mL	250 mL	251384	04/27/15 14:00	EN	TAL IRV
Dissolved	Prep	3005A			25 mL	25 mL	251542	04/28/15 09:17	APS	TAL IRV
Dissolved	Analysis	6010B		1	25 mL	25 mL	251894	04/29/15 12:14	VS	TAL IRV
STLC Citrate	Leach	CA WET Citrate			100 g	100 mL	251744	04/29/15 01:15	CH	TAL IRV
STLC Citrate	Analysis	6010B		20			251893	04/29/15 12:12	TK	TAL IRV
Dissolved	Filtration	FILTRATION			250 mL	250 mL	251384	04/27/15 14:00	EN	TAL IRV
Dissolved	Prep	7470A			5 mL	20 mL	251617	04/28/15 13:03	DB	TAL IRV
Dissolved	Analysis	7470A		1	5 mL	20 mL	251939	04/28/15 19:12	EN	TAL IRV
STLC Citrate	Leach	CA WET Citrate			100 g	100 mL	251744	04/29/15 01:15	CH	TAL IRV
STLC Citrate	Prep	7470A			2 mL	20 mL	251950	04/29/15 15:48	DB	TAL IRV
STLC Citrate	Analysis	7470A		1	2 mL	20 mL	252254	04/30/15 16:22	TK	TAL IRV
Total/NA	Analysis	SM 2320B		1			251247	04/26/15 10:46	YZ	TAL IRV
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	251526	04/28/15 08:13	XL	TAL IRV

Client Sample ID: W048

Lab Sample ID: 440-107993-3

Date Collected: 04/23/15 14:55
Matrix: Water
Date Received: 04/24/15 09:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	251507	04/28/15 15:44	SS	TAL IRV
Total/NA	Prep	3520C			50 mL	1 mL	251935	04/29/15 14:34	HN	TAL IRV
Total/NA	Analysis	8270C SIM		40	50 mL	1 mL	252293	05/01/15 01:19	AI	TAL IRV
Total/NA	Prep	3510C			1050 mL	10 mL	251518	04/28/15 07:06	AP	TAL IRV
Total/NA	Analysis	8015B		100	1050 mL	10 mL	251826	04/29/15 18:08	KW	TAL IRV
Total/NA	Analysis	300.0		5	5 mL		250972	04/24/15 17:57	NN	TAL IRV
Total/NA	Analysis	300.0		5	5 mL		250973	04/24/15 17:57	NN	TAL IRV
Total/NA	Analysis	300.0		50	5 mL		250973	04/24/15 18:12	NN	TAL IRV
Dissolved	Filtration	FILTRATION			250 mL	250 mL	251384	04/27/15 14:00	EN	TAL IRV
Dissolved	Prep	200.2			25 mL	25 mL	251540	04/28/15 09:13	APS	TAL IRV
Dissolved	Analysis	200.7 Rev 4.4		5	25 mL	25 mL	251786	04/28/15 18:39	VS	TAL IRV
Dissolved	Filtration	FILTRATION			250 mL	250 mL	251384	04/27/15 14:00	EN	TAL IRV
Dissolved	Prep	200.2			25 mL	25 mL	251541	04/28/15 09:15	APS	TAL IRV
Dissolved	Analysis	200.8		5	25 mL	25 mL	251785	04/29/15 06:49	NH	TAL IRV
Dissolved	Filtration	FILTRATION			250 mL	250 mL	251384	04/27/15 14:00	EN	TAL IRV
Dissolved	Prep	3005A			25 mL	25 mL	251542	04/28/15 09:17	APS	TAL IRV
Dissolved	Analysis	6010B		1	25 mL	25 mL	251867	04/29/15 11:05	VS	TAL IRV
STLC Citrate	Leach	CA WET Citrate			4 g	40 mL	251706	04/28/15 18:07	CH	TAL IRV

Lab Chronicle

Client: AMEC Foster Wheeler E & I, Inc
Project/Site: Chevron Kern River

TestAmerica Job ID: 440-107993-1
SDG: FR1416063A

Client Sample ID: W048

Lab Sample ID: 440-107993-3

Date Collected: 04/23/15 14:55
Matrix: Water
Date Received: 04/24/15 09:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
STLC Citrate	Analysis	6010B		20			252306	04/30/15 22:33	EN	TAL IRV
STLC Citrate	Leach	CA WET Citrate			4 g	40 mL	251706	04/28/15 18:07	CH	TAL IRV
STLC Citrate	Analysis	6010B		20			252484	05/01/15 13:03	TK	TAL IRV
STLC Citrate	Leach	CA WET Citrate			4 g	40 mL	251706	04/28/15 18:07	CH	TAL IRV
STLC Citrate	Analysis	6010B		20			252484	05/01/15 14:42	TK	TAL IRV
Dissolved	Filtration	FILTRATION			250 mL	250 mL	251384	04/27/15 14:00	EN	TAL IRV
Dissolved	Prep	7470A			5 mL	20 mL	251617	04/28/15 13:03	DB	TAL IRV
Dissolved	Analysis	7470A		1	5 mL	20 mL	251939	04/28/15 19:15	EN	TAL IRV
STLC Citrate	Leach	CA WET Citrate			4 g	40 mL	251706	04/28/15 18:07	CH	TAL IRV
STLC Citrate	Prep	7470A			2 mL	20 mL	252315	05/01/15 05:54	EN	TAL IRV
STLC Citrate	Analysis	7470A		1	2 mL	20 mL	252403	05/01/15 09:45	EN	TAL IRV
Total/NA	Analysis	SM 2320B		1			251247	04/26/15 10:54	YZ	TAL IRV
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	251526	04/28/15 08:13	XL	TAL IRV

Client Sample ID: W049

Lab Sample ID: 440-107993-4

Date Collected: 04/23/15 14:55
Matrix: Water
Date Received: 04/24/15 09:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	251507	04/28/15 16:14	SS	TAL IRV
Total/NA	Prep	3520C			50 mL	1 mL	251935	04/29/15 14:34	HN	TAL IRV
Total/NA	Analysis	8270C SIM		20	50 mL	1 mL	252293	05/01/15 01:39	AI	TAL IRV
Total/NA	Prep	3510C			1045 mL	10 mL	251518	04/28/15 07:06	AP	TAL IRV
Total/NA	Analysis	8015B		10	1045 mL	10 mL	251826	04/29/15 18:53	KW	TAL IRV
Total/NA	Analysis	300.0		5	5 mL		250972	04/24/15 18:28	NN	TAL IRV
Total/NA	Analysis	300.0		5	5 mL		250973	04/24/15 18:28	NN	TAL IRV
Total/NA	Analysis	300.0		50	5 mL		250973	04/24/15 18:43	NN	TAL IRV
Dissolved	Filtration	FILTRATION			250 mL	250 mL	251384	04/27/15 14:04	EN	TAL IRV
Dissolved	Prep	200.2			25 mL	25 mL	251540	04/28/15 09:13	APS	TAL IRV
Dissolved	Analysis	200.7 Rev 4.4		5	25 mL	25 mL	251786	04/28/15 18:41	VS	TAL IRV
Dissolved	Filtration	FILTRATION			250 mL	250 mL	251384	04/27/15 14:04	EN	TAL IRV
Dissolved	Prep	200.2			25 mL	25 mL	251541	04/28/15 09:15	APS	TAL IRV
Dissolved	Analysis	200.8		5	25 mL	25 mL	251785	04/29/15 06:51	NH	TAL IRV
Dissolved	Filtration	FILTRATION			250 mL	250 mL	251384	04/27/15 14:04	EN	TAL IRV
Dissolved	Prep	3005A			25 mL	25 mL	251542	04/28/15 09:17	APS	TAL IRV
Dissolved	Analysis	6010B		1	25 mL	25 mL	251867	04/29/15 11:07	VS	TAL IRV
STLC Citrate	Leach	CA WET Citrate			4.9 g	49 mL	251706	04/28/15 18:07	CH	TAL IRV
STLC Citrate	Analysis	6010B		20			252306	04/30/15 22:35	EN	TAL IRV
STLC Citrate	Leach	CA WET Citrate			4.9 g	49 mL	251706	04/28/15 18:07	CH	TAL IRV
STLC Citrate	Analysis	6010B		20			252484	05/01/15 13:05	TK	TAL IRV
Dissolved	Filtration	FILTRATION			250 mL	250 mL	251384	04/27/15 14:04	EN	TAL IRV
Dissolved	Prep	7470A			5 mL	20 mL	251617	04/28/15 13:03	DB	TAL IRV
Dissolved	Analysis	7470A		1	5 mL	20 mL	251939	04/28/15 19:17	EN	TAL IRV

Lab Chronicle

Client: AMEC Foster Wheeler E & I, Inc
Project/Site: Chevron Kern River

TestAmerica Job ID: 440-107993-1
SDG: FR1416063A

Client Sample ID: W049

Date Collected: 04/23/15 14:55
Date Received: 04/24/15 09:45

Lab Sample ID: 440-107993-4

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
STLC Citrate	Leach	CA WET Citrate			4.9 g	49 mL	251706	04/28/15 18:07	CH	TAL IRV
STLC Citrate	Prep	7470A			2 mL	20 mL	252315	05/01/15 05:54	EN	TAL IRV
STLC Citrate	Analysis	7470A		1	2 mL	20 mL	252403	05/01/15 09:52	EN	TAL IRV
Total/NA	Analysis	SM 2320B		1			251247	04/26/15 11:01	YZ	TAL IRV
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	251526	04/28/15 08:13	XL	TAL IRV

Laboratory References:

TAL IRV = TestAmerica Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

QC Sample Results

Client: AMEC Foster Wheeler E & I, Inc
Project/Site: Chevron Kern River

TestAmerica Job ID: 440-107993-1
SDG: FR1416063A

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 440-251507/5
Matrix: Water
Analysis Batch: 251507

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.50	0.25	ug/L			04/28/15 09:37	1
Ethylbenzene	ND		0.50	0.25	ug/L			04/28/15 09:37	1
m,p-Xylene	ND		1.0	0.50	ug/L			04/28/15 09:37	1
o-Xylene	ND		0.50	0.25	ug/L			04/28/15 09:37	1
Toluene	ND		0.50	0.25	ug/L			04/28/15 09:37	1
Xylenes, Total	ND		1.0	0.50	ug/L			04/28/15 09:37	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*103*		*80 - 120*		*04/28/15 09:37*	*1*
Dibromofluoromethane (Surr)	*106*		*76 - 132*		*04/28/15 09:37*	*1*
Toluene-d8 (Surr)	*106*		*80 - 128*		*04/28/15 09:37*	*1*

Lab Sample ID: LCS 440-251507/6
Matrix: Water
Analysis Batch: 251507

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	25.0	24.6		ug/L		98	68 - 130
Ethylbenzene	25.0	24.0		ug/L		96	70 - 130
m,p-Xylene	25.0	25.7		ug/L		103	70 - 130
o-Xylene	25.0	26.8		ug/L		107	70 - 130
Toluene	25.0	25.0		ug/L		100	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*103*		*80 - 120*
Dibromofluoromethane (Surr)	*106*		*76 - 132*
Toluene-d8 (Surr)	*106*		*80 - 128*

Lab Sample ID: 440-107930-A-3 MS
Matrix: Water
Analysis Batch: 251507

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	ND		25.0	25.3		ug/L		101	66 - 130
Ethylbenzene	ND		25.0	25.4		ug/L		102	70 - 130
m,p-Xylene	ND		25.0	27.2		ug/L		109	70 - 133
o-Xylene	ND		25.0	27.6		ug/L		110	70 - 133
Toluene	ND		25.0	26.3		ug/L		105	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*103*		*80 - 120*
Dibromofluoromethane (Surr)	*100*		*76 - 132*
Toluene-d8 (Surr)	*106*		*80 - 128*

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 440-107930-A-3 MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 251507

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	ND		25.0	25.7		ug/L		103	66 - 130	2	20
Ethylbenzene	ND		25.0	25.8		ug/L		103	70 - 130	2	20
m,p-Xylene	ND		25.0	27.4		ug/L		109	70 - 133	0	25
o-Xylene	ND		25.0	27.7		ug/L		111	70 - 133	0	20
Toluene	ND		25.0	26.4		ug/L		106	70 - 130	0	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*103*		*80 - 120*
Dibromofluoromethane (Surr)	*101*		*76 - 132*
Toluene-d8 (Surr)	*106*		*80 - 128*

Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM)

Lab Sample ID: MB 440-251935/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 252293 — **Prep Batch: 251935**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.20	0.10	ug/L		04/29/15 14:34	04/30/15 23:36	1
Acenaphthylene	ND		0.20	0.10	ug/L		04/29/15 14:34	04/30/15 23:36	1
Anthracene	ND		0.20	0.10	ug/L		04/29/15 14:34	04/30/15 23:36	1
Benzo[a]anthracene	ND		0.20	0.10	ug/L		04/29/15 14:34	04/30/15 23:36	1
Benzo[a]pyrene	ND		0.20	0.10	ug/L		04/29/15 14:34	04/30/15 23:36	1
Benzo[b]fluoranthene	ND		0.20	0.10	ug/L		04/29/15 14:34	04/30/15 23:36	1
Benzo[g,h,i]perylene	ND		0.20	0.10	ug/L		04/29/15 14:34	04/30/15 23:36	1
Benzo[k]fluoranthene	ND		0.20	0.10	ug/L		04/29/15 14:34	04/30/15 23:36	1
Chrysene	ND		0.20	0.10	ug/L		04/29/15 14:34	04/30/15 23:36	1
Dibenz(a,h)anthracene	ND		0.20	0.10	ug/L		04/29/15 14:34	04/30/15 23:36	1
Fluoranthene	ND		0.20	0.10	ug/L		04/29/15 14:34	04/30/15 23:36	1
Fluorene	ND		0.20	0.10	ug/L		04/29/15 14:34	04/30/15 23:36	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.10	ug/L		04/29/15 14:34	04/30/15 23:36	1
Naphthalene	ND		0.20	0.10	ug/L		04/29/15 14:34	04/30/15 23:36	1
Phenanthrene	ND		0.20	0.10	ug/L		04/29/15 14:34	04/30/15 23:36	1
Pyrene	ND		0.20	0.10	ug/L		04/29/15 14:34	04/30/15 23:36	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*65*		*31 - 120*	*04/29/15 14:34*	*04/30/15 23:36*	*1*
Nitrobenzene-d5	*61*		*25 - 133*	*04/29/15 14:34*	*04/30/15 23:36*	*1*
Terphenyl-d14	*80*		*10 - 120*	*04/29/15 14:34*	*04/30/15 23:36*	*1*

Lab Sample ID: LCS 440-251935/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 252293 — **Prep Batch: 251935**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthene	1.00	0.673		ug/L		67	47 - 103
Acenaphthylene	1.00	0.659		ug/L		66	45 - 102

Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

Lab Sample ID: LCS 440-251935/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 252293 — **Prep Batch: 251935**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Anthracene	1.00	0.723		ug/L		72	47 - 111
Benzo[a]anthracene	1.00	0.786		ug/L		79	56 - 110
Benzo[a]pyrene	1.00	0.734		ug/L		73	48 - 110
Benzo[b]fluoranthene	1.00	0.829		ug/L		83	53 - 116
Benzo[g,h,i]perylene	1.00	0.877		ug/L		88	44 - 130
Benzo[k]fluoranthene	1.00	0.833		ug/L		83	51 - 127
Chrysene	1.00	0.818		ug/L		82	52 - 118
Dibenz(a,h)anthracene	1.00	0.857		ug/L		86	44 - 125
Fluoranthene	1.00	0.825		ug/L		83	51 - 116
Fluorene	1.00	0.726		ug/L		73	50 - 106
Indeno[1,2,3-cd]pyrene	1.00	0.878		ug/L		88	41 - 127
Naphthalene	1.00	0.592		ug/L		59	40 - 100
Phenanthrene	1.00	0.769		ug/L		77	49 - 110
Pyrene	1.00	0.790		ug/L		79	41 - 115

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl (Surr)	*68*		*31 - 120*
Nitrobenzene-d5	*65*		*25 - 133*
Terphenyl-d14	*81*		*10 - 120*

Lab Sample ID: LCSD 440-251935/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 252293 — **Prep Batch: 251935**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acenaphthene	1.00	0.704		ug/L		70	47 - 103	5	35
Acenaphthylene	1.00	0.709		ug/L		71	45 - 102	7	35
Anthracene	1.00	0.716		ug/L		72	47 - 111	1	35
Benzo[a]anthracene	1.00	0.782		ug/L		78	56 - 110	1	35
Benzo[a]pyrene	1.00	0.744		ug/L		74	48 - 110	1	35
Benzo[b]fluoranthene	1.00	0.925		ug/L		92	53 - 116	11	35
Benzo[g,h,i]perylene	1.00	0.831		ug/L		83	44 - 130	5	35
Benzo[k]fluoranthene	1.00	0.929		ug/L		93	51 - 127	11	35
Chrysene	1.00	0.793		ug/L		79	52 - 118	3	35
Dibenz(a,h)anthracene	1.00	0.787		ug/L		79	44 - 125	9	35
Fluoranthene	1.00	0.807		ug/L		81	51 - 116	2	35
Fluorene	1.00	0.777		ug/L		78	50 - 106	7	35
Indeno[1,2,3-cd]pyrene	1.00	0.797		ug/L		80	41 - 127	10	35
Naphthalene	1.00	0.616		ug/L		62	40 - 100	4	35
Phenanthrene	1.00	0.762		ug/L		76	49 - 110	1	35
Pyrene	1.00	0.818		ug/L		82	41 - 115	3	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2-Fluorobiphenyl (Surr)	*65*		*31 - 120*
Nitrobenzene-d5	*61*		*25 - 133*
Terphenyl-d14	*85*		*10 - 120*

QC Sample Results

Client: AMEC Foster Wheeler E & I, Inc
Project/Site: Chevron Kern River

TestAmerica Job ID: 440-107993-1
SDG: FR1416063A

Method: 8015B - Diesel Range Organics (DRO) (GC) Low Level

Lab Sample ID: MB 440-251518/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 251822 — **Prep Batch: 251518**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C29-C40	ND		0.050	0.025	mg/L		04/28/15 07:06	04/29/15 17:23	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane	*70*		*45 - 120*	*04/28/15 07:06*	*04/29/15 17:23*	*1*

Lab Sample ID: LCS 440-251518/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 251822 — **Prep Batch: 251518**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
C10-C28	1.00	0.552		mg/L		55	40 - 115

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
n-Octacosane	*60*		*45 - 120*

Lab Sample ID: LCSD 440-251518/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 251822 — **Prep Batch: 251518**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
C10-C28	1.00	0.785	*	mg/L		79	40 - 115	35	25

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
n-Octacosane	*82*		*45 - 120*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 440-250972/4 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 250972

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as NO3	ND		0.50	0.25	mg/L			04/24/15 10:35	1

Lab Sample ID: LCS 440-250972/2 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 250972

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrate as NO3	5.00	4.85		mg/L		97	90 - 110

Lab Sample ID: 440-107993-1 MS — **Client Sample ID: W046**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 250972

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrate as NO3	13	J	50.0	53.1		mg/L		106	80 - 120

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 440-107993-1 MSD — **Client Sample ID: W046**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 250972

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Nitrate as NO3	13	J	50.0	52.4		mg/L		105	80 - 120	1	20

Lab Sample ID: MB 440-250973/4 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 250973

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	ND		0.50	0.25	mg/L			04/24/15 10:35	1
Chloride	ND		0.50	0.25	mg/L			04/24/15 10:35	1
Fluoride	ND		0.50	0.25	mg/L			04/24/15 10:35	1
Sulfate	ND		0.50	0.25	mg/L			04/24/15 10:35	1

Lab Sample ID: LCS 440-250973/2 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 250973

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Bromide	5.00	5.00		mg/L		100	90 - 110
Chloride	5.00	4.95		mg/L		99	90 - 110
Fluoride	5.00	4.53		mg/L		91	90 - 110
Sulfate	5.00	4.67		mg/L		93	90 - 110

Lab Sample ID: 440-107993-1 MS — **Client Sample ID: W046**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 250973

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Bromide	ND		50.0	48.6		mg/L		97	80 - 120
Chloride	150	F1	50.0	189	F1	mg/L		75	80 - 120
Fluoride	ND		50.0	48.0		mg/L		96	80 - 120
Sulfate	37		50.0	86.3		mg/L		99	80 - 120

Lab Sample ID: 440-107993-1 MSD — **Client Sample ID: W046**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 250973

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Bromide	ND		50.0	51.4		mg/L		103	80 - 120	6	20
Chloride	150	F1	50.0	191		mg/L		80	80 - 120	2	20
Fluoride	ND		50.0	44.4		mg/L		89	80 - 120	8	20
Sulfate	37		50.0	91.2		mg/L		109	80 - 120	6	20

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: MB 440-251384/1-B — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 251786 — **Prep Batch: 251540**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	ND		0.050	0.010	mg/L		04/28/15 09:13	04/28/15 18:24	1
Calcium	ND		0.10	0.050	mg/L		04/28/15 09:13	04/28/15 18:24	1
Iron	ND		0.040	0.010	mg/L		04/28/15 09:13	04/28/15 18:24	1
Lithium	ND		0.50	0.025	mg/L		04/28/15 09:13	04/28/15 18:24	1
Magnesium	ND		0.020	0.010	mg/L		04/28/15 09:13	04/28/15 18:24	1
Manganese	ND		0.020	0.010	mg/L		04/28/15 09:13	04/28/15 18:24	1
Potassium	ND		0.50	0.25	mg/L		04/28/15 09:13	04/28/15 18:24	1
Sodium	ND		0.50	0.25	mg/L		04/28/15 09:13	04/28/15 18:24	1
Strontium	ND		0.020	0.010	mg/L		04/28/15 09:13	04/28/15 18:24	1

Lab Sample ID: LCS 440-251384/2-B — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 251786 — **Prep Batch: 251540**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	0.500	0.479		mg/L		96	85 - 115
Calcium	2.50	2.38		mg/L		95	85 - 115
Iron	0.500	0.474		mg/L		95	85 - 115
Lithium	0.500	0.497	J	mg/L		99	85 - 115
Magnesium	2.50	2.46		mg/L		98	85 - 115
Manganese	0.500	0.505		mg/L		101	85 - 115
Potassium	5.00	4.82		mg/L		96	85 - 115
Sodium	5.00	4.73		mg/L		95	85 - 115
Strontium	0.500	0.472		mg/L		94	85 - 115

Lab Sample ID: 440-107943-D-1-C MS ^5 — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 251786 — **Prep Batch: 251540**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	0.98	HF	0.500	1.48		mg/L		101	70 - 130
Calcium	88	HF	2.50	91.0		mg/L		123	70 - 130
Iron	11	HF	0.500	11.5		mg/L		169	70 - 130
Lithium	ND	HF	0.500	0.517	J	mg/L		103	70 - 130
Magnesium	5.7	HF	2.50	8.34		mg/L		106	70 - 130
Manganese	0.31	HF	0.500	0.799		mg/L		98	70 - 130
Potassium	67	HF	5.00	69.3		mg/L		38	70 - 130
Sodium	400	HF	5.00	385		mg/L		-263	70 - 130
Strontium	1.1	HF	0.500	1.53		mg/L		87	70 - 130

Lab Sample ID: 440-107943-D-1-D MSD ^5 — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 251786 — **Prep Batch: 251540**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Boron	0.98	HF	0.500	1.52		mg/L		109	70 - 130	3	20
Calcium	88	HF	2.50	90.3		mg/L		94	70 - 130	1	20
Iron	11	HF	0.500	11.5		mg/L		154	70 - 130	1	20
Lithium	ND	HF	0.500	0.531	J	mg/L		106	70 - 130	3	20

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: 440-107943-D-1-D MSD ^5 — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 251786 — **Prep Batch: 251540**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Magnesium	5.7	HF	2.50	8.51		mg/L		113	70 - 130	2	20
Manganese	0.31	HF	0.500	0.823		mg/L		103	70 - 130	3	20
Potassium	67	HF	5.00	70.0		mg/L		52	70 - 130	1	20
Sodium	400	HF	5.00	390		mg/L		-168	70 - 130	1	20
Strontium	1.1	HF	0.500	1.57		mg/L		94	70 - 130	2	20

Method: 200.8 - Metals (ICP/MS)

Lab Sample ID: MB 440-251384/1-C — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 251753 — **Prep Batch: 251541**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Uranium	ND		1.0	0.50	ug/L		04/28/15 09:15	04/29/15 00:44	1

Lab Sample ID: LCS 440-251384/2-C — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 251753 — **Prep Batch: 251541**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Uranium	80.0	73.1		ug/L		91	85 - 115

Lab Sample ID: LCSD 440-251384/3-B — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 251753 — **Prep Batch: 251541**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Uranium	80.0	72.7		ug/L		91	85 - 115	1	20

Lab Sample ID: 440-107943-D-2-D MS ^5 — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 251785 — **Prep Batch: 251541**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Uranium	ND	HF	80.0	78.5		ug/L		98	70 - 130

Lab Sample ID: 440-107943-D-2-E MSD ^5 — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 251785 — **Prep Batch: 251541**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Uranium	ND	HF	80.0	79.0		ug/L		99	70 - 130	1	20

QC Sample Results

Client: AMEC Foster Wheeler E & I, Inc
Project/Site: Chevron Kern River

TestAmerica Job ID: 440-107993-1
SDG: FR1416063A

Method: 6010B - Metals (ICP)

Lab Sample ID: MB 440-251384/1-D — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 251867 — **Prep Batch: 251542**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.010	0.0060	mg/L		04/28/15 09:17	04/29/15 10:18	1
Arsenic	ND		0.010	0.0050	mg/L		04/28/15 09:17	04/29/15 10:18	1
Barium	ND		0.010	0.0050	mg/L		04/28/15 09:17	04/29/15 10:18	1
Beryllium	ND		0.0020	0.0010	mg/L		04/28/15 09:17	04/29/15 10:18	1
Cadmium	ND		0.0050	0.0020	mg/L		04/28/15 09:17	04/29/15 10:18	1
Chromium	ND		0.0050	0.0025	mg/L		04/28/15 09:17	04/29/15 10:18	1
Cobalt	ND		0.010	0.0025	mg/L		04/28/15 09:17	04/29/15 10:18	1
Copper	ND		0.010	0.0050	mg/L		04/28/15 09:17	04/29/15 10:18	1
Lead	ND		0.0050	0.0025	mg/L		04/28/15 09:17	04/29/15 10:18	1
Molybdenum	ND		0.020	0.010	mg/L		04/28/15 09:17	04/29/15 10:18	1
Nickel	ND		0.010	0.0050	mg/L		04/28/15 09:17	04/29/15 10:18	1
Selenium	ND		0.010	0.0061	mg/L		04/28/15 09:17	04/29/15 10:18	1
Silver	ND		0.010	0.0050	mg/L		04/28/15 09:17	04/29/15 10:18	1
Thallium	ND		0.010	0.0050	mg/L		04/28/15 09:17	04/29/15 10:18	1
Vanadium	ND		0.010	0.0050	mg/L		04/28/15 09:17	04/29/15 10:18	1
Zinc	ND		0.020	0.010	mg/L		04/28/15 09:17	04/29/15 10:18	1

Lab Sample ID: LCS 440-251384/2-D — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 251867 — **Prep Batch: 251542**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	1.00	0.994		mg/L		99	80 - 120
Arsenic	1.00	0.945		mg/L		94	80 - 120
Barium	1.00	0.972		mg/L		97	80 - 120
Beryllium	1.00	0.980		mg/L		98	80 - 120
Cadmium	1.00	0.963		mg/L		96	80 - 120
Chromium	1.00	0.957		mg/L		96	80 - 120
Cobalt	1.00	0.969		mg/L		97	80 - 120
Copper	1.00	0.966		mg/L		97	80 - 120
Lead	1.00	0.963		mg/L		96	80 - 120
Molybdenum	1.00	0.963		mg/L		96	80 - 120
Nickel	1.00	0.969		mg/L		97	80 - 120
Selenium	1.00	0.915		mg/L		92	80 - 120
Silver	0.500	0.487		mg/L		97	80 - 120
Thallium	1.00	0.926		mg/L		93	80 - 120
Vanadium	1.00	0.964		mg/L		96	80 - 120
Zinc	1.00	0.931		mg/L		93	80 - 120

Lab Sample ID: 440-108001-L-1-C MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 251867 — **Prep Batch: 251542**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	0.0086	J	1.00	1.03		mg/L		102	75 - 125
Arsenic	ND		1.00	1.01		mg/L		101	75 - 125
Barium	0.024		1.00	1.01		mg/L		99	75 - 125
Beryllium	ND		1.00	1.01		mg/L		101	75 - 125

Method: 6010B - Metals (ICP) (Continued)

Lab Sample ID: 440-108001-L-1-C MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 251867 — **Prep Batch: 251542**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Cadmium	ND		1.00	0.979		mg/L		98	75 - 125
Chromium	ND		1.00	0.990		mg/L		99	75 - 125
Cobalt	ND		1.00	0.988		mg/L		99	75 - 125
Copper	ND		1.00	1.01		mg/L		101	75 - 125
Lead	ND		1.00	0.986		mg/L		99	75 - 125
Molybdenum	0.019	J	1.00	1.00		mg/L		98	75 - 125
Nickel	ND		1.00	0.985		mg/L		98	75 - 125
Selenium	ND		1.00	0.955		mg/L		95	75 - 125
Silver	ND		0.500	0.506		mg/L		101	75 - 125
Thallium	0.0062	J	1.00	0.934		mg/L		93	75 - 125
Vanadium	ND		1.00	0.996		mg/L		100	75 - 125
Zinc	0.031		1.00	0.989		mg/L		96	75 - 125

Lab Sample ID: 440-108001-L-1-D MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 251867 — **Prep Batch: 251542**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Antimony	0.0086	J	1.00	1.02		mg/L		101	75 - 125	1	20
Arsenic	ND		1.00	1.00		mg/L		100	75 - 125	1	20
Barium	0.024		1.00	1.02		mg/L		99	75 - 125	0	20
Beryllium	ND		1.00	1.01		mg/L		101	75 - 125	0	20
Cadmium	ND		1.00	0.984		mg/L		98	75 - 125	1	20
Chromium	ND		1.00	0.977		mg/L		98	75 - 125	1	20
Cobalt	ND		1.00	0.977		mg/L		98	75 - 125	1	20
Copper	ND		1.00	1.02		mg/L		102	75 - 125	0	20
Lead	ND		1.00	0.976		mg/L		98	75 - 125	1	20
Molybdenum	0.019	J	1.00	1.01		mg/L		99	75 - 125	1	20
Nickel	ND		1.00	0.974		mg/L		97	75 - 125	1	20
Selenium	ND		1.00	0.944		mg/L		94	75 - 125	1	20
Silver	ND		0.500	0.507		mg/L		101	75 - 125	0	20
Thallium	0.0062	J	1.00	0.935		mg/L		93	75 - 125	0	20
Vanadium	ND		1.00	0.997		mg/L		100	75 - 125	0	20
Zinc	0.031		1.00	0.992		mg/L		96	75 - 125	0	20

Lab Sample ID: MB 440-251744/1-A ^20 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: STLC Citrate**
Analysis Batch: 251893

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.20	0.12	mg/L			04/29/15 11:52	20
Arsenic	0.100	J	0.20	0.10	mg/L			04/29/15 11:52	20
Barium	ND		0.20	0.10	mg/L			04/29/15 11:52	20
Beryllium	ND		0.040	0.020	mg/L			04/29/15 11:52	20
Cadmium	ND		0.10	0.040	mg/L			04/29/15 11:52	20
Chromium	ND		0.10	0.050	mg/L			04/29/15 11:52	20
Cobalt	ND		0.20	0.050	mg/L			04/29/15 11:52	20
Copper	ND		0.20	0.10	mg/L			04/29/15 11:52	20
Lead	ND		0.10	0.050	mg/L			04/29/15 11:52	20

Method: 6010B - Metals (ICP) (Continued)

Lab Sample ID: MB 440-251744/1-A ^20 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: STLC Citrate**
Analysis Batch: 251893

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Molybdenum	ND		0.40	0.20	mg/L			04/29/15 11:52	20
Nickel	ND		0.20	0.10	mg/L			04/29/15 11:52	20
Selenium	ND		0.20	0.12	mg/L			04/29/15 11:52	20
Silver	ND		0.20	0.10	mg/L			04/29/15 11:52	20
Thallium	ND		0.20	0.10	mg/L			04/29/15 11:52	20
Vanadium	ND		0.20	0.10	mg/L			04/29/15 11:52	20
Zinc	ND		0.40	0.20	mg/L			04/29/15 11:52	20

Lab Sample ID: LCS 440-251744/2-A ^20 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: STLC Citrate**
Analysis Batch: 251893

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	20.0	20.6		mg/L		103	80 - 120
Arsenic	20.0	20.4		mg/L		102	80 - 120
Barium	20.0	20.5		mg/L		102	80 - 120
Beryllium	20.0	20.0		mg/L		100	80 - 120
Cadmium	20.0	20.5		mg/L		103	80 - 120
Chromium	20.0	19.2		mg/L		96	80 - 120
Cobalt	20.0	19.5		mg/L		98	80 - 120
Copper	20.0	20.7		mg/L		103	80 - 120
Lead	20.0	20.6		mg/L		103	80 - 120
Molybdenum	20.0	19.8		mg/L		99	80 - 120
Nickel	20.0	19.7		mg/L		98	80 - 120
Selenium	20.0	20.1		mg/L		100	80 - 120
Silver	10.0	10.0		mg/L		100	80 - 120
Thallium	20.0	20.1		mg/L		101	80 - 120
Vanadium	20.0	20.6		mg/L		103	80 - 120
Zinc	20.0	20.4		mg/L		102	80 - 120

Lab Sample ID: 440-107993-1 MS — **Client Sample ID: W046**
Matrix: Water — **Prep Type: STLC Citrate**
Analysis Batch: 251893

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	ND		20.0	20.2		mg/L		101	75 - 125
Arsenic	0.11	J B	20.0	19.9		mg/L		99	75 - 125
Barium	0.17	J	20.0	19.7		mg/L		98	75 - 125
Beryllium	ND		20.0	19.5		mg/L		98	75 - 125
Cadmium	ND		20.0	19.5		mg/L		98	75 - 125
Chromium	ND		20.0	18.5		mg/L		92	75 - 125
Cobalt	ND		20.0	18.6		mg/L		93	75 - 125
Copper	ND		20.0	20.3		mg/L		101	75 - 125
Lead	ND		20.0	19.9		mg/L		100	75 - 125
Molybdenum	ND		20.0	19.4		mg/L		97	75 - 125
Nickel	ND		20.0	18.8		mg/L		94	75 - 125
Selenium	ND		20.0	19.5		mg/L		98	75 - 125
Silver	ND		10.0	9.71		mg/L		97	75 - 125
Thallium	ND		20.0	19.5		mg/L		97	75 - 125

Method: 6010B - Metals (ICP) (Continued)

Lab Sample ID: 440-107993-1 MS — **Client Sample ID: W046**
Matrix: Water — **Prep Type: STLC Citrate**
Analysis Batch: 251893

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Vanadium	ND		20.0	20.0		mg/L		100	75 - 125		
Zinc	0.57		20.0	20.1		mg/L		98	75 - 125		

Lab Sample ID: 440-107993-1 MSD — **Client Sample ID: W046**
Matrix: Water — **Prep Type: STLC Citrate**
Analysis Batch: 251893

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Antimony	ND		20.0	19.9		mg/L		100	75 - 125	1	20
Arsenic	0.11	J B	20.0	19.7		mg/L		98	75 - 125	1	20
Barium	0.17	J	20.0	19.6		mg/L		97	75 - 125	1	20
Beryllium	ND		20.0	19.5		mg/L		97	75 - 125	0	20
Cadmium	ND		20.0	19.6		mg/L		98	75 - 125	0	20
Chromium	ND		20.0	18.5		mg/L		92	75 - 125	0	20
Cobalt	ND		20.0	18.6		mg/L		93	75 - 125	0	20
Copper	ND		20.0	20.1		mg/L		100	75 - 125	1	20
Lead	ND		20.0	19.6		mg/L		98	75 - 125	1	20
Molybdenum	ND		20.0	19.4		mg/L		97	75 - 125	0	20
Nickel	ND		20.0	18.8		mg/L		94	75 - 125	0	20
Selenium	ND		20.0	19.4		mg/L		97	75 - 125	1	20
Silver	ND		10.0	9.66		mg/L		97	75 - 125	1	20
Thallium	ND		20.0	19.3		mg/L		96	75 - 125	1	20
Vanadium	ND		20.0	19.9		mg/L		99	75 - 125	0	20
Zinc	0.57		20.0	20.0		mg/L		97	75 - 125	1	20

Lab Sample ID: MB 440-251706/1-A ^20 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: STLC Citrate**
Analysis Batch: 252306

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.20	0.12	mg/L			04/30/15 22:16	20
Barium	ND		0.20	0.10	mg/L			04/30/15 22:16	20
Beryllium	ND		0.040	0.020	mg/L			04/30/15 22:16	20
Cadmium	ND		0.10	0.040	mg/L			04/30/15 22:16	20
Chromium	ND		0.10	0.050	mg/L			04/30/15 22:16	20
Cobalt	ND		0.20	0.050	mg/L			04/30/15 22:16	20
Copper	ND		0.20	0.10	mg/L			04/30/15 22:16	20
Lead	ND		0.10	0.050	mg/L			04/30/15 22:16	20
Nickel	ND		0.20	0.10	mg/L			04/30/15 22:16	20
Selenium	0.176	J	0.20	0.12	mg/L			04/30/15 22:16	20
Silver	ND		0.20	0.10	mg/L			04/30/15 22:16	20
Thallium	ND		0.20	0.10	mg/L			04/30/15 22:16	20
Vanadium	ND		0.20	0.10	mg/L			04/30/15 22:16	20
Zinc	ND		0.40	0.20	mg/L			04/30/15 22:16	20

Method: 6010B - Metals (ICP) (Continued)

Lab Sample ID: LCS 440-251706/2-A ^20 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: STLC Citrate**
Analysis Batch: 252306

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	20.0	23.1		mg/L		116	80 - 120
Barium	20.0	21.8		mg/L		109	80 - 120
Beryllium	20.0	21.4		mg/L		107	80 - 120
Cadmium	20.0	20.9		mg/L		105	80 - 120
Chromium	20.0	20.5		mg/L		102	80 - 120
Cobalt	20.0	20.1		mg/L		100	80 - 120
Copper	20.0	22.7		mg/L		113	80 - 120
Lead	20.0	21.4		mg/L		107	80 - 120
Nickel	20.0	20.5		mg/L		103	80 - 120
Selenium	20.0	21.5		mg/L		107	80 - 120
Silver	10.0	10.7		mg/L		107	80 - 120
Thallium	20.0	19.4		mg/L		97	80 - 120
Vanadium	20.0	22.0		mg/L		110	80 - 120
Zinc	20.0	21.7		mg/L		108	80 - 120

Lab Sample ID: 440-107839-A-1-C MS ^100 — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: STLC Citrate**
Analysis Batch: 252306

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	ND		20.0	23.4		mg/L		117	75 - 125
Barium	3.4		20.0	25.2		mg/L		109	75 - 125
Beryllium	ND		20.0	21.5		mg/L		107	75 - 125
Cadmium	ND		20.0	21.0		mg/L		105	75 - 125
Chromium	0.61		20.0	21.8		mg/L		106	75 - 125
Cobalt	0.25	J	20.0	21.3		mg/L		106	75 - 125
Copper	ND		20.0	22.4		mg/L		112	75 - 125
Lead	ND		20.0	21.6		mg/L		108	75 - 125
Nickel	0.53	J	20.0	22.2		mg/L		109	75 - 125
Selenium	ND		20.0	21.8		mg/L		109	75 - 125
Silver	ND		10.0	10.6		mg/L		106	75 - 125
Thallium	ND		20.0	20.1		mg/L		101	75 - 125
Vanadium	ND		20.0	22.4		mg/L		112	75 - 125
Zinc	1600		20.0	1680	4	mg/L		337	75 - 125

Lab Sample ID: 440-107839-A-1-C MSD ^100 — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: STLC Citrate**
Analysis Batch: 252306

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Antimony	ND		20.0	22.6		mg/L		113	75 - 125	3	20
Barium	3.4		20.0	24.7		mg/L		106	75 - 125	2	20
Beryllium	ND		20.0	21.1		mg/L		105	75 - 125	2	20
Cadmium	ND		20.0	20.1		mg/L		101	75 - 125	4	20
Chromium	0.61		20.0	21.3		mg/L		103	75 - 125	2	20
Cobalt	0.25	J	20.0	20.7		mg/L		104	75 - 125	3	20
Copper	ND		20.0	21.7		mg/L		108	75 - 125	3	20
Lead	ND		20.0	20.8		mg/L		104	75 - 125	4	20

Method: 6010B - Metals (ICP) (Continued)

Lab Sample ID: 440-107839-A-1-C MSD ^100 — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: STLC Citrate**
Analysis Batch: 252306

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Nickel	0.53	J	20.0	21.6		mg/L		105	75 - 125	3	20
Selenium	ND		20.0	21.2		mg/L		106	75 - 125	3	20
Silver	ND		10.0	10.5		mg/L		105	75 - 125	2	20
Thallium	ND		20.0	20.2		mg/L		101	75 - 125	0	20
Vanadium	ND		20.0	21.7		mg/L		109	75 - 125	3	20
Zinc	1600		20.0	1650	4	mg/L		188	75 - 125	2	20

Lab Sample ID: MB 440-251706/1-A ^20 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: STLC Citrate**
Analysis Batch: 252484

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.20	0.10	mg/L			05/01/15 12:52	20
Molybdenum	ND		0.40	0.20	mg/L			05/01/15 12:52	20

Lab Sample ID: LCS 440-251706/2-A ^20 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: STLC Citrate**
Analysis Batch: 252484

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	20.0	23.5		mg/L		118	80 - 120
Molybdenum	20.0	20.8		mg/L		104	80 - 120

Lab Sample ID: 440-107839-A-1-C MS ^100 — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: STLC Citrate**
Analysis Batch: 252484

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	ND		20.0	23.3		mg/L		116	75 - 125
Molybdenum	ND		20.0	20.8		mg/L		104	75 - 125

Lab Sample ID: 440-107839-A-1-C MSD ^100 — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: STLC Citrate**
Analysis Batch: 252484

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	ND		20.0	21.9		mg/L		110	75 - 125	6	20
Molybdenum	ND		20.0	21.3		mg/L		106	75 - 125	2	20

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 440-251384/1-F — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 251939 — **Prep Batch: 251617**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00010	mg/L		04/28/15 13:03	04/28/15 18:38	1

Method: 7470A - Mercury (CVAA) (Continued)

Lab Sample ID: LCS 440-251384/2-F — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 251939 — **Prep Batch: 251617**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00800	0.00861		mg/L		108	80 - 120

Lab Sample ID: 440-108004-L-3-E MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 251939 — **Prep Batch: 251617**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	ND		0.00800	0.00861		mg/L		108	70 - 130

Lab Sample ID: 440-108004-L-3-F MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 251939 — **Prep Batch: 251617**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	ND		0.00800	0.00873		mg/L		109	70 - 130	1	20

Lab Sample ID: MB 440-251744/1-B — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: STLC Citrate**
Analysis Batch: 252254 — **Prep Batch: 251950**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.0020	0.0010	mg/L		04/29/15 15:48	04/30/15 16:09	1

Lab Sample ID: LCS 440-251744/2-B — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: STLC Citrate**
Analysis Batch: 252254 — **Prep Batch: 251950**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.0800	0.0748		mg/L		93	80 - 120

Lab Sample ID: 440-107993-1 MS — **Client Sample ID: W046**
Matrix: Water — **Prep Type: STLC Citrate**
Analysis Batch: 252254 — **Prep Batch: 251950**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	ND		0.0800	0.0761		mg/L		95	70 - 130

Lab Sample ID: 440-107993-1 MSD — **Client Sample ID: W046**
Matrix: Water — **Prep Type: STLC Citrate**
Analysis Batch: 252254 — **Prep Batch: 251950**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	ND		0.0800	0.0773		mg/L		97	70 - 130	2	20

Lab Sample ID: MB 440-251706/1-B — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: STLC Citrate**
Analysis Batch: 252403 — **Prep Batch: 252315**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.0020	0.0010	mg/L		05/01/15 05:54	05/01/15 09:40	1

QC Sample Results

Client: AMEC Foster Wheeler E & I, Inc
Project/Site: Chevron Kern River

TestAmerica Job ID: 440-107993-1
SDG: FR1416063A

Lab Sample ID: LCS 440-251706/2-B — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: STLC Citrate**
Analysis Batch: 252403 — **Prep Batch: 252315**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Mercury			0.0800	0.0846		mg/L		106	80 - 120		

Lab Sample ID: 440-107993-3 MS — **Client Sample ID: W048**
Matrix: Water — **Prep Type: STLC Citrate**
Analysis Batch: 252403 — **Prep Batch: 252315**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Mercury	0.0012	J	0.0800	0.0870		mg/L		107	70 - 130		

Lab Sample ID: 440-107993-3 MSD — **Client Sample ID: W048**
Matrix: Water — **Prep Type: STLC Citrate**
Analysis Batch: 252403 — **Prep Batch: 252315**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	0.0012	J	0.0800	0.0864		mg/L		107	70 - 130	1	20

Method: SM 2320B - Alkalinity

Lab Sample ID: MB 440-251247/3 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 251247

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	ND		4.0	4.0	mg/L			04/26/15 08:15	1
Bicarbonate Alkalinity as CaCO3	ND		4.0	4.0	mg/L			04/26/15 08:15	1
Carbonate Alkalinity as CaCO3	ND		4.0	4.0	mg/L			04/26/15 08:15	1
Hydroxide Alkalinity as CaCO3	ND		4.0	4.0	mg/L			04/26/15 08:15	1

Lab Sample ID: LCS 440-251247/2 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 251247

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Alkalinity as CaCO3			85.4	85.3		mg/L		100	80 - 120		

Lab Sample ID: 440-107855-A-3 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 251247

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Alkalinity as CaCO3	32			31.6		mg/L				0.1	20
Bicarbonate Alkalinity as CaCO3	32			31.6		mg/L				0.1	20
Carbonate Alkalinity as CaCO3	ND			ND		mg/L				NC	20
Hydroxide Alkalinity as CaCO3	ND			ND		mg/L				NC	20

QC Sample Results

Client: AMEC Foster Wheeler E & I, Inc
Project/Site: Chevron Kern River

TestAmerica Job ID: 440-107993-1
SDG: FR1416063A

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 440-251526/1 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 251526

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		10	5.0	mg/L			04/28/15 08:13	1

Lab Sample ID: LCS 440-251526/2 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 251526

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Total Dissolved Solids			1000	1010		mg/L		101	90 - 110		

Lab Sample ID: 440-107966-A-1 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 251526

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Dissolved Solids	20000			20600		mg/L				1	5

QC Association Summary

Client: AMEC Foster Wheeler E & I, Inc
Project/Site: Chevron Kern River

TestAmerica Job ID: 440-107993-1
SDG: FR1416063A

GC/MS VOA

Analysis Batch: 251507

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-107930-A-3 MS	Matrix Spike	Total/NA	Water	8260B	
440-107930-A-3 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	
440-107993-1	W046	Total/NA	Water	8260B	
440-107993-2	W047	Total/NA	Water	8260B	
440-107993-3	W048	Total/NA	Water	8260B	
440-107993-4	W049	Total/NA	Water	8260B	
LCS 440-251507/6	Lab Control Sample	Total/NA	Water	8260B	
MB 440-251507/5	Method Blank	Total/NA	Water	8260B	

GC/MS Semi VOA

Prep Batch: 251935

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-107993-1	W046	Total/NA	Water	3520C	
440-107993-2	W047	Total/NA	Water	3520C	
440-107993-3	W048	Total/NA	Water	3520C	
440-107993-4	W049	Total/NA	Water	3520C	
LCS 440-251935/2-A	Lab Control Sample	Total/NA	Water	3520C	
LCSD 440-251935/3-A	Lab Control Sample Dup	Total/NA	Water	3520C	
MB 440-251935/1-A	Method Blank	Total/NA	Water	3520C	

Analysis Batch: 252293

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-107993-1	W046	Total/NA	Water	8270C SIM	251935
440-107993-2	W047	Total/NA	Water	8270C SIM	251935
440-107993-3	W048	Total/NA	Water	8270C SIM	251935
440-107993-4	W049	Total/NA	Water	8270C SIM	251935
LCS 440-251935/2-A	Lab Control Sample	Total/NA	Water	8270C SIM	251935
LCSD 440-251935/3-A	Lab Control Sample Dup	Total/NA	Water	8270C SIM	251935
MB 440-251935/1-A	Method Blank	Total/NA	Water	8270C SIM	251935

GC Semi VOA

Prep Batch: 251518

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-107993-1	W046	Total/NA	Water	3510C	
440-107993-2	W047	Total/NA	Water	3510C	
440-107993-3	W048	Total/NA	Water	3510C	
440-107993-4	W049	Total/NA	Water	3510C	
LCS 440-251518/2-A	Lab Control Sample	Total/NA	Water	3510C	
LCSD 440-251518/3-A	Lab Control Sample Dup	Total/NA	Water	3510C	
MB 440-251518/1-A	Method Blank	Total/NA	Water	3510C	

Analysis Batch: 251822

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 440-251518/2-A	Lab Control Sample	Total/NA	Water	8015B	251518
LCSD 440-251518/3-A	Lab Control Sample Dup	Total/NA	Water	8015B	251518
MB 440-251518/1-A	Method Blank	Total/NA	Water	8015B	251518

GC Semi VOA (Continued)

Analysis Batch: 251823

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-107993-1	W046	Total/NA	Water	8015B	251518

Analysis Batch: 251826

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-107993-2	W047	Total/NA	Water	8015B	251518
440-107993-3	W048	Total/NA	Water	8015B	251518
440-107993-4	W049	Total/NA	Water	8015B	251518

HPLC/IC

Analysis Batch: 250972

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-107993-1	W046	Total/NA	Water	300.0	
440-107993-1 MS	W046	Total/NA	Water	300.0	
440-107993-1 MSD	W046	Total/NA	Water	300.0	
440-107993-2	W047	Total/NA	Water	300.0	
440-107993-3	W048	Total/NA	Water	300.0	
440-107993-4	W049	Total/NA	Water	300.0	
LCS 440-250972/2	Lab Control Sample	Total/NA	Water	300.0	
MB 440-250972/4	Method Blank	Total/NA	Water	300.0	

Analysis Batch: 250973

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-107993-1	W046	Total/NA	Water	300.0	
440-107993-1	W046	Total/NA	Water	300.0	
440-107993-1 MS	W046	Total/NA	Water	300.0	
440-107993-1 MSD	W046	Total/NA	Water	300.0	
440-107993-2	W047	Total/NA	Water	300.0	
440-107993-2	W047	Total/NA	Water	300.0	
440-107993-3	W048	Total/NA	Water	300.0	
440-107993-3	W048	Total/NA	Water	300.0	
440-107993-4	W049	Total/NA	Water	300.0	
440-107993-4	W049	Total/NA	Water	300.0	
LCS 440-250973/2	Lab Control Sample	Total/NA	Water	300.0	
MB 440-250973/4	Method Blank	Total/NA	Water	300.0	

Metals

Filtration Batch: 251384

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-107943-D-1-C MS ^5	Matrix Spike	Dissolved	Water	FILTRATION	
440-107943-D-1-D MSD ^5	Matrix Spike Duplicate	Dissolved	Water	FILTRATION	
440-107943-D-2-D MS ^5	Matrix Spike	Dissolved	Water	FILTRATION	
440-107943-D-2-E MSD ^5	Matrix Spike Duplicate	Dissolved	Water	FILTRATION	
440-107993-1	W046	Dissolved	Water	FILTRATION	
440-107993-2	W047	Dissolved	Water	FILTRATION	
440-107993-3	W048	Dissolved	Water	FILTRATION	
440-107993-4	W049	Dissolved	Water	FILTRATION	
440-108001-L-1-C MS	Matrix Spike	Dissolved	Water	FILTRATION	
440-108001-L-1-D MSD	Matrix Spike Duplicate	Dissolved	Water	FILTRATION	

Metals (Continued)

Filtration Batch: 251384 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-108004-L-3-E MS	Matrix Spike	Dissolved	Water	FILTRATION	
440-108004-L-3-F MSD	Matrix Spike Duplicate	Dissolved	Water	FILTRATION	
LCS 440-251384/2-B	Lab Control Sample	Dissolved	Water	FILTRATION	
LCS 440-251384/2-C	Lab Control Sample	Dissolved	Water	FILTRATION	
LCS 440-251384/2-D	Lab Control Sample	Dissolved	Water	FILTRATION	
LCS 440-251384/2-F	Lab Control Sample	Dissolved	Water	FILTRATION	
LCSD 440-251384/3-B	Lab Control Sample Dup	Dissolved	Water	FILTRATION	
MB 440-251384/1-B	Method Blank	Dissolved	Water	FILTRATION	
MB 440-251384/1-C	Method Blank	Dissolved	Water	FILTRATION	
MB 440-251384/1-D	Method Blank	Dissolved	Water	FILTRATION	
MB 440-251384/1-F	Method Blank	Dissolved	Water	FILTRATION	

Prep Batch: 251540

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-107943-D-1-C MS ^5	Matrix Spike	Dissolved	Water	200.2	251384
440-107943-D-1-D MSD ^5	Matrix Spike Duplicate	Dissolved	Water	200.2	251384
440-107993-1	W046	Dissolved	Water	200.2	251384
440-107993-2	W047	Dissolved	Water	200.2	251384
440-107993-3	W048	Dissolved	Water	200.2	251384
440-107993-4	W049	Dissolved	Water	200.2	251384
LCS 440-251384/2-B	Lab Control Sample	Dissolved	Water	200.2	251384
MB 440-251384/1-B	Method Blank	Dissolved	Water	200.2	251384

Prep Batch: 251541

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-107943-D-2-D MS ^5	Matrix Spike	Dissolved	Water	200.2	251384
440-107943-D-2-E MSD ^5	Matrix Spike Duplicate	Dissolved	Water	200.2	251384
440-107993-1	W046	Dissolved	Water	200.2	251384
440-107993-2	W047	Dissolved	Water	200.2	251384
440-107993-3	W048	Dissolved	Water	200.2	251384
440-107993-4	W049	Dissolved	Water	200.2	251384
LCS 440-251384/2-C	Lab Control Sample	Dissolved	Water	200.2	251384
LCSD 440-251384/3-B	Lab Control Sample Dup	Dissolved	Water	200.2	251384
MB 440-251384/1-C	Method Blank	Dissolved	Water	200.2	251384

Prep Batch: 251542

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-107993-1	W046	Dissolved	Water	3005A	251384
440-107993-2	W047	Dissolved	Water	3005A	251384
440-107993-3	W048	Dissolved	Water	3005A	251384
440-107993-4	W049	Dissolved	Water	3005A	251384
440-108001-L-1-C MS	Matrix Spike	Dissolved	Water	3005A	251384
440-108001-L-1-D MSD	Matrix Spike Duplicate	Dissolved	Water	3005A	251384
LCS 440-251384/2-D	Lab Control Sample	Dissolved	Water	3005A	251384
MB 440-251384/1-D	Method Blank	Dissolved	Water	3005A	251384

Prep Batch: 251617

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-107993-1	W046	Dissolved	Water	7470A	251384
440-107993-2	W047	Dissolved	Water	7470A	251384
440-107993-3	W048	Dissolved	Water	7470A	251384

Metals (Continued)

Prep Batch: 251617 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-107993-4	W049	Dissolved	Water	7470A	251384
440-108004-L-3-E MS	Matrix Spike	Dissolved	Water	7470A	251384
440-108004-L-3-F MSD	Matrix Spike Duplicate	Dissolved	Water	7470A	251384
LCS 440-251384/2-F	Lab Control Sample	Dissolved	Water	7470A	251384
MB 440-251384/1-F	Method Blank	Dissolved	Water	7470A	251384

Leach Batch: 251706

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-107839-A-1-C MS ^100	Matrix Spike	STLC Citrate	Water	CA WET Citrate	
440-107839-A-1-C MSD ^100	Matrix Spike Duplicate	STLC Citrate	Water	CA WET Citrate	
440-107993-3	W048	STLC Citrate	Water	CA WET Citrate	
440-107993-3 MS	W048	STLC Citrate	Water	CA WET Citrate	
440-107993-3 MSD	W048	STLC Citrate	Water	CA WET Citrate	
440-107993-4	W049	STLC Citrate	Water	CA WET Citrate	
LCS 440-251706/2-A ^20	Lab Control Sample	STLC Citrate	Water	CA WET Citrate	
LCS 440-251706/2-B	Lab Control Sample	STLC Citrate	Water	CA WET Citrate	
MB 440-251706/1-A ^20	Method Blank	STLC Citrate	Water	CA WET Citrate	
MB 440-251706/1-B	Method Blank	STLC Citrate	Water	CA WET Citrate	

Leach Batch: 251744

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-107993-1	W046	STLC Citrate	Water	CA WET Citrate	
440-107993-1 MS	W046	STLC Citrate	Water	CA WET Citrate	
440-107993-1 MSD	W046	STLC Citrate	Water	CA WET Citrate	
440-107993-2	W047	STLC Citrate	Water	CA WET Citrate	
LCS 440-251744/2-A ^20	Lab Control Sample	STLC Citrate	Water	CA WET Citrate	
LCS 440-251744/2-B	Lab Control Sample	STLC Citrate	Water	CA WET Citrate	
MB 440-251744/1-A ^20	Method Blank	STLC Citrate	Water	CA WET Citrate	
MB 440-251744/1-B	Method Blank	STLC Citrate	Water	CA WET Citrate	

Analysis Batch: 251753

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 440-251384/2-C	Lab Control Sample	Dissolved	Water	200.8	251541
LCSD 440-251384/3-B	Lab Control Sample Dup	Dissolved	Water	200.8	251541
MB 440-251384/1-C	Method Blank	Dissolved	Water	200.8	251541

Analysis Batch: 251785

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-107943-D-2-D MS ^5	Matrix Spike	Dissolved	Water	200.8	251541
440-107943-D-2-E MSD ^5	Matrix Spike Duplicate	Dissolved	Water	200.8	251541
440-107993-1	W046	Dissolved	Water	200.8	251541
440-107993-2	W047	Dissolved	Water	200.8	251541
440-107993-3	W048	Dissolved	Water	200.8	251541
440-107993-4	W049	Dissolved	Water	200.8	251541

Analysis Batch: 251786

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-107943-D-1-C MS ^5	Matrix Spike	Dissolved	Water	200.7 Rev 4.4	251540
440-107943-D-1-D MSD ^5	Matrix Spike Duplicate	Dissolved	Water	200.7 Rev 4.4	251540
440-107993-1	W046	Dissolved	Water	200.7 Rev 4.4	251540
440-107993-2	W047	Dissolved	Water	200.7 Rev 4.4	251540

Metals (Continued)

Analysis Batch: 251786 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-107993-3	W048	Dissolved	Water	200.7 Rev 4.4	251540
440-107993-4	W049	Dissolved	Water	200.7 Rev 4.4	251540
LCS 440-251384/2-B	Lab Control Sample	Dissolved	Water	200.7 Rev 4.4	251540
MB 440-251384/1-B	Method Blank	Dissolved	Water	200.7 Rev 4.4	251540

Analysis Batch: 251867

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-107993-1	W046	Dissolved	Water	6010B	251542
440-107993-2	W047	Dissolved	Water	6010B	251542
440-107993-3	W048	Dissolved	Water	6010B	251542
440-107993-4	W049	Dissolved	Water	6010B	251542
440-108001-L-1-C MS	Matrix Spike	Dissolved	Water	6010B	251542
440-108001-L-1-D MSD	Matrix Spike Duplicate	Dissolved	Water	6010B	251542
LCS 440-251384/2-D	Lab Control Sample	Dissolved	Water	6010B	251542
MB 440-251384/1-D	Method Blank	Dissolved	Water	6010B	251542

Analysis Batch: 251893

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-107993-1	W046	STLC Citrate	Water	6010B	251744
440-107993-1 MS	W046	STLC Citrate	Water	6010B	251744
440-107993-1 MSD	W046	STLC Citrate	Water	6010B	251744
440-107993-2	W047	STLC Citrate	Water	6010B	251744
LCS 440-251744/2-A ^20	Lab Control Sample	STLC Citrate	Water	6010B	251744
MB 440-251744/1-A ^20	Method Blank	STLC Citrate	Water	6010B	251744

Analysis Batch: 251894

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-107993-2	W047	Dissolved	Water	6010B	251542

Analysis Batch: 251939

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-107993-1	W046	Dissolved	Water	7470A	251617
440-107993-2	W047	Dissolved	Water	7470A	251617
440-107993-3	W048	Dissolved	Water	7470A	251617
440-107993-4	W049	Dissolved	Water	7470A	251617
440-108004-L-3-E MS	Matrix Spike	Dissolved	Water	7470A	251617
440-108004-L-3-F MSD	Matrix Spike Duplicate	Dissolved	Water	7470A	251617
LCS 440-251384/2-F	Lab Control Sample	Dissolved	Water	7470A	251617
MB 440-251384/1-F	Method Blank	Dissolved	Water	7470A	251617

Prep Batch: 251950

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-107993-1	W046	STLC Citrate	Water	7470A	251744
440-107993-1 MS	W046	STLC Citrate	Water	7470A	251744
440-107993-1 MSD	W046	STLC Citrate	Water	7470A	251744
440-107993-2	W047	STLC Citrate	Water	7470A	251744
LCS 440-251744/2-B	Lab Control Sample	STLC Citrate	Water	7470A	251744
MB 440-251744/1-B	Method Blank	STLC Citrate	Water	7470A	251744

Metals (Continued)

Analysis Batch: 252254

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-107993-1	W046	STLC Citrate	Water	7470A	251950
440-107993-1 MS	W046	STLC Citrate	Water	7470A	251950
440-107993-1 MSD	W046	STLC Citrate	Water	7470A	251950
440-107993-2	W047	STLC Citrate	Water	7470A	251950
LCS 440-251744/2-B	Lab Control Sample	STLC Citrate	Water	7470A	251950
MB 440-251744/1-B	Method Blank	STLC Citrate	Water	7470A	251950

Analysis Batch: 252306

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-107839-A-1-C MS ^100	Matrix Spike	STLC Citrate	Water	6010B	251706
440-107839-A-1-C MSD ^100	Matrix Spike Duplicate	STLC Citrate	Water	6010B	251706
440-107993-3	W048	STLC Citrate	Water	6010B	251706
440-107993-4	W049	STLC Citrate	Water	6010B	251706
LCS 440-251706/2-A ^20	Lab Control Sample	STLC Citrate	Water	6010B	251706
MB 440-251706/1-A ^20	Method Blank	STLC Citrate	Water	6010B	251706

Prep Batch: 252315

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-107993-3	W048	STLC Citrate	Water	7470A	251706
440-107993-3 MS	W048	STLC Citrate	Water	7470A	251706
440-107993-3 MSD	W048	STLC Citrate	Water	7470A	251706
440-107993-4	W049	STLC Citrate	Water	7470A	251706
LCS 440-251706/2-B	Lab Control Sample	STLC Citrate	Water	7470A	251706
MB 440-251706/1-B	Method Blank	STLC Citrate	Water	7470A	251706

Analysis Batch: 252403

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-107993-3	W048	STLC Citrate	Water	7470A	252315
440-107993-3 MS	W048	STLC Citrate	Water	7470A	252315
440-107993-3 MSD	W048	STLC Citrate	Water	7470A	252315
440-107993-4	W049	STLC Citrate	Water	7470A	252315
LCS 440-251706/2-B	Lab Control Sample	STLC Citrate	Water	7470A	252315
MB 440-251706/1-B	Method Blank	STLC Citrate	Water	7470A	252315

Analysis Batch: 252484

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-107839-A-1-C MS ^100	Matrix Spike	STLC Citrate	Water	6010B	251706
440-107839-A-1-C MSD ^100	Matrix Spike Duplicate	STLC Citrate	Water	6010B	251706
440-107993-3	W048	STLC Citrate	Water	6010B	251706
440-107993-3	W048	STLC Citrate	Water	6010B	251706
440-107993-4	W049	STLC Citrate	Water	6010B	251706
LCS 440-251706/2-A ^20	Lab Control Sample	STLC Citrate	Water	6010B	251706
MB 440-251706/1-A ^20	Method Blank	STLC Citrate	Water	6010B	251706

General Chemistry

Analysis Batch: 251247

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-107855-A-3 DU	Duplicate	Total/NA	Water	SM 2320B	
440-107993-1	W046	Total/NA	Water	SM 2320B	

General Chemistry (Continued)

Analysis Batch: 251247 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-107993-2	W047	Total/NA	Water	SM 2320B	
440-107993-3	W048	Total/NA	Water	SM 2320B	
440-107993-4	W049	Total/NA	Water	SM 2320B	
LCS 440-251247/2	Lab Control Sample	Total/NA	Water	SM 2320B	
MB 440-251247/3	Method Blank	Total/NA	Water	SM 2320B	

Analysis Batch: 251526

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-107966-A-1 DU	Duplicate	Total/NA	Water	SM 2540C	
440-107993-1	W046	Total/NA	Water	SM 2540C	
440-107993-2	W047	Total/NA	Water	SM 2540C	
440-107993-3	W048	Total/NA	Water	SM 2540C	
440-107993-4	W049	Total/NA	Water	SM 2540C	
LCS 440-251526/2	Lab Control Sample	Total/NA	Water	SM 2540C	
MB 440-251526/1	Method Blank	Total/NA	Water	SM 2540C	

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
*	ISTD response or retention time outside acceptable limits
X	Surrogate is outside control limits

GC/MS Semi VOA

Qualifier	Qualifier Description
*	ISTD response or retention time outside acceptable limits
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
X	Surrogate is outside control limits

GC Semi VOA

Qualifier	Qualifier Description
X	Surrogate is outside control limits
*	RPD of the LCS and LCSD exceeds the control limits

HPLC/IC

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
F1	MS and/or MSD Recovery is outside acceptance limits.

Metals

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
HF	Field parameter with a holding time of 15 minutes. Test performed by laboratory at client's request.
B	Compound was found in the blank and sample.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Certification Summary

Client: AMEC Foster Wheeler E & I, Inc
Project/Site: Chevron Kern River

TestAmerica Job ID: 440-107993-1
SDG: FR1416063A

Laboratory: TestAmerica Irvine

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Alaska	State Program	10	CA01531	06-30-15
Arizona	State Program	9	AZ0671	10-13-15
California	LA Cty Sanitation Districts	9	10256	01-31-16 *
California	State Program	9	2706	06-30-16
Guam	State Program	9	Cert. No. 12.002r	01-23-16
Hawaii	State Program	9	N/A	01-29-16
Nevada	State Program	9	CA015312007A	07-31-15
New Mexico	State Program	6	N/A	01-29-15 *
Northern Mariana Islands	State Program	9	MP0002	01-29-15 *
Oregon	NELAP	10	4005	01-29-16
USDA	Federal		P330-09-00080	06-06-15

* Certification renewal pending - certification considered valid.

CHAIN-OF-CUSTODY RECORD

FRE 16586

PROJECT NAME: Chevron Kern River Sampling Sumps 0,1,&2		DATE: 4/23/15	PAGE OF
PROJECT NUMBER: FR141 6063A	LABORATORY NAME: Test America	CLIENT INFORMATION:	REPORTING REQUIREMENTS:
RESULTS TO: Gary Kramer	LABORATORY ADDRESS: 17461 Derian Ave Suite 100		
TURNAROUND TIME: 5 days	Irvine Ca 92614		
SAMPLE SHIPMENT METHOD: FedEX	LABORATORY CONTACT: Patty Mata		GEOTRACKER REQUIRED EDF (YES) NO
	LABORATORY PHONE NUMBER: 949-261-1022		SITE SPECIFIC GLOBAL ID NO.

