San Francisco – Oakland Bay Bridge, East Span
Pier E4-E18 Demolition

Sampling & Analysis Plan
Water Quality Monitoring
EA 013574

May 11, 2016

California Department of Transportation, District 4
Division of Environmental Planning and Engineering
Construction Environmental Engineering Support
111 Grand Avenue, 12th Floor
Oakland, CA 94612

San Francisco – Oakland Bay Bridge, East Span
Pier E4-E18 Demolition

Sampling & Analysis Plan
Water Quality Monitoring

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List of Abbreviations

BAS	Blast Attenuation System
BN	Background North
BS	Background South
CN	Construction North
CS	Construction South
DS	Dissolved Sulfide
E3	Pier E3
ESA	Environmentally Sensitive Area
FWSP	Field Work Safety Plan
hp	Horsepower
NTU	Nephelometric Turbidity Units
RWQCB	Regional Water Quality Control Board, San Francisco Bay Region
SFOBB	San Francisco-Oakland Bay Bridge
SMP	Self-Monitoring Program
TSS	Total Suspended Solids
WDRs	Waste Discharge Requirements
YBI	Yerba Buena Island

Section 1

Project Overview and Description

1.1 Project Purpose, Regulatory Need, and Objectives

The California Department of Transportation (Department) replaced the east span of the San Francisco Oakland Bay Bridge (SFOBB) with a new bridge immediately to the north of the original span. The SFOBB Project is located in San Francisco Bay between the cities of San Francisco and Oakland, specifically between Yerba Buena Island (YBI) and the Oakland touchdown area of the bridge.

To address potential impacts on special aquatic sites, including eelgrass beds and sand flats, and open waters of the Bay over the estimated sixteen years of bridge construction and dismantling, the California Regional Water Quality Control Board, San Francisco Bay Region (RWQCB) issued Waste Discharge Requirements (WDRs) for the East Span Project under Order No. R2-2002-0011.

Under Section D.12 of the Waste Discharge Requirements (WDRs), the Department is required to conduct monitoring and reporting activities according to a Self-Monitoring Program (SMP). The purpose of the SMP is to document compliance with effluent requirements and prohibitions established by the RWQCB and to facilitate self-policing by the Department for the prevention and abatement of pollution arising construction activities that may affect water quality of the bay.

The objective of this project is to monitor water quality in waters adjacent to in-water construction activities related to the demolition of Piers E4-E18, of the east span of the old SFOBB. Monitoring will ensure that turbidity generated by in-water construction activities does not exceed limits defined in the WDRs. Monitoring is expected to occur from June through December of 2016.

1.2 Project Organization and Responsibilities

A project organization chart is presented in Figure 1.1, together with contact information for the key personnel. Other personnel to be assigned to this effort are staff level from multiple firms available under the contract, which include AMEC Foster-Wheeler, WRECO, and other support staff. In addition, SF Boat (vendor boat operator) support was used in the previous efforts in 2015, so as to provide necessary relief, modification, and maintenance of the research vessel, *Echo*.

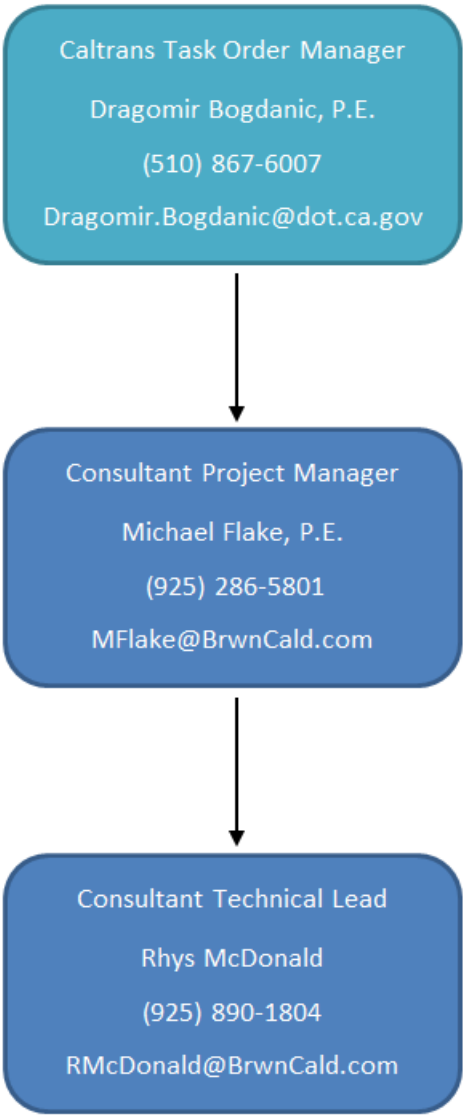

Figure 1-1. Project Organization

Section 2

Monitoring Sites

2.1 Site Selection

Monitoring sites will consist of a 24-hour background monitoring site as well as background and construction monitoring sites along the project boundary. Monitoring sites will be related to in-water work areas within 1000 m (3200 feet) of sand flats and eel grass beds.

Each construction monitoring site will have a corresponding up current background monitoring site. Construction monitoring sites will be no more than 30 m (100 feet) beyond the project boundary; corresponding background sites will be no more than 270 m (900 feet) beyond the project boundary. Example monitoring sites for Pier E8 work are shown in Figure 2.1 below. All piers, E4-E18, will have a similar set of monitoring sites.

Figure 2-1. Example of approximate water quality monitoring sites for Pier E8 in-water activities.

2.2 Summary of Site Characteristics

The 24-hour background station will be located at least 274 m (900 feet) from active work areas. A single depth averaged profile of background water quality parameters will be collected from this background site once every 24 hours. Background water quality measurements will be collected such that they are representative of background conditions unaffected by potential discharges related to the project.

Each construction activity will be associated with two background and two construction monitoring stations, one up current and one down current. Background monitoring stations will be established along predominant ebb and flood current lines at least 274m (900 feet) from in-water activities. Construction monitoring stations will be established along the predominant ebb and flood current line 30m (100 feet) from in-water activities.

Monitoring sites may become temporarily inaccessible during water quality monitoring due to changes in site characteristics and construction activities. If a site does become inaccessible, a similar site will be created along the appropriate predominant current line no more than 30 m (100 feet) beyond the project boundary. Safety procedures related to monitoring sites will be described in a fieldwork safety plan (FWSP) which is currently under development and to be finalized once this SAP is approved.

Section 3

Water Quality Monitoring

3.1 Water Quality Monitoring Protocol and Constituents

Water quality monitoring will be conducted during in-water construction activities or as otherwise directed.

Depth averaged measurements will be collected, using a YSI 6920 sonde, at representative background and construction monitoring stations along predominant ebb and flood current lines. A secondary sonde should be available in the field should the primary sonde malfunction in any way. The measurements will be collected nominally every two hours from 0730 to 1530 or as otherwise directed by the Department. In addition to samples at representative background and construction sites, 24 hour depth averaged background samples will be collected at least once every 24 hours. Background samples will be collected such that they are representative of background conditions unaffected by potential discharges related to the Project. The constituents to be monitored and sampling frequencies are listed in Table 1.

Depth averaged sonde measurements will be collected by teams of two field staff, a boat operator and a sonde operator. Measurement collection will commence when the boat operator reaches the monitoring site. The boat operator will hold position and determine the water depth at the site. The sonde operator will start the sonde logging and lower the unit to the depth determined by the boat operator at a rate of approximately 1 ft/s. During sonde deployment, the sonde operator will monitor real time data for potential exceedances. The sonde will be configured to log data once a second, resulting in a vertical profile with water quality parameters recorded approximately every foot throughout the water column.

Table 3-1. Sample Type, Method and Frequency

Sample Type	Analysis Method	Frequency
Total Suspended Solids (TSS) - (mg/L)	SM2540D	Once Daily
Dissolved Sulfide (DS) – (mg/L)	SM4500 S-2 D	Once Daily
Turbidity (NTU)	YSI 6920	Every Two Hours
pH	YSI 6920	Every Two Hours
Dissolved Oxygen (mg/L)	YSI 6920	Every Two Hours
Water temperature (°C)	YSI 6920	Every Two Hours

Water grab samples for total suspended solids (TSS) and dissolved sulfides (DS) will be collected once every 24 hours or as otherwise directed by the Department. TSS and DS samples will be collected at the construction monitoring station down current from in-water activities at the time of collection. DS samples will be preserved with sodium hydroxide and both samples will be kept on ice after collection in order to keep temperature at or below 4 degrees Celsius for analytical testing by a laboratory. A single surface turbidity measurement will be collected, using an YSI 6920, at the time of TSS sample collection to be used in developing a correlation plot between TSS and turbidity. Grab samples will be depth integrated when possible or otherwise taken at least 0.30 m (1 foot) below the surface.

Per SMP Part B, I.1 Monitoring locations are:

i. In environmentally sensitive areas (e.g. at eelgrass and mud flats), minimum of one turbidity meter no more than 100 feet beyond the Project Boundary and longitudinally every 500 feet parallel to the Project Boundary.

ii. Minimum of one turbidity meter per construction area where dredging and/or pile driving area being completed, no more than 100 feet beyond the Project Boundary.
    1. If simultaneous construction activities (e.g. multiple pile driving locations, multiple dredging locations or similar) occur more than 300 yards apart, each construction area will have a turbidity meter located no more than 100 feet beyond the boundary of that particular area.
    2. If simultaneous construction areas occur more than 100 feet, but less than or equal to 300 yards apart, Caltrans may deploy one turbidity meter for both areas.

iii. One turbidity meter located more than 300 yards from all construction activities to measure ambient conditions.

3.2 Standard Observations

The following observations, based on Part III.B of the SMP, will be recorded on every day of operation and included in daily reports:

1. Receiving water:
    a. Floating and suspended materials of waste origin (to include oil, grease, algae, and other macroscopic particulate matter): presence or absence, source and size of affected area.
    b. Discoloration and turbidity: description of color, source and size of affected area.
    c. Odor: presence or absence, characterization, source, distance of travel and wind direction.
    d. Waterfowl or aquatic wildlife: presence or absence within 100 feet of Project Boundary
    e. Hydrographic condition: time and height of corrected low and high tides; and depth of water columns and sampling depths.
    f. Weather condition: air temperature, wind direction and velocity, precipitation, sea conditions.
2. Progress and location of in-water activities will be described in daily monitoring reports.

3.3 Exceedance Procedures

Discharges shall not cause waters of the State to exceed the following quality limits at any time during construction activities:

1. If the background turbidity was less than 50 NTU, then the measured turbidity levels could not exceed 50 NTU.
2. If the background turbidity was greater than or equal to 50 NTU, the measured turbidity levels could not exceed the background turbidity by more than 10 percent.
3. pH: A variation of natural background by more than 0.5 pH
4. Dissolved Oxygen: 5.0 mg/L minimum
5. Dissolved Sulfide: 0.1 mg/L maximum

If analytical results for constituents analyzed on-site show that any sample exceeds any receiving water limit, the following procedures from the SMP III.A, 4-8 will be followed:

1. *Confirmation samples will be taken within 1 hour and every subsequent hour, and analyzed for all constituents for which on-site analysis is required (e.g., turbidity, pH, dissolved oxygen, temperature). Sampling at this higher frequency will continue until the exceedance has been corrected.*
2. *If any receiving water limit for a constituent or constituents is exceeded, Caltrans will be immediately notified by phone and the following process will be followed to address the exceedance:*
    a. *Identify source of exceedance;*
    b. *Correct source of exceedance;*
    c. *Resample to determine whether exceedance has been corrected.*
3. *If any receiving water limit for a constituent or constituents is exceeded for: a continuous period of 4 hours or more; or for 8 hours or more in any 1-week period from October 1-March 31; 16 hours or more in any 1-week period from April 1-September 30; then Caltrans will immediately suspend all work causing or contributing to the exceedance, until turbidity levels have fallen below exceedance levels and remained there for a minimum of 4 consecutive hours. Additionally, Caltrans will implement control measures necessary to prevent a reoccurrence of the exceedance when work is resumed, and shall immediately notify the Board by telephone or telefax of the exceedance and how it is being, or will be, corrected.*
4. *If any receiving water limit for a constituent or constituents is exceeded for: 12 hours or more in any 1-week period from October 1-March 31; or 24 or more in any 1-week period from April 1-September 30, then Caltrans will immediately halt any and all work activities causing the exceedance, until the cause of the violation is found and sampling demonstrates that the exceedance has been corrected or when Caltrans has provided the Board with a corrective action plan, acceptable to the Executive Officer, that provides alternative methods of compliance. Caltrans shall immediately notify the Board by telephone and telefax of the exceedance and how it is being, or will be, corrected.*
5. *For other violations, Caltrans will notify the Board immediately whenever violations are detected and discharge shall not resume until Caltrans has provided the Board with a corrective action plan, acceptable to the Executive Officer, that provides alternative methods of compliance.*

On the day of exceedance, Brown and Caldwell will provide the Department with the following per SMP Part IV.B, a (when applicable):

i. *A map showing the location/s of discharge/s*

ii. *Approximate flow rate and/or volume*

iii. *Duration of discharge*

iv. *Day and time of discharge*

v. *Nature of effects (i.e. all pertinent observations and analyses); and*

vi. *Corrective measures underway or proposed.*

3.4 Records Maintained

Written reports, calibration, maintenance records, and other records will be maintained and accessible at all times per Part III.C of the SMP. Records will be kept for a minimum of 3 years. Records will include notes and observations for each sample as follows:

- Identity of each sample, sampling station, and observations station by number.
- Date and time of sampling
- Date and time analyses are started and completed and the name of personnel conducting analyses.
- Complete procedure used, including methods of preserving and analyzing sample and identity and volume or reagents used. A reference to a specific section of Standard Methods is satisfactory.
- Calculation of results.
- Results of analyses and/or observations, including a comparison of the laboratory and field results for duplicate samples, and detection limits for each analysis.
- Records will include a map, or maps, of the site showing the sampling locations, work areas (e.g. cofferdams, dredging areas, etc.), photographs, and all other appropriate information.
- If any receiving water limit for a constituent or constituents is exceeded, or if any other water quality limits are otherwise violated, a tabulation showing the total time of exceedance on a daily basis for each monitoring station in exceedance, and an estimate of the area of waters in exceedance (e.g. sketch map) will be maintained.

Section 4

Quality Assurance/Quality Control

4.1 QA/QC Plan

4.1.1 Sonde

As part of quality assurance and quality control (QA/QC) for this project, the YSI 6920 V2 Environmental Monitoring System will be calibrated following the manufacturer's specifications (full calibration of all probes at least every 30 days). Furthermore, the YSI system will be deployed for measurements in a manner consistent with the manufacturer's specifications to ensure accuracy and quality of data. The sampling techniques utilized by the individual probes on the YSI system conform to 40 CFR Section 136 specifications for water quality sampling and measurement.

To insure the collection of quality data and proper data logging settings, data quality should be checked after the first sampling run of each day. Field staff will confirm that the data accurately reflects field conditions and that data has been logged at the appropriate time interval to capture a representative profile of the water column.

4.1.2 Grab Samples

As noted in Section 3.1, TSS and DS samples will be kept on ice after collection in order to keep temperature at, or below, 4 degrees Celsius for analytical testing by a laboratory. DS samples will be preserved with sodium hydroxide. Grab samples will be delivered to the lab weekly as to satisfy the recommended holding time of 7 days for TSS and DS analysis. Laboratory analyses will be performed by Curtis & Tompkins Laboratories in Berkeley, California. Lab certifications for Curtis & Tompkins Laboratories are included in Appendix C.

Section 5

Field Equipment Maintenance

5.1 Water Quality Monitoring

5.1.1 Instrument/Equipment Testing, Calibration, and Maintenance

To minimize or avoid downtime of instrumentation and the resulting data loss, all monitoring equipment will be maintained in good working order. Spare batteries and components (data cables, YSI 650 handhelds, etc.) will be kept onboard the monitoring vessel. Two different sondes will be available for monitoring, a primary monitoring sonde and a reserve sonde that will remain available for deployment should the primary sonde malfunction in any way. As noted in Section 4 of this report, sondes will be calibrated following the manufacturer's specifications (full calibration of all probes at least every 30 days).

Problems that occur with field instruments will be addressed by the field staff and if needed, with assistance from the vendor. This may include cleaning, re-calibration, and or sending equipment to the vendor for repairs. If equipment is being repaired and a different instrument is used in the interim, this will be documented in the field data sheets.

To obtain quality data, it is crucial that the correct settings are used on the YSI 650 and YSI 6920 units. Therefore, a data quality check should be completed after the first sampling run each day. The goal of the data quality check is to confirm that the data accurately reflects field conditions and that data has been logged at the appropriate time interval to capture a representative profile of the water column.

Section 6

Monitoring Preparation and Logistics

Prior to deployment of field crews and the initiation of water quality monitoring; weather forecasts will be monitored to ensure safe conditions and necessary equipment will be inventoried.

Water quality monitoring preparation and logistics includes the following elements:

- Documentation
- Field Equipment Preparation
- Training
- Health & Safety

6.1 Documentation

6.1.1 Field Forms

At the time of each monitoring run, details will be accurately recorded in field data sheets. At a minimum, the following general information will be recorded during each site visit: current condition (ebb, flow, slack), name of each monitoring station profiled, time of profile at each station, and water depth at each station. Any irregularities related to the work area (weather changes, construction observations, etc.) should be reported on the field data sheets as well. A sample field data sheet is provided in Appendix A.

6.2 Field Equipment Preparation

6.2.1 Field Supplies

A project-specific field supplies and equipment checklist must be developed similar to that shown in Table 6-1.

Table 6-1. Field Supplies Checklist

Monitoring Kit Supplies List		Monitoring Mobilization Supplies List	
First aid kit	□	Sonde (2)	□
Flashlights (2)	□	Waterproof field data sheets	□
Maps	□	Health & Safety Plan	□
Large flat screwdriver	□	Sonde tools	□
Crescent wrench	□	Field laptop	□
Alkaline batteries for flashlights	□	Instrument cables	□
Pencils	□	PFD	□
Waterproof Pens	□	Camera	□
Duct tape	□	Cellular phone	□

Table 6-1. Field Supplies Checklist			
Monitoring Kit Supplies List		Monitoring Mobilization Supplies List	
Electrical tape	□	Personal extra change of clothes	□
Cable ties (assorted sizes)	□	Lighting	□
Utility Knife	□	Hard hats and safety vests	□
Gloves	□	Foul Weather Gear	□
Boating Equipment	□	Storm Kit	□
Sampling and Analysis Plan	□	Paper towels	□

6.2.2 Equipment Checks

Field equipment should be cleaned, calibrated, and maintained as needed. At a minimum, the frequency and type of maintenance for field equipment must be consistent with the manufacturer's recommendations. See Section 5 for information on equipment calibration.

6.2.3 Equipment Programming

The YSI 6920 sondes and YSI 650 handhelds will be programmed to log data continuously at one second intervals. Furthermore each monitoring station will be pre-programmed into the YSI 650 so that data will be logged onto files corresponding to each monitoring station. The previous day's data will be uploaded to a protected server and deleted from the YSI 650 handheld prior to the next day's monitoring to keep file size down for data management purposes.

6.2.4 Research Vessel

Typically the research vessel *Echo* will be used to access monitoring stations. The vessel is equipped with the following components:

- Marine Grade Battery (2)
- 60 hp outboard motor
- 15 hp outboard "kicker" motor
- Sonar depth finder (2)
- GPS unit
- Running and anchor lights
- Anchor with 200' of rope
- Primary and reserve fuel tank
- All USCG required safety equipment

Figure 6-1. Research Vessel *Echo* will be used to access water quality monitoring sites

6.2.5 Chain-of Custody Forms

Chain-of-custody (COC) forms should be prepared at the end of each week prior to transporting TSS and DS samples to the lab. Appendix B includes a sample COC form.

6.3 Training

Field crews will be properly trained in the use of the monitoring equipment along with all appropriate health and safety practices. Specifically, the following elements will be included in the training of all field personnel:

- Review of SAP.
- Review of Fieldwork Safety Plan (FWSP)
- Review Caltrans Safety Manual (Caltrans 2012), chapter 12.

6.4 Health & Safety

Prior to mobilization, field personnel must be familiar with the contents of the FWSP. Each monitoring team must have a copy of the FWSP whenever they are deployed to the field. FWSP procedures have been established for the monitoring program and will be followed at all times. Each field team member will receive a copy of the FWSP to review prior to the start of the monitoring project. An updated FWSP is currently being developed.

General procedures to be followed at all times include:

- All field personnel will wear hard hats and eye protection when working on the construction site.
- A personal floatation device (PFD) will be worn by all persons aboard the monitoring vessel at all times.
- Personnel must be careful when lifting to avoid injury.
- All electronic equipment will be kept as dry as possible.
- Fuel levels should be checked prior to departure from boat launch.

Section 7

Data Management and Reporting Procedures

7.1 Data Management

7.1.1 Data Analysis

Sonde data will be analyzed daily by technical staff. Staff will use an Excel spreadsheet designed specifically to organize and depth average sonde data. Raw data and water current conditions will be input into the spreadsheet which will create a chart containing depth averaged, current based, comparison data.

7.1.2 Non-direct Measurements

Non-direct, National Oceanic and Atmospheric Administration (NOAA) weather and tidal data will be included in daily reports. Stations for the various constituents are listed in Figure 7-1 below.

Table 7-1. Non-direct Data Sources

Constituent	NOAA Station
Wind	9414776, Oakland Berth 34 CA
Temperature	9414776, Oakland Berth 34 CA
Current	Station 6140 Oakland
Tide	9414782 Yerba Buena Island

7.1.3 Data Storage

Data from all background and construction sampling runs will be stored on a YSI 650 handheld unit for the duration of the day. At the end of each day the data will be uploaded to a field computer and backed up on a protected server. Previous monitoring data will be deleted from the YSI 650 handheld prior to the next monitoring activities to keep daily file size to a minimum.

7.2 Data Verification, Validation and Reporting

As noted in section 4.1, each morning, field staff will confirm that data accurately reflects field conditions and that data has been logged at the appropriate time interval. Furthermore, as noted in Section 3.1, during monitoring runs the sonde operator will monitor real time data for potential exceedances.

As part of the daily reporting and monitoring processes, complete daily sampling data will be verified by field staff. Verified data will be organized into profiles corresponding to each data collection run. The data will then be depth-averaged and compared to receiving water limits from the SMP. If an exceedance occurs, the exceedance procedures from Section 3 will be followed.

Results of daily monitoring data will be reported to the Department on the next business day after the data collection occurred with the exception of that data which will require laboratory analysis. Lab data reports, which include TSS and DS data, will be included in the monthly report.

Section 8

References

California, Regional Water Quality Control Board – San Francisco Bay Region. 2001. Order No. 01-120 for California Department of Transportation. San Francisco-Oakland Bay Bridge East Span Seismic Safety Project, City and County of San Francisco and City of Oakland, Alameda County. October 17. Oakland, CA. Prepared for California Department of Transportation, Oakland, CA.

California, Regional Water Quality Control Board - San Francisco Bay Region. 2002. Self-Monitoring Program for Order No. R2-2002-0011 Waste Discharge Requirements for California Department of Transportation San Francisco-Oakland Bay Bridge East Span Seismic Safety Project (East Span Project), City and County of San Francisco and City of Oakland, Alameda County. January 23. Oakland, CA. Prepared for California Department of Transportation, Oakland, CA.