SAMPLERS (SIGNATURE):

DATE	TIME	SAMPLE NUMBER	8260B Acetone BTEX	8270C PAH	8015B	300 Cl, SO4, Br, F	300 NO3	2540C TDS	2320B Alk	200.7, 200.8	6010B, 7470A		6010B STLC Metals			CONTAINER TYPE AND SIZE	Soil (S), Water (W), Vapor (V), or Other (O)	Filtered	Preservative Type	Cooled	MS/MSD	No. of Containers	ADDITIONAL COMMENTS
4/23/15	2:55	W046	3	2	1		1			1			1				W	N		Y		9	Samples for
4/23/15	2:55	W047	3	2	1		1			1			1				W	N		Y		9	200.7 &
4/23/15	2:55	W048	3	2	1		1			1			1				W	N		Y		9	200.8 analyses
4/23/15	2:55	W049	3	2	1		1			1			1				W	N		Y		9	need to be filtered

440-107993 Chain of Custody

RELINQUISHED BY:	DATE	TIME	RECEIVED BY:	DATE	TIME
SIGNATURE:	4/23/15		SIGNATURE:		
PRINTED NAME: Johnatha Ebenbach			PRINTED NAME:		
COMPANY: Amec Fw			COMPANY:		
SIGNATURE:			SIGNATURE: Vu Banh	4/24/15	9:15
PRINTED NAME:			PRINTED NAME: Vu Banh		
COMPANY: FedEx 497671			COMPANY: TAI		
SIGNATURE:			SIGNATURE:		
PRINTED NAME:			PRINTED NAME:		
COMPANY:			COMPANY:		

TOTAL NUMBER OF CONTAINERS:

SAMPLING COMMENTS: Send results to gary.Kramer@amec.com
NO3 has 48hr hold time please analyse as quickly as possible
Samples for 200.7 and 200.8 need to be filtered
Fed: 806258382374

1281 East Alluvial Ave., Suite 101
Fresno, California 93720-2659
Tel 559.264.2535 Fax 559.264.7431

amec

2.8/2.1 3.1/2.4 IR-72

Login Sample Receipt Checklist

Client: AMEC Foster Wheeler E & I, Inc

Job Number: 440-107993-1
SDG Number: FR1416063A

Login Number: 107993
List Number: 1
Creator: Blocker, Kristina M

List Source: TestAmerica Irvine

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	False	Refer to Job Narrative for details.
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Irvine
17461 Derian Ave
Suite 100
Irvine, CA 92614-5817
Tel: (949)261-1022

TestAmerica Job ID: 440-107993-2
TestAmerica Sample Delivery Group: FR1416063A
Client Project/Site: Chevron Kern River

For:
AMEC Foster Wheeler E & I, Inc
1281 E Alluvial Ave, Ste 101
Fresno, California 93720

Attn: Gary Kramer

Authorized for release by:
5/12/2015 1:52:14 PM

Patty Mata, Senior Project Manager
(949)261-1022
patty.mata@testamericainc.com

LINKS

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Have a Question? Ask The Expert

Visit us at: www.testamericainc.com

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Sample Summary

Client: AMEC Foster Wheeler E & I, Inc
Project/Site: Chevron Kern River

TestAmerica Job ID: 440-107993-2
SDG: FR1416063A

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
440-107993-1	W046	Water	04/23/15 10:42	04/24/15 09:45
440-107993-2	W047	Water	04/23/15 11:18	04/24/15 09:45
440-107993-3	W048	Water	04/23/15 12:25	04/24/15 09:45
440-107993-4	W049	Water	04/23/15 12:40	04/24/15 09:45

Job ID: 440-107993-2

Laboratory: TestAmerica Irvine

Narrative

Job Narrative
440-107993-2

Comments
No additional comments.

Receipt
The samples were received on 4/24/2015 9:45 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 2.1º C and 2.3º C.

Except:
The sample time on container label for the following samples did not match the information listed on the Chain-of-Custody (COC): W046 (440-107993-1), W047 (440-107993-2), W048 (440-107993-3) and W049 (440-107993-4). The container labels for sample#1 list 10:42, while the COC lists 14:55, container labels for sample#2 list 11:18, while the COC lists 14:55, container labels for sample#3 list 12:25, while the COC lists 14:55,container labels for sample#4 list 12:40, while the COC lists 14:55.

RAD
Method(s) 9310: Gross Alpha-Beta, Total Dissolution prep batch # 189178:
The gross alpha and beta detection goal was not met for the following samples due to the presence of matrix interferences from high residual mass due to dissolved/suspended solids: W046 (440-107993-1), W047 (440-107993-2), W048 (440-107993-3), W049 (440-107993-4), (440-106783-P-1-A) and (440-106783-P-1-D DU). Analytical results are reported with the detection limit achieved.

Method(s) PrecSep_0: radium-228 batch 188975 and radium-226 batch #188974:
A deviation from the Standard Operating Procedure (SOP) occurred. The following samples were very oily, dark waters: W046 (440-107993-1), W047 (440-107993-2), W048 (440-107993-3) and W049 (440-107993-4). Per the direction of the technical director, a 500 mL aliquot was taken to dryness, muffled, and digested with acid. The sample were then precipitated and standard procedure was resumed. A LCS/LCSD was performed.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

General Chemistry
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Client Sample Results

Client: AMEC Foster Wheeler E & I, Inc
Project/Site: Chevron Kern River

TestAmerica Job ID: 440-107993-2
SDG: FR1416063A

Client Sample ID: W046

Lab Sample ID: 440-107993-1
Date Collected: 04/23/15 10:42
Matrix: Water
Date Received: 04/24/15 09:45

Method: 9310 - Gross Alpha / Beta (GFPC) - Dissolved

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	MDC	Unit	Prepared	Analyzed	Dil Fac
Gross Alpha	**27.3**	**G**	11.9	12.3	15.6	pCi/L	05/04/15 10:37	05/04/15 19:54	1
Gross Beta	**25.8**	**G**	5.11	5.72	5.64	pCi/L	05/04/15 10:37	05/04/15 19:54	1

Method: 9315 - Radium-226 (GFPC) - Dissolved

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	**2.45**		0.388	0.446	0.261	pCi/L	05/01/15 11:37	05/07/15 16:26	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*101*		*40 - 110*	*05/01/15 11:37*	*05/07/15 16:26*	*1*

Method: 9320 - Radium-228 (GFPC) - Dissolved

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.591	U	0.407	0.411	0.632	pCi/L	05/01/15 11:47	05/07/15 11:09	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*101*		*40 - 110*	*05/01/15 11:47*	*05/07/15 11:09*	*1*
Y Carrier	*91.6*		*40 - 110*	*05/01/15 11:47*	*05/07/15 11:09*	*1*

Client Sample ID: W047

Lab Sample ID: 440-107993-2
Date Collected: 04/23/15 11:18
Matrix: Water
Date Received: 04/24/15 09:45

Method: 9310 - Gross Alpha / Beta (GFPC) - Dissolved

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	MDC	Unit	Prepared	Analyzed	Dil Fac
Gross Alpha	4.93	U G	5.67	5.70	9.29	pCi/L	05/04/15 10:37	05/04/15 19:54	1
Gross Beta	**7.45**		2.46	2.57	3.24	pCi/L	05/04/15 10:37	05/04/15 19:54	1

Method: 9315 - Radium-226 (GFPC) - Dissolved

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	**1.09**		0.286	0.302	0.289	pCi/L	05/01/15 11:37	05/07/15 16:26	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*103*		*40 - 110*	*05/01/15 11:37*	*05/07/15 16:26*	*1*

Method: 9320 - Radium-228 (GFPC) - Dissolved

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.682	U	0.478	0.482	0.750	pCi/L	05/01/15 11:47	05/07/15 11:09	1

Client Sample Results

Client: AMEC Foster Wheeler E & I, Inc
Project/Site: Chevron Kern River

TestAmerica Job ID: 440-107993-2
SDG: FR1416063A

Client Sample ID: W047
Date Collected: 04/23/15 11:18
Date Received: 04/24/15 09:45

Lab Sample ID: 440-107993-2
Matrix: Water

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	103		40 - 110	05/01/15 11:47	05/07/15 11:09	1
Y Carrier	89.3		40 - 110	05/01/15 11:47	05/07/15 11:09	1

Client Sample ID: W048
Date Collected: 04/23/15 12:25
Date Received: 04/24/15 09:45

Lab Sample ID: 440-107993-3
Matrix: Water

Method: 9310 - Gross Alpha / Beta (GFPC) - Dissolved

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	MDC	Unit	Prepared	Analyzed	Dil Fac
Gross Alpha	9.75	U G	6.90	6.99	10.3	pCi/L	05/04/15 10:37	05/04/15 19:54	1
Gross Beta	**11.3**		3.06	3.26	3.85	pCi/L	05/04/15 10:37	05/04/15 19:54	1

Method: 9315 - Radium-226 (GFPC) - Dissolved

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	**1.23**		0.290	0.311	0.243	pCi/L	05/01/15 11:37	05/07/15 16:26	1

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	90.6		40 - 110	05/01/15 11:37	05/07/15 16:26	1

Method: 9320 - Radium-228 (GFPC) - Dissolved

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.552	U	0.456	0.458	0.725	pCi/L	05/01/15 11:47	05/07/15 11:10	1

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	90.6		40 - 110	05/01/15 11:47	05/07/15 11:10	1
Y Carrier	89.7		40 - 110	05/01/15 11:47	05/07/15 11:10	1

Client Sample ID: W049
Date Collected: 04/23/15 12:40
Date Received: 04/24/15 09:45

Lab Sample ID: 440-107993-4
Matrix: Water

Method: 9310 - Gross Alpha / Beta (GFPC) - Dissolved

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	MDC	Unit	Prepared	Analyzed	Dil Fac
Gross Alpha	**13.9**	**G**	8.25	8.40	11.7	pCi/L	05/04/15 10:37	05/04/15 19:55	1
Gross Beta	**16.6**		3.39	3.78	3.75	pCi/L	05/04/15 10:37	05/04/15 19:55	1

Method: 9315 - Radium-226 (GFPC) - Dissolved

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	**1.05**		0.284	0.299	0.302	pCi/L	05/01/15 11:37	05/07/15 16:26	1

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	101		40 - 110	05/01/15 11:37	05/07/15 16:26	1

Client Sample Results

Client: AMEC Foster Wheeler E & I, Inc
Project/Site: Chevron Kern River

TestAmerica Job ID: 440-107993-2
SDG: FR1416063A

Method: 9320 - Radium-228 (GFPC) - Dissolved

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.0417	U	0.384	0.384	0.682	pCi/L	05/01/15 11:47	05/07/15 11:10	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*101*		*40 - 110*	*05/01/15 11:47*	*05/07/15 11:10*	*1*
Y Carrier	*86.0*		*40 - 110*	*05/01/15 11:47*	*05/07/15 11:10*	*1*

Method Summary

Client: AMEC Foster Wheeler E & I, Inc
Project/Site: Chevron Kern River

TestAmerica Job ID: 440-107993-2
SDG: FR1416063A

Method	Method Description	Protocol	Laboratory
9310	Gross Alpha / Beta (GFPC)	SW846	TAL SL
9315	Radium-226 (GFPC)	SW846	TAL SL
9320	Radium-228 (GFPC)	SW846	TAL SL

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL SL = TestAmerica St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Lab Chronicle

Client: AMEC Foster Wheeler E & I, Inc
Project/Site: Chevron Kern River

TestAmerica Job ID: 440-107993-2
SDG: FR1416063A

Client Sample ID: W046

Lab Sample ID: 440-107993-1
Date Collected: 04/23/15 10:42
Matrix: Water
Date Received: 04/24/15 09:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Filtration	Filtration			1 gal	1 gal	188579	04/29/15 10:55	JWM	TAL SL
Dissolved	Prep	Evaporation			37 mL	1.0 g	189178	05/04/15 10:37	MJS	TAL SL
Dissolved	Analysis	9310		1	37 mL		189221	05/04/15 19:54	RTM	TAL SL
Dissolved	Filtration	Filtration			1 gal	1 gal	188579	04/29/15 10:55	JWM	TAL SL
Dissolved	Prep	PrecSep_0			500.77 mL	1.0 g	188974	05/01/15 11:37	LEM	TAL SL
Dissolved	Analysis	9315		1	500.77 mL		189891	05/07/15 16:26	SMP	TAL SL
Dissolved	Filtration	Filtration			1 gal	1 gal	188579	04/29/15 10:55	JWM	TAL SL
Dissolved	Prep	PrecSep_0			500.77 mL	1.0 g	188975	05/01/15 11:47	LEM	TAL SL
Dissolved	Analysis	9320		1	500.77 mL		189893	05/07/15 11:09	SMP	TAL SL

Client Sample ID: W047

Lab Sample ID: 440-107993-2
Date Collected: 04/23/15 11:18
Matrix: Water
Date Received: 04/24/15 09:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Filtration	Filtration			1 gal	1 gal	188579	04/29/15 10:55	JWM	TAL SL
Dissolved	Prep	Evaporation			60 mL	1.0 g	189178	05/04/15 10:37	MJS	TAL SL
Dissolved	Analysis	9310		1	60 mL		189221	05/04/15 19:54	RTM	TAL SL
Dissolved	Filtration	Filtration			1 gal	1 gal	188579	04/29/15 10:55	JWM	TAL SL
Dissolved	Prep	PrecSep_0			500.28 mL	1.0 g	188974	05/01/15 11:37	LEM	TAL SL
Dissolved	Analysis	9315		1	500.28 mL		189891	05/07/15 16:26	SMP	TAL SL
Dissolved	Filtration	Filtration			1 gal	1 gal	188579	04/29/15 10:55	JWM	TAL SL
Dissolved	Prep	PrecSep_0			500.28 mL	1.0 g	188975	05/01/15 11:47	LEM	TAL SL
Dissolved	Analysis	9320		1	500.28 mL		189893	05/07/15 11:09	SMP	TAL SL

Client Sample ID: W048

Lab Sample ID: 440-107993-3
Date Collected: 04/23/15 12:25
Matrix: Water
Date Received: 04/24/15 09:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Filtration	Filtration			1 gal	1 gal	188579	04/29/15 10:55	JWM	TAL SL
Dissolved	Prep	Evaporation			55 mL	1.0 g	189178	05/04/15 10:37	MJS	TAL SL
Dissolved	Analysis	9310		1	55 mL		189221	05/04/15 19:54	RTM	TAL SL
Dissolved	Filtration	Filtration			1 gal	1 gal	188579	04/29/15 10:55	JWM	TAL SL
Dissolved	Prep	PrecSep_0			500.48 mL	1.0 g	188974	05/01/15 11:37	LEM	TAL SL
Dissolved	Analysis	9315		1	500.48 mL		189891	05/07/15 16:26	SMP	TAL SL
Dissolved	Filtration	Filtration			1 gal	1 gal	188579	04/29/15 10:55	JWM	TAL SL
Dissolved	Prep	PrecSep_0			500.48 mL	1.0 g	188975	05/01/15 11:47	LEM	TAL SL
Dissolved	Analysis	9320		1	500.48 mL		189893	05/07/15 11:10	SMP	TAL SL

Lab Chronicle

Client: AMEC Foster Wheeler E & I, Inc
Project/Site: Chevron Kern River

TestAmerica Job ID: 440-107993-2
SDG: FR1416063A

Client Sample ID: W049

Date Collected: 04/23/15 12:40
Date Received: 04/24/15 09:45

Lab Sample ID: 440-107993-4

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Filtration	Filtration			1 gal	1 gal	188579	04/29/15 10:55	JWM	TAL SL
Dissolved	Prep	Evaporation			54 mL	1.0 g	189178	05/04/15 10:37	MJS	TAL SL
Dissolved	Analysis	9310		1	54 mL		189221	05/04/15 19:55	RTM	TAL SL
Dissolved	Filtration	Filtration			1 gal	1 gal	188579	04/29/15 10:55	JWM	TAL SL
Dissolved	Prep	PrecSep_0			500.38 mL	1.0 g	188974	05/01/15 11:37	LEM	TAL SL
Dissolved	Analysis	9315		1	500.38 mL		189891	05/07/15 16:26	SMP	TAL SL
Dissolved	Filtration	Filtration			1 gal	1 gal	188579	04/29/15 10:55	JWM	TAL SL
Dissolved	Prep	PrecSep_0			500.38 mL	1.0 g	188975	05/01/15 11:47	LEM	TAL SL
Dissolved	Analysis	9320		1	500.38 mL		189893	05/07/15 11:10	SMP	TAL SL

Laboratory References:

TAL SL = TestAmerica St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

QC Sample Results

Client: AMEC Foster Wheeler E & I, Inc
Project/Site: Chevron Kern River

TestAmerica Job ID: 440-107993-2
SDG: FR1416063A

Method: 9310 - Gross Alpha / Beta (GFPC)

Lab Sample ID: MB 160-189178/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 189179 — **Prep Batch: 189178**

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	MDC	Unit	Prepared	Analyzed	Dil Fac
Gross Alpha	-0.1342	U	0.710	0.710	1.41	pCi/L	05/04/15 10:37	05/04/15 19:52	1
Gross Beta	0.2223	U	0.492	0.492	0.849	pCi/L	05/04/15 10:37	05/04/15 19:52	1

Lab Sample ID: LCS 160-189178/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 189179 — **Prep Batch: 189178**

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	MDC	Unit	%Rec	%Rec. Limits
Gross Alpha	50.0	53.37		8.25	3.20	pCi/L	107	73 - 133

Lab Sample ID: LCSB 160-189178/3-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 189179 — **Prep Batch: 189178**

Analyte	Spike Added	LCSB Result	LCSB Qual	Total Uncert. (2σ+/-)	MDC	Unit	%Rec	%Rec. Limits
Gross Beta	95.1	93.72		9.90	0.908	pCi/L	99	75 - 125

Lab Sample ID: 440-106783-P-1-B MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 189179 — **Prep Batch: 189178**

Analyte	Sample Result	Sample Qual	Spike Added	MS Result	MS Qual	Total Uncert. (2σ+/-)	MDC	Unit	%Rec	%Rec. Limits
Gross Alpha	-17.5	U G	2000	2329		363	143	pCi/L	116	35 - 150

Lab Sample ID: 440-106783-P-1-C MSBT — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 189179 — **Prep Batch: 189178**

Analyte	Sample Result	Sample Qual	Spike Added	MSBT Result	MSBT Qual	Total Uncert. (2σ+/-)	MDC	Unit	%Rec	%Rec. Limits
Gross Beta	53.6	G	3810	3922	G	414	39.5	pCi/L	102	89 - 143

Lab Sample ID: 440-106783-P-1-D DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 189179 — **Prep Batch: 189178**

Analyte	Sample Result	Sample Qual	DU Result	DU Qual	Total Uncert. (2σ+/-)	MDC	Unit	RER	RER Limit
Gross Alpha	-17.5	U G	-31.09	U G	78.8	157	pCi/L	0.09	1
Gross Beta	53.6	G	14.83	U G	22.7	38.6	pCi/L	0.82	1

Method: 9315 - Radium-226 (GFPC)

Lab Sample ID: MB 160-188974/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 189891 — **Prep Batch: 188974**

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.07055	U	0.165	0.166	0.299	pCi/L	05/01/15 11:37	05/07/15 16:24	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*69.3*		*40 - 110*	*05/01/15 11:37*	*05/07/15 16:24*	*1*

Lab Sample ID: LCS 160-188974/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 189891 — **Prep Batch: 188974**

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	MDC	Unit	%Rec	%Rec. Limits
Radium-226	22.3	29.87		3.00	0.273	pCi/L	134	68 - 137

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*87.6*		*40 - 110*

Lab Sample ID: LCSD 160-188974/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 189982 — **Prep Batch: 188974**

Analyte	Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-226	22.3	29.24		2.86	0.169	pCi/L	131	68 - 137	0.11	1

Carrier	*LCSD %Yield*	*LCSD Qualifier*	*Limits*
Ba Carrier	*110*		*40 - 110*

Method: 9320 - Radium-228 (GFPC)

Lab Sample ID: MB 160-188975/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 189893 — **Prep Batch: 188975**

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.2912	U	0.526	0.526	0.894	pCi/L	05/01/15 11:47	05/07/15 11:08	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*69.3*		*40 - 110*	*05/01/15 11:47*	*05/07/15 11:08*	*1*
Y Carrier	*91.2*		*40 - 110*	*05/01/15 11:47*	*05/07/15 11:08*	*1*

Method: 9320 - Radium-228 (GFPC) (Continued)

Lab Sample ID: LCS 160-188975/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 189893 — **Prep Batch: 188975**

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)		MDC	Unit	%Rec	%Rec. Limits		
Radium-228			6.86	9.084		1.29		0.782	pCi/L	132	56 - 140		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*87.6*		*40 - 110*
Y Carrier	*88.2*		*40 - 110*

Lab Sample ID: LCSD 160-188975/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 189893 — **Prep Batch: 188975**

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)		MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-228			6.86	9.581		1.24		0.636	pCi/L	140	56 - 140	0.20	1

Carrier	*LCSD %Yield*	*LCSD Qualifier*	*Limits*
Ba Carrier	*110*		*40 - 110*
Y Carrier	*91.2*		*40 - 110*

QC Association Summary

Client: AMEC Foster Wheeler E & I, Inc
Project/Site: Chevron Kern River

TestAmerica Job ID: 440-107993-2
SDG: FR1416063A

Rad

Filtration Batch: 188579

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-107993-1	W046	Dissolved	Water	Filtration	
440-107993-2	W047	Dissolved	Water	Filtration	
440-107993-3	W048	Dissolved	Water	Filtration	
440-107993-4	W049	Dissolved	Water	Filtration	

Prep Batch: 188974

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-107993-1	W046	Dissolved	Water	PrecSep_0	188579
440-107993-2	W047	Dissolved	Water	PrecSep_0	188579
440-107993-3	W048	Dissolved	Water	PrecSep_0	188579
440-107993-4	W049	Dissolved	Water	PrecSep_0	188579
LCS 160-188974/2-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
LCSD 160-188974/3-A	Lab Control Sample Dup	Total/NA	Water	PrecSep_0	
MB 160-188974/1-A	Method Blank	Total/NA	Water	PrecSep_0	

Prep Batch: 188975

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-107993-1	W046	Dissolved	Water	PrecSep_0	188579
440-107993-2	W047	Dissolved	Water	PrecSep_0	188579
440-107993-3	W048	Dissolved	Water	PrecSep_0	188579
440-107993-4	W049	Dissolved	Water	PrecSep_0	188579
LCS 160-188975/2-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
LCSD 160-188975/3-A	Lab Control Sample Dup	Total/NA	Water	PrecSep_0	
MB 160-188975/1-A	Method Blank	Total/NA	Water	PrecSep_0	

Prep Batch: 189178

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-106783-P-1-B MS	Matrix Spike	Total/NA	Water	Evaporation	
440-106783-P-1-C MSBT	Matrix Spike	Total/NA	Water	Evaporation	
440-106783-P-1-D DU	Duplicate	Total/NA	Water	Evaporation	
440-107993-1	W046	Dissolved	Water	Evaporation	188579
440-107993-2	W047	Dissolved	Water	Evaporation	188579
440-107993-3	W048	Dissolved	Water	Evaporation	188579
440-107993-4	W049	Dissolved	Water	Evaporation	188579
LCS 160-189178/2-A	Lab Control Sample	Total/NA	Water	Evaporation	
LCSB 160-189178/3-A	Lab Control Sample	Total/NA	Water	Evaporation	
MB 160-189178/1-A	Method Blank	Total/NA	Water	Evaporation	

Qualifiers

Rad

Qualifier	Qualifier Description
G	The Sample MDC is greater than the requested RL.
U	Result is less than the sample detection limit.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Certification Summary

Client: AMEC Foster Wheeler E & I, Inc
Project/Site: Chevron Kern River

TestAmerica Job ID: 440-107993-2
SDG: FR1416063A

Laboratory: TestAmerica Irvine

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Alaska	State Program	10	CA01531	06-30-15
Arizona	State Program	9	AZ0671	10-13-15
California	LA Cty Sanitation Districts	9	10256	01-31-16 *
California	State Program	9	2706	06-30-16
Guam	State Program	9	Cert. No. 12.002r	01-23-16
Hawaii	State Program	9	N/A	01-29-16
Nevada	State Program	9	CA015312007A	07-31-15
New Mexico	State Program	6	N/A	01-29-15 *
Northern Mariana Islands	State Program	9	MP0002	01-29-15 *
Oregon	NELAP	10	4005	01-29-16
USDA	Federal		P330-09-00080	06-06-15

Laboratory: TestAmerica St. Louis

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Alaska	State Program	10	MO00054	06-30-15
California	NELAP	9	2886	03-31-16
Connecticut	State Program	1	PH-0241	03-31-17
Florida	NELAP	4	E87689	06-30-15
Illinois	NELAP	5	200023	11-30-15
Iowa	State Program	7	373	12-01-16
Kansas	NELAP	7	E-10236	04-30-15 *
Kentucky (DW)	State Program	4	90125	12-31-15
L-A-B	DoD ELAP		L2305	01-10-16
Louisiana	NELAP	6	04080	06-30-15
Louisiana (DW)	NELAP	6	LA150017	12-31-16
Maryland	State Program	3	310	09-30-15
Missouri	State Program	7	780	06-30-15
Nevada	State Program	9	MO000542013-1	07-31-15
New Jersey	NELAP	2	MO002	06-30-15
New Mexico	State Program	6		06-30-10 *
New York	NELAP	2	11616	03-31-16
North Dakota	State Program	8	R207	06-30-15
NRC	NRC		24-24817-01	12-31-22
Oklahoma	State Program	6	9997	08-31-15
Pennsylvania	NELAP	3	68-00540	02-28-16
South Carolina	State Program	4	85002001	06-30-15
Texas	NELAP	6	T104704193-13-6	07-31-15
USDA	Federal		P330-07-00122	01-09-17
Utah	NELAP	8	MO000542013-5	07-31-15
Virginia	NELAP	3	460230	06-14-15
Washington	State Program	10	C592	08-30-15
West Virginia DEP	State Program	3	381	08-31-15

* Certification renewal pending - certification considered valid.

CHAIN-OF-CUSTODY RECORD

FRE 16587

PROJECT NAME: Chevron Kern River Sampling Samps 0, 1, & 2

DATE: 4/23/15 PAGE OF

PROJECT NUMBER: FR141G063A

RESULTS TO: Gary Kramer

TURNAROUND TIME: 3-day

SAMPLE SHIPMENT METHOD: FedEx

LABORATORY NAME: Test America

LABORATORY ADDRESS: 13715 Rider Trail N, Earth City MO 63045

LABORATORY CONTACT: Cathy Mata

LABORATORY PHONE NUMBER: 949-261-1022

CLIENT INFORMATION:

REPORTING REQUIREMENTS:

GEOTRACKER REQUIRED EDF YES NO

SITE SPECIFIC GLOBAL ID NO.

SAMPLERS (SIGNATURE):

ANALYSES

DATE	TIME	SAMPLE NUMBER	9315 Ra 226	9320 Ra 228	9310 Alpha + Beta	CONTAINER TYPE AND SIZE	Soil (S), Water (W), Vapor (V), or Other (O)	Filtered	Preservative Type	Cooled	MS/MSD	No. of Containers	ADDITIONAL COMMENTS
4/23/15	2:55	W046	1				W	N		Y		1	
4/23/15	2:55	W047	1				W	N		Y		1	
4/23/15	2:55	W048	1				W	N		Y		1	
4/23/15	2:55	W049	1				W	N		Y		1	W049 is a duplicate of W048

RELINQUISHED BY:	DATE	TIME	RECEIVED BY:	DATE	TIME
SIGNATURE:	4/23/15		SIGNATURE:	4/24/15	0920
PRINTED NAME: Jonathan Elshabah			PRINTED NAME: Brian Daniels		
COMPANY: Amec FW			COMPANY: TA		
SIGNATURE:			SIGNATURE:		
PRINTED NAME: Katie Thomas			PRINTED NAME:		
COMPANY:			COMPANY:		
SIGNATURE:			SIGNATURE:		
PRINTED NAME:			PRINTED NAME:		
COMPANY:			COMPANY:		

TOTAL NUMBER OF CONTAINERS:

SAMPLING COMMENTS: Send results to gary.kramer@amec.com

1281 East Alluvial Ave., Suite 101
Fresno, California 93720-2659
Tel 559.264.2535 Fax 559.264.7431

amec

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Lot #(s): _____

CUR Form #: 1 1 1

CONDITION UPON RECEIPT FORM

Client: TA Irvine

Quote No:

COC/RFA No: FRE 16814, FRE 16587

Initiated By: bn Date: 4/24/15 Time: 0920

Shipping Information

Shipper: (FedEx) UPS DHL Courier Client Other: _____ Multiple Packages: (Y) N

Shipping # (s):*

1. 8042 5838 2385
2. 8042 5838 2889
3.
4.
5.
6.
7.
8.
9.
10.

Sample Temperature (s):**

1. 2.2 -0.3
2. 2.0 -0.3
3.
4.
5.
6.
7.
8.
9.
10.

*Numbered shipping lines correspond to Numbered Sample Temp lines

**Sample must be received at 4°C ± 2°C- If not, note contents below. Temperature variance does NOT affect the following: Metals-Liquid; Rad tests- Liquid or Solids; Perchlorate

Condition (Circle "Y" for yes, "N" for no and "N/A" for not applicable):

1.	Y (N)	Are there custody seals present on the cooler?	8.	Y (N)	Are there custody seals present on bottles?
2.	Y N (N/A)	Do custody seals on cooler appear to be tampered with?	9.	Y N (N/A)	Do custody seals on bottles appear to be tampered with?
3.	(Y) N	Were contents of cooler frisked after opening, but before unpacking?	10.	Y N (N/A)	Was sample received with proper pH[1]? (If not, make note below)
4.	(Y) N	Sample received with Chain of Custody?	11.	Y N (N/A)	Containers for C-14, H-3 & I-129/131 marked with "Do Not Preserve" label?
5.	(Y) N N/A	Does the Chain of Custody match sample ID's on the container(s)?	12.	(Y) N	Sample received in proper containers?
6.	Y (N)	Was sample received broken?	13.	Y N (N/A)	Headspace in VOA or TOX liquid samples? (If Yes, note sample ID's below)
7.	(Y) N	Is sample volume sufficient for analysis?	14.	Y N (N/A)	Was Internal COC/Workshare received?

[1] For DOE-AL (Pantex, LANL, Sandia) sites, pH of ALL containers received must be verified, EXCEPT VOA, TOX, Oil & Grease and soils.

Notes:

Corrective Action:

☐ Client Contact Name: _____ Informed by: _____

☐ Sample(s) processed "as is"

☐ Sample(s) on hold until: _____ If released, notify: _____

Date: _____

Project Management Review: _____

THIS FORM MUST BE COMPLETED AT THE TIME THE ITEMS ARE BEING CHECKED IN. IF ANY ITEM IS COMPLETED BY SOMEONE OTHER THAN THE INITIATOR, THEN THAT PERSON IS REQUIRED TO APPLY THEIR INITIAL AND THE DATE NEXT TO THAT ITEM.

ADMIN-0004 rev13, REVISED 05/27/11 \\Slsvr01\QA\FORMS\ST-LOUIS\ADMIN\Admin-0004 CUR.doc

Login Sample Receipt Checklist

Client: AMEC Foster Wheeler E & I, Inc

Job Number: 440-107993-2
SDG Number: FR1416063A

Login Number: 107993
List Number: 1
Creator: Blocker, Kristina M

List Source: TestAmerica Irvine

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	False	Refer to Job Narrative for details.
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: AMEC Foster Wheeler E & I, Inc

Job Number: 440-107993-2
SDG Number: FR1416063A

Login Number: 107993
List Number: 2
Creator: Clarke, Jill C

List Source: TestAmerica St. Louis
List Creation: 04/28/15 04:38 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	1.9, 2.3
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	Lab to filter & preserve
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Tracer/Carrier Summary

Client: AMEC Foster Wheeler E & I, Inc
Project/Site: Chevron Kern River

TestAmerica Job ID: 440-107993-2
SDG: FR1416063A

Method: 9315 - Radium-226 (GFPC)

Matrix: Water **Prep Type: Total/NA**

		Percent Yield (Acceptance Limits)							
Lab Sample ID	**Client Sample ID**	**Ba (40-110)**							
LCS 160-188974/2-A	Lab Control Sample	87.6							
LCSD 160-188974/3-A	Lab Control Sample Dup	110							
MB 160-188974/1-A	Method Blank	69.3							

Tracer/Carrier Legend

Ba = Ba Carrier

Method: 9315 - Radium-226 (GFPC)

Matrix: Water **Prep Type: Dissolved**

		Percent Yield (Acceptance Limits)							
Lab Sample ID	**Client Sample ID**	**Ba (40-110)**							
440-107993-1	W046	101							
440-107993-2	W047	103							
440-107993-3	W048	90.6							
440-107993-4	W049	101							

Tracer/Carrier Legend

Ba = Ba Carrier

Method: 9320 - Radium-228 (GFPC)

Matrix: Water **Prep Type: Total/NA**

		Percent Yield (Acceptance Limits)							
Lab Sample ID	**Client Sample ID**	**Ba (40-110)**	**Y (40-110)**						
LCS 160-188975/2-A	Lab Control Sample	87.6	88.2						
LCSD 160-188975/3-A	Lab Control Sample Dup	110	91.2						
MB 160-188975/1-A	Method Blank	69.3	91.2						

Tracer/Carrier Legend

Ba = Ba Carrier
Y = Y Carrier

Method: 9320 - Radium-228 (GFPC)

Matrix: Water **Prep Type: Dissolved**

		Percent Yield (Acceptance Limits)							
Lab Sample ID	**Client Sample ID**	**Ba (40-110)**	**Y (40-110)**						
440-107993-1	W046	101	91.6						
440-107993-2	W047	103	89.3						
440-107993-3	W048	90.6	89.7						
440-107993-4	W049	101	86.0						

Tracer/Carrier Legend

Ba = Ba Carrier
Y = Y Carrier

TestAmerica

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ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Irvine
17461 Derian Ave
Suite 100
Irvine, CA 92614-5817
Tel: (949)261-1022

TestAmerica Job ID: 440-108953-1
Client Project/Site: Chevron Kern River SB4, FR1416063A.002

For:
AMEC Foster Wheeler E & I, Inc
1281 E Alluvial Ave, Ste 101
Fresno, California 93720

Attn: Gary Kramer

Authorized for release by:
5/15/2015 1:33:26 PM

Patty Mata, Senior Project Manager
(949)261-1022
patty.mata@testamericainc.com

LINKS

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The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Sample Summary

Client: AMEC Foster Wheeler E & I, Inc
Project/Site: Chevron Kern River SB4, FR1416063A.002

TestAmerica Job ID: 440-108953-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
440-108953-1	W050	Water	05/05/15 13:30	05/06/15 10:00

Job ID: 440-108953-1

Laboratory: TestAmerica Irvine

Narrative

Job Narrative
440-108953-1

Comments
No additional comments.

Receipt
The samples were received on 5/6/2015 10:00 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 0.8º C and 4.0º C.

GC/MS VOA
Method(s) 8260B: The following sample was diluted due to the nature of the sample matrix: W050 (440-108953-1). Elevated reporting limits (RLs) are provided.

Method(s) 8260B: Surrogate 4-Bromofluorobenzene (Surrogate) recovery for the following sample was above upper control limits: W050 (440-108953-1). Evidence of matrix interference (due to surfactant) is present; therefore, re-extraction/ re-analysis was not performed.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC/MS Semi VOA
Method(s) 8270C SIM: The following sample required a dilution due to the nature of the sample matrix: W050 (440-108953-1). Because of this dilution, the surrogate spike concentration in the sample was reduced to a level where the recovery calculation does not provide useful information.

Method(s) 8270C SIM: The following sample was diluted due to the nature of the sample matrix: W050 (440-108953-1). Elevated reporting limits (RLs) are provided.

Method(s) 8270C SIM: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 253499. The laboratory control sample (LCS) was performed in duplicate to provide precision data for this batch.

Method(s) 8270C SIM: The %RPD between the laboratory control sample (LCS) and laboratory control standard duplicate (LCSD) for preparation batch 253499 recovered outside control limits for Acenaphthylene.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

HPLC/IC
Method(s) 300.0: The following sample was diluted for anions analysis due to the nature of the sample matrix: W050 (440-108953-1). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC Semi VOA
Method(s) 8015B: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with batch 253461. The laboratory control sample (LCS) was performed in duplicate to provide precision data for this batch.

Method(s) 8015B: The following sample required a dilution due to the nature of the sample matrix: W050 (440-108953-1). Because of this dilution, the surrogate spike concentration in the sample was reduced to a level where the recovery calculation does not provide useful information.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Metals
Method(s) 200.7 and 200.8: Methods require dissolved metals to be filtered immediately which is taken to mean within 15 minutes of sampling. The sample results have HF qualifiers to note that the lab was requested to filter the samples after receipt.

Job ID: 440-108953-1 (Continued)

Laboratory: TestAmerica Irvine (Continued)

Method(s) 200.7 and 200.8: The following sample was diluted due to the nature of the sample matrix: W050 (440-108953-1). Elevated reporting limits (RLs) are provided.

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

General Chemistry
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Organic Prep
Method(s) 3520C / 8270C-SIM-PAH: Due to the matrix, the following sample could not be concentrated to the final method required volume: W050 (440-108953-1). The reporting limits (RLs) are elevated proportionately.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

VOA Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Client Sample Results

Client: AMEC Foster Wheeler E & I, Inc
Project/Site: Chevron Kern River SB4, FR1416063A.002

TestAmerica Job ID: 440-108953-1

Client Sample ID: W050

Date Collected: 05/05/15 13:30
Date Received: 05/06/15 10:00

Lab Sample ID: 440-108953-1

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	4.2	J	5.0	2.5	ug/L			05/12/15 03:19	10
Ethylbenzene	3.8	J	5.0	2.5	ug/L			05/12/15 03:19	10
m,p-Xylene	14		10	5.0	ug/L			05/12/15 03:19	10
o-Xylene	7.2		5.0	2.5	ug/L			05/12/15 03:19	10
Toluene	12		5.0	2.5	ug/L			05/12/15 03:19	10
Xylenes, Total	21		10	5.0	ug/L			05/12/15 03:19	10
Acetone	530		100	45	ug/L			05/12/15 03:19	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*122*	*X*	*80 - 120*		*05/12/15 03:19*	*10*
Dibromofluoromethane (Surr)	*92*		*76 - 132*		*05/12/15 03:19*	*10*
Toluene-d8 (Surr)	*101*		*80 - 128*		*05/12/15 03:19*	*10*

Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	35	J	48	24	ug/L		05/07/15 08:56	05/12/15 18:09	10
Acenaphthylene	ND	*	48	24	ug/L		05/07/15 08:56	05/12/15 18:09	10
Anthracene	ND		48	24	ug/L		05/07/15 08:56	05/12/15 18:09	10
Benzo[a]anthracene	ND		48	24	ug/L		05/07/15 08:56	05/12/15 18:09	10
Benzo[a]pyrene	ND		48	24	ug/L		05/07/15 08:56	05/12/15 18:09	10
Benzo[b]fluoranthene	ND		48	24	ug/L		05/07/15 08:56	05/12/15 18:09	10
Benzo[g,h,i]perylene	ND		48	24	ug/L		05/07/15 08:56	05/12/15 18:09	10
Benzo[k]fluoranthene	ND		48	24	ug/L		05/07/15 08:56	05/12/15 18:09	10
Chrysene	ND		48	24	ug/L		05/07/15 08:56	05/12/15 18:09	10
Dibenz(a,h)anthracene	ND		48	24	ug/L		05/07/15 08:56	05/12/15 18:09	10
Fluoranthene	ND		48	24	ug/L		05/07/15 08:56	05/12/15 18:09	10
Fluorene	40	J	48	24	ug/L		05/07/15 08:56	05/12/15 18:09	10
Indeno[1,2,3-cd]pyrene	ND		48	24	ug/L		05/07/15 08:56	05/12/15 18:09	10
Naphthalene	59		48	24	ug/L		05/07/15 08:56	05/12/15 18:09	10
Phenanthrene	ND		48	24	ug/L		05/07/15 08:56	05/12/15 18:09	10
Pyrene	ND		48	24	ug/L		05/07/15 08:56	05/12/15 18:09	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*2128*	*X*	*31 - 120*	*05/07/15 08:56*	*05/12/15 18:09*	*10*
Nitrobenzene-d5	*0*	*X*	*25 - 133*	*05/07/15 08:56*	*05/12/15 18:09*	*10*
Terphenyl-d14	*0*	*X*	*10 - 120*	*05/07/15 08:56*	*05/12/15 18:09*	*10*

Method: 8015B - Diesel Range Organics (DRO) (GC) Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C29-C40	290		4.6	2.3	mg/L		05/07/15 08:37	05/08/15 22:26	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane	*125*	*X*	*45 - 120*	*05/07/15 08:37*	*05/08/15 22:26*	*10*

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	3.6		2.5	1.3	mg/L			05/08/15 14:21	5
Nitrate as NO3	13		2.5	1.3	mg/L			05/07/15 04:24	5
Fluoride	1.6	J	2.5	1.3	mg/L			05/07/15 04:24	5
Sulfate	26		2.5	1.3	mg/L			05/07/15 17:26	5

Client Sample Results

Client: AMEC Foster Wheeler E & I, Inc
Project/Site: Chevron Kern River SB4, FR1416063A.002

TestAmerica Job ID: 440-108953-1

Client Sample ID: W050

Date Collected: 05/05/15 13:30
Date Received: 05/06/15 10:00

Lab Sample ID: 440-108953-1

Matrix: Water

Method: 300.0 - Anions, Ion Chromatography - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	290		25	13	mg/L			05/07/15 18:00	50

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.99	HF	0.25	0.050	mg/L		05/08/15 10:34	05/08/15 16:47	5
Calcium	42	B HF	0.50	0.25	mg/L		05/08/15 10:34	05/08/15 16:47	5
Iron	1.1	HF	0.20	0.050	mg/L		05/08/15 10:34	05/08/15 16:47	5
Lithium	ND	HF	2.5	0.13	mg/L		05/08/15 10:34	05/08/15 16:47	5
Magnesium	3.3	HF	0.10	0.050	mg/L		05/08/15 10:34	05/08/15 16:47	5
Manganese	ND	HF	0.10	0.050	mg/L		05/08/15 10:34	05/08/15 16:47	5
Potassium	70	HF	2.5	1.3	mg/L		05/08/15 10:34	05/08/15 16:47	5
Sodium	290	HF	2.5	1.3	mg/L		05/08/15 10:34	05/08/15 16:47	5
Strontium	0.60	HF	0.10	0.050	mg/L		05/08/15 10:34	05/08/15 16:47	5

Method: 200.8 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Uranium	1.4	J HF	2.0	1.0	ug/L		05/08/15 10:08	05/08/15 16:21	2

Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.015		0.010	0.0060	mg/L		05/12/15 09:39	05/12/15 14:48	1
Arsenic	0.037		0.010	0.0050	mg/L		05/12/15 09:39	05/12/15 14:48	1
Barium	0.034		0.010	0.0050	mg/L		05/12/15 09:39	05/12/15 14:48	1
Beryllium	ND		0.0020	0.0010	mg/L		05/12/15 09:39	05/12/15 14:48	1
Cadmium	ND		0.0050	0.0020	mg/L		05/12/15 09:39	05/12/15 14:48	1
Chromium	0.0040	J	0.0050	0.0025	mg/L		05/12/15 09:39	05/12/15 14:48	1
Cobalt	ND		0.010	0.0025	mg/L		05/12/15 09:39	05/12/15 14:48	1
Copper	0.023		0.010	0.0050	mg/L		05/12/15 09:39	05/12/15 14:48	1
Lead	0.023		0.0050	0.0025	mg/L		05/12/15 09:39	05/12/15 14:48	1
Molybdenum	0.038		0.020	0.010	mg/L		05/12/15 09:39	05/12/15 14:48	1
Nickel	0.025		0.010	0.0050	mg/L		05/12/15 09:39	05/12/15 14:48	1
Selenium	ND		0.010	0.0061	mg/L		05/12/15 09:39	05/12/15 14:48	1
Silver	ND		0.010	0.0050	mg/L		05/12/15 09:39	05/12/15 14:48	1
Thallium	0.0055	J	0.010	0.0050	mg/L		05/12/15 09:39	05/12/15 14:48	1
Vanadium	0.010		0.010	0.0050	mg/L		05/12/15 09:39	05/12/15 14:48	1
Zinc	0.39		0.020	0.010	mg/L		05/12/15 09:39	05/12/15 14:48	1

Method: 6010B - Metals (ICP) - STLC Citrate

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.20	0.12	mg/L			05/11/15 18:01	20
Arsenic	ND		0.20	0.10	mg/L			05/11/15 18:01	20
Barium	0.28		0.20	0.10	mg/L			05/11/15 18:01	20
Beryllium	ND		0.040	0.020	mg/L			05/11/15 18:01	20
Cadmium	ND		0.10	0.040	mg/L			05/11/15 18:01	20
Chromium	ND		0.10	0.050	mg/L			05/11/15 18:01	20
Cobalt	ND		0.20	0.050	mg/L			05/11/15 18:01	20
Copper	ND		0.20	0.10	mg/L			05/11/15 18:01	20
Lead	0.073	J	0.10	0.050	mg/L			05/11/15 18:01	20
Molybdenum	ND		0.40	0.20	mg/L			05/11/15 18:01	20
Nickel	ND		0.20	0.10	mg/L			05/11/15 18:01	20

Client Sample Results

Client: AMEC Foster Wheeler E & I, Inc
Project/Site: Chevron Kern River SB4, FR1416063A.002

TestAmerica Job ID: 440-108953-1

Client Sample ID: W050

Date Collected: 05/05/15 13:30
Date Received: 05/06/15 10:00

Lab Sample ID: 440-108953-1

Matrix: Water

Method: 6010B - Metals (ICP) - STLC Citrate (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Selenium	ND		0.20	0.12	mg/L			05/11/15 18:01	20
Silver	ND		0.20	0.10	mg/L			05/11/15 18:01	20
Thallium	ND		0.20	0.10	mg/L			05/11/15 18:01	20
Vanadium	ND		0.20	0.10	mg/L			05/11/15 18:01	20
Zinc	**1.1**		0.40	0.20	mg/L			05/11/15 18:01	20

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00080	0.00040	mg/L		05/08/15 09:54	05/08/15 13:45	1

Method: 7470A - Mercury (CVAA) - STLC Citrate

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.0020	0.0010	mg/L		05/11/15 21:36	05/12/15 15:15	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	**270**		4.0	4.0	mg/L			05/07/15 09:15	1
Bicarbonate Alkalinity as CaCO3	**270**		4.0	4.0	mg/L			05/07/15 09:15	1
Carbonate Alkalinity as CaCO3	ND		4.0	4.0	mg/L			05/07/15 09:15	1
Hydroxide Alkalinity as CaCO3	ND		4.0	4.0	mg/L			05/07/15 09:15	1
Total Dissolved Solids	**2000**		10	5.0	mg/L			05/08/15 07:18	1

Method Summary

Client: AMEC Foster Wheeler E & I, Inc
Project/Site: Chevron Kern River SB4, FR1416063A.002

TestAmerica Job ID: 440-108953-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL IRV
8270C SIM	Semivolatile Organic Compounds (GC/MS SIM)	SW846	TAL IRV
8015B	Diesel Range Organics (DRO) (GC) Low Level	SW846	TAL IRV
300.0	Anions, Ion Chromatography	MCAWW	TAL IRV
200.7 Rev 4.4	Metals (ICP)	EPA	TAL IRV
200.8	Metals (ICP/MS)	EPA	TAL IRV
6010B	Metals (ICP)	SW846	TAL IRV
7470A	Mercury (CVAA)	SW846	TAL IRV
SM 2320B	Alkalinity	SM	TAL IRV
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL IRV

Protocol References:

EPA = US Environmental Protection Agency
MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.
SM = "Standard Methods For The Examination Of Water And Wastewater",
SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL IRV = TestAmerica Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

Lab Chronicle

Client: AMEC Foster Wheeler E & I, Inc
Project/Site: Chevron Kern River SB4, FR1416063A.002

TestAmerica Job ID: 440-108953-1

Client Sample ID: W050

Date Collected: 05/05/15 13:30
Date Received: 05/06/15 10:00

Lab Sample ID: 440-108953-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		10	10 mL	10 mL	254273	05/12/15 03:19	LB	TAL IRV
Total/NA	Prep	3520C			1050 mL	25 mL	253499	05/07/15 08:56	IVA	TAL IRV
Total/NA	Analysis	8270C SIM		10	1050 mL	25 mL	254448	05/12/15 18:09	AI	TAL IRV
Total/NA	Prep	3510C			1080 mL	10 mL	253461	05/07/15 08:37	AP	TAL IRV
Total/NA	Analysis	8015B		10	1080 mL	10 mL	253826	05/08/15 22:26	EI	TAL IRV
Total/NA	Analysis	300.0		5	5 mL	1.0 mL	253245	05/07/15 04:24	NN	TAL IRV
Total/NA	Analysis	300.0		5	5 mL	1.0 mL	253246	05/07/15 04:24	NN	TAL IRV
Total/NA	Analysis	300.0		5	5 mL		253536	05/07/15 17:26	NN	TAL IRV
Total/NA	Analysis	300.0	DL	50	5 mL		253536	05/07/15 18:00	NN	TAL IRV
Total/NA	Analysis	300.0		5	5 mL		253787	05/08/15 14:21	NN	TAL IRV
Dissolved	Filtration	FILTRATION			200 mL	200 mL	253671	05/07/15 20:44	APS	TAL IRV
Dissolved	Prep	200.2			25 mL	25 mL	253782	05/08/15 10:34	ND	TAL IRV
Dissolved	Analysis	200.7 Rev 4.4		5	25 mL	25 mL	253921	05/08/15 16:47	EN	TAL IRV
Dissolved	Filtration	FILTRATION			200 mL	200 mL	253671	05/07/15 20:44	APS	TAL IRV
Dissolved	Prep	200.2			25 mL	25 mL	253776	05/08/15 10:08	ND	TAL IRV
Dissolved	Analysis	200.8		2	25 mL	25 mL	253932	05/08/15 16:21	NH	TAL IRV
Dissolved	Filtration	FILTRATION			200 mL	200 mL	253671	05/07/15 20:44	APS	TAL IRV
Dissolved	Prep	3005A			25 mL	25 mL	254405	05/12/15 09:39	ND	TAL IRV
Dissolved	Analysis	6010B		1	25 mL	25 mL	254519	05/12/15 14:48	TK	TAL IRV
STLC Citrate	Leach	CA WET Citrate			2.6 g	26 mL	253995	05/09/15 11:53	CH	TAL IRV
STLC Citrate	Analysis	6010B		20			254297	05/11/15 18:01	VS	TAL IRV
Dissolved	Filtration	FILTRATION			200 mL	200 mL	253671	05/07/15 20:44	APS	TAL IRV
Dissolved	Prep	7470A			5 mL	20 mL	253773	05/08/15 09:54	DB	TAL IRV
Dissolved	Analysis	7470A		1	5 mL	20 mL	253960	05/08/15 13:45	DB	TAL IRV
STLC Citrate	Leach	CA WET Citrate			2.6 g	26 mL	253995	05/09/15 11:53	CH	TAL IRV
STLC Citrate	Prep	7470A			2 mL	20 mL	254315	05/11/15 21:36	DB	TAL IRV
STLC Citrate	Analysis	7470A		1	2 mL	20 mL	254512	05/12/15 15:15	EN	TAL IRV
Total/NA	Analysis	SM 2320B		1			253517	05/07/15 09:15	YZ	TAL IRV
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	253735	05/08/15 07:18	XL	TAL IRV

Laboratory References:

TAL IRV = TestAmerica Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

QC Sample Results

Client: AMEC Foster Wheeler E & I, Inc
Project/Site: Chevron Kern River SB4, FR1416063A.002

TestAmerica Job ID: 440-108953-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 440-254273/4
Matrix: Water
Analysis Batch: 254273

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.50	0.25	ug/L			05/11/15 20:46	1
Ethylbenzene	ND		0.50	0.25	ug/L			05/11/15 20:46	1
m,p-Xylene	ND		1.0	0.50	ug/L			05/11/15 20:46	1
o-Xylene	ND		0.50	0.25	ug/L			05/11/15 20:46	1
Toluene	ND		0.50	0.25	ug/L			05/11/15 20:46	1
Xylenes, Total	ND		1.0	0.50	ug/L			05/11/15 20:46	1
Acetone	ND		10	4.5	ug/L			05/11/15 20:46	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*		*05/11/15 20:46*	*1*
Dibromofluoromethane (Surr)	*96*		*76 - 132*		*05/11/15 20:46*	*1*
Toluene-d8 (Surr)	*104*		*80 - 128*		*05/11/15 20:46*	*1*

Lab Sample ID: LCS 440-254273/5
Matrix: Water
Analysis Batch: 254273

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	25.0	26.2		ug/L		105	68 - 130
Ethylbenzene	25.0	25.2		ug/L		101	70 - 130
m,p-Xylene	25.0	25.5		ug/L		102	70 - 130
o-Xylene	25.0	25.8		ug/L		103	70 - 130
Toluene	25.0	25.1		ug/L		100	70 - 130
Acetone	25.0	21.4		ug/L		86	10 - 150

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*103*		*80 - 120*
Dibromofluoromethane (Surr)	*96*		*76 - 132*
Toluene-d8 (Surr)	*99*		*80 - 128*

Lab Sample ID: LCSD 440-254273/6
Matrix: Water
Analysis Batch: 254273

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	25.0	26.0		ug/L		104	68 - 130	1	20
Ethylbenzene	25.0	24.9		ug/L		100	70 - 130	1	20
m,p-Xylene	25.0	25.8		ug/L		103	70 - 130	1	20
o-Xylene	25.0	25.8		ug/L		103	70 - 130	0	20
Toluene	25.0	25.2		ug/L		101	70 - 130	1	20
Acetone	25.0	26.9		ug/L		108	10 - 150	23	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*102*		*80 - 120*
Dibromofluoromethane (Surr)	*96*		*76 - 132*
Toluene-d8 (Surr)	*99*		*80 - 128*

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 440-109254-C-1 MS
Matrix: Water
Analysis Batch: 254273

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	ND		25.0	26.4		ug/L		105	66 - 130
Ethylbenzene	ND		25.0	23.9		ug/L		96	70 - 130
m,p-Xylene	ND		25.0	23.6		ug/L		94	70 - 133
o-Xylene	ND		25.0	25.0		ug/L		100	70 - 133
Toluene	0.82		25.0	26.6		ug/L		103	70 - 130
Acetone	25		25.0	51.5		ug/L		107	10 - 150

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*87*		*80 - 120*
Dibromofluoromethane (Surr)	*93*		*76 - 132*
Toluene-d8 (Surr)	*101*		*80 - 128*

Lab Sample ID: 440-109254-C-1 MSD
Matrix: Water
Analysis Batch: 254273

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	ND		25.0	26.4		ug/L		106	66 - 130	0	20
Ethylbenzene	ND		25.0	26.3		ug/L		105	70 - 130	10	20
m,p-Xylene	ND		25.0	26.8		ug/L		107	70 - 133	13	25
o-Xylene	ND		25.0	25.8		ug/L		103	70 - 133	3	20
Toluene	0.82		25.0	27.6		ug/L		107	70 - 130	4	20
Acetone	25		25.0	51.1		ug/L		106	10 - 150	1	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*106*		*80 - 120*
Dibromofluoromethane (Surr)	*93*		*76 - 132*
Toluene-d8 (Surr)	*106*		*80 - 128*

Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM)

Lab Sample ID: MB 440-253499/1-A
Matrix: Water
Analysis Batch: 254223

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 253499

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.20	0.10	ug/L		05/07/15 08:56	05/11/15 17:37	1
Acenaphthylene	ND		0.20	0.10	ug/L		05/07/15 08:56	05/11/15 17:37	1
Anthracene	ND		0.20	0.10	ug/L		05/07/15 08:56	05/11/15 17:37	1
Benzo[a]anthracene	ND		0.20	0.10	ug/L		05/07/15 08:56	05/11/15 17:37	1
Benzo[a]pyrene	ND		0.20	0.10	ug/L		05/07/15 08:56	05/11/15 17:37	1
Benzo[b]fluoranthene	ND		0.20	0.10	ug/L		05/07/15 08:56	05/11/15 17:37	1
Benzo[g,h,i]perylene	ND		0.20	0.10	ug/L		05/07/15 08:56	05/11/15 17:37	1
Benzo[k]fluoranthene	ND		0.20	0.10	ug/L		05/07/15 08:56	05/11/15 17:37	1
Chrysene	ND		0.20	0.10	ug/L		05/07/15 08:56	05/11/15 17:37	1
Dibenz(a,h)anthracene	ND		0.20	0.10	ug/L		05/07/15 08:56	05/11/15 17:37	1
Fluoranthene	ND		0.20	0.10	ug/L		05/07/15 08:56	05/11/15 17:37	1

Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

Lab Sample ID: MB 440-253499/1-A
Matrix: Water
Analysis Batch: 254223

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 253499

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluorene	ND		0.20	0.10	ug/L		05/07/15 08:56	05/11/15 17:37	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.10	ug/L		05/07/15 08:56	05/11/15 17:37	1
Naphthalene	ND		0.20	0.10	ug/L		05/07/15 08:56	05/11/15 17:37	1
Phenanthrene	ND		0.20	0.10	ug/L		05/07/15 08:56	05/11/15 17:37	1
Pyrene	0.177	J	0.20	0.10	ug/L		05/07/15 08:56	05/11/15 17:37	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*66*		*31 - 120*	*05/07/15 08:56*	*05/11/15 17:37*	*1*
Nitrobenzene-d5	*55*		*25 - 133*	*05/07/15 08:56*	*05/11/15 17:37*	*1*
Terphenyl-d14	*85*		*10 - 120*	*05/07/15 08:56*	*05/11/15 17:37*	*1*

Lab Sample ID: LCS 440-253499/2-A
Matrix: Water
Analysis Batch: 254223

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 253499

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthene	1.00	0.561		ug/L		56	47 - 103
Acenaphthylene	1.00	0.655		ug/L		65	45 - 102
Anthracene	1.00	0.637		ug/L		64	47 - 111
Benzo[a]anthracene	1.00	0.711		ug/L		71	56 - 110
Benzo[a]pyrene	1.00	0.696		ug/L		70	48 - 110
Benzo[b]fluoranthene	1.00	0.689		ug/L		69	53 - 116
Benzo[g,h,i]perylene	1.00	0.722		ug/L		72	44 - 130
Benzo[k]fluoranthene	1.00	0.739		ug/L		74	51 - 127
Chrysene	1.00	0.718		ug/L		72	52 - 118
Dibenz(a,h)anthracene	1.00	0.624		ug/L		62	44 - 125
Fluoranthene	1.00	0.770		ug/L		77	51 - 116
Fluorene	1.00	0.667		ug/L		67	50 - 106
Indeno[1,2,3-cd]pyrene	1.00	0.617		ug/L		62	41 - 127
Naphthalene	1.00	0.569		ug/L		57	40 - 100
Phenanthrene	1.00	0.691		ug/L		69	49 - 110
Pyrene	1.00	0.681		ug/L		68	41 - 115

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl (Surr)	*65*		*31 - 120*
Nitrobenzene-d5	*46*		*25 - 133*
Terphenyl-d14	*80*		*10 - 120*

Lab Sample ID: LCSD 440-253499/3-A
Matrix: Water
Analysis Batch: 254223

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 253499

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acenaphthene	1.00	0.781		ug/L		78	47 - 103	33	35
Acenaphthylene	1.00	0.938	*	ug/L		94	45 - 102	36	35
Anthracene	1.00	0.688		ug/L		69	47 - 111	8	35
Benzo[a]anthracene	1.00	0.761		ug/L		76	56 - 110	7	35
Benzo[a]pyrene	1.00	0.702		ug/L		70	48 - 110	1	35

Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

Lab Sample ID: LCSD 440-253499/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 254223 — **Prep Batch: 253499**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzo[b]fluoranthene			1.00	0.763		ug/L		76	53 - 116	10	35
Benzo[g,h,i]perylene			1.00	0.761		ug/L		76	44 - 130	5	35
Benzo[k]fluoranthene			1.00	0.707		ug/L		71	51 - 127	5	35
Chrysene			1.00	0.818		ug/L		82	52 - 118	13	35
Dibenz(a,h)anthracene			1.00	0.587		ug/L		59	44 - 125	6	35
Fluoranthene			1.00	0.817		ug/L		82	51 - 116	6	35
Fluorene			1.00	0.736		ug/L		74	50 - 106	10	35
Indeno[1,2,3-cd]pyrene			1.00	0.641		ug/L		64	41 - 127	4	35
Naphthalene			1.00	0.720		ug/L		72	40 - 100	23	35
Phenanthrene			1.00	0.793		ug/L		79	49 - 110	14	35
Pyrene			1.00	0.731		ug/L		73	41 - 115	7	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2-Fluorobiphenyl (Surr)	*98*		*31 - 120*
Nitrobenzene-d5	*78*		*25 - 133*
Terphenyl-d14	*84*		*10 - 120*

Method: 8015B - Diesel Range Organics (DRO) (GC) Low Level

Lab Sample ID: MB 440-253461/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 253443 — **Prep Batch: 253461**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C29-C40	ND		0.050	0.025	mg/L		05/07/15 06:50	05/07/15 19:18	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane	*76*		*45 - 120*	*05/07/15 06:50*	*05/07/15 19:18*	*1*

Lab Sample ID: LCS 440-253461/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 253443 — **Prep Batch: 253461**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
C10-C28			1.00	0.690		mg/L		69	40 - 115		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
n-Octacosane	*75*		*45 - 120*

Lab Sample ID: LCSD 440-253461/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 253443 — **Prep Batch: 253461**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
C10-C28			1.00	0.716		mg/L		72	40 - 115	4	25

Method: 8015B - Diesel Range Organics (DRO) (GC) Low Level (Continued)

Lab Sample ID: LCSD 440-253461/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 253443 — **Prep Batch: 253461**

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
n-Octacosane	*79*		*45 - 120*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 440-253245/4 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 253245

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as NO3	ND		0.50	0.25	mg/L			05/06/15 12:52	1

Lab Sample ID: LCS 440-253245/6 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 253245

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrate as NO3	5.00	5.10		mg/L		102	90 - 110

Lab Sample ID: 440-108881-B-3 MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 253245

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrate as NO3	33	F1	50.0	69.7	F1	mg/L		73	80 - 120

Lab Sample ID: 440-108881-B-3 MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 253245

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Nitrate as NO3	33	F1	50.0	69.1	F1	mg/L		72	80 - 120	1	20

Lab Sample ID: MB 440-253246/4 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 253246

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	ND		0.50	0.25	mg/L			05/06/15 12:52	1

Lab Sample ID: LCS 440-253246/6 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 253246

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	5.00	4.85		mg/L		97	90 - 110

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 440-108881-B-3 MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 253246

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	ND		50.0	46.0		mg/L		92	80 - 120

Lab Sample ID: 440-108881-B-3 MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 253246

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluoride	ND		50.0	46.1		mg/L		92	80 - 120	0	20

Lab Sample ID: MB 440-253536/6 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 253536

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		0.50	0.25	mg/L			05/07/15 14:12	1
Sulfate	ND		0.50	0.25	mg/L			05/07/15 14:12	1

Lab Sample ID: LCS 440-253536/2 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 253536

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	5.00	4.61		mg/L		92	90 - 110
Sulfate	5.00	5.03		mg/L		101	90 - 110

Lab Sample ID: MB 440-253787/4 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 253787

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	ND		0.50	0.25	mg/L			05/08/15 11:47	1

Lab Sample ID: LCS 440-253787/2 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 253787

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Bromide	5.00	5.20		mg/L		104	90 - 110

Lab Sample ID: 440-109147-E-1 MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 253787

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Bromide	ND	F1	5.00	6.68	F1	mg/L		134	80 - 120

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 440-109147-E-1 MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 253787

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Bromide	ND	F1	5.00	6.35	F1	mg/L		127	80 - 120	5	20

Method: 300.0 - Anions, Ion Chromatography - DL

Lab Sample ID: 440-108953-1 MS — **Client Sample ID: W050**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 253536

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride - DL	290		50.0	356	4	mg/L		137	80 - 120
Sulfate - DL	31		50.0	70.2	F1	mg/L		79	80 - 120

Lab Sample ID: 440-108953-1 MSD — **Client Sample ID: W050**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 253536

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride - DL	290		50.0	363	4	mg/L		152	80 - 120	2	20
Sulfate - DL	31		50.0	74.0		mg/L		87	80 - 120	5	20

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: MB 440-253671/1-E — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 253921 — **Prep Batch: 253782**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	ND		0.050	0.010	mg/L		05/08/15 10:34	05/08/15 16:36	1
Calcium	0.0749	J	0.10	0.050	mg/L		05/08/15 10:34	05/08/15 16:36	1
Iron	ND		0.040	0.010	mg/L		05/08/15 10:34	05/08/15 16:36	1
Lithium	ND		0.50	0.025	mg/L		05/08/15 10:34	05/08/15 16:36	1
Magnesium	ND		0.020	0.010	mg/L		05/08/15 10:34	05/08/15 16:36	1
Manganese	ND		0.020	0.010	mg/L		05/08/15 10:34	05/08/15 16:36	1
Potassium	ND		0.50	0.25	mg/L		05/08/15 10:34	05/08/15 16:36	1
Sodium	ND		0.50	0.25	mg/L		05/08/15 10:34	05/08/15 16:36	1
Strontium	ND		0.020	0.010	mg/L		05/08/15 10:34	05/08/15 16:36	1

Lab Sample ID: LCS 440-253671/2-E — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 253921 — **Prep Batch: 253782**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	0.500	0.450		mg/L		90	85 - 115
Calcium	2.50	2.55		mg/L		102	85 - 115
Iron	0.500	0.481		mg/L		96	85 - 115
Lithium	0.500	0.488	J	mg/L		98	85 - 115
Magnesium	2.50	2.46		mg/L		98	85 - 115
Manganese	0.500	0.515		mg/L		103	85 - 115

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: LCS 440-253671/2-E — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 253921 — **Prep Batch: 253782**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Potassium	5.00	5.04		mg/L		101	85 - 115
Sodium	5.00	4.97		mg/L		99	85 - 115
Strontium	0.500	0.500		mg/L		100	85 - 115

Lab Sample ID: 440-108954-A-1-C MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 253921 — **Prep Batch: 253782**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	0.29	HF	0.500	0.762		mg/L		94	70 - 130
Calcium	76	B HF	2.50	79.7	4	mg/L		140	70 - 130
Iron	0.020	J HF	0.500	0.507		mg/L		97	70 - 130
Lithium	0.047	J HF	0.500	0.525		mg/L		96	70 - 130
Magnesium	29	HF	2.50	31.9	4	mg/L		115	70 - 130
Manganese	0.030	HF	0.500	0.534		mg/L		101	70 - 130
Potassium	19	HF	5.00	24.6		mg/L		108	70 - 130
Sodium	170	HF	5.00	178	4	mg/L		116	70 - 130
Strontium	0.94	HF	0.500	1.45		mg/L		102	70 - 130

Lab Sample ID: 440-108954-A-1-D MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 253921 — **Prep Batch: 253782**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Boron	0.29	HF	0.500	0.765		mg/L		95	70 - 130	0	20
Calcium	76	B HF	2.50	79.7	4	mg/L		143	70 - 130	0	20
Iron	0.020	J HF	0.500	0.504		mg/L		97	70 - 130	1	20
Lithium	0.047	J HF	0.500	0.524		mg/L		95	70 - 130	0	20
Magnesium	29	HF	2.50	31.9	4	mg/L		116	70 - 130	0	20
Manganese	0.030	HF	0.500	0.535		mg/L		101	70 - 130	0	20
Potassium	19	HF	5.00	24.5		mg/L		105	70 - 130	1	20
Sodium	170	HF	5.00	179	4	mg/L		134	70 - 130	0	20
Strontium	0.94	HF	0.500	1.45		mg/L		102	70 - 130	0	20

Method: 200.8 - Metals (ICP/MS)

Lab Sample ID: MB 440-253671/1-D — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 253932 — **Prep Batch: 253776**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Uranium	ND		1.0	0.50	ug/L		05/08/15 10:08	05/08/15 16:16	1

Lab Sample ID: LCS 440-253671/2-D — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 253932 — **Prep Batch: 253776**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Uranium	80.0	76.8		ug/L		96	85 - 115

QC Sample Results

Client: AMEC Foster Wheeler E & I, Inc
Project/Site: Chevron Kern River SB4, FR1416063A.002

TestAmerica Job ID: 440-108953-1

Lab Sample ID: 440-108953-1 MS
Matrix: Water
Analysis Batch: 253932

Client Sample ID: W050
Prep Type: Dissolved
Prep Batch: 253776

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Uranium	1.4	J HF	80.0	90.9		ug/L		112	70 - 130