Caltrans Safety Manual (2012). Available at: http://www.dot.ca.gov/hq/opo/safety/safetymanual_toc.htm

State of California Surface Water Ambient Monitoring Program Quality Assurance Program Plan. (September 2008). Available at: http://www.waterboards.ca.gov/water_issues/programs/swamp/docs/qapp/qaprp082209.pdf

Appendix A: Sample Field Data Sheet

Appendix B. Sample Chain of Custody

Appendix C. Lab Certifications

Field Data Sheet SFOBB Water Monitoring -								Pg of Pgs
Notes:				**Crew / Vessel:**				**Date (mm/dd/yyyy):** / /
								Grab Sample Time:
								Sample Analysis:
								Grab Sample Location:
Floating / Suspended Material:	Oil, Grease, Algae, None, Other							**Sonde:**
Wildlife	Birds, Fish, Marine Mammals, None, Other							Serial #
Discoloration / Turbidity:	Yes / No							Cal Date:
Odor:	Yes / No							**Data Check:**
Sky Code:	Clear, Partly Cloudy, Overcast, Fog, Cloudy, Hazy							**Wind Direction:** N W E S
Sea Code:	Calm, Choppy, Rough							**Beaufort Scale:**
Precipitation:	None, Fog, Drizzle, Rain							
Sampling (depth in meters)								
Site:								**Current:** Ebb, Flood, Slack 1
Time:								
Depth (m):								
Site:								**Current:** Ebb, Flood, Slack 2
Time:								
Depth (m):								
Site:								**Current:** Ebb, Flood, Slack 3
Time:								
Depth (m):								
Site:								**Current:** Ebb, Flood, Slack 4
Time:								
Depth (m):								
Site:								**Current:** Ebb, Flood, Slack 5
Time:								
Depth (m):								
Site:								**Current:** Ebb, Flood, Slack 6
Time:								
Depth (m):								

CHAIN OF CUSTODY

Curtis & Tompkins Laboratories
ENVIRONMENTAL ANALYTICAL TESTING LABORATORY
In Business Since 1878

2323 Fifth Street
Berkeley, CA 94710

Phone (510) 486-0900
Fax (510) 486-0532

Page ____ of ____

Chain of Custody # _____

C&T LOGIN # _____

Project No: _____ Sampler: _____

Project Name: _____ Report To: _____

Project P. O. No: _____ Company: _____

EDD Format: _____ Report Level ☐ II ☐ III ☐ IV Telephone: _____

Turnaround Time: ☐ RUSH _____ ☐ Standard Email: _____

Lab No.	Sample ID.	SAMPLING		MATRIX				# of Containers	CHEMICAL PRESERVATIVE					ANALYTICAL REQUEST
		Date Collected	Time Collected	Water	Solid				HCl	H2SO4	HNO3	NaOH	None	

Notes:

SAMPLE RECEIPT
☐ Intact
☐ Cold
☐ On Ice
☐ Ambient

RELINQUISHED BY:

DATE: TIME:

DATE: TIME:

DATE: TIME:

RECEIVED BY:

DATE: TIME:

DATE: TIME:

DATE: TIME:

CALIFORNIA STATE
ENVIRONMENTAL LABORATORY ACCREDITATION PROGRAM
Accredited Fields of Testing

Curtis & Tompkins, Ltd.

2323 Fifth Street
Berkeley, CA 94710
Phone: (510) 486-0900

Certificate No.: 2896
Renew Date: 1/31/2017

Field of Testing: 102 - Inorganic Chemistry of Drinking Water

102.022	001	Turbidity	SM2130B
102.030	001	Bromide	EPA 300.0
102.030	003	Chloride	EPA 300.0
102.030	005	Fluoride	EPA 300.0
102.030	006	Nitrate	EPA 300.0
102.030	007	Nitrite	EPA 300.0
102.030	010	Sulfate	EPA 300.0
102.045	001	Perchlorate	EPA 314.0
102.100	001	Alkalinity	SM2320B
102.120	001	Hardness	SM2340B
102.130	001	Conductivity	SM2510B
102.140	001	Total Dissolved Solids	SM2540C
102.190	001	Cyanide, Total	SM4500-CN E
102.240	001	Phosphate, Ortho	SM4500-P E
102.270	001	Surfactants	SM5540C
102.520	001	Calcium	EPA 200.7
102.520	002	Magnesium	EPA 200.7
102.520	003	Potassium	EPA 200.7
102.520	005	Sodium	EPA 200.7
102.520	006	Hardness (calculation)	EPA 200.7
102.551	002	Chlorine, Free, Combined, Total	SM4500-Cl G

Field of Testing: 103 - Toxic Chemical Elements of Drinking Water

103.130	001	Aluminum	EPA 200.7
103.130	003	Barium	EPA 200.7
103.130	004	Beryllium	EPA 200.7
103.130	005	Cadmium	EPA 200.7
103.130	007	Chromium	EPA 200.7
103.130	008	Copper	EPA 200.7
103.130	009	Iron	EPA 200.7
103.130	011	Manganese	EPA 200.7
103.130	012	Nickel	EPA 200.7
103.130	015	Silver	EPA 200.7
103.130	017	Zinc	EPA 200.7
103.140	001	Aluminum	EPA 200.8
103.140	002	Antimony	EPA 200.8
103.140	003	Arsenic	EPA 200.8
103.140	004	Barium	EPA 200.8
103.140	005	Beryllium	EPA 200.8

As of 5/13/2015 , this list supersedes all previous lists for this certificate number.
Customers: Please verify the current accreditation standing with the State.

103.140	006	Cadmium	EPA 200.8
103.140	007	Chromium	EPA 200.8
103.140	008	Copper	EPA 200.8
103.140	009	Lead	EPA 200.8
103.140	010	Manganese	EPA 200.8
103.140	012	Nickel	EPA 200.8
103.140	013	Selenium	EPA 200.8
103.140	014	Silver	EPA 200.8
103.140	015	Thallium	EPA 200.8
103.140	016	Zinc	EPA 200.8
103.160	001	Mercury	EPA 245.1

Field of Testing: 108 - Inorganic Chemistry of Wastewater

108.112	001	Boron	EPA 200.7
108.112	002	Calcium	EPA 200.7
108.112	003	Hardness (calculation)	EPA 200.7
108.112	004	Magnesium	EPA 200.7
108.112	005	Potassium	EPA 200.7
108.112	007	Sodium	EPA 200.7
108.113	002	Calcium	EPA 200.8
108.113	003	Magnesium	EPA 200.8
108.113	004	Potassium	EPA 200.8
108.113	006	Sodium	EPA 200.8
108.120	001	Bromide	EPA 300.0
108.120	002	Chloride	EPA 300.0
108.120	003	Fluoride	EPA 300.0
108.120	004	Nitrate	EPA 300.0
108.120	005	Nitrite	EPA 300.0
108.120	008	Sulfate	EPA 300.0
108.360	001	Phenols, Total	EPA 420.1
108.381	001	Oil and Grease	EPA 1664A
108.390	001	Turbidity	SM2130B
108.410	001	Alkalinity	SM2320B
108.420	001	Hardness (calculation)	SM2340B
108.430	001	Conductivity	SM2510B
108.440	001	Residue, Total	SM2540B
108.441	001	Residue, Filterable TDS	SM2540C
108.442	001	Residue, Non-filterable TSS	SM2540D
108.443	001	Residue, Settleable	SM2540F
108.465	001	Chlorine, Total	SM4500-Cl G
108.472	001	Cyanide, Total	SM4500-CN E
108.490	001	Hydrogen Ion (pH)	SM4500-H+ B
108.491	002	Kjeldahl Nitrogen	SM4500-NH3 C (18th)
108.493	001	Ammonia	SM4500-NH3 D or E (19th/20th)
108.540	001	Phosphate, Ortho	SM4500-P E
108.541	001	Phosphorus, Total	SM4500-P E
108.551	001	Silica	SM4500-SiO2 C (20th)
108.580	001	Sulfide	SM4500-S= D

108.590	001	Biochemical Oxygen Demand	SM5210B
108.602	001	Chemical Oxygen Demand	SM5220D
108.611	001	Total Organic Carbon	SM5310C
108.640	001	Surfactants	SM5540C

Field of Testing: 109 - Toxic Chemical Elements of Wastewater

109.010	001	Aluminum	EPA 200.7
109.010	002	Antimony	EPA 200.7
109.010	003	Arsenic	EPA 200.7
109.010	004	Barium	EPA 200.7
109.010	005	Beryllium	EPA 200.7
109.010	007	Cadmium	EPA 200.7
109.010	009	Chromium	EPA 200.7
109.010	010	Cobalt	EPA 200.7
109.010	011	Copper	EPA 200.7
109.010	012	Iron	EPA 200.7
109.010	013	Lead	EPA 200.7
109.010	015	Manganese	EPA 200.7
109.010	016	Molybdenum	EPA 200.7
109.010	017	Nickel	EPA 200.7
109.010	019	Selenium	EPA 200.7
109.010	021	Silver	EPA 200.7
109.010	023	Thallium	EPA 200.7
109.010	024	Tin	EPA 200.7
109.010	026	Vanadium	EPA 200.7
109.010	027	Zinc	EPA 200.7
109.020	001	Aluminum	EPA 200.8
109.020	002	Antimony	EPA 200.8
109.020	003	Arsenic	EPA 200.8
109.020	004	Barium	EPA 200.8
109.020	005	Beryllium	EPA 200.8
109.020	006	Cadmium	EPA 200.8
109.020	007	Chromium	EPA 200.8
109.020	008	Cobalt	EPA 200.8
109.020	009	Copper	EPA 200.8
109.020	010	Lead	EPA 200.8
109.020	011	Manganese	EPA 200.8
109.020	012	Molybdenum	EPA 200.8
109.020	013	Nickel	EPA 200.8
109.020	014	Selenium	EPA 200.8
109.020	015	Silver	EPA 200.8
109.020	016	Thallium	EPA 200.8
109.020	017	Vanadium	EPA 200.8
109.020	018	Zinc	EPA 200.8
109.020	021	Iron	EPA 200.8
109.190	001	Mercury	EPA 245.1

Field of Testing: 110 - Volatile Organic Chemistry of Wastewater

110.040	040	Halogenated Hydrocarbons	EPA 624
110.040	041	Aromatic Compounds	EPA 624
110.040	042	Oxygenates	EPA 624
110.040	043	Other Volatile Organics	EPA 624

Field of Testing: 111 - Semi-volatile Organic Chemistry of Wastewater

111.100	000	Base/Neutral & Acid Organics	EPA 625
111.170	030	Pesticides & PCBs	EPA 608
111.170	031	PCBs	EPA 608

Field of Testing: 114 - Inorganic Chemistry of Hazardous Waste

114.010	001	Antimony	EPA 6010B
114.010	002	Arsenic	EPA 6010B
114.010	003	Barium	EPA 6010B
114.010	004	Beryllium	EPA 6010B
114.010	005	Cadmium	EPA 6010B
114.010	006	Chromium	EPA 6010B
114.010	007	Cobalt	EPA 6010B
114.010	008	Copper	EPA 6010B
114.010	009	Lead	EPA 6010B
114.010	010	Molybdenum	EPA 6010B
114.010	011	Nickel	EPA 6010B
114.010	012	Selenium	EPA 6010B
114.010	013	Silver	EPA 6010B
114.010	014	Thallium	EPA 6010B
114.010	015	Vanadium	EPA 6010B
114.010	016	Zinc	EPA 6010B
114.020	001	Antimony	EPA 6020
114.020	002	Arsenic	EPA 6020
114.020	003	Barium	EPA 6020
114.020	004	Beryllium	EPA 6020
114.020	005	Cadmium	EPA 6020
114.020	006	Chromium	EPA 6020
114.020	007	Cobalt	EPA 6020
114.020	008	Copper	EPA 6020
114.020	009	Lead	EPA 6020
114.020	010	Molybdenum	EPA 6020
114.020	011	Nickel	EPA 6020
114.020	012	Selenium	EPA 6020
114.020	013	Silver	EPA 6020
114.020	014	Thallium	EPA 6020
114.020	015	Vanadium	EPA 6020
114.020	016	Zinc	EPA 6020
114.103	001	Chromium (VI)	EPA 7196A
114.106	001	Chromium (VI)	EPA 7199
114.140	001	Mercury	EPA 7470A
114.141	001	Mercury	EPA 7471A
114.222	001	Cyanide	EPA 9014

114.230	001	Sulfides, Total	EPA 9034
114.240	001	Corrosivity - pH Determination	EPA 9040B
114.241	001	Corrosivity - pH Determination	EPA 9045C

Field of Testing: 115 - Extraction Test of Hazardous Waste

115.020	001	Toxicity Characteristic Leaching Procedure (TCLP)	EPA 1311
115.030	001	Waste Extraction Test (WET)	CCR Chapter11, Article 5, Appendix II
115.040	001	Synthetic Precipitation Leaching Procedure (SPLP)	EPA 1312