Lab Sample ID: 440-108953-1 MSD
Matrix: Water
Analysis Batch: 253932

Client Sample ID: W050
Prep Type: Dissolved
Prep Batch: 253776

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Uranium	1.4	J HF	80.0	91.2		ug/L		112	70 - 130	0	20

Method: 6010B - Metals (ICP)

Lab Sample ID: MB 440-253671/1-F
Matrix: Water
Analysis Batch: 254519

Client Sample ID: Method Blank
Prep Type: Dissolved
Prep Batch: 254405

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.010	0.0060	mg/L		05/12/15 09:39	05/12/15 14:43	1
Arsenic	ND		0.010	0.0050	mg/L		05/12/15 09:39	05/12/15 14:43	1
Barium	ND		0.010	0.0050	mg/L		05/12/15 09:39	05/12/15 14:43	1
Beryllium	ND		0.0020	0.0010	mg/L		05/12/15 09:39	05/12/15 14:43	1
Cadmium	ND		0.0050	0.0020	mg/L		05/12/15 09:39	05/12/15 14:43	1
Chromium	ND		0.0050	0.0025	mg/L		05/12/15 09:39	05/12/15 14:43	1
Cobalt	ND		0.010	0.0025	mg/L		05/12/15 09:39	05/12/15 14:43	1
Copper	ND		0.010	0.0050	mg/L		05/12/15 09:39	05/12/15 14:43	1
Lead	ND		0.0050	0.0025	mg/L		05/12/15 09:39	05/12/15 14:43	1
Molybdenum	ND		0.020	0.010	mg/L		05/12/15 09:39	05/12/15 14:43	1
Nickel	ND		0.010	0.0050	mg/L		05/12/15 09:39	05/12/15 14:43	1
Selenium	ND		0.010	0.0061	mg/L		05/12/15 09:39	05/12/15 14:43	1
Silver	ND		0.010	0.0050	mg/L		05/12/15 09:39	05/12/15 14:43	1
Thallium	ND		0.010	0.0050	mg/L		05/12/15 09:39	05/12/15 14:43	1
Vanadium	ND		0.010	0.0050	mg/L		05/12/15 09:39	05/12/15 14:43	1
Zinc	ND		0.020	0.010	mg/L		05/12/15 09:39	05/12/15 14:43	1

Lab Sample ID: LCS 440-253671/2-F
Matrix: Water
Analysis Batch: 254519

Client Sample ID: Lab Control Sample
Prep Type: Dissolved
Prep Batch: 254405

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	1.00	1.06		mg/L		106	80 - 120
Arsenic	1.00	1.04		mg/L		104	80 - 120
Barium	1.00	1.06		mg/L		106	80 - 120
Beryllium	1.00	1.07		mg/L		107	80 - 120
Cadmium	1.00	1.08		mg/L		108	80 - 120
Chromium	1.00	1.06		mg/L		106	80 - 120
Cobalt	1.00	1.05		mg/L		105	80 - 120
Copper	1.00	0.995		mg/L		99	80 - 120
Lead	1.00	1.07		mg/L		107	80 - 120
Molybdenum	1.00	0.999		mg/L		100	80 - 120
Nickel	1.00	1.07		mg/L		107	80 - 120
Selenium	1.00	0.989		mg/L		99	80 - 120
Silver	0.500	0.496		mg/L		99	80 - 120

Method: 6010B - Metals (ICP) (Continued)

Lab Sample ID: LCS 440-253671/2-F — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 254519 — **Prep Batch: 254405**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Thallium	1.00	1.03		mg/L		103	80 - 120
Vanadium	1.00	1.07		mg/L		107	80 - 120
Zinc	1.00	1.02		mg/L		102	80 - 120

Lab Sample ID: 440-108953-1 MS — **Client Sample ID: W050**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 254519 — **Prep Batch: 254405**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	0.015		1.00	1.06		mg/L		104	75 - 125
Arsenic	0.037		1.00	1.12		mg/L		108	75 - 125
Barium	0.034		1.00	1.11		mg/L		107	75 - 125
Beryllium	ND		1.00	1.09		mg/L		109	75 - 125
Cadmium	ND		1.00	1.07		mg/L		107	75 - 125
Chromium	0.0040	J	1.00	1.07		mg/L		107	75 - 125
Cobalt	ND		1.00	1.04		mg/L		104	75 - 125
Copper	0.023		1.00	1.09		mg/L		107	75 - 125
Lead	0.023		1.00	1.09		mg/L		107	75 - 125
Molybdenum	0.038		1.00	1.11		mg/L		107	75 - 125
Nickel	0.025		1.00	1.07		mg/L		105	75 - 125
Selenium	ND		1.00	1.02		mg/L		102	75 - 125
Silver	ND		0.500	0.527		mg/L		105	75 - 125
Thallium	0.0055	J	1.00	0.918		mg/L		91	75 - 125
Vanadium	0.010		1.00	1.11		mg/L		110	75 - 125
Zinc	0.39		1.00	1.45		mg/L		106	75 - 125

Lab Sample ID: 440-108953-1 MSD — **Client Sample ID: W050**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 254519 — **Prep Batch: 254405**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Antimony	0.015		1.00	1.04		mg/L		102	75 - 125	2	20
Arsenic	0.037		1.00	1.10		mg/L		107	75 - 125	1	20
Barium	0.034		1.00	1.09		mg/L		106	75 - 125	1	20
Beryllium	ND		1.00	1.08		mg/L		108	75 - 125	1	20
Cadmium	ND		1.00	1.07		mg/L		107	75 - 125	0	20
Chromium	0.0040	J	1.00	1.07		mg/L		107	75 - 125	0	20
Cobalt	ND		1.00	1.03		mg/L		103	75 - 125	1	20
Copper	0.023		1.00	1.08		mg/L		106	75 - 125	1	20
Lead	0.023		1.00	1.07		mg/L		105	75 - 125	2	20
Molybdenum	0.038		1.00	1.04		mg/L		100	75 - 125	7	20
Nickel	0.025		1.00	1.06		mg/L		104	75 - 125	1	20
Selenium	ND		1.00	0.989		mg/L		99	75 - 125	3	20
Silver	ND		0.500	0.520		mg/L		104	75 - 125	1	20
Thallium	0.0055	J	1.00	0.916		mg/L		91	75 - 125	0	20
Vanadium	0.010		1.00	1.10		mg/L		109	75 - 125	1	20
Zinc	0.39		1.00	1.44		mg/L		105	75 - 125	1	20

Method: 6010B - Metals (ICP) (Continued)

Lab Sample ID: MB 440-253995/1-A ^20
Matrix: Water
Analysis Batch: 254297

Client Sample ID: Method Blank
Prep Type: STLC Citrate

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.360		0.20	0.12	mg/L			05/11/15 17:24	20
Arsenic	ND		0.20	0.10	mg/L			05/11/15 17:24	20
Barium	ND		0.20	0.10	mg/L			05/11/15 17:24	20
Beryllium	ND		0.040	0.020	mg/L			05/11/15 17:24	20
Cadmium	ND		0.10	0.040	mg/L			05/11/15 17:24	20
Chromium	ND		0.10	0.050	mg/L			05/11/15 17:24	20
Cobalt	ND		0.20	0.050	mg/L			05/11/15 17:24	20
Copper	ND		0.20	0.10	mg/L			05/11/15 17:24	20
Lead	ND		0.10	0.050	mg/L			05/11/15 17:24	20
Molybdenum	ND		0.40	0.20	mg/L			05/11/15 17:24	20
Nickel	ND		0.20	0.10	mg/L			05/11/15 17:24	20
Selenium	ND		0.20	0.12	mg/L			05/11/15 17:24	20
Silver	ND		0.20	0.10	mg/L			05/11/15 17:24	20
Thallium	ND		0.20	0.10	mg/L			05/11/15 17:24	20
Vanadium	ND		0.20	0.10	mg/L			05/11/15 17:24	20
Zinc	ND		0.40	0.20	mg/L			05/11/15 17:24	20

Lab Sample ID: LCS 440-253995/2-A ^20
Matrix: Water
Analysis Batch: 254297

Client Sample ID: Lab Control Sample
Prep Type: STLC Citrate

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	20.0	20.1		mg/L		100	80 - 120
Arsenic	20.0	19.8		mg/L		99	80 - 120
Barium	20.0	20.6		mg/L		103	80 - 120
Beryllium	20.0	20.3		mg/L		102	80 - 120
Cadmium	20.0	20.6		mg/L		103	80 - 120
Chromium	20.0	21.3		mg/L		106	80 - 120
Cobalt	20.0	20.4		mg/L		102	80 - 120
Copper	20.0	21.3		mg/L		107	80 - 120
Lead	20.0	20.2		mg/L		101	80 - 120
Molybdenum	20.0	21.8		mg/L		109	80 - 120
Nickel	20.0	20.0		mg/L		100	80 - 120
Selenium	20.0	20.5		mg/L		102	80 - 120
Silver	10.0	9.94		mg/L		99	80 - 120
Thallium	20.0	19.0		mg/L		95	80 - 120
Vanadium	20.0	20.8		mg/L		104	80 - 120
Zinc	20.0	20.8		mg/L		104	80 - 120

Lab Sample ID: 440-107782-A-1-G MS ^20
Matrix: Water
Analysis Batch: 254297

Client Sample ID: Matrix Spike
Prep Type: STLC Citrate

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	0.38	B ^	20.0	19.8		mg/L		97	75 - 125
Arsenic	ND		20.0	19.8		mg/L		99	75 - 125
Barium	0.72		20.0	21.4		mg/L		103	75 - 125
Beryllium	ND		20.0	19.9		mg/L		99	75 - 125

Method: 6010B - Metals (ICP) (Continued)

Lab Sample ID: 440-107782-A-1-G MS ^20
Matrix: Water
Analysis Batch: 254297

Client Sample ID: Matrix Spike
Prep Type: STLC Citrate

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Cadmium	ND		20.0	20.1		mg/L		100	75 - 125
Chromium	8.7		20.0	29.4		mg/L		103	75 - 125
Cobalt	0.71		20.0	21.4		mg/L		103	75 - 125
Copper	ND		20.0	21.8		mg/L		109	75 - 125
Lead	ND		20.0	19.3		mg/L		97	75 - 125
Molybdenum	4.0		20.0	25.1		mg/L		106	75 - 125
Nickel	4.1		20.0	24.5		mg/L		102	75 - 125
Selenium	0.13	J	20.0	19.8		mg/L		98	75 - 125
Silver	0.27	^	10.0	8.33		mg/L		81	75 - 125
Thallium	ND		20.0	18.4		mg/L		92	75 - 125
Vanadium	0.11	J	20.0	20.7		mg/L		103	75 - 125
Zinc	0.29	J	20.0	21.1		mg/L		104	75 - 125

Lab Sample ID: 440-107782-A-1-G MSD ^20
Matrix: Water
Analysis Batch: 254297

Client Sample ID: Matrix Spike Duplicate
Prep Type: STLC Citrate

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Antimony	0.38	B ^	20.0	19.4		mg/L		95	75 - 125	2	20
Arsenic	ND		20.0	19.3		mg/L		96	75 - 125	3	20
Barium	0.72		20.0	20.9		mg/L		101	75 - 125	2	20
Beryllium	ND		20.0	19.7		mg/L		99	75 - 125	1	20
Cadmium	ND		20.0	19.8		mg/L		99	75 - 125	1	20
Chromium	8.7		20.0	28.9		mg/L		101	75 - 125	1	20
Cobalt	0.71		20.0	21.1		mg/L		102	75 - 125	1	20
Copper	ND		20.0	21.2		mg/L		106	75 - 125	3	20
Lead	ND		20.0	19.0		mg/L		95	75 - 125	2	20
Molybdenum	4.0		20.0	24.8		mg/L		104	75 - 125	1	20
Nickel	4.1		20.0	24.2		mg/L		101	75 - 125	1	20
Selenium	0.13	J	20.0	19.6		mg/L		98	75 - 125	1	20
Silver	0.27	^	10.0	8.12		mg/L		79	75 - 125	3	20
Thallium	ND		20.0	18.0		mg/L		90	75 - 125	2	20
Vanadium	0.11	J	20.0	20.3		mg/L		101	75 - 125	2	20
Zinc	0.29	J	20.0	20.7		mg/L		102	75 - 125	2	20

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 440-253671/1-B
Matrix: Water
Analysis Batch: 253960

Client Sample ID: Method Blank
Prep Type: Dissolved
Prep Batch: 253773

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00010	mg/L		05/08/15 09:54	05/08/15 13:40	1

Method: 7470A - Mercury (CVAA) (Continued)

Lab Sample ID: LCS 440-253671/2-B — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 253960 — **Prep Batch: 253773**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Mercury			0.00800	0.00800		mg/L		100	80 - 120		

Lab Sample ID: 440-108953-1 MS — **Client Sample ID: W050**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 253960 — **Prep Batch: 253773**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Mercury	ND		0.0320	0.0327		mg/L		102	70 - 130		

Lab Sample ID: 440-108953-1 MSD — **Client Sample ID: W050**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 253960 — **Prep Batch: 253773**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	ND		0.0320	0.0325		mg/L		102	70 - 130	1	20

Lab Sample ID: MB 440-253995/1-B — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: STLC Citrate**
Analysis Batch: 254512 — **Prep Batch: 254315**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.0020	0.0010	mg/L		05/11/15 21:36	05/12/15 15:10	1

Lab Sample ID: LCS 440-253995/2-B — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: STLC Citrate**
Analysis Batch: 254512 — **Prep Batch: 254315**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Mercury			0.0800	0.0673		mg/L		84	80 - 120		

Lab Sample ID: 440-108953-1 MS — **Client Sample ID: W050**
Matrix: Water — **Prep Type: STLC Citrate**
Analysis Batch: 254512 — **Prep Batch: 254315**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Mercury	ND		0.0800	0.0784		mg/L		98	70 - 130		

Lab Sample ID: 440-108953-1 MSD — **Client Sample ID: W050**
Matrix: Water — **Prep Type: STLC Citrate**
Analysis Batch: 254512 — **Prep Batch: 254315**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	ND		0.0800	0.0811		mg/L		101	70 - 130	3	20

Method: SM 2320B - Alkalinity

Lab Sample ID: MB 440-253517/3 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 253517

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	ND		4.0	4.0	mg/L			05/07/15 08:21	1
Bicarbonate Alkalinity as CaCO3	ND		4.0	4.0	mg/L			05/07/15 08:21	1
Carbonate Alkalinity as CaCO3	ND		4.0	4.0	mg/L			05/07/15 08:21	1
Hydroxide Alkalinity as CaCO3	ND		4.0	4.0	mg/L			05/07/15 08:21	1

Lab Sample ID: LCS 440-253517/2 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 253517

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Alkalinity as CaCO3	85.4	84.5		mg/L		99	80 - 120

Lab Sample ID: 440-108909-C-2 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 253517

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Alkalinity as CaCO3	240		223		mg/L		6	20
Bicarbonate Alkalinity as CaCO3	240		223		mg/L		6	20
Carbonate Alkalinity as CaCO3	ND		ND		mg/L		NC	20
Hydroxide Alkalinity as CaCO3	ND		ND		mg/L		NC	20

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 440-253735/1 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 253735

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		10	5.0	mg/L			05/08/15 07:18	1

Lab Sample ID: LCS 440-253735/2 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 253735

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	1000	1070		mg/L		107	90 - 110

Lab Sample ID: 440-108808-B-11 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 253735

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	6600		6630		mg/L		0	5

QC Association Summary

Client: AMEC Foster Wheeler E & I, Inc
Project/Site: Chevron Kern River SB4, FR1416063A.002

TestAmerica Job ID: 440-108953-1

GC/MS VOA

Analysis Batch: 254273

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-108953-1	W050	Total/NA	Water	8260B	
440-109254-C-1 MS	Matrix Spike	Total/NA	Water	8260B	
440-109254-C-1 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	
LCS 440-254273/5	Lab Control Sample	Total/NA	Water	8260B	
LCSD 440-254273/6	Lab Control Sample Dup	Total/NA	Water	8260B	
MB 440-254273/4	Method Blank	Total/NA	Water	8260B	

GC/MS Semi VOA

Prep Batch: 253499

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-108953-1	W050	Total/NA	Water	3520C	
LCS 440-253499/2-A	Lab Control Sample	Total/NA	Water	3520C	
LCSD 440-253499/3-A	Lab Control Sample Dup	Total/NA	Water	3520C	
MB 440-253499/1-A	Method Blank	Total/NA	Water	3520C	

Analysis Batch: 254223

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 440-253499/2-A	Lab Control Sample	Total/NA	Water	8270C SIM	253499
LCSD 440-253499/3-A	Lab Control Sample Dup	Total/NA	Water	8270C SIM	253499
MB 440-253499/1-A	Method Blank	Total/NA	Water	8270C SIM	253499

Analysis Batch: 254448

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-108953-1	W050	Total/NA	Water	8270C SIM	253499

GC Semi VOA

Analysis Batch: 253443

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 440-253461/2-A	Lab Control Sample	Total/NA	Water	8015B	253461
LCSD 440-253461/3-A	Lab Control Sample Dup	Total/NA	Water	8015B	253461
MB 440-253461/1-A	Method Blank	Total/NA	Water	8015B	253461

Prep Batch: 253461

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-108953-1	W050	Total/NA	Water	3510C	
LCS 440-253461/2-A	Lab Control Sample	Total/NA	Water	3510C	
LCSD 440-253461/3-A	Lab Control Sample Dup	Total/NA	Water	3510C	
MB 440-253461/1-A	Method Blank	Total/NA	Water	3510C	

Analysis Batch: 253826

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-108953-1	W050	Total/NA	Water	8015B	253461

HPLC/IC

Analysis Batch: 253245

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-108881-B-3 MS	Matrix Spike	Total/NA	Water	300.0	

HPLC/IC (Continued)

Analysis Batch: 253245 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-108881-B-3 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	
440-108953-1	W050	Total/NA	Water	300.0	
LCS 440-253245/6	Lab Control Sample	Total/NA	Water	300.0	
MB 440-253245/4	Method Blank	Total/NA	Water	300.0	

Analysis Batch: 253246

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-108881-B-3 MS	Matrix Spike	Total/NA	Water	300.0	
440-108881-B-3 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	
440-108953-1	W050	Total/NA	Water	300.0	
LCS 440-253246/6	Lab Control Sample	Total/NA	Water	300.0	
MB 440-253246/4	Method Blank	Total/NA	Water	300.0	

Analysis Batch: 253536

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-108953-1	W050	Total/NA	Water	300.0	
440-108953-1 - DL	W050	Total/NA	Water	300.0	
440-108953-1 MS - DL	W050	Total/NA	Water	300.0	
440-108953-1 MSD - DL	W050	Total/NA	Water	300.0	
LCS 440-253536/2	Lab Control Sample	Total/NA	Water	300.0	
MB 440-253536/6	Method Blank	Total/NA	Water	300.0	

Analysis Batch: 253787

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-108953-1	W050	Total/NA	Water	300.0	
440-109147-E-1 MS	Matrix Spike	Total/NA	Water	300.0	
440-109147-E-1 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	
LCS 440-253787/2	Lab Control Sample	Total/NA	Water	300.0	
MB 440-253787/4	Method Blank	Total/NA	Water	300.0	

Metals

Filtration Batch: 253671

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-108953-1	W050	Dissolved	Water	FILTRATION	
440-108953-1 MS	W050	Dissolved	Water	FILTRATION	
440-108953-1 MSD	W050	Dissolved	Water	FILTRATION	
440-108954-A-1-C MS	Matrix Spike	Dissolved	Water	FILTRATION	
440-108954-A-1-D MSD	Matrix Spike Duplicate	Dissolved	Water	FILTRATION	
LCS 440-253671/2-B	Lab Control Sample	Dissolved	Water	FILTRATION	
LCS 440-253671/2-D	Lab Control Sample	Dissolved	Water	FILTRATION	
LCS 440-253671/2-E	Lab Control Sample	Dissolved	Water	FILTRATION	
LCS 440-253671/2-F	Lab Control Sample	Dissolved	Water	FILTRATION	
MB 440-253671/1-B	Method Blank	Dissolved	Water	FILTRATION	
MB 440-253671/1-D	Method Blank	Dissolved	Water	FILTRATION	
MB 440-253671/1-E	Method Blank	Dissolved	Water	FILTRATION	
MB 440-253671/1-F	Method Blank	Dissolved	Water	FILTRATION	

Metals (Continued)

Prep Batch: 253773

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-108953-1	W050	Dissolved	Water	7470A	253671
440-108953-1 MS	W050	Dissolved	Water	7470A	253671
440-108953-1 MSD	W050	Dissolved	Water	7470A	253671
LCS 440-253671/2-B	Lab Control Sample	Dissolved	Water	7470A	253671
MB 440-253671/1-B	Method Blank	Dissolved	Water	7470A	253671

Prep Batch: 253776

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-108953-1	W050	Dissolved	Water	200.2	253671
440-108953-1 MS	W050	Dissolved	Water	200.2	253671
440-108953-1 MSD	W050	Dissolved	Water	200.2	253671
LCS 440-253671/2-D	Lab Control Sample	Dissolved	Water	200.2	253671
MB 440-253671/1-D	Method Blank	Dissolved	Water	200.2	253671

Prep Batch: 253782

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-108953-1	W050	Dissolved	Water	200.2	253671
440-108954-A-1-C MS	Matrix Spike	Dissolved	Water	200.2	253671
440-108954-A-1-D MSD	Matrix Spike Duplicate	Dissolved	Water	200.2	253671
LCS 440-253671/2-E	Lab Control Sample	Dissolved	Water	200.2	253671
MB 440-253671/1-E	Method Blank	Dissolved	Water	200.2	253671

Analysis Batch: 253921

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-108953-1	W050	Dissolved	Water	200.7 Rev 4.4	253782
440-108954-A-1-C MS	Matrix Spike	Dissolved	Water	200.7 Rev 4.4	253782
440-108954-A-1-D MSD	Matrix Spike Duplicate	Dissolved	Water	200.7 Rev 4.4	253782
LCS 440-253671/2-E	Lab Control Sample	Dissolved	Water	200.7 Rev 4.4	253782
MB 440-253671/1-E	Method Blank	Dissolved	Water	200.7 Rev 4.4	253782

Analysis Batch: 253932

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-108953-1	W050	Dissolved	Water	200.8	253776
440-108953-1 MS	W050	Dissolved	Water	200.8	253776
440-108953-1 MSD	W050	Dissolved	Water	200.8	253776
LCS 440-253671/2-D	Lab Control Sample	Dissolved	Water	200.8	253776
MB 440-253671/1-D	Method Blank	Dissolved	Water	200.8	253776

Analysis Batch: 253960

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-108953-1	W050	Dissolved	Water	7470A	253773
440-108953-1 MS	W050	Dissolved	Water	7470A	253773
440-108953-1 MSD	W050	Dissolved	Water	7470A	253773
LCS 440-253671/2-B	Lab Control Sample	Dissolved	Water	7470A	253773
MB 440-253671/1-B	Method Blank	Dissolved	Water	7470A	253773

Leach Batch: 253995

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-107782-A-1-G MS ^20	Matrix Spike	STLC Citrate	Water	CA WET Citrate	
440-107782-A-1-G MSD ^20	Matrix Spike Duplicate	STLC Citrate	Water	CA WET Citrate	
440-108953-1	W050	STLC Citrate	Water	CA WET Citrate	

Metals (Continued)

Leach Batch: 253995 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-108953-1 MS	W050	STLC Citrate	Water	CA WET Citrate	
440-108953-1 MSD	W050	STLC Citrate	Water	CA WET Citrate	
LCS 440-253995/2-A ^20	Lab Control Sample	STLC Citrate	Water	CA WET Citrate	
LCS 440-253995/2-B	Lab Control Sample	STLC Citrate	Water	CA WET Citrate	
MB 440-253995/1-A ^20	Method Blank	STLC Citrate	Water	CA WET Citrate	
MB 440-253995/1-B	Method Blank	STLC Citrate	Water	CA WET Citrate	

Analysis Batch: 254297

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-107782-A-1-G MS ^20	Matrix Spike	STLC Citrate	Water	6010B	253995
440-107782-A-1-G MSD ^20	Matrix Spike Duplicate	STLC Citrate	Water	6010B	253995
440-108953-1	W050	STLC Citrate	Water	6010B	253995
LCS 440-253995/2-A ^20	Lab Control Sample	STLC Citrate	Water	6010B	253995
MB 440-253995/1-A ^20	Method Blank	STLC Citrate	Water	6010B	253995

Prep Batch: 254315

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-108953-1	W050	STLC Citrate	Water	7470A	253995
440-108953-1 MS	W050	STLC Citrate	Water	7470A	253995
440-108953-1 MSD	W050	STLC Citrate	Water	7470A	253995
LCS 440-253995/2-B	Lab Control Sample	STLC Citrate	Water	7470A	253995
MB 440-253995/1-B	Method Blank	STLC Citrate	Water	7470A	253995

Prep Batch: 254405

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-108953-1	W050	Dissolved	Water	3005A	253671
440-108953-1 MS	W050	Dissolved	Water	3005A	253671
440-108953-1 MSD	W050	Dissolved	Water	3005A	253671
LCS 440-253671/2-F	Lab Control Sample	Dissolved	Water	3005A	253671
MB 440-253671/1-F	Method Blank	Dissolved	Water	3005A	253671

Analysis Batch: 254512

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-108953-1	W050	STLC Citrate	Water	7470A	254315
440-108953-1 MS	W050	STLC Citrate	Water	7470A	254315
440-108953-1 MSD	W050	STLC Citrate	Water	7470A	254315
LCS 440-253995/2-B	Lab Control Sample	STLC Citrate	Water	7470A	254315
MB 440-253995/1-B	Method Blank	STLC Citrate	Water	7470A	254315

Analysis Batch: 254519

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-108953-1	W050	Dissolved	Water	6010B	254405
440-108953-1 MS	W050	Dissolved	Water	6010B	254405
440-108953-1 MSD	W050	Dissolved	Water	6010B	254405
LCS 440-253671/2-F	Lab Control Sample	Dissolved	Water	6010B	254405
MB 440-253671/1-F	Method Blank	Dissolved	Water	6010B	254405

QC Association Summary

Client: AMEC Foster Wheeler E & I, Inc
Project/Site: Chevron Kern River SB4, FR1416063A.002

TestAmerica Job ID: 440-108953-1

General Chemistry

Analysis Batch: 253517

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-108909-C-2 DU	Duplicate	Total/NA	Water	SM 2320B	
440-108953-1	W050	Total/NA	Water	SM 2320B	
LCS 440-253517/2	Lab Control Sample	Total/NA	Water	SM 2320B	
MB 440-253517/3	Method Blank	Total/NA	Water	SM 2320B	

Analysis Batch: 253735

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-108808-B-11 DU	Duplicate	Total/NA	Water	SM 2540C	
440-108953-1	W050	Total/NA	Water	SM 2540C	
LCS 440-253735/2	Lab Control Sample	Total/NA	Water	SM 2540C	
MB 440-253735/1	Method Blank	Total/NA	Water	SM 2540C	

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
X	Surrogate is outside control limits
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC/MS Semi VOA

Qualifier	Qualifier Description
X	Surrogate is outside control limits
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
*	RPD of the LCS and LCSD exceeds the control limits

GC Semi VOA

Qualifier	Qualifier Description
X	Surrogate is outside control limits

HPLC/IC

Qualifier	Qualifier Description
F1	MS and/or MSD Recovery is outside acceptance limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.

Metals

Qualifier	Qualifier Description
HF	Field parameter with a holding time of 15 minutes. Test performed by laboratory at client's request.
B	Compound was found in the blank and sample.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Certification Summary

Client: AMEC Foster Wheeler E & I, Inc
Project/Site: Chevron Kern River SB4, FR1416063A.002

TestAmerica Job ID: 440-108953-1

Laboratory: TestAmerica Irvine

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Alaska	State Program	10	CA01531	06-30-15
Arizona	State Program	9	AZ0671	10-13-15
California	LA Cty Sanitation Districts	9	10256	01-31-16 *
California	State Program	9	2706	06-30-16
Guam	State Program	9	Cert. No. 12.002r	01-23-16
Hawaii	State Program	9	N/A	01-29-16
Nevada	State Program	9	CA015312007A	07-31-15
New Mexico	State Program	6	N/A	01-29-15 *
Northern Mariana Islands	State Program	9	MP0002	01-29-15 *
Oregon	NELAP	10	4005	01-29-16
USDA	Federal		P330-09-00080	06-06-15

* Certification renewal pending - certification considered valid.

amec foster wheeler

SHIP TO: Test America Laboratories
17461 Derian Ave. #100
Irvine, CA 92614
Attn: Sample Receiving
(314) 298-8566

CHAIN OF CUSTODY

DATE: 5-5-15

COC #: 16593

PAGE: 1 **OF** 1

Project Name: Chevron Kern River SB4	Project Contact: Gary Kramer	Amec Foster Wheeler	Disposal Instructions: LAB
Project Number: FR1416063A.002	Phone Number: 559-264-3048	1281 E. Alluvial Ave Suite 101	Shipment Method: FED EX
Project Manager: Gary Kramer	E-mail: gary.kramer@amecfw.com	Fresno, CA 93720	Geotracker Required: Yes EDD

Sample Information / **Methods for Analysis** / **RUSH**

No.	Sample ID	Date Sampled	Time Sampled	Matrix	8260B BTEX, Acetone	RSK-175 Methane	8270C SIM PAHs	8015B TPH	6010B STLC Metals	2320B Alkalinity	2540C TDS	300 Cl, Br, SO_4, F	300 NO_3	200.7, 200.8,	6010B, 7470A		9315 Ra 226	9320 Ra 228 9310 Gross Alpha/Beta				24 Hour	48 Hour	72 Hour	5 Days	QC (MS/MSD)	TOTAL BOTTLES	HOLD All Analyses
1	W050	5.5.15	1330	W	3		X	X	X	X	X	X	X	X	X												9	
2																												
3																												
4																												
5																												
6																												
7																												
8																												
9																												
10																												
11																												
12																												

440-108953 Chain of Custody

Sampler's Signature: Mary Kairouz	**Date:** 5-5-15	**Time:** 1400
Relinquished By/Affiliation: Mary Kairouz / Amec	**Date:** 5-5-15	**Time:**
Received By: Fed Ex	**Date:**	**Time:**
Relinquished By/Affiliation: 5/6/15	**Date:**	**Time:**
Received By: TA Irvine	**Date:** 5/6/15	**Time:** 1000
Relinquished By/Affiliation:	**Date:**	**Time:**
Received By (LAB):	**Date:**	**Time:**

For Lab Use

Does COC match samples:	Y or N
Broken Container:	Y or N
COC seal intact:	Y or N
Other problems:	Y or N
AMEC contacted:	Y or N
Date contacted:	
Cooler Temperature at receipt:	2.4/0.8 °C
NUMBER OF COOLERS SENT:	1

Comments: H=Hold Analysis Request X=Analyze

Please e-mail results to Gary Kramer

Any Questions please call Patty Mata
949-261-1022

NO Samples were filtered in the field.

TRK# 0215 8062 5838 2352

Login Sample Receipt Checklist

Client: AMEC Foster Wheeler E & I, Inc

Job Number: 440-108953-1

Login Number: 108953
List Number: 1
Creator: Soderblom, Tim

List Source: TestAmerica Irvine

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Irvine
17461 Derian Ave
Suite 100
Irvine, CA 92614-5817
Tel: (949)261-1022

TestAmerica Job ID: 440-108953-2
Client Project/Site: Chevron Kern River

For:
AMEC Foster Wheeler E & I, Inc
1281 E Alluvial Ave, Ste 101
Fresno, California 93720

Attn: Gary Kramer

Authorized for release by:
5/27/2015 12:48:08 PM

Patty Mata, Senior Project Manager
(949)261-1022
patty.mata@testamericainc.com

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at: www.testamericainc.com

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Sample Summary

Client: AMEC Foster Wheeler E & I, Inc
Project/Site: Chevron Kern River

TestAmerica Job ID: 440-108953-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
440-108953-1	W050	Water	05/05/15 13:30	05/06/15 10:00

Case Narrative

Client: AMEC Foster Wheeler E & I, Inc
Project/Site: Chevron Kern River

TestAmerica Job ID: 440-108953-2

Job ID: 440-108953-2

Laboratory: TestAmerica Irvine

Narrative

Job Narrative
440-108953-2

Comments
Only the Rad-chem results are included in this report.

Receipt
The samples were received on 5/6/2015 10:00 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 0.8º C and 4.0º C.

RAD
Method(s) PrecSep_0: radium-228 batch 190755 and radium-226 batch 190754
A deviation from the Standard Operating Procedure (SOP) occurred. Sample W050 (440-108953-1) was oily and dark. A 500 mL aliquot was taken to dryness, muffled, and underwent acid digestion. After digestion, the process continued per the SOP. Due to the matrix of the sample, a LCS/LCSD was performed.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

General Chemistry
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Client Sample Results

Client: AMEC Foster Wheeler E & I, Inc
Project/Site: Chevron Kern River

TestAmerica Job ID: 440-108953-2

Client Sample ID: W050

Date Collected: 05/05/15 13:30
Date Received: 05/06/15 10:00

Lab Sample ID: 440-108953-1

Matrix: Water

Method: 9310 - Gross Alpha / Beta (GFPC) - Dissolved

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	MDC	Unit	Prepared	Analyzed	Dil Fac
Gross Alpha	16.4	U G	12.5	12.6	19.2	pCi/L	05/14/15 11:52	05/19/15 17:46	1
Gross Beta	**46.6**	**G**	5.76	7.41	5.19	pCi/L	05/14/15 11:52	05/19/15 17:46	1

Method: 9315 - Radium-226 (GFPC) - Dissolved

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.287	U	0.233	0.235	0.365	pCi/L	05/14/15 10:58	05/21/15 15:45	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*108*		*40 - 110*	*05/14/15 10:58*	*05/21/15 15:45*	*1*

Method: 9320 - Radium-228 (GFPC) - Dissolved

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.197	U	0.354	0.354	0.602	pCi/L	05/14/15 11:00	05/21/15 11:48	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*108*		*40 - 110*	*05/14/15 11:00*	*05/21/15 11:48*	*1*
Y Carrier	*89.3*		*40 - 110*	*05/14/15 11:00*	*05/21/15 11:48*	*1*

Method Summary

Client: AMEC Foster Wheeler E & I, Inc
Project/Site: Chevron Kern River

TestAmerica Job ID: 440-108953-2

Method	Method Description	Protocol	Laboratory
9310	Gross Alpha / Beta (GFPC)	SW846	TAL SL
9315	Radium-226 (GFPC)	SW846	TAL SL
9320	Radium-228 (GFPC)	SW846	TAL SL

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL SL = TestAmerica St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Lab Chronicle

Client: AMEC Foster Wheeler E & I, Inc
Project/Site: Chevron Kern River

TestAmerica Job ID: 440-108953-2

Client Sample ID: W050

Date Collected: 05/05/15 13:30
Date Received: 05/06/15 10:00

Lab Sample ID: 440-108953-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Filtration	Filtration			1 gal	1 gal	190549	05/13/15 10:02	JWM	TAL SL
Dissolved	Prep	Evaporation			42 mL	1.0 g	190763	05/14/15 11:52	MJS	TAL SL
Dissolved	Analysis	9310		1	42 mL		191627	05/19/15 17:46	RTM	TAL SL
Dissolved	Filtration	Filtration			1 gal	1 gal	190549	05/13/15 10:02	JWM	TAL SL
Dissolved	Prep	PrecSep_0			500.62 mL	1.0 g	190754	05/14/15 10:58	LEM	TAL SL
Dissolved	Analysis	9315		1	500.62 mL		191826	05/21/15 15:45	RTM	TAL SL
Dissolved	Filtration	Filtration			1 gal	1 gal	190549	05/13/15 10:02	JWM	TAL SL
Dissolved	Prep	PrecSep_0			500.62 mL	1.0 g	190755	05/14/15 11:00	LEM	TAL SL
Dissolved	Analysis	9320		1	500.62 mL		191828	05/21/15 11:48	RTM	TAL SL

Laboratory References:

TAL SL = TestAmerica St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

QC Sample Results

Client: AMEC Foster Wheeler E & I, Inc
Project/Site: Chevron Kern River

TestAmerica Job ID: 440-108953-2

Method: 9310 - Gross Alpha / Beta (GFPC)

Lab Sample ID: MB 160-190763/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 191627 — **Prep Batch: 190763**

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	MDC	Unit	Prepared	Analyzed	Dil Fac
Gross Alpha	0.3992	U	0.954	0.955	1.68	pCi/L	05/14/15 11:52	05/19/15 07:23	1
Gross Beta	0.2826	U	0.574	0.575	0.970	pCi/L	05/14/15 11:52	05/19/15 07:23	1

Lab Sample ID: LCS 160-190763/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 191627 — **Prep Batch: 190763**

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	MDC	Unit	%Rec	%Rec. Limits
Gross Alpha	50.0	49.67		7.65	2.52	pCi/L	99	73 - 133

Lab Sample ID: LCSB 160-190763/3-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 191627 — **Prep Batch: 190763**

Analyte	Spike Added	LCSB Result	LCSB Qual	Total Uncert. (2σ+/-)	MDC	Unit	%Rec	%Rec. Limits
Gross Beta	95.1	90.26		9.55	0.943	pCi/L	95	75 - 125

Lab Sample ID: 160-11798-A-1-C MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 191627 — **Prep Batch: 190763**

Analyte	Sample Result	Sample Qual	Spike Added	MS Result	MS Qual	Total Uncert. (2σ+/-)	MDC	Unit	%Rec	%Rec. Limits
Gross Alpha	3.19	U G	105	141.4		21.2	6.79	pCi/L	134	35 - 150

Lab Sample ID: 160-11798-A-1-D MSBT — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 191627 — **Prep Batch: 190763**

Analyte	Sample Result	Sample Qual	Spike Added	MSBT Result	MSBT Qual	Total Uncert. (2σ+/-)	MDC	Unit	%Rec	%Rec. Limits
Gross Beta	3.44		200	206.6		21.8	2.12	pCi/L	102	89 - 143

Lab Sample ID: 160-11798-A-1-E DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 191627 — **Prep Batch: 190763**

Analyte	Sample Result	Sample Qual	DU Result	DU Qual	Total Uncert. (2σ+/-)	MDC	Unit	RER	RER Limit
Gross Alpha	3.19	U G	1.680	U G	4.80	8.53	pCi/L	0.16	1
Gross Beta	3.44		2.521		1.39	2.02	pCi/L	0.32	1

Method: 9315 - Radium-226 (GFPC)

Lab Sample ID: MB 160-190754/1-A
Matrix: Water
Analysis Batch: 191826

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 190754

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.06303	U	0.0911	0.0913	0.154	pCi/L	05/14/15 10:58	05/21/15 15:45	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*109*		*40 - 110*	*05/14/15 10:58*	*05/21/15 15:45*	*1*

Lab Sample ID: LCS 160-190754/2-A
Matrix: Water
Analysis Batch: 192238

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 190754

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	MDC	Unit	%Rec	%Rec. Limits
Radium-226	11.2	15.03		1.43	0.0789	pCi/L	135	68 - 137

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*109*		*40 - 110*

Lab Sample ID: LCSD 160-190754/3-A
Matrix: Water
Analysis Batch: 192238

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 190754

Analyte	Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-226	11.2	13.47		1.30	0.0734	pCi/L	121	68 - 137	0.57	1

Carrier	*LCSD %Yield*	*LCSD Qualifier*	*Limits*
Ba Carrier	*109*		*40 - 110*

Method: 9320 - Radium-228 (GFPC)

Lab Sample ID: MB 160-190755/1-A
Matrix: Water
Analysis Batch: 191828

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 190755

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-0.08489	U	0.163	0.163	0.308	pCi/L	05/14/15 11:00	05/21/15 11:48	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*109*		*40 - 110*	*05/14/15 11:00*	*05/21/15 11:48*	*1*
Y Carrier	*91.6*		*40 - 110*	*05/14/15 11:00*	*05/21/15 11:48*	*1*

Method: 9320 - Radium-228 (GFPC) (Continued)

Lab Sample ID: LCS 160-190755/2-A
Matrix: Water
Analysis Batch: 191828

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 190755

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)		MDC	Unit	%Rec	%Rec. Limits		
Radium-228			3.41	3.956		0.556		0.326	pCi/L	116	56 - 140		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*109*		*40 - 110*
Y Carrier	*89.3*		*40 - 110*

Lab Sample ID: LCSD 160-190755/3-A
Matrix: Water
Analysis Batch: 191828

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 190755

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)		MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-228			3.41	2.938		0.460		0.338	pCi/L	86	56 - 140	1.00	1

Carrier	*LCSD %Yield*	*LCSD Qualifier*	*Limits*
Ba Carrier	*109*		*40 - 110*
Y Carrier	*90.8*		*40 - 110*

QC Association Summary

Client: AMEC Foster Wheeler E & I, Inc
Project/Site: Chevron Kern River

TestAmerica Job ID: 440-108953-2

Rad

Filtration Batch: 190549

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-108953-1	W050	Dissolved	Water	Filtration	

Prep Batch: 190754

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-108953-1	W050	Dissolved	Water	PrecSep_0	190549
LCS 160-190754/2-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
LCSD 160-190754/3-A	Lab Control Sample Dup	Total/NA	Water	PrecSep_0	
MB 160-190754/1-A	Method Blank	Total/NA	Water	PrecSep_0	

Prep Batch: 190755

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-108953-1	W050	Dissolved	Water	PrecSep_0	190549
LCS 160-190755/2-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
LCSD 160-190755/3-A	Lab Control Sample Dup	Total/NA	Water	PrecSep_0	
MB 160-190755/1-A	Method Blank	Total/NA	Water	PrecSep_0	

Prep Batch: 190763

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-11798-A-1-C MS	Matrix Spike	Total/NA	Water	Evaporation	
160-11798-A-1-D MSBT	Matrix Spike	Total/NA	Water	Evaporation	
160-11798-A-1-E DU	Duplicate	Total/NA	Water	Evaporation	
440-108953-1	W050	Dissolved	Water	Evaporation	190549
LCS 160-190763/2-A	Lab Control Sample	Total/NA	Water	Evaporation	
LCSB 160-190763/3-A	Lab Control Sample	Total/NA	Water	Evaporation	
MB 160-190763/1-A	Method Blank	Total/NA	Water	Evaporation	

Definitions/Glossary

Client: AMEC Foster Wheeler E & I, Inc
Project/Site: Chevron Kern River

TestAmerica Job ID: 440-108953-2

Qualifiers

Rad

Qualifier	Qualifier Description
G	The Sample MDC is greater than the requested RL.
U	Result is less than the sample detection limit.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Certification Summary

Client: AMEC Foster Wheeler E & I, Inc
Project/Site: Chevron Kern River

TestAmerica Job ID: 440-108953-2

Laboratory: TestAmerica Irvine

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Alaska	State Program	10	CA01531	06-30-15
Arizona	State Program	9	AZ0671	10-13-15
California	LA Cty Sanitation Districts	9	10256	01-31-16 *
California	State Program	9	2706	06-30-16
Guam	State Program	9	Cert. No. 12.002r	01-23-16
Hawaii	State Program	9	N/A	01-29-16
Nevada	State Program	9	CA015312007A	07-31-15
New Mexico	State Program	6	N/A	01-29-15 *
Northern Mariana Islands	State Program	9	MP0002	01-29-15 *
Oregon	NELAP	10	4005	01-29-16
USDA	Federal		P330-09-00080	06-06-15

Laboratory: TestAmerica St. Louis

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Alaska	State Program	10	MO00054	06-30-15 *
California	ELAP	9	2886	03-31-16
Connecticut	State Program	1	PH-0241	03-31-17
Florida	NELAP	4	E87689	06-30-15 *
Illinois	NELAP	5	200023	11-30-15
Iowa	State Program	7	373	12-01-16
Kansas	NELAP	7	E-10236	10-31-15
Kentucky (DW)	State Program	4	90125	12-31-15
L-A-B	DoD ELAP		L2305	01-10-16
Louisiana	NELAP	6	04080	06-30-15 *
Louisiana (DW)	NELAP	6	LA150017	12-31-16
Maryland	State Program	3	310	09-30-15
Missouri	State Program	7	780	06-30-15 *
Nevada	State Program	9	MO000542013-1	07-31-15 *
New Jersey	NELAP	2	MO002	06-30-15 *
New Mexico	State Program	6		06-30-10 *
New York	NELAP	2	11616	03-31-16
North Dakota	State Program	8	R207	06-30-15 *
NRC	NRC		24-24817-01	12-31-22
Oklahoma	State Program	6	9997	08-31-15
Pennsylvania	NELAP	3	68-00540	02-28-16
South Carolina	State Program	4	85002001	06-30-15 *
Texas	NELAP	6	T104704193-13-6	07-31-15 *
USDA	Federal		P330-07-00122	01-09-17
Utah	NELAP	8	MO000542013-5	07-31-15
Virginia	NELAP	3	460230	06-14-15 *
Washington	State Program	10	C592	08-30-15
West Virginia DEP	State Program	3	381	08-31-15

* Certification renewal pending - certification considered valid.

amec foster wheeler

SHIP TO: Test America Laboratories
13715 Rider Trail North
Earth City, MO 63045
Attn: Sample Receiving
(314) 298-8566

CHAIN OF CUSTODY

DATE: 5-5-15

COC #: 16592

PAGE: 1 OF 1

Project Name: Chevron Kern River SB4	Project Contact: Gary Kramer	Amec Foster Wheeler	Disposal Instructions: LAB
Project Number: FR1416063A.002	Phone Number: 559-264-3048	1281 E. Alluvial Ave Suite 101	Shipment Method: FED EX
Project Manager: Gary Kramer	E-mail: gary.kramer@amecfw.com	Fresno, CA 93720	Geotracker Required: Yes EDD

Sample Information / **Methods for Analysis** / **RUSH**

No.	Sample ID	Date Sampled	Time Sampled	Matrix	8260B BTEX	RSK-175 Methane	8270C SIM PAHs	8015B TPH	6010B STLC Metals	2320B Alkalinity	2540C TDS	300 Cl, Br, SO_4	300 NO_3	200.7, 200.8,	6010B, 7470A		9315 Ra 226	9320 Ra 228	9310 Gross Alpha/Beta				24 Hour	48 Hour	72 Hour	5 Days	QC (MS/MSD)	TOTAL BOTTLES	HOLD All Analyses
1	W050	5-5-15	13:30	W													X	X	X									1	
2																													
3																													
4																													
5																													
6																													
7																													
8																													
9																													
10																													
11																													
12																													

Sampler's Signature: Mary Kairouz	**Date:** 5-5-15	**Time:** 1400
Relinquished By/Affiliation: Mary Kairouz / Amec FW	**Date:** 5-5-15	**Time:**
Received By: Fed Ex	**Date:**	**Time:**
Relinquished By/Affiliation: Fed Ex	**Date:**	**Time:**
Received By: Jill Clark TASL	**Date:** 5-6-15	**Time:** 0900
Relinquished By/Affiliation:	**Date:**	**Time:**
Received By (LAB):	**Date:**	**Time:**

For Lab Use

Does COC match samples:	Y or N
Broken Container:	Y or N
COC seal intact:	Y or N
Other problems:	Y or N
AMEC contacted:	Y or N
Date contacted:	
Cooler Temperature at receipt:	C

NUMBER OF COOLERS SENT: 1

Comments: H=Hold Analysis Request X=Analyze
Please e-mail results to Gary Kramer

Any Questions please call Patty Mata
949-261-1022

NOT field filtered: please filter for analysis that need it.

amec foster wheeler

SHIP TO: Test America Laboratories
13715 Rider Trail North
Earth City, MO 63045
Attn: Sample Receiving
(314) 298-8566

CHAIN OF CUSTODY

DATE: 5-5-15

COC #: 16592

PAGE: 1 OF 1

Project Name: Chevron Kern River SB4	Project Contact: Gary Kramer	Amec Foster Wheeler	Disposal Instructions: LAB
Project Number: FR1416063A.002	Phone Number: 559-264-3048	1281 E. Alluvial Ave Suite 101	Shipment Method: FED EX
Project Manager: Gary Kramer	E-mail: gary.kramer@amecfw.com	Fresno, CA 93720	Geotracker Required: Yes EDD

Sample Information / **Methods for Analysis** / **RUSH**

No.	Sample ID	Date Sampled	Time Sampled	Matrix	8260B BTEX	RSK-175 Methane	8270C SIM PAHs	8015B TPH	6010B STLC Metals	2320B Alkalinity	2540C TDS	300 Cl, Br, SO_4	300 NO_3	200.7, 200.8,	6010B, 7470A		9315 Ra 226	9320 Ra 228	9310 Gross Alpha/Beta				24 Hour	48 Hour	72 Hour	5 Days	QC (MS/MSD)	TOTAL BOTTLES	HOLD All Analyses
1	W050	5-5-15	13:30	W													X	X	X									1	
2																													
3																													
4																													
5																													
6																													
7																													
8																													
9																													
10																													
11																													
12																													

Sampler's Signature: Mary Kairouz	**Date:** 5-5-15	**Time:** 1400
Relinquished By/Affiliation: Mary Kairouz / Amec FW	**Date:** 5-5-15	**Time:**
Received By: Fed EX	**Date:**	**Time:**
Relinquished By/Affiliation: Fed Ex	**Date:**	**Time:**
Received By: Jill Clark TASR	**Date:** 5-6-15	**Time:** 0900
Relinquished By/Affiliation:	**Date:**	**Time:**
Received By (LAB):	**Date:**	**Time:**

For Lab Use

Does COC match samples:	Y or N
Broken Container:	Y or N
COC seal intact:	Y or N
Other problems:	Y or N
AMEC contacted:	Y or N
Date contacted:	
Cooler Temperature at receipt:	C

NUMBER OF COOLERS SENT: 1

Comments: H=Hold Analysis Request X=Analyze
Please e-mail results to Gary Kramer

Any Questions please call Patty Mata
949-261-1022

NOT field filtered: please filter for analysis that need it.

440-108953 Chain of Custody

TestAmerica Irvine
17461 Derian Ave Suite 100
Irvine, CA 92614-5817
Phone (949) 261-1022 Fax (949) 260-3297

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Mata, Patty	Carrier Tracking No(s):	COC No: 440-82573.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: patty.mata@testamericainc.com		Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.				Job #: 440-108953-2
Address: 13715 Rider Trail North, ,	Due Date Requested: 5/20/2015			
City: Earth City	TAT Requested (days):			
State, Zip: MO, 63045				
Phone: 314-298-8566(Tel) 314-298-8757(Fax)	PO #:			
Email:	WO #:			
Project Name: Chevron Kem River	Project #: 44011546			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL
B - NaOH
C - Zn Acetate
D - Nitric Acid
E - NaHSO4
F - MeOH
G - Amchlor
H - Ascorbic Acid
I - Ice
J - DI Water
K - EDTA
L - EDA
M - Hexane
N - None
O - AsNaO2
P - Na2O4S
Q - Na2SO3
R - Na2S2SO3
S - H2SO4
T - TSP Dodecahydrate
U - Acetone
V - MCAA
W - ph 4-5
Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	9310/Filtration_Rad Standard Target List	9315_Ra226/Filtration_Rad Standard Target List	9320_Ra228/Filtration_Rad Standard Target List	Total Number of containers	Special Instructions/Note:
			Preservation Code:								
W050 (440-108953-1)	5/5/15	13:30 Pacific		Water			X	X	X	1	Chevron 5 day Rush

Possible Hazard Identification
Unconfirmed
Deliverable Requested: I, II, III, IV, Other (specify)

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:		
Relinquished by:	Date/Time:	Company TAI	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks:		

Login Sample Receipt Checklist

Client: AMEC Foster Wheeler E & I, Inc

Job Number: 440-108953-2

Login Number: 108953
List Number: 1
Creator: Soderblom, Tim

List Source: TestAmerica Irvine

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: AMEC Foster Wheeler E & I, Inc

Job Number: 440-108953-2

Login Number: 108953
List Number: 2
Creator: Clarke, Jill C

List Source: TestAmerica St. Louis
List Creation: 05/11/15 03:37 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	6.4
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	Lab to filter & preserve
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Tracer/Carrier Summary

Client: AMEC Foster Wheeler E & I, Inc
Project/Site: Chevron Kern River

TestAmerica Job ID: 440-108953-2

Method: 9315 - Radium-226 (GFPC)

Matrix: Water **Prep Type: Total/NA**

Lab Sample ID	Client Sample ID	Ba (40-110)
LCS 160-190754/2-A	Lab Control Sample	109
LCSD 160-190754/3-A	Lab Control Sample Dup	109
MB 160-190754/1-A	Method Blank	109

Percent Yield (Acceptance Limits)

Tracer/Carrier Legend

Ba = Ba Carrier

Method: 9315 - Radium-226 (GFPC)

Matrix: Water **Prep Type: Dissolved**

Lab Sample ID	Client Sample ID	Ba (40-110)
440-108953-1	W050	108

Percent Yield (Acceptance Limits)

Tracer/Carrier Legend

Ba = Ba Carrier

Method: 9320 - Radium-228 (GFPC)

Matrix: Water **Prep Type: Total/NA**

Lab Sample ID	Client Sample ID	Ba (40-110)	Y (40-110)
LCS 160-190755/2-A	Lab Control Sample	109	89.3
LCSD 160-190755/3-A	Lab Control Sample Dup	109	90.8
MB 160-190755/1-A	Method Blank	109	91.6

Percent Yield (Acceptance Limits)

Tracer/Carrier Legend

Ba = Ba Carrier

Y = Y Carrier

Method: 9320 - Radium-228 (GFPC)

Matrix: Water **Prep Type: Dissolved**

Lab Sample ID	Client Sample ID	Ba (40-110)	Y (40-110)
440-108953-1	W050	108	89.3

Percent Yield (Acceptance Limits)

Tracer/Carrier Legend

Ba = Ba Carrier

Y = Y Carrier

TestAmerica

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ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Irvine
17461 Derian Ave
Suite 100
Irvine, CA 92614-5817
Tel: (949)261-1022

TestAmerica Job ID: 440-111456-1
Client Project/Site: Chevron Coalinga

For:
AMEC Foster Wheeler E & I, Inc
1281 East Alluvial Avenue
Suite 101
Fresno, California 93720

Attn: Mr. Brad Loewen

Authorized for release by:
6/8/2015 10:33:18 PM

Patty Mata, Senior Project Manager
(949)261-1022
patty.mata@testamericainc.com

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

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The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Sample Summary

Client: AMEC Foster Wheeler E & I, Inc
Project/Site: Chevron Coalinga

TestAmerica Job ID: 440-111456-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
440-111456-1	WC001	Water	05/29/15 11:40	05/30/15 08:07
440-111456-2	WMWS001	Water	05/29/15 15:00	05/30/15 08:07
440-111456-3	WKR001	Water	05/29/15 17:35	05/30/15 08:07
440-111456-5	TRIP BLANK	Water	05/29/15 00:01	05/30/15 08:07

Job ID: 440-111456-1

Laboratory: TestAmerica Irvine

Narrative

Job Narrative
440-111456-1

Comments
Sludge sample SKR-001 results will be reported separately. All radioisotope data will also be reported separately.

Receipt
The samples were received on 5/30/2015 8:07 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 4 coolers at receipt time were 2.0º C, 2.2º C, 2.8º C (at Irvine lab) and 18.0º C (at St Louis lab).

GC/MS VOA
Method(s) 8260B: The following volatile samples were received and analyzed with significant headspace in the sample vials due to receipt with and/or multiple re-analysis: WC001 (440-111456-1), WMWS001 (440-111456-2), WKR001 (440-111456-3) and TRIP BLANK (440-111456-5). Significant headspace is defined as a bubble greater than 6 mm in diameter. Samples were received with headspace and many also required multiple tests to obtain reportable data.

Method(s) 8260B: The following sample was collected in properly preserved vials for analysis of volatile organic compounds (VOCs). However, pH=3 was outside the required criteria when verified by the laboratory, and corrective action was not possible: WMWS001 (440-111456-2).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC/MS Semi VOA
Method(s) 8270C SIM: The following samples required dilution due to the nature of the sample matrix: WC001 (440-111456-1), WMWS001 (440-111456-2). Because of dilution, the surrogate spike concentration in each sample was reduced to a level where the recovery calculation does not provide useful information.

Method(s) 8270C SIM: Surrogate recovery for the following sample was outside control limits: WKR001 (440-111456-3). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method(s) 8270C SIM: The internal standard response was below the 50% minimum QC limit for the following samples: WKR001 (440-111456-3). The chromatography showed some matrix interference that could have adversely affected the recovery of the affected internal standard. All affected target analytes were flagged with an asterisk (*). If the matrix effect is isolated to the internal standards, then the affect on the associated target analyte results are potentially biased high.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

HPLC/IC
Method(s) 300.0: Due to the relatively high concentration of chloride and sulfate in the batch QC source sample, the matrix spike / matrix spike duplicate (MS/MSD) for batch 258330 could not be evaluated for accuracy and precision. The associated laboratory control sample (LCS) met acceptance criteria.

Method(s) 300.0: The following samples was diluted for fluoride and nitrate due to the nature of the sample matrix: WC001 (440-111456-1) and WMWS001 (440-111456-2). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC Semi VOA
Method(s) 8015B: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 258737. The laboratory control sample (LCS) was performed in duplicate to provide precision data for this batch.

Method(s) 8015B: Surrogate n-Octacosane recoveries for the following samples were outside control limits: WC001 (440-111456-1) and WKR001 (440-111456-3). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method(s) 8015B: The following sample required a dilution due to the nature of the sample matrix: WMWS001 (440-111456-2). Because

Job ID: 440-111456-1 (Continued)

Laboratory: TestAmerica Irvine (Continued)

of this dilution, the surrogate spike concentration in the sample was reduced to a level where the recovery calculation does not provide useful information.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Metals
Method(s) 200.8: The following samples were diluted due to the nature of the sample matrix: WC001 (440-111456-1), WMWS001 (440-111456-2) and WKR001 (440-111456-3). Elevated reporting limits (RLs) are provided.

Method(s) 200.7 and 200.8: Methods require dissolved metals to be filtered immediately which is taken to mean within 15 minutes of sampling. The sample results in this report have HF qualifiers to note that the lab was requested to filter the samples after receipt.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

General Chemistry
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Organic Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

VOA Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Client Sample Results

Client: AMEC Foster Wheeler E & I, Inc
Project/Site: Chevron Coalinga

TestAmerica Job ID: 440-111456-1

Client Sample ID: WC001

Date Collected: 05/29/15 11:40
Date Received: 05/30/15 08:07

Lab Sample ID: 440-111456-1

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**18**		0.50	0.25	ug/L			06/02/15 16:32	1
Ethylbenzene	**4.7**		0.50	0.25	ug/L			06/02/15 16:32	1
m,p-Xylene	**2.9**		1.0	0.50	ug/L			06/02/15 16:32	1
o-Xylene	**1.4**		0.50	0.25	ug/L			06/02/15 16:32	1
Toluene	**2.4**		0.50	0.25	ug/L			06/02/15 16:32	1
Xylenes, Total	**4.3**		1.0	0.50	ug/L			06/02/15 16:32	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*		*06/02/15 16:32*	*1*
Dibromofluoromethane (Surr)	*98*		*76 - 132*		*06/02/15 16:32*	*1*
Toluene-d8 (Surr)	*108*		*80 - 128*		*06/02/15 16:32*	*1*

Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		2.1	1.0	ug/L		05/31/15 11:42	06/04/15 20:32	10
Acenaphthylene	ND		2.1	1.0	ug/L		05/31/15 11:42	06/04/15 20:32	10
Anthracene	ND		2.1	1.0	ug/L		05/31/15 11:42	06/04/15 20:32	10
Benzo[a]anthracene	ND		2.1	1.0	ug/L		05/31/15 11:42	06/04/15 20:32	10
Benzo[a]pyrene	ND		2.1	1.0	ug/L		05/31/15 11:42	06/04/15 20:32	10
Benzo[b]fluoranthene	ND		2.1	1.0	ug/L		05/31/15 11:42	06/04/15 20:32	10
Benzo[g,h,i]perylene	ND		2.1	1.0	ug/L		05/31/15 11:42	06/04/15 20:32	10
Benzo[k]fluoranthene	ND		2.1	1.0	ug/L		05/31/15 11:42	06/04/15 20:32	10
Chrysene	ND		2.1	1.0	ug/L		05/31/15 11:42	06/04/15 20:32	10
Dibenz(a,h)anthracene	ND		2.1	1.0	ug/L		05/31/15 11:42	06/04/15 20:32	10
Fluoranthene	ND		2.1	1.0	ug/L		05/31/15 11:42	06/04/15 20:32	10
Fluorene	**4.1**		2.1	1.0	ug/L		05/31/15 11:42	06/04/15 20:32	10
Indeno[1,2,3-cd]pyrene	ND		2.1	1.0	ug/L		05/31/15 11:42	06/04/15 20:32	10
Naphthalene	**61**		2.1	1.0	ug/L		05/31/15 11:42	06/04/15 20:32	10
Phenanthrene	**2.5**		2.1	1.0	ug/L		05/31/15 11:42	06/04/15 20:32	10
Pyrene	ND		2.1	1.0	ug/L		05/31/15 11:42	06/04/15 20:32	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*74*		*31 - 120*	*05/31/15 11:42*	*06/04/15 20:32*	*10*
Nitrobenzene-d5	*295*	*X*	*25 - 133*	*05/31/15 11:42*	*06/04/15 20:32*	*10*
Terphenyl-d14	*121*	*X*	*10 - 120*	*05/31/15 11:42*	*06/04/15 20:32*	*10*

Method: 8015B - Diesel Range Organics (DRO) (GC) Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C29-C40	**0.43**		0.052	0.026	mg/L		06/02/15 09:24	06/02/15 15:02	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane	*40*	*X*	*45 - 120*	*06/02/15 09:24*	*06/02/15 15:02*	*1*

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	**33**		10	5.0	mg/L			05/30/15 15:12	20
Nitrate as NO3	ND		10	5.0	mg/L			05/30/15 15:12	20
Chloride	**1600**		250	130	mg/L			05/30/15 15:27	500
Fluoride	ND		10	5.0	mg/L			05/30/15 15:12	20
Sulfate	**210**		10	5.0	mg/L			05/30/15 15:12	20

Client Sample Results

Client: AMEC Foster Wheeler E & I, Inc
Project/Site: Chevron Coalinga

TestAmerica Job ID: 440-111456-1

Client Sample ID: WC001

Date Collected: 05/29/15 11:40
Date Received: 05/30/15 08:07

Lab Sample ID: 440-111456-1

Matrix: Water

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	**0.081**	**J HF**	0.10	0.050	mg/L		06/04/15 10:20	06/04/15 16:28	1
Iron	**0.22**	**HF**	0.040	0.010	mg/L		06/04/15 10:20	06/04/15 16:28	1
Lithium	**0.47**	**J HF**	0.50	0.025	mg/L		06/04/15 10:20	06/04/15 16:28	1
Magnesium	**0.027**	**HF**	0.020	0.010	mg/L		06/04/15 10:20	06/04/15 16:28	1
Manganese	**0.018**	**J HF**	0.020	0.010	mg/L		06/04/15 10:20	06/04/15 16:28	1
Potassium	**55**	**HF**	0.50	0.25	mg/L		06/04/15 10:20	06/04/15 16:28	1
Strontium	ND	HF	0.020	0.010	mg/L		06/04/15 10:20	06/04/15 16:28	1

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	**66**	**HF**	2.5	0.50	mg/L		06/04/15 10:20	06/04/15 16:37	50
Sodium	**1700**	**HF**	25	13	mg/L		06/04/15 10:20	06/04/15 16:37	50

Method: 200.8 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Uranium	ND	HF	5.0	2.5	ug/L		06/04/15 10:21	06/04/15 17:31	5

Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.010	0.0060	mg/L		06/04/15 10:04	06/04/15 15:32	1
Arsenic	ND		0.010	0.0050	mg/L		06/04/15 10:04	06/04/15 15:32	1
Barium	ND		0.010	0.0050	mg/L		06/04/15 10:04	06/04/15 15:32	1
Beryllium	ND		0.0020	0.0010	mg/L		06/04/15 10:04	06/04/15 15:32	1
Cadmium	ND		0.0050	0.0020	mg/L		06/04/15 10:04	06/04/15 15:32	1
Chromium	ND		0.0050	0.0025	mg/L		06/04/15 10:04	06/04/15 15:32	1
Cobalt	ND		0.010	0.0025	mg/L		06/04/15 10:04	06/04/15 15:32	1
Copper	ND		0.010	0.0050	mg/L		06/04/15 10:04	06/04/15 15:32	1
Lead	ND		0.0050	0.0025	mg/L		06/04/15 10:04	06/04/15 15:32	1
Molybdenum	ND		0.020	0.010	mg/L		06/04/15 10:04	06/04/15 15:32	1
Nickel	ND		0.010	0.0050	mg/L		06/04/15 10:04	06/04/15 15:32	1
Selenium	ND		0.010	0.0061	mg/L		06/04/15 10:04	06/04/15 15:32	1
Silver	ND		0.010	0.0050	mg/L		06/04/15 10:04	06/04/15 15:32	1
Thallium	ND		0.010	0.0050	mg/L		06/04/15 10:04	06/04/15 15:32	1
Vanadium	ND		0.010	0.0050	mg/L		06/04/15 10:04	06/04/15 15:32	1
Zinc	ND		0.020	0.010	mg/L		06/04/15 10:04	06/04/15 15:32	1

Method: 6010B - Metals (ICP) - STLC Citrate

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.20	0.12	mg/L			06/05/15 06:22	20
Arsenic	ND		0.20	0.10	mg/L			06/05/15 06:22	20
Barium	ND		0.20	0.10	mg/L			06/05/15 06:22	20
Beryllium	ND		0.040	0.020	mg/L			06/05/15 06:22	20
Cadmium	ND		0.10	0.040	mg/L			06/05/15 06:22	20
Chromium	ND		0.10	0.050	mg/L			06/05/15 06:22	20
Cobalt	ND		0.20	0.050	mg/L			06/05/15 06:22	20
Copper	ND		0.20	0.10	mg/L			06/05/15 06:22	20
Lead	ND		0.10	0.050	mg/L			06/05/15 06:22	20
Molybdenum	ND		0.40	0.20	mg/L			06/05/15 06:22	20
Nickel	ND		0.20	0.10	mg/L			06/05/15 06:22	20
Selenium	ND		0.20	0.12	mg/L			06/05/15 06:22	20

Client Sample Results

Client: AMEC Foster Wheeler E & I, Inc
Project/Site: Chevron Coalinga

TestAmerica Job ID: 440-111456-1

Client Sample ID: WC001

Lab Sample ID: 440-111456-1
Date Collected: 05/29/15 11:40
Matrix: Water
Date Received: 05/30/15 08:07

Method: 6010B - Metals (ICP) - STLC Citrate (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	ND		0.20	0.10	mg/L			06/05/15 06:22	20
Thallium	ND		0.20	0.10	mg/L			06/05/15 06:22	20
Vanadium	ND		0.20	0.10	mg/L			06/05/15 06:22	20
Zinc	ND		0.40	0.20	mg/L			06/05/15 06:22	20

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.00018**	**J F1**	0.00020	0.00010	mg/L		06/03/15 11:24	06/03/15 16:37	1

Method: 7470A - Mercury (CVAA) - STLC Citrate

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.0010**	**J**	0.0020	0.0010	mg/L		06/03/15 10:35	06/03/15 16:59	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	**760**		4.0	4.0	mg/L			06/01/15 08:31	1
Bicarbonate Alkalinity as CaCO3	**760**		4.0	4.0	mg/L			06/01/15 08:31	1
Carbonate Alkalinity as CaCO3	ND		4.0	4.0	mg/L			06/01/15 08:31	1
Hydroxide Alkalinity as CaCO3	ND		4.0	4.0	mg/L			06/01/15 08:31	1
Total Dissolved Solids	**4800**		100	50	mg/L			06/04/15 08:20	1

Client Sample ID: WMWS001

Lab Sample ID: 440-111456-2
Date Collected: 05/29/15 15:00
Matrix: Water
Date Received: 05/30/15 08:07

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**8.0**		0.50	0.25	ug/L			06/03/15 04:58	1
Ethylbenzene	**3.2**		0.50	0.25	ug/L			06/03/15 04:58	1
m,p-Xylene	**7.1**		1.0	0.50	ug/L			06/03/15 04:58	1
o-Xylene	**3.6**		0.50	0.25	ug/L			06/03/15 04:58	1
Toluene	**16**		0.50	0.25	ug/L			06/03/15 04:58	1
Xylenes, Total	**11**		1.0	0.50	ug/L			06/03/15 04:58	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*101*		*80 - 120*		*06/03/15 04:58*	*1*
Dibromofluoromethane (Surr)	*101*		*76 - 132*		*06/03/15 04:58*	*1*
Toluene-d8 (Surr)	*108*		*80 - 128*		*06/03/15 04:58*	*1*

Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	**3.0**		2.0	1.0	ug/L		05/31/15 11:42	06/02/15 22:40	10
Acenaphthylene	ND		2.0	1.0	ug/L		05/31/15 11:42	06/02/15 22:40	10
Anthracene	ND		2.0	1.0	ug/L		05/31/15 11:42	06/02/15 22:40	10
Benzo[a]anthracene	**2.5**		2.0	1.0	ug/L		05/31/15 11:42	06/02/15 22:40	10
Benzo[a]pyrene	ND		2.0	1.0	ug/L		05/31/15 11:42	06/02/15 22:40	10
Benzo[b]fluoranthene	ND		2.0	1.0	ug/L		05/31/15 11:42	06/02/15 22:40	10
Benzo[g,h,i]perylene	ND		2.0	1.0	ug/L		05/31/15 11:42	06/02/15 22:40	10
Benzo[k]fluoranthene	ND		2.0	1.0	ug/L		05/31/15 11:42	06/02/15 22:40	10
Chrysene	**8.3**		2.0	1.0	ug/L		05/31/15 11:42	06/02/15 22:40	10
Dibenz(a,h)anthracene	ND		2.0	1.0	ug/L		05/31/15 11:42	06/02/15 22:40	10

Client Sample Results

Client: AMEC Foster Wheeler E & I, Inc
Project/Site: Chevron Coalinga

TestAmerica Job ID: 440-111456-1

Client Sample ID: WMWS001

Date Collected: 05/29/15 15:00
Date Received: 05/30/15 08:07

Lab Sample ID: 440-111456-2

Matrix: Water

Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoranthene	ND		2.0	1.0	ug/L		05/31/15 11:42	06/02/15 22:40	10
Fluorene	**4.3**		2.0	1.0	ug/L		05/31/15 11:42	06/02/15 22:40	10
Indeno[1,2,3-cd]pyrene	ND		2.0	1.0	ug/L		05/31/15 11:42	06/02/15 22:40	10
Naphthalene	ND		2.0	1.0	ug/L		05/31/15 11:42	06/02/15 22:40	10
Phenanthrene	**36**		2.0	1.0	ug/L		05/31/15 11:42	06/02/15 22:40	10
Pyrene	**15**		2.0	1.0	ug/L		05/31/15 11:42	06/02/15 22:40	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*0*	*X*	*31 - 120*	*05/31/15 11:42*	*06/02/15 22:40*	*10*
Nitrobenzene-d5	*0*	*X*	*25 - 133*	*05/31/15 11:42*	*06/02/15 22:40*	*10*
Terphenyl-d14	*0*	*X*	*10 - 120*	*05/31/15 11:42*	*06/02/15 22:40*	*10*

Method: 8015B - Diesel Range Organics (DRO) (GC) Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C29-C40	**40**		2.5	1.3	mg/L		06/02/15 09:24	06/02/15 22:42	50

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane	*2*	*X*	*45 - 120*	*06/02/15 09:24*	*06/02/15 22:42*	*50*

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	**64**		10	5.0	mg/L			05/30/15 15:42	20
Nitrate as NO3	ND		10	5.0	mg/L			05/30/15 15:42	20
Chloride	**3100**		250	130	mg/L			05/30/15 15:58	500
Fluoride	ND		10	5.0	mg/L			05/30/15 15:42	20
Sulfate	**420**		10	5.0	mg/L			05/30/15 15:42	20

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	**45**	**HF**	0.20	0.10	mg/L		06/04/15 10:20	06/04/15 16:25	2
Iron	**0.13**	**HF**	0.080	0.020	mg/L		06/04/15 10:20	06/04/15 16:25	2
Lithium	**1.1**	**HF**	1.0	0.050	mg/L		06/04/15 10:20	06/04/15 16:25	2
Magnesium	**31**	**HF**	0.040	0.020	mg/L		06/04/15 10:20	06/04/15 16:25	2
Manganese	**0.26**	**HF**	0.040	0.020	mg/L		06/04/15 10:20	06/04/15 16:25	2
Potassium	**120**	**HF**	1.0	0.50	mg/L		06/04/15 10:20	06/04/15 16:25	2
Strontium	**2.5**	**HF**	0.040	0.020	mg/L		06/04/15 10:20	06/04/15 16:25	2

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	**110**	**HF**	5.0	1.0	mg/L		06/04/15 10:20	06/04/15 16:35	100
Sodium	**3400**	**HF**	50	25	mg/L		06/04/15 10:20	06/04/15 16:35	100

Method: 200.8 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Uranium	ND	HF	5.0	2.5	ug/L		06/04/15 10:21	06/04/15 17:20	5

Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.010	0.0060	mg/L		06/04/15 10:04	06/04/15 15:34	1
Arsenic	**0.013**		0.010	0.0050	mg/L		06/04/15 10:04	06/04/15 15:34	1
Barium	**0.75**		0.010	0.0050	mg/L		06/04/15 10:04	06/04/15 15:34	1

Client Sample Results

Client: AMEC Foster Wheeler E & I, Inc
Project/Site: Chevron Coalinga

TestAmerica Job ID: 440-111456-1

Client Sample ID: WMWS001

Date Collected: 05/29/15 15:00
Date Received: 05/30/15 08:07

Lab Sample ID: 440-111456-2

Matrix: Water

Method: 6010B - Metals (ICP) - Dissolved (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.0020	0.0010	mg/L		06/04/15 10:04	06/04/15 15:34	1
Cadmium	ND		0.0050	0.0020	mg/L		06/04/15 10:04	06/04/15 15:34	1
Chromium	**0.0029**	**J**	0.0050	0.0025	mg/L		06/04/15 10:04	06/04/15 15:34	1
Cobalt	ND		0.010	0.0025	mg/L		06/04/15 10:04	06/04/15 15:34	1
Copper	ND		0.010	0.0050	mg/L		06/04/15 10:04	06/04/15 15:34	1
Lead	ND		0.0050	0.0025	mg/L		06/04/15 10:04	06/04/15 15:34	1
Molybdenum	ND		0.020	0.010	mg/L		06/04/15 10:04	06/04/15 15:34	1
Nickel	ND		0.010	0.0050	mg/L		06/04/15 10:04	06/04/15 15:34	1
Selenium	ND		0.010	0.0061	mg/L		06/04/15 10:04	06/04/15 15:34	1
Silver	ND		0.010	0.0050	mg/L		06/04/15 10:04	06/04/15 15:34	1
Thallium	ND		0.010	0.0050	mg/L		06/04/15 10:04	06/04/15 15:34	1
Vanadium	**0.0061**	**J**	0.010	0.0050	mg/L		06/04/15 10:04	06/04/15 15:34	1
Zinc	**0.014**	**J**	0.020	0.010	mg/L		06/04/15 10:04	06/04/15 15:34	1

Method: 6010B - Metals (ICP) - STLC Citrate

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.20	0.12	mg/L			06/05/15 06:30	20
Arsenic	ND		0.20	0.10	mg/L			06/05/15 06:30	20
Barium	**0.75**		0.20	0.10	mg/L			06/05/15 06:30	20
Beryllium	ND		0.040	0.020	mg/L			06/05/15 06:30	20
Cadmium	ND		0.10	0.040	mg/L			06/05/15 06:30	20
Chromium	ND		0.10	0.050	mg/L			06/05/15 06:30	20
Cobalt	ND		0.20	0.050	mg/L			06/05/15 06:30	20
Copper	ND		0.20	0.10	mg/L			06/05/15 06:30	20
Lead	ND		0.10	0.050	mg/L			06/05/15 06:30	20
Molybdenum	ND		0.40	0.20	mg/L			06/05/15 06:30	20
Nickel	ND		0.20	0.10	mg/L			06/05/15 06:30	20
Selenium	ND		0.20	0.12	mg/L			06/05/15 06:30	20
Silver	ND		0.20	0.10	mg/L			06/05/15 06:30	20
Thallium	ND		0.20	0.10	mg/L			06/05/15 06:30	20
Vanadium	ND		0.20	0.10	mg/L			06/05/15 06:30	20
Zinc	ND		0.40	0.20	mg/L			06/05/15 06:30	20

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00010	mg/L		06/03/15 11:24	06/03/15 16:44	1

Method: 7470A - Mercury (CVAA) - STLC Citrate

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.0020	0.0010	mg/L		06/03/15 10:35	06/03/15 17:07	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	**1200**		4.0	4.0	mg/L			06/01/15 08:55	1
Bicarbonate Alkalinity as CaCO3	**1200**		4.0	4.0	mg/L			06/01/15 08:55	1
Carbonate Alkalinity as CaCO3	ND		4.0	4.0	mg/L			06/01/15 08:55	1
Hydroxide Alkalinity as CaCO3	ND		4.0	4.0	mg/L			06/01/15 08:55	1
Total Dissolved Solids	**9200**		100	50	mg/L			06/04/15 08:20	1

Client Sample Results

Client: AMEC Foster Wheeler E & I, Inc
Project/Site: Chevron Coalinga

TestAmerica Job ID: 440-111456-1

Client Sample ID: WKR001

Date Collected: 05/29/15 17:35
Date Received: 05/30/15 08:07

Lab Sample ID: 440-111456-3

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**0.41**	**J**	0.50	0.25	ug/L			06/02/15 17:31	1
Ethylbenzene	**0.75**		0.50	0.25	ug/L			06/02/15 17:31	1
m,p-Xylene	**3.0**		1.0	0.50	ug/L			06/02/15 17:31	1
o-Xylene	**1.4**		0.50	0.25	ug/L			06/02/15 17:31	1
Toluene	**1.4**		0.50	0.25	ug/L			06/02/15 17:31	1
Xylenes, Total	**4.4**		1.0	0.50	ug/L			06/02/15 17:31	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*97*		*80 - 120*		*06/02/15 17:31*	*1*
Dibromofluoromethane (Surr)	*94*		*76 - 132*		*06/02/15 17:31*	*1*
Toluene-d8 (Surr)	*108*		*80 - 128*		*06/02/15 17:31*	*1*

Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	**1.6**		1.0	0.51	ug/L		05/31/15 11:42	06/03/15 06:53	5
Acenaphthylene	ND		1.0	0.51	ug/L		05/31/15 11:42	06/03/15 06:53	5
Anthracene	ND		1.0	0.51	ug/L		05/31/15 11:42	06/03/15 06:53	5
Benzo[a]anthracene	ND	*	1.0	0.51	ug/L		05/31/15 11:42	06/03/15 06:53	5
Benzo[a]pyrene	ND	*	1.0	0.51	ug/L		05/31/15 11:42	06/03/15 06:53	5
Benzo[b]fluoranthene	ND	*	1.0	0.51	ug/L		05/31/15 11:42	06/03/15 06:53	5
Benzo[g,h,i]perylene	ND	*	1.0	0.51	ug/L		05/31/15 11:42	06/03/15 06:53	5
Benzo[k]fluoranthene	ND	*	1.0	0.51	ug/L		05/31/15 11:42	06/03/15 06:53	5
Chrysene	**1.7**	*	1.0	0.51	ug/L		05/31/15 11:42	06/03/15 06:53	5
Dibenz(a,h)anthracene	ND	*	1.0	0.51	ug/L		05/31/15 11:42	06/03/15 06:53	5
Fluoranthene	ND		1.0	0.51	ug/L		05/31/15 11:42	06/03/15 06:53	5
Fluorene	**1.2**		1.0	0.51	ug/L		05/31/15 11:42	06/03/15 06:53	5
Indeno[1,2,3-cd]pyrene	ND	*	1.0	0.51	ug/L		05/31/15 11:42	06/03/15 06:53	5
Naphthalene	ND		1.0	0.51	ug/L		05/31/15 11:42	06/03/15 06:53	5
Phenanthrene	**2.7**		1.0	0.51	ug/L		05/31/15 11:42	06/03/15 06:53	5
Pyrene	**3.9**	*	1.0	0.51	ug/L		05/31/15 11:42	06/03/15 06:53	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*59*		*31 - 120*	*05/31/15 11:42*	*06/03/15 06:53*	*5*
Nitrobenzene-d5	*135*	*X*	*25 - 133*	*05/31/15 11:42*	*06/03/15 06:53*	*5*
Terphenyl-d14	*132*	*X **	*10 - 120*	*05/31/15 11:42*	*06/03/15 06:53*	*5*

Method: 8015B - Diesel Range Organics (DRO) (GC) Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C29-C40	**2.5**		0.052	0.026	mg/L		06/02/15 09:24	06/02/15 15:22	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane	*14*	*X*	*45 - 120*	*06/02/15 09:24*	*06/02/15 15:22*	*1*

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	**1.4**		0.50	0.25	mg/L			05/30/15 16:13	1
Nitrate as NO3	ND		0.50	0.25	mg/L			05/30/15 16:13	1
Chloride	**92**		10	5.0	mg/L			06/03/15 16:36	20
Fluoride	**0.55**		0.50	0.25	mg/L			05/30/15 16:13	1
Sulfate	**4.5**		0.50	0.25	mg/L			05/30/15 16:13	1

Client Sample Results

Client: AMEC Foster Wheeler E & I, Inc
Project/Site: Chevron Coalinga

TestAmerica Job ID: 440-111456-1

Client Sample ID: WKR001

Date Collected: 05/29/15 17:35
Date Received: 05/30/15 08:07

Lab Sample ID: 440-111456-3

Matrix: Water

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	**0.90**	**HF**	0.050	0.010	mg/L		06/04/15 10:20	06/04/15 16:18	1
Calcium	**30**	**HF**	0.10	0.050	mg/L		06/04/15 10:20	06/04/15 16:18	1
Iron	**0.51**	**HF**	0.040	0.010	mg/L		06/04/15 10:20	06/04/15 16:18	1
Lithium	**0.040**	**J HF**	0.50	0.025	mg/L		06/04/15 10:20	06/04/15 16:18	1
Magnesium	**4.8**	**HF**	0.020	0.010	mg/L		06/04/15 10:20	06/04/15 16:18	1
Manganese	**0.10**	**HF**	0.020	0.010	mg/L		06/04/15 10:20	06/04/15 16:18	1
Potassium	**6.6**	**HF**	0.50	0.25	mg/L		06/04/15 10:20	06/04/15 16:18	1
Sodium	**110**	**HF**	0.50	0.25	mg/L		06/04/15 10:20	06/04/15 16:18	1
Strontium	**0.48**	**HF**	0.020	0.010	mg/L		06/04/15 10:20	06/04/15 16:18	1

Method: 200.8 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Uranium	ND	HF	5.0	2.5	ug/L		06/04/15 10:21	06/04/15 17:28	5

Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.010	0.0060	mg/L		06/04/15 10:04	06/04/15 15:37	1
Arsenic	**0.021**		0.010	0.0050	mg/L		06/04/15 10:04	06/04/15 15:37	1
Barium	**0.13**		0.010	0.0050	mg/L		06/04/15 10:04	06/04/15 15:37	1
Beryllium	ND		0.0020	0.0010	mg/L		06/04/15 10:04	06/04/15 15:37	1
Cadmium	ND		0.0050	0.0020	mg/L		06/04/15 10:04	06/04/15 15:37	1
Chromium	ND		0.0050	0.0025	mg/L		06/04/15 10:04	06/04/15 15:37	1
Cobalt	ND		0.010	0.0025	mg/L		06/04/15 10:04	06/04/15 15:37	1
Copper	ND		0.010	0.0050	mg/L		06/04/15 10:04	06/04/15 15:37	1
Lead	ND		0.0050	0.0025	mg/L		06/04/15 10:04	06/04/15 15:37	1
Molybdenum	ND		0.020	0.010	mg/L		06/04/15 10:04	06/04/15 15:37	1
Nickel	ND		0.010	0.0050	mg/L		06/04/15 10:04	06/04/15 15:37	1
Selenium	ND		0.010	0.0061	mg/L		06/04/15 10:04	06/04/15 15:37	1
Silver	ND		0.010	0.0050	mg/L		06/04/15 10:04	06/04/15 15:37	1
Thallium	ND		0.010	0.0050	mg/L		06/04/15 10:04	06/04/15 15:37	1
Vanadium	ND		0.010	0.0050	mg/L		06/04/15 10:04	06/04/15 15:37	1
Zinc	ND		0.020	0.010	mg/L		06/04/15 10:04	06/04/15 15:37	1

Method: 6010B - Metals (ICP) - STLC Citrate

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.20	0.12	mg/L			06/05/15 06:32	20
Arsenic	ND		0.20	0.10	mg/L			06/05/15 06:32	20
Barium	**0.13**	**J**	0.20	0.10	mg/L			06/05/15 06:32	20
Beryllium	ND		0.040	0.020	mg/L			06/05/15 06:32	20
Cadmium	ND		0.10	0.040	mg/L			06/05/15 06:32	20
Chromium	ND		0.10	0.050	mg/L			06/05/15 06:32	20
Cobalt	ND		0.20	0.050	mg/L			06/05/15 06:32	20
Copper	ND		0.20	0.10	mg/L			06/05/15 06:32	20
Lead	ND		0.10	0.050	mg/L			06/05/15 06:32	20
Molybdenum	ND		0.40	0.20	mg/L			06/05/15 06:32	20
Nickel	ND		0.20	0.10	mg/L			06/05/15 06:32	20
Selenium	ND		0.20	0.12	mg/L			06/05/15 06:32	20
Silver	ND		0.20	0.10	mg/L			06/05/15 06:32	20
Thallium	ND		0.20	0.10	mg/L			06/05/15 06:32	20
Vanadium	ND		0.20	0.10	mg/L			06/05/15 06:32	20

Client Sample Results

Client: AMEC Foster Wheeler E & I, Inc
Project/Site: Chevron Coalinga

TestAmerica Job ID: 440-111456-1

Client Sample ID: WKR001

Lab Sample ID: 440-111456-3
Date Collected: 05/29/15 17:35
Matrix: Water
Date Received: 05/30/15 08:07

Method: 6010B - Metals (ICP) - STLC Citrate (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Zinc	ND		0.40	0.20	mg/L			06/05/15 06:32	20

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.00013**	**J**	0.00020	0.00010	mg/L		06/03/15 11:24	06/03/15 16:47	1

Method: 7470A - Mercury (CVAA) - STLC Citrate

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.0020	0.0010	mg/L		06/03/15 10:35	06/03/15 17:09	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	**180**		4.0	4.0	mg/L			06/01/15 08:39	1
Bicarbonate Alkalinity as CaCO3	**180**		4.0	4.0	mg/L			06/01/15 08:39	1
Carbonate Alkalinity as CaCO3	ND		4.0	4.0	mg/L			06/01/15 08:39	1
Hydroxide Alkalinity as CaCO3	ND		4.0	4.0	mg/L			06/01/15 08:39	1
Total Dissolved Solids	**530**		10	5.0	mg/L			06/04/15 08:20	1

Client Sample ID: TRIP BLANK

Lab Sample ID: 440-111456-5
Date Collected: 05/29/15 00:01
Matrix: Water
Date Received: 05/30/15 08:07

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.50	0.25	ug/L			06/03/15 04:28	1
Ethylbenzene	ND		0.50	0.25	ug/L			06/03/15 04:28	1
m,p-Xylene	ND		1.0	0.50	ug/L			06/03/15 04:28	1
o-Xylene	ND		0.50	0.25	ug/L			06/03/15 04:28	1
Toluene	ND		0.50	0.25	ug/L			06/03/15 04:28	1
Xylenes, Total	ND		1.0	0.50	ug/L			06/03/15 04:28	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*104*		*80 - 120*		*06/03/15 04:28*	*1*
Dibromofluoromethane (Surr)	*101*		*76 - 132*		*06/03/15 04:28*	*1*
Toluene-d8 (Surr)	*106*		*80 - 128*		*06/03/15 04:28*	*1*

Method Summary

Client: AMEC Foster Wheeler E & I, Inc
Project/Site: Chevron Coalinga

TestAmerica Job ID: 440-111456-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL IRV
8270C SIM	Semivolatile Organic Compounds (GC/MS SIM)	SW846	TAL IRV
8015B	Diesel Range Organics (DRO) (GC) Low Level	SW846	TAL IRV
300.0	Anions, Ion Chromatography	MCAWW	TAL IRV
200.7 Rev 4.4	Metals (ICP)	EPA	TAL IRV
200.8	Metals (ICP/MS)	EPA	TAL IRV
6010B	Metals (ICP)	SW846	TAL IRV
7470A	Mercury (CVAA)	SW846	TAL IRV
SM 2320B	Alkalinity	SM	TAL IRV
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL IRV

Protocol References:

EPA = US Environmental Protection Agency
MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.
SM = "Standard Methods For The Examination Of Water And Wastewater",
SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL IRV = TestAmerica Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

Lab Chronicle

Client: AMEC Foster Wheeler E & I, Inc
Project/Site: Chevron Coalinga

TestAmerica Job ID: 440-111456-1

Client Sample ID: WC001

Date Collected: 05/29/15 11:40
Date Received: 05/30/15 08:07

Lab Sample ID: 440-111456-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	258725	06/02/15 16:32	MM1	TAL IRV
Total/NA	Prep	3520C			970 mL	1 mL	258402	05/31/15 11:42	IVA	TAL IRV
Total/NA	Analysis	8270C SIM		10	970 mL	1 mL	259549	06/04/15 20:32	AI	TAL IRV
Total/NA	Prep	3510C			965 mL	1 mL	258737	06/02/15 09:24	MMT	TAL IRV
Total/NA	Analysis	8015B		1	965 mL	1 mL	258758	06/02/15 15:02	KW	TAL IRV
Total/NA	Analysis	300.0		20	5 mL		258329	05/30/15 15:12	SP	TAL IRV
Total/NA	Analysis	300.0		20	5 mL		258330	05/30/15 15:12	SP	TAL IRV
Total/NA	Analysis	300.0		500	5 mL		258330	05/30/15 15:27	SP	TAL IRV
Dissolved	Filtration	FILTRATION			200 mL	200 mL	258595	06/01/15 14:17	DT	TAL IRV
Dissolved	Prep	200.2			25 mL	25 mL	259364	06/04/15 10:20	ND	TAL IRV
Dissolved	Analysis	200.7 Rev 4.4		1	25 mL	25 mL	259509	06/04/15 16:28	TK	TAL IRV
Dissolved	Filtration	FILTRATION	DL		200 mL	200 mL	258595	06/01/15 14:17	DT	TAL IRV
Dissolved	Prep	200.2	DL		25 mL	25 mL	259364	06/04/15 10:20	ND	TAL IRV
Dissolved	Analysis	200.7 Rev 4.4	DL	50	25 mL	25 mL	259509	06/04/15 16:37	TK	TAL IRV
Dissolved	Filtration	FILTRATION			200 mL	200 mL	258595	06/01/15 14:17	DT	TAL IRV
Dissolved	Prep	200.2			25 mL	25 mL	259365	06/04/15 10:21	ND	TAL IRV
Dissolved	Analysis	200.8		5	25 mL	25 mL	259536	06/04/15 17:31	YS	TAL IRV
Dissolved	Filtration	FILTRATION			200 mL	200 mL	258595	06/01/15 14:17	DT	TAL IRV
Dissolved	Prep	3005A			25 mL	25 mL	259361	06/04/15 10:04	ND	TAL IRV
Dissolved	Analysis	6010B		1	25 mL	25 mL	259494	06/04/15 15:32	TK	TAL IRV
STLC Citrate	Leach	CA WET Citrate			100 g	100 mL	258624	06/01/15 16:04	EN	TAL IRV
STLC Citrate	Analysis	6010B		20			259604	06/05/15 06:22	EN	TAL IRV
Dissolved	Filtration	FILTRATION			200 mL	200 mL	258595	06/01/15 14:17	DT	TAL IRV
Dissolved	Prep	7470A			20 mL	20 mL	259116	06/03/15 11:24	DB	TAL IRV
Dissolved	Analysis	7470A		1	20 mL	20 mL	259214	06/03/15 16:37	DB	TAL IRV
STLC Citrate	Leach	CA WET Citrate			100 g	100 mL	258624	06/01/15 16:04	EN	TAL IRV
STLC Citrate	Prep	7470A			2 mL	20 mL	259092	06/03/15 10:35	DB	TAL IRV
STLC Citrate	Analysis	7470A		1	2 mL	20 mL	259214	06/03/15 16:59	DB	TAL IRV
Total/NA	Analysis	SM 2320B		1			258497	06/01/15 08:31	YZ	TAL IRV
Total/NA	Analysis	SM 2540C		1	10 mL	100 mL	259321	06/04/15 08:20	XL	TAL IRV

Client Sample ID: WMWS001

Date Collected: 05/29/15 15:00
Date Received: 05/30/15 08:07

Lab Sample ID: 440-111456-2

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	258885	06/03/15 04:58	MP	TAL IRV
Total/NA	Prep	3520C			995 mL	1 mL	258402	05/31/15 11:42	IVA	TAL IRV
Total/NA	Analysis	8270C SIM		10	995 mL	1 mL	258790	06/02/15 22:40	AI	TAL IRV
Total/NA	Prep	3510C			1000 mL	1 mL	258737	06/02/15 09:24	MMT	TAL IRV
Total/NA	Analysis	8015B		50	1000 mL	1 mL	258757	06/02/15 22:42	CN	TAL IRV
Total/NA	Analysis	300.0		20	5 mL		258329	05/30/15 15:42	SP	TAL IRV
Total/NA	Analysis	300.0		20	5 mL		258330	05/30/15 15:42	SP	TAL IRV

Lab Chronicle

Client: AMEC Foster Wheeler E & I, Inc
Project/Site: Chevron Coalinga

TestAmerica Job ID: 440-111456-1

Client Sample ID: WMWS001

Lab Sample ID: 440-111456-2
Date Collected: 05/29/15 15:00
Matrix: Water
Date Received: 05/30/15 08:07

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		500	5 mL		258330	05/30/15 15:58	SP	TAL IRV
Dissolved	Filtration	FILTRATION			200 mL	200 mL	258595	06/01/15 14:17	DT	TAL IRV
Dissolved	Prep	200.2			25 mL	25 mL	259364	06/04/15 10:20	ND	TAL IRV
Dissolved	Analysis	200.7 Rev 4.4		2	25 mL	25 mL	259509	06/04/15 16:25	TK	TAL IRV
Dissolved	Filtration	FILTRATION	DL		200 mL	200 mL	258595	06/01/15 14:17	DT	TAL IRV
Dissolved	Prep	200.2	DL		25 mL	25 mL	259364	06/04/15 10:20	ND	TAL IRV
Dissolved	Analysis	200.7 Rev 4.4	DL	100	25 mL	25 mL	259509	06/04/15 16:35	TK	TAL IRV
Dissolved	Filtration	FILTRATION			200 mL	200 mL	258595	06/01/15 14:17	DT	TAL IRV
Dissolved	Prep	200.2			25 mL	25 mL	259365	06/04/15 10:21	ND	TAL IRV
Dissolved	Analysis	200.8		5	25 mL	25 mL	259536	06/04/15 17:20	YS	TAL IRV
Dissolved	Filtration	FILTRATION			200 mL	200 mL	258595	06/01/15 14:17	DT	TAL IRV
Dissolved	Prep	3005A			25 mL	25 mL	259361	06/04/15 10:04	ND	TAL IRV
Dissolved	Analysis	6010B		1	25 mL	25 mL	259494	06/04/15 15:34	TK	TAL IRV
STLC Citrate	Leach	CA WET Citrate			100 g	100 mL	258624	06/01/15 16:04	EN	TAL IRV
STLC Citrate	Analysis	6010B		20			259604	06/05/15 06:30	EN	TAL IRV
Dissolved	Filtration	FILTRATION			200 mL	200 mL	258595	06/01/15 14:17	DT	TAL IRV
Dissolved	Prep	7470A			20 mL	20 mL	259116	06/03/15 11:24	DB	TAL IRV
Dissolved	Analysis	7470A		1	20 mL	20 mL	259214	06/03/15 16:44	DB	TAL IRV
STLC Citrate	Leach	CA WET Citrate			100 g	100 mL	258624	06/01/15 16:04	EN	TAL IRV
STLC Citrate	Prep	7470A			2 mL	20 mL	259092	06/03/15 10:35	DB	TAL IRV
STLC Citrate	Analysis	7470A		1	2 mL	20 mL	259214	06/03/15 17:07	DB	TAL IRV
Total/NA	Analysis	SM 2320B		1			258497	06/01/15 08:55	YZ	TAL IRV
Total/NA	Analysis	SM 2540C		1	10 mL	100 mL	259321	06/04/15 08:20	XL	TAL IRV

Client Sample ID: WKR001

Lab Sample ID: 440-111456-3
Date Collected: 05/29/15 17:35
Matrix: Water
Date Received: 05/30/15 08:07

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	258725	06/02/15 17:31	MM1	TAL IRV
Total/NA	Prep	3520C			975 mL	1 mL	258402	05/31/15 11:42	IVA	TAL IRV
Total/NA	Analysis	8270C SIM		5	975 mL	1 mL	258980	06/03/15 06:53	AI	TAL IRV
Total/NA	Prep	3510C			970 mL	1 mL	258737	06/02/15 09:24	MMT	TAL IRV
Total/NA	Analysis	8015B		1	970 mL	1 mL	258758	06/02/15 15:22	KW	TAL IRV
Total/NA	Analysis	300.0		1	5 mL		258329	05/30/15 16:13	SP	TAL IRV
Total/NA	Analysis	300.0		1	5 mL		258330	05/30/15 16:13	SP	TAL IRV
Total/NA	Analysis	300.0		20	5 mL		259073	06/03/15 16:36	NN	TAL IRV
Dissolved	Filtration	FILTRATION			200 mL	200 mL	258595	06/01/15 14:17	DT	TAL IRV
Dissolved	Prep	200.2			25 mL	25 mL	259364	06/04/15 10:20	ND	TAL IRV
Dissolved	Analysis	200.7 Rev 4.4		1	25 mL	25 mL	259509	06/04/15 16:18	TK	TAL IRV
Dissolved	Filtration	FILTRATION			200 mL	200 mL	258595	06/01/15 14:17	DT	TAL IRV
Dissolved	Prep	200.2			25 mL	25 mL	259365	06/04/15 10:21	ND	TAL IRV
Dissolved	Analysis	200.8		5	25 mL	25 mL	259536	06/04/15 17:28	YS	TAL IRV
Dissolved	Filtration	FILTRATION			200 mL	200 mL	258595	06/01/15 14:17	DT	TAL IRV

Lab Chronicle

Client: AMEC Foster Wheeler E & I, Inc
Project/Site: Chevron Coalinga

TestAmerica Job ID: 440-111456-1

Client Sample ID: WKR001

Lab Sample ID: 440-111456-3
Date Collected: 05/29/15 17:35
Matrix: Water
Date Received: 05/30/15 08:07

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			25 mL	25 mL	259361	06/04/15 10:04	ND	TAL IRV
Dissolved	Analysis	6010B		1	25 mL	25 mL	259494	06/04/15 15:37	TK	TAL IRV
STLC Citrate	Leach	CA WET Citrate			100 g	100 mL	258624	06/01/15 16:04	EN	TAL IRV
STLC Citrate	Analysis	6010B		20			259604	06/05/15 06:32	EN	TAL IRV
Dissolved	Filtration	FILTRATION			200 mL	200 mL	258595	06/01/15 14:17	DT	TAL IRV
Dissolved	Prep	7470A			20 mL	20 mL	259116	06/03/15 11:24	DB	TAL IRV
Dissolved	Analysis	7470A		1	20 mL	20 mL	259214	06/03/15 16:47	DB	TAL IRV
STLC Citrate	Leach	CA WET Citrate			100 g	100 mL	258624	06/01/15 16:04	EN	TAL IRV
STLC Citrate	Prep	7470A			2 mL	20 mL	259092	06/03/15 10:35	DB	TAL IRV
STLC Citrate	Analysis	7470A		1	2 mL	20 mL	259214	06/03/15 17:09	DB	TAL IRV
Total/NA	Analysis	SM 2320B		1			258497	06/01/15 08:39	YZ	TAL IRV
Total/NA	Analysis	SM 2540C		1	100 mL	100 mL	259321	06/04/15 08:20	XL	TAL IRV

Client Sample ID: TRIP BLANK

Lab Sample ID: 440-111456-5
Date Collected: 05/29/15 00:01
Matrix: Water
Date Received: 05/30/15 08:07

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	258885	06/03/15 04:28	MP	TAL IRV

Laboratory References:

TAL IRV = TestAmerica Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

QC Sample Results

Client: AMEC Foster Wheeler E & I, Inc
Project/Site: Chevron Coalinga

TestAmerica Job ID: 440-111456-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 440-258725/3
Matrix: Water
Analysis Batch: 258725

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.50	0.25	ug/L			06/02/15 09:07	1
Ethylbenzene	ND		0.50	0.25	ug/L			06/02/15 09:07	1
m,p-Xylene	ND		1.0	0.50	ug/L			06/02/15 09:07	1
o-Xylene	ND		0.50	0.25	ug/L			06/02/15 09:07	1
Toluene	ND		0.50	0.25	ug/L			06/02/15 09:07	1
Xylenes, Total	ND		1.0	0.50	ug/L			06/02/15 09:07	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*102*		*80 - 120*		*06/02/15 09:07*	*1*
Dibromofluoromethane (Surr)	*98*		*76 - 132*		*06/02/15 09:07*	*1*
Toluene-d8 (Surr)	*107*		*80 - 128*		*06/02/15 09:07*	*1*

Lab Sample ID: LCS 440-258725/4
Matrix: Water
Analysis Batch: 258725

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	25.0	22.5		ug/L		90	68 - 130
Ethylbenzene	25.0	22.6		ug/L		91	70 - 130
m,p-Xylene	25.0	22.2		ug/L		89	70 - 130
o-Xylene	25.0	22.0		ug/L		88	70 - 130
Toluene	25.0	22.6		ug/L		90	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*102*		*80 - 120*
Dibromofluoromethane (Surr)	*99*		*76 - 132*
Toluene-d8 (Surr)	*101*		*80 - 128*

Lab Sample ID: 440-111427-G-1 MS
Matrix: Water
Analysis Batch: 258725

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	ND		25.0	22.7		ug/L		91	66 - 130
Ethylbenzene	ND		25.0	22.0		ug/L		88	70 - 130
m,p-Xylene	ND		25.0	21.7		ug/L		87	70 - 133
o-Xylene	ND		25.0	21.8		ug/L		87	70 - 133
Toluene	ND		25.0	21.8		ug/L		87	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*100*		*80 - 120*
Dibromofluoromethane (Surr)	*103*		*76 - 132*
Toluene-d8 (Surr)	*100*		*80 - 128*

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 440-111427-G-1 MSD
Matrix: Water
Analysis Batch: 258725

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	ND		25.0	24.2		ug/L		97	66 - 130	7	20
Ethylbenzene	ND		25.0	23.2		ug/L		93	70 - 130	6	20
m,p-Xylene	ND		25.0	23.2		ug/L		93	70 - 133	7	25
o-Xylene	ND		25.0	22.8		ug/L		91	70 - 133	4	20
Toluene	ND		25.0	23.4		ug/L		94	70 - 130	7	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*100*		*80 - 120*
Dibromofluoromethane (Surr)	*104*		*76 - 132*
Toluene-d8 (Surr)	*100*		*80 - 128*

Lab Sample ID: MB 440-258885/3
Matrix: Water
Analysis Batch: 258885

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.50	0.25	ug/L			06/02/15 19:03	1
Ethylbenzene	ND		0.50	0.25	ug/L			06/02/15 19:03	1
m,p-Xylene	ND		1.0	0.50	ug/L			06/02/15 19:03	1
o-Xylene	ND		0.50	0.25	ug/L			06/02/15 19:03	1
Toluene	ND		0.50	0.25	ug/L			06/02/15 19:03	1
Xylenes, Total	ND		1.0	0.50	ug/L			06/02/15 19:03	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*100*		*80 - 120*		*06/02/15 19:03*	*1*
Dibromofluoromethane (Surr)	*98*		*76 - 132*		*06/02/15 19:03*	*1*
Toluene-d8 (Surr)	*107*		*80 - 128*		*06/02/15 19:03*	*1*

Lab Sample ID: LCS 440-258885/4
Matrix: Water
Analysis Batch: 258885

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	25.0	24.8		ug/L		99	68 - 130
Ethylbenzene	25.0	24.4		ug/L		98	70 - 130
m,p-Xylene	25.0	24.4		ug/L		97	70 - 130
o-Xylene	25.0	24.2		ug/L		97	70 - 130
Toluene	25.0	24.7		ug/L		99	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*101*		*80 - 120*
Dibromofluoromethane (Surr)	*101*		*76 - 132*
Toluene-d8 (Surr)	*102*		*80 - 128*

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 440-111427-C-7 MS
Matrix: Water
Analysis Batch: 258885

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	ND		25.0	23.9		ug/L		95	66 - 130
Ethylbenzene	ND		25.0	23.3		ug/L		93	70 - 130
m,p-Xylene	ND		25.0	23.3		ug/L		93	70 - 133
o-Xylene	ND		25.0	22.9		ug/L		92	70 - 133
Toluene	ND		25.0	23.4		ug/L		94	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*
Dibromofluoromethane (Surr)	*102*		*76 - 132*
Toluene-d8 (Surr)	*100*		*80 - 128*

Lab Sample ID: 440-111427-C-7 MSD
Matrix: Water
Analysis Batch: 258885

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	ND		25.0	23.5		ug/L		94	66 - 130	2	20
Ethylbenzene	ND		25.0	23.2		ug/L		93	70 - 130	0	20
m,p-Xylene	ND		25.0	23.1		ug/L		92	70 - 133	1	25
o-Xylene	ND		25.0	22.9		ug/L		92	70 - 133	0	20
Toluene	ND		25.0	23.1		ug/L		92	70 - 130	1	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*99*		*80 - 120*
Dibromofluoromethane (Surr)	*103*		*76 - 132*
Toluene-d8 (Surr)	*101*		*80 - 128*

Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM)

Lab Sample ID: MB 440-258402/1-A
Matrix: Water
Analysis Batch: 258790

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 258402

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.20	0.10	ug/L		05/31/15 11:42	06/02/15 12:44	1
Acenaphthylene	ND		0.20	0.10	ug/L		05/31/15 11:42	06/02/15 12:44	1
Anthracene	ND		0.20	0.10	ug/L		05/31/15 11:42	06/02/15 12:44	1
Benzo[a]anthracene	ND		0.20	0.10	ug/L		05/31/15 11:42	06/02/15 12:44	1
Benzo[a]pyrene	ND		0.20	0.10	ug/L		05/31/15 11:42	06/02/15 12:44	1
Benzo[b]fluoranthene	ND		0.20	0.10	ug/L		05/31/15 11:42	06/02/15 12:44	1
Benzo[g,h,i]perylene	ND		0.20	0.10	ug/L		05/31/15 11:42	06/02/15 12:44	1
Benzo[k]fluoranthene	ND		0.20	0.10	ug/L		05/31/15 11:42	06/02/15 12:44	1
Chrysene	ND		0.20	0.10	ug/L		05/31/15 11:42	06/02/15 12:44	1
Dibenz(a,h)anthracene	ND		0.20	0.10	ug/L		05/31/15 11:42	06/02/15 12:44	1
Fluoranthene	ND		0.20	0.10	ug/L		05/31/15 11:42	06/02/15 12:44	1
Fluorene	ND		0.20	0.10	ug/L		05/31/15 11:42	06/02/15 12:44	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.10	ug/L		05/31/15 11:42	06/02/15 12:44	1

Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

Lab Sample ID: MB 440-258402/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 258790 — **Prep Batch: 258402**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND		0.20	0.10	ug/L		05/31/15 11:42	06/02/15 12:44	1
Phenanthrene	ND		0.20	0.10	ug/L		05/31/15 11:42	06/02/15 12:44	1
Pyrene	ND		0.20	0.10	ug/L		05/31/15 11:42	06/02/15 12:44	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*71*		*31 - 120*	*05/31/15 11:42*	*06/02/15 12:44*	*1*
Nitrobenzene-d5	*72*		*25 - 133*	*05/31/15 11:42*	*06/02/15 12:44*	*1*
Terphenyl-d14	*76*		*10 - 120*	*05/31/15 11:42*	*06/02/15 12:44*	*1*

Lab Sample ID: LCS 440-258402/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 258790 — **Prep Batch: 258402**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthene	1.00	0.733		ug/L		73	47 - 103
Acenaphthylene	1.00	0.724		ug/L		72	45 - 102
Anthracene	1.00	0.772		ug/L		77	47 - 111
Benzo[a]anthracene	1.00	0.779		ug/L		78	56 - 110
Benzo[a]pyrene	1.00	0.719		ug/L		72	48 - 110
Benzo[b]fluoranthene	1.00	0.814		ug/L		81	53 - 116
Benzo[g,h,i]perylene	1.00	0.967		ug/L		97	44 - 130
Benzo[k]fluoranthene	1.00	0.800		ug/L		80	51 - 127
Chrysene	1.00	0.806		ug/L		81	52 - 118
Dibenz(a,h)anthracene	1.00	0.851		ug/L		85	44 - 125
Fluoranthene	1.00	0.838		ug/L		84	51 - 116
Fluorene	1.00	0.802		ug/L		80	50 - 106
Indeno[1,2,3-cd]pyrene	1.00	0.875		ug/L		88	41 - 127
Naphthalene	1.00	0.694		ug/L		69	40 - 100
Phenanthrene	1.00	0.846		ug/L		85	49 - 110
Pyrene	1.00	0.763		ug/L		76	41 - 115

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl (Surr)	*69*		*31 - 120*
Nitrobenzene-d5	*70*		*25 - 133*
Terphenyl-d14	*81*		*10 - 120*

Lab Sample ID: 440-111081-G-1-A MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 258790 — **Prep Batch: 258402**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acenaphthene	ND		1.05	0.770		ug/L		73	60 - 120	6	25
Acenaphthylene	ND		1.05	0.769		ug/L		73	60 - 120	5	25
Anthracene	ND		1.05	0.687		ug/L		65	65 - 120	10	25
Benzo[a]anthracene	ND	F1	1.05	0.664	F1	ug/L		63	65 - 120	5	20
Benzo[a]pyrene	ND	F1	1.05	0.562	F1	ug/L		53	55 - 130	4	25
Benzo[b]fluoranthene	ND		1.05	0.676		ug/L		64	55 - 125	4	25
Benzo[g,h,i]perylene	ND		1.05	0.777		ug/L		74	45 - 135	1	30

Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

Lab Sample ID: 440-111081-G-1-A MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 258790 — **Prep Batch: 258402**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzo[k]fluoranthene	ND		1.05	0.655		ug/L		62	55 - 125	2	30
Chrysene	ND	F1	1.05	0.664	F1	ug/L		63	65 - 120	3	25
Dibenz(a,h)anthracene	ND		1.05	0.646		ug/L		61	45 - 135	6	30
Fluoranthene	ND		1.05	0.827		ug/L		79	60 - 120	9	25
Fluorene	ND		1.05	0.847		ug/L		80	65 - 120	7	25
Indeno[1,2,3-cd]pyrene	ND		1.05	0.709		ug/L		67	40 - 135	1	30
Naphthalene	ND		1.05	0.758		ug/L		72	55 - 120	7	25
Phenanthrene	ND		1.05	0.864		ug/L		82	65 - 120	5	25
Pyrene	ND		1.05	0.769		ug/L		73	55 - 125	8	25

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
2-Fluorobiphenyl (Surr)	*69*		*31 - 120*
Nitrobenzene-d5	*71*		*25 - 133*
Terphenyl-d14	*57*		*10 - 120*

Lab Sample ID: 440-111081-J-1-B MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 258790 — **Prep Batch: 258402**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthene	ND		1.10	0.821		ug/L		74	60 - 120
Acenaphthylene	ND		1.10	0.807		ug/L		73	60 - 120
Anthracene	ND		1.10	0.761		ug/L		69	65 - 120
Benzo[a]anthracene	ND	F1	1.10	0.699	F1	ug/L		63	65 - 120
Benzo[a]pyrene	ND	F1	1.10	0.584	F1	ug/L		53	55 - 130
Benzo[b]fluoranthene	ND		1.10	0.705		ug/L		64	55 - 125
Benzo[g,h,i]perylene	ND		1.10	0.767		ug/L		69	45 - 135
Benzo[k]fluoranthene	ND		1.10	0.667		ug/L		60	55 - 125
Chrysene	ND	F1	1.10	0.685	F1	ug/L		62	65 - 120
Dibenz(a,h)anthracene	ND		1.10	0.685		ug/L		62	45 - 135
Fluoranthene	ND		1.10	0.907		ug/L		82	60 - 120
Fluorene	ND		1.10	0.909		ug/L		82	65 - 120
Indeno[1,2,3-cd]pyrene	ND		1.10	0.704		ug/L		64	40 - 135
Naphthalene	ND		1.10	0.812		ug/L		73	55 - 120
Phenanthrene	ND		1.10	0.909		ug/L		82	65 - 120
Pyrene	ND		1.10	0.836		ug/L		76	55 - 125

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
2-Fluorobiphenyl (Surr)	*71*		*31 - 120*
Nitrobenzene-d5	*72*		*25 - 133*
Terphenyl-d14	*65*		*10 - 120*

QC Sample Results

Client: AMEC Foster Wheeler E & I, Inc
Project/Site: Chevron Coalinga

TestAmerica Job ID: 440-111456-1

Method: 8015B - Diesel Range Organics (DRO) (GC) Low Level

Lab Sample ID: MB 440-258737/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 258757 — **Prep Batch: 258737**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C29-C40	ND		0.050	0.025	mg/L		06/02/15 07:26	06/02/15 13:22	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane	*84*		*45 - 120*	*06/02/15 07:26*	*06/02/15 13:22*	*1*

Lab Sample ID: LCS 440-258737/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 258757 — **Prep Batch: 258737**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
C10-C28	1.00	0.859		mg/L		86	40 - 115

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
n-Octacosane	*89*		*45 - 120*

Lab Sample ID: LCSD 440-258737/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 258757 — **Prep Batch: 258737**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
C10-C28	1.00	0.850		mg/L		85	40 - 115	1	25

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
n-Octacosane	*89*		*45 - 120*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 440-258329/4 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 258329

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as NO3	ND		0.50	0.25	mg/L			05/30/15 10:25	1

Lab Sample ID: LCS 440-258329/6 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 258329

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrate as NO3	5.00	4.61		mg/L		92	90 - 110

Lab Sample ID: 440-111453-A-14 MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 258329

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrate as NO3	ND	F1	50.0	65.4	F1	mg/L		131	80 - 120

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 440-111453-A-14 MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 258329

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Nitrate as NO3	ND	F1	50.0	66.7	F1	mg/L		133	80 - 120	2	20

Lab Sample ID: MB 440-258330/4 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 258330

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	ND		0.50	0.25	mg/L			05/30/15 10:25	1
Chloride	ND		0.50	0.25	mg/L			05/30/15 10:25	1
Fluoride	ND		0.50	0.25	mg/L			05/30/15 10:25	1
Sulfate	ND		0.50	0.25	mg/L			05/30/15 10:25	1

Lab Sample ID: LCS 440-258330/6 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 258330

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Bromide	5.00	4.85		mg/L		97	90 - 110
Chloride	5.00	4.59		mg/L		92	90 - 110
Fluoride	5.00	4.50		mg/L		90	90 - 110
Sulfate	5.00	4.92		mg/L		98	90 - 110

Lab Sample ID: 440-111453-A-14 MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 258330

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Bromide	40	F1	50.0	113	F1	mg/L		145	80 - 120
Fluoride	ND		50.0	49.9		mg/L		100	80 - 120

Lab Sample ID: 440-111453-A-14 MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 258330

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Bromide	40	F1	50.0	112	F1	mg/L		144	80 - 120	1	20
Fluoride	ND		50.0	49.6		mg/L		99	80 - 120	1	20

Lab Sample ID: MB 440-259073/4 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 259073

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	ND		0.50	0.25	mg/L			06/03/15 11:18	1
Chloride	ND		0.50	0.25	mg/L			06/03/15 11:18	1
Fluoride	ND		0.50	0.25	mg/L			06/03/15 11:18	1
Sulfate	ND		0.50	0.25	mg/L			06/03/15 11:18	1

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 440-259073/6 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 259073

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Bromide	5.00	4.80		mg/L		96	90 - 110
Chloride	5.00	4.71		mg/L		94	90 - 110
Fluoride	5.00	4.88		mg/L		98	90 - 110
Sulfate	5.00	5.05		mg/L		101	90 - 110

Lab Sample ID: 440-111353-J-7 MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 259073

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Bromide	ND		50.0	47.0		mg/L		94	80 - 120
Chloride	350		50.0	362	4	mg/L		29	80 - 120
Fluoride	ND		50.0	41.1		mg/L		82	80 - 120
Sulfate	94		50.0	135		mg/L		84	80 - 120

Lab Sample ID: 440-111353-J-7 MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 259073

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Bromide	ND		50.0	48.2		mg/L		96	80 - 120	3	20
Chloride	350		50.0	359	4	mg/L		22	80 - 120	1	20
Fluoride	ND		50.0	41.1		mg/L		82	80 - 120	0	20
Sulfate	94		50.0	134		mg/L		80	80 - 120	1	20

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: MB 440-258595/1-D — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 259509 — **Prep Batch: 259364**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	ND		0.050	0.010	mg/L		06/04/15 10:20	06/04/15 16:14	1
Calcium	ND		0.10	0.050	mg/L		06/04/15 10:20	06/04/15 16:14	1
Iron	ND		0.040	0.010	mg/L		06/04/15 10:20	06/04/15 16:14	1
Lithium	ND		0.50	0.025	mg/L		06/04/15 10:20	06/04/15 16:14	1
Magnesium	ND		0.020	0.010	mg/L		06/04/15 10:20	06/04/15 16:14	1
Manganese	ND		0.020	0.010	mg/L		06/04/15 10:20	06/04/15 16:14	1
Potassium	ND		0.50	0.25	mg/L		06/04/15 10:20	06/04/15 16:14	1
Sodium	ND		0.50	0.25	mg/L		06/04/15 10:20	06/04/15 16:14	1
Strontium	ND		0.020	0.010	mg/L		06/04/15 10:20	06/04/15 16:14	1

Lab Sample ID: LCS 440-258595/2-D — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 259509 — **Prep Batch: 259364**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	0.500	0.496		mg/L		99	85 - 115
Calcium	2.50	2.52		mg/L		101	85 - 115

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: LCS 440-258595/2-D — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 259509 — **Prep Batch: 259364**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Iron	0.500	0.498		mg/L		100	85 - 115
Lithium	0.500	0.507		mg/L		101	85 - 115
Magnesium	2.50	2.56		mg/L		102	85 - 115
Manganese	0.500	0.525		mg/L		105	85 - 115
Potassium	5.00	5.01		mg/L		100	85 - 115
Sodium	5.00	4.95		mg/L		99	85 - 115
Strontium	0.500	0.504		mg/L		101	85 - 115

Lab Sample ID: 440-111456-3 MS — **Client Sample ID: WKR001**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 259509 — **Prep Batch: 259364**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	0.90	HF	0.500	1.42		mg/L		104	70 - 130
Calcium	30	HF	2.50	32.8	4	mg/L		107	70 - 130
Iron	0.51	HF	0.500	1.01		mg/L		100	70 - 130
Lithium	0.040	J HF	0.500	0.507		mg/L		94	70 - 130
Magnesium	4.8	HF	2.50	7.43		mg/L		104	70 - 130
Manganese	0.10	HF	0.500	0.606		mg/L		100	70 - 130
Potassium	6.6	HF	5.00	11.6		mg/L		99	70 - 130
Sodium	110	HF	5.00	119	4	mg/L		153	70 - 130
Strontium	0.48	HF	0.500	0.994		mg/L		103	70 - 130

Lab Sample ID: 440-111456-3 MSD — **Client Sample ID: WKR001**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 259509 — **Prep Batch: 259364**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Boron	0.90	HF	0.500	1.41		mg/L		100	70 - 130	1	20
Calcium	30	HF	2.50	32.0	4	mg/L		73	70 - 130	3	20
Iron	0.51	HF	0.500	0.992		mg/L		96	70 - 130	2	20
Lithium	0.040	J HF	0.500	0.500		mg/L		92	70 - 130	1	20
Magnesium	4.8	HF	2.50	7.30		mg/L		99	70 - 130	2	20
Manganese	0.10	HF	0.500	0.610		mg/L		101	70 - 130	1	20
Potassium	6.6	HF	5.00	11.2		mg/L		91	70 - 130	3	20
Sodium	110	HF	5.00	117	4	mg/L		117	70 - 130	2	20
Strontium	0.48	HF	0.500	0.974		mg/L		99	70 - 130	2	20

Method: 200.8 - Metals (ICP/MS)

Lab Sample ID: MB 440-258595/1-E — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 259536 — **Prep Batch: 259365**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Uranium	ND		1.0	0.50	ug/L		06/04/15 10:21	06/04/15 17:15	1

Method: 200.8 - Metals (ICP/MS) (Continued)

Lab Sample ID: LCS 440-258595/2-E — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 259536 — **Prep Batch: 259365**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Uranium	80.0	80.1		ug/L		100	85 - 115

Lab Sample ID: 440-111456-2 MS — **Client Sample ID: WMWS001**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 259536 — **Prep Batch: 259365**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Uranium	ND	HF	80.0	73.8		ug/L		92	70 - 130

Lab Sample ID: 440-111456-2 MSD — **Client Sample ID: WMWS001**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 259536 — **Prep Batch: 259365**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Uranium	ND	HF	80.0	79.1		ug/L		99	70 - 130	7	20

Method: 6010B - Metals (ICP)

Lab Sample ID: MB 440-258595/1-C — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 259494 — **Prep Batch: 259361**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.010	0.0060	mg/L		06/04/15 10:04	06/04/15 15:07	1
Arsenic	ND		0.010	0.0050	mg/L		06/04/15 10:04	06/04/15 15:07	1
Barium	ND		0.010	0.0050	mg/L		06/04/15 10:04	06/04/15 15:07	1
Beryllium	ND		0.0020	0.0010	mg/L		06/04/15 10:04	06/04/15 15:07	1
Cadmium	ND		0.0050	0.0020	mg/L		06/04/15 10:04	06/04/15 15:07	1
Chromium	ND		0.0050	0.0025	mg/L		06/04/15 10:04	06/04/15 15:07	1
Cobalt	ND		0.010	0.0025	mg/L		06/04/15 10:04	06/04/15 15:07	1
Copper	ND		0.010	0.0050	mg/L		06/04/15 10:04	06/04/15 15:07	1
Lead	ND		0.0050	0.0025	mg/L		06/04/15 10:04	06/04/15 15:07	1
Molybdenum	ND		0.020	0.010	mg/L		06/04/15 10:04	06/04/15 15:07	1
Nickel	ND		0.010	0.0050	mg/L		06/04/15 10:04	06/04/15 15:07	1
Selenium	ND		0.010	0.0061	mg/L		06/04/15 10:04	06/04/15 15:07	1
Silver	ND		0.010	0.0050	mg/L		06/04/15 10:04	06/04/15 15:07	1
Thallium	ND		0.010	0.0050	mg/L		06/04/15 10:04	06/04/15 15:07	1
Vanadium	ND		0.010	0.0050	mg/L		06/04/15 10:04	06/04/15 15:07	1
Zinc	ND		0.020	0.010	mg/L		06/04/15 10:04	06/04/15 15:07	1

Lab Sample ID: LCS 440-258595/2-C — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 259494 — **Prep Batch: 259361**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	1.00	1.06		mg/L		106	80 - 120
Arsenic	1.00	1.08		mg/L		108	80 - 120
Barium	1.00	1.01		mg/L		101	80 - 120
Beryllium	1.00	0.991		mg/L		99	80 - 120

Method: 6010B - Metals (ICP) (Continued)

Lab Sample ID: LCS 440-258595/2-C
Matrix: Water
Analysis Batch: 259494

Client Sample ID: Lab Control Sample
Prep Type: Dissolved
Prep Batch: 259361

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cadmium	1.00	0.989		mg/L		99	80 - 120
Chromium	1.00	0.970		mg/L		97	80 - 120
Cobalt	1.00	0.959		mg/L		96	80 - 120
Copper	1.00	0.989		mg/L		99	80 - 120
Lead	1.00	1.01		mg/L		101	80 - 120
Molybdenum	1.00	0.989		mg/L		99	80 - 120
Nickel	1.00	1.01		mg/L		101	80 - 120
Selenium	1.00	0.945		mg/L		94	80 - 120
Silver	0.500	0.483		mg/L		97	80 - 120
Thallium	1.00	0.987		mg/L		99	80 - 120
Vanadium	1.00	0.987		mg/L		99	80 - 120
Zinc	1.00	0.959		mg/L		96	80 - 120

Lab Sample ID: 440-110903-S-3-C MS
Matrix: Water
Analysis Batch: 259494

Client Sample ID: Matrix Spike
Prep Type: Dissolved
Prep Batch: 259361

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	ND		1.00	1.06		mg/L		106	75 - 125
Arsenic	ND		1.00	1.09		mg/L		109	75 - 125
Barium	0.12		1.00	1.14		mg/L		102	75 - 125
Beryllium	ND		1.00	1.02		mg/L		102	75 - 125
Cadmium	ND		1.00	0.999		mg/L		100	75 - 125
Chromium	ND		1.00	0.996		mg/L		100	75 - 125
Cobalt	ND		1.00	0.997		mg/L		100	75 - 125
Copper	ND		1.00	1.02		mg/L		102	75 - 125
Lead	ND		1.00	1.01		mg/L		101	75 - 125
Molybdenum	ND		1.00	1.00		mg/L		100	75 - 125
Nickel	0.028		1.00	1.02		mg/L		99	75 - 125
Selenium	ND		1.00	0.965		mg/L		96	75 - 125
Silver	ND		0.500	0.499		mg/L		100	75 - 125
Thallium	ND		1.00	0.985		mg/L		98	75 - 125
Vanadium	ND		1.00	1.01		mg/L		101	75 - 125
Zinc	ND		1.00	0.976		mg/L		98	75 - 125

Lab Sample ID: 440-110903-S-3-D MSD
Matrix: Water
Analysis Batch: 259494

Client Sample ID: Matrix Spike Duplicate
Prep Type: Dissolved
Prep Batch: 259361

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Antimony	ND		1.00	1.06		mg/L		106	75 - 125	1	20
Arsenic	ND		1.00	1.10		mg/L		110	75 - 125	0	20
Barium	0.12		1.00	1.12		mg/L		100	75 - 125	2	20
Beryllium	ND		1.00	1.00		mg/L		100	75 - 125	2	20
Cadmium	ND		1.00	0.973		mg/L		97	75 - 125	3	20
Chromium	ND		1.00	0.977		mg/L		98	75 - 125	2	20
Cobalt	ND		1.00	0.987		mg/L		99	75 - 125	1	20
Copper	ND		1.00	1.01		mg/L		101	75 - 125	1	20
Lead	ND		1.00	1.01		mg/L		101	75 - 125	1	20

Method: 6010B - Metals (ICP) (Continued)

Lab Sample ID: 440-110903-S-3-D MSD
Matrix: Water
Analysis Batch: 259494

Client Sample ID: Matrix Spike Duplicate
Prep Type: Dissolved
Prep Batch: 259361

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Molybdenum	ND		1.00	0.993		mg/L		99	75 - 125	1	20
Nickel	0.028		1.00	1.01		mg/L		98	75 - 125	1	20
Selenium	ND		1.00	0.946		mg/L		95	75 - 125	2	20
Silver	ND		0.500	0.494		mg/L		99	75 - 125	1	20
Thallium	ND		1.00	0.972		mg/L		97	75 - 125	1	20
Vanadium	ND		1.00	1.00		mg/L		100	75 - 125	1	20
Zinc	ND		1.00	0.964		mg/L		96	75 - 125	1	20

Lab Sample ID: MB 440-258624/1-A ^20
Matrix: Water
Analysis Batch: 259604

Client Sample ID: Method Blank
Prep Type: STLC Citrate

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.20	0.12	mg/L			06/05/15 06:17	20
Arsenic	ND		0.20	0.10	mg/L			06/05/15 06:17	20
Barium	ND		0.20	0.10	mg/L			06/05/15 06:17	20
Beryllium	ND		0.040	0.020	mg/L			06/05/15 06:17	20
Cadmium	ND		0.10	0.040	mg/L			06/05/15 06:17	20
Chromium	ND		0.10	0.050	mg/L			06/05/15 06:17	20
Cobalt	ND		0.20	0.050	mg/L			06/05/15 06:17	20
Copper	ND		0.20	0.10	mg/L			06/05/15 06:17	20
Lead	ND		0.10	0.050	mg/L			06/05/15 06:17	20
Molybdenum	ND		0.40	0.20	mg/L			06/05/15 06:17	20
Nickel	ND		0.20	0.10	mg/L			06/05/15 06:17	20
Selenium	ND		0.20	0.12	mg/L			06/05/15 06:17	20
Silver	ND		0.20	0.10	mg/L			06/05/15 06:17	20
Thallium	ND		0.20	0.10	mg/L			06/05/15 06:17	20
Vanadium	ND		0.20	0.10	mg/L			06/05/15 06:17	20
Zinc	ND		0.40	0.20	mg/L			06/05/15 06:17	20

Lab Sample ID: LCS 440-258624/2-A ^20
Matrix: Water
Analysis Batch: 259604

Client Sample ID: Lab Control Sample
Prep Type: STLC Citrate

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	20.0	20.9		mg/L		105	80 - 120
Arsenic	20.0	20.7		mg/L		103	80 - 120
Barium	20.0	20.8		mg/L		104	80 - 120
Beryllium	20.0	20.3		mg/L		101	80 - 120
Cadmium	20.0	20.9		mg/L		105	80 - 120
Chromium	20.0	19.5		mg/L		98	80 - 120
Cobalt	20.0	19.7		mg/L		99	80 - 120
Copper	20.0	21.2		mg/L		106	80 - 120
Lead	20.0	20.7		mg/L		104	80 - 120
Molybdenum	20.0	20.9		mg/L		104	80 - 120
Nickel	20.0	20.0		mg/L		100	80 - 120
Selenium	20.0	20.3		mg/L		101	80 - 120
Silver	10.0	9.95		mg/L		99	80 - 120
Thallium	20.0	20.7		mg/L		103	80 - 120

Method: 6010B - Metals (ICP) (Continued)

Lab Sample ID: LCS 440-258624/2-A ^20
Matrix: Water
Analysis Batch: 259604

Client Sample ID: Lab Control Sample
Prep Type: STLC Citrate

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Vanadium	20.0	21.0		mg/L		105	80 - 120
Zinc	20.0	20.7		mg/L		104	80 - 120

Lab Sample ID: 440-111456-1 MS
Matrix: Water
Analysis Batch: 259604

Client Sample ID: WC001
Prep Type: STLC Citrate

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	ND		20.0	21.1		mg/L		106	75 - 125
Arsenic	ND		20.0	21.2		mg/L		106	75 - 125
Barium	ND		20.0	20.7		mg/L		104	75 - 125
Beryllium	ND		20.0	20.6		mg/L		103	75 - 125
Cadmium	ND		20.0	20.9		mg/L		105	75 - 125
Chromium	ND		20.0	19.4		mg/L		97	75 - 125
Cobalt	ND		20.0	19.8		mg/L		99	75 - 125
Copper	ND		20.0	21.5		mg/L		108	75 - 125
Lead	ND		20.0	21.0		mg/L		105	75 - 125
Molybdenum	ND		20.0	20.1		mg/L		101	75 - 125
Nickel	ND		20.0	19.8		mg/L		99	75 - 125
Selenium	ND		20.0	20.4		mg/L		102	75 - 125
Silver	ND		10.0	9.62		mg/L		96	75 - 125
Thallium	ND		20.0	20.5		mg/L		103	75 - 125
Vanadium	ND		20.0	21.1		mg/L		105	75 - 125
Zinc	ND		20.0	20.8		mg/L		104	75 - 125

Lab Sample ID: 440-111456-1 MSD
Matrix: Water
Analysis Batch: 259604

Client Sample ID: WC001
Prep Type: STLC Citrate

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Antimony	ND		20.0	20.6		mg/L		103	75 - 125	3	20
Arsenic	ND		20.0	20.7		mg/L		104	75 - 125	2	20
Barium	ND		20.0	20.3		mg/L		101	75 - 125	2	20
Beryllium	ND		20.0	20.3		mg/L		101	75 - 125	2	20
Cadmium	ND		20.0	20.4		mg/L		102	75 - 125	3	20
Chromium	ND		20.0	19.0		mg/L		95	75 - 125	2	20
Cobalt	ND		20.0	19.2		mg/L		96	75 - 125	3	20
Copper	ND		20.0	21.0		mg/L		105	75 - 125	3	20
Lead	ND		20.0	20.6		mg/L		103	75 - 125	2	20
Molybdenum	ND		20.0	19.5		mg/L		98	75 - 125	3	20
Nickel	ND		20.0	19.3		mg/L		97	75 - 125	2	20
Selenium	ND		20.0	19.8		mg/L		99	75 - 125	3	20
Silver	ND		10.0	9.40		mg/L		94	75 - 125	2	20
Thallium	ND		20.0	20.0		mg/L		100	75 - 125	3	20
Vanadium	ND		20.0	20.5		mg/L		103	75 - 125	3	20
Zinc	ND		20.0	20.3		mg/L		101	75 - 125	3	20

QC Sample Results

Client: AMEC Foster Wheeler E & I, Inc
Project/Site: Chevron Coalinga

TestAmerica Job ID: 440-111456-1

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 440-258595/1-B — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 259214 — **Prep Batch: 259116**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00010	mg/L		06/03/15 11:24	06/03/15 16:32	1

Lab Sample ID: LCS 440-258595/2-B — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 259214 — **Prep Batch: 259116**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00800	0.00757		mg/L		95	80 - 120

Lab Sample ID: 440-111456-1 MS — **Client Sample ID: WC001**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 259214 — **Prep Batch: 259116**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00018	J F1	0.00800	0.00220	F1	mg/L		25	70 - 130

Lab Sample ID: 440-111456-1 MSD — **Client Sample ID: WC001**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 259214 — **Prep Batch: 259116**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	0.00018	J F1	0.00800	0.00212	F1	mg/L		24	70 - 130	4	20

Lab Sample ID: MB 440-258624/1-B — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: STLC Citrate**
Analysis Batch: 259214 — **Prep Batch: 259092**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.0020	0.0010	mg/L		06/03/15 10:35	06/03/15 16:54	1

Lab Sample ID: LCS 440-258624/2-B — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: STLC Citrate**
Analysis Batch: 259214 — **Prep Batch: 259092**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.0800	0.0791		mg/L		99	80 - 120

Lab Sample ID: 440-111456-1 MS — **Client Sample ID: WC001**
Matrix: Water — **Prep Type: STLC Citrate**
Analysis Batch: 259214 — **Prep Batch: 259092**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.0010	J	0.0800	0.0737		mg/L		91	70 - 130

Lab Sample ID: 440-111456-1 MSD — **Client Sample ID: WC001**
Matrix: Water — **Prep Type: STLC Citrate**
Analysis Batch: 259214 — **Prep Batch: 259092**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	0.0010	J	0.0800	0.0749		mg/L		92	70 - 130	2	20

Method: SM 2320B - Alkalinity

Lab Sample ID: MB 440-258497/3
Matrix: Water
Analysis Batch: 258497

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	ND		4.0	4.0	mg/L			06/01/15 04:23	1
Bicarbonate Alkalinity as CaCO3	ND		4.0	4.0	mg/L			06/01/15 04:23	1
Carbonate Alkalinity as CaCO3	ND		4.0	4.0	mg/L			06/01/15 04:23	1
Hydroxide Alkalinity as CaCO3	ND		4.0	4.0	mg/L			06/01/15 04:23	1

Lab Sample ID: LCS 440-258497/2
Matrix: Water
Analysis Batch: 258497

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Alkalinity as CaCO3	85.4	73.2		mg/L		86	80 - 120

Lab Sample ID: 440-111427-M-7 DU
Matrix: Water
Analysis Batch: 258497

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Alkalinity as CaCO3	470		470		mg/L		1	20
Bicarbonate Alkalinity as CaCO3	470		470		mg/L		1	20
Carbonate Alkalinity as CaCO3	ND		ND		mg/L		NC	20
Hydroxide Alkalinity as CaCO3	ND		ND		mg/L		NC	20

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 440-259321/1
Matrix: Water
Analysis Batch: 259321