Field of Testing: 116 - Volatile Organic Chemistry of Hazardous Waste

116.020	031	Ethanol and Methanol	EPA 8015B
116.030	001	Gasoline-range Organics	EPA 8015B
116.040	041	Methyl tert-butyl Ether (MTBE)	EPA 8021B
116.040	062	BTEX	EPA 8021B
116.080	000	Volatile Organic Compounds	EPA 8260B
116.080	120	Oxygenates	EPA 8260B

Field of Testing: 117 - Semi-volatile Organic Chemistry of Hazardous Waste

117.010	001	Diesel-range Total Petroleum Hydrocarbons	EPA 8015B
117.110	000	Extractable Organics	EPA 8270C
117.140	000	Polynuclear Aromatic Hydrocarbons	EPA 8310
117.170	000	Nitroaromatics and Nitramines	EPA 8330
117.210	000	Pesticides & PCBs	EPA 8081A
117.220	000	PCBs	EPA 8082

Field of Testing: 118 - Radiochemistry of Hazardous Waste

118.200	001	Gamma Emitters	DOE 4.5.2.3

Field of Testing: 120 - Physical Properties of Hazardous Waste

120.010	001	Ignitability	EPA 1010
120.030	001	Corrosivity	EPA 1110
120.040	001	Reactive Cyanide	Section 7.3 SW-846
120.050	001	Reactive Sulfide	Section 7.3 SW-846
120.070	001	Corrosivity - pH Determination	EPA 9040B
120.080	001	Corrosivity - pH Determination	EPA 9045C

SCOPE OF ACCREDITATION TO ISO/IEC 17025:2005

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ENVIRONMENTAL

Valid To: February 29, 2016 Certificate Number: 2943.01

In recognition of the successful completion of the A2LA evaluation process, (including an assessment of the laboratory's compliance with ISO IEC 17025:2005, the 2003 NELAC Chapter 5 Standard, and the requirements of the DoD Environmental Laboratory Accreditation Program (DoD ELAP) as detailed in version 4.2 of the DoD Quality Systems Manual for Environmental Laboratories) accreditation is granted to this laboratory to perform recognized EPA methods using the following testing technologies and in the analyte categories identified below:

Testing Technologies

Atomic Absorption/ICP-AES Spectrometry, ICP/MS, Gas Chromatography, Gas Chromatography/Mass Spectrometry, Gravimetry, High Performance Liquid Chromatography, Ion Chromatography, Misc.- Electronic Probes (pH, O_2), Oxygen Demand, Hazardous Waste Characteristics Tests, Spectrophotometry (Visible), Spectrophotometry (Automated), IR Spectrometry, Titrimetry, Total Organic Carbon

Parameter/Analyte	Potable Water	Potable Water Prep Methods	Nonpotable Water	Nonpotable Water Prep Methods	Solid Hazardous Waste	Solid Hazardous Waste Prep Methods
Metals						
Aluminum	- - - - -	- - - - -	EPA 6010B / 6010C / 6020 / 6020A	EPA 200.8 / 3010A	EPA 6010B / 6010C / 6020 / 6020A	EPA 3050B
Antimony	- - - - -	- - - - -	EPA 6010B / 6010C / 6020 / 6020A	EPA 200.8 / 3010A	EPA 6010B / 6010C / 6020 / 6020A	EPA 3050B
Arsenic	- - - - -	- - - - -	EPA 6010B / 6010C / 6020 / 6020A	EPA 200.8 / 3010A	EPA 6010B / 6010C / 6020 / 6020A	EPA 3050B
Barium	- - - - -	- - - - -	EPA 6010B / 6010C / 6020 / 6020A	EPA 200.8 / 3010A	EPA 6010B / 6010C / 6020/ 6020A	EPA 3050B
Beryllium	- - - - -	- - - - -	EPA 6010B / 6010C / 6020 / 6020A	EPA 200.8 / 3010A	EPA 6010B / 6010C / 6020 / 6020A	EPA 3050B

5301 Buckeystown Pike, Suite 350 | Frederick, Maryland 21704-8373 | Phone: 301 644 3248 | Fax: 301 662 2974 | www.A2LA.org

Parameter/Analyte	Potable Water	Potable Water Prep Methods	Nonpotable Water	Nonpotable Water Prep Methods	Solid Hazardous Waste	Solid Hazardous Waste Prep Methods
Cadmium	- - - - -	- - - - -	EPA 6010B / 6010C / 6020 / 6020A	EPA 200.8 / 3010A	EPA 6010B / 6010C / 6020 / 6020A	EPA 3050B
Calcium	- - - - -	- - - - -	EPA 6010B / 6010C / 6020 / 6020A	EPA 200.8 / 3010A	EPA 6010B / 6010C / 6020 / 6020A	EPA 3050B
Chromium	- - - - -	- - - - -	EPA 6010B / 6010C / 6020 / 6020A	EPA 200.8 / 3010A	EPA 6010B / 6010C / 6020 / 6020A	EPA 3050B
Cobalt	- - - - -	- - - - -	EPA 6010B / 6010C / 6020 / 6020A	EPA 200.8 / 3010A	EPA 6010B / 6010C / 6020 / 6020A	EPA 3050B
Copper	- - - - -	- - - - -	EPA 6010B / 6010C / 6020 / 6020A	EPA 200.8 / 3010A	EPA 6010B / 6010C / 6020 / 6020A	EPA 3050B
Iron	- - - - -	- - - - -	EPA 6010B / 6010C / 6020 / 6020A	EPA 200.8 / 3010A	EPA 6010B / 6010C / 6020 / 6020A	EPA 3050B
Lead	- - - - -	- - - - -	EPA 6010B / 6010C / 6020 / 6020A	EPA 200.8 / 3010A	EPA 6010B / 6010C / 6020 / 6020A	EPA 3050B
Magnesium	- - - - -	- - - - -	EPA 6010B / 6010C / 6020 / 6020A	EPA 200.8 / 3010A	EPA 6010B / 6010C / 6020 / 6020A	EPA 3050B
Manganese	- - - - -	- - - - -	EPA 6010B / 6010C / 6020 / 6020A	EPA 200.8 / 3010A	EPA 6010B / 6010C / 6020 / 6020A	EPA 3050B
Mercury	- - - - -	- - - - -	EPA 7470A	EPA 7470A	EPA 7471A / 7471B	EPA 7471A / 7471B
Molybdenum	- - - - -	- - - - -	EPA 6010B / 6010C / 6020 / 6020A	EPA 200.8 / 3010A	EPA 6010B / 6010C / 6020 6020A	EPA 3050B
Nickel	- - - - -	- - - - -	EPA 6010B / 6010C / 6020 / 6020A	EPA 200.8 / 3010A	EPA 6010B / 6010C / 6020 / 6020A	EPA 3050B
Potassium	- - - - -	- - - - -	EPA 6010B / 6010C / 6020 / 6020A	EPA 200.8 / 3010A	EPA 6010B / 6010C / 6020 / 6020A	EPA 3050B
Selenium	- - - - -	- - - - -	EPA 6010B / 6010C / 6020 / 6020A	EPA 200.8 / 3010A	EPA 6010B / 6010C / 6020 / 6020A	EPA 3050B
Silver	- - - - -	- - - - -	EPA 6010B / 6010C / 6020 / 6020A	EPA 200.8 / 3010A	EPA 6010B / 6010C / 6020 / 6020A	EPA 3050B
Sodium	- - - - -	- - - - -	EPA 6010B / 6010C / 6020 / 6020A	EPA 200.8 / 3010A	EPA 6010B / 6010C / 6020 / 6020A	EPA 3050B

Parameter/Analyte	Potable Water	Potable Water Prep Methods	Nonpotable Water	Nonpotable Water Prep Methods	Solid Hazardous Waste	Solid Hazardous Waste Prep Methods
Thallium	- - - - -	- - - - -	EPA 6010B / 6010C / 6020 / 6020A	EPA 200.8 / 3010A	EPA 6010B / 6010C / 6020 / 6020A	EPA 3050B
Vanadium	- - - - -	- - - - -	EPA 6010B / 6010C / 6020 / 6020A	EPA 200.8 / 3010A	EPA 6010B / 6010C / 6020 / 6020A	EPA 3050B
Zinc	- - - - -	- - - - -	EPA 6010B / 6010C / 6020 / 6020A	EPA 200.8 / 3010A	EPA 6010B / 6010C / 6020 / 6020A	EPA 3050B
Nutrients						
Ammonia (as N)	- - - - -	- - - - -	SM 4500NH3-D	SM 4500NH3-D	SM 4500NH3-D	SM 4500NH3-D
Kjeldahl Nitrogen	- - - - -	- - - - -	SM 4500NH3-C	SM 4500NH3-C	SM 4500NH3-C	SM 4500NH3-C
Nitrate (as N)	- - - - -	- - - - -	EPA 300.0 / 9056	EPA 300.0 / 9056	EPA 300.0 / 9056	EPA 300.0 / 9056
Nitrite (as N)	- - - - -	- - - - -	EPA 300.0 / 9056	EPA 300.0 / 9056	EPA 300.0 / 9056	EPA 300.0 / 9056
Perchlorate	- - - - -	- - - - -	EPA 314.0	EPA 314.0	- - - - -	- - - - -
Total Phosphorus	- - - - -	- - - - -	SM 4500P-E	SM 4500P-E	- - - - -	- - - - -
Demands						
Biochemical Oxygen Demand	- - - - -	- - - - -	SM 5210B	SM 5210B	- - - - -	- - - - -
Chemical Oxygen Demand	- - - - -	- - - - -	SM 5220D	SM 5220D	- - - - -	- - - - -
Total Organic Carbon	- - - - -	- - - - -	SM 5310C	SM 5310C	- - - - -	- - - - -
Wet Chemistry						
Alkalinity	- - - - -	- - - - -	SM 2320B	SM 2320B	- - - - -	- - - - -
Bromide	- - - - -	- - - - -	EPA 300.0 / 9056	EPA 300.0 / 9056	EPA 300.0 / 9056	EPA 300.0 / 9056
Chloride	- - - - -	- - - - -	EPA 300.0 / 9056	EPA 300.0 / 9056	EPA 300.0 / 9056	EPA 300.0 / 9056
Cyanide	- - - - -	- - - - -	SM 4500 CN-E / EPA 9010B / 9014	SM 4500 CN-E / EPA 9010B / 9014	SM 4500 CN-E EPA 9010B / 9014	SM 4500CN-E EPA 9010B / 9014
Amenable Cyanide	- - - - -	- - - - -	SM 4500 CN-E / EPA 9010B / 9014	SM 4500 CN-E / EPA 9010B / 9014	EPA 9010B / 9014	EPA 9010B / 9014
Ferrous Iron	- - - - -	- - - - -	SM 3500Fe-B	SM 3500Fe-B	- - - - -	- - - - -
Flash Point	- - - - -	- - - - -	EPA 1010 / ASTM D93	EPA 1010 / ASTM D93	- - - - -	- - - - -
Fluoride	- - - - -	- - - - -	EPA 300.0 / 9056	EPA 300.0 / 9056	EPA 300.0 / 9056	EPA 300.0 / 9056