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		10	5.0	mg/L			06/04/15 08:20	1

Lab Sample ID: LCS 440-259321/2
Matrix: Water
Analysis Batch: 259321

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	1000	950		mg/L		95	90 - 110

Lab Sample ID: 440-111427-L-8 DU
Matrix: Water
Analysis Batch: 259321

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	1600		1660		mg/L		4	5

QC Association Summary

Client: AMEC Foster Wheeler E & I, Inc
Project/Site: Chevron Coalinga

TestAmerica Job ID: 440-111456-1

GC/MS VOA

Analysis Batch: 258725

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-111427-G-1 MS	Matrix Spike	Total/NA	Water	8260B	
440-111427-G-1 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	
440-111456-1	WC001	Total/NA	Water	8260B	
440-111456-3	WKR001	Total/NA	Water	8260B	
LCS 440-258725/4	Lab Control Sample	Total/NA	Water	8260B	
MB 440-258725/3	Method Blank	Total/NA	Water	8260B	

Analysis Batch: 258885

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-111427-C-7 MS	Matrix Spike	Total/NA	Water	8260B	
440-111427-C-7 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	
440-111456-2	WMWS001	Total/NA	Water	8260B	
440-111456-5	TRIP BLANK	Total/NA	Water	8260B	
LCS 440-258885/4	Lab Control Sample	Total/NA	Water	8260B	
MB 440-258885/3	Method Blank	Total/NA	Water	8260B	

GC/MS Semi VOA

Prep Batch: 258402

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-111081-G-1-A MSD	Matrix Spike Duplicate	Total/NA	Water	3520C	
440-111081-J-1-B MS	Matrix Spike	Total/NA	Water	3520C	
440-111456-1	WC001	Total/NA	Water	3520C	
440-111456-2	WMWS001	Total/NA	Water	3520C	
440-111456-3	WKR001	Total/NA	Water	3520C	
LCS 440-258402/2-A	Lab Control Sample	Total/NA	Water	3520C	
MB 440-258402/1-A	Method Blank	Total/NA	Water	3520C	

Analysis Batch: 258790

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-111081-G-1-A MSD	Matrix Spike Duplicate	Total/NA	Water	8270C SIM	258402
440-111081-J-1-B MS	Matrix Spike	Total/NA	Water	8270C SIM	258402
440-111456-2	WMWS001	Total/NA	Water	8270C SIM	258402
LCS 440-258402/2-A	Lab Control Sample	Total/NA	Water	8270C SIM	258402
MB 440-258402/1-A	Method Blank	Total/NA	Water	8270C SIM	258402

Analysis Batch: 258980

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-111456-3	WKR001	Total/NA	Water	8270C SIM	258402

Analysis Batch: 259549

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-111456-1	WC001	Total/NA	Water	8270C SIM	258402

GC Semi VOA

Prep Batch: 258737

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-111456-1	WC001	Total/NA	Water	3510C	
440-111456-2	WMWS001	Total/NA	Water	3510C	

GC Semi VOA (Continued)

Prep Batch: 258737 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-111456-3	WKR001	Total/NA	Water	3510C	
LCS 440-258737/2-A	Lab Control Sample	Total/NA	Water	3510C	
LCSD 440-258737/3-A	Lab Control Sample Dup	Total/NA	Water	3510C	
MB 440-258737/1-A	Method Blank	Total/NA	Water	3510C	

Analysis Batch: 258757

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-111456-2	WMWS001	Total/NA	Water	8015B	258737
LCS 440-258737/2-A	Lab Control Sample	Total/NA	Water	8015B	258737
LCSD 440-258737/3-A	Lab Control Sample Dup	Total/NA	Water	8015B	258737
MB 440-258737/1-A	Method Blank	Total/NA	Water	8015B	258737

Analysis Batch: 258758

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-111456-1	WC001	Total/NA	Water	8015B	258737
440-111456-3	WKR001	Total/NA	Water	8015B	258737

HPLC/IC

Analysis Batch: 258329

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-111453-A-14 MS	Matrix Spike	Total/NA	Water	300.0	
440-111453-A-14 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	
440-111456-1	WC001	Total/NA	Water	300.0	
440-111456-2	WMWS001	Total/NA	Water	300.0	
440-111456-3	WKR001	Total/NA	Water	300.0	
LCS 440-258329/6	Lab Control Sample	Total/NA	Water	300.0	
MB 440-258329/4	Method Blank	Total/NA	Water	300.0	

Analysis Batch: 258330

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-111453-A-14 MS	Matrix Spike	Total/NA	Water	300.0	
440-111453-A-14 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	
440-111456-1	WC001	Total/NA	Water	300.0	
440-111456-1	WC001	Total/NA	Water	300.0	
440-111456-2	WMWS001	Total/NA	Water	300.0	
440-111456-2	WMWS001	Total/NA	Water	300.0	
440-111456-3	WKR001	Total/NA	Water	300.0	
LCS 440-258330/6	Lab Control Sample	Total/NA	Water	300.0	
MB 440-258330/4	Method Blank	Total/NA	Water	300.0	

Analysis Batch: 259073

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-111353-J-7 MS	Matrix Spike	Total/NA	Water	300.0	
440-111353-J-7 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	
440-111456-3	WKR001	Total/NA	Water	300.0	
LCS 440-259073/6	Lab Control Sample	Total/NA	Water	300.0	
MB 440-259073/4	Method Blank	Total/NA	Water	300.0	

QC Association Summary

Client: AMEC Foster Wheeler E & I, Inc
Project/Site: Chevron Coalinga

TestAmerica Job ID: 440-111456-1

Metals

Filtration Batch: 258595

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-110903-S-3-C MS	Matrix Spike	Dissolved	Water	FILTRATION	
440-110903-S-3-D MSD	Matrix Spike Duplicate	Dissolved	Water	FILTRATION	
440-111456-1	WC001	Dissolved	Water	FILTRATION	
440-111456-1 - DL	WC001	Dissolved	Water	FILTRATION	
440-111456-1 MS	WC001	Dissolved	Water	FILTRATION	
440-111456-1 MSD	WC001	Dissolved	Water	FILTRATION	
440-111456-2	WMWS001	Dissolved	Water	FILTRATION	
440-111456-2 - DL	WMWS001	Dissolved	Water	FILTRATION	
440-111456-2 MS	WMWS001	Dissolved	Water	FILTRATION	
440-111456-2 MSD	WMWS001	Dissolved	Water	FILTRATION	
440-111456-3	WKR001	Dissolved	Water	FILTRATION	
440-111456-3 MS	WKR001	Dissolved	Water	FILTRATION	
440-111456-3 MSD	WKR001	Dissolved	Water	FILTRATION	
LCS 440-258595/2-B	Lab Control Sample	Dissolved	Water	FILTRATION	
LCS 440-258595/2-C	Lab Control Sample	Dissolved	Water	FILTRATION	
LCS 440-258595/2-D	Lab Control Sample	Dissolved	Water	FILTRATION	
LCS 440-258595/2-E	Lab Control Sample	Dissolved	Water	FILTRATION	
MB 440-258595/1-B	Method Blank	Dissolved	Water	FILTRATION	
MB 440-258595/1-C	Method Blank	Dissolved	Water	FILTRATION	
MB 440-258595/1-D	Method Blank	Dissolved	Water	FILTRATION	
MB 440-258595/1-E	Method Blank	Dissolved	Water	FILTRATION	

Leach Batch: 258624

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-111456-1	WC001	STLC Citrate	Water	CA WET Citrate	
440-111456-1 MS	WC001	STLC Citrate	Water	CA WET Citrate	
440-111456-1 MSD	WC001	STLC Citrate	Water	CA WET Citrate	
440-111456-2	WMWS001	STLC Citrate	Water	CA WET Citrate	
440-111456-3	WKR001	STLC Citrate	Water	CA WET Citrate	
LCS 440-258624/2-A ^20	Lab Control Sample	STLC Citrate	Water	CA WET Citrate	
LCS 440-258624/2-B	Lab Control Sample	STLC Citrate	Water	CA WET Citrate	
MB 440-258624/1-A ^20	Method Blank	STLC Citrate	Water	CA WET Citrate	
MB 440-258624/1-B	Method Blank	STLC Citrate	Water	CA WET Citrate	

Prep Batch: 259092

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-111456-1	WC001	STLC Citrate	Water	7470A	258624
440-111456-1 MS	WC001	STLC Citrate	Water	7470A	258624
440-111456-1 MSD	WC001	STLC Citrate	Water	7470A	258624
440-111456-2	WMWS001	STLC Citrate	Water	7470A	258624
440-111456-3	WKR001	STLC Citrate	Water	7470A	258624
LCS 440-258624/2-B	Lab Control Sample	STLC Citrate	Water	7470A	258624
MB 440-258624/1-B	Method Blank	STLC Citrate	Water	7470A	258624

Prep Batch: 259116

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-111456-1	WC001	Dissolved	Water	7470A	258595
440-111456-1 MS	WC001	Dissolved	Water	7470A	258595
440-111456-1 MSD	WC001	Dissolved	Water	7470A	258595
440-111456-2	WMWS001	Dissolved	Water	7470A	258595
440-111456-3	WKR001	Dissolved	Water	7470A	258595

Metals (Continued)

Prep Batch: 259116 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 440-258595/2-B	Lab Control Sample	Dissolved	Water	7470A	258595
MB 440-258595/1-B	Method Blank	Dissolved	Water	7470A	258595

Analysis Batch: 259214

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-111456-1	WC001	Dissolved	Water	7470A	259116
440-111456-1	WC001	STLC Citrate	Water	7470A	259092
440-111456-1 MS	WC001	Dissolved	Water	7470A	259116
440-111456-1 MS	WC001	STLC Citrate	Water	7470A	259092
440-111456-1 MSD	WC001	Dissolved	Water	7470A	259116
440-111456-1 MSD	WC001	STLC Citrate	Water	7470A	259092
440-111456-2	WMWS001	Dissolved	Water	7470A	259116
440-111456-2	WMWS001	STLC Citrate	Water	7470A	259092
440-111456-3	WKR001	Dissolved	Water	7470A	259116
440-111456-3	WKR001	STLC Citrate	Water	7470A	259092
LCS 440-258595/2-B	Lab Control Sample	Dissolved	Water	7470A	259116
LCS 440-258624/2-B	Lab Control Sample	STLC Citrate	Water	7470A	259092
MB 440-258595/1-B	Method Blank	Dissolved	Water	7470A	259116
MB 440-258624/1-B	Method Blank	STLC Citrate	Water	7470A	259092

Prep Batch: 259361

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-110903-S-3-C MS	Matrix Spike	Dissolved	Water	3005A	258595
440-110903-S-3-D MSD	Matrix Spike Duplicate	Dissolved	Water	3005A	258595
440-111456-1	WC001	Dissolved	Water	3005A	258595
440-111456-2	WMWS001	Dissolved	Water	3005A	258595
440-111456-3	WKR001	Dissolved	Water	3005A	258595
LCS 440-258595/2-C	Lab Control Sample	Dissolved	Water	3005A	258595
MB 440-258595/1-C	Method Blank	Dissolved	Water	3005A	258595

Prep Batch: 259364

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-111456-1 - DL	WC001	Dissolved	Water	200.2	258595
440-111456-1	WC001	Dissolved	Water	200.2	258595
440-111456-2	WMWS001	Dissolved	Water	200.2	258595
440-111456-2 - DL	WMWS001	Dissolved	Water	200.2	258595
440-111456-3	WKR001	Dissolved	Water	200.2	258595
440-111456-3 MS	WKR001	Dissolved	Water	200.2	258595
440-111456-3 MSD	WKR001	Dissolved	Water	200.2	258595
LCS 440-258595/2-D	Lab Control Sample	Dissolved	Water	200.2	258595
MB 440-258595/1-D	Method Blank	Dissolved	Water	200.2	258595

Prep Batch: 259365

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-111456-1	WC001	Dissolved	Water	200.2	258595
440-111456-2	WMWS001	Dissolved	Water	200.2	258595
440-111456-2 MS	WMWS001	Dissolved	Water	200.2	258595
440-111456-2 MSD	WMWS001	Dissolved	Water	200.2	258595
440-111456-3	WKR001	Dissolved	Water	200.2	258595
LCS 440-258595/2-E	Lab Control Sample	Dissolved	Water	200.2	258595
MB 440-258595/1-E	Method Blank	Dissolved	Water	200.2	258595

QC Association Summary

Client: AMEC Foster Wheeler E & I, Inc
Project/Site: Chevron Coalinga

TestAmerica Job ID: 440-111456-1

Analysis Batch: 259494

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-110903-S-3-C MS	Matrix Spike	Dissolved	Water	6010B	259361
440-110903-S-3-D MSD	Matrix Spike Duplicate	Dissolved	Water	6010B	259361
440-111456-1	WC001	Dissolved	Water	6010B	259361
440-111456-2	WMWS001	Dissolved	Water	6010B	259361
440-111456-3	WKR001	Dissolved	Water	6010B	259361
LCS 440-258595/2-C	Lab Control Sample	Dissolved	Water	6010B	259361
MB 440-258595/1-C	Method Blank	Dissolved	Water	6010B	259361

Analysis Batch: 259509

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-111456-1	WC001	Dissolved	Water	200.7 Rev 4.4	259364
440-111456-1 - DL	WC001	Dissolved	Water	200.7 Rev 4.4	259364
440-111456-2	WMWS001	Dissolved	Water	200.7 Rev 4.4	259364
440-111456-2 - DL	WMWS001	Dissolved	Water	200.7 Rev 4.4	259364
440-111456-3	WKR001	Dissolved	Water	200.7 Rev 4.4	259364
440-111456-3 MS	WKR001	Dissolved	Water	200.7 Rev 4.4	259364
440-111456-3 MSD	WKR001	Dissolved	Water	200.7 Rev 4.4	259364
LCS 440-258595/2-D	Lab Control Sample	Dissolved	Water	200.7 Rev 4.4	259364
MB 440-258595/1-D	Method Blank	Dissolved	Water	200.7 Rev 4.4	259364

Analysis Batch: 259536

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-111456-1	WC001	Dissolved	Water	200.8	259365
440-111456-2	WMWS001	Dissolved	Water	200.8	259365
440-111456-2 MS	WMWS001	Dissolved	Water	200.8	259365
440-111456-2 MSD	WMWS001	Dissolved	Water	200.8	259365
440-111456-3	WKR001	Dissolved	Water	200.8	259365
LCS 440-258595/2-E	Lab Control Sample	Dissolved	Water	200.8	259365
MB 440-258595/1-E	Method Blank	Dissolved	Water	200.8	259365

Analysis Batch: 259604

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-111456-1	WC001	STLC Citrate	Water	6010B	258624
440-111456-1 MS	WC001	STLC Citrate	Water	6010B	258624
440-111456-1 MSD	WC001	STLC Citrate	Water	6010B	258624
440-111456-2	WMWS001	STLC Citrate	Water	6010B	258624
440-111456-3	WKR001	STLC Citrate	Water	6010B	258624
LCS 440-258624/2-A ^20	Lab Control Sample	STLC Citrate	Water	6010B	258624
MB 440-258624/1-A ^20	Method Blank	STLC Citrate	Water	6010B	258624

General Chemistry

Analysis Batch: 258497

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-111427-M-7 DU	Duplicate	Total/NA	Water	SM 2320B	
440-111456-1	WC001	Total/NA	Water	SM 2320B	
440-111456-2	WMWS001	Total/NA	Water	SM 2320B	
440-111456-3	WKR001	Total/NA	Water	SM 2320B	
LCS 440-258497/2	Lab Control Sample	Total/NA	Water	SM 2320B	
MB 440-258497/3	Method Blank	Total/NA	Water	SM 2320B	

QC Association Summary

Client: AMEC Foster Wheeler E & I, Inc
Project/Site: Chevron Coalinga

TestAmerica Job ID: 440-111456-1

General Chemistry (Continued)

Analysis Batch: 259321

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-111427-L-8 DU	Duplicate	Total/NA	Water	SM 2540C	
440-111456-1	WC001	Total/NA	Water	SM 2540C	
440-111456-2	WMWS001	Total/NA	Water	SM 2540C	
440-111456-3	WKR001	Total/NA	Water	SM 2540C	
LCS 440-259321/2	Lab Control Sample	Total/NA	Water	SM 2540C	
MB 440-259321/1	Method Blank	Total/NA	Water	SM 2540C	

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC/MS Semi VOA

Qualifier	Qualifier Description
F1	MS and/or MSD Recovery is outside acceptance limits.
X	Surrogate is outside control limits
*	ISTD response or retention time outside acceptable limits

GC Semi VOA

Qualifier	Qualifier Description
X	Surrogate is outside control limits

HPLC/IC

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
F1	MS and/or MSD Recovery is outside acceptance limits.

Metals

Qualifier	Qualifier Description
F1	MS and/or MSD Recovery is outside acceptance limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
HF	Field parameter with a holding time of 15 minutes. Test performed by laboratory at client's request.
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Certification Summary

Client: AMEC Foster Wheeler E & I, Inc
Project/Site: Chevron Coalinga

TestAmerica Job ID: 440-111456-1

Laboratory: TestAmerica Irvine

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Alaska	State Program	10	CA01531	06-30-15
Arizona	State Program	9	AZ0671	10-13-15
California	LA Cty Sanitation Districts	9	10256	01-31-16 *
California	State Program	9	2706	06-30-16
Guam	State Program	9	Cert. No. 12.002r	01-23-16
Hawaii	State Program	9	N/A	01-29-16
Nevada	State Program	9	CA015312007A	07-31-15
New Mexico	State Program	6	N/A	01-29-15 *
Northern Mariana Islands	State Program	9	MP0002	01-29-15 *
Oregon	NELAP	10	4005	01-29-16
USDA	Federal		P330-09-00080	06-06-15

* Certification renewal pending - certification considered valid.

CHAIN-OF-CUSTODY RECORD FRE 17203

PROJECT NAME: Coalinga, Midway Sunset, and Kern River Sampling | DATE 5/30/15 | PAGE ____ OF ____

PROJECT NUMBER: FR141606 3A | LABORATORY NAME: Test America | CLIENT INFORMATION: | REPORTING REQUIREMENTS:

RESULTS TO: Gary Kramer | LABORATORY ADDRESS: 17461 Derian Ave suite 100

TURNAROUND TIME: 5-days | Irvine CA 92614

SAMPLE SHIPMENT METHOD: ~~Fed Ex~~ Delivered to Test America | LABORATORY CONTACT: Patty Matu

LABORATORY PHONE NUMBER:

amec foster wheeler
1281 East Alluvial Ave., Suite 101
Fresno, CA 93720-2659
+1 (559) 264-2535 • Fax +1 (559) 264-7431

SAMPLERS (SIGNATURE): [signature]

GEOTRACKER REQUIRED EDF (YES) NO

SITE SPECIFIC GLOBAL ID NO.

ANALYSES

DATE	TIME	SAMPLE ID	8260B BTEX + Acetone	8270C SIM PAH	8015B DRO LL ORO	300 Cl, SO4, Br, F 300 NO3	2540 C TDS 2320B Alkalinity	200.7, 200.8 6010B, 7470A	6010B STLC metals	CONTAINER TYPE AND SIZE	Soil (S), Water (W), Vapor (V), or Other (O)	Filtered	Preservative Type	Cooled	MS/MSD	No. of Containers	ADDITIONAL COMMENTS
5/29/15	11:40	WC001	X	X	X	X	X	X	X		W			Y		10	
5/29/15	3:00	WMWS001	X	X	X	X	X	X	X		W			Y		10	
5/29/15	5:35	WKR001	X	X	X	X	X	X	X		W			Y		10	
5/29/15	5:35	SKR001	X	X	X	X	X	X	X		S			Y		1	
5/29/15	–	Trip Blank	X								W					6	

440-111456-A-1
WC001
Location: SC60R-O
Bottle: Amber Glass 1 liter - unpreserved
Sampled: 5/29/2015 11:40 AM 440-2622885

RELINQUISHED BY:	DATE	TIME	RECEIVED BY:	DATE	TIME
SIGNATURE: [signature]	5/30/15	0807	SIGNATURE: [signature]	5/30/15	0807
PRINTED NAME: Johnatha Ebenhack			PRINTED NAME: M. Escalante		
COMPANY: Amec FW			COMPANY: TA-I		
SIGNATURE:			SIGNATURE:		
PRINTED NAME:			PRINTED NAME:		
COMPANY:			COMPANY:		
SIGNATURE:			SIGNATURE:		
PRINTED NAME:			PRINTED NAME:		
COMPANY:			COMPANY:		

TOTAL NUMBER OF CONTAINERS

SAMPLING COMMENTS: Please send results to gary.Kramer@amec.com. Samples were not filtered in field, samples that need to be filtered must be filtered in the lab Samples were taken 5/29/15 and Nitrates have a 48hr hold time so please analyze as soon as possible

JR-71 3.2/2.0 3.4/2.2°C 4.0/3.8

Login Sample Receipt Checklist

Client: AMEC Foster Wheeler E & I, Inc

Job Number: 440-111456-1

Login Number: 111456
List Number: 1
Creator: Escalante, Maria I

List Source: TestAmerica Irvine

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	False	Refer to Job Narrative for details.
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Irvine
17461 Derian Ave
Suite 100
Irvine, CA 92614-5817
Tel: (949)261-1022

TestAmerica Job ID: 440-111456-2
Client Project/Site: Chevron Coalinga

For:
AMEC Foster Wheeler E & I, Inc
1281 East Alluvial Avenue
Suite 101
Fresno, California 93720

Attn: Mr. Brad Loewen

Authorized for release by:
6/12/2015 11:36:22 AM

Patty Mata, Senior Project Manager
(949)261-1022
patty.mata@testamericainc.com

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at: www.testamericainc.com

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Sample Summary

Client: AMEC Foster Wheeler E & I, Inc
Project/Site: Chevron Coalinga

TestAmerica Job ID: 440-111456-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
440-111456-1	WC001	Water	05/29/15 11:40	05/30/15 08:07
440-111456-2	WMWS001	Water	05/29/15 15:00	05/30/15 08:07
440-111456-3	WKR001	Water	05/29/15 17:35	05/30/15 08:07

Job ID: 440-111456-2

Laboratory: TestAmerica Irvine

Narrative

Job Narrative
440-111456-2

Comments
Only the radioisotope results are included in this report.

Receipt
The samples were received on 5/30/2015 8:07 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 4 coolers at receipt time were 2.0º C, 2.2º C, 2.8º C (at Irvine lab) and 18.0º C (at St Louis lab).

RAD
Method(s) 9310: Gross Alpha Beta Prep Batch 193262:
The gross alpha and gross beta detection goals were not met for the following samples due to a reduction of the sample size which can be attributed to high residual mass: WC001 (440-111456-1), WMWS001 (440-111456-2) and WKR001 (440-111456-3). Analytical results are reported with the detection limit achieved.

Method(s) 9320: radium-226 prep batch: 193346
The following samples did not meet the detection goal due to a reduced sample volume attributed to matrix interferences (yellow with sulfur smell): WC001 (440-111456-1), WMWS001 (440-111456-2) and WKR001 (440-111456-3). The results have been qualified and reported.

Method(s) PrecSep_0: radium-226 batch 193246
The following samples were reduced to 250 mL because they had a strong sulfur smell and were yellow: WC001 (440-111456-1), WMWS001 (440-111456-2) and WKR001 (440-111456-3). A laboratory control sample and laboratory control sample duplicate were performed.

Method(s) PrecSep_0: radium-228 batch 193346
The following samples were reduced to 250 mL because they were yellow and had a sulfur smell: WC001 (440-111456-1), WMWS001 (440-111456-2) and WKR001 (440-111456-3). A laboratory control sample duplicate was performed.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

General Chemistry
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Client Sample Results

Client: AMEC Foster Wheeler E & I, Inc
Project/Site: Chevron Coalinga

TestAmerica Job ID: 440-111456-2

Client Sample ID: WC001

Lab Sample ID: 440-111456-1
Date Collected: 05/29/15 11:40
Matrix: Water
Date Received: 05/30/15 08:07

Method: 9310 - Gross Alpha / Beta (GFPC) - Dissolved

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	MDC	Unit	Prepared	Analyzed	Dil Fac
Gross Alpha	16.1	U G	25.4	25.5	43.7	pCi/L	06/02/15 15:42	06/03/15 18:47	1
Gross Beta	**23.0**	**G**	10.8	11.1	15.5	pCi/L	06/02/15 15:42	06/03/15 18:47	1

Method: 9315 - Radium-226 (GFPC) - Dissolved

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.315	U	0.320	0.321	0.512	pCi/L	06/03/15 12:48	06/07/15 19:18	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*92.0*		*40 - 110*	*06/03/15 12:48*	*06/07/15 19:18*	*1*

Method: 9320 - Radium-228 (GFPC) - Dissolved

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-0.0350	U G	0.595	0.595	1.09	pCi/L	06/03/15 12:34	06/10/15 11:25	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*106*		*40 - 110*	*06/03/15 12:34*	*06/10/15 11:25*	*1*
Y Carrier	*89.0*		*40 - 110*	*06/03/15 12:34*	*06/10/15 11:25*	*1*

Client Sample ID: WMWS001

Lab Sample ID: 440-111456-2
Date Collected: 05/29/15 15:00
Matrix: Water
Date Received: 05/30/15 08:07

Method: 9310 - Gross Alpha / Beta (GFPC) - Dissolved

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	MDC	Unit	Prepared	Analyzed	Dil Fac
Gross Alpha	76.1	U G	67.2	67.7	105	pCi/L	06/02/15 15:42	06/03/15 18:47	1
Gross Beta	**84.5**	**G**	24.3	25.7	29.5	pCi/L	06/02/15 15:42	06/03/15 18:47	1

Method: 9315 - Radium-226 (GFPC) - Dissolved

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	**2.52**		0.761	0.794	0.819	pCi/L	06/03/15 12:48	06/07/15 19:19	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*54.6*		*40 - 110*	*06/03/15 12:48*	*06/07/15 19:19*	*1*

Method: 9320 - Radium-228 (GFPC) - Dissolved

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.832	U G	0.958	0.961	1.57	pCi/L	06/03/15 12:34	06/10/15 11:25	1

Client Sample Results

Client: AMEC Foster Wheeler E & I, Inc
Project/Site: Chevron Coalinga

TestAmerica Job ID: 440-111456-2

Client Sample ID: WMWS001

Lab Sample ID: 440-111456-2
Date Collected: 05/29/15 15:00
Matrix: Water
Date Received: 05/30/15 08:07

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	69.3		40 - 110	06/03/15 12:34	06/10/15 11:25	1
Y Carrier	89.3		40 - 110	06/03/15 12:34	06/10/15 11:25	1

Client Sample ID: WKR001

Lab Sample ID: 440-111456-3
Date Collected: 05/29/15 17:35
Matrix: Water
Date Received: 05/30/15 08:07

Method: 9310 - Gross Alpha / Beta (GFPC) - Dissolved

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	MDC	Unit	Prepared	Analyzed	Dil Fac
Gross Alpha	12.9	G	6.03	6.21	8.16	pCi/L	06/02/15 15:42	06/03/15 18:47	1
Gross Beta	4.18		1.82	1.86	2.39	pCi/L	06/02/15 15:42	06/03/15 18:47	1

Method: 9315 - Radium-226 (GFPC) - Dissolved

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	1.90		0.555	0.581	0.610	pCi/L	06/03/15 12:48	06/07/15 19:19	1

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	91.7		40 - 110	06/03/15 12:48	06/07/15 19:19	1

Method: 9320 - Radium-228 (GFPC) - Dissolved

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.670	U G	0.703	0.706	1.14	pCi/L	06/03/15 12:34	06/10/15 11:25	1

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	95.6		40 - 110	06/03/15 12:34	06/10/15 11:25	1
Y Carrier	87.1		40 - 110	06/03/15 12:34	06/10/15 11:25	1

Method Summary

Client: AMEC Foster Wheeler E & I, Inc
Project/Site: Chevron Coalinga

TestAmerica Job ID: 440-111456-2

Method	Method Description	Protocol	Laboratory
9310	Gross Alpha / Beta (GFPC)	SW846	TAL SL
9315	Radium-226 (GFPC)	SW846	TAL SL
9320	Radium-228 (GFPC)	SW846	TAL SL

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL SL = TestAmerica St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Lab Chronicle

Client: AMEC Foster Wheeler E & I, Inc
Project/Site: Chevron Coalinga

TestAmerica Job ID: 440-111456-2

Client Sample ID: WC001 — Lab Sample ID: 440-111456-1

Date Collected: 05/29/15 11:40
Matrix: Water
Date Received: 05/30/15 08:07

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Filtration	Filtration			1 gal	1 gal	193074	06/02/15 10:45	JWM	TAL SL
Dissolved	Prep	Evaporation			12 mL	1.0 g	193262	06/02/15 15:42	MJS	TAL SL
Dissolved	Analysis	9310		1	12 mL		193333	06/03/15 18:47	MFM	TAL SL
Dissolved	Filtration	Filtration			1 gal	1 gal	193074	06/02/15 10:45	JWM	TAL SL
Dissolved	Prep	PrecSep_0			249.98 mL	1.0 g	193246	06/03/15 12:48	CMC	TAL SL
Dissolved	Analysis	9315		1	249.98 mL		193882	06/07/15 19:18	MLK	TAL SL
Dissolved	Filtration	Filtration			1 gal	1 gal	193074	06/02/15 10:45	JWM	TAL SL
Dissolved	Prep	PrecSep_0			250.20 mL	1.0 g	193346	06/03/15 12:34	CMC	TAL SL
Dissolved	Analysis	9320		1	250.20 mL		194411	06/10/15 11:25	CDH	TAL SL

Client Sample ID: WMWS001 — Lab Sample ID: 440-111456-2

Date Collected: 05/29/15 15:00
Matrix: Water
Date Received: 05/30/15 08:07

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Filtration	Filtration			1 gal	1 gal	193074	06/02/15 10:45	JWM	TAL SL
Dissolved	Prep	Evaporation			6 mL	1.0 g	193262	06/02/15 15:42	MJS	TAL SL
Dissolved	Analysis	9310		1	6 mL		193333	06/03/15 18:47	MFM	TAL SL
Dissolved	Filtration	Filtration			1 gal	1 gal	193074	06/02/15 10:45	JWM	TAL SL
Dissolved	Prep	PrecSep_0			250.17 mL	1.0 g	193246	06/03/15 12:48	CMC	TAL SL
Dissolved	Analysis	9315		1	250.17 mL		193882	06/07/15 19:19	MLK	TAL SL
Dissolved	Filtration	Filtration			1 gal	1 gal	193074	06/02/15 10:45	JWM	TAL SL
Dissolved	Prep	PrecSep_0			250.50 mL	1.0 g	193346	06/03/15 12:34	CMC	TAL SL
Dissolved	Analysis	9320		1	250.50 mL		194411	06/10/15 11:25	CDH	TAL SL

Client Sample ID: WKR001 — Lab Sample ID: 440-111456-3

Date Collected: 05/29/15 17:35
Matrix: Water
Date Received: 05/30/15 08:07

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Filtration	Filtration			1 gal	1 gal	193074	06/02/15 10:45	JWM	TAL SL
Dissolved	Prep	Evaporation			72 mL	1.0 g	193262	06/02/15 15:42	MJS	TAL SL
Dissolved	Analysis	9310		1	72 mL		193333	06/03/15 18:47	MFM	TAL SL
Dissolved	Filtration	Filtration			1 gal	1 gal	193074	06/02/15 10:45	JWM	TAL SL
Dissolved	Prep	PrecSep_0			249.96 mL	1.0 g	193246	06/03/15 12:48	CMC	TAL SL
Dissolved	Analysis	9315		1	249.96 mL		193882	06/07/15 19:19	MLK	TAL SL
Dissolved	Filtration	Filtration			1 gal	1 gal	193074	06/02/15 10:45	JWM	TAL SL
Dissolved	Prep	PrecSep_0			250.95 mL	1.0 g	193346	06/03/15 12:34	CMC	TAL SL
Dissolved	Analysis	9320		1	250.95 mL		194411	06/10/15 11:25	CDH	TAL SL

Laboratory References:

TAL SL = TestAmerica St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

QC Sample Results

Client: AMEC Foster Wheeler E & I, Inc
Project/Site: Chevron Coalinga

TestAmerica Job ID: 440-111456-2

Method: 9310 - Gross Alpha / Beta (GFPC)

Lab Sample ID: MB 160-193262/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 193302 — **Prep Batch: 193262**

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	MDC	Unit	Prepared	Analyzed	Dil Fac
Gross Alpha	0.8642	U	0.795	0.802	1.25	pCi/L	06/02/15 15:42	06/03/15 18:43	1
Gross Beta	0.7905	U	0.593	0.599	0.918	pCi/L	06/02/15 15:42	06/03/15 18:43	1

Lab Sample ID: LCS 160-193262/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 193302 — **Prep Batch: 193262**

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	MDC	Unit	%Rec	%Rec. Limits
Gross Alpha	50.0	54.56		8.01	2.14	pCi/L	109	73 - 133

Lab Sample ID: LCSB 160-193262/3-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 193302 — **Prep Batch: 193262**

Analyte	Spike Added	LCSB Result	LCSB Qual	Total Uncert. (2σ+/-)	MDC	Unit	%Rec	%Rec. Limits
Gross Beta	95.0	94.84		10.0	1.05	pCi/L	100	75 - 125

Lab Sample ID: 160-12085-A-1-B MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 193302 — **Prep Batch: 193262**

Analyte	Sample Result	Sample Qual	Spike Added	MS Result	MS Qual	Total Uncert. (2σ+/-)	MDC	Unit	%Rec	%Rec. Limits
Gross Alpha	8.98		50.0	47.55		7.15	1.46	pCi/L	77	60 - 140

Lab Sample ID: 160-12085-A-1-C MSBT — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 193333 — **Prep Batch: 193262**

Analyte	Sample Result	Sample Qual	Spike Added	MSBT Result	MSBT Qual	Total Uncert. (2σ+/-)	MDC	Unit	%Rec	%Rec. Limits
Gross Beta	6.67		95.0	107.9		11.3	1.18	pCi/L	107	60 - 140

Lab Sample ID: 160-12085-A-1-D DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 193333 — **Prep Batch: 193262**

Analyte	Sample Result	Sample Qual	DU Result	DU Qual	Total Uncert. (2σ+/-)	MDC	Unit	RER	RER Limit
Gross Alpha	8.98		13.66	G	3.78	3.63	pCi/L	0.76	1
Gross Beta	6.67		7.686		1.40	1.13	pCi/L	0.39	1

QC Sample Results

Client: AMEC Foster Wheeler E & I, Inc
Project/Site: Chevron Coalinga

TestAmerica Job ID: 440-111456-2

Method: 9315 - Radium-226 (GFPC)

Lab Sample ID: MB 160-193246/1-B — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 193881 — **Prep Batch: 193246**

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	-0.06945	U	0.313	0.313	0.623	pCi/L	06/02/15 13:58	06/07/15 19:16	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*91.7*		*40 - 110*	*06/02/15 13:58*	*06/07/15 19:16*	*1*

Lab Sample ID: LCS 160-193246/2-B — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 193881 — **Prep Batch: 193246**

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	MDC	Unit	%Rec	%Rec. Limits
Radium-226	44.7	44.89		4.63	0.599	pCi/L	101	68 - 137

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*95.6*		*40 - 110*

Lab Sample ID: LCSD 160-193246/3-B — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 193881 — **Prep Batch: 193246**

Analyte	Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-226	44.7	45.69		4.69	0.691	pCi/L	102	68 - 137	0.09	1

Carrier	*LCSD %Yield*	*LCSD Qualifier*	*Limits*
Ba Carrier	*94.7*		*40 - 110*

Method: 9320 - Radium-228 (GFPC)

Lab Sample ID: MB 160-193346/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 194411 — **Prep Batch: 193346**

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.04315	U	0.173	0.173	0.304	pCi/L	06/03/15 12:34	06/10/15 11:24	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*101*		*40 - 110*	*06/03/15 12:34*	*06/10/15 11:24*	*1*
Y Carrier	*92.0*		*40 - 110*	*06/03/15 12:34*	*06/10/15 11:24*	*1*

Method: 9320 - Radium-228 (GFPC) (Continued)

Lab Sample ID: LCS 160-193346/2-A
Matrix: Water
Analysis Batch: 194411

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 193346

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)		MDC	Unit	%Rec	%Rec. Limits		
Radium-228			3.39	2.436		0.413		0.324	pCi/L	72	56 - 140		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*103*		*40 - 110*
Y Carrier	*91.2*		*40 - 110*

Lab Sample ID: LCSD 160-193346/3-A
Matrix: Water
Analysis Batch: 194411

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 193346

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)		MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-228			3.39	3.340		0.504		0.368	pCi/L	98	56 - 140	0.99	1

Carrier	*LCSD %Yield*	*LCSD Qualifier*	*Limits*
Ba Carrier	*105*		*40 - 110*
Y Carrier	*92.0*		*40 - 110*

QC Association Summary

Client: AMEC Foster Wheeler E & I, Inc
Project/Site: Chevron Coalinga

TestAmerica Job ID: 440-111456-2

Rad

Filtration Batch: 193074

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-111456-1	WC001	Dissolved	Water	Filtration	
440-111456-2	WMWS001	Dissolved	Water	Filtration	
440-111456-3	WKR001	Dissolved	Water	Filtration	

Prep Batch: 193246

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-111456-1	WC001	Dissolved	Water	PrecSep_0	193074
440-111456-2	WMWS001	Dissolved	Water	PrecSep_0	193074
440-111456-3	WKR001	Dissolved	Water	PrecSep_0	193074
LCS 160-193246/2-B	Lab Control Sample	Total/NA	Water	PrecSep_0	
LCSD 160-193246/3-B	Lab Control Sample Dup	Total/NA	Water	PrecSep_0	
MB 160-193246/1-B	Method Blank	Total/NA	Water	PrecSep_0	

Prep Batch: 193262

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-12085-A-1-B MS	Matrix Spike	Total/NA	Water	Evaporation	
160-12085-A-1-C MSBT	Matrix Spike	Total/NA	Water	Evaporation	
160-12085-A-1-D DU	Duplicate	Total/NA	Water	Evaporation	
440-111456-1	WC001	Dissolved	Water	Evaporation	193074
440-111456-2	WMWS001	Dissolved	Water	Evaporation	193074
440-111456-3	WKR001	Dissolved	Water	Evaporation	193074
LCS 160-193262/2-A	Lab Control Sample	Total/NA	Water	Evaporation	
LCSB 160-193262/3-A	Lab Control Sample	Total/NA	Water	Evaporation	
MB 160-193262/1-A	Method Blank	Total/NA	Water	Evaporation	

Prep Batch: 193346

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-111456-1	WC001	Dissolved	Water	PrecSep_0	193074
440-111456-2	WMWS001	Dissolved	Water	PrecSep_0	193074
440-111456-3	WKR001	Dissolved	Water	PrecSep_0	193074
LCS 160-193346/2-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
LCSD 160-193346/3-A	Lab Control Sample Dup	Total/NA	Water	PrecSep_0	
MB 160-193346/1-A	Method Blank	Total/NA	Water	PrecSep_0	

Definitions/Glossary

Client: AMEC Foster Wheeler E & I, Inc
Project/Site: Chevron Coalinga

TestAmerica Job ID: 440-111456-2

Qualifiers

Rad

Qualifier	Qualifier Description
G	The Sample MDC is greater than the requested RL.
U	Result is less than the sample detection limit.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Certification Summary

Client: AMEC Foster Wheeler E & I, Inc
Project/Site: Chevron Coalinga

TestAmerica Job ID: 440-111456-2

Laboratory: TestAmerica Irvine

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Alaska	State Program	10	CA01531	06-30-15
Arizona	State Program	9	AZ0671	10-13-15
California	LA Cty Sanitation Districts	9	10256	01-31-16 *
California	State Program	9	2706	06-30-16
Guam	State Program	9	Cert. No. 12.002r	01-23-16
Hawaii	State Program	9	N/A	01-29-16
Nevada	State Program	9	CA015312007A	07-31-15
New Mexico	State Program	6	N/A	01-29-15 *
Northern Mariana Islands	State Program	9	MP0002	01-29-15 *
Oregon	NELAP	10	4005	01-29-16

Laboratory: TestAmerica St. Louis

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Alaska	State Program	10	MO00054	06-30-15 *
California	ELAP	9	2886	03-31-16
Connecticut	State Program	1	PH-0241	03-31-17
Florida	NELAP	4	E87689	06-30-15 *
Illinois	NELAP	5	200023	11-30-15
Iowa	State Program	7	373	12-01-16
Kansas	NELAP	7	E-10236	10-31-15
Kentucky (DW)	State Program	4	90125	12-31-15
L-A-B	DoD ELAP		L2305	01-10-16
Louisiana	NELAP	6	04080	06-30-15 *
Louisiana (DW)	NELAP	6	LA150017	12-31-16
Maryland	State Program	3	310	09-30-15
Missouri	State Program	7	780	06-30-15 *
Nevada	State Program	9	MO000542013-1	07-31-15 *
New Jersey	NELAP	2	MO002	06-30-15 *
New Mexico	State Program	6		06-30-10 *
New York	NELAP	2	11616	03-31-16
North Dakota	State Program	8	R207	06-30-15 *
NRC	NRC		24-24817-01	12-31-22
Oklahoma	State Program	6	9997	08-31-15
Pennsylvania	NELAP	3	68-00540	02-28-16
South Carolina	State Program	4	85002001	06-30-15 *
Texas	NELAP	6	T104704193-13-6	07-31-15 *
USDA	Federal		P330-07-00122	01-09-17
Utah	NELAP	8	MO000542013-5	07-31-15
Virginia	NELAP	3	460230	06-14-15 *
Washington	State Program	10	C592	08-30-15
West Virginia DEP	State Program	3	381	08-31-15

* Certification renewal pending - certification considered valid.

CHAIN-OF-CUSTODY RECORD

FRE 17202

PROJECT NAME: Coalinga, Midway Sunset, and Kern River Sampling

DATE 5/30/15 PAGE ____ OF ____

PROJECT NUMBER: FR14160634

RESULTS TO: Gary Kramer

TURNAROUND TIME: 5-day

SAMPLE SHIPMENT METHOD: ~~Fedex~~ FedEX

LABORATORY NAME: Test America

LABORATORY ADDRESS: 13715 Rider Trail North, Earth City MO 63045

LABORATORY CONTACT:

LABORATORY PHONE NUMBER: (314) 298 8566

CLIENT INFORMATION:

REPORTING REQUIREMENTS:

amec foster wheeler
1281 East Alluvial Ave., Suite 101
Fresno, CA 93720-2659
+1 (559) 264-2535 • Fax +1 (559) 264-7431

SAMPLERS (SIGNATURE):

GEOTRACKER REQUIRED EDF (YES) NO

SITE SPECIFIC GLOBAL ID NO.

ANALYSES

DATE	TIME	SAMPLE ID	9315 Ra 226	9320 Ra 228	9310 gross alpha/beta	CONTAINER TYPE AND SIZE	Soil (S), Water (W), Vapor (V), or Other (O)	Filtered	Preservative Type	Cooled	MS/MSD	No. of Containers	ADDITIONAL COMMENTS
5/29/15	11:40	WC001	X	X	X		W			Y		1	
5/29/15	3:00	WMWS001	X	X	X		W			Y		1	
5/29/15	5:35	WKR001	X	X	X		W			Y		1	

RELINQUISHED BY:	DATE	TIME	RECEIVED BY:	DATE	TIME
SIGNATURE: [signature]	5/30/15	9:01	SIGNATURE:		
PRINTED NAME: Jonathan Ebenbach			PRINTED NAME:		
COMPANY: Amec EW			COMPANY:		
SIGNATURE: [signature]	5/30/15	9:01	SIGNATURE: [signature]	6/1/15	0720
PRINTED NAME:			PRINTED NAME: Brian Daniels		
COMPANY: FEDEX office			COMPANY: TA		
SIGNATURE:			SIGNATURE:		
PRINTED NAME:			PRINTED NAME:		
COMPANY:			COMPANY:		

TOTAL NUMBER OF CONTAINERS

SAMPLING COMMENTS: Please send results to gary.Kramer@amec.com

Login Sample Receipt Checklist

Client: AMEC Foster Wheeler E & I, Inc

Job Number: 440-111456-2

Login Number: 111456
List Number: 1
Creator: Escalante, Maria I

List Source: TestAmerica Irvine

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	False	Refer to Job Narrative for details.
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: AMEC Foster Wheeler E & I, Inc

Job Number: 440-111456-2

Login Number: 111456
List Number: 2
Creator: Daniels, Brian J

List Source: TestAmerica St. Louis
List Creation: 06/02/15 10:04 AM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	False	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	18
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	False	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Tracer/Carrier Summary

Client: AMEC Foster Wheeler E & I, Inc
Project/Site: Chevron Coalinga

TestAmerica Job ID: 440-111456-2

Method: 9315 - Radium-226 (GFPC)

Matrix: Water **Prep Type: Total/NA**

		Percent Yield (Acceptance Limits)							
Lab Sample ID	Client Sample ID	Ba (40-110)							
LCS 160-193246/2-B	Lab Control Sample	95.6							
LCSD 160-193246/3-B	Lab Control Sample Dup	94.7							
MB 160-193246/1-B	Method Blank	91.7							

Tracer/Carrier Legend

Ba = Ba Carrier

Method: 9315 - Radium-226 (GFPC)

Matrix: Water **Prep Type: Dissolved**

		Percent Yield (Acceptance Limits)							
Lab Sample ID	Client Sample ID	Ba (40-110)							
440-111456-1	WC001	92.0							
440-111456-2	WMWS001	54.6							
440-111456-3	WKR001	91.7							

Tracer/Carrier Legend

Ba = Ba Carrier

Method: 9320 - Radium-228 (GFPC)

Matrix: Water **Prep Type: Total/NA**

		Percent Yield (Acceptance Limits)							
Lab Sample ID	Client Sample ID	Ba (40-110)	Y (40-110)						
LCS 160-193346/2-A	Lab Control Sample	103	91.2						
LCSD 160-193346/3-A	Lab Control Sample Dup	105	92.0						
MB 160-193346/1-A	Method Blank	101	92.0						

Tracer/Carrier Legend

Ba = Ba Carrier
Y = Y Carrier

Method: 9320 - Radium-228 (GFPC)

Matrix: Water **Prep Type: Dissolved**

		Percent Yield (Acceptance Limits)							
Lab Sample ID	Client Sample ID	Ba (40-110)	Y (40-110)						
440-111456-1	WC001	106	89.0						
440-111456-2	WMWS001	69.3	89.3						
440-111456-3	WKR001	95.6	87.1						

Tracer/Carrier Legend

Ba = Ba Carrier
Y = Y Carrier

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Irvine
17461 Derian Ave
Suite 100
Irvine, CA 92614-5817
Tel: (949)261-1022

TestAmerica Job ID: 440-111303-1
Client Project/Site: Chevron Coalinga

For:
AMEC Foster Wheeler E & I, Inc
1281 East Alluvial Avenue
Suite 101
Fresno, California 93720

Attn: Mr. Brad Loewen

Authorized for release by:
6/4/2015 12:44:11 PM

Patty Mata, Senior Project Manager
(949)261-1022
patty.mata@testamericainc.com

LINKS

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Have a Question? Ask The Expert

Visit us at: www.testamericainc.com

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Sample Summary

Client: AMEC Foster Wheeler E & I, Inc
Project/Site: Chevron Coalinga

TestAmerica Job ID: 440-111303-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
440-111303-1	W001	Water	05/27/15 09:15	05/28/15 09:50
440-111303-2	W002	Water	05/27/15 09:25	05/28/15 09:50
440-111303-3	W003	Water	05/27/15 10:15	05/28/15 09:50
440-111303-4	W004	Water	05/27/15 11:05	05/28/15 09:50
440-111303-5	W005	Water	05/27/15 11:40	05/28/15 09:50
440-111303-6	W006	Water	05/27/15 12:40	05/28/15 09:50
440-111303-7	W007	Water	05/27/15 13:20	05/28/15 09:50
440-111303-8	W008	Water	05/27/15 14:20	05/28/15 09:50
440-111303-9	W009	Water	05/27/15 00:01	05/28/15 09:50

Job ID: 440-111303-1

Laboratory: TestAmerica Irvine

Narrative

Job Narrative
440-111303-1

Comments
Rad chem results will be reported separately.

Receipt
The samples were received on 5/28/2015 9:50 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 7 coolers at receipt time were 3.5º C, 4.4º C, 4.6º C, 5.0º C, 5.6º C, 20.0º C and 20.0º C.

Receipt Exceptions
The samples were received at TestAmerica Irvine on 5/28/15 at 0950. The coolers were received at acceptable temperatures of 5.6, 3.5, 4.6, 4.4, and 5.0 degrees C.

The samples were received at TestAmerica St. Louis on 5/29/15 at 0840. The coolers were received at acceptable temperatures of 20.0 and 20.0 degrees C.

The following volatile samples were received with significant headspace in the sample vial(s): W003 (440-111303-3), W005 (440-111303-5), W006 (440-111303-6), W007 (440-111303-7) and W008 (440-111303-8).

GC/MS VOA
Method(s) 8260B: The following volatile samples were received and analyzed with significant headspace in the sample vial(s): W003 (440-111303-3), W005 (440-111303-5), W006 (440-111303-6), W007 (440-111303-7) and W008 (440-111303-8). Significant headspace is defined as a bubble greater than 6 mm in diameter.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC/MS Semi VOA
Method(s) 8270C SIM: Surrogate recovery for the following sample was outside control limits: W004 (440-111303-4). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method(s) 8270C SIM: The internal standard response was below the 50% minimum QC limit for the following samples: W004 (440-111303-4) and W007 (440-111303-7). The chromatography showed some matrix interference that could have adversely affected the recovery of the affected internal standard. All affected target analytes were flagged with an asterisk (*). If the matrix effect is isolated to the internal standards, then the affect on the associated target analyte results are potentially biased high.

Method(s) 8270C SIM: The following samples required dilution due to the nature of the sample matrix: W001 (440-111303-1), W002 (440-111303-2), W003 (440-111303-3), W005 (440-111303-5), W006 (440-111303-6), W007 (440-111303-7) and W008 (440-111303-8). Because of this dilution, the surrogate spike concentration in the sample was reduced to a level where the recovery calculation does not provide useful information.

Method(s) 8270C SIM: The following samples were diluted due to the abundance of non-target analytes: W001 (440-111303-1), W002 (440-111303-2), W003 (440-111303-3), W004 (440-111303-4), W005 (440-111303-5), W006 (440-111303-6) and W007 (440-111303-7). Elevated reporting limits (RLs) are provided.

Method(s) 8270C SIM: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 440-258110 and analytical batch 440-258419. The laboratory control sample (LCS) was performed in duplicate to provide precision data for this batch.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

HPLC/IC
Method(s) 300.0: Due to the relatively high concentration of Chloride in the batch QC source sample, the matrix spike / matrix spike duplicate (MS/MSD) for analytical batch 257754 could not be evaluated for accuracy and precision. The associated laboratory control sample (LCS) met acceptance criteria.

Job ID: 440-111303-1 (Continued)

Laboratory: TestAmerica Irvine (Continued)

Method(s) 300.0: The following samples were diluted for nitrate due to the nature of the sample matrix: W001 (440-111303-1), W002 (440-111303-2), W003 (440-111303-3), W004 (440-111303-4), W005 (440-111303-5), W006 (440-111303-6), W007 (440-111303-7) and W008 (440-111303-8). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC Semi VOA
Method(s) 8015B: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD associated with preparation batch 258737. The laboratory control sample (LCS) was performed in duplicate to provide precision data for this batch.

Method(s) 8015B: The following samples required dilution due to the nature of the sample matrix: W003 (440-111303-3), W004 (440-111303-4), W005 (440-111303-5), W006 (440-111303-6), W007 (440-111303-7) and W008 (440-111303-8). Because of this dilution, the surrogate spike concentration in the sample was reduced to a level where the recovery calculation does not provide useful information.

Method(s) 8015B: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 440-258169. The laboratory control sample (LCS) was performed in duplicate to provide precision data for this batch.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Metals
Dissolved metals need to be field filtered per EPA method 200.7 and 200.8, and have a 15 minute hold time for filtration. Samples that are requested to be filtered in the lab are flagged with HF qualifiers to note the short hold time.

Method(s) 200.7 Rev 4.4: The following samples were diluted due to the nature of the sample matrix: W001 (440-111303-1), W002 (440-111303-2), W003 (440-111303-3), W004 (440-111303-4), W005 (440-111303-5), W006 (440-111303-6), W007 (440-111303-7) and W008 (440-111303-8). Elevated reporting limits (RLs) are provided.

Method(s) 200.8: The following samples were diluted due to the nature of the sample matrix: W001 (440-111303-1), W002 (440-111303-2), W003 (440-111303-3), W004 (440-111303-4), W005 (440-111303-5), W007 (440-111303-7) and W008 (440-111303-8). Elevated reporting limits (RLs) are provided.

Method(s) 6010B: The following samples were diluted due to the nature of the sample matrix: W001 (440-111303-1), W002 (440-111303-2), W003 (440-111303-3), W004 (440-111303-4), W005 (440-111303-5), W006 (440-111303-6), W007 (440-111303-7) and W008 (440-111303-8). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

General Chemistry
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Organic Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

VOA Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Client Sample Results

Client: AMEC Foster Wheeler E & I, Inc
Project/Site: Chevron Coalinga

TestAmerica Job ID: 440-111303-1

Client Sample ID: W001

Date Collected: 05/27/15 09:15
Date Received: 05/28/15 09:50

Lab Sample ID: 440-111303-1

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.50	0.25	ug/L			05/30/15 11:33	1
Ethylbenzene	ND		0.50	0.25	ug/L			05/30/15 11:33	1
m,p-Xylene	ND		1.0	0.50	ug/L			05/30/15 11:33	1
o-Xylene	ND		0.50	0.25	ug/L			05/30/15 11:33	1
Toluene	ND		0.50	0.25	ug/L			05/30/15 11:33	1
Xylenes, Total	ND		1.0	0.50	ug/L			05/30/15 11:33	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*102*		*80 - 120*		*05/30/15 11:33*	*1*
Dibromofluoromethane (Surr)	*106*		*76 - 132*		*05/30/15 11:33*	*1*
Toluene-d8 (Surr)	*110*		*80 - 128*		*05/30/15 11:33*	*1*

Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		9.5	4.8	ug/L		05/29/15 08:32	06/01/15 02:48	50
Acenaphthylene	ND		9.5	4.8	ug/L		05/29/15 08:32	06/01/15 02:48	50
Anthracene	ND		9.5	4.8	ug/L		05/29/15 08:32	06/01/15 02:48	50
Benzo[a]anthracene	ND		9.5	4.8	ug/L		05/29/15 08:32	06/01/15 02:48	50
Benzo[a]pyrene	ND		9.5	4.8	ug/L		05/29/15 08:32	06/01/15 02:48	50
Benzo[b]fluoranthene	ND		9.5	4.8	ug/L		05/29/15 08:32	06/01/15 02:48	50
Benzo[g,h,i]perylene	ND		9.5	4.8	ug/L		05/29/15 08:32	06/01/15 02:48	50
Benzo[k]fluoranthene	ND		9.5	4.8	ug/L		05/29/15 08:32	06/01/15 02:48	50
Chrysene	ND		9.5	4.8	ug/L		05/29/15 08:32	06/01/15 02:48	50
Dibenz(a,h)anthracene	ND		9.5	4.8	ug/L		05/29/15 08:32	06/01/15 02:48	50
Fluoranthene	ND		9.5	4.8	ug/L		05/29/15 08:32	06/01/15 02:48	50
Fluorene	ND		9.5	4.8	ug/L		05/29/15 08:32	06/01/15 02:48	50
Indeno[1,2,3-cd]pyrene	ND		9.5	4.8	ug/L		05/29/15 08:32	06/01/15 02:48	50
Naphthalene	ND		9.5	4.8	ug/L		05/29/15 08:32	06/01/15 02:48	50
Phenanthrene	ND		9.5	4.8	ug/L		05/29/15 08:32	06/01/15 02:48	50
Pyrene	ND		9.5	4.8	ug/L		05/29/15 08:32	06/01/15 02:48	50

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*0*	*X*	*31 - 120*	*05/29/15 08:32*	*06/01/15 02:48*	*50*
Nitrobenzene-d5	*67*		*25 - 133*	*05/29/15 08:32*	*06/01/15 02:48*	*50*
Terphenyl-d14	*0*	*X*	*10 - 120*	*05/29/15 08:32*	*06/01/15 02:48*	*50*

Method: 8015B - Diesel Range Organics (DRO) (GC) Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C29-C40	**0.089**		0.049	0.025	mg/L		05/29/15 11:46	06/02/15 19:01	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane	*71*		*45 - 120*	*05/29/15 11:46*	*06/02/15 19:01*	*1*

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	ND		25	13	mg/L			05/29/15 04:15	50
Nitrate as NO3	ND		25	13	mg/L			05/29/15 04:15	50
Chloride	**5000**		500	250	mg/L			05/29/15 04:30	1000
Fluoride	**29**		25	13	mg/L			05/29/15 04:15	50
Sulfate	**380**		25	13	mg/L			05/29/15 04:15	50

Client Sample Results

Client: AMEC Foster Wheeler E & I, Inc
Project/Site: Chevron Coalinga

TestAmerica Job ID: 440-111303-1

Client Sample ID: W001

Date Collected: 05/27/15 09:15
Date Received: 05/28/15 09:50

Lab Sample ID: 440-111303-1

Matrix: Water

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	**67**	**HF**	0.25	0.050	mg/L		06/01/15 09:52	06/02/15 12:29	5
Calcium	**54**	**HF**	0.50	0.25	mg/L		06/01/15 09:52	06/02/15 12:29	5
Iron	ND	HF	0.20	0.050	mg/L		06/01/15 09:52	06/02/15 12:29	5
Lithium	**0.59**	**J HF**	2.5	0.13	mg/L		06/01/15 09:52	06/02/15 12:29	5
Magnesium	**59**	**HF**	0.10	0.050	mg/L		06/01/15 09:52	06/02/15 12:29	5
Manganese	ND	HF	0.10	0.050	mg/L		06/01/15 09:52	06/02/15 12:29	5
Potassium	**65**	**HF**	2.5	1.3	mg/L		06/01/15 09:52	06/02/15 12:29	5
Sodium	**3400**	**HF**	2.5	1.3	mg/L		06/01/15 09:52	06/02/15 12:29	5
Strontium	**4.0**	**HF**	0.10	0.050	mg/L		06/01/15 09:52	06/02/15 12:29	5

Method: 200.8 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Uranium	ND	HF	2.0	1.0	ug/L		06/02/15 09:44	06/02/15 16:24	2

Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND	^	0.10	0.060	mg/L		06/01/15 09:06	06/02/15 09:23	10
Arsenic	**0.096**	**J B**	0.10	0.050	mg/L		06/01/15 09:06	06/02/15 09:23	10
Barium	**0.43**		0.10	0.050	mg/L		06/01/15 09:06	06/02/15 09:23	10
Beryllium	ND		0.020	0.010	mg/L		06/01/15 09:06	06/02/15 09:23	10
Cadmium	ND		0.050	0.020	mg/L		06/01/15 09:06	06/02/15 09:23	10
Chromium	ND		0.050	0.025	mg/L		06/01/15 09:06	06/02/15 09:23	10
Cobalt	ND		0.10	0.025	mg/L		06/01/15 09:06	06/02/15 09:23	10
Copper	ND		0.10	0.050	mg/L		06/01/15 09:06	06/02/15 09:23	10
Lead	ND		0.050	0.025	mg/L		06/01/15 09:06	06/02/15 09:23	10
Molybdenum	ND		0.20	0.10	mg/L		06/01/15 09:06	06/02/15 09:23	10
Nickel	ND		0.10	0.050	mg/L		06/01/15 09:06	06/02/15 09:23	10
Selenium	ND		0.10	0.061	mg/L		06/01/15 09:06	06/02/15 09:23	10
Silver	ND		0.10	0.050	mg/L		06/01/15 09:06	06/02/15 09:23	10
Thallium	ND		0.10	0.050	mg/L		06/01/15 09:06	06/02/15 09:23	10
Vanadium	ND		0.10	0.050	mg/L		06/01/15 09:06	06/02/15 09:23	10
Zinc	ND		0.20	0.10	mg/L		06/01/15 09:06	06/02/15 09:23	10

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00010	mg/L		06/01/15 10:11	06/01/15 13:41	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	**570**		4.0	4.0	mg/L			05/29/15 08:23	1
Bicarbonate Alkalinity as CaCO3	**340**		4.0	4.0	mg/L			05/29/15 08:23	1
Carbonate Alkalinity as CaCO3	**220**		4.0	4.0	mg/L			05/29/15 08:23	1
Hydroxide Alkalinity as CaCO3	ND		4.0	4.0	mg/L			05/29/15 08:23	1
Total Dissolved Solids	**12000**		200	100	mg/L			06/01/15 15:42	1

Client Sample Results

Client: AMEC Foster Wheeler E & I, Inc
Project/Site: Chevron Coalinga

TestAmerica Job ID: 440-111303-1

Client Sample ID: W002

Date Collected: 05/27/15 09:25
Date Received: 05/28/15 09:50

Lab Sample ID: 440-111303-2

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.50	0.25	ug/L			05/30/15 16:24	1
Ethylbenzene	ND		0.50	0.25	ug/L			05/30/15 16:24	1
m,p-Xylene	ND		1.0	0.50	ug/L			05/30/15 16:24	1
o-Xylene	ND		0.50	0.25	ug/L			05/30/15 16:24	1
Toluene	ND		0.50	0.25	ug/L			05/30/15 16:24	1
Xylenes, Total	ND		1.0	0.50	ug/L			05/30/15 16:24	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*109*		*80 - 120*		*05/30/15 16:24*	*1*
Dibromofluoromethane (Surr)	*99*		*76 - 132*		*05/30/15 16:24*	*1*
Toluene-d8 (Surr)	*114*		*80 - 128*		*05/30/15 16:24*	*1*

Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		9.7	4.9	ug/L		05/29/15 08:32	06/01/15 03:08	50
Acenaphthylene	ND		9.7	4.9	ug/L		05/29/15 08:32	06/01/15 03:08	50
Anthracene	ND		9.7	4.9	ug/L		05/29/15 08:32	06/01/15 03:08	50
Benzo[a]anthracene	ND		9.7	4.9	ug/L		05/29/15 08:32	06/01/15 03:08	50
Benzo[a]pyrene	ND		9.7	4.9	ug/L		05/29/15 08:32	06/01/15 03:08	50
Benzo[b]fluoranthene	ND		9.7	4.9	ug/L		05/29/15 08:32	06/01/15 03:08	50
Benzo[g,h,i]perylene	ND		9.7	4.9	ug/L		05/29/15 08:32	06/01/15 03:08	50
Benzo[k]fluoranthene	ND		9.7	4.9	ug/L		05/29/15 08:32	06/01/15 03:08	50
Chrysene	ND		9.7	4.9	ug/L		05/29/15 08:32	06/01/15 03:08	50
Dibenz(a,h)anthracene	ND		9.7	4.9	ug/L		05/29/15 08:32	06/01/15 03:08	50
Fluoranthene	ND		9.7	4.9	ug/L		05/29/15 08:32	06/01/15 03:08	50
Fluorene	ND		9.7	4.9	ug/L		05/29/15 08:32	06/01/15 03:08	50
Indeno[1,2,3-cd]pyrene	ND		9.7	4.9	ug/L		05/29/15 08:32	06/01/15 03:08	50
Naphthalene	ND		9.7	4.9	ug/L		05/29/15 08:32	06/01/15 03:08	50
Phenanthrene	ND		9.7	4.9	ug/L		05/29/15 08:32	06/01/15 03:08	50
Pyrene	ND		9.7	4.9	ug/L		05/29/15 08:32	06/01/15 03:08	50

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*0*	*X*	*31 - 120*	*05/29/15 08:32*	*06/01/15 03:08*	*50*
Nitrobenzene-d5	*71*		*25 - 133*	*05/29/15 08:32*	*06/01/15 03:08*	*50*
Terphenyl-d14	*0*	*X*	*10 - 120*	*05/29/15 08:32*	*06/01/15 03:08*	*50*

Method: 8015B - Diesel Range Organics (DRO) (GC) Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C29-C40	**0.084**		0.049	0.024	mg/L		05/29/15 11:46	06/02/15 19:21	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane	*58*		*45 - 120*	*05/29/15 11:46*	*06/02/15 19:21*	*1*

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	**60**		25	13	mg/L			05/29/15 04:45	50
Nitrate as NO3	ND		25	13	mg/L			05/29/15 04:45	50
Chloride	**5000**		500	250	mg/L			05/29/15 05:01	1000
Fluoride	ND		25	13	mg/L			05/29/15 04:45	50
Sulfate	**360**		25	13	mg/L			05/29/15 04:45	50

Client Sample Results

Client: AMEC Foster Wheeler E & I, Inc
Project/Site: Chevron Coalinga

TestAmerica Job ID: 440-111303-1

Client Sample ID: W002

Date Collected: 05/27/15 09:25
Date Received: 05/28/15 09:50

Lab Sample ID: 440-111303-2

Matrix: Water

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	**67**	**HF**	0.25	0.050	mg/L		06/01/15 09:52	06/02/15 12:37	5
Calcium	**53**	**HF**	0.50	0.25	mg/L		06/01/15 09:52	06/02/15 12:37	5
Iron	ND	HF	0.20	0.050	mg/L		06/01/15 09:52	06/02/15 12:37	5
Lithium	**0.70**	**J HF**	2.5	0.13	mg/L		06/01/15 09:52	06/02/15 12:37	5
Magnesium	**58**	**HF**	0.10	0.050	mg/L		06/01/15 09:52	06/02/15 12:37	5
Manganese	ND	HF	0.10	0.050	mg/L		06/01/15 09:52	06/02/15 12:37	5
Potassium	**67**	**HF**	2.5	1.3	mg/L		06/01/15 09:52	06/02/15 12:37	5
Sodium	**3500**	**HF**	2.5	1.3	mg/L		06/01/15 09:52	06/02/15 12:37	5
Strontium	**4.1**	**HF**	0.10	0.050	mg/L		06/01/15 09:52	06/02/15 12:37	5

Method: 200.8 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Uranium	ND	HF	2.0	1.0	ug/L		06/02/15 09:44	06/02/15 16:27	2

Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.010	0.0060	mg/L		06/01/15 09:06	06/01/15 23:16	1
Arsenic	ND		0.10	0.050	mg/L		06/01/15 09:06	06/02/15 09:25	10
Barium	**0.47**		0.10	0.050	mg/L		06/01/15 09:06	06/02/15 09:25	10
Beryllium	ND		0.020	0.010	mg/L		06/01/15 09:06	06/02/15 09:25	10
Cadmium	ND		0.050	0.020	mg/L		06/01/15 09:06	06/02/15 09:25	10
Chromium	ND		0.050	0.025	mg/L		06/01/15 09:06	06/02/15 09:25	10
Cobalt	ND		0.10	0.025	mg/L		06/01/15 09:06	06/02/15 09:25	10
Copper	ND		0.10	0.050	mg/L		06/01/15 09:06	06/02/15 09:25	10
Lead	ND		0.050	0.025	mg/L		06/01/15 09:06	06/02/15 09:25	10
Molybdenum	ND		0.20	0.10	mg/L		06/01/15 09:06	06/02/15 09:25	10
Nickel	ND		0.10	0.050	mg/L		06/01/15 09:06	06/02/15 09:25	10
Selenium	ND		0.10	0.061	mg/L		06/01/15 09:06	06/02/15 09:25	10
Silver	ND		0.10	0.050	mg/L		06/01/15 09:06	06/02/15 09:25	10
Thallium	ND		0.10	0.050	mg/L		06/01/15 09:06	06/02/15 09:25	10
Vanadium	ND		0.10	0.050	mg/L		06/01/15 09:06	06/02/15 09:25	10
Zinc	ND		0.20	0.10	mg/L		06/01/15 09:06	06/02/15 09:25	10

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00010	mg/L		06/01/15 10:11	06/01/15 13:21	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	**560**		4.0	4.0	mg/L			05/29/15 08:33	1
Bicarbonate Alkalinity as CaCO3	**350**		4.0	4.0	mg/L			05/29/15 08:33	1
Carbonate Alkalinity as CaCO3	**220**		4.0	4.0	mg/L			05/29/15 08:33	1
Hydroxide Alkalinity as CaCO3	ND		4.0	4.0	mg/L			05/29/15 08:33	1
Total Dissolved Solids	**12000**		200	100	mg/L			06/01/15 15:42	1

Client Sample Results

Client: AMEC Foster Wheeler E & I, Inc
Project/Site: Chevron Coalinga

TestAmerica Job ID: 440-111303-1

Client Sample ID: W003

Date Collected: 05/27/15 10:15
Date Received: 05/28/15 09:50

Lab Sample ID: 440-111303-3

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**1.9**		0.50	0.25	ug/L			05/30/15 16:50	1
Ethylbenzene	**0.34**	**J**	0.50	0.25	ug/L			05/30/15 16:50	1
m,p-Xylene	ND		1.0	0.50	ug/L			05/30/15 16:50	1
o-Xylene	ND		0.50	0.25	ug/L			05/30/15 16:50	1
Toluene	**0.55**		0.50	0.25	ug/L			05/30/15 16:50	1
Xylenes, Total	ND		1.0	0.50	ug/L			05/30/15 16:50	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*103*		*80 - 120*		*05/30/15 16:50*	*1*
Dibromofluoromethane (Surr)	*103*		*76 - 132*		*05/30/15 16:50*	*1*
Toluene-d8 (Surr)	*119*		*80 - 128*		*05/30/15 16:50*	*1*

Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		7.6	3.8	ug/L		05/29/15 08:32	06/01/15 03:29	40
Acenaphthylene	ND		7.6	3.8	ug/L		05/29/15 08:32	06/01/15 03:29	40
Anthracene	ND		7.6	3.8	ug/L		05/29/15 08:32	06/01/15 03:29	40
Benzo[a]anthracene	ND		7.6	3.8	ug/L		05/29/15 08:32	06/01/15 03:29	40
Benzo[a]pyrene	ND		7.6	3.8	ug/L		05/29/15 08:32	06/01/15 03:29	40
Benzo[b]fluoranthene	ND		7.6	3.8	ug/L		05/29/15 08:32	06/01/15 03:29	40
Benzo[g,h,i]perylene	ND		7.6	3.8	ug/L		05/29/15 08:32	06/01/15 03:29	40
Benzo[k]fluoranthene	ND		7.6	3.8	ug/L		05/29/15 08:32	06/01/15 03:29	40
Chrysene	ND		7.6	3.8	ug/L		05/29/15 08:32	06/01/15 03:29	40
Dibenz(a,h)anthracene	ND		7.6	3.8	ug/L		05/29/15 08:32	06/01/15 03:29	40
Fluoranthene	ND		7.6	3.8	ug/L		05/29/15 08:32	06/01/15 03:29	40
Fluorene	ND		7.6	3.8	ug/L		05/29/15 08:32	06/01/15 03:29	40
Indeno[1,2,3-cd]pyrene	ND		7.6	3.8	ug/L		05/29/15 08:32	06/01/15 03:29	40
Naphthalene	ND		7.6	3.8	ug/L		05/29/15 08:32	06/01/15 03:29	40
Phenanthrene	ND		7.6	3.8	ug/L		05/29/15 08:32	06/01/15 03:29	40
Pyrene	ND		7.6	3.8	ug/L		05/29/15 08:32	06/01/15 03:29	40

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*71*		*31 - 120*	*05/29/15 08:32*	*06/01/15 03:29*	*40*
Nitrobenzene-d5	*123*		*25 - 133*	*05/29/15 08:32*	*06/01/15 03:29*	*40*
Terphenyl-d14	*116*		*10 - 120*	*05/29/15 08:32*	*06/01/15 03:29*	*40*

Method: 8015B - Diesel Range Organics (DRO) (GC) Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C29-C40	**0.82**		0.48	0.24	mg/L		05/29/15 11:46	06/02/15 19:42	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane	*64*		*45 - 120*	*05/29/15 11:46*	*06/02/15 19:42*	*10*

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	**89**		50	25	mg/L			05/29/15 05:47	100
Nitrate as NO3	ND		50	25	mg/L			05/29/15 05:47	100
Chloride	**8700**		1000	500	mg/L			05/29/15 06:02	2000
Fluoride	ND		50	25	mg/L			05/29/15 05:47	100
Sulfate	**54**		50	25	mg/L			05/29/15 05:47	100

Client Sample Results

Client: AMEC Foster Wheeler E & I, Inc
Project/Site: Chevron Coalinga

TestAmerica Job ID: 440-111303-1

Client Sample ID: W003

Date Collected: 05/27/15 10:15
Date Received: 05/28/15 09:50

Lab Sample ID: 440-111303-3

Matrix: Water

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	**62**	**HF**	0.25	0.050	mg/L		06/01/15 09:52	06/02/15 12:40	5
Calcium	**230**	**HF**	0.50	0.25	mg/L		06/01/15 09:52	06/02/15 12:40	5
Iron	ND	HF	0.20	0.050	mg/L		06/01/15 09:52	06/02/15 12:40	5
Lithium	**0.64**	**J HF**	2.5	0.13	mg/L		06/01/15 09:52	06/02/15 12:40	5
Magnesium	**100**	**HF**	0.10	0.050	mg/L		06/01/15 09:52	06/02/15 12:40	5
Manganese	**0.52**	**HF**	0.10	0.050	mg/L		06/01/15 09:52	06/02/15 12:40	5
Potassium	**77**	**HF**	2.5	1.3	mg/L		06/01/15 09:52	06/02/15 12:40	5
Sodium	**5000**	**HF**	13	6.3	mg/L		06/01/15 09:52	06/02/15 13:29	25
Strontium	**8.9**	**HF**	0.10	0.050	mg/L		06/01/15 09:52	06/02/15 12:40	5

Method: 200.8 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Uranium	ND	HF	2.0	1.0	ug/L		06/02/15 09:44	06/02/15 16:29	2

Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.010	0.0060	mg/L		06/01/15 09:06	06/01/15 23:19	1
Arsenic	**0.19**	**B**	0.10	0.050	mg/L		06/01/15 09:06	06/02/15 09:28	10
Barium	**1.4**		0.10	0.050	mg/L		06/01/15 09:06	06/02/15 09:28	10
Beryllium	ND		0.020	0.010	mg/L		06/01/15 09:06	06/02/15 09:28	10
Cadmium	ND		0.050	0.020	mg/L		06/01/15 09:06	06/02/15 09:28	10
Chromium	ND		0.050	0.025	mg/L		06/01/15 09:06	06/02/15 09:28	10
Cobalt	ND		0.10	0.025	mg/L		06/01/15 09:06	06/02/15 09:28	10
Copper	ND		0.10	0.050	mg/L		06/01/15 09:06	06/02/15 09:28	10
Lead	ND		0.050	0.025	mg/L		06/01/15 09:06	06/02/15 09:28	10
Molybdenum	ND		0.20	0.10	mg/L		06/01/15 09:06	06/02/15 09:28	10
Nickel	ND		0.10	0.050	mg/L		06/01/15 09:06	06/02/15 09:28	10
Selenium	ND		0.10	0.061	mg/L		06/01/15 09:06	06/02/15 09:28	10
Silver	ND		0.10	0.050	mg/L		06/01/15 09:06	06/02/15 09:28	10
Thallium	ND		0.10	0.050	mg/L		06/01/15 09:06	06/02/15 09:28	10
Vanadium	ND		0.10	0.050	mg/L		06/01/15 09:06	06/02/15 09:28	10
Zinc	ND		0.20	0.10	mg/L		06/01/15 09:06	06/02/15 09:28	10

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00010	mg/L		06/01/15 10:11	06/01/15 13:23	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	**1300**		4.0	4.0	mg/L			05/29/15 08:49	1
Bicarbonate Alkalinity as CaCO3	**1300**		4.0	4.0	mg/L			05/29/15 08:49	1
Carbonate Alkalinity as CaCO3	ND		4.0	4.0	mg/L			05/29/15 08:49	1
Hydroxide Alkalinity as CaCO3	ND		4.0	4.0	mg/L			05/29/15 08:49	1
Total Dissolved Solids	**19000**		200	100	mg/L			06/01/15 15:42	1

Client Sample Results

Client: AMEC Foster Wheeler E & I, Inc
Project/Site: Chevron Coalinga

TestAmerica Job ID: 440-111303-1

Client Sample ID: W004

Date Collected: 05/27/15 11:05
Date Received: 05/28/15 09:50

Lab Sample ID: 440-111303-4

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.50	0.25	ug/L			05/30/15 17:16	1
Ethylbenzene	ND		0.50	0.25	ug/L			05/30/15 17:16	1
m,p-Xylene	ND		1.0	0.50	ug/L			05/30/15 17:16	1
o-Xylene	ND		0.50	0.25	ug/L			05/30/15 17:16	1
Toluene	ND		0.50	0.25	ug/L			05/30/15 17:16	1
Xylenes, Total	ND		1.0	0.50	ug/L			05/30/15 17:16	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*105*		*80 - 120*		*05/30/15 17:16*	*1*
Dibromofluoromethane (Surr)	*99*		*76 - 132*		*05/30/15 17:16*	*1*
Toluene-d8 (Surr)	*116*		*80 - 128*		*05/30/15 17:16*	*1*

Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.98	0.49	ug/L		05/29/15 08:32	06/01/15 03:49	5
Acenaphthylene	ND		0.98	0.49	ug/L		05/29/15 08:32	06/01/15 03:49	5
Anthracene	ND		0.98	0.49	ug/L		05/29/15 08:32	06/01/15 03:49	5
Benzo[a]anthracene	ND		0.98	0.49	ug/L		05/29/15 08:32	06/01/15 03:49	5
Benzo[a]pyrene	ND	*	0.98	0.49	ug/L		05/29/15 08:32	06/01/15 03:49	5
Benzo[b]fluoranthene	ND	*	0.98	0.49	ug/L		05/29/15 08:32	06/01/15 03:49	5
Benzo[g,h,i]perylene	ND	*	0.98	0.49	ug/L		05/29/15 08:32	06/01/15 03:49	5
Benzo[k]fluoranthene	ND	*	0.98	0.49	ug/L		05/29/15 08:32	06/01/15 03:49	5
Chrysene	ND		0.98	0.49	ug/L		05/29/15 08:32	06/01/15 03:49	5
Dibenz(a,h)anthracene	ND	*	0.98	0.49	ug/L		05/29/15 08:32	06/01/15 03:49	5
Fluoranthene	ND		0.98	0.49	ug/L		05/29/15 08:32	06/01/15 03:49	5
Fluorene	ND		0.98	0.49	ug/L		05/29/15 08:32	06/01/15 03:49	5
Indeno[1,2,3-cd]pyrene	ND	*	0.98	0.49	ug/L		05/29/15 08:32	06/01/15 03:49	5
Naphthalene	ND		0.98	0.49	ug/L		05/29/15 08:32	06/01/15 03:49	5
Phenanthrene	ND		0.98	0.49	ug/L		05/29/15 08:32	06/01/15 03:49	5
Pyrene	ND		0.98	0.49	ug/L		05/29/15 08:32	06/01/15 03:49	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*51*		*31 - 120*	*05/29/15 08:32*	*06/01/15 03:49*	*5*
Nitrobenzene-d5	*66*		*25 - 133*	*05/29/15 08:32*	*06/01/15 03:49*	*5*
Terphenyl-d14	*0*	*X*	*10 - 120*	*05/29/15 08:32*	*06/01/15 03:49*	*5*

Method: 8015B - Diesel Range Organics (DRO) (GC) Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C29-C40	**0.39**		0.25	0.12	mg/L		05/29/15 11:46	06/02/15 20:22	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane	*43*	*X*	*45 - 120*	*05/29/15 11:46*	*06/02/15 20:22*	*5*

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	ND		25	13	mg/L			05/29/15 06:17	50
Nitrate as NO3	ND		25	13	mg/L			05/29/15 06:17	50
Chloride	**5400**		500	250	mg/L			05/29/15 06:33	1000
Fluoride	ND		25	13	mg/L			05/29/15 06:17	50
Sulfate	**350**		25	13	mg/L			05/29/15 06:17	50

Client Sample Results

Client: AMEC Foster Wheeler E & I, Inc
Project/Site: Chevron Coalinga

TestAmerica Job ID: 440-111303-1

Client Sample ID: W004

Date Collected: 05/27/15 11:05
Date Received: 05/28/15 09:50

Lab Sample ID: 440-111303-4

Matrix: Water

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	**58**	**HF**	0.25	0.050	mg/L		06/01/15 09:52	06/02/15 12:42	5
Calcium	**120**	**HF**	0.50	0.25	mg/L		06/01/15 09:52	06/02/15 12:42	5
Iron	ND	HF	0.20	0.050	mg/L		06/01/15 09:52	06/02/15 12:42	5
Lithium	**0.64**	**J HF**	2.5	0.13	mg/L		06/01/15 09:52	06/02/15 12:42	5
Magnesium	**60**	**HF**	0.10	0.050	mg/L		06/01/15 09:52	06/02/15 12:42	5
Manganese	**0.18**	**HF**	0.10	0.050	mg/L		06/01/15 09:52	06/02/15 12:42	5
Potassium	**65**	**HF**	2.5	1.3	mg/L		06/01/15 09:52	06/02/15 12:42	5
Sodium	**3500**	**HF**	2.5	1.3	mg/L		06/01/15 09:52	06/02/15 12:42	5
Strontium	**5.2**	**HF**	0.10	0.050	mg/L		06/01/15 09:52	06/02/15 12:42	5

Method: 200.8 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Uranium	ND	HF	2.0	1.0	ug/L		06/02/15 09:44	06/02/15 16:32	2

Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.010	0.0060	mg/L		06/01/15 09:06	06/01/15 23:22	1
Arsenic	ND		0.10	0.050	mg/L		06/01/15 09:06	06/02/15 09:30	10
Barium	**0.70**		0.10	0.050	mg/L		06/01/15 09:06	06/02/15 09:30	10
Beryllium	ND		0.020	0.010	mg/L		06/01/15 09:06	06/02/15 09:30	10
Cadmium	ND		0.050	0.020	mg/L		06/01/15 09:06	06/02/15 09:30	10
Chromium	ND		0.050	0.025	mg/L		06/01/15 09:06	06/02/15 09:30	10
Cobalt	ND		0.10	0.025	mg/L		06/01/15 09:06	06/02/15 09:30	10
Copper	ND		0.10	0.050	mg/L		06/01/15 09:06	06/02/15 09:30	10
Lead	ND		0.050	0.025	mg/L		06/01/15 09:06	06/02/15 09:30	10
Molybdenum	ND		0.20	0.10	mg/L		06/01/15 09:06	06/02/15 09:30	10
Nickel	ND		0.10	0.050	mg/L		06/01/15 09:06	06/02/15 09:30	10
Selenium	ND		0.10	0.061	mg/L		06/01/15 09:06	06/02/15 09:30	10
Silver	ND		0.10	0.050	mg/L		06/01/15 09:06	06/02/15 09:30	10
Thallium	ND		0.10	0.050	mg/L		06/01/15 09:06	06/02/15 09:30	10
Vanadium	ND		0.10	0.050	mg/L		06/01/15 09:06	06/02/15 09:30	10
Zinc	ND		0.20	0.10	mg/L		06/01/15 09:06	06/02/15 09:30	10

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00010	mg/L		06/01/15 10:11	06/01/15 13:26	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	**710**		4.0	4.0	mg/L			05/29/15 09:01	1
Bicarbonate Alkalinity as CaCO3	**710**		4.0	4.0	mg/L			05/29/15 09:01	1
Carbonate Alkalinity as CaCO3	ND		4.0	4.0	mg/L			05/29/15 09:01	1
Hydroxide Alkalinity as CaCO3	ND		4.0	4.0	mg/L			05/29/15 09:01	1
Total Dissolved Solids	**12000**		200	100	mg/L			06/01/15 15:42	1

Client Sample Results

Client: AMEC Foster Wheeler E & I, Inc
Project/Site: Chevron Coalinga

TestAmerica Job ID: 440-111303-1

Client Sample ID: W005

Date Collected: 05/27/15 11:40
Date Received: 05/28/15 09:50

Lab Sample ID: 440-111303-5

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**6.8**		0.50	0.25	ug/L			05/30/15 17:43	1
Ethylbenzene	**0.59**		0.50	0.25	ug/L			05/30/15 17:43	1
m,p-Xylene	ND		1.0	0.50	ug/L			05/30/15 17:43	1
o-Xylene	ND		0.50	0.25	ug/L			05/30/15 17:43	1
Toluene	**0.53**		0.50	0.25	ug/L			05/30/15 17:43	1
Xylenes, Total	ND		1.0	0.50	ug/L			05/30/15 17:43	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*108*		*80 - 120*		*05/30/15 17:43*	*1*
Dibromofluoromethane (Surr)	*103*		*76 - 132*		*05/30/15 17:43*	*1*
Toluene-d8 (Surr)	*114*		*80 - 128*		*05/30/15 17:43*	*1*

Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		3.8	1.9	ug/L		05/29/15 08:32	06/01/15 04:10	20
Acenaphthylene	ND		3.8	1.9	ug/L		05/29/15 08:32	06/01/15 04:10	20
Anthracene	ND		3.8	1.9	ug/L		05/29/15 08:32	06/01/15 04:10	20
Benzo[a]anthracene	ND		3.8	1.9	ug/L		05/29/15 08:32	06/01/15 04:10	20
Benzo[a]pyrene	ND		3.8	1.9	ug/L		05/29/15 08:32	06/01/15 04:10	20
Benzo[b]fluoranthene	ND		3.8	1.9	ug/L		05/29/15 08:32	06/01/15 04:10	20
Benzo[g,h,i]perylene	ND		3.8	1.9	ug/L		05/29/15 08:32	06/01/15 04:10	20
Benzo[k]fluoranthene	ND		3.8	1.9	ug/L		05/29/15 08:32	06/01/15 04:10	20
Chrysene	ND		3.8	1.9	ug/L		05/29/15 08:32	06/01/15 04:10	20
Dibenz(a,h)anthracene	ND		3.8	1.9	ug/L		05/29/15 08:32	06/01/15 04:10	20
Fluoranthene	ND		3.8	1.9	ug/L		05/29/15 08:32	06/01/15 04:10	20
Fluorene	ND		3.8	1.9	ug/L		05/29/15 08:32	06/01/15 04:10	20
Indeno[1,2,3-cd]pyrene	ND		3.8	1.9	ug/L		05/29/15 08:32	06/01/15 04:10	20
Naphthalene	**2.4**	**J**	3.8	1.9	ug/L		05/29/15 08:32	06/01/15 04:10	20
Phenanthrene	ND		3.8	1.9	ug/L		05/29/15 08:32	06/01/15 04:10	20
Pyrene	ND		3.8	1.9	ug/L		05/29/15 08:32	06/01/15 04:10	20

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*61*		*31 - 120*	*05/29/15 08:32*	*06/01/15 04:10*	*20*
Nitrobenzene-d5	*89*		*25 - 133*	*05/29/15 08:32*	*06/01/15 04:10*	*20*
Terphenyl-d14	*0*	*X*	*10 - 120*	*05/29/15 08:32*	*06/01/15 04:10*	*20*

Method: 8015B - Diesel Range Organics (DRO) (GC) Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C29-C40	**0.71**		0.24	0.12	mg/L		05/29/15 11:46	06/02/15 20:02	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane	*58*		*45 - 120*	*05/29/15 11:46*	*06/02/15 20:02*	*5*

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	**56**	**F1**	25	13	mg/L			05/29/15 03:13	50
Nitrate as NO3	ND		25	13	mg/L			05/29/15 03:13	50
Chloride	**6500**		500	250	mg/L			05/29/15 03:59	1000
Fluoride	**30**	**F1**	25	13	mg/L			05/29/15 03:13	50
Sulfate	**260**		25	13	mg/L			05/29/15 03:13	50

Client Sample Results

Client: AMEC Foster Wheeler E & I, Inc
Project/Site: Chevron Coalinga

TestAmerica Job ID: 440-111303-1

Client Sample ID: W005

Date Collected: 05/27/15 11:40
Date Received: 05/28/15 09:50

Lab Sample ID: 440-111303-5

Matrix: Water

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	**58**	**HF**	0.25	0.050	mg/L		06/01/15 09:52	06/02/15 12:45	5
Calcium	**180**	**HF**	0.50	0.25	mg/L		06/01/15 09:52	06/02/15 12:45	5
Iron	**0.19**	**J HF**	0.20	0.050	mg/L		06/01/15 09:52	06/02/15 12:45	5
Lithium	**0.65**	**J HF**	2.5	0.13	mg/L		06/01/15 09:52	06/02/15 12:45	5
Magnesium	**70**	**HF**	0.10	0.050	mg/L		06/01/15 09:52	06/02/15 12:45	5
Manganese	**0.45**	**HF**	0.10	0.050	mg/L		06/01/15 09:52	06/02/15 12:45	5
Potassium	**73**	**HF**	2.5	1.3	mg/L		06/01/15 09:52	06/02/15 12:45	5
Sodium	**4000**	**HF**	2.5	1.3	mg/L		06/01/15 09:52	06/02/15 12:45	5
Strontium	**6.6**	**HF**	0.10	0.050	mg/L		06/01/15 09:52	06/02/15 12:45	5

Method: 200.8 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Uranium	ND	HF	2.0	1.0	ug/L		06/02/15 09:44	06/02/15 16:35	2

Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.010	0.0060	mg/L		06/01/15 09:06	06/01/15 23:24	1
Arsenic	**0.069**	**J B**	0.10	0.050	mg/L		06/01/15 09:06	06/02/15 09:43	10
Barium	**1.0**		0.10	0.050	mg/L		06/01/15 09:06	06/02/15 09:43	10
Beryllium	ND		0.020	0.010	mg/L		06/01/15 09:06	06/02/15 09:43	10
Cadmium	ND		0.050	0.020	mg/L		06/01/15 09:06	06/02/15 09:43	10
Chromium	ND		0.050	0.025	mg/L		06/01/15 09:06	06/02/15 09:43	10
Cobalt	ND		0.10	0.025	mg/L		06/01/15 09:06	06/02/15 09:43	10
Copper	ND		0.10	0.050	mg/L		06/01/15 09:06	06/02/15 09:43	10
Lead	ND		0.050	0.025	mg/L		06/01/15 09:06	06/02/15 09:43	10
Molybdenum	ND		0.20	0.10	mg/L		06/01/15 09:06	06/02/15 09:43	10
Nickel	ND		0.10	0.050	mg/L		06/01/15 09:06	06/02/15 09:43	10
Selenium	ND		0.10	0.061	mg/L		06/01/15 09:06	06/02/15 09:43	10
Silver	ND		0.10	0.050	mg/L		06/01/15 09:06	06/02/15 09:43	10
Thallium	ND		0.10	0.050	mg/L		06/01/15 09:06	06/02/15 09:43	10
Vanadium	ND		0.10	0.050	mg/L		06/01/15 09:06	06/02/15 09:43	10
Zinc	ND		0.20	0.10	mg/L		06/01/15 09:06	06/02/15 09:43	10

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00010	mg/L		06/01/15 10:11	06/01/15 13:28	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	**830**		4.0	4.0	mg/L			05/29/15 09:14	1
Bicarbonate Alkalinity as CaCO3	**830**		4.0	4.0	mg/L			05/29/15 09:14	1
Carbonate Alkalinity as CaCO3	ND		4.0	4.0	mg/L			05/29/15 09:14	1
Hydroxide Alkalinity as CaCO3	ND		4.0	4.0	mg/L			05/29/15 09:14	1
Total Dissolved Solids	**14000**		200	100	mg/L			06/01/15 15:42	1

Client Sample Results

Client: AMEC Foster Wheeler E & I, Inc
Project/Site: Chevron Coalinga

TestAmerica Job ID: 440-111303-1

Client Sample ID: W006

Date Collected: 05/27/15 12:40
Date Received: 05/28/15 09:50

Lab Sample ID: 440-111303-6

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**17**		0.50	0.25	ug/L			05/30/15 18:09	1
Ethylbenzene	**2.5**		0.50	0.25	ug/L			05/30/15 18:09	1
m,p-Xylene	**6.3**		1.0	0.50	ug/L			05/30/15 18:09	1
o-Xylene	**3.6**		0.50	0.25	ug/L			05/30/15 18:09	1
Toluene	**17**		0.50	0.25	ug/L			05/30/15 18:09	1
Xylenes, Total	**9.9**		1.0	0.50	ug/L			05/30/15 18:09	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*105*		*80 - 120*		*05/30/15 18:09*	*1*
Dibromofluoromethane (Surr)	*98*		*76 - 132*		*05/30/15 18:09*	*1*
Toluene-d8 (Surr)	*112*		*80 - 128*		*05/30/15 18:09*	*1*

Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		3.8	1.9	ug/L		05/29/15 08:32	06/01/15 04:31	20
Acenaphthylene	ND		3.8	1.9	ug/L		05/29/15 08:32	06/01/15 04:31	20
Anthracene	ND		3.8	1.9	ug/L		05/29/15 08:32	06/01/15 04:31	20
Benzo[a]anthracene	ND		3.8	1.9	ug/L		05/29/15 08:32	06/01/15 04:31	20
Benzo[a]pyrene	ND		3.8	1.9	ug/L		05/29/15 08:32	06/01/15 04:31	20
Benzo[b]fluoranthene	ND		3.8	1.9	ug/L		05/29/15 08:32	06/01/15 04:31	20
Benzo[g,h,i]perylene	ND		3.8	1.9	ug/L		05/29/15 08:32	06/01/15 04:31	20
Benzo[k]fluoranthene	ND		3.8	1.9	ug/L		05/29/15 08:32	06/01/15 04:31	20
Chrysene	ND		3.8	1.9	ug/L		05/29/15 08:32	06/01/15 04:31	20
Dibenz(a,h)anthracene	ND		3.8	1.9	ug/L		05/29/15 08:32	06/01/15 04:31	20
Fluoranthene	ND		3.8	1.9	ug/L		05/29/15 08:32	06/01/15 04:31	20
Fluorene	ND		3.8	1.9	ug/L		05/29/15 08:32	06/01/15 04:31	20
Indeno[1,2,3-cd]pyrene	ND		3.8	1.9	ug/L		05/29/15 08:32	06/01/15 04:31	20
Naphthalene	**4.3**		3.8	1.9	ug/L		05/29/15 08:32	06/01/15 04:31	20
Phenanthrene	ND		3.8	1.9	ug/L		05/29/15 08:32	06/01/15 04:31	20
Pyrene	ND		3.8	1.9	ug/L		05/29/15 08:32	06/01/15 04:31	20

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*64*		*31 - 120*	*05/29/15 08:32*	*06/01/15 04:31*	*20*
Nitrobenzene-d5	*0*	*X*	*25 - 133*	*05/29/15 08:32*	*06/01/15 04:31*	*20*
Terphenyl-d14	*0*	*X*	*10 - 120*	*05/29/15 08:32*	*06/01/15 04:31*	*20*

Method: 8015B - Diesel Range Organics (DRO) (GC) Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C29-C40	**2.5**		0.24	0.12	mg/L		06/02/15 07:26	06/02/15 16:22	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane	*85*		*45 - 120*	*06/02/15 07:26*	*06/02/15 16:22*	*5*

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	**65**		25	13	mg/L			05/29/15 06:48	50
Nitrate as NO3	ND		25	13	mg/L			05/29/15 06:48	50
Chloride	**6200**		500	250	mg/L			05/29/15 07:03	1000
Fluoride	**32**		25	13	mg/L			05/29/15 06:48	50
Sulfate	**270**		25	13	mg/L			05/29/15 06:48	50

Client Sample Results

Client: AMEC Foster Wheeler E & I, Inc
Project/Site: Chevron Coalinga

TestAmerica Job ID: 440-111303-1

Client Sample ID: W006

Date Collected: 05/27/15 12:40
Date Received: 05/28/15 09:50

Lab Sample ID: 440-111303-6

Matrix: Water

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	**61**	**HF**	0.25	0.050	mg/L		06/01/15 09:52	06/02/15 12:47	5
Calcium	**160**	**HF**	0.50	0.25	mg/L		06/01/15 09:52	06/02/15 12:47	5
Iron	**0.24**	**HF**	0.20	0.050	mg/L		06/01/15 09:52	06/02/15 12:47	5
Lithium	**0.67**	**J HF**	2.5	0.13	mg/L		06/01/15 09:52	06/02/15 12:47	5
Magnesium	**67**	**HF**	0.10	0.050	mg/L		06/01/15 09:52	06/02/15 12:47	5
Manganese	**0.42**	**HF**	0.10	0.050	mg/L		06/01/15 09:52	06/02/15 12:47	5
Potassium	**97**	**HF**	2.5	1.3	mg/L		06/01/15 09:52	06/02/15 12:47	5
Sodium	**4100**	**HF**	2.5	1.3	mg/L		06/01/15 09:52	06/02/15 12:47	5
Strontium	**6.3**	**HF**	0.10	0.050	mg/L		06/01/15 09:52	06/02/15 12:47	5

Method: 200.8 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Uranium	**1.2**	**J HF**	2.0	1.0	ug/L		06/02/15 09:44	06/02/15 16:37	2

Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.010	0.0060	mg/L		06/01/15 09:06	06/01/15 23:32	1
Arsenic	ND		0.10	0.050	mg/L		06/01/15 09:06	06/02/15 09:46	10
Barium	**0.95**		0.10	0.050	mg/L		06/01/15 09:06	06/02/15 09:46	10
Beryllium	ND		0.020	0.010	mg/L		06/01/15 09:06	06/02/15 09:46	10
Cadmium	ND		0.050	0.020	mg/L		06/01/15 09:06	06/02/15 09:46	10
Chromium	ND		0.050	0.025	mg/L		06/01/15 09:06	06/02/15 09:46	10
Cobalt	ND		0.10	0.025	mg/L		06/01/15 09:06	06/02/15 09:46	10
Copper	ND		0.10	0.050	mg/L		06/01/15 09:06	06/02/15 09:46	10
Lead	ND		0.050	0.025	mg/L		06/01/15 09:06	06/02/15 09:46	10
Molybdenum	ND		0.20	0.10	mg/L		06/01/15 09:06	06/02/15 09:46	10
Nickel	ND		0.10	0.050	mg/L		06/01/15 09:06	06/02/15 09:46	10
Selenium	ND		0.10	0.061	mg/L		06/01/15 09:06	06/02/15 09:46	10
Silver	ND		0.10	0.050	mg/L		06/01/15 09:06	06/02/15 09:46	10
Thallium	ND		0.10	0.050	mg/L		06/01/15 09:06	06/02/15 09:46	10
Vanadium	ND		0.10	0.050	mg/L		06/01/15 09:06	06/02/15 09:46	10
Zinc	ND		0.20	0.10	mg/L		06/01/15 09:06	06/02/15 09:46	10

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00010	mg/L		06/01/15 10:11	06/01/15 13:36	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	**790**		4.0	4.0	mg/L			05/29/15 09:26	1
Bicarbonate Alkalinity as CaCO3	**790**		4.0	4.0	mg/L			05/29/15 09:26	1
Carbonate Alkalinity as CaCO3	ND		4.0	4.0	mg/L			05/29/15 09:26	1
Hydroxide Alkalinity as CaCO3	ND		4.0	4.0	mg/L			05/29/15 09:26	1
Total Dissolved Solids	**14000**		200	100	mg/L			06/01/15 15:42	1

Client Sample Results

Client: AMEC Foster Wheeler E & I, Inc
Project/Site: Chevron Coalinga

TestAmerica Job ID: 440-111303-1

Client Sample ID: W007

Date Collected: 05/27/15 13:20
Date Received: 05/28/15 09:50

Lab Sample ID: 440-111303-7

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**16**		0.50	0.25	ug/L			05/30/15 18:36	1
Ethylbenzene	**2.8**		0.50	0.25	ug/L			05/30/15 18:36	1
m,p-Xylene	**7.5**		1.0	0.50	ug/L			05/30/15 18:36	1
o-Xylene	**4.4**		0.50	0.25	ug/L			05/30/15 18:36	1
Toluene	**17**		0.50	0.25	ug/L			05/30/15 18:36	1
Xylenes, Total	**12**		1.0	0.50	ug/L			05/30/15 18:36	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*111*		*80 - 120*		*05/30/15 18:36*	*1*
Dibromofluoromethane (Surr)	*99*		*76 - 132*		*05/30/15 18:36*	*1*
Toluene-d8 (Surr)	*112*		*80 - 128*		*05/30/15 18:36*	*1*

Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		9.5	4.8	ug/L		05/29/15 08:32	06/01/15 04:51	50
Acenaphthylene	ND		9.5	4.8	ug/L		05/29/15 08:32	06/01/15 04:51	50
Anthracene	ND		9.5	4.8	ug/L		05/29/15 08:32	06/01/15 04:51	50
Benzo[a]anthracene	ND		9.5	4.8	ug/L		05/29/15 08:32	06/01/15 04:51	50
Benzo[a]pyrene	ND	*	9.5	4.8	ug/L		05/29/15 08:32	06/01/15 04:51	50
Benzo[b]fluoranthene	ND	*	9.5	4.8	ug/L		05/29/15 08:32	06/01/15 04:51	50
Benzo[g,h,i]perylene	ND	*	9.5	4.8	ug/L		05/29/15 08:32	06/01/15 04:51	50
Benzo[k]fluoranthene	ND	*	9.5	4.8	ug/L		05/29/15 08:32	06/01/15 04:51	50
Chrysene	ND		9.5	4.8	ug/L		05/29/15 08:32	06/01/15 04:51	50
Dibenz(a,h)anthracene	ND	*	9.5	4.8	ug/L		05/29/15 08:32	06/01/15 04:51	50
Fluoranthene	ND		9.5	4.8	ug/L		05/29/15 08:32	06/01/15 04:51	50
Fluorene	ND		9.5	4.8	ug/L		05/29/15 08:32	06/01/15 04:51	50
Indeno[1,2,3-cd]pyrene	ND	*	9.5	4.8	ug/L		05/29/15 08:32	06/01/15 04:51	50
Naphthalene	ND		9.5	4.8	ug/L		05/29/15 08:32	06/01/15 04:51	50
Phenanthrene	ND		9.5	4.8	ug/L		05/29/15 08:32	06/01/15 04:51	50
Pyrene	ND		9.5	4.8	ug/L		05/29/15 08:32	06/01/15 04:51	50

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*0*	*X*	*31 - 120*	*05/29/15 08:32*	*06/01/15 04:51*	*50*
Nitrobenzene-d5	*0*	*X*	*25 - 133*	*05/29/15 08:32*	*06/01/15 04:51*	*50*
Terphenyl-d14	*0*	*X*	*10 - 120*	*05/29/15 08:32*	*06/01/15 04:51*	*50*

Method: 8015B - Diesel Range Organics (DRO) (GC) Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C29-C40	**2.2**		0.24	0.12	mg/L		06/02/15 07:26	06/02/15 16:42	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane	*65*		*45 - 120*	*06/02/15 07:26*	*06/02/15 16:42*	*5*

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	**47**		25	13	mg/L			05/29/15 07:19	50
Nitrate as NO3	ND		25	13	mg/L			05/29/15 07:19	50
Chloride	**5300**		500	250	mg/L			05/29/15 07:34	1000
Fluoride	**31**		25	13	mg/L			05/29/15 07:19	50
Sulfate	**230**		25	13	mg/L			05/29/15 07:19	50

Client Sample Results

Client: AMEC Foster Wheeler E & I, Inc
Project/Site: Chevron Coalinga

TestAmerica Job ID: 440-111303-1

Client Sample ID: W007

Date Collected: 05/27/15 13:20
Date Received: 05/28/15 09:50

Lab Sample ID: 440-111303-7

Matrix: Water

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	**56**	**HF**	0.25	0.050	mg/L		06/01/15 09:52	06/02/15 13:25	5
Calcium	**150**	**HF**	0.50	0.25	mg/L		06/01/15 09:52	06/02/15 13:25	5
Iron	**0.17**	**J HF**	0.20	0.050	mg/L		06/01/15 09:52	06/02/15 13:25	5
Lithium	**0.61**	**J HF**	2.5	0.13	mg/L		06/01/15 09:52	06/02/15 13:25	5
Magnesium	**58**	**HF**	0.10	0.050	mg/L		06/01/15 09:52	06/02/15 13:25	5
Manganese	**0.37**	**HF**	0.10	0.050	mg/L		06/01/15 09:52	06/02/15 13:25	5
Potassium	**99**	**HF**	2.5	1.3	mg/L		06/01/15 09:52	06/02/15 13:25	5
Sodium	**3700**	**HF**	2.5	1.3	mg/L		06/01/15 09:52	06/02/15 13:25	5
Strontium	**5.6**	**HF**	0.10	0.050	mg/L		06/01/15 09:52	06/02/15 13:25	5

Method: 200.8 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Uranium	ND	HF	2.0	1.0	ug/L		06/02/15 09:44	06/02/15 16:40	2

Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND	^	0.10	0.060	mg/L		06/01/15 09:06	06/02/15 09:49	10
Arsenic	**0.096**	**J B**	0.10	0.050	mg/L		06/01/15 09:06	06/02/15 09:49	10
Barium	**0.85**		0.10	0.050	mg/L		06/01/15 09:06	06/02/15 09:49	10
Beryllium	ND		0.020	0.010	mg/L		06/01/15 09:06	06/02/15 09:49	10
Cadmium	ND		0.050	0.020	mg/L		06/01/15 09:06	06/02/15 09:49	10
Chromium	ND		0.050	0.025	mg/L		06/01/15 09:06	06/02/15 09:49	10
Cobalt	ND		0.10	0.025	mg/L		06/01/15 09:06	06/02/15 09:49	10
Copper	ND		0.10	0.050	mg/L		06/01/15 09:06	06/02/15 09:49	10
Lead	ND		0.050	0.025	mg/L		06/01/15 09:06	06/02/15 09:49	10
Molybdenum	ND		0.20	0.10	mg/L		06/01/15 09:06	06/02/15 09:49	10
Nickel	ND		0.10	0.050	mg/L		06/01/15 09:06	06/02/15 09:49	10
Selenium	ND		0.10	0.061	mg/L		06/01/15 09:06	06/02/15 09:49	10
Silver	ND		0.10	0.050	mg/L		06/01/15 09:06	06/02/15 09:49	10
Thallium	ND		0.10	0.050	mg/L		06/01/15 09:06	06/02/15 09:49	10
Vanadium	ND		0.10	0.050	mg/L		06/01/15 09:06	06/02/15 09:49	10
Zinc	ND		0.20	0.10	mg/L		06/01/15 09:06	06/02/15 09:49	10

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00010	mg/L		06/01/15 10:11	06/01/15 13:38	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	**780**		4.0	4.0	mg/L			05/29/15 09:39	1
Bicarbonate Alkalinity as CaCO3	**780**		4.0	4.0	mg/L			05/29/15 09:39	1
Carbonate Alkalinity as CaCO3	ND		4.0	4.0	mg/L			05/29/15 09:39	1
Hydroxide Alkalinity as CaCO3	ND		4.0	4.0	mg/L			05/29/15 09:39	1
Total Dissolved Solids	**13000**		200	100	mg/L			06/01/15 15:42	1

Client Sample Results

Client: AMEC Foster Wheeler E & I, Inc
Project/Site: Chevron Coalinga

TestAmerica Job ID: 440-111303-1

Client Sample ID: W008

Date Collected: 05/27/15 14:20
Date Received: 05/28/15 09:50

Lab Sample ID: 440-111303-8

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**490**		5.0	2.5	ug/L			05/30/15 19:02	10
Ethylbenzene	**29**		5.0	2.5	ug/L			05/30/15 19:02	10
m,p-Xylene	**67**		10	5.0	ug/L			05/30/15 19:02	10
o-Xylene	**24**		5.0	2.5	ug/L			05/30/15 19:02	10
Toluene	**110**		5.0	2.5	ug/L			05/30/15 19:02	10
Xylenes, Total	**91**		10	5.0	ug/L			05/30/15 19:02	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*104*		*80 - 120*		*05/30/15 19:02*	*10*
Dibromofluoromethane (Surr)	*97*		*76 - 132*		*05/30/15 19:02*	*10*
Toluene-d8 (Surr)	*111*		*80 - 128*		*05/30/15 19:02*	*10*

Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		3.8	1.9	ug/L		05/29/15 08:32	06/01/15 05:12	20
Acenaphthylene	ND		3.8	1.9	ug/L		05/29/15 08:32	06/01/15 05:12	20
Anthracene	ND		3.8	1.9	ug/L		05/29/15 08:32	06/01/15 05:12	20
Benzo[a]anthracene	ND		3.8	1.9	ug/L		05/29/15 08:32	06/01/15 05:12	20
Benzo[a]pyrene	ND		3.8	1.9	ug/L		05/29/15 08:32	06/01/15 05:12	20
Benzo[b]fluoranthene	ND		3.8	1.9	ug/L		05/29/15 08:32	06/01/15 05:12	20
Benzo[g,h,i]perylene	ND		3.8	1.9	ug/L		05/29/15 08:32	06/01/15 05:12	20
Benzo[k]fluoranthene	ND		3.8	1.9	ug/L		05/29/15 08:32	06/01/15 05:12	20
Chrysene	ND		3.8	1.9	ug/L		05/29/15 08:32	06/01/15 05:12	20
Dibenz(a,h)anthracene	ND		3.8	1.9	ug/L		05/29/15 08:32	06/01/15 05:12	20
Fluoranthene	ND		3.8	1.9	ug/L		05/29/15 08:32	06/01/15 05:12	20
Fluorene	ND		3.8	1.9	ug/L		05/29/15 08:32	06/01/15 05:12	20
Indeno[1,2,3-cd]pyrene	ND		3.8	1.9	ug/L		05/29/15 08:32	06/01/15 05:12	20
Naphthalene	**18**		3.8	1.9	ug/L		05/29/15 08:32	06/01/15 05:12	20
Phenanthrene	ND		3.8	1.9	ug/L		05/29/15 08:32	06/01/15 05:12	20
Pyrene	ND		3.8	1.9	ug/L		05/29/15 08:32	06/01/15 05:12	20

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*64*		*31 - 120*	*05/29/15 08:32*	*06/01/15 05:12*	*20*
Nitrobenzene-d5	*0*	*X*	*25 - 133*	*05/29/15 08:32*	*06/01/15 05:12*	*20*
Terphenyl-d14	*0*	*X*	*10 - 120*	*05/29/15 08:32*	*06/01/15 05:12*	*20*

Method: 8015B - Diesel Range Organics (DRO) (GC) Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C29-C40	**2.3**		0.24	0.12	mg/L		06/02/15 07:26	06/02/15 17:02	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane	*65*		*45 - 120*	*06/02/15 07:26*	*06/02/15 17:02*	*5*

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	**30**		25	13	mg/L			05/29/15 07:49	50
Nitrate as NO3	ND		25	13	mg/L			05/29/15 07:49	50
Chloride	**3800**		500	250	mg/L			05/29/15 08:05	1000
Fluoride	**25**		25	13	mg/L			05/29/15 07:49	50
Sulfate	**81**		25	13	mg/L			05/29/15 07:49	50

Client Sample Results

Client: AMEC Foster Wheeler E & I, Inc
Project/Site: Chevron Coalinga

TestAmerica Job ID: 440-111303-1

Client Sample ID: W008

Date Collected: 05/27/15 14:20
Date Received: 05/28/15 09:50

Lab Sample ID: 440-111303-8

Matrix: Water

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	**38**	**HF**	0.25	0.050	mg/L		06/01/15 09:52	06/02/15 13:27	5
Calcium	**120**	**HF**	0.50	0.25	mg/L		06/01/15 09:52	06/02/15 13:27	5
Iron	**0.051**	**J HF**	0.20	0.050	mg/L		06/01/15 09:52	06/02/15 13:27	5
Lithium	**0.46**	**J HF**	2.5	0.13	mg/L		06/01/15 09:52	06/02/15 13:27	5
Magnesium	**30**	**HF**	0.10	0.050	mg/L		06/01/15 09:52	06/02/15 13:27	5
Manganese	**0.17**	**HF**	0.10	0.050	mg/L		06/01/15 09:52	06/02/15 13:27	5
Potassium	**870**	**HF**	2.5	1.3	mg/L		06/01/15 09:52	06/02/15 13:27	5
Sodium	**2100**	**HF**	2.5	1.3	mg/L		06/01/15 09:52	06/02/15 13:27	5
Strontium	**2.9**	**HF**	0.10	0.050	mg/L		06/01/15 09:52	06/02/15 13:27	5

Method: 200.8 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Uranium	ND	HF	2.0	1.0	ug/L		06/02/15 09:44	06/02/15 16:43	2

Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.010	0.0060	mg/L		06/01/15 09:06	06/01/15 23:38	1
Arsenic	**0.12**	**B**	0.10	0.050	mg/L		06/01/15 09:06	06/02/15 09:51	10
Barium	**1.5**		0.10	0.050	mg/L		06/01/15 09:06	06/02/15 09:51	10
Beryllium	ND		0.020	0.010	mg/L		06/01/15 09:06	06/02/15 09:51	10
Cadmium	ND		0.050	0.020	mg/L		06/01/15 09:06	06/02/15 09:51	10
Chromium	ND		0.050	0.025	mg/L		06/01/15 09:06	06/02/15 09:51	10
Cobalt	ND		0.10	0.025	mg/L		06/01/15 09:06	06/02/15 09:51	10
Copper	ND		0.10	0.050	mg/L		06/01/15 09:06	06/02/15 09:51	10
Lead	ND		0.050	0.025	mg/L		06/01/15 09:06	06/02/15 09:51	10
Molybdenum	ND		0.20	0.10	mg/L		06/01/15 09:06	06/02/15 09:51	10
Nickel	ND		0.10	0.050	mg/L		06/01/15 09:06	06/02/15 09:51	10
Selenium	ND		0.10	0.061	mg/L		06/01/15 09:06	06/02/15 09:51	10
Silver	ND		0.10	0.050	mg/L		06/01/15 09:06	06/02/15 09:51	10
Thallium	ND		0.10	0.050	mg/L		06/01/15 09:06	06/02/15 09:51	10
Vanadium	ND		0.10	0.050	mg/L		06/01/15 09:06	06/02/15 09:51	10
Zinc	ND		0.20	0.10	mg/L		06/01/15 09:06	06/02/15 09:51	10

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND	F1	0.00020	0.00010	mg/L		06/01/15 10:11	06/01/15 13:14	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	**880**		4.0	4.0	mg/L			05/29/15 08:10	1
Bicarbonate Alkalinity as CaCO3	**880**		4.0	4.0	mg/L			05/29/15 08:10	1
Carbonate Alkalinity as CaCO3	ND		4.0	4.0	mg/L			05/29/15 08:10	1
Hydroxide Alkalinity as CaCO3	ND		4.0	4.0	mg/L			05/29/15 08:10	1
Total Dissolved Solids	**9500**		100	50	mg/L			06/01/15 15:42	1

Client Sample Results

Client: AMEC Foster Wheeler E & I, Inc
Project/Site: Chevron Coalinga

TestAmerica Job ID: 440-111303-1

Client Sample ID: W009

Date Collected: 05/27/15 00:01
Date Received: 05/28/15 09:50

Lab Sample ID: 440-111303-9

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.50	0.25	ug/L			05/30/15 19:28	1
Ethylbenzene	ND		0.50	0.25	ug/L			05/30/15 19:28	1
m,p-Xylene	ND		1.0	0.50	ug/L			05/30/15 19:28	1
o-Xylene	ND		0.50	0.25	ug/L			05/30/15 19:28	1
Toluene	ND		0.50	0.25	ug/L			05/30/15 19:28	1
Xylenes, Total	ND		1.0	0.50	ug/L			05/30/15 19:28	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*108*		*80 - 120*		*05/30/15 19:28*	*1*
Dibromofluoromethane (Surr)	*103*		*76 - 132*		*05/30/15 19:28*	*1*
Toluene-d8 (Surr)	*110*		*80 - 128*		*05/30/15 19:28*	*1*

Method Summary

Client: AMEC Foster Wheeler E & I, Inc
Project/Site: Chevron Coalinga

TestAmerica Job ID: 440-111303-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL IRV
8270C SIM	Semivolatile Organic Compounds (GC/MS SIM)	SW846	TAL IRV
8015B	Diesel Range Organics (DRO) (GC) Low Level	SW846	TAL IRV
300.0	Anions, Ion Chromatography	MCAWW	TAL IRV
200.7 Rev 4.4	Metals (ICP)	EPA	TAL IRV
200.8	Metals (ICP/MS)	EPA	TAL IRV
6010B	Metals (ICP)	SW846	TAL IRV
7470A	Mercury (CVAA)	SW846	TAL IRV
SM 2320B	Alkalinity	SM	TAL IRV
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL IRV

Protocol References:

EPA = US Environmental Protection Agency
MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.
SM = "Standard Methods For The Examination Of Water And Wastewater",
SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL IRV = TestAmerica Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

Lab Chronicle

Client: AMEC Foster Wheeler E & I, Inc
Project/Site: Chevron Coalinga

TestAmerica Job ID: 440-111303-1

Client Sample ID: W001

Date Collected: 05/27/15 09:15
Date Received: 05/28/15 09:50

Lab Sample ID: 440-111303-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	258319	05/30/15 11:33	AL	TAL IRV
Total/NA	Prep	3520C			1050 mL	1 mL	258110	05/29/15 08:32	IVA	TAL IRV
Total/NA	Analysis	8270C SIM		50	1050 mL	1 mL	258419	06/01/15 02:48	AI	TAL IRV
Total/NA	Prep	3510C			1015 mL	1 mL	258169	05/29/15 11:46	MMT	TAL IRV
Total/NA	Analysis	8015B		1	1015 mL	1 mL	258758	06/02/15 19:01	KW	TAL IRV
Total/NA	Analysis	300.0		50	5 mL		257753	05/29/15 04:15	NN	TAL IRV
Total/NA	Analysis	300.0		50	5 mL		257754	05/29/15 04:15	NN	TAL IRV
Total/NA	Analysis	300.0		1000	5 mL		257754	05/29/15 04:30	NN	TAL IRV
Dissolved	Filtration	FILTRATION			200 mL	200 mL	258298	05/29/15 22:19	APS	TAL IRV
Dissolved	Prep	200.2			25 mL	25 mL	258507	06/01/15 09:52	ND	TAL IRV
Dissolved	Analysis	200.7 Rev 4.4		5	25 mL	25 mL	258883	06/02/15 12:29	VS	TAL IRV
Dissolved	Filtration	FILTRATION			200 mL	200 mL	258298	05/29/15 22:19	APS	TAL IRV
Dissolved	Prep	200.2			25 mL	25 mL	258772	06/02/15 09:44	ND	TAL IRV
Dissolved	Analysis	200.8		2	25 mL	25 mL	258930	06/02/15 16:24	YS	TAL IRV
Dissolved	Filtration	FILTRATION			200 mL	200 mL	258298	05/29/15 22:19	APS	TAL IRV
Dissolved	Prep	3005A			25 mL	25 mL	258490	06/01/15 09:06	ND	TAL IRV
Dissolved	Analysis	6010B		10	25 mL	25 mL	258792	06/02/15 09:23	VS	TAL IRV
Dissolved	Filtration	FILTRATION			200 mL	200 mL	258298	05/29/15 22:19	APS	TAL IRV
Dissolved	Prep	7470A			20 mL	20 mL	258517	06/01/15 10:11	EN	TAL IRV
Dissolved	Analysis	7470A		1	20 mL	20 mL	258594	06/01/15 13:41	EN	TAL IRV
Total/NA	Analysis	SM 2320B		1			258314	05/29/15 08:23	YZ	TAL IRV
Total/NA	Analysis	SM 2540C		1	5 mL	100 mL	258614	06/01/15 15:42	XL	TAL IRV

Client Sample ID: W002

Date Collected: 05/27/15 09:25
Date Received: 05/28/15 09:50

Lab Sample ID: 440-111303-2
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	258319	05/30/15 16:24	AL	TAL IRV
Total/NA	Prep	3520C			1030 mL	1 mL	258110	05/29/15 08:32	IVA	TAL IRV
Total/NA	Analysis	8270C SIM		50	1030 mL	1 mL	258419	06/01/15 03:08	AI	TAL IRV
Total/NA	Prep	3510C			1030 mL	1 mL	258169	05/29/15 11:46	MMT	TAL IRV
Total/NA	Analysis	8015B		1	1030 mL	1 mL	258758	06/02/15 19:21	KW	TAL IRV
Total/NA	Analysis	300.0		50	5 mL		257753	05/29/15 04:45	NN	TAL IRV
Total/NA	Analysis	300.0		50	5 mL		257754	05/29/15 04:45	NN	TAL IRV
Total/NA	Analysis	300.0		1000	5 mL		257754	05/29/15 05:01	NN	TAL IRV
Dissolved	Filtration	FILTRATION			200 mL	200 mL	258298	05/29/15 22:19	APS	TAL IRV
Dissolved	Prep	200.2			25 mL	25 mL	258507	06/01/15 09:52	ND	TAL IRV
Dissolved	Analysis	200.7 Rev 4.4		5	25 mL	25 mL	258883	06/02/15 12:37	VS	TAL IRV
Dissolved	Filtration	FILTRATION			200 mL	200 mL	258298	05/29/15 22:19	APS	TAL IRV
Dissolved	Prep	200.2			25 mL	25 mL	258772	06/02/15 09:44	ND	TAL IRV
Dissolved	Analysis	200.8		2	25 mL	25 mL	258930	06/02/15 16:27	YS	TAL IRV
Dissolved	Filtration	FILTRATION			200 mL	200 mL	258298	05/29/15 22:19	APS	TAL IRV

Lab Chronicle

Client: AMEC Foster Wheeler E & I, Inc
Project/Site: Chevron Coalinga

TestAmerica Job ID: 440-111303-1

Client Sample ID: W002

Date Collected: 05/27/15 09:25
Date Received: 05/28/15 09:50

Lab Sample ID: 440-111303-2

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			25 mL	25 mL	258490	06/01/15 09:06	ND	TAL IRV
Dissolved	Analysis	6010B		1	25 mL	25 mL	258741	06/01/15 23:16	VS	TAL IRV
Dissolved	Filtration	FILTRATION			200 mL	200 mL	258298	05/29/15 22:19	APS	TAL IRV
Dissolved	Prep	3005A			25 mL	25 mL	258490	06/01/15 09:06	ND	TAL IRV
Dissolved	Analysis	6010B		10	25 mL	25 mL	258792	06/02/15 09:25	VS	TAL IRV
Dissolved	Filtration	FILTRATION			200 mL	200 mL	258298	05/29/15 22:19	APS	TAL IRV
Dissolved	Prep	7470A			20 mL	20 mL	258517	06/01/15 10:11	EN	TAL IRV
Dissolved	Analysis	7470A		1	20 mL	20 mL	258594	06/01/15 13:21	EN	TAL IRV
Total/NA	Analysis	SM 2320B		1			258314	05/29/15 08:33	YZ	TAL IRV
Total/NA	Analysis	SM 2540C		1	5 mL	100 mL	258614	06/01/15 15:42	XL	TAL IRV

Client Sample ID: W003

Date Collected: 05/27/15 10:15
Date Received: 05/28/15 09:50

Lab Sample ID: 440-111303-3

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	258319	05/30/15 16:50	AL	TAL IRV
Total/NA	Prep	3520C			1055 mL	1 mL	258110	05/29/15 08:32	IVA	TAL IRV
Total/NA	Analysis	8270C SIM		40	1055 mL	1 mL	258419	06/01/15 03:29	AI	TAL IRV
Total/NA	Prep	3510C			1035 mL	1 mL	258169	05/29/15 11:46	MMT	TAL IRV
Total/NA	Analysis	8015B		10	1035 mL	1 mL	258758	06/02/15 19:42	KW	TAL IRV
Total/NA	Analysis	300.0		100	5 mL		257753	05/29/15 05:47	NN	TAL IRV
Total/NA	Analysis	300.0		100	5 mL		257754	05/29/15 05:47	NN	TAL IRV
Total/NA	Analysis	300.0		2000	5 mL		257754	05/29/15 06:02	NN	TAL IRV
Dissolved	Filtration	FILTRATION			200 mL	200 mL	258298	05/29/15 22:19	APS	TAL IRV
Dissolved	Prep	200.2			25 mL	25 mL	258507	06/01/15 09:52	ND	TAL IRV
Dissolved	Analysis	200.7 Rev 4.4		5	25 mL	25 mL	258883	06/02/15 12:40	VS	TAL IRV
Dissolved	Filtration	FILTRATION			200 mL	200 mL	258298	05/29/15 22:19	APS	TAL IRV
Dissolved	Prep	200.2			25 mL	25 mL	258507	06/01/15 09:52	ND	TAL IRV
Dissolved	Analysis	200.7 Rev 4.4		25	25 mL	25 mL	258883	06/02/15 13:29	VS	TAL IRV
Dissolved	Filtration	FILTRATION			200 mL	200 mL	258298	05/29/15 22:19	APS	TAL IRV
Dissolved	Prep	200.2			25 mL	25 mL	258772	06/02/15 09:44	ND	TAL IRV
Dissolved	Analysis	200.8		2	25 mL	25 mL	258930	06/02/15 16:29	YS	TAL IRV
Dissolved	Filtration	FILTRATION			200 mL	200 mL	258298	05/29/15 22:19	APS	TAL IRV
Dissolved	Prep	3005A			25 mL	25 mL	258490	06/01/15 09:06	ND	TAL IRV
Dissolved	Analysis	6010B		1	25 mL	25 mL	258741	06/01/15 23:19	VS	TAL IRV
Dissolved	Filtration	FILTRATION			200 mL	200 mL	258298	05/29/15 22:19	APS	TAL IRV
Dissolved	Prep	3005A			25 mL	25 mL	258490	06/01/15 09:06	ND	TAL IRV
Dissolved	Analysis	6010B		10	25 mL	25 mL	258792	06/02/15 09:28	VS	TAL IRV
Dissolved	Filtration	FILTRATION			200 mL	200 mL	258298	05/29/15 22:19	APS	TAL IRV
Dissolved	Prep	7470A			20 mL	20 mL	258517	06/01/15 10:11	EN	TAL IRV
Dissolved	Analysis	7470A		1	20 mL	20 mL	258594	06/01/15 13:23	EN	TAL IRV
Total/NA	Analysis	SM 2320B		1			258314	05/29/15 08:49	YZ	TAL IRV
Total/NA	Analysis	SM 2540C		1	5 mL	100 mL	258614	06/01/15 15:42	XL	TAL IRV

Lab Chronicle

Client: AMEC Foster Wheeler E & I, Inc
Project/Site: Chevron Coalinga

TestAmerica Job ID: 440-111303-1

Client Sample ID: W004

Lab Sample ID: 440-111303-4
Date Collected: 05/27/15 11:05
Matrix: Water
Date Received: 05/28/15 09:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	258319	05/30/15 17:16	AL	TAL IRV
Total/NA	Prep	3520C			1025 mL	1 mL	258110	05/29/15 08:32	IVA	TAL IRV
Total/NA	Analysis	8270C SIM		5	1025 mL	1 mL	258419	06/01/15 03:49	AI	TAL IRV
Total/NA	Prep	3510C			1020 mL	1 mL	258169	05/29/15 11:46	MMT	TAL IRV
Total/NA	Analysis	8015B		5	1020 mL	1 mL	258758	06/02/15 20:22	KW	TAL IRV
Total/NA	Analysis	300.0		50	5 mL		257753	05/29/15 06:17	NN	TAL IRV
Total/NA	Analysis	300.0		50	5 mL		257754	05/29/15 06:17	NN	TAL IRV
Total/NA	Analysis	300.0		1000	5 mL		257754	05/29/15 06:33	NN	TAL IRV
Dissolved	Filtration	FILTRATION			200 mL	200 mL	258298	05/29/15 22:19	APS	TAL IRV
Dissolved	Prep	200.2			25 mL	25 mL	258507	06/01/15 09:52	ND	TAL IRV
Dissolved	Analysis	200.7 Rev 4.4		5	25 mL	25 mL	258883	06/02/15 12:42	VS	TAL IRV
Dissolved	Filtration	FILTRATION			200 mL	200 mL	258298	05/29/15 22:19	APS	TAL IRV
Dissolved	Prep	200.2			25 mL	25 mL	258772	06/02/15 09:44	ND	TAL IRV
Dissolved	Analysis	200.8		2	25 mL	25 mL	258930	06/02/15 16:32	YS	TAL IRV
Dissolved	Filtration	FILTRATION			200 mL	200 mL	258298	05/29/15 22:19	APS	TAL IRV
Dissolved	Prep	3005A			25 mL	25 mL	258490	06/01/15 09:06	ND	TAL IRV
Dissolved	Analysis	6010B		1	25 mL	25 mL	258741	06/01/15 23:22	VS	TAL IRV
Dissolved	Filtration	FILTRATION			200 mL	200 mL	258298	05/29/15 22:19	APS	TAL IRV
Dissolved	Prep	3005A			25 mL	25 mL	258490	06/01/15 09:06	ND	TAL IRV
Dissolved	Analysis	6010B		10	25 mL	25 mL	258792	06/02/15 09:30	VS	TAL IRV
Dissolved	Filtration	FILTRATION			200 mL	200 mL	258298	05/29/15 22:19	APS	TAL IRV
Dissolved	Prep	7470A			20 mL	20 mL	258517	06/01/15 10:11	EN	TAL IRV
Dissolved	Analysis	7470A		1	20 mL	20 mL	258594	06/01/15 13:26	EN	TAL IRV
Total/NA	Analysis	SM 2320B		1			258314	05/29/15 09:01	YZ	TAL IRV
Total/NA	Analysis	SM 2540C		1	5 mL	100 mL	258614	06/01/15 15:42	XL	TAL IRV

Client Sample ID: W005

Lab Sample ID: 440-111303-5
Date Collected: 05/27/15 11:40
Matrix: Water
Date Received: 05/28/15 09:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	258319	05/30/15 17:43	AL	TAL IRV
Total/NA	Prep	3520C			1050 mL	1 mL	258110	05/29/15 08:32	IVA	TAL IRV
Total/NA	Analysis	8270C SIM		20	1050 mL	1 mL	258419	06/01/15 04:10	AI	TAL IRV
Total/NA	Prep	3510C			1055 mL	1 mL	258169	05/29/15 11:46	MMT	TAL IRV
Total/NA	Analysis	8015B		5	1055 mL	1 mL	258758	06/02/15 20:02	KW	TAL IRV
Total/NA	Analysis	300.0		50	5 mL		257753	05/29/15 03:13	NN	TAL IRV
Total/NA	Analysis	300.0		50	5 mL		257754	05/29/15 03:13	NN	TAL IRV
Total/NA	Analysis	300.0		1000	5 mL		257754	05/29/15 03:59	NN	TAL IRV
Dissolved	Filtration	FILTRATION			200 mL	200 mL	258298	05/29/15 22:19	APS	TAL IRV
Dissolved	Prep	200.2			25 mL	25 mL	258507	06/01/15 09:52	ND	TAL IRV
Dissolved	Analysis	200.7 Rev 4.4		5	25 mL	25 mL	258883	06/02/15 12:45	VS	TAL IRV
Dissolved	Filtration	FILTRATION			200 mL	200 mL	258298	05/29/15 22:19	APS	TAL IRV

Lab Chronicle

Client: AMEC Foster Wheeler E & I, Inc
Project/Site: Chevron Coalinga

TestAmerica Job ID: 440-111303-1

Client Sample ID: W005

Lab Sample ID: 440-111303-5

Date Collected: 05/27/15 11:40
Date Received: 05/28/15 09:50

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	200.2			25 mL	25 mL	258772	06/02/15 09:44	ND	TAL IRV
Dissolved	Analysis	200.8		2	25 mL	25 mL	258930	06/02/15 16:35	YS	TAL IRV
Dissolved	Filtration	FILTRATION			200 mL	200 mL	258298	05/29/15 22:19	APS	TAL IRV
Dissolved	Prep	3005A			25 mL	25 mL	258490	06/01/15 09:06	ND	TAL IRV
Dissolved	Analysis	6010B		1	25 mL	25 mL	258741	06/01/15 23:24	VS	TAL IRV
Dissolved	Filtration	FILTRATION			200 mL	200 mL	258298	05/29/15 22:19	APS	TAL IRV
Dissolved	Prep	3005A			25 mL	25 mL	258490	06/01/15 09:06	ND	TAL IRV
Dissolved	Analysis	6010B		10	25 mL	25 mL	258792	06/02/15 09:43	VS	TAL IRV
Dissolved	Filtration	FILTRATION			200 mL	200 mL	258298	05/29/15 22:19	APS	TAL IRV
Dissolved	Prep	7470A			20 mL	20 mL	258517	06/01/15 10:11	EN	TAL IRV
Dissolved	Analysis	7470A		1	20 mL	20 mL	258594	06/01/15 13:28	EN	TAL IRV
Total/NA	Analysis	SM 2320B		1			258314	05/29/15 09:14	YZ	TAL IRV
Total/NA	Analysis	SM 2540C		1	5 mL	100 mL	258614	06/01/15 15:42	XL	TAL IRV

Client Sample ID: W006

Lab Sample ID: 440-111303-6

Date Collected: 05/27/15 12:40
Date Received: 05/28/15 09:50

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	258319	05/30/15 18:09	AL	TAL IRV
Total/NA	Prep	3520C			1060 mL	1 mL	258110	05/29/15 08:32	IVA	TAL IRV
Total/NA	Analysis	8270C SIM		20	1060 mL	1 mL	258419	06/01/15 04:31	AI	TAL IRV
Total/NA	Prep	3510C			1040 mL	1 mL	258737	06/02/15 07:26	MMT	TAL IRV
Total/NA	Analysis	8015B		5	1040 mL	1 mL	258758	06/02/15 16:22	KW	TAL IRV
Total/NA	Analysis	300.0		50	5 mL		257753	05/29/15 06:48	NN	TAL IRV
Total/NA	Analysis	300.0		50	5 mL		257754	05/29/15 06:48	NN	TAL IRV
Total/NA	Analysis	300.0		1000	5 mL		257754	05/29/15 07:03	NN	TAL IRV
Dissolved	Filtration	FILTRATION			200 mL	200 mL	258298	05/29/15 22:19	APS	TAL IRV
Dissolved	Prep	200.2			25 mL	25 mL	258507	06/01/15 09:52	ND	TAL IRV
Dissolved	Analysis	200.7 Rev 4.4		5	25 mL	25 mL	258883	06/02/15 12:47	VS	TAL IRV
Dissolved	Filtration	FILTRATION			200 mL	200 mL	258298	05/29/15 22:19	APS	TAL IRV
Dissolved	Prep	200.2			25 mL	25 mL	258772	06/02/15 09:44	ND	TAL IRV
Dissolved	Analysis	200.8		2	25 mL	25 mL	258930	06/02/15 16:37	YS	TAL IRV
Dissolved	Filtration	FILTRATION			200 mL	200 mL	258298	05/29/15 22:19	APS	TAL IRV
Dissolved	Prep	3005A			25 mL	25 mL	258490	06/01/15 09:06	ND	TAL IRV
Dissolved	Analysis	6010B		1	25 mL	25 mL	258741	06/01/15 23:32	VS	TAL IRV
Dissolved	Filtration	FILTRATION			200 mL	200 mL	258298	05/29/15 22:19	APS	TAL IRV
Dissolved	Prep	3005A			25 mL	25 mL	258490	06/01/15 09:06	ND	TAL IRV
Dissolved	Analysis	6010B		10	25 mL	25 mL	258792	06/02/15 09:46	VS	TAL IRV
Dissolved	Filtration	FILTRATION			200 mL	200 mL	258298	05/29/15 22:19	APS	TAL IRV
Dissolved	Prep	7470A			20 mL	20 mL	258517	06/01/15 10:11	EN	TAL IRV
Dissolved	Analysis	7470A		1	20 mL	20 mL	258594	06/01/15 13:36	EN	TAL IRV
Total/NA	Analysis	SM 2320B		1			258314	05/29/15 09:26	YZ	TAL IRV
Total/NA	Analysis	SM 2540C		1	5 mL	100 mL	258614	06/01/15 15:42	XL	TAL IRV