Parameter/Analyte	Potable Water	Potable Water Prep Methods	Nonpotable Water	Nonpotable Water Prep Methods	Solid Hazardous Waste	Solid Hazardous Waste Prep Methods
Hexavalent Chromium	- - - - -	- - - - -	EPA 7196A / 7199	EPA 7196A / 7199 /	EPA 3060 / 7196A	EPA 3060 / 7196A
pH	- - - - -	- - - - -	EPA 9040B / SM 4500-H^+ B	EPA 9040B / SM 4500-H^+ B	EPA 9045C	EPA 9045C
Specific Conductance	- - - - -	- - - - -	SM 2510 B	SM 2510 B	- - - - -	- - - - -
Sulfate	- - - - -	- - - - -	EPA 300.0 / 9056	EPA 300.0 / 9056	EPA 300.0 / 9056	EPA 300.0 / 9056
Sulfide	- - - - -	- - - - -	SM 4500S2-D	SM 4500S2-D	SM 9034	SM 9030B
Total Dissolved Solids (TSS)	- - - - -	- - - - -	SM 2540C	SM 2540C	- - - - -	- - - - -
Total Suspended Solids (TSD)	- - - - -	- - - - -	SM 2540D	SM 2540D	- - - - -	- - - - -
Purgeable Organics (volatiles)						
Gas Range Organics (GRO)	- - - - -	- - - - -	EPA 8015B / 8015D	EPA 5030B / 5030C	EPA 8015B / 8015D	EPA 5030B / 5030C / 5035 / 5035A
Acetone	- - - - -	- - - - -	EPA 8260B / 8260C	EPA 5030B / 5030C	EPA 8260B / 8260C	EPA 5030B / 5030C / 5035 / 5035A
Benzene	- - - - -	- - - - -	EPA 8260B / 8260C / 8021B	EPA 5030B / 5030C	EPA 8260B / 8260C / 8021B	EPA 5030B / 5030C / 5035 / 5035A
Bromobenzene	- - - - -	- - - - -	EPA 8260B / 8260C	EPA 5030B / 5030C	EPA 8260B / 8260C	EPA 5030B / 5030C / 5035 / 5035A
Bromochloromethane	- - - - -	- - - - -	EPA 8260B / 8260C	EPA 5030B / 5030C	EPA 8260B / 8260C	EPA 5030B / 5030C / 5035 / 5035A
Bromodichloromethane	- - - - -	- - - - -	EPA 8260B / 8260C	EPA 5030B / 5030C	EPA 8260B / 8260C	EPA 5030B / 5030C / 5035 / 5035A
Bromoform	- - - - -	- - - - -	EPA 8260B / 8260C	EPA 5030B / 5030C	EPA 8260B / 8260C	EPA 5030B / 5030C / 5035 / 5035A
Bromomethane	- - - - -	- - - - -	EPA 8260B / 8260C	EPA 5030B / 5030C	EPA 8260B / 8260C	EPA 5030B / 5030C / 5035 / 5035A
2-Butanone	- - - - -	- - - - -	EPA 8260B / 8260C	EPA 5030B / 5030C	EPA 8260B / 8260C	EPA 5030B / 5030C / 5035 / 5035A
Tert-Butyl Alcohol (TBA)	- - - - -	- - - - -	EPA 8260B / 8260C	EPA 5030B / 5030C	EPA 8260B / 8260C	EPA 5030B / 5030C / 5035 / 5035A
n-Butylbenzene	- - - - -	- - - - -	EPA 8260B / 8260C	EPA 5030B / 5030C	EPA 8260B / 8260C	EPA 5030B / 5030C / 5035 / 5035A

Parameter/Analyte	Potable Water	Potable Water Prep Methods	Nonpotable Water	Nonpotable Water Prep Methods	Solid Hazardous Waste	Solid Hazardous Waste Prep Methods
sec-Butylbenzene	- - - - -	- - - - -	EPA 8260B / 8260C	EPA 5030B / 5030C	EPA 8260B / 8260C	EPA 5030B / 5030C / 5035 / 5035A
tert-Butylbenzene	- - - - -	- - - - -	EPA 8260B / 8260C	EPA 5030B / 5030C	EPA 8260B / 8260C	EPA 5030B / 5030C / 5035 / 5035A
Carbon Disulfide	- - - - -	- - - - -	EPA 8260B / 8260C	EPA 5030B / 5030C	EPA 8260B / 8260C	EPA 5030B / 5030C / 5035 / 5035A
Carbon Tetrachloride	- - - - -	- - - - -	EPA 8260B / 8260C	EPA 5030B / 5030C	EPA 8260B / 8260C	EPA 5030B / 5030C / 5035 / 5035A
Chlorobenzene	- - - - -	- - - - -	EPA 8260B / 8260C	EPA 5030B / 5030C	EPA 8260B / 8260C	EPA 5030B / 5030C / 5035 / 5035A
Chloroethane	- - - - -	- - - - -	EPA 8260B / 8260C	EPA 5030B / 5030C	EPA 8260B / 8260C	EPA 5030B / 5030C / 5035 / 5035A
Chloroform	- - - - -	- - - - -	EPA 8260B / 8260C	EPA 5030B / 5030C	EPA 8260B / 8260C	EPA 5030B / 5030C / 5035 / 5035A
Chloromethane	- - - - -	- - - - -	EPA 8260B / 8260C	EPA 5030B / 5030C	EPA 8260B / 8260C	EPA 5030B / 5030C / 5035 / 5035A
2-Chlorotoluene	- - - - -	- - - - -	EPA 8260B / 8260C	EPA 5030B / 5030C	EPA 8260B / 8260C	EPA 5030B / 5030C / 5035 / 5035A
4-Chlorotoluene	- - - - -	- - - - -	EPA 8260B / 8260C	EPA 5030B / 5030C	EPA 8260B / 8260C	EPA 5030B / 5030C / 5035 / 5035A
Dibromochloromethane	- - - - -	- - - - -	EPA 8260B / 8260C	EPA 5030B / 5030C	EPA 8260B / 8260C	EPA 5030B / 5030C / 5035 / 5035A
1,2-Dibromo-3-chloropropane (DBCP)	- - - - -	- - - - -	EPA 8260B / 8260C	EPA 5030B / 5030C	EPA 8260B / 8260C	EPA 5030B / 5030C / 5035 / 5035A
Dibromomethane	- - - - -	- - - - -	EPA 8260B / 8260C	EPA 5030B / 5030C	EPA 8260B / 8260C	EPA 5030B / 5030C / 5035 / 5035A
1,2 Dibromomethane (EDB)	- - - - -	- - - - -	EPA 8260B / 8260C	EPA 5030B / 5030C	EPA 8260B / 8260C	EPA 5030B / 5030C / 5035 / 5035A
1,2-Dichlorobenzene	- - - - -	- - - - -	EPA 8260B / 8260C	EPA 5030B / 5030C	EPA 8260B / 8260C	EPA 5030B / 5030C / 5035 / 5035A
1,3-Dichlorobenzene	- - - - -	- - - - -	EPA 8260B / 8260C	EPA 5030B / 5030C	EPA 8260B / 8260C	EPA 5030B / 5030C / 5035 / 5035A

Parameter/Analyte	Potable Water	Potable Water Prep Methods	Nonpotable Water	Nonpotable Water Prep Methods	Solid Hazardous Waste	Solid Hazardous Waste Prep Methods
1,4-Dichlorobenzene	- - - - -	- - - - -	EPA 8260B / 8260C	EPA 5030B / 5030C	EPA 8260B / 8260C	EPA 5030B / 5030C / 5035 / 5035A
Dichlorodifluoro-methane	- - - - -	- - - - -	EPA 8260B / 8260C	EPA 5030B / 5030C	EPA 8260B / 8260C	EPA 5030B / 5030C / 5035 / 5035A
1,1-Dichloroethane	- - - - -	- - - - -	EPA 8260B / 8260C	EPA 5030B / 5030C	EPA 8260B / 8260C	EPA 5030B / 5030C / 5035 / 5035A
1,2-Dichloroethane	- - - - -	- - - - -	EPA 8260B / 8260C	EPA 5030B / 5030C	EPA 8260B / 8260C	EPA 5030B / 5030C / 5035 / 5035A
1,1-Dichloroethene	- - - - -	- - - - -	EPA 8260B / 8260C	EPA 5030B / 5030C	EPA 8260B / 8260C	EPA 5030B / 5030C / 5035 / 5035A
cis-1,2-Dichloroethene	- - - - -	- - - - -	EPA 8260B / 8260C	EPA 5030B / 5030C	EPA 8260B / 8260C	EPA 5030B / 5030C / 5035 / 5035A
trans-1,2-Dichloroethene	- - - - -	- - - - -	EPA 8260B / 8260C	EPA 5030B / 5030C	EPA 8260B / 8260C	EPA 5030B / 5030C / 5035 / 5035A
1,2-Dichloropropane	- - - - -	- - - - -	EPA 8260B / 8260C	EPA 5030B / 5030C	EPA 8260B / 8260C	EPA 5030B / 5030C / 5035 / 5035A
1,3-Dichloropropane	- - - - -	- - - - -	EPA 8260B / 8260C	EPA 5030B / 5030C	EPA 8260B / 8260C	EPA 5030B / 5030C / 5035 / 5035A
2,2-Dichloropropane	- - - - -	- - - - -	EPA 8260B / 8260C	EPA 5030B / 5030C	EPA 8260B / 8260C	EPA 5030B / 5030C / 5035 / 5035A
1,1-Dichloropropene	- - - - -	- - - - -	EPA 8260B / 8260C	EPA 5030B / 5030C	EPA 8260B / 8260C	EPA 5030B / 5030C / 5035 / 5035A
cis-1,3-Dichloropropene	- - - - -	- - - - -	EPA 8260B / 8260C	EPA 5030B / 5030C	EPA 8260B / 8260C	EPA 5030B / 5030C / 5035 / 5035A
trans-1,3-Dichloropropene	- - - - -	- - - - -	EPA 8260B / 8260C	EPA 5030B / 5030C	EPA 8260B / 8260C	EPA 5030B / 5030C / 5035 / 5035A
Ethyl Benzene	- - - - -	- - - - -	EPA 8260B / 8260C / 8021B	EPA 5030B / 5030C	EPA 8260B / 8260C / 8021B	EPA 5030B / 5030C / 5035 / 5035A
Ethyl tert-Butyl Ether (ETBE)	- - - - -	- - - - -	EPA 8260B / 8260C	EPA 5030B / 5030C	EPA 8260B / 8260C	EPA 5030B / 5030C / 5035 / 5035A
1,1,2-Trichloro-1,2,2-Trifluoroethane (Freon 113)	- - - - -	- - - - -	EPA 8260B / 8260C	EPA 5030B / 5030C	EPA 8260B / 8260C	EPA 5030B / 5030C / 5035 / 5035A

Parameter/Analyte	Potable Water	Potable Water Prep Methods	Nonpotable Water	Nonpotable Water Prep Methods	Solid Hazardous Waste	Solid Hazardous Waste Prep Methods
2-Hexanone	- - - - -	- - - - -	EPA 8260B / 8260C	EPA 5030B / 5030C	EPA 8260B / 8260C	EPA 5030B / 5030C / 5035 / 5035A
Hexachlorobutadiene	- - - - -	- - - - -	EPA 8260B / 8260C	EPA 5030B / 5030C	EPA 8260B / 8260C	EPA 5030B / 5030C / 5035 / 5035A
Isopropylbenzene	- - - - -	- - - - -	EPA 8260B / 8260C	EPA 5030B / 5030C	EPA 8260B / 8260C	EPA 5030B / 5030C / 5035 / 5035A
Isopropyl Ether (DIPE)	- - - - -	- - - - -	EPA 8260B / 8260C	EPA 5030B / 5030C	EPA 8260B / 8260C	EPA 5030B / 5030C / 5035 / 5035A
Para-Isopropyltoluene	- - - - -	- - - - -	EPA 8260B / 8260C	EPA 5030B / 5030C	EPA 8260B / 8260C	EPA 5030B / 5030C / 5035 / 5035A
Methylene Chloride	- - - - -	- - - - -	EPA 8260B / 8260C	EPA 5030B / 5030C	EPA 8260B / 8260C	EPA 5030B / 5030C / 5035 / 5035A
4-Methyl-2-pentanone	- - - - -	- - - - -	EPA 8260B / 8260C	EPA 5030B / 5030C	EPA 8260B / 8260C	EPA 5030B / 5030C / 5035 / 5035A
Methyl tert-amyl Ether (TAME)	- - - - -	- - - - -	EPA 8260B / 8260C	EPA 5030B / 5030C	EPA 8260B / 8260C	EPA 5030B / 5030C / 5035 / 5035A
Methyl tert-butyl ether (MTBE)	- - - - -	- - - - -	EPA 8260B / 8260C / 8021B	EPA 5030B / 5030C	EPA 8260B / 8260C / 8021B	EPA 5030B / 5030C / 5035 / 5035A
Naphthalene	- - - - -	- - - - -	EPA 8260B / 8260C	EPA 5030B / 5030C	EPA 8260B / 8260C	EPA 5030B / 5030C / 5035 / 5035A
n-Propylbenzene	- - - - -	- - - - -	EPA 8260B / 8260C	EPA 5030B / 5030C	EPA 8260B / 8260C	EPA 5030B / 5030C / 5035 / 5035A
Styrene	- - - - -	- - - - -	EPA 8260B / 8260C	EPA 5030B / 5030C	EPA 8260B / 8260C	EPA 5030B / 5030C / 5035 / 5035A
1,1,1,2-Tetrachloroethane	- - - - -	- - - - -	EPA 8260B / 8260C	EPA 5030B / 5030C	EPA 8260B / 8260C	EPA 5030B / 5030C / 5035 / 5035A
1,1,2,2-Tetrachloroethane	- - - - -	- - - - -	EPA 8260B / 8260C	EPA 5030B / 5030C	EPA 8260B / 8260C	EPA 5030B / 5030C / 5035 / 5035A
Tetrachloroethene	- - - - -	- - - - -	EPA 8260B / 8260C	EPA 5030B / 5030C	EPA 8260B / 8260C	EPA 5030B / 5030C / 5035 / 5035A
Toluene	- - - - -	- - - - -	EPA 8260B / 8260C / 8021B	EPA 5030B / 5030C	EPA 8260B / 8260C / 8021B	EPA 5030B / 5030C / 5035 / 5035A