Client Sample ID: W007 — Lab Sample ID: 440-111303-7

Date Collected: 05/27/15 13:20
Date Received: 05/28/15 09:50
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	258319	05/30/15 18:36	AL	TAL IRV
Total/NA	Prep	3520C			1050 mL	1 mL	258110	05/29/15 08:32	IVA	TAL IRV
Total/NA	Analysis	8270C SIM		50	1050 mL	1 mL	258419	06/01/15 04:51	AI	TAL IRV
Total/NA	Prep	3510C			1045 mL	1 mL	258737	06/02/15 07:26	MMT	TAL IRV
Total/NA	Analysis	8015B		5	1045 mL	1 mL	258758	06/02/15 16:42	KW	TAL IRV
Total/NA	Analysis	300.0		50	5 mL		257753	05/29/15 07:19	NN	TAL IRV
Total/NA	Analysis	300.0		50	5 mL		257754	05/29/15 07:19	NN	TAL IRV
Total/NA	Analysis	300.0		1000	5 mL		257754	05/29/15 07:34	NN	TAL IRV
Dissolved	Filtration	FILTRATION			200 mL	200 mL	258298	05/29/15 22:19	APS	TAL IRV
Dissolved	Prep	200.2			25 mL	25 mL	258507	06/01/15 09:52	ND	TAL IRV
Dissolved	Analysis	200.7 Rev 4.4		5	25 mL	25 mL	258883	06/02/15 13:25	VS	TAL IRV
Dissolved	Filtration	FILTRATION			200 mL	200 mL	258298	05/29/15 22:19	APS	TAL IRV
Dissolved	Prep	200.2			25 mL	25 mL	258772	06/02/15 09:44	ND	TAL IRV
Dissolved	Analysis	200.8		2	25 mL	25 mL	258930	06/02/15 16:40	YS	TAL IRV
Dissolved	Filtration	FILTRATION			200 mL	200 mL	258298	05/29/15 22:19	APS	TAL IRV
Dissolved	Prep	3005A			25 mL	25 mL	258490	06/01/15 09:06	ND	TAL IRV
Dissolved	Analysis	6010B		10	25 mL	25 mL	258792	06/02/15 09:49	VS	TAL IRV
Dissolved	Filtration	FILTRATION			200 mL	200 mL	258298	05/29/15 22:19	APS	TAL IRV
Dissolved	Prep	7470A			20 mL	20 mL	258517	06/01/15 10:11	EN	TAL IRV
Dissolved	Analysis	7470A		1	20 mL	20 mL	258594	06/01/15 13:38	EN	TAL IRV
Total/NA	Analysis	SM 2320B		1			258314	05/29/15 09:39	YZ	TAL IRV
Total/NA	Analysis	SM 2540C		1	5 mL	100 mL	258614	06/01/15 15:42	XL	TAL IRV

Client Sample ID: W008 — Lab Sample ID: 440-111303-8

Date Collected: 05/27/15 14:20
Date Received: 05/28/15 09:50
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		10	10 mL	10 mL	258319	05/30/15 19:02	AL	TAL IRV
Total/NA	Prep	3520C			1060 mL	1 mL	258110	05/29/15 08:32	IVA	TAL IRV
Total/NA	Analysis	8270C SIM		20	1060 mL	1 mL	258419	06/01/15 05:12	AI	TAL IRV
Total/NA	Prep	3510C			1050 mL	1 mL	258737	06/02/15 07:26	MMT	TAL IRV
Total/NA	Analysis	8015B		5	1050 mL	1 mL	258758	06/02/15 17:02	KW	TAL IRV
Total/NA	Analysis	300.0		50	5 mL		257753	05/29/15 07:49	NN	TAL IRV
Total/NA	Analysis	300.0		50	5 mL		257754	05/29/15 07:49	NN	TAL IRV
Total/NA	Analysis	300.0		1000	5 mL		257754	05/29/15 08:05	NN	TAL IRV
Dissolved	Filtration	FILTRATION			200 mL	200 mL	258298	05/29/15 22:19	APS	TAL IRV
Dissolved	Prep	200.2			25 mL	25 mL	258507	06/01/15 09:52	ND	TAL IRV
Dissolved	Analysis	200.7 Rev 4.4		5	25 mL	25 mL	258883	06/02/15 13:27	VS	TAL IRV
Dissolved	Filtration	FILTRATION			200 mL	200 mL	258298	05/29/15 22:19	APS	TAL IRV
Dissolved	Prep	200.2			25 mL	25 mL	258772	06/02/15 09:44	ND	TAL IRV
Dissolved	Analysis	200.8		2	25 mL	25 mL	258930	06/02/15 16:43	YS	TAL IRV
Dissolved	Filtration	FILTRATION			200 mL	200 mL	258298	05/29/15 22:19	APS	TAL IRV

Lab Chronicle

Client: AMEC Foster Wheeler E & I, Inc
Project/Site: Chevron Coalinga

TestAmerica Job ID: 440-111303-1

Client Sample ID: W008

Lab Sample ID: 440-111303-8

Date Collected: 05/27/15 14:20
Matrix: Water
Date Received: 05/28/15 09:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			25 mL	25 mL	258490	06/01/15 09:06	ND	TAL IRV
Dissolved	Analysis	6010B		1	25 mL	25 mL	258741	06/01/15 23:38	VS	TAL IRV
Dissolved	Filtration	FILTRATION			200 mL	200 mL	258298	05/29/15 22:19	APS	TAL IRV
Dissolved	Prep	3005A			25 mL	25 mL	258490	06/01/15 09:06	ND	TAL IRV
Dissolved	Analysis	6010B		10	25 mL	25 mL	258792	06/02/15 09:51	VS	TAL IRV
Dissolved	Filtration	FILTRATION			200 mL	200 mL	258298	05/29/15 22:19	APS	TAL IRV
Dissolved	Prep	7470A			20 mL	20 mL	258517	06/01/15 10:11	EN	TAL IRV
Dissolved	Analysis	7470A		1	20 mL	20 mL	258594	06/01/15 13:14	EN	TAL IRV
Total/NA	Analysis	SM 2320B		1			258314	05/29/15 08:10	YZ	TAL IRV
Total/NA	Analysis	SM 2540C		1	10 mL	100 mL	258614	06/01/15 15:42	XL	TAL IRV

Client Sample ID: W009

Lab Sample ID: 440-111303-9

Date Collected: 05/27/15 00:01
Matrix: Water
Date Received: 05/28/15 09:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	258319	05/30/15 19:28	AL	TAL IRV

Laboratory References:

TAL IRV = TestAmerica Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 440-258319/4
Matrix: Water
Analysis Batch: 258319

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.50	0.25	ug/L			05/30/15 10:40	1
Ethylbenzene	ND		0.50	0.25	ug/L			05/30/15 10:40	1
m,p-Xylene	ND		1.0	0.50	ug/L			05/30/15 10:40	1
o-Xylene	ND		0.50	0.25	ug/L			05/30/15 10:40	1
Toluene	ND		0.50	0.25	ug/L			05/30/15 10:40	1
Xylenes, Total	ND		1.0	0.50	ug/L			05/30/15 10:40	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*102*		*80 - 120*		*05/30/15 10:40*	*1*
Dibromofluoromethane (Surr)	*104*		*76 - 132*		*05/30/15 10:40*	*1*
Toluene-d8 (Surr)	*111*		*80 - 128*		*05/30/15 10:40*	*1*

Lab Sample ID: LCS 440-258319/5
Matrix: Water
Analysis Batch: 258319

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	25.0	23.6		ug/L		94	68 - 130
Ethylbenzene	25.0	23.9		ug/L		96	70 - 130
m,p-Xylene	25.0	24.9		ug/L		100	70 - 130
o-Xylene	25.0	22.6		ug/L		91	70 - 130
Toluene	25.0	24.9		ug/L		100	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*108*		*80 - 120*
Dibromofluoromethane (Surr)	*107*		*76 - 132*
Toluene-d8 (Surr)	*103*		*80 - 128*

Lab Sample ID: 440-111303-1 MS
Matrix: Water
Analysis Batch: 258319

Client Sample ID: W001
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	ND		25.0	23.2		ug/L		93	66 - 130
Ethylbenzene	ND		25.0	24.0		ug/L		96	70 - 130
m,p-Xylene	ND		25.0	25.4		ug/L		101	70 - 133
o-Xylene	ND		25.0	22.8		ug/L		91	70 - 133
Toluene	ND		25.0	24.4		ug/L		98	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*106*		*80 - 120*
Dibromofluoromethane (Surr)	*106*		*76 - 132*
Toluene-d8 (Surr)	*108*		*80 - 128*

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 440-111303-1 MSD
Matrix: Water
Analysis Batch: 258319

Client Sample ID: W001
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	ND		25.0	25.0		ug/L		100	66 - 130	7	20
Ethylbenzene	ND		25.0	26.3		ug/L		105	70 - 130	9	20
m,p-Xylene	ND		25.0	27.3		ug/L		109	70 - 133	7	25
o-Xylene	ND		25.0	24.3		ug/L		97	70 - 133	7	20
Toluene	ND		25.0	26.7		ug/L		107	70 - 130	9	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*105*		*80 - 120*
Dibromofluoromethane (Surr)	*107*		*76 - 132*
Toluene-d8 (Surr)	*111*		*80 - 128*

Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM)

Lab Sample ID: MB 440-258110/1-A
Matrix: Water
Analysis Batch: 258419

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 258110

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.20	0.10	ug/L		05/29/15 08:32	05/31/15 23:22	1
Acenaphthylene	ND		0.20	0.10	ug/L		05/29/15 08:32	05/31/15 23:22	1
Anthracene	ND		0.20	0.10	ug/L		05/29/15 08:32	05/31/15 23:22	1
Benzo[a]anthracene	ND		0.20	0.10	ug/L		05/29/15 08:32	05/31/15 23:22	1
Benzo[a]pyrene	ND		0.20	0.10	ug/L		05/29/15 08:32	05/31/15 23:22	1
Benzo[b]fluoranthene	ND		0.20	0.10	ug/L		05/29/15 08:32	05/31/15 23:22	1
Benzo[g,h,i]perylene	ND		0.20	0.10	ug/L		05/29/15 08:32	05/31/15 23:22	1
Benzo[k]fluoranthene	ND		0.20	0.10	ug/L		05/29/15 08:32	05/31/15 23:22	1
Chrysene	ND		0.20	0.10	ug/L		05/29/15 08:32	05/31/15 23:22	1
Dibenz(a,h)anthracene	ND		0.20	0.10	ug/L		05/29/15 08:32	05/31/15 23:22	1
Fluoranthene	ND		0.20	0.10	ug/L		05/29/15 08:32	05/31/15 23:22	1
Fluorene	ND		0.20	0.10	ug/L		05/29/15 08:32	05/31/15 23:22	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.10	ug/L		05/29/15 08:32	05/31/15 23:22	1
Naphthalene	ND		0.20	0.10	ug/L		05/29/15 08:32	05/31/15 23:22	1
Phenanthrene	ND		0.20	0.10	ug/L		05/29/15 08:32	05/31/15 23:22	1
Pyrene	ND		0.20	0.10	ug/L		05/29/15 08:32	05/31/15 23:22	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*65*		*31 - 120*	*05/29/15 08:32*	*05/31/15 23:22*	*1*
Nitrobenzene-d5	*62*		*25 - 133*	*05/29/15 08:32*	*05/31/15 23:22*	*1*
Terphenyl-d14	*81*		*10 - 120*	*05/29/15 08:32*	*05/31/15 23:22*	*1*

Lab Sample ID: LCS 440-258110/12-A
Matrix: Water
Analysis Batch: 258419

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 258110

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthene	1.00	0.787		ug/L		79	47 - 103
Acenaphthylene	1.00	0.802		ug/L		80	45 - 102

Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

Lab Sample ID: LCS 440-258110/12-A
Matrix: Water
Analysis Batch: 258419

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 258110

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Anthracene	1.00	0.810		ug/L		81	47 - 111
Benzo[a]anthracene	1.00	0.826		ug/L		83	56 - 110
Benzo[a]pyrene	1.00	0.760		ug/L		76	48 - 110
Benzo[b]fluoranthene	1.00	0.811		ug/L		81	53 - 116
Benzo[g,h,i]perylene	1.00	1.02		ug/L		102	44 - 130
Benzo[k]fluoranthene	1.00	0.815		ug/L		82	51 - 127
Chrysene	1.00	0.833		ug/L		83	52 - 118
Dibenz(a,h)anthracene	1.00	0.893		ug/L		89	44 - 125
Fluoranthene	1.00	0.899		ug/L		90	51 - 116
Fluorene	1.00	0.822		ug/L		82	50 - 106
Indeno[1,2,3-cd]pyrene	1.00	0.915		ug/L		91	41 - 127
Naphthalene	1.00	0.740		ug/L		74	40 - 100
Phenanthrene	1.00	0.871		ug/L		87	49 - 110
Pyrene	1.00	0.819		ug/L		82	41 - 115

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl (Surr)	*74*		*31 - 120*
Nitrobenzene-d5	*75*		*25 - 133*
Terphenyl-d14	*85*		*10 - 120*

Lab Sample ID: LCSD 440-258110/3-A
Matrix: Water
Analysis Batch: 258419

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 258110

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acenaphthene	1.00	0.670		ug/L		67	47 - 103	16	35
Acenaphthylene	1.00	0.682		ug/L		68	45 - 102	16	35
Anthracene	1.00	0.733		ug/L		73	47 - 111	10	35
Benzo[a]anthracene	1.00	0.769		ug/L		77	56 - 110	7	35
Benzo[a]pyrene	1.00	0.726		ug/L		73	48 - 110	5	35
Benzo[b]fluoranthene	1.00	0.766		ug/L		77	53 - 116	6	35
Benzo[g,h,i]perylene	1.00	0.953		ug/L		95	44 - 130	7	35
Benzo[k]fluoranthene	1.00	0.756		ug/L		76	51 - 127	8	35
Chrysene	1.00	0.767		ug/L		77	52 - 118	8	35
Dibenz(a,h)anthracene	1.00	0.828		ug/L		83	44 - 125	8	35
Fluoranthene	1.00	0.815		ug/L		81	51 - 116	10	35
Fluorene	1.00	0.735		ug/L		74	50 - 106	11	35
Indeno[1,2,3-cd]pyrene	1.00	0.861		ug/L		86	41 - 127	6	35
Naphthalene	1.00	0.607		ug/L		61	40 - 100	20	35
Phenanthrene	1.00	0.778		ug/L		78	49 - 110	11	35
Pyrene	1.00	0.741		ug/L		74	41 - 115	10	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2-Fluorobiphenyl (Surr)	*63*		*31 - 120*
Nitrobenzene-d5	*66*		*25 - 133*
Terphenyl-d14	*79*		*10 - 120*

Method: 8015B - Diesel Range Organics (DRO) (GC) Low Level

Lab Sample ID: MB 440-258169/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 258757 — **Prep Batch: 258169**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C29-C40	ND		0.050	0.025	mg/L		05/29/15 11:46	06/02/15 19:01	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane	*84*		*45 - 120*	*05/29/15 11:46*	*06/02/15 19:01*	*1*

Lab Sample ID: LCS 440-258169/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 258757 — **Prep Batch: 258169**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
C10-C28	1.00	0.783		mg/L		78	40 - 115

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
n-Octacosane	*83*		*45 - 120*

Lab Sample ID: LCSD 440-258169/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 258757 — **Prep Batch: 258169**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
C10-C28	1.00	0.797		mg/L		80	40 - 115	2	25

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
n-Octacosane	*84*		*45 - 120*

Lab Sample ID: MB 440-258737/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 258757 — **Prep Batch: 258737**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C29-C40	ND		0.050	0.025	mg/L		06/02/15 07:26	06/02/15 13:22	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane	*84*		*45 - 120*	*06/02/15 07:26*	*06/02/15 13:22*	*1*

Lab Sample ID: LCS 440-258737/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 258757 — **Prep Batch: 258737**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
C10-C28	1.00	0.859		mg/L		86	40 - 115

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
n-Octacosane	*89*		*45 - 120*

Method: 8015B - Diesel Range Organics (DRO) (GC) Low Level (Continued)

Lab Sample ID: LCSD 440-258737/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 258757 — **Prep Batch: 258737**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
C10-C28			1.00	0.850		mg/L		85	40 - 115	1	25

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
n-Octacosane	*89*		*45 - 120*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 440-257753/55 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 257753

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as NO3	ND		0.50	0.25	mg/L			05/29/15 02:42	1

Lab Sample ID: LCS 440-257753/56 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 257753

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Nitrate as NO3			5.00	4.57		mg/L		91	90 - 110		

Lab Sample ID: 440-111303-5 MS — **Client Sample ID: W005**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 257753

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Nitrate as NO3	ND		50.0	75.6	F1	mg/L		151	80 - 120		

Lab Sample ID: 440-111303-5 MSD — **Client Sample ID: W005**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 257753

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Nitrate as NO3	ND		50.0	66.7	F1	mg/L		133	80 - 120	12	20

Lab Sample ID: MB 440-257754/55 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 257754

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	ND		0.50	0.25	mg/L			05/29/15 02:42	1
Chloride	ND		0.50	0.25	mg/L			05/29/15 02:42	1
Fluoride	ND		0.50	0.25	mg/L			05/29/15 02:42	1
Sulfate	ND		0.50	0.25	mg/L			05/29/15 02:42	1

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 440-257754/56 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 257754

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Bromide	5.00	4.86		mg/L		97	90 - 110
Chloride	5.00	4.71		mg/L		94	90 - 110
Fluoride	5.00	4.61		mg/L		92	90 - 110
Sulfate	5.00	4.99		mg/L		100	90 - 110

Lab Sample ID: 440-111303-5 MS — **Client Sample ID: W005**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 257754

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Bromide	56	F1	50.0	127	F1	mg/L		141	80 - 120
Fluoride	30	F1	50.0	50.5	F1	mg/L		41	80 - 120
Sulfate	260		50.0	290	4	mg/L		67	80 - 120

Lab Sample ID: 440-111303-5 MSD — **Client Sample ID: W005**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 257754

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Bromide	56	F1	50.0	127	F1	mg/L		141	80 - 120	0	20
Fluoride	30	F1	50.0	50.2	F1	mg/L		40	80 - 120	1	20
Sulfate	260		50.0	287	4	mg/L		62	80 - 120	1	20

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: MB 440-258298/1-C — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 258883 — **Prep Batch: 258507**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	ND		0.050	0.010	mg/L		06/01/15 09:52	06/02/15 12:24	1
Calcium	ND		0.10	0.050	mg/L		06/01/15 09:52	06/02/15 12:24	1
Iron	ND		0.040	0.010	mg/L		06/01/15 09:52	06/02/15 12:24	1
Lithium	ND		0.50	0.025	mg/L		06/01/15 09:52	06/02/15 12:24	1
Magnesium	ND		0.020	0.010	mg/L		06/01/15 09:52	06/02/15 12:24	1
Manganese	ND		0.020	0.010	mg/L		06/01/15 09:52	06/02/15 12:24	1
Potassium	ND		0.50	0.25	mg/L		06/01/15 09:52	06/02/15 12:24	1
Sodium	ND		0.50	0.25	mg/L		06/01/15 09:52	06/02/15 12:24	1
Strontium	ND		0.020	0.010	mg/L		06/01/15 09:52	06/02/15 12:24	1

Lab Sample ID: LCS 440-258298/2-C — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 258883 — **Prep Batch: 258507**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	0.500	0.482		mg/L		96	85 - 115
Calcium	2.50	2.44		mg/L		97	85 - 115
Iron	0.500	0.484		mg/L		97	85 - 115
Lithium	0.500	0.456	J	mg/L		91	85 - 115

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: LCS 440-258298/2-C — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 258883 — **Prep Batch: 258507**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Magnesium	2.50	2.41		mg/L		96	85 - 115
Manganese	0.500	0.500		mg/L		100	85 - 115
Potassium	5.00	4.88		mg/L		98	85 - 115
Sodium	5.00	4.83		mg/L		97	85 - 115
Strontium	0.500	0.492		mg/L		98	85 - 115

Lab Sample ID: 440-111303-1 MS — **Client Sample ID: W001**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 258883 — **Prep Batch: 258507**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	67	HF	0.500	70.0	4	mg/L		506	70 - 130
Calcium	54	HF	2.50	56.8	4	mg/L		114	70 - 130
Iron	ND	HF	0.500	0.495		mg/L		99	70 - 130
Lithium	0.59	J HF	0.500	1.16	J	mg/L		112	70 - 130
Magnesium	59	HF	2.50	62.1	4	mg/L		139	70 - 130
Manganese	ND	HF	0.500	0.492		mg/L		98	70 - 130
Potassium	65	HF	5.00	70.7	4	mg/L		116	70 - 130
Sodium	3400	HF	5.00	3490	4	mg/L		1862	70 - 130
Strontium	4.0	HF	0.500	4.56	4	mg/L		110	70 - 130

Lab Sample ID: 440-111303-1 MSD — **Client Sample ID: W001**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 258883 — **Prep Batch: 258507**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Boron	67	HF	0.500	66.8	4	mg/L		-138	70 - 130	5	20
Calcium	54	HF	2.50	52.9	4	mg/L		-42	70 - 130	7	20
Iron	ND	HF	0.500	0.465		mg/L		93	70 - 130	6	20
Lithium	0.59	J HF	0.500	1.11	J	mg/L		102	70 - 130	5	20
Magnesium	59	HF	2.50	58.8	4	mg/L		6	70 - 130	5	20
Manganese	ND	HF	0.500	0.463		mg/L		93	70 - 130	6	20
Potassium	65	HF	5.00	65.7	4	mg/L		16	70 - 130	7	20
Sodium	3400	HF	5.00	3250	4	mg/L		-3076	70 - 130	7	20
Strontium	4.0	HF	0.500	4.24	4	mg/L		46	70 - 130	7	20

Method: 200.8 - Metals (ICP/MS)

Lab Sample ID: MB 440-258298/1-E — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 258930 — **Prep Batch: 258772**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Uranium	ND		1.0	0.50	ug/L		06/02/15 09:44	06/02/15 17:46	1

Method: 200.8 - Metals (ICP/MS) (Continued)

Lab Sample ID: LCS 440-258298/2-E — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 258930 — **Prep Batch: 258772**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Uranium	80.0	81.6		ug/L		102	85 - 115

Lab Sample ID: LCSD 440-258298/3-B — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 258930 — **Prep Batch: 258772**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Uranium	80.0	80.9		ug/L		101	85 - 115	1	20

Lab Sample ID: 550-45178-B-2-C MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 258930 — **Prep Batch: 258772**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Uranium	ND	HF	80.0	80.3		ug/L		100	70 - 130

Lab Sample ID: 550-45178-B-2-D MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 258930 — **Prep Batch: 258772**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Uranium	ND	HF	80.0	80.8		ug/L		101	70 - 130	1	20

Method: 6010B - Metals (ICP)

Lab Sample ID: MB 440-258298/1-B — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 258741 — **Prep Batch: 258490**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.010	0.0060	mg/L		06/01/15 09:06	06/01/15 22:29	1

Lab Sample ID: MB 440-258298/1-B — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 258792 — **Prep Batch: 258490**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.00594	J	0.010	0.0050	mg/L		06/01/15 09:06	06/02/15 09:07	1
Barium	ND		0.010	0.0050	mg/L		06/01/15 09:06	06/02/15 09:07	1
Beryllium	ND		0.0020	0.0010	mg/L		06/01/15 09:06	06/02/15 09:07	1
Cadmium	ND		0.0050	0.0020	mg/L		06/01/15 09:06	06/02/15 09:07	1
Chromium	ND		0.0050	0.0025	mg/L		06/01/15 09:06	06/02/15 09:07	1
Cobalt	ND		0.010	0.0025	mg/L		06/01/15 09:06	06/02/15 09:07	1
Copper	ND		0.010	0.0050	mg/L		06/01/15 09:06	06/02/15 09:07	1
Lead	ND		0.0050	0.0025	mg/L		06/01/15 09:06	06/02/15 09:07	1
Molybdenum	ND		0.020	0.010	mg/L		06/01/15 09:06	06/02/15 09:07	1
Nickel	ND		0.010	0.0050	mg/L		06/01/15 09:06	06/02/15 09:07	1
Selenium	ND		0.010	0.0061	mg/L		06/01/15 09:06	06/02/15 09:07	1
Silver	ND		0.010	0.0050	mg/L		06/01/15 09:06	06/02/15 09:07	1

Method: 6010B - Metals (ICP) (Continued)

Lab Sample ID: MB 440-258298/1-B — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 258792 — **Prep Batch: 258490**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Thallium	ND		0.010	0.0050	mg/L		06/01/15 09:06	06/02/15 09:07	1
Vanadium	ND		0.010	0.0050	mg/L		06/01/15 09:06	06/02/15 09:07	1
Zinc	ND		0.020	0.010	mg/L		06/01/15 09:06	06/02/15 09:07	1

Lab Sample ID: LCS 440-258298/2-B — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 258741 — **Prep Batch: 258490**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	1.00	1.01		mg/L		101	80 - 120

Lab Sample ID: LCS 440-258298/2-B — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 258792 — **Prep Batch: 258490**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	1.00	0.986		mg/L		99	80 - 120
Barium	1.00	0.999		mg/L		100	80 - 120
Beryllium	1.00	0.986		mg/L		99	80 - 120
Cadmium	1.00	0.984		mg/L		98	80 - 120
Chromium	1.00	0.967		mg/L		97	80 - 120
Cobalt	1.00	0.971		mg/L		97	80 - 120
Copper	1.00	1.02		mg/L		102	80 - 120
Lead	1.00	1.02		mg/L		102	80 - 120
Molybdenum	1.00	0.993		mg/L		99	80 - 120
Nickel	1.00	0.964		mg/L		96	80 - 120
Selenium	1.00	0.952		mg/L		95	80 - 120
Silver	0.500	0.497		mg/L		99	80 - 120
Thallium	1.00	1.01		mg/L		101	80 - 120
Vanadium	1.00	0.993		mg/L		99	80 - 120
Zinc	1.00	0.953		mg/L		95	80 - 120

Lab Sample ID: 440-110695-M-1-C MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 258741 — **Prep Batch: 258490**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	ND		1.00	0.992		mg/L		99	75 - 125

Lab Sample ID: 440-110695-M-1-C MS ^10 — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 258792 — **Prep Batch: 258490**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	0.12	B	1.00	1.12		mg/L		100	75 - 125
Barium	0.18		1.00	1.23		mg/L		106	75 - 125
Beryllium	ND		1.00	1.02		mg/L		102	75 - 125
Cadmium	ND		1.00	0.981		mg/L		98	75 - 125
Chromium	ND		1.00	1.01		mg/L		101	75 - 125

Method: 6010B - Metals (ICP) (Continued)

Lab Sample ID: 440-110695-M-1-C MS ^10 — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 258792 — **Prep Batch: 258490**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Cobalt	ND		1.00	1.02		mg/L		102	75 - 125
Copper	ND		1.00	1.03		mg/L		103	75 - 125
Lead	0.044	J	1.00	1.05		mg/L		100	75 - 125
Molybdenum	0.11	J ^	1.00	1.05		mg/L		94	75 - 125
Nickel	ND		1.00	1.06		mg/L		106	75 - 125
Selenium	ND		1.00	1.01		mg/L		101	75 - 125
Silver	ND		0.500	0.506		mg/L		101	75 - 125
Thallium	ND		1.00	0.965		mg/L		96	75 - 125
Vanadium	ND		1.00	1.01		mg/L		101	75 - 125
Zinc	ND		1.00	0.964		mg/L		96	75 - 125

Lab Sample ID: 440-110695-M-1-D MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 258741 — **Prep Batch: 258490**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Antimony	ND		1.00	0.981		mg/L		98	75 - 125	1	20

Lab Sample ID: 440-110695-M-1-D MSD ^10 — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 258792 — **Prep Batch: 258490**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	0.12	B	1.00	1.04		mg/L		92	75 - 125	7	20
Barium	0.18		1.00	1.15		mg/L		97	75 - 125	7	20
Beryllium	ND		1.00	0.970		mg/L		97	75 - 125	5	20
Cadmium	ND		1.00	0.989		mg/L		99	75 - 125	1	20
Chromium	ND		1.00	0.948		mg/L		95	75 - 125	7	20
Cobalt	ND		1.00	0.956		mg/L		96	75 - 125	6	20
Copper	ND		1.00	0.969		mg/L		97	75 - 125	6	20
Lead	0.044	J	1.00	0.980		mg/L		94	75 - 125	6	20
Molybdenum	0.11	J ^	1.00	0.993		mg/L		89	75 - 125	5	20
Nickel	ND		1.00	0.990		mg/L		99	75 - 125	7	20
Selenium	ND		1.00	0.914		mg/L		91	75 - 125	10	20
Silver	ND		0.500	0.488		mg/L		98	75 - 125	4	20
Thallium	ND		1.00	0.918		mg/L		92	75 - 125	5	20
Vanadium	ND		1.00	0.954		mg/L		95	75 - 125	6	20
Zinc	ND		1.00	0.969		mg/L		97	75 - 125	1	20

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 440-258298/1-D — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 258594 — **Prep Batch: 258517**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00010	mg/L		06/01/15 10:11	06/01/15 13:09	1

Method: 7470A - Mercury (CVAA) (Continued)

Lab Sample ID: LCS 440-258298/2-D — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 258594 — **Prep Batch: 258517**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Mercury			0.00800	0.00784		mg/L		98	80 - 120		

Lab Sample ID: 440-111303-8 MS — **Client Sample ID: W008**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 258594 — **Prep Batch: 258517**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Mercury	ND	F1	0.00800	0.00282	F1	mg/L		35	70 - 130		

Lab Sample ID: 440-111303-8 MSD — **Client Sample ID: W008**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 258594 — **Prep Batch: 258517**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	ND	F1	0.00800	0.00283	F1	mg/L		35	70 - 130	0	20

Method: SM 2320B - Alkalinity

Lab Sample ID: MB 440-258314/3 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 258314

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	ND		4.0	4.0	mg/L			05/29/15 07:10	1
Bicarbonate Alkalinity as CaCO3	ND		4.0	4.0	mg/L			05/29/15 07:10	1
Carbonate Alkalinity as CaCO3	ND		4.0	4.0	mg/L			05/29/15 07:10	1
Hydroxide Alkalinity as CaCO3	ND		4.0	4.0	mg/L			05/29/15 07:10	1

Lab Sample ID: LCS 440-258314/2 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 258314

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Alkalinity as CaCO3			85.4	77.8		mg/L		91	80 - 120		

Lab Sample ID: 440-111306-B-1 DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 258314

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Alkalinity as CaCO3	240			245		mg/L				0.3	20
Bicarbonate Alkalinity as CaCO3	150			151		mg/L				0.4	20
Carbonate Alkalinity as CaCO3	95			94.6		mg/L				0	20
Hydroxide Alkalinity as CaCO3	ND			ND		mg/L				NC	20

QC Sample Results

Client: AMEC Foster Wheeler E & I, Inc
Project/Site: Chevron Coalinga

TestAmerica Job ID: 440-111303-1

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 440-258614/1
Matrix: Water
Analysis Batch: 258614

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		10	5.0	mg/L			06/01/15 15:42	1

Lab Sample ID: LCS 440-258614/2
Matrix: Water
Analysis Batch: 258614

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Total Dissolved Solids			1000	1070		mg/L		107	90 - 110		

Lab Sample ID: 440-111303-1 DU
Matrix: Water
Analysis Batch: 258614

Client Sample ID: W001
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Dissolved Solids	12000			11800		mg/L				3	5

QC Association Summary

Client: AMEC Foster Wheeler E & I, Inc
Project/Site: Chevron Coalinga

TestAmerica Job ID: 440-111303-1

GC/MS VOA

Analysis Batch: 258319

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-111303-1	W001	Total/NA	Water	8260B	
440-111303-1 MS	W001	Total/NA	Water	8260B	
440-111303-1 MSD	W001	Total/NA	Water	8260B	
440-111303-2	W002	Total/NA	Water	8260B	
440-111303-3	W003	Total/NA	Water	8260B	
440-111303-4	W004	Total/NA	Water	8260B	
440-111303-5	W005	Total/NA	Water	8260B	
440-111303-6	W006	Total/NA	Water	8260B	
440-111303-7	W007	Total/NA	Water	8260B	
440-111303-8	W008	Total/NA	Water	8260B	
440-111303-9	W009	Total/NA	Water	8260B	
LCS 440-258319/5	Lab Control Sample	Total/NA	Water	8260B	
MB 440-258319/4	Method Blank	Total/NA	Water	8260B	

GC/MS Semi VOA

Prep Batch: 258110

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-111303-1	W001	Total/NA	Water	3520C	
440-111303-2	W002	Total/NA	Water	3520C	
440-111303-3	W003	Total/NA	Water	3520C	
440-111303-4	W004	Total/NA	Water	3520C	
440-111303-5	W005	Total/NA	Water	3520C	
440-111303-6	W006	Total/NA	Water	3520C	
440-111303-7	W007	Total/NA	Water	3520C	
440-111303-8	W008	Total/NA	Water	3520C	
LCS 440-258110/12-A	Lab Control Sample	Total/NA	Water	3520C	
LCSD 440-258110/3-A	Lab Control Sample Dup	Total/NA	Water	3520C	
MB 440-258110/1-A	Method Blank	Total/NA	Water	3520C	

Analysis Batch: 258419

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-111303-1	W001	Total/NA	Water	8270C SIM	258110
440-111303-2	W002	Total/NA	Water	8270C SIM	258110
440-111303-3	W003	Total/NA	Water	8270C SIM	258110
440-111303-4	W004	Total/NA	Water	8270C SIM	258110
440-111303-5	W005	Total/NA	Water	8270C SIM	258110
440-111303-6	W006	Total/NA	Water	8270C SIM	258110
440-111303-7	W007	Total/NA	Water	8270C SIM	258110
440-111303-8	W008	Total/NA	Water	8270C SIM	258110
LCS 440-258110/12-A	Lab Control Sample	Total/NA	Water	8270C SIM	258110
LCSD 440-258110/3-A	Lab Control Sample Dup	Total/NA	Water	8270C SIM	258110
MB 440-258110/1-A	Method Blank	Total/NA	Water	8270C SIM	258110

GC Semi VOA

Prep Batch: 258169

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-111303-1	W001	Total/NA	Water	3510C	
440-111303-2	W002	Total/NA	Water	3510C	

GC Semi VOA (Continued)

Prep Batch: 258169 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-111303-3	W003	Total/NA	Water	3510C	
440-111303-4	W004	Total/NA	Water	3510C	
440-111303-5	W005	Total/NA	Water	3510C	
LCS 440-258169/2-A	Lab Control Sample	Total/NA	Water	3510C	
LCSD 440-258169/3-A	Lab Control Sample Dup	Total/NA	Water	3510C	
MB 440-258169/1-A	Method Blank	Total/NA	Water	3510C	

Prep Batch: 258737

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-111303-6	W006	Total/NA	Water	3510C	
440-111303-7	W007	Total/NA	Water	3510C	
440-111303-8	W008	Total/NA	Water	3510C	
LCS 440-258737/2-A	Lab Control Sample	Total/NA	Water	3510C	
LCSD 440-258737/3-A	Lab Control Sample Dup	Total/NA	Water	3510C	
MB 440-258737/1-A	Method Blank	Total/NA	Water	3510C	

Analysis Batch: 258757

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 440-258169/2-A	Lab Control Sample	Total/NA	Water	8015B	258169
LCS 440-258737/2-A	Lab Control Sample	Total/NA	Water	8015B	258737
LCSD 440-258169/3-A	Lab Control Sample Dup	Total/NA	Water	8015B	258169
LCSD 440-258737/3-A	Lab Control Sample Dup	Total/NA	Water	8015B	258737
MB 440-258169/1-A	Method Blank	Total/NA	Water	8015B	258169
MB 440-258737/1-A	Method Blank	Total/NA	Water	8015B	258737

Analysis Batch: 258758

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-111303-1	W001	Total/NA	Water	8015B	258169
440-111303-2	W002	Total/NA	Water	8015B	258169
440-111303-3	W003	Total/NA	Water	8015B	258169
440-111303-4	W004	Total/NA	Water	8015B	258169
440-111303-5	W005	Total/NA	Water	8015B	258169
440-111303-6	W006	Total/NA	Water	8015B	258737
440-111303-7	W007	Total/NA	Water	8015B	258737
440-111303-8	W008	Total/NA	Water	8015B	258737

HPLC/IC

Analysis Batch: 257753

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-111303-1	W001	Total/NA	Water	300.0	
440-111303-2	W002	Total/NA	Water	300.0	
440-111303-3	W003	Total/NA	Water	300.0	
440-111303-4	W004	Total/NA	Water	300.0	
440-111303-5	W005	Total/NA	Water	300.0	
440-111303-5 MS	W005	Total/NA	Water	300.0	
440-111303-5 MSD	W005	Total/NA	Water	300.0	
440-111303-6	W006	Total/NA	Water	300.0	
440-111303-7	W007	Total/NA	Water	300.0	
440-111303-8	W008	Total/NA	Water	300.0	

HPLC/IC (Continued)

Analysis Batch: 257753 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 440-257753/56	Lab Control Sample	Total/NA	Water	300.0	
MB 440-257753/55	Method Blank	Total/NA	Water	300.0	

Analysis Batch: 257754

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-111303-1	W001	Total/NA	Water	300.0	
440-111303-1	W001	Total/NA	Water	300.0	
440-111303-2	W002	Total/NA	Water	300.0	
440-111303-2	W002	Total/NA	Water	300.0	
440-111303-3	W003	Total/NA	Water	300.0	
440-111303-3	W003	Total/NA	Water	300.0	
440-111303-4	W004	Total/NA	Water	300.0	
440-111303-4	W004	Total/NA	Water	300.0	
440-111303-5	W005	Total/NA	Water	300.0	
440-111303-5	W005	Total/NA	Water	300.0	
440-111303-5 MS	W005	Total/NA	Water	300.0	
440-111303-5 MSD	W005	Total/NA	Water	300.0	
440-111303-6	W006	Total/NA	Water	300.0	
440-111303-6	W006	Total/NA	Water	300.0	
440-111303-7	W007	Total/NA	Water	300.0	
440-111303-7	W007	Total/NA	Water	300.0	
440-111303-8	W008	Total/NA	Water	300.0	
440-111303-8	W008	Total/NA	Water	300.0	
LCS 440-257754/56	Lab Control Sample	Total/NA	Water	300.0	
MB 440-257754/55	Method Blank	Total/NA	Water	300.0	

Metals

Filtration Batch: 258298

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-110695-M-1-C MS	Matrix Spike	Dissolved	Water	FILTRATION	
440-110695-M-1-C MS ^10	Matrix Spike	Dissolved	Water	FILTRATION	
440-110695-M-1-D MSD	Matrix Spike Duplicate	Dissolved	Water	FILTRATION	
440-110695-M-1-D MSD ^10	Matrix Spike Duplicate	Dissolved	Water	FILTRATION	
440-111303-1	W001	Dissolved	Water	FILTRATION	
440-111303-1 MS	W001	Dissolved	Water	FILTRATION	
440-111303-1 MSD	W001	Dissolved	Water	FILTRATION	
440-111303-2	W002	Dissolved	Water	FILTRATION	
440-111303-3	W003	Dissolved	Water	FILTRATION	
440-111303-4	W004	Dissolved	Water	FILTRATION	
440-111303-5	W005	Dissolved	Water	FILTRATION	
440-111303-6	W006	Dissolved	Water	FILTRATION	
440-111303-7	W007	Dissolved	Water	FILTRATION	
440-111303-8	W008	Dissolved	Water	FILTRATION	
440-111303-8 MS	W008	Dissolved	Water	FILTRATION	
440-111303-8 MSD	W008	Dissolved	Water	FILTRATION	
550-45178-B-2-C MS	Matrix Spike	Dissolved	Water	FILTRATION	
550-45178-B-2-D MSD	Matrix Spike Duplicate	Dissolved	Water	FILTRATION	
LCS 440-258298/2-B	Lab Control Sample	Dissolved	Water	FILTRATION	
LCS 440-258298/2-C	Lab Control Sample	Dissolved	Water	FILTRATION	

Metals (Continued)

Filtration Batch: 258298 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 440-258298/2-D	Lab Control Sample	Dissolved	Water	FILTRATION	
LCS 440-258298/2-E	Lab Control Sample	Dissolved	Water	FILTRATION	
LCSD 440-258298/3-B	Lab Control Sample Dup	Dissolved	Water	FILTRATION	
MB 440-258298/1-B	Method Blank	Dissolved	Water	FILTRATION	
MB 440-258298/1-C	Method Blank	Dissolved	Water	FILTRATION	
MB 440-258298/1-D	Method Blank	Dissolved	Water	FILTRATION	
MB 440-258298/1-E	Method Blank	Dissolved	Water	FILTRATION	

Prep Batch: 258490

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-110695-M-1-C MS	Matrix Spike	Dissolved	Water	3005A	258298
440-110695-M-1-C MS ^10	Matrix Spike	Dissolved	Water	3005A	258298
440-110695-M-1-D MSD	Matrix Spike Duplicate	Dissolved	Water	3005A	258298
440-110695-M-1-D MSD ^10	Matrix Spike Duplicate	Dissolved	Water	3005A	258298
440-111303-1	W001	Dissolved	Water	3005A	258298
440-111303-2	W002	Dissolved	Water	3005A	258298
440-111303-3	W003	Dissolved	Water	3005A	258298
440-111303-4	W004	Dissolved	Water	3005A	258298
440-111303-5	W005	Dissolved	Water	3005A	258298
440-111303-6	W006	Dissolved	Water	3005A	258298
440-111303-7	W007	Dissolved	Water	3005A	258298
440-111303-8	W008	Dissolved	Water	3005A	258298
LCS 440-258298/2-B	Lab Control Sample	Dissolved	Water	3005A	258298
MB 440-258298/1-B	Method Blank	Dissolved	Water	3005A	258298

Prep Batch: 258507

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-111303-1	W001	Dissolved	Water	200.2	258298
440-111303-1 MS	W001	Dissolved	Water	200.2	258298
440-111303-1 MSD	W001	Dissolved	Water	200.2	258298
440-111303-2	W002	Dissolved	Water	200.2	258298
440-111303-3	W003	Dissolved	Water	200.2	258298
440-111303-4	W004	Dissolved	Water	200.2	258298
440-111303-5	W005	Dissolved	Water	200.2	258298
440-111303-6	W006	Dissolved	Water	200.2	258298
440-111303-7	W007	Dissolved	Water	200.2	258298
440-111303-8	W008	Dissolved	Water	200.2	258298
LCS 440-258298/2-C	Lab Control Sample	Dissolved	Water	200.2	258298
MB 440-258298/1-C	Method Blank	Dissolved	Water	200.2	258298

Prep Batch: 258517

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-111303-1	W001	Dissolved	Water	7470A	258298
440-111303-2	W002	Dissolved	Water	7470A	258298
440-111303-3	W003	Dissolved	Water	7470A	258298
440-111303-4	W004	Dissolved	Water	7470A	258298
440-111303-5	W005	Dissolved	Water	7470A	258298
440-111303-6	W006	Dissolved	Water	7470A	258298
440-111303-7	W007	Dissolved	Water	7470A	258298
440-111303-8	W008	Dissolved	Water	7470A	258298
440-111303-8 MS	W008	Dissolved	Water	7470A	258298

Metals (Continued)

Prep Batch: 258517 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-111303-8 MSD	W008	Dissolved	Water	7470A	258298
LCS 440-258298/2-D	Lab Control Sample	Dissolved	Water	7470A	258298
MB 440-258298/1-D	Method Blank	Dissolved	Water	7470A	258298

Analysis Batch: 258594

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-111303-1	W001	Dissolved	Water	7470A	258517
440-111303-2	W002	Dissolved	Water	7470A	258517
440-111303-3	W003	Dissolved	Water	7470A	258517
440-111303-4	W004	Dissolved	Water	7470A	258517
440-111303-5	W005	Dissolved	Water	7470A	258517
440-111303-6	W006	Dissolved	Water	7470A	258517
440-111303-7	W007	Dissolved	Water	7470A	258517
440-111303-8	W008	Dissolved	Water	7470A	258517
440-111303-8 MS	W008	Dissolved	Water	7470A	258517
440-111303-8 MSD	W008	Dissolved	Water	7470A	258517
LCS 440-258298/2-D	Lab Control Sample	Dissolved	Water	7470A	258517
MB 440-258298/1-D	Method Blank	Dissolved	Water	7470A	258517

Analysis Batch: 258741

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-110695-M-1-C MS	Matrix Spike	Dissolved	Water	6010B	258490
440-110695-M-1-D MSD	Matrix Spike Duplicate	Dissolved	Water	6010B	258490
440-111303-2	W002	Dissolved	Water	6010B	258490
440-111303-3	W003	Dissolved	Water	6010B	258490
440-111303-4	W004	Dissolved	Water	6010B	258490
440-111303-5	W005	Dissolved	Water	6010B	258490
440-111303-6	W006	Dissolved	Water	6010B	258490
440-111303-8	W008	Dissolved	Water	6010B	258490
LCS 440-258298/2-B	Lab Control Sample	Dissolved	Water	6010B	258490
MB 440-258298/1-B	Method Blank	Dissolved	Water	6010B	258490

Prep Batch: 258772

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-111303-1	W001	Dissolved	Water	200.2	258298
440-111303-2	W002	Dissolved	Water	200.2	258298
440-111303-3	W003	Dissolved	Water	200.2	258298
440-111303-4	W004	Dissolved	Water	200.2	258298
440-111303-5	W005	Dissolved	Water	200.2	258298
440-111303-6	W006	Dissolved	Water	200.2	258298
440-111303-7	W007	Dissolved	Water	200.2	258298
440-111303-8	W008	Dissolved	Water	200.2	258298
550-45178-B-2-C MS	Matrix Spike	Dissolved	Water	200.2	258298
550-45178-B-2-D MSD	Matrix Spike Duplicate	Dissolved	Water	200.2	258298
LCS 440-258298/2-E	Lab Control Sample	Dissolved	Water	200.2	258298
LCSD 440-258298/3-B	Lab Control Sample Dup	Dissolved	Water	200.2	258298
MB 440-258298/1-E	Method Blank	Dissolved	Water	200.2	258298

Analysis Batch: 258792

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-110695-M-1-C MS ^10	Matrix Spike	Dissolved	Water	6010B	258490

Metals (Continued)

Analysis Batch: 258792 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-110695-M-1-D MSD ^10	Matrix Spike Duplicate	Dissolved	Water	6010B	258490
440-111303-1	W001	Dissolved	Water	6010B	258490
440-111303-2	W002	Dissolved	Water	6010B	258490
440-111303-3	W003	Dissolved	Water	6010B	258490
440-111303-4	W004	Dissolved	Water	6010B	258490
440-111303-5	W005	Dissolved	Water	6010B	258490
440-111303-6	W006	Dissolved	Water	6010B	258490
440-111303-7	W007	Dissolved	Water	6010B	258490
440-111303-8	W008	Dissolved	Water	6010B	258490
LCS 440-258298/2-B	Lab Control Sample	Dissolved	Water	6010B	258490
MB 440-258298/1-B	Method Blank	Dissolved	Water	6010B	258490

Analysis Batch: 258883

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-111303-1	W001	Dissolved	Water	200.7 Rev 4.4	258507
440-111303-1 MS	W001	Dissolved	Water	200.7 Rev 4.4	258507
440-111303-1 MSD	W001	Dissolved	Water	200.7 Rev 4.4	258507
440-111303-2	W002	Dissolved	Water	200.7 Rev 4.4	258507
440-111303-3	W003	Dissolved	Water	200.7 Rev 4.4	258507
440-111303-3	W003	Dissolved	Water	200.7 Rev 4.4	258507
440-111303-4	W004	Dissolved	Water	200.7 Rev 4.4	258507
440-111303-5	W005	Dissolved	Water	200.7 Rev 4.4	258507
440-111303-6	W006	Dissolved	Water	200.7 Rev 4.4	258507
440-111303-7	W007	Dissolved	Water	200.7 Rev 4.4	258507
440-111303-8	W008	Dissolved	Water	200.7 Rev 4.4	258507
LCS 440-258298/2-C	Lab Control Sample	Dissolved	Water	200.7 Rev 4.4	258507
MB 440-258298/1-C	Method Blank	Dissolved	Water	200.7 Rev 4.4	258507

Analysis Batch: 258930

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-111303-1	W001	Dissolved	Water	200.8	258772
440-111303-2	W002	Dissolved	Water	200.8	258772
440-111303-3	W003	Dissolved	Water	200.8	258772
440-111303-4	W004	Dissolved	Water	200.8	258772
440-111303-5	W005	Dissolved	Water	200.8	258772
440-111303-6	W006	Dissolved	Water	200.8	258772
440-111303-7	W007	Dissolved	Water	200.8	258772
440-111303-8	W008	Dissolved	Water	200.8	258772
550-45178-B-2-C MS	Matrix Spike	Dissolved	Water	200.8	258772
550-45178-B-2-D MSD	Matrix Spike Duplicate	Dissolved	Water	200.8	258772
LCS 440-258298/2-E	Lab Control Sample	Dissolved	Water	200.8	258772
LCSD 440-258298/3-B	Lab Control Sample Dup	Dissolved	Water	200.8	258772
MB 440-258298/1-E	Method Blank	Dissolved	Water	200.8	258772

General Chemistry

Analysis Batch: 258314

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-111303-1	W001	Total/NA	Water	SM 2320B	
440-111303-2	W002	Total/NA	Water	SM 2320B	

General Chemistry (Continued)

Analysis Batch: 258314 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-111303-3	W003	Total/NA	Water	SM 2320B	
440-111303-4	W004	Total/NA	Water	SM 2320B	
440-111303-5	W005	Total/NA	Water	SM 2320B	
440-111303-6	W006	Total/NA	Water	SM 2320B	
440-111303-7	W007	Total/NA	Water	SM 2320B	
440-111303-8	W008	Total/NA	Water	SM 2320B	
440-111306-B-1 DU	Duplicate	Total/NA	Water	SM 2320B	
LCS 440-258314/2	Lab Control Sample	Total/NA	Water	SM 2320B	
MB 440-258314/3	Method Blank	Total/NA	Water	SM 2320B	

Analysis Batch: 258614

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-111303-1	W001	Total/NA	Water	SM 2540C	
440-111303-1 DU	W001	Total/NA	Water	SM 2540C	
440-111303-2	W002	Total/NA	Water	SM 2540C	
440-111303-3	W003	Total/NA	Water	SM 2540C	
440-111303-4	W004	Total/NA	Water	SM 2540C	
440-111303-5	W005	Total/NA	Water	SM 2540C	
440-111303-6	W006	Total/NA	Water	SM 2540C	
440-111303-7	W007	Total/NA	Water	SM 2540C	
440-111303-8	W008	Total/NA	Water	SM 2540C	
LCS 440-258614/2	Lab Control Sample	Total/NA	Water	SM 2540C	
MB 440-258614/1	Method Blank	Total/NA	Water	SM 2540C	

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC/MS Semi VOA

Qualifier	Qualifier Description
X	Surrogate is outside control limits
*	ISTD response or retention time outside acceptable limits
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC Semi VOA

Qualifier	Qualifier Description
X	Surrogate is outside control limits

HPLC/IC

Qualifier	Qualifier Description
F1	MS and/or MSD Recovery is outside acceptance limits.
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.

Metals

Qualifier	Qualifier Description
^	ICV,CCV,ICB,CCB, ISA, ISB, CRI, CRA, DLCK or MRL standard: Instrument related QC is outside acceptance limits.
B	Compound was found in the blank and sample.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
HF	Field parameter with a holding time of 15 minutes. Test performed by laboratory at client's request.
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
F1	MS and/or MSD Recovery is outside acceptance limits.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Certification Summary

Client: AMEC Foster Wheeler E & I, Inc
Project/Site: Chevron Coalinga

TestAmerica Job ID: 440-111303-1

Laboratory: TestAmerica Irvine

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Alaska	State Program	10	CA01531	06-30-15
Arizona	State Program	9	AZ0671	10-13-15
California	LA Cty Sanitation Districts	9	10256	01-31-16 *
California	State Program	9	2706	06-30-16
Guam	State Program	9	Cert. No. 12.002r	01-23-16
Hawaii	State Program	9	N/A	01-29-16
Nevada	State Program	9	CA015312007A	07-31-15
New Mexico	State Program	6	N/A	01-29-15 *
Northern Mariana Islands	State Program	9	MP0002	01-29-15 *
Oregon	NELAP	10	4005	01-29-16
USDA	Federal		P330-09-00080	06-06-15

* Certification renewal pending - certification considered valid.

CHAIN-OF-CUSTODY RECORD

FRE 17210

PROJECT NAME: CHEVRON COALINGA

DATE 5·27·15 PAGE 1 OF 1

PROJECT NUMBER: 015353

LABORATORY NAME: TEST AMERICA

CLIENT INFORMATION: CHEVRON

REPORTING REQUIREMENTS:

RESULTS TO: BRAD LOEWEN

LABORATORY ADDRESS:

TURNAROUND TIME: 5 DAY RUSH

SAMPLE SHIPMENT METHOD: FED EX

LABORATORY CONTACT: PATTY MATA

LABORATORY PHONE NUMBER:

amec foster wheeler

1281 East Alluvial Ave., Suite 101
Fresno, CA 93720-2659
+1 (559) 264-2535 • Fax +1 (559) 264-7431

SAMPLERS (SIGNATURE): [signature]

GEOTRACKER REQUIRED YES NO

SITE SPECIFIC GLOBAL ID NO.

ANALYSES

DATE	TIME	SAMPLE ID	BTEX VOCs 8260	PAH's 8270	METALS 6010B	METALS 200.7	URANIUM 200.8	TPH-D 8015B	ALKS 2320B	BROMIDE 300	CHLORIDE 300	NITRATE AS N 300	SULFATE 300	FLUORIDE 300	TDS 2540C	CONTAINER TYPE AND SIZE	Soil (S), Water (W), Vapor (V), or Other (O)	Filtered	Preservative Type	Cooled	MS/MSD	No. of Containers	ADDITIONAL COMMENTS
5.27.15	0915	W001	X	X	X	X	X	X	X	X	X	X	X	X	X	VARIOUS	W		HCL	X		9	
	0925	W002	X	X	X	X	X	X	X	X	X	X	X	X	X		W			X		9	
	1015	W003	X	X	X	X	X	X	X	X	X	X	X	X	X		W			X		9	
	1105	W004	X	X	X	X	X	X	X	X	X	X	X	X	X		W			X		9	
	1140	W005	X	X	X	X	X	X	X	X	X	X	X	X	X		W			X		9	
	1240	W006	X	X	X	X	X	X	X	X	X	X	X	X	X		W			X		9	
	1320	W007	X	X	X	X	X	X	X	X	X	X	X	X	X		W			X		9	
	1420	W008	X	X	X	X	X	X	X	X	X	X	X	X	X	VARIOUS	W			X		9	
5.27.15	—	W009	X													VOA	W		HCL	X		3	

440-111303 Chain of Custody

RELINQUISHED BY:	DATE	TIME	RECEIVED BY:	DATE	TIME
SIGNATURE: [signature]	05 27 15	1726	SIGNATURE: V. Banit	5/28/15	9:52
PRINTED NAME: ALEX OLSEN			PRINTED NAME: VN BANIT		
COMPANY: AMEC FW			COMPANY: TAI		
SIGNATURE:			SIGNATURE:		
PRINTED NAME:			PRINTED NAME:		
COMPANY:			COMPANY:		
SIGNATURE:			SIGNATURE:		
PRINTED NAME:			PRINTED NAME:		
COMPANY:			COMPANY:		

TOTAL NUMBER OF CONTAINERS 75

SAMPLING COMMENTS: ANY QUESTIONS CONTACT BRAD LOEWEN.
SHORT HOLD FOR NITRATE
6.8/5.6 4.7/3.5 5.8/4.6 5.6/4.4 6.2/5.0
IR-71
Fed: 8062 5838 2731

Login Sample Receipt Checklist

Client: AMEC Foster Wheeler E & I, Inc

Job Number: 440-111303-1

Login Number: 111303
List Number: 1
Creator: Escalante, Maria I

List Source: TestAmerica Irvine

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	False	Refer to Job Narrative for details.
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Irvine
17461 Derian Ave
Suite 100
Irvine, CA 92614-5817
Tel: (949)261-1022

TestAmerica Job ID: 440-111303-2
Client Project/Site: Chevron Coalinga

For:
AMEC Foster Wheeler E & I, Inc
1281 East Alluvial Avenue
Suite 101
Fresno, California 93720

Attn: Mr. Brad Loewen

Authorized for release by:
6/9/2015 11:47:32 AM

Patty Mata, Senior Project Manager
(949)261-1022
patty.mata@testamericainc.com

LINKS

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The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Sample Summary

Client: AMEC Foster Wheeler E & I, Inc
Project/Site: Chevron Coalinga

TestAmerica Job ID: 440-111303-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
440-111303-1	W001	Water	05/27/15 09:15	05/28/15 09:50
440-111303-2	W002	Water	05/27/15 09:25	05/28/15 09:50
440-111303-3	W003	Water	05/27/15 10:15	05/28/15 09:50
440-111303-4	W004	Water	05/27/15 11:05	05/28/15 09:50
440-111303-5	W005	Water	05/27/15 11:40	05/28/15 09:50
440-111303-6	W006	Water	05/27/15 12:40	05/28/15 09:50
440-111303-7	W007	Water	05/27/15 13:20	05/28/15 09:50
440-111303-8	W008	Water	05/27/15 14:20	05/28/15 09:50

Job ID: 440-111303-2

Laboratory: TestAmerica Irvine

Narrative

Job Narrative
440-111303-2

Comments
No additional comments.

Receipt
The samples were received on 5/28/2015 9:50 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 7 coolers at receipt time were 3.5º C, 4.4º C, 4.6º C, 5.0º C, 5.6º C (in Irvine), 20.0º C and 20.0º C (in St Louis).

Receipt Notes
The samples were received at TestAmerica Irvine on 5/28/15 at 0950. The coolers were received at acceptable temperatures of 5.6, 3.5, 4.6, 4.4, and 5.0 degrees C.

The samples were received at TestAmerica St. Louis on 5/29/15 at 0840. The coolers were received at acceptable temperatures of 20.0 and 20.0 degrees C.

RAD
Method(s) 9310: Gross alpha/beta prep batch: 192997
The detection goal was not met for the following gross alpha samples due to a reduction of the sample size attributed to high residual mass: W001 (440-111303-1), W002 (440-111303-2), W003 (440-111303-3), W004 (440-111303-4), W005 (440-111303-5), W006 (440-111303-6), W007 (440-111303-7), W008 (440-111303-8). Analytical results are reported with the detection limit achieved.

Method(s) 9320: Radium 228Prep Batch 193251:
The following samples did not meet the radium-228 detection goal due to the reduced sample volume attributed to matrix interferences: W001 (440-111303-1), W002 (440-111303-2), W003 (440-111303-3), W004 (440-111303-4), W005 (440-111303-5), W006 (440-111303-6), W007 (440-111303-7) and W008 (440-111303-8). The data have been qualified and reported.

Method(s) PrecSep_0: radium-228 batch 193251, and PrecSep_0: radium-226 batch 193246
The following samples were reduced to 250 mL because they had a strong sulfur smell and were yellow: W001 (440-111303-1), W002 (440-111303-2), W003 (440-111303-3), W004 (440-111303-4), W005 (440-111303-5), W006 (440-111303-6), W007 (440-111303-7) and W008 (440-111303-8) . A laboratory control sample and laboratory control sample duplicate was performed.

Method(s) PrecSep_0: The detection goal was not met for the following samples due to the presence of matrix interferences: W001 (440-111303-1), W002 (440-111303-2), W003 (440-111303-3), W004 (440-111303-4), W005 (440-111303-5), W006 (440-111303-6), W007 (440-111303-7) and W008 (440-111303-8). Analytical results are reported with the detection limit achieved.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

General Chemistry
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Client Sample Results

Client: AMEC Foster Wheeler E & I, Inc
Project/Site: Chevron Coalinga

TestAmerica Job ID: 440-111303-2

Client Sample ID: W001

Lab Sample ID: 440-111303-1
Date Collected: 05/27/15 09:15
Matrix: Water
Date Received: 05/28/15 09:50

Method: 9310 - Gross Alpha / Beta (GFPC) - Dissolved

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	MDC	Unit	Prepared	Analyzed	Dil Fac
Gross Alpha	11.7	U G	83.9	83.9	153	pCi/L	06/01/15 14:57	06/03/15 07:21	1
Gross Beta	4.89	U G	22.1	22.1	38.6	pCi/L	06/01/15 14:57	06/03/15 07:21	1

Method: 9315 - Radium-226 (GFPC) - Dissolved

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.141	U	0.333	0.333	0.592	pCi/L	06/02/15 13:58	06/07/15 19:17	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*90.6*		*40 - 110*	*06/02/15 13:58*	*06/07/15 19:17*	*1*

Method: 9320 - Radium-228 (GFPC) - Dissolved

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	**1.48**	**G**	0.946	0.955	1.45	pCi/L	06/02/15 14:30	06/05/15 12:06	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*92.6*		*40 - 110*	*06/02/15 14:30*	*06/05/15 12:06*	*1*
Y Carrier	*92.0*		*40 - 110*	*06/02/15 14:30*	*06/05/15 12:06*	*1*

Client Sample ID: W002

Lab Sample ID: 440-111303-2
Date Collected: 05/27/15 09:25
Matrix: Water
Date Received: 05/28/15 09:50

Method: 9310 - Gross Alpha / Beta (GFPC) - Dissolved

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	MDC	Unit	Prepared	Analyzed	Dil Fac
Gross Alpha	24.2	U G	84.0	84.1	150	pCi/L	06/01/15 14:57	06/03/15 07:21	1
Gross Beta	**68.0**	**G**	27.3	28.2	38.0	pCi/L	06/01/15 14:57	06/03/15 07:21	1

Method: 9315 - Radium-226 (GFPC) - Dissolved

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	**3.47**		0.878	0.932	0.911	pCi/L	06/02/15 13:58	06/07/15 19:17	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*60.2*		*40 - 110*	*06/02/15 13:58*	*06/07/15 19:17*	*1*

Method: 9320 - Radium-228 (GFPC) - Dissolved

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.919	U G	1.31	1.31	2.19	pCi/L	06/02/15 14:30	06/05/15 12:06	1

Client Sample Results

Client: AMEC Foster Wheeler E & I, Inc
Project/Site: Chevron Coalinga

TestAmerica Job ID: 440-111303-2

Client Sample ID: W002
Date Collected: 05/27/15 09:25
Date Received: 05/28/15 09:50

Lab Sample ID: 440-111303-2
Matrix: Water

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	67.8		40 - 110	06/02/15 14:30	06/05/15 12:06	1
Y Carrier	86.7		40 - 110	06/02/15 14:30	06/05/15 12:06	1

Client Sample ID: W003
Date Collected: 05/27/15 10:15
Date Received: 05/28/15 09:50

Lab Sample ID: 440-111303-3
Matrix: Water

Method: 9310 - Gross Alpha / Beta (GFPC) - Dissolved

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	MDC	Unit	Prepared	Analyzed	Dil Fac
Gross Alpha	-33.8	U G	155	155	297	pCi/L	06/01/15 14:57	06/03/15 10:59	1
Gross Beta	**74.0**	**G**	43.0	43.6	65.4	pCi/L	06/01/15 14:57	06/03/15 10:59	1

Method: 9315 - Radium-226 (GFPC) - Dissolved

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	**3.10**		0.584	0.647	0.459	pCi/L	06/02/15 13:58	06/07/15 19:17	1

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	95.9		40 - 110	06/02/15 13:58	06/07/15 19:17	1

Method: 9320 - Radium-228 (GFPC) - Dissolved

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	2.54	U G	1.85	1.86	2.89	pCi/L	06/02/15 14:30	06/05/15 12:06	1

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	48.4		40 - 110	06/02/15 14:30	06/05/15 12:06	1
Y Carrier	88.6		40 - 110	06/02/15 14:30	06/05/15 12:06	1

Client Sample ID: W004
Date Collected: 05/27/15 11:05
Date Received: 05/28/15 09:50

Lab Sample ID: 440-111303-4
Matrix: Water

Method: 9310 - Gross Alpha / Beta (GFPC) - Dissolved

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	MDC	Unit	Prepared	Analyzed	Dil Fac
Gross Alpha	26.7	U G	76.6	76.6	138	pCi/L	06/01/15 14:57	06/03/15 07:21	1
Gross Beta	**46.1**	**G**	28.6	29.0	43.8	pCi/L	06/01/15 14:57	06/03/15 07:21	1

Method: 9315 - Radium-226 (GFPC) - Dissolved

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	**1.71**		0.493	0.517	0.469	pCi/L	06/02/15 13:58	06/07/15 19:17	1

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	91.7		40 - 110	06/02/15 13:58	06/07/15 19:17	1

Client Sample Results

Client: AMEC Foster Wheeler E & I, Inc
Project/Site: Chevron Coalinga

TestAmerica Job ID: 440-111303-2

Method: 9320 - Radium-228 (GFPC) - Dissolved

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	1.46	U G	1.64	1.64	2.69	pCi/L	06/02/15 14:30	06/05/15 12:06	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*53.7*		*40 - 110*	*06/02/15 14:30*	*06/05/15 12:06*	*1*
Y Carrier	*90.5*		*40 - 110*	*06/02/15 14:30*	*06/05/15 12:06*	*1*

Client Sample ID: W005

Lab Sample ID: 440-111303-5

Date Collected: 05/27/15 11:40

Matrix: Water

Date Received: 05/28/15 09:50

Method: 9310 - Gross Alpha / Beta (GFPC) - Dissolved

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	MDC	Unit	Prepared	Analyzed	Dil Fac
Gross Alpha	32.2	U G	115	115	206	pCi/L	06/01/15 14:57	06/03/15 10:59	1
Gross Beta	36.1	U G	33.0	33.2	52.9	pCi/L	06/01/15 14:57	06/03/15 10:59	1

Method: 9315 - Radium-226 (GFPC) - Dissolved

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	**3.79**		0.704	0.783	0.558	pCi/L	06/02/15 13:58	06/07/15 19:17	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*96.5*		*40 - 110*	*06/02/15 13:58*	*06/07/15 19:17*	*1*

Method: 9320 - Radium-228 (GFPC) - Dissolved

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.254	U G	1.13	1.13	1.98	pCi/L	06/02/15 14:30	06/05/15 12:06	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*67.6*		*40 - 110*	*06/02/15 14:30*	*06/05/15 12:06*	*1*
Y Carrier	*90.1*		*40 - 110*	*06/02/15 14:30*	*06/05/15 12:06*	*1*

Client Sample ID: W006

Lab Sample ID: 440-111303-6

Date Collected: 05/27/15 12:40

Matrix: Water

Date Received: 05/28/15 09:50

Method: 9310 - Gross Alpha / Beta (GFPC) - Dissolved

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	MDC	Unit	Prepared	Analyzed	Dil Fac
Gross Alpha	6.58	U G	108	108	200	pCi/L	06/01/15 14:57	06/03/15 07:21	1
Gross Beta	**73.5**	**G**	33.1	33.9	47.5	pCi/L	06/01/15 14:57	06/03/15 07:21	1

Method: 9315 - Radium-226 (GFPC) - Dissolved

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	**4.13**		0.768	0.854	0.698	pCi/L	06/02/15 13:58	06/07/15 19:17	1

Client Sample Results

Client: AMEC Foster Wheeler E & I, Inc
Project/Site: Chevron Coalinga

TestAmerica Job ID: 440-111303-2

Client Sample ID: W006

Lab Sample ID: 440-111303-6
Date Collected: 05/27/15 12:40
Matrix: Water
Date Received: 05/28/15 09:50

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	96.5		40 - 110	06/02/15 13:58	06/07/15 19:17	1

Method: 9320 - Radium-228 (GFPC) - Dissolved

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.955	U G	0.779	0.784	1.23	pCi/L	06/02/15 14:30	06/05/15 12:07	1

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	102		40 - 110	06/02/15 14:30	06/05/15 12:07	1
Y Carrier	89.0		40 - 110	06/02/15 14:30	06/05/15 12:07	1

Client Sample ID: W007

Lab Sample ID: 440-111303-7
Date Collected: 05/27/15 13:20
Matrix: Water
Date Received: 05/28/15 09:50

Method: 9310 - Gross Alpha / Beta (GFPC) - Dissolved

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	MDC	Unit	Prepared	Analyzed	Dil Fac
Gross Alpha	-18.6	U G	75.8	75.9	152	pCi/L	06/01/15 14:57	06/03/15 07:22	1
Gross Beta	30.6	U G	24.9	25.1	39.8	pCi/L	06/01/15 14:57	06/03/15 07:22	1

Method: 9315 - Radium-226 (GFPC) - Dissolved

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	**2.86**		0.593	0.646	0.445	pCi/L	06/02/15 13:58	06/07/15 19:17	1

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	101		40 - 110	06/02/15 13:58	06/07/15 19:17	1

Method: 9320 - Radium-228 (GFPC) - Dissolved

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	**1.37**	**G**	0.810	0.819	1.21	pCi/L	06/02/15 14:30	06/05/15 12:07	1

Carrier	%Yield	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Ba Carrier	95.0		40 - 110	06/02/15 14:30	06/05/15 12:07	1
Y Carrier	92.0		40 - 110	06/02/15 14:30	06/05/15 12:07	1

Client Sample ID: W008

Lab Sample ID: 440-111303-8
Date Collected: 05/27/15 14:20
Matrix: Water
Date Received: 05/28/15 09:50

Method: 9310 - Gross Alpha / Beta (GFPC) - Dissolved

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	MDC	Unit	Prepared	Analyzed	Dil Fac
Gross Alpha	36.8	U G	51.1	51.3	86.3	pCi/L	06/01/15 14:57	06/03/15 07:22	1
Gross Beta	**707**	**G**	53.1	88.4	31.0	pCi/L	06/01/15 14:57	06/03/15 07:22	1

Client Sample Results

Client: AMEC Foster Wheeler E & I, Inc
Project/Site: Chevron Coalinga

TestAmerica Job ID: 440-111303-2

Method: 9315 - Radium-226 (GFPC) - Dissolved

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	**0.974**		0.484	0.492	0.672	pCi/L	06/02/15 13:58	06/07/15 19:17	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*97.1*		*40 - 110*	*06/02/15 13:58*	*06/07/15 19:17*	*1*

Method: 9320 - Radium-228 (GFPC) - Dissolved

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.443	U G	0.961	0.962	1.66	pCi/L	06/02/15 14:30	06/05/15 12:07	1

Carrier	*%Yield*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*69.6*		*40 - 110*	*06/02/15 14:30*	*06/05/15 12:07*	*1*
Y Carrier	*91.6*		*40 - 110*	*06/02/15 14:30*	*06/05/15 12:07*	*1*

Method Summary

Client: AMEC Foster Wheeler E & I, Inc
Project/Site: Chevron Coalinga

TestAmerica Job ID: 440-111303-2

Method	Method Description	Protocol	Laboratory
9310	Gross Alpha / Beta (GFPC)	SW846	TAL SL
9315	Radium-226 (GFPC)	SW846	TAL SL
9320	Radium-228 (GFPC)	SW846	TAL SL

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL SL = TestAmerica St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Lab Chronicle

Client: AMEC Foster Wheeler E & I, Inc
Project/Site: Chevron Coalinga

TestAmerica Job ID: 440-111303-2

Client Sample ID: W001 — Lab Sample ID: 440-111303-1

Date Collected: 05/27/15 09:15
Date Received: 05/28/15 09:50
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Filtration	Filtration			1 gal	1 gal	192930	06/01/15 07:36	JWM	TAL SL
Dissolved	Prep	Evaporation			5 mL	1.0 g	192997	06/01/15 14:57	MJS	TAL SL
Dissolved	Analysis	9310		1	5 mL		193333	06/03/15 07:21	MFM	TAL SL
Dissolved	Filtration	Filtration			1 gal	1 gal	192930	06/01/15 07:36	JWM	TAL SL
Dissolved	Prep	PrecSep_0			249.94 mL	1.0 g	193246	06/02/15 13:58	CMC	TAL SL
Dissolved	Analysis	9315		1	249.94 mL		193881	06/07/15 19:17	MLK	TAL SL
Dissolved	Filtration	Filtration			1 gal	1 gal	192930	06/01/15 07:36	JWM	TAL SL
Dissolved	Prep	PrecSep_0			249.67 mL	1.0 g	193251	06/02/15 14:30	CMC	TAL SL
Dissolved	Analysis	9320		1	249.67 mL		193639	06/05/15 12:06	RTM	TAL SL

Client Sample ID: W002 — Lab Sample ID: 440-111303-2

Date Collected: 05/27/15 09:25
Date Received: 05/28/15 09:50
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Filtration	Filtration			1 gal	1 gal	192930	06/01/15 07:36	JWM	TAL SL
Dissolved	Prep	Evaporation			5 mL	1.0 g	192997	06/01/15 14:57	MJS	TAL SL
Dissolved	Analysis	9310		1	5 mL		193333	06/03/15 07:21	MFM	TAL SL
Dissolved	Filtration	Filtration			1 gal	1 gal	192930	06/01/15 07:36	JWM	TAL SL
Dissolved	Prep	PrecSep_0			249.92 mL	1.0 g	193246	06/02/15 13:58	CMC	TAL SL
Dissolved	Analysis	9315		1	249.92 mL		193881	06/07/15 19:17	MLK	TAL SL
Dissolved	Filtration	Filtration			1 gal	1 gal	192930	06/01/15 07:36	JWM	TAL SL
Dissolved	Prep	PrecSep_0			249.98 mL	1.0 g	193251	06/02/15 14:30	CMC	TAL SL
Dissolved	Analysis	9320		1	249.98 mL		193639	06/05/15 12:06	RTM	TAL SL

Client Sample ID: W003 — Lab Sample ID: 440-111303-3

Date Collected: 05/27/15 10:15
Date Received: 05/28/15 09:50
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Filtration	Filtration			1 gal	1 gal	192930	06/01/15 07:36	JWM	TAL SL
Dissolved	Prep	Evaporation			3 mL	1.0 g	192997	06/01/15 14:57	MJS	TAL SL
Dissolved	Analysis	9310		1	3 mL		193333	06/03/15 10:59	MFM	TAL SL
Dissolved	Filtration	Filtration			1 gal	1 gal	192930	06/01/15 07:36	JWM	TAL SL
Dissolved	Prep	PrecSep_0			294.95 mL	1.0 g	193246	06/02/15 13:58	CMC	TAL SL
Dissolved	Analysis	9315		1	294.95 mL		193881	06/07/15 19:17	MLK	TAL SL
Dissolved	Filtration	Filtration			1 gal	1 gal	192930	06/01/15 07:36	JWM	TAL SL
Dissolved	Prep	PrecSep_0			249.94 mL	1.0 g	193251	06/02/15 14:30	CMC	TAL SL
Dissolved	Analysis	9320		1	249.94 mL		193639	06/05/15 12:06	RTM	TAL SL

Lab Chronicle

Client: AMEC Foster Wheeler E & I, Inc
Project/Site: Chevron Coalinga

TestAmerica Job ID: 440-111303-2

Client Sample ID: W004

Lab Sample ID: 440-111303-4
Date Collected: 05/27/15 11:05
Matrix: Water
Date Received: 05/28/15 09:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Filtration	Filtration			1 gal	1 gal	192930	06/01/15 07:36	JWM	TAL SL
Dissolved	Prep	Evaporation			5 mL	1.0 g	192997	06/01/15 14:57	MJS	TAL SL
Dissolved	Analysis	9310		1	5 mL		193333	06/03/15 07:21	MFM	TAL SL
Dissolved	Filtration	Filtration			1 gal	1 gal	192930	06/01/15 07:36	JWM	TAL SL
Dissolved	Prep	PrecSep_0			250.00 mL	1.0 g	193246	06/02/15 13:58	CMC	TAL SL
Dissolved	Analysis	9315		1	250.00 mL		193881	06/07/15 19:17	MLK	TAL SL
Dissolved	Filtration	Filtration			1 gal	1 gal	192930	06/01/15 07:36	JWM	TAL SL
Dissolved	Prep	PrecSep_0			249.57 mL	1.0 g	193251	06/02/15 14:30	CMC	TAL SL
Dissolved	Analysis	9320		1	249.57 mL		193639	06/05/15 12:06	RTM	TAL SL

Client Sample ID: W005

Lab Sample ID: 440-111303-5
Date Collected: 05/27/15 11:40
Matrix: Water
Date Received: 05/28/15 09:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Filtration	Filtration			1 gal	1 gal	192930	06/01/15 07:36	JWM	TAL SL
Dissolved	Prep	Evaporation			4 mL	1.0 g	192997	06/01/15 14:57	MJS	TAL SL
Dissolved	Analysis	9310		1	4 mL		193333	06/03/15 10:59	MFM	TAL SL
Dissolved	Filtration	Filtration			1 gal	1 gal	192930	06/01/15 07:36	JWM	TAL SL
Dissolved	Prep	PrecSep_0			250.04 mL	1.0 g	193246	06/02/15 13:58	CMC	TAL SL
Dissolved	Analysis	9315		1	250.04 mL		193881	06/07/15 19:17	MLK	TAL SL
Dissolved	Filtration	Filtration			1 gal	1 gal	192930	06/01/15 07:36	JWM	TAL SL
Dissolved	Prep	PrecSep_0			250.05 mL	1.0 g	193251	06/02/15 14:30	CMC	TAL SL
Dissolved	Analysis	9320		1	250.05 mL		193639	06/05/15 12:06	RTM	TAL SL

Client Sample ID: W006

Lab Sample ID: 440-111303-6
Date Collected: 05/27/15 12:40
Matrix: Water
Date Received: 05/28/15 09:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Filtration	Filtration			1 gal	1 gal	192930	06/01/15 07:36	JWM	TAL SL
Dissolved	Prep	Evaporation			4 mL	1.0 g	192997	06/01/15 14:57	MJS	TAL SL
Dissolved	Analysis	9310		1	4 mL		193333	06/03/15 07:21	MFM	TAL SL
Dissolved	Filtration	Filtration			1 gal	1 gal	192930	06/01/15 07:36	JWM	TAL SL
Dissolved	Prep	PrecSep_0			249.95 mL	1.0 g	193246	06/02/15 13:58	CMC	TAL SL
Dissolved	Analysis	9315		1	249.95 mL		193881	06/07/15 19:17	MLK	TAL SL
Dissolved	Filtration	Filtration			1 gal	1 gal	192930	06/01/15 07:36	JWM	TAL SL
Dissolved	Prep	PrecSep_0			250.10 mL	1.0 g	193251	06/02/15 14:30	CMC	TAL SL
Dissolved	Analysis	9320		1	250.10 mL		193639	06/05/15 12:07	RTM	TAL SL

Lab Chronicle

Client: AMEC Foster Wheeler E & I, Inc
Project/Site: Chevron Coalinga

TestAmerica Job ID: 440-111303-2

Client Sample ID: W007

Lab Sample ID: 440-111303-7

Date Collected: 05/27/15 13:20
Date Received: 05/28/15 09:50

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Filtration	Filtration			1 gal	1 gal	192930	06/01/15 07:36	JWM	TAL SL
Dissolved	Prep	Evaporation			5 mL	1.0 g	192997	06/01/15 14:57	MJS	TAL SL
Dissolved	Analysis	9310		1	5 mL		193333	06/03/15 07:22	MFM	TAL SL
Dissolved	Filtration	Filtration			1 gal	1 gal	192930	06/01/15 07:36	JWM	TAL SL
Dissolved	Prep	PrecSep_0			249.99 mL	1.0 g	193246	06/02/15 13:58	CMC	TAL SL
Dissolved	Analysis	9315		1	249.99 mL		193881	06/07/15 19:17	MLK	TAL SL
Dissolved	Filtration	Filtration			1 gal	1 gal	192930	06/01/15 07:36	JWM	TAL SL
Dissolved	Prep	PrecSep_0			249.97 mL	1.0 g	193251	06/02/15 14:30	CMC	TAL SL
Dissolved	Analysis	9320		1	249.97 mL		193639	06/05/15 12:07	RTM	TAL SL

Client Sample ID: W008

Lab Sample ID: 440-111303-8

Date Collected: 05/27/15 14:20
Date Received: 05/28/15 09:50

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Filtration	Filtration			1 gal	1 gal	192930	06/01/15 07:36	JWM	TAL SL
Dissolved	Prep	Evaporation			6 mL	1.0 g	192997	06/01/15 14:57	MJS	TAL SL
Dissolved	Analysis	9310		1	6 mL		193333	06/03/15 07:22	MFM	TAL SL
Dissolved	Filtration	Filtration			1 gal	1 gal	192930	06/01/15 07:36	JWM	TAL SL
Dissolved	Prep	PrecSep_0			249.97 mL	1.0 g	193246	06/02/15 13:58	CMC	TAL SL
Dissolved	Analysis	9315		1	249.97 mL		193881	06/07/15 19:17	MLK	TAL SL
Dissolved	Filtration	Filtration			1 gal	1 gal	192930	06/01/15 07:36	JWM	TAL SL
Dissolved	Prep	PrecSep_0			249.94 mL	1.0 g	193251	06/02/15 14:30	CMC	TAL SL
Dissolved	Analysis	9320		1	249.94 mL		193639	06/05/15 12:07	RTM	TAL SL

Laboratory References:

TAL SL = TestAmerica St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

QC Sample Results

Client: AMEC Foster Wheeler E & I, Inc
Project/Site: Chevron Coalinga

TestAmerica Job ID: 440-111303-2

Method: 9310 - Gross Alpha / Beta (GFPC)

Lab Sample ID: MB 160-192997/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 193089 — **Prep Batch: 192997**

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	MDC	Unit	Prepared	Analyzed	Dil Fac
Gross Alpha	-0.1372	U	0.789	0.789	1.52	pCi/L	06/01/15 14:57	06/02/15 18:41	1
Gross Beta	0.6029	U	0.538	0.541	0.865	pCi/L	06/01/15 14:57	06/02/15 18:41	1

Lab Sample ID: LCS 160-192997/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 193089 — **Prep Batch: 192997**

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	MDC	Unit	%Rec	%Rec. Limits
Gross Alpha	50.0	60.69		8.95	2.65	pCi/L	121	73 - 133

Lab Sample ID: LCSB 160-192997/3-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 193089 — **Prep Batch: 192997**

Analyte	Spike Added	LCSB Result	LCSB Qual	Total Uncert. (2σ+/-)	MDC	Unit	%Rec	%Rec. Limits
Gross Beta	95.0	95.03		10.0	0.899	pCi/L	100	75 - 125

Lab Sample ID: 160-12026-A-1-C MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 193061 — **Prep Batch: 192997**

Analyte	Sample Result	Sample Qual	Spike Added	MS Result	MS Qual	Total Uncert. (2σ+/-)	MDC	Unit	%Rec	%Rec. Limits
Gross Alpha	0.201	U G	57.5	41.94		7.56	3.92	pCi/L	73	60 - 140

Lab Sample ID: 160-12026-A-1-D MSBT — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 193061 — **Prep Batch: 192997**

Analyte	Sample Result	Sample Qual	Spike Added	MSBT Result	MSBT Qual	Total Uncert. (2σ+/-)	MDC	Unit	%Rec	%Rec. Limits
Gross Beta	0.992	U	109	110.1		11.7	1.30	pCi/L	101	60 - 140

Lab Sample ID: 160-12026-A-1-E DU — **Client Sample ID: Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 193333 — **Prep Batch: 192997**

Analyte	Sample Result	Sample Qual	DU Result	DU Qual	Total Uncert. (2σ+/-)	MDC	Unit	RER	RER Limit
Gross Alpha	0.201	U G	2.925	U G	2.89	4.56	pCi/L	0.56	1
Gross Beta	0.992	U	1.205		0.781	1.16	pCi/L	0.14	1

QC Sample Results

Client: AMEC Foster Wheeler E & I, Inc
Project/Site: Chevron Coalinga

TestAmerica Job ID: 440-111303-2

Method: 9315 - Radium-226 (GFPC)

Lab Sample ID: MB 160-193246/1-B — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 193881 — **Prep Batch: 193246**

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	-0.06945	U	0.313	0.313	0.623	pCi/L	06/02/15 13:58	06/07/15 19:16	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*91.7*		*40 - 110*	*06/02/15 13:58*	*06/07/15 19:16*	*1*

Lab Sample ID: LCS 160-193246/2-B — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 193881 — **Prep Batch: 193246**

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	MDC	Unit	%Rec	%Rec. Limits
Radium-226	44.7	44.89		4.63	0.599	pCi/L	101	68 - 137

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*95.6*		*40 - 110*

Lab Sample ID: LCSD 160-193246/3-B — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 193881 — **Prep Batch: 193246**

Analyte	Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)	MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-226	44.7	45.69		4.69	0.691	pCi/L	102	68 - 137	0.09	1

Carrier	*LCSD %Yield*	*LCSD Qualifier*	*Limits*
Ba Carrier	*94.7*		*40 - 110*

Method: 9320 - Radium-228 (GFPC)

Lab Sample ID: MB 160-193251/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 193639 — **Prep Batch: 193251**

Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-0.002059	U	0.206	0.206	0.369	pCi/L	06/02/15 14:30	06/05/15 12:05	1

Carrier	*MB %Yield*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Ba Carrier	*95.3*		*40 - 110*	*06/02/15 14:30*	*06/05/15 12:05*	*1*
Y Carrier	*91.6*		*40 - 110*	*06/02/15 14:30*	*06/05/15 12:05*	*1*

Method: 9320 - Radium-228 (GFPC) (Continued)

Lab Sample ID: LCS 160-193251/2-A
Matrix: Water
Analysis Batch: 193639

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 193251

Analyte			Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)		MDC	Unit	%Rec	%Rec. Limits		
Radium-228			3.40	3.252		0.513		0.381	pCi/L	96	56 - 140		

Carrier	*LCS %Yield*	*LCS Qualifier*	*Limits*
Ba Carrier	*99.4*		*40 - 110*
Y Carrier	*90.5*		*40 - 110*

Lab Sample ID: LCSD 160-193251/3-A
Matrix: Water
Analysis Batch: 193639

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 193251

Analyte			Spike Added	LCSD Result	LCSD Qual	Total Uncert. (2σ+/-)		MDC	Unit	%Rec	%Rec. Limits	RER	RER Limit
Radium-228			3.40	2.702		0.446		0.338	pCi/L	80	56 - 140	0.57	1

Carrier	*LCSD %Yield*	*LCSD Qualifier*	*Limits*
Ba Carrier	*105*		*40 - 110*
Y Carrier	*88.6*		*40 - 110*

QC Association Summary

Client: AMEC Foster Wheeler E & I, Inc
Project/Site: Chevron Coalinga

TestAmerica Job ID: 440-111303-2

Rad

Filtration Batch: 192930

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-111303-1	W001	Dissolved	Water	Filtration	
440-111303-2	W002	Dissolved	Water	Filtration	
440-111303-3	W003	Dissolved	Water	Filtration	
440-111303-4	W004	Dissolved	Water	Filtration	
440-111303-5	W005	Dissolved	Water	Filtration	
440-111303-6	W006	Dissolved	Water	Filtration	
440-111303-7	W007	Dissolved	Water	Filtration	
440-111303-8	W008	Dissolved	Water	Filtration	

Prep Batch: 192997

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-12026-A-1-C MS	Matrix Spike	Total/NA	Water	Evaporation	
160-12026-A-1-D MSBT	Matrix Spike	Total/NA	Water	Evaporation	
160-12026-A-1-E DU	Duplicate	Total/NA	Water	Evaporation	
440-111303-1	W001	Dissolved	Water	Evaporation	192930
440-111303-2	W002	Dissolved	Water	Evaporation	192930
440-111303-3	W003	Dissolved	Water	Evaporation	192930
440-111303-4	W004	Dissolved	Water	Evaporation	192930
440-111303-5	W005	Dissolved	Water	Evaporation	192930
440-111303-6	W006	Dissolved	Water	Evaporation	192930
440-111303-7	W007	Dissolved	Water	Evaporation	192930
440-111303-8	W008	Dissolved	Water	Evaporation	192930
LCS 160-192997/2-A	Lab Control Sample	Total/NA	Water	Evaporation	
LCSB 160-192997/3-A	Lab Control Sample	Total/NA	Water	Evaporation	
MB 160-192997/1-A	Method Blank	Total/NA	Water	Evaporation	

Prep Batch: 193246

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-111303-1	W001	Dissolved	Water	PrecSep_0	192930
440-111303-2	W002	Dissolved	Water	PrecSep_0	192930
440-111303-3	W003	Dissolved	Water	PrecSep_0	192930
440-111303-4	W004	Dissolved	Water	PrecSep_0	192930
440-111303-5	W005	Dissolved	Water	PrecSep_0	192930
440-111303-6	W006	Dissolved	Water	PrecSep_0	192930
440-111303-7	W007	Dissolved	Water	PrecSep_0	192930
440-111303-8	W008	Dissolved	Water	PrecSep_0	192930
LCS 160-193246/2-B	Lab Control Sample	Total/NA	Water	PrecSep_0	
LCSD 160-193246/3-B	Lab Control Sample Dup	Total/NA	Water	PrecSep_0	
MB 160-193246/1-B	Method Blank	Total/NA	Water	PrecSep_0	

Prep Batch: 193251

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-111303-1	W001	Dissolved	Water	PrecSep_0	192930
440-111303-2	W002	Dissolved	Water	PrecSep_0	192930
440-111303-3	W003	Dissolved	Water	PrecSep_0	192930
440-111303-4	W004	Dissolved	Water	PrecSep_0	192930
440-111303-5	W005	Dissolved	Water	PrecSep_0	192930
440-111303-6	W006	Dissolved	Water	PrecSep_0	192930
440-111303-7	W007	Dissolved	Water	PrecSep_0	192930
440-111303-8	W008	Dissolved	Water	PrecSep_0	192930
LCS 160-193251/2-A	Lab Control Sample	Total/NA	Water	PrecSep_0	

Rad (Continued)

Prep Batch: 193251 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCSD 160-193251/3-A	Lab Control Sample Dup	Total/NA	Water	PrecSep_0	
MB 160-193251/1-A	Method Blank	Total/NA	Water	PrecSep_0	

Definitions/Glossary

Client: AMEC Foster Wheeler E & I, Inc
Project/Site: Chevron Coalinga

TestAmerica Job ID: 440-111303-2

Qualifiers

Rad

Qualifier	Qualifier Description
G	The Sample MDC is greater than the requested RL.
U	Result is less than the sample detection limit.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Certification Summary

Client: AMEC Foster Wheeler E & I, Inc
Project/Site: Chevron Coalinga

TestAmerica Job ID: 440-111303-2

Laboratory: TestAmerica Irvine

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Alaska	State Program	10	CA01531	06-30-15
Arizona	State Program	9	AZ0671	10-13-15
California	LA Cty Sanitation Districts	9	10256	01-31-16 *
California	State Program	9	2706	06-30-16
Guam	State Program	9	Cert. No. 12.002r	01-23-16
Hawaii	State Program	9	N/A	01-29-16
Nevada	State Program	9	CA015312007A	07-31-15
New Mexico	State Program	6	N/A	01-29-15 *
Northern Mariana Islands	State Program	9	MP0002	01-29-15 *
Oregon	NELAP	10	4005	01-29-16

Laboratory: TestAmerica St. Louis

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Alaska	State Program	10	MO00054	06-30-15 *
California	ELAP	9	2886	03-31-16
Connecticut	State Program	1	PH-0241	03-31-17
Florida	NELAP	4	E87689	06-30-15 *
Illinois	NELAP	5	200023	11-30-15
Iowa	State Program	7	373	12-01-16
Kansas	NELAP	7	E-10236	10-31-15
Kentucky (DW)	State Program	4	90125	12-31-15
L-A-B	DoD ELAP		L2305	01-10-16
Louisiana	NELAP	6	04080	06-30-15 *
Louisiana (DW)	NELAP	6	LA150017	12-31-16
Maryland	State Program	3	310	09-30-15
Missouri	State Program	7	780	06-30-15 *
Nevada	State Program	9	MO000542013-1	07-31-15 *
New Jersey	NELAP	2	MO002	06-30-15 *
New Mexico	State Program	6		06-30-10 *
New York	NELAP	2	11616	03-31-16
North Dakota	State Program	8	R207	06-30-15 *
NRC	NRC		24-24817-01	12-31-22
Oklahoma	State Program	6	9997	08-31-15
Pennsylvania	NELAP	3	68-00540	02-28-16
South Carolina	State Program	4	85002001	06-30-15 *
Texas	NELAP	6	T104704193-13-6	07-31-15 *
USDA	Federal		P330-07-00122	01-09-17
Utah	NELAP	8	MO000542013-5	07-31-15
Virginia	NELAP	3	460230	06-14-15 *
Washington	State Program	10	C592	08-30-15
West Virginia DEP	State Program	3	381	08-31-15

* Certification renewal pending - certification considered valid.

CHAIN-OF-CUSTODY RECORD

FRE 17211

PROJECT NAME: CHEVRON COALINGA

DATE 5.28.15 PAGE 1 OF 1

PROJECT NUMBER: 015353

LABORATORY NAME: TEST AMERICA

CLIENT INFORMATION: CHEVRON

REPORTING REQUIREMENTS:

RESULTS TO: BRAD LOEWEN

LABORATORY ADDRESS:

TURNAROUND TIME: 5 DAY RUSH

SAMPLE SHIPMENT METHOD: FEDEX

LABORATORY CONTACT:

LABORATORY PHONE NUMBER:

amec foster wheeler

1281 East Alluvial Ave., Suite 101
Fresno, CA 93720-2659
+1 (559) 264-2535 • Fax +1 (559) 264-7431

SAMPLERS (SIGNATURE): [signature]

GEOTRACKER REQUIRED YES NO

SITE SPECIFIC GLOBAL ID NO.

ANALYSES

DATE	TIME	SAMPLE ID	GROSS ALPHA	RADIUM 226	RADIUM 228	GROSS BETA		5 DAY RUSH									CONTAINER TYPE AND SIZE	Soil (S), Water (W), Vapor (V), or Other (O)	Filtered	Preservative Type	Cooled	MS/MSD	No. of Containers	ADDITIONAL COMMENTS
5.27.15	0915	W001	X	X	X	X		X									1 GALLON PLASTIC	W					1	
	0925	W002	X	X	X	X		X										W					1	
	1015	W003	X	X	X	X		X										W					1	
	1105	W004	X	X	X	X		X										W					1	
	1140	W005	X	X	X	X		X										W					1	
	1240	W006	X	X	X	X		X										W					1	
	1320	W007	X	X	X	X		X										W					1	
5.27.15	1420	W008	X	X	X	X		X									1 GALLON PLASTIC	W					1	

RELINQUISHED BY:	DATE	TIME	RECEIVED BY:	DATE	TIME
SIGNATURE: [signature]	05	1000	SIGNATURE: [signature]	5.29.15	0810
PRINTED NAME: ALEX OLSEN	28		PRINTED NAME: Jill Clarke		
COMPANY: AMEC FW	15		COMPANY: TA STL		
SIGNATURE:			SIGNATURE:		
PRINTED NAME:			PRINTED NAME:		
COMPANY:			COMPANY:		
SIGNATURE:			SIGNATURE:		
PRINTED NAME:			PRINTED NAME:		
COMPANY:			COMPANY:		

TOTAL NUMBER OF CONTAINERS 8

SAMPLING COMMENTS: ANY QUESTIONS CONTACT BRAD LOEWEN.

Login Sample Receipt Checklist

Client: AMEC Foster Wheeler E & I, Inc

Job Number: 440-111303-2

Login Number: 111303
List Number: 1
Creator: Escalante, Maria I

List Source: TestAmerica Irvine

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	False	Refer to Job Narrative for details.
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: AMEC Foster Wheeler E & I, Inc

Job Number: 440-111303-2

Login Number: 111303
List Number: 2
Creator: Clarke, Jill C

List Source: TestAmerica St. Louis
List Creation: 05/29/15 03:34 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	N/A	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	20.0, 20.0
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	Lab to filter & Preserve
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Tracer/Carrier Summary

Client: AMEC Foster Wheeler E & I, Inc
Project/Site: Chevron Coalinga

TestAmerica Job ID: 440-111303-2

Method: 9315 - Radium-226 (GFPC)

Matrix: Water **Prep Type: Total/NA**

		Percent Yield (Acceptance Limits)
Lab Sample ID	Client Sample ID	Ba (40-110)
LCS 160-193246/2-B	Lab Control Sample	95.6
LCSD 160-193246/3-B	Lab Control Sample Dup	94.7
MB 160-193246/1-B	Method Blank	91.7

Tracer/Carrier Legend

Ba = Ba Carrier

Method: 9315 - Radium-226 (GFPC)

Matrix: Water **Prep Type: Dissolved**

		Percent Yield (Acceptance Limits)
Lab Sample ID	Client Sample ID	Ba (40-110)
440-111303-1	W001	90.6
440-111303-2	W002	60.2
440-111303-3	W003	95.9
440-111303-4	W004	91.7
440-111303-5	W005	96.5
440-111303-6	W006	96.5
440-111303-7	W007	101
440-111303-8	W008	97.1

Tracer/Carrier Legend

Ba = Ba Carrier

Method: 9320 - Radium-228 (GFPC)

Matrix: Water **Prep Type: Total/NA**

		Percent Yield (Acceptance Limits)	
Lab Sample ID	Client Sample ID	Ba (40-110)	Y (40-110)
LCS 160-193251/2-A	Lab Control Sample	99.4	90.5
LCSD 160-193251/3-A	Lab Control Sample Dup	105	88.6
MB 160-193251/1-A	Method Blank	95.3	91.6

Tracer/Carrier Legend

Ba = Ba Carrier
Y = Y Carrier

Method: 9320 - Radium-228 (GFPC)

Matrix: Water **Prep Type: Dissolved**

		Percent Yield (Acceptance Limits)	
Lab Sample ID	Client Sample ID	Ba (40-110)	Y (40-110)
440-111303-1	W001	92.6	92.0
440-111303-2	W002	67.8	86.7
440-111303-3	W003	48.4	88.6
440-111303-4	W004	53.7	90.5
440-111303-5	W005	67.6	90.1

Tracer/Carrier Summary

Client: AMEC Foster Wheeler E & I, Inc
Project/Site: Chevron Coalinga

TestAmerica Job ID: 440-111303-2

Method: 9320 - Radium-228 (GFPC) (Continued)

Matrix: Water **Prep Type: Dissolved**

		Percent Yield (Acceptance Limits)								
Lab Sample ID	Client Sample ID	Ba (40-110)	Y (40-110)							
440-111303-6	W006	102	89.0							
440-111303-7	W007	95.0	92.0							
440-111303-8	W008	69.6	91.6							

Tracer/Carrier Legend

Ba = Ba Carrier
Y = Y Carrier

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Irvine
17461 Derian Ave
Suite 100
Irvine, CA 92614-5817
Tel: (949)261-1022

TestAmerica Job ID: 440-111303-3
Client Project/Site: Chevron Coalinga

For:
AMEC Foster Wheeler E & I, Inc
1281 East Alluvial Avenue
Suite 101
Fresno, California 93720

Attn: Mr. Brad Loewen

Authorized for release by:
6/12/2015 10:42:45 AM

Patty Mata, Senior Project Manager
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patty.mata@testamericainc.com

LINKS

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This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Sample Summary

Client: AMEC Foster Wheeler E & I, Inc
Project/Site: Chevron Coalinga

TestAmerica Job ID: 440-111303-3

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
440-111303-1	W001	Water	05/27/15 09:15	05/28/15 09:50
440-111303-2	W002	Water	05/27/15 09:25	05/28/15 09:50
440-111303-3	W003	Water	05/27/15 10:15	05/28/15 09:50
440-111303-4	W004	Water	05/27/15 11:05	05/28/15 09:50
440-111303-5	W005	Water	05/27/15 11:40	05/28/15 09:50
440-111303-6	W006	Water	05/27/15 12:40	05/28/15 09:50
440-111303-7	W007	Water	05/27/15 13:20	05/28/15 09:50
440-111303-8	W008	Water	05/27/15 14:20	05/28/15 09:50

Case Narrative

Client: AMEC Foster Wheeler E & I, Inc
Project/Site: Chevron Coalinga

TestAmerica Job ID: 440-111303-3

Job ID: 440-111303-3

Laboratory: TestAmerica Irvine

Narrative

Job Narrative
440-111303-3

Comments
Only the STLC metals test results are included in this report.

Receipt
The samples were received on 5/28/2015 9:50 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 7 coolers at receipt time were 3.5º C, 4.4º C, 4.6º C, 5.0º C, 5.6º C (at Irvine lab), 20.0º C and 20.0º C (at St Louis lab).

Receipt Notes
The samples were received at TestAmerica Irvine on 5/28/15 at 0950. The coolers were received at acceptable temperatures of 5.6, 3.5, 4.6, 4.4, and 5.0 degrees C.

The samples were received at TestAmerica St. Louis on 5/29/15 at 0840. The coolers were received at acceptable temperatures of 20.0 and 20.0 degrees C.

Metals
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Organic Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Client Sample Results

Client: AMEC Foster Wheeler E & I, Inc
Project/Site: Chevron Coalinga

TestAmerica Job ID: 440-111303-3

Client Sample ID: W001

Lab Sample ID: 440-111303-1
Date Collected: 05/27/15 09:15
Matrix: Water
Date Received: 05/28/15 09:50

Method: 6010B - Metals (ICP) - STLC Citrate

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.20	0.12	mg/L			06/11/15 15:02	20
Arsenic	ND		0.20	0.10	mg/L			06/11/15 15:02	20
Barium	**0.45**		0.20	0.10	mg/L			06/11/15 15:02	20
Beryllium	ND		0.040	0.020	mg/L			06/11/15 15:02	20
Cadmium	ND		0.10	0.040	mg/L			06/11/15 15:02	20
Chromium	ND		0.10	0.050	mg/L			06/11/15 15:02	20
Cobalt	ND		0.20	0.050	mg/L			06/11/15 15:02	20
Copper	ND		0.20	0.10	mg/L			06/11/15 15:02	20
Lead	ND		0.10	0.050	mg/L			06/11/15 15:02	20
Molybdenum	ND		0.40	0.20	mg/L			06/11/15 15:02	20
Nickel	ND		0.20	0.10	mg/L			06/11/15 15:02	20
Selenium	ND		0.20	0.12	mg/L			06/11/15 15:02	20
Silver	ND		0.20	0.10	mg/L			06/11/15 15:02	20
Thallium	ND		0.20	0.10	mg/L			06/11/15 15:02	20
Vanadium	ND		0.20	0.10	mg/L			06/11/15 15:02	20
Zinc	ND		0.40	0.20	mg/L			06/11/15 15:02	20

Method: 7470A - Mercury (CVAA) - STLC Citrate

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.0020	0.0010	mg/L		06/10/15 11:38	06/10/15 19:33	1

Client Sample ID: W002

Lab Sample ID: 440-111303-2
Date Collected: 05/27/15 09:25
Matrix: Water
Date Received: 05/28/15 09:50

Method: 6010B - Metals (ICP) - STLC Citrate

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.20	0.12	mg/L			06/11/15 15:09	20
Arsenic	ND		0.20	0.10	mg/L			06/11/15 15:09	20
Barium	**0.48**		0.20	0.10	mg/L			06/11/15 15:09	20
Beryllium	ND		0.040	0.020	mg/L			06/11/15 15:09	20
Cadmium	ND		0.10	0.040	mg/L			06/11/15 15:09	20
Chromium	ND		0.10	0.050	mg/L			06/11/15 15:09	20
Cobalt	ND		0.20	0.050	mg/L			06/11/15 15:09	20
Copper	ND		0.20	0.10	mg/L			06/11/15 15:09	20
Lead	ND		0.10	0.050	mg/L			06/11/15 15:09	20
Molybdenum	ND		0.40	0.20	mg/L			06/11/15 15:09	20
Nickel	ND		0.20	0.10	mg/L			06/11/15 15:09	20
Selenium	ND		0.20	0.12	mg/L			06/11/15 15:09	20
Silver	ND		0.20	0.10	mg/L			06/11/15 15:09	20
Thallium	ND		0.20	0.10	mg/L			06/11/15 15:09	20
Vanadium	ND		0.20	0.10	mg/L			06/11/15 15:09	20
Zinc	ND		0.40	0.20	mg/L			06/11/15 15:09	20

Method: 7470A - Mercury (CVAA) - STLC Citrate

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.0020	0.0010	mg/L		06/10/15 11:38	06/10/15 19:45	1

Client Sample Results

Client: AMEC Foster Wheeler E & I, Inc
Project/Site: Chevron Coalinga

TestAmerica Job ID: 440-111303-3

Client Sample ID: W003

Lab Sample ID: 440-111303-3
Date Collected: 05/27/15 10:15
Matrix: Water
Date Received: 05/28/15 09:50

Method: 6010B - Metals (ICP) - STLC Citrate

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.20	0.12	mg/L			06/11/15 15:12	20
Arsenic	ND		0.20	0.10	mg/L			06/11/15 15:12	20
Barium	**1.5**		0.20	0.10	mg/L			06/11/15 15:12	20
Beryllium	ND		0.040	0.020	mg/L			06/11/15 15:12	20
Cadmium	ND		0.10	0.040	mg/L			06/11/15 15:12	20
Chromium	ND		0.10	0.050	mg/L			06/11/15 15:12	20
Cobalt	ND		0.20	0.050	mg/L			06/11/15 15:12	20
Copper	ND		0.20	0.10	mg/L			06/11/15 15:12	20
Lead	ND		0.10	0.050	mg/L			06/11/15 15:12	20
Molybdenum	ND		0.40	0.20	mg/L			06/11/15 15:12	20
Nickel	ND		0.20	0.10	mg/L			06/11/15 15:12	20
Selenium	ND		0.20	0.12	mg/L			06/11/15 15:12	20
Silver	ND		0.20	0.10	mg/L			06/11/15 15:12	20
Thallium	ND		0.20	0.10	mg/L			06/11/15 15:12	20
Vanadium	ND		0.20	0.10	mg/L			06/11/15 15:12	20
Zinc	ND		0.40	0.20	mg/L			06/11/15 15:12	20

Method: 7470A - Mercury (CVAA) - STLC Citrate

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.0020	0.0010	mg/L		06/10/15 11:38	06/10/15 19:48	1

Client Sample ID: W004

Lab Sample ID: 440-111303-4
Date Collected: 05/27/15 11:05
Matrix: Water
Date Received: 05/28/15 09:50

Method: 6010B - Metals (ICP) - STLC Citrate

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.20	0.12	mg/L			06/11/15 15:14	20
Arsenic	ND		0.20	0.10	mg/L			06/11/15 15:14	20
Barium	**0.71**		0.20	0.10	mg/L			06/11/15 15:14	20
Beryllium	ND		0.040	0.020	mg/L			06/11/15 15:14	20
Cadmium	ND		0.10	0.040	mg/L			06/11/15 15:14	20
Chromium	ND		0.10	0.050	mg/L			06/11/15 15:14	20
Cobalt	ND		0.20	0.050	mg/L			06/11/15 15:14	20
Copper	ND		0.20	0.10	mg/L			06/11/15 15:14	20
Lead	ND		0.10	0.050	mg/L			06/11/15 15:14	20
Molybdenum	ND		0.40	0.20	mg/L			06/11/15 15:14	20
Nickel	ND		0.20	0.10	mg/L			06/11/15 15:14	20
Selenium	ND		0.20	0.12	mg/L			06/11/15 15:14	20
Silver	ND		0.20	0.10	mg/L			06/11/15 15:14	20
Thallium	**0.12**	**J B**	0.20	0.10	mg/L			06/11/15 15:14	20
Vanadium	ND		0.20	0.10	mg/L			06/11/15 15:14	20
Zinc	ND		0.40	0.20	mg/L			06/11/15 15:14	20

Method: 7470A - Mercury (CVAA) - STLC Citrate

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.0020	0.0010	mg/L		06/10/15 11:38	06/10/15 19:50	1

Client Sample Results

Client: AMEC Foster Wheeler E & I, Inc
Project/Site: Chevron Coalinga

TestAmerica Job ID: 440-111303-3

Client Sample ID: W005

Lab Sample ID: 440-111303-5
Date Collected: 05/27/15 11:40
Matrix: Water
Date Received: 05/28/15 09:50

Method: 6010B - Metals (ICP) - STLC Citrate

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.20	0.12	mg/L			06/11/15 15:17	20
Arsenic	ND		0.20	0.10	mg/L			06/11/15 15:17	20
Barium	**1.0**		0.20	0.10	mg/L			06/11/15 15:17	20
Beryllium	ND		0.040	0.020	mg/L			06/11/15 15:17	20
Cadmium	ND		0.10	0.040	mg/L			06/11/15 15:17	20
Chromium	ND		0.10	0.050	mg/L			06/11/15 15:17	20
Cobalt	ND		0.20	0.050	mg/L			06/11/15 15:17	20
Copper	ND		0.20	0.10	mg/L			06/11/15 15:17	20
Lead	ND		0.10	0.050	mg/L			06/11/15 15:17	20
Molybdenum	ND		0.40	0.20	mg/L			06/11/15 15:17	20
Nickel	ND		0.20	0.10	mg/L			06/11/15 15:17	20
Selenium	ND		0.20	0.12	mg/L			06/11/15 15:17	20
Silver	ND		0.20	0.10	mg/L			06/11/15 15:17	20
Thallium	ND		0.20	0.10	mg/L			06/11/15 15:17	20
Vanadium	ND		0.20	0.10	mg/L			06/11/15 15:17	20
Zinc	ND		0.40	0.20	mg/L			06/11/15 15:17	20

Method: 7470A - Mercury (CVAA) - STLC Citrate

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.0020	0.0010	mg/L		06/10/15 11:38	06/10/15 19:53	1

Client Sample ID: W006

Lab Sample ID: 440-111303-6
Date Collected: 05/27/15 12:40
Matrix: Water
Date Received: 05/28/15 09:50

Method: 6010B - Metals (ICP) - STLC Citrate

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.20	0.12	mg/L			06/11/15 15:19	20
Arsenic	ND		0.20	0.10	mg/L			06/11/15 15:19	20
Barium	**0.99**		0.20	0.10	mg/L			06/11/15 15:19	20
Beryllium	ND		0.040	0.020	mg/L			06/11/15 15:19	20
Cadmium	ND		0.10	0.040	mg/L			06/11/15 15:19	20
Chromium	ND		0.10	0.050	mg/L			06/11/15 15:19	20
Cobalt	ND		0.20	0.050	mg/L			06/11/15 15:19	20
Copper	ND		0.20	0.10	mg/L			06/11/15 15:19	20
Lead	ND		0.10	0.050	mg/L			06/11/15 15:19	20
Molybdenum	ND		0.40	0.20	mg/L			06/11/15 15:19	20
Nickel	ND		0.20	0.10	mg/L			06/11/15 15:19	20
Selenium	ND		0.20	0.12	mg/L			06/11/15 15:19	20
Silver	ND		0.20	0.10	mg/L			06/11/15 15:19	20
Thallium	ND		0.20	0.10	mg/L			06/11/15 15:19	20
Vanadium	ND		0.20	0.10	mg/L			06/11/15 15:19	20
Zinc	ND		0.40	0.20	mg/L			06/11/15 15:19	20

Method: 7470A - Mercury (CVAA) - STLC Citrate

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.0020	0.0010	mg/L		06/10/15 11:38	06/10/15 19:55	1

Client Sample Results

Client: AMEC Foster Wheeler E & I, Inc
Project/Site: Chevron Coalinga

TestAmerica Job ID: 440-111303-3

Client Sample ID: W007

Lab Sample ID: 440-111303-7
Date Collected: 05/27/15 13:20
Matrix: Water
Date Received: 05/28/15 09:50

Method: 6010B - Metals (ICP) - STLC Citrate

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	**0.16**	**J B**	0.20	0.12	mg/L			06/11/15 15:32	20
Arsenic	ND		0.20	0.10	mg/L			06/11/15 15:32	20
Barium	**0.91**		0.20	0.10	mg/L			06/11/15 15:32	20
Beryllium	ND		0.040	0.020	mg/L			06/11/15 15:32	20
Cadmium	ND		0.10	0.040	mg/L			06/11/15 15:32	20
Chromium	**0.15**		0.10	0.050	mg/L			06/11/15 15:32	20
Cobalt	ND		0.20	0.050	mg/L			06/11/15 15:32	20
Copper	ND		0.20	0.10	mg/L			06/11/15 15:32	20
Lead	ND		0.10	0.050	mg/L			06/11/15 15:32	20
Molybdenum	ND		0.40	0.20	mg/L			06/11/15 15:32	20
Nickel	ND		0.20	0.10	mg/L			06/11/15 15:32	20
Selenium	ND		0.20	0.12	mg/L			06/11/15 15:32	20
Silver	ND		0.20	0.10	mg/L			06/11/15 15:32	20
Thallium	ND		0.20	0.10	mg/L			06/11/15 15:32	20
Vanadium	ND		0.20	0.10	mg/L			06/11/15 15:32	20
Zinc	ND		0.40	0.20	mg/L			06/11/15 15:32	20

Method: 7470A - Mercury (CVAA) - STLC Citrate

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.0020	0.0010	mg/L		06/10/15 11:41	06/10/15 19:58	1

Client Sample ID: W008

Lab Sample ID: 440-111303-8
Date Collected: 05/27/15 14:20
Matrix: Water
Date Received: 05/28/15 09:50

Method: 6010B - Metals (ICP) - STLC Citrate

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.20	0.12	mg/L			06/11/15 15:35	20
Arsenic	ND		0.20	0.10	mg/L			06/11/15 15:35	20
Barium	**1.6**		0.20	0.10	mg/L			06/11/15 15:35	20
Beryllium	ND		0.040	0.020	mg/L			06/11/15 15:35	20
Cadmium	ND		0.10	0.040	mg/L			06/11/15 15:35	20
Chromium	ND		0.10	0.050	mg/L			06/11/15 15:35	20
Cobalt	ND		0.20	0.050	mg/L			06/11/15 15:35	20
Copper	ND		0.20	0.10	mg/L			06/11/15 15:35	20
Lead	ND		0.10	0.050	mg/L			06/11/15 15:35	20
Molybdenum	ND		0.40	0.20	mg/L			06/11/15 15:35	20
Nickel	ND		0.20	0.10	mg/L			06/11/15 15:35	20
Selenium	ND		0.20	0.12	mg/L			06/11/15 15:35	20
Silver	ND		0.20	0.10	mg/L			06/11/15 15:35	20
Thallium	ND		0.20	0.10	mg/L			06/11/15 15:35	20
Vanadium	ND		0.20	0.10	mg/L			06/11/15 15:35	20
Zinc	ND		0.40	0.20	mg/L			06/11/15 15:35	20

Method: 7470A - Mercury (CVAA) - STLC Citrate

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.0020	0.0010	mg/L		06/10/15 11:41	06/10/15 20:00	1

Method Summary

Client: AMEC Foster Wheeler E & I, Inc
Project/Site: Chevron Coalinga

TestAmerica Job ID: 440-111303-3

Method	Method Description	Protocol	Laboratory
6010B	Metals (ICP)	SW846	TAL IRV
7470A	Mercury (CVAA)	SW846	TAL IRV

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL IRV = TestAmerica Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

Lab Chronicle

Client: AMEC Foster Wheeler E & I, Inc
Project/Site: Chevron Coalinga

TestAmerica Job ID: 440-111303-3

Client Sample ID: W001 — Lab Sample ID: 440-111303-1

Date Collected: 05/27/15 09:15
Matrix: Water
Date Received: 05/28/15 09:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
STLC Citrate	Leach	CA WET Citrate			100 g	100 mL	260178	06/09/15 01:31	CH	TAL IRV
STLC Citrate	Analysis	6010B		20			260926	06/11/15 15:02	EN	TAL IRV
STLC Citrate	Leach	CA WET Citrate			100 g	100 mL	260178	06/09/15 01:31	CH	TAL IRV
STLC Citrate	Prep	7470A			2 mL	20 mL	260551	06/10/15 11:38	EN	TAL IRV
STLC Citrate	Analysis	7470A		1	2 mL	20 mL	260860	06/10/15 19:33	EN	TAL IRV

Client Sample ID: W002 — Lab Sample ID: 440-111303-2

Date Collected: 05/27/15 09:25
Matrix: Water
Date Received: 05/28/15 09:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
STLC Citrate	Leach	CA WET Citrate			100 g	100 mL	260178	06/09/15 01:31	CH	TAL IRV
STLC Citrate	Analysis	6010B		20			260926	06/11/15 15:09	EN	TAL IRV
STLC Citrate	Leach	CA WET Citrate			100 g	100 mL	260178	06/09/15 01:31	CH	TAL IRV
STLC Citrate	Prep	7470A			2 mL	20 mL	260551	06/10/15 11:38	EN	TAL IRV
STLC Citrate	Analysis	7470A		1	2 mL	20 mL	260860	06/10/15 19:45	EN	TAL IRV

Client Sample ID: W003 — Lab Sample ID: 440-111303-3

Date Collected: 05/27/15 10:15
Matrix: Water
Date Received: 05/28/15 09:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
STLC Citrate	Leach	CA WET Citrate			100 g	100 mL	260178	06/09/15 01:31	CH	TAL IRV
STLC Citrate	Analysis	6010B		20			260926	06/11/15 15:12	EN	TAL IRV
STLC Citrate	Leach	CA WET Citrate			100 g	100 mL	260178	06/09/15 01:31	CH	TAL IRV
STLC Citrate	Prep	7470A			2 mL	20 mL	260551	06/10/15 11:38	EN	TAL IRV
STLC Citrate	Analysis	7470A		1	2 mL	20 mL	260860	06/10/15 19:48	EN	TAL IRV

Client Sample ID: W004 — Lab Sample ID: 440-111303-4

Date Collected: 05/27/15 11:05
Matrix: Water
Date Received: 05/28/15 09:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
STLC Citrate	Leach	CA WET Citrate			100 g	100 mL	260178	06/09/15 01:31	CH	TAL IRV
STLC Citrate	Analysis	6010B		20			260926	06/11/15 15:14	EN	TAL IRV
STLC Citrate	Leach	CA WET Citrate			100 g	100 mL	260178	06/09/15 01:31	CH	TAL IRV
STLC Citrate	Prep	7470A			2 mL	20 mL	260551	06/10/15 11:38	EN	TAL IRV
STLC Citrate	Analysis	7470A		1	2 mL	20 mL	260860	06/10/15 19:50	EN	TAL IRV

Lab Chronicle

Client: AMEC Foster Wheeler E & I, Inc
Project/Site: Chevron Coalinga

TestAmerica Job ID: 440-111303-3

Client Sample ID: W005

Lab Sample ID: 440-111303-5
Date Collected: 05/27/15 11:40
Matrix: Water
Date Received: 05/28/15 09:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
STLC Citrate	Leach	CA WET Citrate			100 g	100 mL	260178	06/09/15 01:31	CH	TAL IRV
STLC Citrate	Analysis	6010B		20			260926	06/11/15 15:17	EN	TAL IRV
STLC Citrate	Leach	CA WET Citrate			100 g	100 mL	260178	06/09/15 01:31	CH	TAL IRV
STLC Citrate	Prep	7470A			2 mL	20 mL	260551	06/10/15 11:38	EN	TAL IRV
STLC Citrate	Analysis	7470A		1	2 mL	20 mL	260860	06/10/15 19:53	EN	TAL IRV

Client Sample ID: W006

Lab Sample ID: 440-111303-6
Date Collected: 05/27/15 12:40
Matrix: Water
Date Received: 05/28/15 09:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
STLC Citrate	Leach	CA WET Citrate			100 g	100 mL	260178	06/09/15 01:31	CH	TAL IRV
STLC Citrate	Analysis	6010B		20			260926	06/11/15 15:19	EN	TAL IRV
STLC Citrate	Leach	CA WET Citrate			100 g	100 mL	260178	06/09/15 01:31	CH	TAL IRV
STLC Citrate	Prep	7470A			2 mL	20 mL	260551	06/10/15 11:38	EN	TAL IRV
STLC Citrate	Analysis	7470A		1	2 mL	20 mL	260860	06/10/15 19:55	EN	TAL IRV

Client Sample ID: W007

Lab Sample ID: 440-111303-7
Date Collected: 05/27/15 13:20
Matrix: Water
Date Received: 05/28/15 09:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
STLC Citrate	Leach	CA WET Citrate			100 g	100 mL	260178	06/09/15 01:31	CH	TAL IRV
STLC Citrate	Analysis	6010B		20			260926	06/11/15 15:32	EN	TAL IRV
STLC Citrate	Leach	CA WET Citrate			100 g	100 mL	260178	06/09/15 01:31	CH	TAL IRV
STLC Citrate	Prep	7470A			2 mL	20 mL	260551	06/10/15 11:41	EN	TAL IRV
STLC Citrate	Analysis	7470A		1	2 mL	20 mL	260860	06/10/15 19:58	EN	TAL IRV

Client Sample ID: W008

Lab Sample ID: 440-111303-8
Date Collected: 05/27/15 14:20
Matrix: Water
Date Received: 05/28/15 09:50

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
STLC Citrate	Leach	CA WET Citrate			100 g	100 mL	260178	06/09/15 01:31	CH	TAL IRV
STLC Citrate	Analysis	6010B		20			260926	06/11/15 15:35	EN	TAL IRV
STLC Citrate	Leach	CA WET Citrate			100 g	100 mL	260178	06/09/15 01:31	CH	TAL IRV
STLC Citrate	Prep	7470A			2 mL	20 mL	260551	06/10/15 11:41	EN	TAL IRV
STLC Citrate	Analysis	7470A		1	2 mL	20 mL	260860	06/10/15 20:00	EN	TAL IRV

Laboratory References:

TAL IRV = TestAmerica Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

QC Sample Results

Client: AMEC Foster Wheeler E & I, Inc
Project/Site: Chevron Coalinga

TestAmerica Job ID: 440-111303-3

Method: 6010B - Metals (ICP)

Lab Sample ID: MB 440-260178/1-A ^20
Matrix: Water
Analysis Batch: 260926

Client Sample ID: Method Blank
Prep Type: STLC Citrate

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.189	J	0.20	0.12	mg/L			06/11/15 16:38	20
Arsenic	ND		0.20	0.10	mg/L			06/11/15 16:38	20
Barium	ND		0.20	0.10	mg/L			06/11/15 16:38	20
Beryllium	ND		0.040	0.020	mg/L			06/11/15 16:38	20
Cadmium	ND		0.10	0.040	mg/L			06/11/15 16:38	20
Chromium	ND		0.10	0.050	mg/L			06/11/15 16:38	20
Cobalt	ND		0.20	0.050	mg/L			06/11/15 16:38	20
Copper	ND		0.20	0.10	mg/L			06/11/15 16:38	20
Lead	ND		0.10	0.050	mg/L			06/11/15 16:38	20
Molybdenum	ND		0.40	0.20	mg/L			06/11/15 16:38	20
Nickel	ND		0.20	0.10	mg/L			06/11/15 16:38	20
Selenium	ND		0.20	0.12	mg/L			06/11/15 16:38	20
Silver	ND		0.20	0.10	mg/L			06/11/15 16:38	20
Thallium	0.154	J	0.20	0.10	mg/L			06/11/15 16:38	20
Vanadium	ND		0.20	0.10	mg/L			06/11/15 16:38	20
Zinc	ND		0.40	0.20	mg/L			06/11/15 16:38	20

Lab Sample ID: LCS 440-260178/2-A ^20
Matrix: Water
Analysis Batch: 260926

Client Sample ID: Lab Control Sample
Prep Type: STLC Citrate

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	20.0	20.1		mg/L		100	80 - 120
Arsenic	20.0	20.3		mg/L		101	80 - 120
Barium	20.0	20.0		mg/L		100	80 - 120
Beryllium	20.0	20.7		mg/L		104	80 - 120
Cadmium	20.0	20.5		mg/L		103	80 - 120
Chromium	20.0	20.5		mg/L		102	80 - 120
Cobalt	20.0	20.3		mg/L		101	80 - 120
Copper	20.0	20.3		mg/L		102	80 - 120
Lead	20.0	20.3		mg/L		102	80 - 120
Molybdenum	20.0	20.2		mg/L		101	80 - 120
Nickel	20.0	20.5		mg/L		102	80 - 120
Selenium	20.0	20.1		mg/L		101	80 - 120
Silver	10.0	9.53		mg/L		95	80 - 120
Thallium	20.0	20.1		mg/L		100	80 - 120
Vanadium	20.0	20.4		mg/L		102	80 - 120
Zinc	20.0	20.3		mg/L		101	80 - 120

Lab Sample ID: 440-111303-1 MS
Matrix: Water
Analysis Batch: 260926

Client Sample ID: W001
Prep Type: STLC Citrate

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	ND		20.0	20.9		mg/L		105	75 - 125
Arsenic	ND		20.0	20.9		mg/L		104	75 - 125
Barium	0.45		20.0	20.9		mg/L		102	75 - 125
Beryllium	ND		20.0	20.8		mg/L		104	75 - 125

Method: 6010B - Metals (ICP) (Continued)

Lab Sample ID: 440-111303-1 MS
Matrix: Water
Analysis Batch: 260926

Client Sample ID: W001
Prep Type: STLC Citrate

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Cadmium	ND		20.0	20.6		mg/L		103	75 - 125
Chromium	ND		20.0	20.9		mg/L		104	75 - 125
Cobalt	ND		20.0	20.5		mg/L		102	75 - 125
Copper	ND		20.0	21.6		mg/L		108	75 - 125
Lead	ND		20.0	20.9		mg/L		105	75 - 125
Molybdenum	ND		20.0	20.8		mg/L		104	75 - 125
Nickel	ND		20.0	20.6		mg/L		103	75 - 125
Selenium	ND		20.0	20.8		mg/L		104	75 - 125
Silver	ND		10.0	9.46		mg/L		95	75 - 125
Thallium	ND		20.0	20.2		mg/L		101	75 - 125
Vanadium	ND		20.0	21.1		mg/L		105	75 - 125
Zinc	ND		20.0	20.8		mg/L		104	75 - 125

Lab Sample ID: 440-111303-1 MSD
Matrix: Water
Analysis Batch: 260926

Client Sample ID: W001
Prep Type: STLC Citrate

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Antimony	ND		20.0	20.6		mg/L		103	75 - 125	1	20
Arsenic	ND		20.0	20.7		mg/L		103	75 - 125	1	20
Barium	0.45		20.0	20.5		mg/L		100	75 - 125	1	20
Beryllium	ND		20.0	20.7		mg/L		103	75 - 125	1	20
Cadmium	ND		20.0	20.3		mg/L		102	75 - 125	1	20
Chromium	ND		20.0	20.5		mg/L		102	75 - 125	2	20
Cobalt	ND		20.0	20.2		mg/L		101	75 - 125	2	20
Copper	ND		20.0	21.1		mg/L		106	75 - 125	2	20
Lead	ND		20.0	20.7		mg/L		103	75 - 125	1	20
Molybdenum	ND		20.0	20.6		mg/L		103	75 - 125	1	20
Nickel	ND		20.0	20.3		mg/L		102	75 - 125	1	20
Selenium	ND		20.0	20.5		mg/L		102	75 - 125	2	20
Silver	ND		10.0	9.30		mg/L		93	75 - 125	2	20
Thallium	ND		20.0	20.0		mg/L		100	75 - 125	1	20
Vanadium	ND		20.0	20.7		mg/L		103	75 - 125	2	20
Zinc	ND		20.0	20.5		mg/L		102	75 - 125	2	20

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 440-260178/1-B
Matrix: Water
Analysis Batch: 260860

Client Sample ID: Method Blank
Prep Type: STLC Citrate
Prep Batch: 260551

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.0020	0.0010	mg/L		06/10/15 11:38	06/10/15 19:25	1

Method: 7470A - Mercury (CVAA) (Continued)

Lab Sample ID: LCS 440-260178/2-B
Matrix: Water
Analysis Batch: 260860

Client Sample ID: Lab Control Sample
Prep Type: STLC Citrate
Prep Batch: 260551

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.0800	0.0809		mg/L		101	80 - 120

Lab Sample ID: 440-111303-1 MS
Matrix: Water
Analysis Batch: 260860

Client Sample ID: W001
Prep Type: STLC Citrate
Prep Batch: 260551

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	ND		0.0800	0.0608		mg/L		76	70 - 130

Lab Sample ID: 440-111303-1 MSD
Matrix: Water
Analysis Batch: 260860

Client Sample ID: W001
Prep Type: STLC Citrate
Prep Batch: 260551

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	ND		0.0800	0.0594		mg/L		74	70 - 130	2	20

QC Association Summary

Client: AMEC Foster Wheeler E & I, Inc
Project/Site: Chevron Coalinga

TestAmerica Job ID: 440-111303-3

Metals

Leach Batch: 260178

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-111303-1	W001	STLC Citrate	Water	CA WET Citrate	
440-111303-1 MS	W001	STLC Citrate	Water	CA WET Citrate	
440-111303-1 MSD	W001	STLC Citrate	Water	CA WET Citrate	
440-111303-2	W002	STLC Citrate	Water	CA WET Citrate	
440-111303-3	W003	STLC Citrate	Water	CA WET Citrate	
440-111303-4	W004	STLC Citrate	Water	CA WET Citrate	
440-111303-5	W005	STLC Citrate	Water	CA WET Citrate	
440-111303-6	W006	STLC Citrate	Water	CA WET Citrate	
440-111303-7	W007	STLC Citrate	Water	CA WET Citrate	
440-111303-8	W008	STLC Citrate	Water	CA WET Citrate	
LCS 440-260178/2-A ^20	Lab Control Sample	STLC Citrate	Water	CA WET Citrate	
LCS 440-260178/2-B	Lab Control Sample	STLC Citrate	Water	CA WET Citrate	
MB 440-260178/1-A ^20	Method Blank	STLC Citrate	Water	CA WET Citrate	
MB 440-260178/1-B	Method Blank	STLC Citrate	Water	CA WET Citrate	

Prep Batch: 260551

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-111303-1	W001	STLC Citrate	Water	7470A	260178
440-111303-1 MS	W001	STLC Citrate	Water	7470A	260178
440-111303-1 MSD	W001	STLC Citrate	Water	7470A	260178
440-111303-2	W002	STLC Citrate	Water	7470A	260178
440-111303-3	W003	STLC Citrate	Water	7470A	260178
440-111303-4	W004	STLC Citrate	Water	7470A	260178
440-111303-5	W005	STLC Citrate	Water	7470A	260178
440-111303-6	W006	STLC Citrate	Water	7470A	260178
440-111303-7	W007	STLC Citrate	Water	7470A	260178
440-111303-8	W008	STLC Citrate	Water	7470A	260178
LCS 440-260178/2-B	Lab Control Sample	STLC Citrate	Water	7470A	260178
MB 440-260178/1-B	Method Blank	STLC Citrate	Water	7470A	260178

Analysis Batch: 260860

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-111303-1	W001	STLC Citrate	Water	7470A	260551
440-111303-1 MS	W001	STLC Citrate	Water	7470A	260551
440-111303-1 MSD	W001	STLC Citrate	Water	7470A	260551
440-111303-2	W002	STLC Citrate	Water	7470A	260551
440-111303-3	W003	STLC Citrate	Water	7470A	260551
440-111303-4	W004	STLC Citrate	Water	7470A	260551
440-111303-5	W005	STLC Citrate	Water	7470A	260551
440-111303-6	W006	STLC Citrate	Water	7470A	260551
440-111303-7	W007	STLC Citrate	Water	7470A	260551
440-111303-8	W008	STLC Citrate	Water	7470A	260551
LCS 440-260178/2-B	Lab Control Sample	STLC Citrate	Water	7470A	260551
MB 440-260178/1-B	Method Blank	STLC Citrate	Water	7470A	260551

Analysis Batch: 260926

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-111303-1	W001	STLC Citrate	Water	6010B	260178
440-111303-1 MS	W001	STLC Citrate	Water	6010B	260178
440-111303-1 MSD	W001	STLC Citrate	Water	6010B	260178
440-111303-2	W002	STLC Citrate	Water	6010B	260178

Metals (Continued)

Analysis Batch: 260926 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-111303-3	W003	STLC Citrate	Water	6010B	260178
440-111303-4	W004	STLC Citrate	Water	6010B	260178
440-111303-5	W005	STLC Citrate	Water	6010B	260178
440-111303-6	W006	STLC Citrate	Water	6010B	260178
440-111303-7	W007	STLC Citrate	Water	6010B	260178
440-111303-8	W008	STLC Citrate	Water	6010B	260178
LCS 440-260178/2-A ^20	Lab Control Sample	STLC Citrate	Water	6010B	260178
MB 440-260178/1-A ^20	Method Blank	STLC Citrate	Water	6010B	260178

Definitions/Glossary

Client: AMEC Foster Wheeler E & I, Inc
Project/Site: Chevron Coalinga

TestAmerica Job ID: 440-111303-3

Qualifiers

Metals

Qualifier	Qualifier Description
B	Compound was found in the blank and sample.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Certification Summary

Client: AMEC Foster Wheeler E & I, Inc
Project/Site: Chevron Coalinga

TestAmerica Job ID: 440-111303-3

Laboratory: TestAmerica Irvine

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Alaska	State Program	10	CA01531	06-30-15
Arizona	State Program	9	AZ0671	10-13-15
California	LA Cty Sanitation Districts	9	10256	01-31-16 *
California	State Program	9	2706	06-30-16
Guam	State Program	9	Cert. No. 12.002r	01-23-16
Hawaii	State Program	9	N/A	01-29-16
Nevada	State Program	9	CA015312007A	07-31-15
New Mexico	State Program	6	N/A	01-29-15 *
Northern Mariana Islands	State Program	9	MP0002	01-29-15 *
Oregon	NELAP	10	4005	01-29-16

* Certification renewal pending - certification considered valid.

CHAIN-OF-CUSTODY RECORD

FRE 17210

PROJECT NAME: CHEVRON COALINGA

DATE 5·27·15 PAGE 1 OF 1

PROJECT NUMBER: 015353

LABORATORY NAME: TEST AMERICA

CLIENT INFORMATION: CHEVRON

REPORTING REQUIREMENTS:

RESULTS TO: BRAD LOEWEN

LABORATORY ADDRESS:

TURNAROUND TIME: 5 DAY RUSH

SAMPLE SHIPMENT METHOD: FED EX

LABORATORY CONTACT: PATTY MATA

LABORATORY PHONE NUMBER:

amec foster wheeler

1281 East Alluvial Ave., Suite 101
Fresno, CA 93720-2659
+1 (559) 264-2535 • Fax +1 (559) 264-7431

SAMPLERS (SIGNATURE): [signature]

GEOTRACKER REQUIRED YES NO

SITE SPECIFIC GLOBAL ID NO.

ANALYSES

DATE	TIME	SAMPLE ID	BTEX VOCs 8260	PAH's 8270	METALS 6010B	METALS 200.7	URANIUM 200.8	TPH-D 8015B	ALKS 2320B	BROMIDE 300	CHLORIDE 300	NITRATE AS N 300	SULFATE 300	FLUORIDE 300	TDS 2540C	CONTAINER TYPE AND SIZE	Soil (S), Water (W), Vapor (V), or Other (O)	Filtered	Preservative Type	Cooled	MS/MSD	No. of Containers	ADDITIONAL COMMENTS
5.27.15	0915	W001	X	X	X	X	X	X	X	X	X	X	X	X	X	VARIOUS	W		HCL	X		9	
	0925	W002	X	X	X	X	X	X	X	X	X	X	X	X	X		W			X		9	
	1015	W003	X	X	X	X	X	X	X	X	X	X	X	X	X		W			X		9	
	1105	W004	X	X	X	X	X	X	X	X	X	X	X	X	X		W			X		9	
	1140	W005	X	X	X	X	X	X	X	X	X	X	X	X	X		W			X		9	
	1240	W006	X	X	X	X	X	X	X	X	X	X	X	X	X		W			X		9	
	1320	W007	X	X	X	X	X	X	X	X	X	X	X	X	X		W			X		9	
	1420	W008	X	X	X	X	X	X	X	X	X	X	X	X	X	VARIOUS	W			X		9	
5.27.15	—	W009	X													VOA	W		HCL	X		3	

440-111303 Chain of Custody

RELINQUISHED BY:	DATE	TIME	RECEIVED BY:	DATE	TIME
SIGNATURE: [signature]	05 27 15	1726	SIGNATURE: V. Banit	5/28/15	9:52
PRINTED NAME: ALEX OLSEN			PRINTED NAME: VN BANIT		
COMPANY: AMEC FW			COMPANY: TAI		
SIGNATURE:			SIGNATURE:		
PRINTED NAME:			PRINTED NAME:		
COMPANY:			COMPANY:		
SIGNATURE:			SIGNATURE:		
PRINTED NAME:			PRINTED NAME:		
COMPANY:			COMPANY:		

TOTAL NUMBER OF CONTAINERS 75

SAMPLING COMMENTS: ANY QUESTIONS CONTACT BRAD LOEWEN.
SHORT HOLD FOR NITRATE
6.8/5.6 4.7/3.5 5.8/4.6 5.6/4.4 6.2/5.0
IR-71
Fed: 8062 5838 2731

Login Sample Receipt Checklist

Client: AMEC Foster Wheeler E & I, Inc

Job Number: 440-111303-3

Login Number: 111303
List Number: 1
Creator: Escalante, Maria I

List Source: TestAmerica Irvine

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	False	Refer to Job Narrative for details.
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	