Parameter/Analyte	Potable Water	Potable Water Prep Methods	Nonpotable Water	Nonpotable Water Prep Methods	Solid Hazardous Waste	Solid Hazardous Waste Prep Methods
1,2,3-Trichlorobenzene	- - - - -	- - - - -	EPA 8260B / 8260C	EPA 5030B / 5030C	EPA 8260B / 8260C	EPA 5030B / 5030C / 5035 / 5035A
1,2,4-Trichlorobenzene	- - - - -	- - - - -	EPA 8260B / 8260C	EPA 5030B / 5030C	EPA 8260B / 8260C	EPA 5030B / 5030C / 5035 / 5035A
1,1,1-Trichloroethane	- - - - -	- - - - -	EPA 8260B / 8260C	EPA 5030B / 5030C	EPA 8260B / 8260C	EPA 5030B / 5030C / 5035 / 5035A
1,1,2-Trichloroethane	- - - - -	- - - - -	EPA 8260B / 8260C	EPA 5030B / 5030C	EPA 8260B / 8260C	EPA 5030B / 5030C / 5035 / 5035A
Trichloroethene	- - - - -	- - - - -	EPA 8260B / 8260C	EPA 5030B / 5030C	EPA 8260B / 8260C	EPA 5030B / 5030C / 5035 / 5035A
Trichlorofluoromethane	- - - - -	- - - - -	EPA 8260B / 8260C	EPA 5030B / 5030C	EPA 8260B / 8260C	EPA 5030B / 5030C / 5035 / 5035A
1,2,3-Trichloropropane	- - - - -	- - - - -	EPA 8260B / 8260C	EPA 5030B / 5030C	EPA 8260B / 8260C	EPA 5030B / 5030C / 5035 / 5035A
1,2,4-Trimethylbenzene	- - - - -	- - - - -	EPA 8260B / 8260C	EPA 5030B / 5030C	EPA 8260B / 8260C	EPA 5030B / 5030C / 5035 / 5035A
1,3,5-Trimethylbenzene	- - - - -	- - - - -	EPA 8260B / 8260C	EPA 5030B / 5030C	EPA 8260B / 8260C	EPA 5030B / 5030C / 5035 / 5035A
Vinyl Acetate	- - - - -	- - - - -	EPA 8260B / 8260C	EPA 5030B / 5030C	EPA 8260B / 8260C	EPA 5030B / 5030C / 5035 / 5035A
Vinyl Chloride	- - - - -	- - - - -	EPA 8260B / 8260C	EPA 5030B / 5030C	EPA 8260B / 8260C	EPA 5030B / 5030C / 5035 / 5035A
m,p-Xylene	- - - - -	- - - - -	EPA 8260B / 8260C / 8021B	EPA 5030B / 5030C	EPA 8260B / 8260C / 8021B	EPA 5030B / 5030C / 5035 / 5035A
o-Xylene	- - - - -	- - - - -	EPA 8260B / 8260C / 8021B	EPA 5030B / 5030C	EPA 8260B / 8260C / 8021B	EPA 5030B / 5030C / 5035 / 5035A
Extractable Organics (semivolatiles)						
DRO	- - - - -	- - - - -	EPA 8015B / 8015D	EPA 3520C	EPA 8015B / 8015D/	EPA 3550B / 3550C
Acenaphthene	- - - - -	- - - - -	EPA 8270C / 8270D / 8270C-SIM / 8270D-SIM	EPA 3520C	EPA 8270 C / 8270D / 8270C-SIM / 8270D-SIM	EPA 3550B / 3550C

Parameter/Analyte	Potable Water	Potable Water Prep Methods	Nonpotable Water	Nonpotable Water Prep Methods	Solid Hazardous Waste	Solid Hazardous Waste Prep Methods
Acenaphthylene	- - - - -	- - - - -	EPA 8270C / 8270D / 8270C-SIM / 8270D-SIM	EPA 3520C	EPA 8270 C / 8270D / 8270C-SIM / 8270D-SIM	EPA 3550B / 3550C
Anthracene	- - - - -	- - - - -	EPA 8270C / 8270D / 8270C-SIM / 8270D-SIM	EPA 3520C	EPA 8270 C / 8270D / 8270C-SIM / 8270D-SIM	EPA 3550B / 3550C
Benzoic Acid	- - - - -	- - - - -	EPA 8270C / 8270D	EPA 3520C	EPA 8270 C 8270D	EPA 3550B / 3550C
Benzo (a) Anthracene	- - - - -	- - - - -	EPA 8270C / 8270D / 8270C-SIM / 8270D-SIM	EPA 3520C	EPA 8270 C / 8270D / 8270C-SIM / 8270D-SIM	EPA 3550B / 3550C
Benzo (b) Fluoranthene	- - - - -	- - - - -	EPA 8270C / 8270D / 8270C-SIM / 8270D-SIM	EPA 3520C	EPA 8270 C / 8270D / 8270C-SIM / 8270D-SIM	EPA 3550B / 3550C
Benzo (k) Fluoranthene	- - - - -	- - - - -	EPA 8270C / 8270D / 8270C-SIM / 8270D-SIM	EPA 3520C	EPA 8270 C / 8270D / 8270C-SIM / 8270D-SIM	EPA 3550B / 3550C
Benzo (ghi) Fluoranthene	- - - - -	- - - - -	EPA 8270C / 8270D / 8270C-SIM / 8270D-SIM	EPA 3520C	EPA 8270 C / 8270D / 8270C-SIM / 8270D-SIM	EPA 3550B / 3550C
Benzo (a) Pyrene	- - - - -	- - - - -	EPA 8270C / 8270D / 8270C-SIM / 8270D-SIM	EPA 3520C	EPA 8270 C / 8270D / 8270C-SIM / 8270D-SIM	EPA 3550B / 3550C
Benzyl Alcohol	- - - - -	- - - - -	EPA 8270C / 8270D	EPA 3520C	EPA 8270C / 8270D	EPA 3550B / 3550C
Bis (2-chloroethoxy) Methane	- - - - -	- - - - -	EPA 8270C / 8270D	EPA 3520C	EPA 8270C / 8270D	EPA 3550B / 3550C
Bis (2-chloroethyl) Ether	- - - - -	- - - - -	EPA 8270C / 8270D	EPA 3520C	EPA 8270C / 8270D	EPA 3550B / 3550C
Bis (2-chloroisopropyl) Ether	- - - - -	- - - - -	EPA 8270C / 8270D	EPA 3520C	EPA 8270C / 8270D	EPA 3550B / 3550C
Bis (2-ethylhexyl) Phthalate	- - - - -	- - - - -	EPA 8270C / 8270D	EPA 3520C	EPA 8270C / 8270D	EPA 3550B / 3550C
4-Bromophenyl-Phenylether	- - - - -	- - - - -	EPA 8270C / 8270D	EPA 3520C	EPA 8270C / 8270D	EPA 3550B / 3550C
Butyl Benzyl Phthalate	- - - - -	- - - - -	EPA 8270C / 8270D	EPA 3520C	EPA 8270C / 8270D	EPA 3550B / 3550C
4-Chloroaniline	- - - - -	- - - - -	EPA 8270C / 8270D	EPA 3520C	EPA 8270C / 8270D	EPA 3550B / 3550C
4-Chloro-3-methylphenol	- - - - -	- - - - -	EPA 8270C / 8270D	EPA 3520C	EPA 8270C / 8270D	EPA 3550B / 3550C

Parameter/Analyte	Potable Water	Potable Water Prep Methods	Nonpotable Water	Nonpotable Water Prep Methods	Solid Hazardous Waste	Solid Hazardous Waste Prep Methods
2-Chloronaphthalene	- - - - -	- - - - -	EPA 8270C / 8270D	EPA 3520C	EPA 8270C / 8270D	EPA 3550B / 3550C
2-Chlorophenol	- - - - -	- - - - -	EPA 8270C / 8270D	EPA 3520C	EPA 8270C / 8270D	EPA 3550B / 3550C
4-Chlorophenyl Phenyl Ether	- - - - -	- - - - -	EPA 8270C / 8270D	EPA 3520C	EPA 8270C / 8270D	EPA 3550B / 3550C
Chrysene	- - - - -	- - - - -	EPA 8270C / 8270D / 8270C-SIM / 8270D-SIM	EPA 3520C	EPA 8270C / 8270D / 8270C-SIM / 8270D-SIM	EPA 3550B / 3550C
Dibenzo (a,h) Anthracene	- - - - -	- - - - -	EPA 8270C / 8270D / 8270C-SIM / 8270D-SIM	EPA 3520C	EPA 8270C / 8270D / 8270C-SIM / 8270D-SIM	EPA 3550B / 3550C
Dibenzofuran	- - - - -	- - - - -	EPA 8270C / 8270D	EPA 3520C	EPA 8270C / 8270D	EPA 3550B / 3550C
1,2-Dichlorobenzene	- - - - -	- - - - -	EPA 8270C / 8270D	EPA 3520C	EPA 8270C / 8270D	EPA 3550B / 3550C
1,3-Dichlorobenzene	- - - - -	- - - - -	EPA 8270C / 8270D	EPA 3520C	EPA 8270C / 8270D	EPA 3550B / 3550C
1,4-Dichlorobenzene	- - - - -	- - - - -	EPA 8270C / 8270D	EPA 3520C	EPA 8270C / 8270D	EPA 3550B / 3550C
3,3'-Dichlorobenzidine	- - - - -	- - - - -	EPA 8270C / 8270D	EPA 3520C	EPA 8270C / 8270D	EPA 3550B / 3550C
2,4-Dichlorophenol	- - - - -	- - - - -	EPA 8270C / 8270D	EPA 3520C	EPA 8270C / 8270D	EPA 3550B / 3550C
Diethyl Phthalate	- - - - -	- - - - -	EPA 8270C / 8270D	EPA 3520C	EPA 8270C / 8270D	EPA 3550B / 3550C
2,4-Dimethylphenol	- - - - -	- - - - -	EPA 8270C / 8270D	EPA 3520C	EPA 8270C / 8270D	EPA 3550B / 3550C
Dimethyl Phthalate	- - - - -	- - - - -	EPA 8270C / 8270D	EPA 3520C	EPA 8270C / 8270D	EPA 3550B / 3550C
Di-n-butyl Phthalate	- - - - -	- - - - -	EPA 8270C / 8270D	EPA 3520C	EPA 8270C / 8270D	EPA 3550B / 3550C
Di-n-octyl Phthalate	- - - - -	- - - - -	EPA 8270C / 8270D	EPA 3520C	EPA 8270C / 8270D	EPA 3550B / 3550C
4,6-Dinitro-2-methylphenol	- - - - -	- - - - -	EPA 8270C / 8270D	EPA 3520C	EPA 8270C / 8270D	EPA 3550B / 3550C
2,4-Dinitrophenol	- - - - -	- - - - -	EPA 8270C / 8270D	EPA 3520C	EPA 8270C / 8270D	EPA 3550B / 3550C
2,4-Dinitrotoluene	- - - - -	- - - - -	EPA 8270C / 8270D	EPA 3520C	EPA 8270C / 8270D	EPA 3550B / 3550C
2,6-Dinitrotoluene	- - - - -	- - - - -	EPA 8270C / 8270D	EPA 3520C	EPA 8270C / 8270D	EPA 3550B / 3550C
1,4 - Dioxane			EPA 8270C-SIM / 8270D-SIM	EPA 3520C	EPA 8270C-SIM / 8270D-SIM	EPA 3550B / 3550C

Parameter/Analyte	Potable Water	Potable Water Prep Methods	Nonpotable Water	Nonpotable Water Prep Methods	Solid Hazardous Waste	Solid Hazardous Waste Prep Methods
1,2-Diphenylhydrazine reported as Azobenzene due to breakdown	- - - - -	- - - - -	EPA 8270C / 8270D	EPA 3520C	EPA8270C / 8270D	EPA 3550B / 3550C
Fluoroanthene	- - - - -	- - - - -	EPA 8270C / 8270D / 8270C-SIM / 8270D-SIM	EPA 3520C	EPA 8270C / 8270D / 8270C-SIM / 8270D-SIM	EPA 3550B / 3550C
Fluorene	- - - - -	- - - - -	EPA 8270C / 8270D / 8270C-SIM / 8270D-SIM	EPA 3520C	EPA 8270C / 8270D / 8270C-SIM / 8270D-SIM	EPA 3550B / 3550C
Hexachlorobenzene	- - - - -	- - - - -	EPA 8270C / 8270D	EPA 3520C	EPA 8270C / 8270D	EPA 3550B / 3550C
Hexachlorobutadiene	- - - - -	- - - - -	EPA 8270C / 8270D	EPA 3520C	EPA 8270C / 8270D	EPA 3550B / 3550C
Hexachloro-cyclopentadiene	- - - - -	- - - - -	EPA 8270C / 8270D	EPA 3520C	EPA 8270C / 8270D	EPA 3550B / 3550C
Hexachloroethane	- - - - -	- - - - -	EPA 8270C / 8270D	EPA 3520C	EPA 8270C / 8270D	EPA 3550B / 3550C
Indeno (1,2,3-cd) pyrene	- - - - -	- - - - -	EPA 8270C / 8270D / 8270C-SIM / 8270D-SIM	EPA 3520C	EPA 8270C / 8270D / 8270C-SIM / 8270D-SIM	EPA 3550B / 3550C
Isophorone	- - - - -	- - - - -	EPA 8270C / 8270D	EPA 3520C	EPA 8270C / 8270D	EPA 3550B / 3550C
1-Methylnaphthalene	- - - - -	- - - - -	EPA 8270C-SIM / 8270D-DIM	EPA 3520C	EPA 8270C-SIM / 8270D-SIM	EPA 3550B / 3550C
2-Methylnaphthalene	- - - - -	- - - - -	EPA 8270C / 8270D / 8270C-SIM / 8270D-SIM	EPA 3520C	EPA 8270C / 8270D / 8270C-SIM / 8270D-SIM	EPA 3550B / 3550C
2-Methylphenol	- - - - -	- - - - -	EPA 8270C / 8270D	EPA 3520C	EPA 8270C / 8270D	EPA 3550B / 3550C
4-Methylphenol	- - - - -	- - - - -	EPA 8270C / 8270D	EPA 3520C	EPA 8270C / 8270D	EPA 3550B / 3550C
Naphthalene	- - - - -	- - - - -	EPA 8270C / 8270D / 8270C-SIM / 8270D-SIM	EPA 3520C	EPA 8270C / 8270D / 8270C-SIM / 8270D-SIM	EPA 3550B / 3550C
2-Nitroaniline	- - - - -	- - - - -	EPA 8270C / 8270D	EPA 3520C	EPA 8270C / 8270D	EPA 3550B / 3550C
3-Nitroaniline	- - - - -	- - - - -	EPA 8270C / 8270D	EPA 3520C	EPA 8270C / 8270D	EPA 3550B / 3550C
4-Nitroaniline	- - - - -	- - - - -	EPA 8270C / 8270D	EPA 3520C	EPA 8270C / 8270D	EPA 3550B / 3550C
Nitrobenzene	- - - - -	- - - - -	EPA 8270C / 8270D	EPA 3520C	EPA 8270C / 8270D	EPA 3550B / 3550C

Parameter/Analyte	Potable Water	Potable Water Prep Methods	Nonpotable Water	Nonpotable Water Prep Methods	Solid Hazardous Waste	Solid Hazardous Waste Prep Methods
2-Nitrophenol	- - - - -	- - - - -	EPA 8270C / 8270D	EPA 3520C	EPA 8270C / 8270D	EPA 3550B / 3550C
4-Nitrophenol	- - - - -	- - - - -	EPA 8270C / 8270D	EPA 3520C	EPA 8270C / 8270D	EPA 3550B / 3550C
N-Nitrosodi-n-propylamine	- - - - -	- - - - -	EPA 8270C / 8270D	EPA 3520C	EPA 8270C / 8270D	EPA 3550B / 3550C
N-Nitrosodimethylamine	- - - - -	- - - - -	EPA 8270C / 8270D	EPA 3520C	EPA 8270C / 8270D	EPA 3550B / 3550C
N-Nitrosodiphenylamine	- - - - -	- - - - -	EPA 8270C / 8270D	EPA 3520C	EPA 8270C / 8270D	EPA 3550B / 3550C
Pentachlorophenol	- - - - -	- - - - -	EPA 8270C / 8270D	EPA 3520C	EPA 8270C / 8270D	EPA 3550B / 3550C
Phenanthrene	- - - - -	- - - - -	EPA 8270C / 8270D / 8270C-SIM / 8270D-SIM	EPA 3520C	EPA 8270C / 8270D / 8270C-SIM / 8270D-SIM	EPA 3550B / 3550C
Phenol	- - - - -	- - - - -	EPA 8270C / 8270D	EPA 3520C	EPA 8270C / 8270D	EPA 3550B / 3550C
Pyrene	- - - - -	- - - - -	EPA 8270C / 8270D / 8270C-SIM / 8270D-SIM	EPA 3520C	EPA 8270C / 8270D / 8270C-SIM / 8270D-SIM	EPA 3550B / 3550C
1,2,4-Trichlorobenzene	- - - - -	- - - - -	EPA 8270C / 8270D	EPA 3520C	EPA 8270C / 8270D	EPA 3550B / 3550C
2,4,5-Trichlorophenol	- - - - -	- - - - -	EPA 8270C / 8270D	EPA 3520C	EPA 8270C / 8270D	EPA 3550B / 3550C
2,4,6-Trichlorophenol	- - - - -	- - - - -	EPA 8270C / 8270D	EPA 3520C	EPA 8270C / 8270D	EPA 3550B / 3550C
Pesticides/PCBs						
Aldrin	- - - - -	- - - - -	EPA 8081A / 8081B	EPA 3520C	EPA 8081A / 8081B	EPA 3550B / 3550C
alpha-BHC	- - - - -	- - - - -	EPA 8081A / 8081B	EPA 3520C	EPA 8081A / 8081B	EPA 3550B / 3550C
beta-BHC	- - - - -	- - - - -	EPA 8081A / 8081B	EPA 3520C	EPA 8081A / 8081B	EPA 3550B / 3550C
delta-BHC	- - - - -	- - - - -	EPA 8081A / 8081B	EPA 3520C	EPA 8081A / 8081B	EPA 3550B / 3550C
gamma-BHC	- - - - -	- - - - -	EPA 8081A / 8081B	EPA 3520C	EPA 8081A / 8081B	EPA 3550B / 3550C
Chlordane (technical)	- - - - -	- - - - -	EPA 8081A / 8081B	EPA 3520C	EPA 8081A / 8081B	EPA 3550B / 3550C
alpha-Chlordane	- - - - -	- - - - -	EPA 8081A / 8081B	EPA 3520C	EPA 8081A / 8081B	EPA 3550B / 3550C
gamma-Chlordane	- - - - -	- - - - -	EPA 8081A / 8081B	EPA 3520C	EPA 8081A / 8081B	EPA 3550B / 3550C
4,4'-DDD	- - - - -	- - - - -	EPA 8081A / 8081B	EPA 3520C	EPA 8081A / 8081B	EPA 3550B / 3550C

Parameter/Analyte	Potable Water	Potable Water Prep Methods	Nonpotable Water	Nonpotable Water Prep Methods	Solid Hazardous Waste	Solid Hazardous Waste Prep Methods
4,4'-DDE	- - - - -	- - - - -	EPA 8081A / 8081B	EPA 3520C	EPA 8081A / 8081B	EPA 3550B / 3550C
4,4',-DDT	- - - - -	- - - - -	EPA 8081A / 8081B	EPA 3520C	EPA 8081A / 8081B	EPA 3550B / 3550C
Dieldrin	- - - - -	- - - - -	EPA 8081A / 8081B	EPA 3520C	EPA 8081A / 8081B	EPA 3550B / 3550C
Endosulfan I	- - - - -	- - - - -	EPA 8081A / 8081B	EPA 3520C	EPA 8081A / 8081B	EPA 3550B / 3550C
Endosulfan II	- - - - -	- - - - -	EPA 8081A / 8081B	EPA 3520C	EPA 8081A / 8081B	EPA 3550B / 3550C
Endosulfan Sulfate	- - - - -	- - - - -	EPA 8081A / 8081B	EPA 3520C	EPA 8081A / 8081B	EPA 3550B / 3550C
Endrin	- - - - -	- - - - -	EPA 8081A / 8081B	EPA 3520C	EPA 8081A / 8081B	EPA 3550B / 3550C
Endrin Aldehyde	- - - - -	- - - - -	EPA 8081A / 8081B	EPA 3520C	EPA 8081A / 8081B	EPA 3550B / 3550C
Endrin Ketone	- - - - -	- - - - -	EPA 8081A / 8081B	EPA 3520C	EPA 8081A / 8081B	EPA 3550B / 3550C
Heptachlor	- - - - -	- - - - -	EPA 8081A / 8081B	EPA 3520C	EPA 8081A / 8081B	EPA 3550B / 3550C
Heptachlor Epoxide	- - - - -	- - - - -	EPA 8081A / 8081B	EPA 3520C	EPA 8081A / 8081B	EPA 3550B / 3550C
Methoxychlor	- - - - -	- - - - -	EPA 8081A / 8081B	EPA 3520C	EPA 8081A / 8081B	EPA 3550B / 3550C
PCB-1016 (Arochlor)	- - - - -	- - - - -	EPA 8082 / 8082A	EPA 3520C	EPA 8082 / 8082A	EPA 3550B / 3550C
PCB-1221	- - - - -	- - - - -	EPA 8082 / 8082A	EPA 3520C	EPA 8082 / 8082A	EPA 3550B / 3550C
PCB-1232	- - - - -	- - - - -	EPA 8082 / 8082A	EPA 3520C	EPA 8082 / 8082A	EPA 3550B / 3550C
PCB-1242	- - - - -	- - - - -	EPA 8082 / 8082A	EPA 3520C	EPA 8082 / 8082A	EPA 3550B / 3550C
PCB-1248	- - - - -	- - - - -	EPA 8082 / 8082A	EPA 3520C	EPA 8082 / 8082A	EPA 3550B / 3550C
PCB-1254	- - - - -	- - - - -	EPA 8082 / 8082A	EPA 3520C	EPA 8082 / 8082A	EPA 3550B / 3550C
PCB-1260	- - - - -	- - - - -	EPA 8082 / 8082A	EPA 3520C	EPA 8082 / 8082A	EPA 3550B / 3550C
Toxaphene	- - - - -	- - - - -	EPA 8081A / 8081B	EPA 3520C	EPA 8081A / 8081B	EPA 3550B / 3550C
Nitroaromatics & Nitramines						
2-Amino-4,6-dinitrotoluene	- - - - -	- - - - -	EPA 8330 / 8330A	EPA 3535	EPA 8330 / 8330A / 8330A Modified / 8330B Modified	EPA 8330 / 8330A

Parameter/Analyte	Potable Water	Potable Water Prep Methods	Nonpotable Water	Nonpotable Water Prep Methods	Solid Hazardous Waste	Solid Hazardous Waste Prep Methods
4-Amino-2,6-dinitrotoluene	- - - - -	- - - - -	EPA 8330 / 8330A	EPA 3535	EPA 8330 / 8330A / 8330A Modified / 8330B Modified	EPA 8330 / 8330A
3,5-Dinitroaniline	- - - - -	- - - - -	- - - - - - - - - - - -	- - - - - - - - - - - -	EPA 8330 / 8330A / 8330A Modified / 8330B Modified	EPA 8330 / 8330A
1,3-Dinitrotoluene	- - - - -	- - - - -	EPA 8330 / 8330A	EPA 3535	EPA 8330 / 8330A / 8330A Modified / 8330B Modified	EPA 8330 / 8330A
2,4-Dinitrotoluene	- - - - -	- - - - -	EPA 8330 / 8330A	EPA 3535	EPA 8330 / 8330A / 8330A Modified / 8330B Modified	EPA 8330 / 8330A
2,6-Dinitrotoluene	- - - - -	- - - - -	EPA 8330 / 8330A	EPA 3535	EPA 8330 / 8330A / 8330A Modified / 8330B Modified	EPA 8330 / 8330A
HMX	- - - - -	- - - - -	EPA 8330 / 8330A	EPA 3535	EPA 8330 / 8330A / 8330A Modified / 8330B Modified	EPA 8330 / 8330A
Nitroglycerine	- - - - -	- - - - -	- - - - - - - - - - - -	- - - - - - - - - - - -	EPA 8330 / 8330A / 8330A Modified / 8330B Modified	EPA 8330 / 8330A
Nitrobenzene	- - - - -	- - - - -	EPA 8330 / 8330A	EPA 3535	EPA 8330 / 8330A / 8330A Modified / 8330B Modified	EPA 8330 / 8330A
2-Nitrotoluene	- - - - -	- - - - -	EPA 8330 / 8330A	EPA 3535	EPA 8330 / 8330A / 8330A Modified / 8330B Modified	EPA 8330 / 8330A
3-Nitrotoluene	- - - - -	- - - - -	EPA 8330 / 8330A	EPA 3535	EPA 8330 / 8330A / 8330A Modified / 8330B Modified	EPA 8330 / 8330A
4-Nitrotoluene	- - - - -	- - - - -	EPA 8330 / 8330A	EPA 3535	EPA 8330 / 8330A / 8330A Modified / 8330B Modified	EPA 8330 / 8330A
Pentaerythritol (PETN)	- - - - -	- - - - -	- - - - - - - - - - - -	- - - - - - - - - - - -	EPA 8330 / 8330A / 8330A Modified / 8330B Modified	EPA 8330 / 8330A

Parameter/Analyte	Potable Water	Potable Water Prep Methods	Nonpotable Water	Nonpotable Water Prep Methods	Solid Hazardous Waste	Solid Hazardous Waste Prep Methods
RDX	- - - - -	- - - - -	EPA 8330 / 8330A	EPA 3535	EPA 8330 / 8330A / 8330A Modified / 8330B Modified	EPA 8330 / 8330A
Tetryl	- - - - -	- - - - -	EPA 8330 / 8330A	EPA 3535	EPA 8330 / 8330A / 8330A Modified / 8330B Modified	EPA 8330 / 8330A
1,3,5-Trinitrobenzene	- - - - -	- - - - -	EPA 8330 / 8330A	EPA 3535	EPA 8330 / 8330A / 8330A Modified / 8330B Modified	EPA 8330 / 8330A
2,4,6-Trinitrotoluene	- - - - -	- - - - -	EPA 8330 / 8330A	EPA 3535	EPA 8330 / 8330A / 8330A Modified / 8330B Modified	EPA 8330 / 8330A
Hazardous Waste Characteristics						
Synthetic Precipitation Leaching Procedure (SPLP)	- - - - -	- - - - -	- - - - -	- - - - -	EPA 1312	EPA1312
Toxicity Characteristic Leaching Procedure (TCLP)	- - - - -	- - - - -	- - - - -	- - - - -	EPA 1311	EPA 1311
Air						
Ethane	- - - - -	- - - - -	RSK-175	RSK-175	- - - - -	- - - - -
Ethene	- - - - -	- - - - -	RSK-175	RSK-175	- - - - -	- - - - -
Methane	- - - - -	- - - - -	RSK-175	RSK-175	- - - - -	- - - - -
Acetylene	- - - - -	- - - - -	RSK-175	RSK-175	- - - - -	- - - - -

Parameter/Analyte	Air Analysis
1,1,1-Trichloroethane	TO-15
1,1,2,2-Tetrachloroethane	TO-15
1,1,2-Trichloroethane	TO-15
1,1-Dichloroethane	TO-15
1,1-Dichloroethene	TO-15
1,2,4-Trichlorobenzene	TO-15
1,2,4-Trimethylbenzene	TO-15
1,2-Dibromoethane	TO-15
1,2-Dichlorobenzene	TO-15
1,2-Dichloroethane	TO-15
1,2-Dichloropropane	TO-15
1,3,5-Trimethylbenzene	TO-15
1,3-Butadiene	TO-15

Parameter/Analyte	Air Analysis
1,3-Dichlorobenzene	TO-15
1,4-Dichlorobenzene	TO-15
2-Butanone	TO-15
2-Hexanone	TO-15
4-Ethyltoluene	TO-15
4-Methyl-2-pentanone	TO-15
Acetone	TO-15
Acrolein	TO-15
Benzene	TO-15
Benzyl chloride	TO-15
Bromodichloromethane	TO-15
Bromoform	TO-15
Bromomethane	TO-15
Carbon Disulfide	TO-15
Carbon Tetrachloride	TO-15
Chlorobenzene	TO-15
Chloroethane	TO-15
Chloroform	TO-15
Chloromethane	TO-15
Cyclohexane	TO-15
Dibromochloromethane	TO-15
Ethyl Acetate	TO-15
Ethylbenzene	TO-15
Freon 113	TO-15
Freon 114	TO-15
Freon 12	TO-15
Hexachlorobutadiene	TO-15
MTBE	TO-15
Methylene Chloride	TO-15
Napthalene	TO-15
Propylene	TO-15
Styrene	TO-15
Tetrachloroethene	TO-15
Tetrahydrofuran	TO-15
Toluene	TO-15
Trichloroethene	TO-15
Trichlorofluoromethane	TO-15
Vinyl Acetate	TO-15
Vinyl Chloride	TO-15
cis-1,2-dichloroethene	TO-15
cis-1,3-dichloropropene	TO-15
m,p-Xylenes	TO-15
n-Heptane	TO-15
n-Hexane	TO-15
o-Xylene	TO-15
trans-1,2-dichloroethene	TO-15
trans-1,3-dichloropropene	TO-15

Parameter/Analyte	Air Analysis
Carbon Dioxide	ASTM D1946
Carbon Monoxide	ASTM D1946
Helium	ASTM D1946
Hydrogen	ASTM D1946
Methane	ASTM D1946
Nitrogen	ASTM D1946
Oxygen	ASTM D1946

Parameter/Analyte	
Gamma Spectroscopy	Solid Hazardous Waste
Actinium – 228	Modified EPAMethod 901.1 / DoE HASL 300 Ga-01
Americium – 241	Modified EPAMethod 901.1 / DoE HASL 300 Ga-01
Bismuth – 212	Modified EPAMethod 901.1 / DoE HASL 300 Ga-01
Bismuth – 214	Modified EPAMethod 901.1 / DoE HASL 300 Ga-01
Cesium – 137	Modified EPAMethod 901.1 / DoE HASL 300 Ga-01
Cobalt – 60	Modified EPAMethod 901.1 / DoE HASL 300 Ga-01
Europium – 152	Modified EPAMethod 901.1 / DoE HASL 300 Ga-01
Europium – 154	Modified EPAMethod 901.1 / DoE HASL 300 Ga-01
Lead – 210	Modified EPAMethod 901.1 / DoE HASL 300 Ga-01
Lead – 212	Modified EPAMethod 901.1 / DoE HASL 300 Ga-01
Lead – 214	Modified EPAMethod 901.1 / DoE HASL 300 Ga-01
Protactinium – 234M	Modified EPAMethod 901.1 / DoE HASL 300 Ga-01
Radium – 226	Modified EPAMethod 901.1 / DoE HASL 300 Ga-01
Thallium - 208	Modified EPAMethod 901.1 / DoE HASL 300 Ga-01
Thorium – 232	Modified EPAMethod 901.1 / DoE HASL 300 Ga-01
Uranium - 235	Modified EPAMethod 901.1 / DoE HASL 300 Ga-01

1. **This accreditation covers testing performed at the main laboratory listed above and the following satellite laboratory listed below for the following tests:**

201A & 201B Fischer Ave
Hunters Point Naval Ship Yard
San Francisco, CA 94124

Parameter/Analyte	
Gamma Spectroscopy	Solid/Wipe Analysis
Actinium – 228	Modified EPAMethod 901.1 / DoE HASL 300 Ga-01
Americium – 241	Modified EPAMethod 901.1 / DoE HASL 300 Ga-01
Bismuth – 212	Modified EPAMethod 901.1 / DoE HASL 300 Ga-01
Bismuth – 214	Modified EPAMethod 901.1 / DoE HASL 300 Ga-01
Cesium – 137	Modified EPAMethod 901.1 / DoE HASL 300 Ga-01
Cobalt – 60	Modified EPAMethod 901.1 / DoE HASL 300 Ga-01
Europium – 152	Modified EPAMethod 901.1 / DoE HASL 300 Ga-01
Europium – 154	Modified EPAMethod 901.1 / DoE HASL 300 Ga-01
Lead – 210	Modified EPAMethod 901.1 / DoE HASL 300 Ga-01
Lead – 212	Modified EPAMethod 901.1 / DoE HASL 300 Ga-01

Parameter/Analyte	
Gamma Spectroscopy	Solid/Wipe Analysis
Lead – 214	Modified EPAMethod 901.1 / DoE HASL 300 Ga-01
Potassium – 40	Modified EPAMethod 901.1 / DoE HASL 300 Ga-01
Protactinium – 234M	Modified EPAMethod 901.1 / DoE HASL 300 Ga-01
Radium – 226	Modified EPAMethod 901.1 / DoE HASL 300 Ga-01
Thallium - 208	Modified EPAMethod 901.1 / DoE HASL 300 Ga-01
Thorium – 232	Modified EPAMethod 901.1 / DoE HASL 300 Ga-01
Thorium – 234	Modified EPAMethod 901.1 / DoE HASL 300 Ga-01
Uranium - 235	Modified EPAMethod 901.1 / DoE HASL 300 Ga-01
Gross Alpha Beta Spectroscopy Gas Proportional Counter	
Alpha & Beta Radiation	Modified EPA Method 9310

American Association for Laboratory Accreditation

Accredited DoD ELAP Laboratory

A2LA has accredited

CURTIS & TOMPKINS, LLC

Berkeley, CA

for technical competence in the field of

Environmental Testing

In recognition of the successful completion of the A2LA evaluation process that includes an assessment of the laboratory's compliance with ISO/IEC 17025:2005, the 2003 NELAC Chapter 5 Standard, and the requirements of the Department of Defense Environmental Laboratory Accreditation Program (DoD ELAP) as detailed in version 4.2 of the DoD Quality System Manual for Environmental Laboratories (QSM); accreditation is granted to this laboratory to perform recognized EPA methods as defined on the associated A2LA Environmental Scope of Accreditation. This accreditation demonstrates technical competence for this defined scope and the operation of a laboratory quality management system (refer to joint ISO-ILAC-IAF Communiqué dated 8 January 2009).

Presented this 5th day of March 2014.

President & CEO
For the Accreditation Council
Certificate Number 2943.01
Valid to February 29, 2016

For the tests to which this accreditation applies, please refer to the laboratory's Environmental Scope of Accreditation.